Project Title

NEW CONSTRUCTION OF TWO HOMES

OXFORD AVE DUPLEX

542-546 OXFORD AVE, PALO ALTO, CA 94306

Project Contacts

Architect
A C S Architects
1130 Oregon Avenue
Palo Alto, CA 94303
(650) 321-1219
kyu@acsarchitects.com

Owner
Rosita Wong
542-546 Oxford Avenue
Palo Alto, CA 94306
(415) 994-5314
rositagreencity@gmail.com

Civil Engineer
Travis Lutz, P.E., QSD/QSP
Precision Engineering and Construction, Inc.
1331B Old Country Road
Belmont, CA 94002
(650) 226-8640
travis@precision-ec.com

Arborist & Landscape
Bo Firestone
#WE-8525A
(408) 497-7158
busara@bofirestone.com

A C S Architects
ACS ARCHITECTS
www.acsarchitects.com
(650) 321-1219
office@acsarchitects.com

Property Parcel Report

137-01-004, 544 Oxford Ave

Parcel Report for APN : **137-01-004**

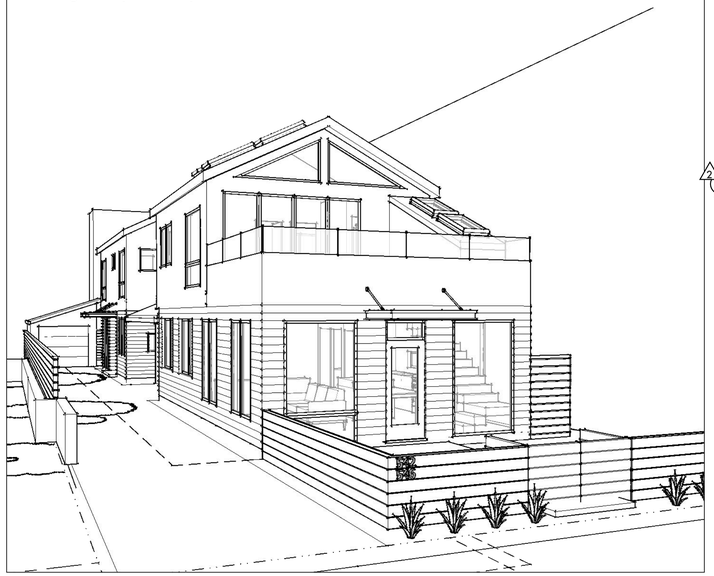
Net Lot Size: **5,241 sf**
Zone Dist: **RMD (NP)**
Comp Plan Des: **MF**
Flood Zone: **X** LOMA: **no**
FEMA Map Panel: **0017H** HMP Request: **no**
Parking District: **none**
SCCA* YR Built: **1952** SCCA* Eff. YR Built: **1952**
Historic Status: **none**

Traffic Imp. Dist: **none**
Easements: **no**
Near Creek: **no**
Substandard: **Cannot assess for this zone.**
Flag Lot: **no**
ADU/JADU: **Cannot assess for this zone.**
FAR: **Cannot assess for this zone.**
Max Building Height: **Cannot assess for this zone.**
Max Lot Coverage: **Cannot assess for this zone.**
Special Setbacks: **none**

Minimum Setbacks:
Front: **Cannot assess for this zone.**
Rear: **Cannot assess for this zone.**
Interior Side(s): **Cannot assess for this zone.**
Street Side: **Cannot assess for this zone.**
Comments: **none**

* Source of year built data is the Santa Clara County Assessor
Click below link for data details or navigate to
https://www.cityofpaloalto.org/gov/depts/pln/current/parcel_reports.asp

Rendering of Proposed Project



Applicable Codes

California Building Code	2019 Edition
California Residential Code	2019 Edition
California Mechanical Code	2019 Edition
California Plumbing Code	2019 Edition
California Electrical Code	2019 Edition
California Fire Code	2019 Edition
California Energy Code	2019 Edition
Green Building Standards Code	2019 Edition

Fire Department Notes

Separate Fire Permit required for fire sprinkler system.

Install a NFPA 13-D fire sprinkler system in all structures.

~~Provide a 3-head calculation due to roof pitch.~~

Project Description

Demolition of existing commercial office building, existing single family residence, and detached garage.

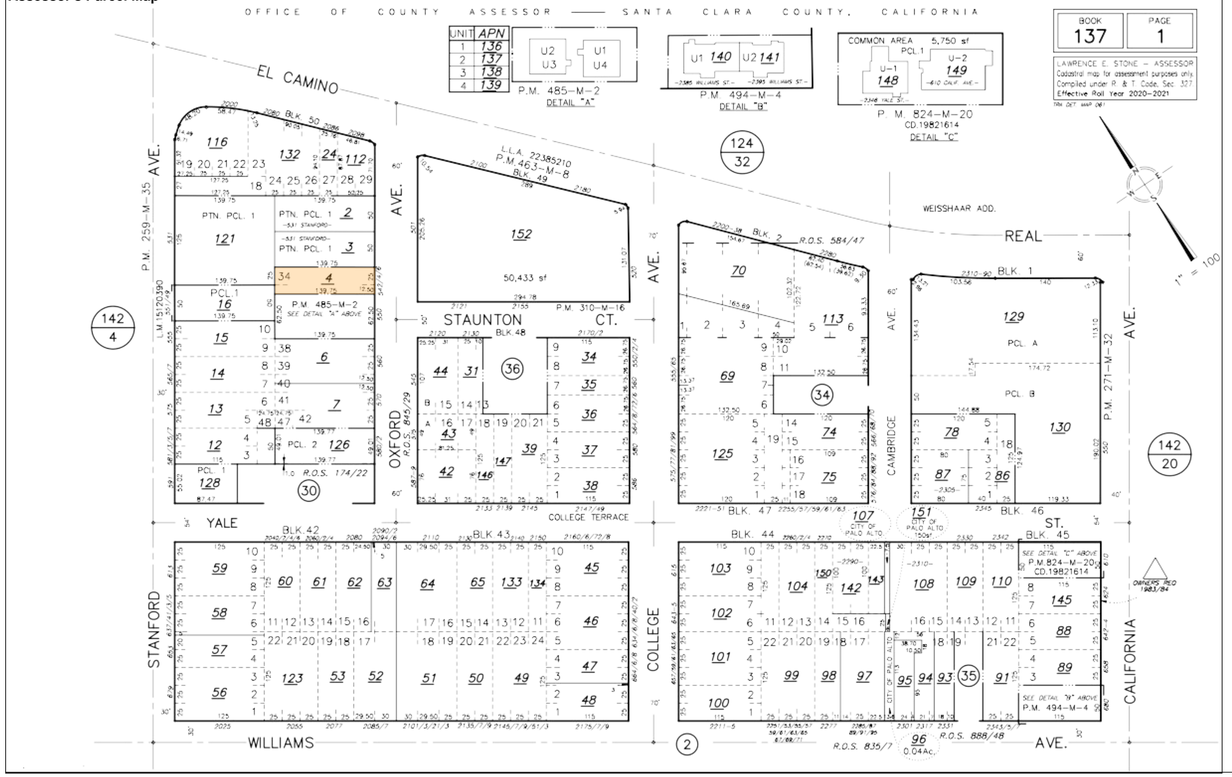
New construction of two two-story single family residences.

Project Utilities Note

This is an all-electric building project.
No new gas service or gas hookups will be installed.

Sheet Index

Assessor's Parcel Map



Site Summary Table

Lot Area:	5,241 S.F.
Zoning:	RMD (NP)
Lot Area:	5,241 sq. ft.
Lot Width:	37.50'
Lot Depth:	139.75'
Allowable Floor Area:	2,620 S.F. + 200 S.F. garage 2,820 S.F. (total)
Allowable Coverage:	2,096 S.F. (5,250 S.F. x 40%)
Site Coverage:	
Existing:	2,274 S.F.
Proposed:	1,784 S.F.
Floor Area:	
Existing:	2,274 S.F.
Proposed:	2,807 S.F.
Setbacks:	
Front:	20'
Sides:	6'
Rear:	20'
Max. Allowable Height:	35'
Proposed Height:	33'-8"
Number of Existing Units:	1 commercial / 2 residential
Number of Demolished Units:	1 commercial / 2 residential
Proposed Number of New Units:	2 residential
Unit Types and Count:	
Front Unit:	4 bed, 2 bath
Rear Unit:	4 bed, 3.5 bath
Required Parking:	3 spaces total, 2 of which are covered
Landscape Open Space:	2,026 S.F. / 39%
Usable Open Space:	
Front Unit:	1,089 S.F.
Rear Unit:	630 S.F.
Building Occupancy Class:	R-2, Multifamily Residential

Project

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542-546 OXFORD AVE, PALO ALTO, CA 94306, APN 137-01-004

Version History	Date
PIn Entitlement	12/22/21
PIn Entitlement	02/25/22

Notes

Title: Cover Sheet

Scale: as noted

Date: 02/25/22

Sheet: A0.0

Of Sheets

Conditions of Approval Table

Department	Conditions of Approval
Building	Building Dept. COAs: A building permit is required for construction of these buildings. 1. Submit design plans and calculations in compliance to 2019 CA Building Standard Codes. Contact the Building Dept for any questions. Here is a link to our website. https://www.cityofpaloalto.org/Departments/Planning-Development-Services/Development-Services/Building-Division/Handouts-Checklists-and-Guidelines
Fire	Install a NFPA 13-D fire sprinkler system in all structures including carport and garage. Provide a 3 head calc due to roof slope.
Public Works Eng	1. PUBLIC WORKS STANDARD CONDITIONS SHEET: The Department of Public Work's full-sized "Standard Conditions" sheet shall be included in the improvement plans and the applicant shall comply with all conditions listed in the sheet. The sheet can be obtained from a staff member of Public Works Engineering Services or at the following link under "Public Works Plan Review Documents": https://www.cityofpaloalto.org/Departments/Public-Works/Engineering-Services/Forms-and-Permits 2. SIDEWALK, DRIVEWAY, CURB & GUTTER: The applicant shall meet with a Public Works inspector by calling 650-496-6929 to determine portions of sidewalk, curb, gutter, and driveway approaches that shall be replaced along the project frontage. These portions shall be indicated on the site improvement plans. In addition, a Site Inspection Directive sheet shall be completed, signed by the inspector, and scanned onto the plan set. The sheet can be obtained from a staff member of Public Works Engineering Services or at the following link: https://www.cityofpaloalto.org/files/assets/public/public-works/engineering-services/webpages/forms-and-permits/other-guidelines/pwe-site-inspection-directive_rev-2021.pdf 3. DRIVEWAY APPROACHES: The applicant shall comply with all regulations in PAMC Chapter 12.08 for driveway approaches. A summary of those regulations can be obtained from a staff member of Public Works Engineering Services or at the following link: https://www.cityofpaloalto.org/civicax/filebank/blobdload.aspx?t=69580.09&BlobID=66035 4. STORM WATER POLLUTION PREVENTION SHEET: The City's full-sized "Pollution Prevention - It's Part of the Plan" sheet shall be included in the improvement plans. The sheet can be obtained from a staff member of Public Works Engineering Services or at the following link under "Public Works Plan Review Documents": https://www.cityofpaloalto.org/Departments/Public-Works/Engineering-Services/Forms-and-Permits 5. IMPERVIOUS SURFACE AREA WORKSHEET: The applicant shall fill out and include with the building permit submittal the Impervious Area Worksheet for Land Developments. The sheet can be obtained from a staff member of Public Works Engineering Services or at the following link under "Public Works Plan Review Documents": https://www.cityofpaloalto.org/Departments/Public-Works/Engineering-Services/Forms-and-Permits 6. GRADING & DRAINAGE PLAN: The improvement plans shall be compliant with the "Grading & Drainage Guidelines for Residential Developments". The sheet can be obtained from a staff member of Public Works Engineering Services or at the following link under "Public Works Plan Review Documents": https://www.cityofpaloalto.org/Departments/Public-Works/Engineering-Services/Forms-and-Permits 7. EXCAVATION & GRADING PERMIT: An Excavation and Grading Permit shall be obtained per PAMC Chapter 16.28 prior to building permit approval. The permit application and all required documents shall be submitted to Public Works Engineering. The application can be obtained from a member of Public Works Engineering Services or at the following link: https://www.cityofpaloalto.org/Departments/Public-Works/Engineering-Services/Forms-and-Permits 8. BASEMENT DRAINAGE: A drainage system is required for all exterior basement-level spaces such as lightwells, patios, or stairwells. This system consists of a sump, a sump pump, a backflow preventer, and a closed pipe from the pump to a dissipation device onsite at least 10 feet from back of sidewalk and 3 feet from side and rear property lines, such as a bubbler box in a landscaped area. NOTE: Perforated pipe drainage systems at the exterior of the basement walls or under the slab are not allowed for sites on the bay side of Foothill Expressway. 9. EXCAVATION SHORING: Shoring Plans prepared by a licensed professional engineer shall be submitted with the Grading and Excavation Permit. Shoring and tiebacks shall not extend onto adjacent private property or into the City right-of-way without having first obtained written permission from the private property owner(s) and/or an encroachment permit from the Department of Public Works.
Water Quality	The following conditions shall apply to ALL projects submitting for a Demolition Permit Application on or after July 1st, 2019: 1. If the project is submitting a demolition permit application on or after July 1st, 2019, then the applicant shall complete and submit the "PCBs Applicant Package," including any required sampling reports (per the Applicant Package instructions), with the demolition permit application. The PCBs Application Package and other resources are outlined at http://www.cityofpaloalto.org/pcbdemoprogram. The Applicant Package will outline PCBs sampling and reporting requirements that must be met if the project meets ALL of the following conditions: • The project is a commercial, public, institutional, or industrial structure constructed or remodeled between January 1, 1950 and December 31, 1980. Single-family and two-family homes are exempt regardless of age. • The framing of the building contains material other than wood. Wood-frame structures are exempt. • The proposed demolition is a complete demolition of the building. Partial demolitions do not apply to the requirements. 2. If the project triggers polychlorinated biphenyls (PCBs) sampling as identified on the "PCBs Applicant Package," then the project shall conduct representative sampling of PCBs concentration in accordance with the "Protocol for Evaluating Priority PCBs-Containing Materials before Building Demolition (2018)." • If the representative sample results or records DO NOT indicate PCB concentrations ≥50 ppm in one or more "priority materials," then the screening assessment is complete. Applicant submits screening form and the supporting sampling documentation with the demolition permit application. No additional action is required. • If the representative sample results or records DO indicate PCBs concentrations ≥50 ppm in one or more "priority materials," then the screening assessment is complete, but the Applicant MUST also contact applicable State and Federal Agencies to meet further requirements. Applicant submits screening form and the supporting sampling documentation with the demolition permit application, and also must contacts the State and Federal Agencies as indicated on Page 3 of the "PCBs Screening Assessment Form." IMPORTANT: ADVANCED APPROVAL FROM THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY (USEPA) OR OTHER STATE AGENCIES MAY BE REQUIRED PRIOR TO BUILDING DEMOLITION. IT IS RECOMMENEDED THAT APPLICANTS BEGIN THE PCBs ASSESSMENT WELL IN ADVANCE OF APPLYING FOR DEMOLITION PERMIT AS THE PROCESS CAN TAKE BETWEEN 1-3 MONTHS.
Zero Waste	Deconstruction and Construction Materials Management Requirements. 1. REQUIRED DECONSTRUCTION. In conformance with PAMC 5.24, deconstruction and source separation are required for all residential and commercial projects where structures are being completely removed, demolition is no longer allowed. Deconstruction takes longer than traditional demolition, it is important to plan ahead. 2. SALVAGE SURVEY FOR REUSE. A Salvage Survey is required for deconstruction permit applications. The survey shall be conducted by a City approved reuse vendor. The survey submittal shall include an itemized list of materials that are salvageable for reuse from the project. The applicant shall source separate and deliver materials for reuse. Certification is required indicating that all materials identified in the survey are properly salvaged. 3. SOURCE SEPARATION FOR RECYCLING. The applicant shall source separate deconstruction materials into specific categories for recycling. Additional staging areas for source separated materials will need to be considered. All materials shall be delivered to one of the City approved materials recovery facilities listed in Green Halo, all records shall be uploaded to www.greenhalosystems.com. For more information, refer to www.cityofpaloalto.org/deconstruction.

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542-546 OXORD AVE, PALO ALTO, CA 94306, APN 137-01-004

Version History	Date
PIn Entitlement	12/22/21
PIn Entitlement	02/25/22

Notes

Title
Conditions of Approval

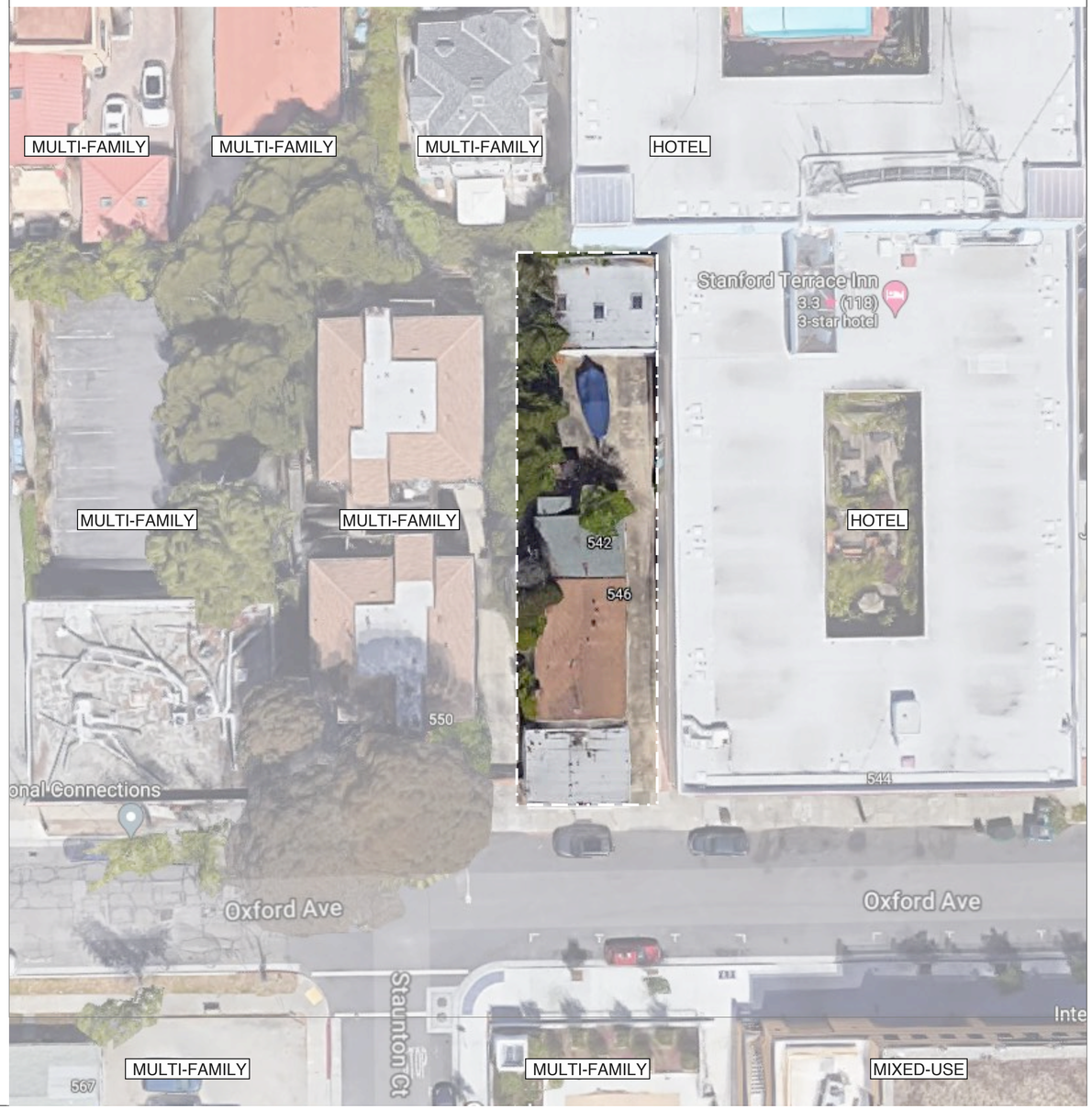
Scale

Date
02/25/22

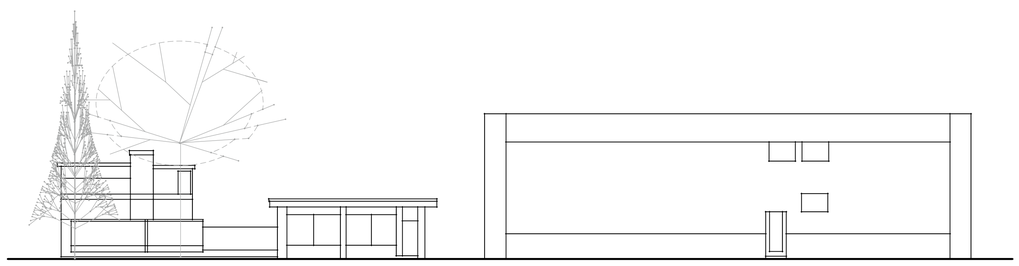
Sheet
A0.1
Of Sheets

Streetscape Photos

Site Satellite Imagery



Streetscape Elevation
1' = 10' scale



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Version History	Date
PIn Entitlement 1	12/22/21
PIn Entitlement 2	02/25/22

Notes

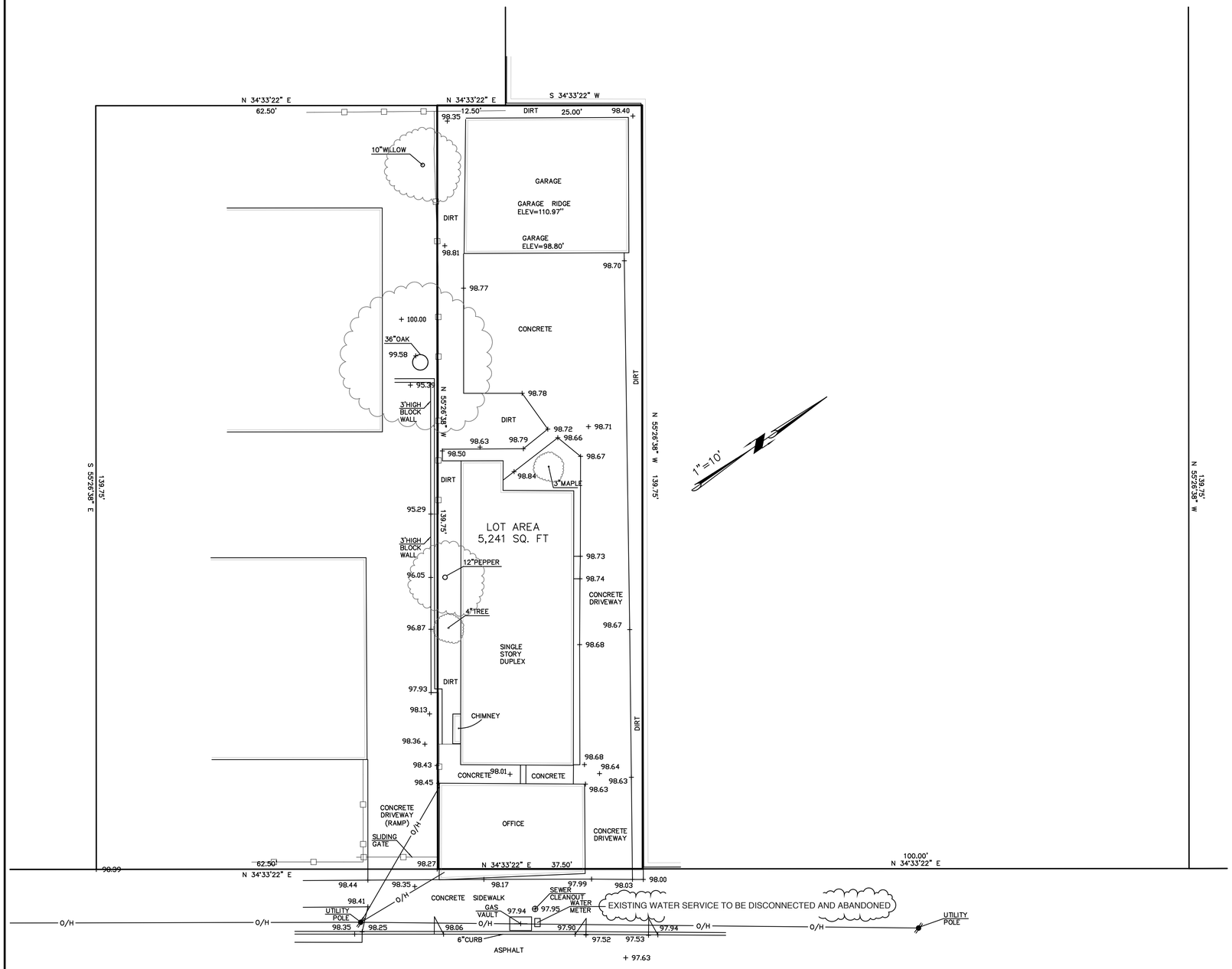
Title: Neighborhood Context

Scale:

Date: 02/25/22

Sheet: A0.2

Of Sheets



OXFORD AVENUE
(60'R/W)

SERVICE DISCONNECTION REQUIREMENT:
GAS SERVICE AND METER MUST BE DISCONNECTED WHENEVER A CONTRACTOR IS PLANNING FOR COMPLETE/PARTIAL BUILDING DEMOLITION OR ANY EXCAVATION.
WHERE TO APPLY FOR SERVICE DISCONNECTION: THE APPLICANT SHALL FIRST SUBMIT AN "APPLICATION FOR UTILITIES DISCONNECTION PRIOR TO BUILDING DEMOLITION/REMODELING" INCLUDING A SIGNED "DECLARATION CONCERNING TENANCY OF BUILDING" TO CITY OF PALO UTILITIES CUSTOMER SERVICE CENTER 250 HAMILTON AVE. (CITY HALL) GROUND FLOOR, PALO ALTO, CA 94301. TELEPHONE (650) 329-2161. FORMS ARE AVAILABLE ONLINE.

BENCHMARK STATEMENT:
THE ELEVATIONS SHOWN ARE ON AN ASSUMED DATUM.

SURVEYOR'S STATEMENT:
THIS TOPOGRAPHIC SURVEY WAS MADE BY ME OR UNDER MY DIRECTION ON THE GROUND AND REPRESENTS MEASUREMENTS MADE APRIL 2021. THE BOUNDARY SHOWN IS A RECORD BOUNDARY ONLY. A TITLE REPORT WAS NOT PROVIDED TO THE SURVEYOR BY THE CLIENT. NO PROPERTY CORNERS WERE FOUND ON THE SUBJECT PROPERTY AND NO WARRANTY IS MADE ABOUT THE BOUNDARY SHOWN. NO EASEMENTS ARE SHOWN.

LICENSED LAND SURVEYOR
SAVIOR MICALLEF
No. 8289
STATE OF CALIFORNIA

SAVIOR P. MICALLEF
LAND SURVEYOR, LS 8289
(805) 709-2423

04-15-21
DATE

SAVIOR P. MICALLEF LAND SURVEYING
421 WILDWOOD DRIVE
SOUTH SAN FRANCISCO, CA 94080
805/709-2423

TOPOGRAPHIC SURVEY OF 542-546 OXFORD AVE

CITY OF PALO ALTO — SANTA CLARA COUNTY — CALIFORNIA

Revisions	No.

Date 04-15-21
Scale 1"=10'
Design
Drawn SPM
Approved SPM
Job No

Drawing Number:
SU

City of Palo Alto

Tree Protection - It's Part of the Plan!

Make sure your crews and subs do the job right!

Fenced enclosures around trees are essential to protect them by keeping the foliage canopy and branching structure clear from contact by equipment, materials and activities, preserving roots and soil conditions in an intact and non-compacted state, and identifying the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved. **An approved tree protection report must be added to this sheet when project activity occurs within the TPZ of a regulated tree.**
For detailed information on Palo Alto's regulated trees and protection during development, review the **City Tree Technical Manual** (TTM) found at www.cityofpaloalto.org/trees/.

TREE DISCLOSURE STATEMENT

CITY OF PALO ALTO
Planning Division, 250 Hamilton Avenue
Palo Alto, CA 94301
(650) 329-2441
http://www.cityofpaloalto.org

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

PROPERTY ADDRESS: 542, 544, 546 OXFORD AVE

Are there Regulated Trees on or adjacent to the property? [X] YES [ ] NO (If no, proceed to Section 4)

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

1. Where are the trees? Check those that apply. **(Plans must be submitted showing over 4" diameter trees)**
   - [ ] On the property
   - [X] On adjacent property overhanging the project site
   - [ ] In the City planter strip or right-of-way easement within 30' of property line (Street Trees)*

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

2. Are there any Protected or Designated Trees? [X] YES (Check where applicable) [ ] NO
   - [X] Protected Tree (s)
   - [ ] Designated Tree (s)
   - [X] On or overhanging the property

3. Is there activity or grading within the dripline? (radius 10 times the trunk diameter) of these trees? [X] YES [ ] NO
   *If Yes, a **Tree Preservation Report** must be prepared by an ISA certified arborist and submitted for staff review (see TTM, Section 6.25). Attach this report to Sheet T-1, Tree Protection, its Part of the Plan!", per Site Plan Requirements.*

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

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

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

Signature: _____ (Prop. Owner or Agent) Print: KYU YOUNG KIM Date: 10/28/2021

FOR STAFF USE:

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

5. Protected Trees. The specified tree fencing is in place. A written statement is attached verifying that protective fencing is correctly in place around protected and/or designated trees. [ ] YES [ ] NO (N/A if there are no protected trees, check here [ ])

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

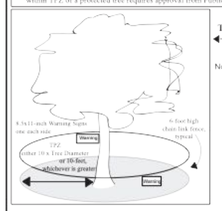
Regulated Trees – a) Street trees – trees on public property; b) Protected trees – Coast Live Oaks or Valley Oaks which are 11.5" in diameter or larger, Coast Redwoods which are 18" in diameter or larger, when measured 54" above natural grade; and Heritage trees are trees designated by City Council;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

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

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

For written specifications associated with illustrations below, see Public Works Specifications Section 31
Detailed specifications are found in the Palo Alto Tree Technical Manual (TTM) (www.cityofpaloalto.org/trees/)

Tree Protection Zone (TPZ) shown in gray (radius of TPZ equals 10-times the diameter of the tree or 10-feet, whichever is greater)
- Restricted activity area – see Tree Technical Manual Sec 2.15(E).
- Restricted trenching area – see Tree Technical Manual Sec 2.20(C-D), any proposed trench or form work within TPZ of a protected tree requires approval from Public Works Operations. Call 650-496-5953.



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

Rev	By	Date
0	DOES	12/16/92
01	D.D.	08/04/94
02	D.D.	08/10/06

Scale: NTS

Tree Protection During Construction

City of Palo Alto Standard

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

Table 2-2 Palo Alto Tree Technical Manual

CONTRACTOR & ARBORIST INSPECTION SCHEDULE

Reference 'the Palo Alto Tree Technical Manual is available at www.cityofpaloalto.org/environment/'

ALL CHECKED ITEMS APPLY TO THIS PROJECT:

1. [x] **Inspection of Protective Tree Fencing**. For Public Trees, the Street Tree Verification Form shall be signed by the City Arborist. For Protected Trees, the project site arborist shall provide an initial Monthly Tree Activity Report form with a photograph verifying that he has conducted a field inspection of the trees and that the correct type of protective fencing is in place around the designated tree protection zone (TPZ) prior to issuance of a demolition, grading, or building permit. (See TTM, Verification of Tree Protection, Section 1.39).
2. [x] **Pre-Construction Meeting**. Prior to commencement of construction, the applicant or contractor shall conduct a pre-construction meeting to discuss tree protection with the job site superintendent, grading operators, project site arborist, City Arborist, and, if a city maintained irrigation system is involved, the Parks Manager (Contact 650-496-6962).
3. [x] **Inspection of Rough Grading or Trenching**. Contractor shall ensure the project site arborist performs an inspection during the course of rough grading or trenching adjacent to or within the TPZ to ensure trees will not be injured by compaction, cut or fill, drainage and trenching, and if required, inspect aeration systems, tree wells, drains and special paving. The contractor shall provide the project arborist at least 24 hours advance notice of such activity.
4. [x] **Monthly Tree Activity Report Inspections**. The project site arborist shall perform a minimum monthly activity inspection to monitor and advise on conditions, tree health and retention or, immediately if there are *any revisions* to the approved plans or protection measures. The Tree Technical Manual Monthly Tree Activity Report format shall be used and sent to the Planning Dept. landscape reviewy staff no later than 14 days after issuance of building permit date. Fax to (650) 329-2154. (See TTM, Monthly Tree Activity Inspection Report, Addendum 11 & section 1.17).
5. [x] **Special activity within the Tree Protection Zone**. Work in the TPZ area (see also #7 below) requires the direct onsite supervision of the project arborist (see TTM, Trenching, Excavation & Equipment, Section 2.20 C).
6. [ ] **Landscape Architect Inspection**. For discretionary development projects, prior to temporary or final occupancy the applicant or contractor shall arrange for the Landscape Architect to perform an on site inspection of all plant stock, quality of the materials and planting (see TTM, Planting Quality, Section 5.20.1 A) and that the irrigation is functioning consistent with the approved construction plans. The Planning Dept. landscape reviewr staff shall be in receipt of written verification of Landscape Architect approval prior to scheduling the final inspection, unless otherwise approved.
7. [ ] **List Other** (please describe as called out in the site Tree Preservation Report, Sheet T-1, T-2, etc.)
   - _____
   - _____

City of Palo Alto Tree Technical Manual — ADDENDUM 11

Arborist Firm Data Here — email: — RCA/ISA Certified Arborist #WE-000 Contact Cell #

Monthly Tree Activity Report- *Construction Site*

Inspection Date: _____ **Inspection #**_____	**Site address:** _____ Palo Alto, CA	**Contractor-Main Site Contact Information**	#1: Job site superintendent Company: Email: Job site Office: Cell: Mail:
		Also present:	* _____ * _____
Distribution:	1. City of Palo Alto 2. Others	**Attn: Dave Dockter**	Dave.dockter@cityofpaloalto.org 650-329-2440

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

1. Assignment Activity (Demolition/grading/sewer/trenching/foundation/list relevant visits)
   a. Pre-construction meeting requirement with sub-contractors
   b. Inspect to verify that tree protection measures are in place
   c. Determine if field adjustments, watering or plan revisions may be needed
2. Field Observations (general site-wide and list by individual tree number)
   a. Tree Protection Fences (TPF) are ....
   b. Trenching has/will occur ....
3. Action Items (list site-wide, by tree number and date to be satisfied) and Date Due
   a. Tree Protection Fence (TPF) needs adjusting (tree # x, x, x)
   b. Root zone buffer material (wood chips) can be installed next
   c. Schedule sewer trench, foundation dig with ....
4. Photographs (use often)
5. Tree Location Map (mandatory 8.5 x 11 sheet)
6. Recommendations, notes or monitor items for project/staff/schedule
   *
7. Past visits (list carry-over items satisfied/still outstanding)
   *

Respectfully submitted,

Project site arborist
Consultant contact information (Include email, cell#, and mailing)
Cc:

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

City of Palo Alto
250 Hamilton Avenue, Palo Alto, CA 94307

Search: Advanced — Browse By Topic
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Home
City-owned Trees
Privately-owned Trees
About the Tree Ordinance
Title 8.10
Heritage Trees
Forms
Tree Technical Manual
FAQs
Contact Us
Resources

Tree Technical Manual

To purchase the Tree Technical Manual

June, 2001 First Edition

View by section:

- Table of Contents (PDF, 87KB)
- Intent and Purpose (PDF, 1.05MB)
- Introduction - Use of Manual (PDF, 1.05MB)
- Section 1.0 - Definitions (PDF, 96KB)
- Section 2.0 - Protection of Trees During Construction (PDF, 259KB)
- Section 3.0 - Removal, Replacement & Planting of Trees (PDF, 117KB)
- Section 4.0 - Hazardous Trees (PDF, 105KB)
- Section 5.0 - Tree Maintenance Guidelines (PDF, 110KB)
- Section 6.0 - Tree Reports (PDF, 84KB)

View ALL sections:

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

APPENDICES
A: Palo Alto Municipal Code Chapter 8.10, Tree Preservation & Management Regulations
B: Tree City - USA
C: ISA Hazard Evaluation Form
D: List of Inherent Failure Patterns for Selected Species (Reference source)
E: ISA Tree Pruning Guidelines (PDF, 1.85MB)
F: Tree Care Safety Standards, ANSI Z133.1-1994 (Reference source)
G: Pruning Performance Standards, ANSI A300-1995 (Reference source) H: Tree Planting Details, Diagram 504 & 505
I: Tree Disclosure Statement
J: Palo Alto Standard Tree Protection Instructions

APPENDIX J

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

31-1 General

a. **Tree protection has three primary functions.** 1) to keep the foliage canopy and branching structure clear from contact by equipment, materials and activities; 2) to preserve roots and soil conditions in an intact and non-compacted state and 3) to identify the Tree Protection Zone (TPZ) in which no soil disturbance is permitted and activities are restricted, unless otherwise approved.

b. **The Tree Protection Zone (TPZ)** is a restricted area around the base of the tree with a radius of ten-times the diameter of the tree's trunk or ten feet; whichever is greater, enclosed by fencing.

31-2 Reference Documents

a. **Detail 605** - Illustration of situations described below.

b. **Tree Technical Manual (TTM) Forms** (http://www.cityofpaloalto.org/trees/)
   1. Trenching Restriction Zones (TTM, Section 2.20(C))
   2. Arborist Reporting Protocol (TTM, Section 6.30)
   3. Site Plan Requirements (TTM, Section 6.35)
   4. Tree Disclosure Statement (TTM, Appendix J)

c. **Street Tree Verification (STV) Form** (http://www.cityofpaloalto.org/trees/forms)

31-3 Execution

a. **Type I Tree Protection:** The fence shall enclose the entire TPZ of the tree(s) to be protected throughout the life of the construction project. In some parking areas, if fencing is located on paving or concrete that will not be demolished, then the posts may be supported by an appropriate grade level concrete base, if approved by Public Works Operations.

b. **Type II Tree Protection:** For trees situated within a planting strip, only the planting strip and yard side of the TPZ shall be enclosed with the required chain link protective fencing in order to keep the sidewalk and street open for public use.

c. **Type III Tree Protection:** To be used only with approval of Public Works Operations. Trees situated in a tree well or sidewalk planter pit, shall be wrapped with 2-inches of orange plastic fencing from the ground to the first branch and overlaid with 2-inch thick wooden slats bound securely (slats shall not be allowed to dig into the bark). During installation of the plastic fencing, caution shall be used to avoid damaging any branches. Major limbs may also require plastic fencing as directed by the City Arborist.

d. **Size, type and area to be fenced.** All trees to be preserved shall be protected with six (6') foot high chain link fences. Fences are to be mounted on two-inch diameter galvanized iron posts, driven into the ground to a depth of at least 2-feet at no more than 10-foot spacing. Fencing shall extend to the outer branching, unless specifically approved on the STV Form.

e. **'Warning' signs**. A warning sign shall be weather proof and prominently displayed on each fence at 20-foot intervals. The sign shall be minimum 8.5-inches x 11-inches and clearly state in half inch letters: "WARNING - Tree Protection Zone - This fence shall not be removed and is subject to a fine according to PAMC Section 8.10.110."

f. **Duration**. Tree fencing shall be erected before demolition, grading or construction begins and remain in place until final inspection of the project, except for work specifically allowed in the TPZ. Work or soil disturbance in the TPZ requires approval by the project arborist or City Arborist (in the case of work around Street Trees). Excavations within the public right of way require a Street Work Permit from Public Works.

g. **During construction**

1. All neighbors' trees that overhang the project site shall be protected from impact of any kind.
2. The applicant shall be responsible for the repair or replacement plus penalty of any publicly owned trees that are damaged during the course of construction, pursuant to Section 8.04.670 of the Palo Alto Municipal Code.
3. The following tree preservation measures apply to all trees to be retained:
   a. No storage of material, topsoil, vehicles or equipment shall be permitted within the TPZ.
   b. The ground under and around the tree canopy area shall not be altered.
   c. Trees to be retained shall be irrigated, aerated and maintained as necessary to ensure survival.

END OF SECTION

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

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

Verification of Street Tree Protection

Applicant Instructions: Complete upper portion of this form. Mail or FAX this form along with signed Tree Disclosure Statement to Public Works Dept. Public Works Tree Staff will inspect and notify applicant.

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

This section to be filled out by City Tree Staff

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

Subsequent Inspection

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

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

S:\FORS\OPS Tree\DS\St Tree Protect — 5/1706

---WARNING---
Tree Protection Zone

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

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

Palo Alto Municipal Code Section 8.10.110

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

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SPECIAL INSPECTIONS — **PLANNING DEPARTMENT**

TREE PROTECTION INSPECTIONS MANDATORY

PAMC 8.10 PROTECTED TREES. CONTRACTOR SHALL ENSURE PROJECT SITE ARBORIST IS PERFORMING REQUIRED TREE INSPECTION AND SITE MONITORING. PROVIDE WRITTEN MONTHLY TREE ACTIVITY REPORTS TO THE PLANNING DEPARTMENT LANDSCAPE REVIEW STAFF BEGINNING 14 DAYS AFTER BUILDING PERMIT ISSUANCE.

BUILDING PERMIT DATE: _____

DATE OF 1ST TREE ACTIVITY REPORT: _____

CITY STAFF: _____

REPORTING DETAILS OF THE MONTHLY TREE ACTIVITY REPORT SHALL CONFORM TO SHEET T-1 FORMAT, VERIFY THAT ALL TREE PROTECTION MEASURES ARE IMPLIMENTED AND WILL INCLUDE ALL CONTRACTOR ACTIVITY, SCHEDULED OR UNSCHEDULED, WITHIN A TREE PROTECTION ROOT ZONE. NON-COMPLIANCE IS SUBJECT TO VIOLATION OF PAMC 8.10.080. REFERENCE: PALO ALTO TREE TECHNICAL MANUAL, SECTION 2.00 AND ADDENDUM 11.

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

Use addtional "T" sheets as needed

NEW CONSTRUCTION OF TWO HOMES
OXFORD AVE DUPLEX
542-546 OXORD AVE, PALO ALTO, CA 94306, APN 137-01-004

Project Data

T-1

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

Special Tree Protection Instruction Sheet
City of Palo Alto

T-1

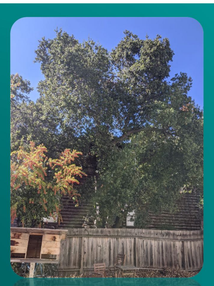
ARBORIST REPORT

TREE PROTECTION PLAN

SEPTEMBER 18, 2021

PREPARED FOR: ROSITA WONG

PROJECT: **542-546 OXFORD AVE., PALO ALTO**



BO FIRESTONE TREES & GARDENS
BUSARA FIRESTONE, CERTIFIED ARBORIST #WE-8525A
2150 LACEY DR., MILPITAS, CA 95035
E: BUSARA@BOFIRESTONE.COM P: (408) 497-7158
WWW.BOFIRESTONE.COM

AMERICAN SOCIETY of CONSULTING ARBORISTS

CONTENTS

Introduction

ASSIGNMENT

In September 2021 at the request of property owner Rosita Wong, I visited the proposed building project at 542 - 546 Oxford Avenue in Palo Alto. I accepted the assignment of Project Arborist and agreed to write an industry-standard tree protection plan for their building permit application. After review of the plans, it was my understanding that the existing structures would be demolished, and two new multi-story homes planned for the parcel. A new driveway, one-car garage, and covered car port was also planned. My assessments in this report were based on review of proposed plan sheets A1.0 – A2.4 dated October 2021 by Kyu Kim.

There were no trees of "Protected" status on the property. However, I identified four (4) "Regulated" trees for inclusion in this report, all on a neighboring property: one (1) coast live oak (*Quercus agrifolia)* and three sub-size trees overhanging the property. Three insignificant trees on the property were requested for removal (see attached site map). No regulated trees were requested for removal as part of the project.

USES OF THIS REPORT

This report was written by Busara Firestone, Project Arborist, to serve as a resource for the property owner, designer, and builder. It provides instructions for retaining, protecting, and working around trees during construction. More detail on City Tree Protection Guidelines may be found in the *City of Palo Alto Tree Technical Manual*. **I recommend that all tree protection measures in this report be shown on the final grading, construction, and landscape plans, and adhered to during construction.**

ASSUMPTIONS & LIMITATIONS

Trees assessed were limited to the scope of work identified in the assignment. Although general structure and health were assessed, formal Tree Risk Assessments were not conducted unless specified. Disease diagnostic work was not conducted unless specified.

I have estimated the trunk diameters of trees with barriers to access or visibility (such as those on neighboring parcels or behind debris).

All assessments were the result of ground-based, visual inspections. No excavation or aerial inspections were performed. Recommendations beyond those related to the proposed construction were not within the scope of work. Full tree risk assessments were not within the scope of work, although assessments of health and structure factored into my condition ratings for each tree.

My tree impact and preservation assessments were based on information provided in the plans I have reviewed to date, and conversations with the involved parties. I assumed that the guidelines and setbacks recommended in this report would be followed. Assessments, conclusions, and opinions shared in this report are not a guarantee of any specific outcome. If additional information (such as engineering or landscape plans) is provided for my review, these assessments would be subject to change.

HOW CONSTRUCTION CAN DAMAGE TREES

Damage to Roots

Where are the Roots?

The most common types of injury to trees that occur during property improvements are related to root cutting or damage. **Tree roots extend farther out than people realize, and the majority are located within the upper 24 inches of soil.** The thickest roots are found close to the trunk, and taper and branch into ropey roots. These ropey roots taper and branch into an intricate system of fine fibrous roots, which are connected to an even finer system of fungal filaments. This vast below-ground network is tasked with absorbing water and nutrients, as well as anchoring the tree in the ground, storage, and communication.

Damage from Excavation

Any type of excavation will impact adjacent trees by severing roots and thus cutting off the attached network. Severing larger roots, or trenching across the root plate, destroys large networks. Even work that appears to be far from a tree (like on the far side of the yard), will impact the fibrous root system where excavation is taking place. Placing impervious surface over the ground, or installing below ground structures, such as a pool, or basement wall, will remove rooting area permanently from a site.

Damage from Fill

Adding fill can smother roots, making it difficult for them to access air and water. The roots and other soil life need time to colonize the new upper layers of soil.

Changes to Drainage and Available Water

Changes to the hydrology of the site, caused for instance by new septic fields, changes to grade, and drainage systems, can also cause big changes in available water for trees. Trees can die from lack of water or disease if their water supply dries up or gets much wetter than they are used to.

Soil Compaction and Contamination

In addition, compaction of soil, or contamination of soil with wash-water, paint, fuel, or other chemicals used in the building process, can cause damage to the rooting environment that can last many years. Tree protection fencing creates a barrier to protect as many roots as possible from this damage. Potential causes may include travelling vehicles, equipment storage, and washing out concrete.

Mechanical Injury

Injury from the impact of vehicles or equipment can occur to the root crown, trunk, and lower branches of a tree. The bark protects a tree – creating a skin-like barrier from disease-causing organisms. The stem tissues are in charge of supporting the weight of the plant, and conducting the flow of water, sugars, and other important compounds throughout the tree. When the bark and wood is injured, the structure and health of the tree is compromised.

Tree Impact Assessment

SITE & PROJECT DESCRIPTION

The parcel was a very narrow lot between a commercial building and a multi-family residential building. There were no trees of "Protected" status on the property. However, there was one (1) mature coast live oak (*Quercus agrifolia)* and three small trees on the neighboring property along the (south) property line.

After review of the plans, it was my understanding that the existing structures would be demolished, and a duplex was planned. The front unit would be a two-story structure with a carport in the back. The rear unit would have a basement, first and second floor. A new driveway running along the (south) side of the parcel would lead to a detached one-car garage.

IMPACTS OF CONSTRUCTION

According to the City of Palo Alto, a "Protected Tree" was Coast Live Oaks, Valley Oaks (greater than 11.5 inches in diameter), and Coast Redwood (greater than 18 inches in diameter). A "Regulated Tree" includes Protected Trees on the parcel as well as those overhanging the property on the neighboring properties, as well as Street trees within 30 feet of the proposed work.

There were no trees of "Protected" status on the property. However, I identified four (4) "Regulated" trees for inclusion in this report, all on a neighboring property: one (1) coast live oak (*Quercus agrifolia)* and three small trees overhanging the property. In my assessment, the neighboring oak (Tree #1) would sustain a "high" degree of impact from the excavation work for the new basement and foundation of the rear unit, as well as some impacts from the new driveway. This means that even if special tree protection measures are followed, there would be a significant risk to the health and longevity of these trees. I estimated a root loss of 25% due to excavation. Small neighboring trees (#2 - #4) would be expected to sustain minor

impact. **Please see definitions of these impact ratings in the Glossary at the end of this report.**

It should be noted that the current plan reflects revisions made by the architect in an effort to reduce the impacts to the tree. According to the project architect "The site is limited in its developable area being less than 50-feet wide with 6-foot side yard setbacks. This leaves just 25.5 feet of width to work with before inserting a driveway along the depth of the property." I recommended 18 feet (6X DBH) as the minimum setback from the work. Since the lot was so narrow, one solution was to have the driveway on the left side of the lot, which puts the basement/foundation work farther from the tree. Changes were also made to the floorplan to try to meet this setback where feasible.

The evaluation of anticipated project impacts to all Regulated Trees was summarized in the Tree Inventory under the heading "Impact Assessment." These included impacts of grading, excavation for utility installation, retaining walls, drainage or any other aspect of the project that could impact the service life of the tree. The anticipated impact due to proximity to work was provided using a rating system. General species tolerance to construction, and condition of the trees (health and structural integrity), was also provided. These factors, as well as tree age, soil characteristics, and species desirability, all factored into an individual tree's suitability rating, as summarized on the Inventory. Suitability of trees to be retained was rated as "high," "moderate," or "low."

REQUESTED TREE REMOVALS

No regulated trees were requested for removal (none on the property).

TREE INVENTORY

This tree preservation plan includes an attached inventory of all trees protected by City ordinance that would be potentially impacted. This inventory also included any trees on adjacent parcels that extended into the work area.

NEW CONSTRUCTION OF TWO HOMES

OXFORD AVE DUPLEX

542-546 OXORD AVE, PALO ALTO, CA 94306, APN 137-01-004

Project Data

T-2

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

Special Tree Protection Instruction Sheet
City of Palo Alto

T-2

The Inventory included each tree's number (as shown on the TPZ map), measurements, condition, level of impact (due to proximity to work), tolerance to construction, overall suitability for conservation, and prescription (remove/retain).

Tree Preservation & Mitigation Measures

PRE-CONSTRUCTION

Establish Tree Protection Zones (TPZ):

The Tree Protection Zone (TPZ) shall be a fenced-off area where work and material storage is not allowed. This barrier protects the critical root zone and trunk from compaction, mechanical damage, and chemical spills. The TPZ should be in-place before work starts and should stay in-place until the project is complete.

TPZ SPECIFICATIONS (City of Palo Alto):

- **Using five or six-foot (5' or 6') tall chain link fence as standard (Type I) tree protection.**
- **The fence should be mounted on 2-inch diameter galvanized posts and driven into the ground to a depth of at least 2 feet, and at no more than 10-foot spacing.**
- **A warning sign shall be prominently displayed on each fence. The sign shall be a minimum of 8.5 x 11-inches and clearly state: "WARNING - Tree Protection**

Zone - This fence shall not be removed and is subject to a penalty according to PAMC Section 8.10.110.9."

TPZ LOCATIONS:
The dripline (area beneath the tree's canopy) serves as a rule of thumb for where the critical roots are located and serves as a good visual guideline for establishing the TPZ fencing radius. However, site restrictions may limit where fencing can be feasibly placed. **Please see attached "Existing Tree/TPZ Map" for recommended fencing locations specific to this project.**

- **Trees #1 - #4** (neighboring redwood): These neighboring trees would be protected by fencing placed along the property line instead of, or in addition to the existing wooden fence. (This existing fence is not in serviceable condition). Fencing at 10X DBH would not be feasible due to the location of the proposed driveway and garage.

Preventing Soil Disturbance & Root Damage

I recommend that anywhere workers and vehicles will be traveling over bare ground within fifteen feet of a tree's dripline should have material applied over the ground to disperse the load. This may be done by applying a six to 12-inch layer of wood chip mulch to the area. With this method, mulch in excess of four inches would have to be removed after work is completed. As an alternative method that would not require mulch removal, the contractor could place plywood (>3/4-inch-thick) or road mats over a four-inch layer of mulch. Mulch should be spread manually so as not cause compaction or damage.

Pruning Branches

I recommend that each retained tree be pruned only as necessary to provide clearance for development, while maintaining a natural appearance. Branches must be pruned to allow clearance for proposed structures and the passage of workers, vehicles and machines. Any large dead branches should be pruned out for the safety of people working on the site.

Pruning should be specified in writing adhering to ANSI A300 Pruning Standards and performed according to Best Management Practices endorsed by the International Society of Arboriculture. Any pruning (trimming) of branches should be supervised by an ISA-certified arborist.

Pre-Construction Inspection and Meeting

According to the City's *Tree Technical Manual*, "the project arborist or contractor shall verify, in writing, that all preconstruction conditions have been met (tree fencing, erosion control, pruning, etc.) and is in place. Written verification must be submitted to and approved by the Planning Department prior to demolition, grading or building permit issuance (for more information see the section "Inspections, Section 2.30" in the *Tree Technical Manual*).

In addition, "the demolition, grading and underground contractors, construction superintendent and other pertinent personnel are required to meet with the Project Arborist at the site prior to beginning work to review procedures, and tree protection measures."

DURING CONSTRUCTION

Special Tree Protection Measures – Tree #1 (coast live oak)

Excavation guidelines for installation of new basement and foundation: *Use hand tools only* when excavating within the top 36 inches of soil within 20 feet of the trunk of this tree. Under the supervision of the Project Arborist or City Arborist, roots encountered should be cut cleanly with a sharp, clean sawblade perpendicular to the direction of growth (a "square cut"). The cut should be made where the bark of the root is undamaged and intact.

Special Tree Protection Measures – Construction of the Driveway

1. **I recommend an exploratory trench to be dug by hand, before excavation begins, to expose roots along the tree-side of the driveway.** Due to the proximity of the driveway to the tree, it is possible that you may find large structural roots at the surface. Therefore, I recommend an exploratory trench inspection be done before building. During the planning phase is recommended to avoid last-minute plan changes.
2. **Excavation depth for installation of new pavement should be no more than four inches (4"). Compaction of subgrade should be minimal.**
3. Builders may notice torn roots after digging or trenching. If this happens, or of roots must be cut for any reason, please see section titled "Root Pruning."

Excavation guidelines for new utility lines (if within 20 feet of Tree #1): Do not trench if possible but consider using boring (tunneling) machines set up outside the dripline of the tree. If trenching is necessary, use hand tools or vacuum soil extraction in the top 36 inches of soil, leaving roots undisturbed. The pipes can then be pushed through the trench, leaving roots undamaged.

Project Arborist Supervision

Regular inspections are required to ensure compliance with the Tree Protection Plan. Refer to the Tree Technical Manual and Conditions of Approval for your project for specific requirements.

Irrigation

Maintain normal irrigation; as a rule of thumb, provide 1- 2 inches per month. Water slowly so that it penetrates 18 inches into the soil, to the depth of the tree roots. However, native oaks usually should not be provided supplemental water during the warm, dry season (June – September) as this activates oak root fungus. Therefore, native oaks should only be watered October – May when rain has been scarce.

Root Pruning

Roots often extend farther beyond the tree than people realize. Even outside of the fencing protecting the critical root zone, there are roots that are important to the wellbeing of the tree. Builders may notice torn roots after digging or trenching. If this happens, exposed ends should be cut cleanly.

However, the best way to cut roots is to cut them cleanly *before* they are torn by excavating equipment. Roots may be exposed by gentle excavation methods and then cut selectively. Alternatively, a tool specifically designed to cut roots may be used to cut through the soil on the tree-side of the excavation line prior to digging so that roots are not torn.

I recommend that root pruning of any root over one inch (1") be supervised by the project arborist.

POST-CONSTRUCTION

Ensure any mitigation measures to ensure long-term survival including but not limited to:

Continued Tree Care

Provide adequate and appropriate irrigation. As a rule of thumb, provide 1- 2 inches of water per month. Water slowly so that it penetrates 18 inches into the soil, to the depth of the tree roots. Native oaks usually should not be provided supplemental water during the warm, dry season (June – September) as this activates oak root fungus. Therefore, native oaks should only be watered October – May when rain has been scarce.

Mulch insulates the soil, reduces weeds, reduces compaction, and promotes myriad benefits to soil life and tree health. Apply four inches of wood chips (or other mulch) to the surface of the soil around trees, extending at least to the dripline when possible. Take care not to pile mulch against the trunk.

Do not fertilize unless a specific nutrient deficiency has been identified and a specific plan prescribed by the project arborist (or a consulting arborist).

Post-Construction Monitoring

Monitor trees for changes in condition. Check trees at least once per month for the first year post-construction. Expert monitoring should be done at least every 6 months or if trees show signs of stress. Signs of stress include unseasonably sparse canopy, leaf drop, early fall color, browning of needles, and shoot die-back. Stressed trees are also more vulnerable to certain disease and pest infestations. Call the Project Arborist, or a consulting arborist if these, or other concerning changes occur in tree health.

Conclusion

The proposed building project appeared to be a valuable upgrade to the property and neighborhood. If the recommendations and protection measures in this report are followed, all protected trees identified for preservation may survive.

There was a neighboring oak tree that would be highly impacted by the project. The current proposed plan reflects revisions made to the original in an effort to reduce the impacts to this tree. The level of impact may be acceptable to the parties involved given the unusual limitations of the narrow lot.

If any of the parties involved have questions on this report, or require Project Arborist supervision or technical support, please do not hesitate to contact me at (408) 497-7158 or busara@bofirestone.com.

Signed,

Bo Firestone | ISA Certified Arborist WE-#8525A | ISA Qualified Tree Risk Assessor | ASCA Tree and Plant Appraisal Qualification | Member – American Society of Consulting Arborists

Supporting Documents

Glossary

DSH / DBH: "Diameter at Standard (or Breast) Height," typically 4.5' above grade.

Mathematic DSH / DBH: diameter of multitrunked tree, mathematically derived from the combined area of all trunks.

CIRC.: Combined trunk circumference at 4.5' above grade.

SPREAD: Diameter of canopy between farthest branch tips

PROTECTED TREE: According to the City of Palo Alto, a "Protected Tree" is a Coast Live Oak or Valley Oak greater than 11.5 inches in diameter, or Coast Redwood greater than 18 inches in diameter.

REGULATED TREE: A "Regulated Tree" includes Protected Trees on the parcel as well as those overhanging the property on the neighboring properties, as well as Street trees within 30 feet of the proposed work.
.

CONDITION-Ground based visual assessment of structural and physiological well-being:

"Excellent" = 81 - 100%; Good health and structure with significant size, location or quality.

"Good" = 61-80%; Normal vigor, full canopy, no observable significant structural defects, many years of service life remaining.

"Fair" = 41-60%; Reduced vigor, significant structural defect(s), and/or other significant signs of stress

"Poor" = 21- 40%; In potentially irreversible decline, structure an aesthetics severely compromised

"Very Poor" = 6-20%; Nearly dead, or high risk of failure, negative contribution to the landscape

NEW CONSTRUCTION OF TWO HOMES
OXFORD AVE DUPLEX
542-546 OXORD AVE, PALO ALTO, CA 94306, APN 137-01-004

Project Data

T-2

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http://www.cityofpaloalto.org/civica/filebank/blobdload.asp?BlobID=6460

Special Tree Protection Instruction Sheet
City of Palo Alto

T-3

"Dead/Unstable" = 0 - 5%; No live canopy/buds or failure imminent

IDEAL TPZ RADIUS: Minimum recommended tree protection radius to ensure healthy, sound trees. Based on species tolerance, age, and size (total combined stem area). Compromising the radius in a specific area may be acceptable as per arborist approval.

AGE: Relative to tree lifespan; "Young" <1/3; "Mature" 1/3 - 2/3; "Overmature" >2/3

IMPACT: Anticipated impact to an individual tree including.....

SEVERE - In direct conflict, removal necessary if plans proceed (distance to root cuts/fill within 3X dbh)

HIGH - Ideal TPZ significantly encroached upon but could still be retained with monitoring or alternative building methods. Health and structure may worsen even if conditions for retainment are met. May recommend alternative TPZ method due to proximity to work.

MODERATE - Ideal TPZ encroached upon in limited areas. Special building guidelines provided by Project Arborist. Although some symptoms of stress are possible, tree is not likely to decline due to construction related activities. May recommend alternative TPZ method due to proximity to work.

LOW - Minor or no encroachment on ideal TPZ. Longevity uncompromised with standard protection.

VERY LOW - Ideal TPZ well exceeded. Potential impact only by ingress/egress. Longevity uncompromised.

NONE - Negligible anticipated impact.

TOLERANCE: General species tolerance to construction (GOOD, MODERATE, or POOR) as given in Managing Trees During Construction, Second Edition, by International Society of Arboriculture

SUITABILITY ASSESSMENT: An individual tree's suitability for preservation considering impacts, condition, maturity, species tolerance, site characteristics, and species desirability. (HIGH, MODERATE, or LOW)

PRESERVATION STATUS: Preserve (retain with protection measures) or Remove

Sources

Fite, Kelby, and E. Thomas Smiley. *Managing trees during construction,* second edition. Champaign, IL: International Society of Arboriculture, 2016. Print.

ISA. *Guide for Plant Appraisal,* 10th edition, second printing. Atlanta, GA: International Society of Arboriculture, 2019. Print.

ISA. Species Classification and Group Assignment, 2004 Western Chapter Regional Supplement. Western Chapter ISA.

Palo Alto Department of Planning and Community Environment. *Tree Technical Manual.* City of Palo Alto, 2001. Print.

Smiley, E. Thomas, Nelda Matheny, and Sharon Lilly. *Best Management Practices: Tree Risk Assessment*: International Society of Arboriculture, 2011. Print.

CERTIFICATE OF APPRAISAL

I, Busara Rea Firestone, CERTIFY to the best of my knowledge and belief:

1. That the statements of fact contained in this plant appraisal are true and correct.
2. That the appraisal analysis, opinions, and conclusion are limited only by the reported assumption and limiting conditions, and that they are my personal, unbiased professional analysis, opinions, and conclusions.
3. That I have no present or prospective interest in the plants that are the subject of this appraisal, and that I have no personal interest or bias with respect to the parties involved.
4. That my compensation is not contingent upon a predetermined value or direction in value that favors the cause of the client, the amount of the value estimate, the attainment of a stipulated result, or the occurrence of a subsequent event.
5. That my analysis, opinions, and conclusions are developed, and this appraisal has been prepared, in conformity with the *Guide for Plant Appraisal (10th edition, 2000)* authored by the Council of Tree and Landscape Appraisers.
6. That the methods found in this appraisal are based on a request to determine the value of the plants considering reasonable factors of plant appraisal.
7. That my appraisal is based on the information known to me at this time. If more information is disclosed, I may have further opinions.

Signed,

Busara (Bo) Firestone
ISA Certified Arborist WE-#8525A
10/18/2021

BO FIRESTONE CONSULTING & DESIGN
BUSARA FIRESTONE, CERTIFIED ARBORIST #WE-8525A
2150 LACEY DR., MILPITAS, CA 95035
E: BUSARA@BOFIRESTONE.COM P: (408) 497-7158
WWW.BOFIRESTONE.COM

TREE INVENTORY - 542-546 Oxford Ave, Palo Alto

Wong Property - 10/15/21

							TREE IMPACT ASSESSMENT							
Number	Common Name	Botanical Name	DBH (inches)	math. DBH (inches)	Height (feet)	Spread (feet)	Condition	Age	Species Tolerance	MIN. TPZ FENCING RADIUS (ft) *	Impact Level**	Suitability Rating	Prescription	Appraisal Result
1	Coast Live Oak	*Quercus agrifolia*	**est. 36**	36	50	50	**FAIR**	MATURE	HIGH	30	HIGH	**LOW**	PRESERVE	$12,500
2	European White Birch	*Betula pendula*	**est. 6**	6	30	15	**POOR**	MATURE	MODERATE	5	LOW	**LOW**	PRESERVE	$100
3	European White Birch	*Betula pendula*	**est. 10**	10	30	25	**FAIR**	MATURE	MODERATE	8	LOW	**MODERATE**	PRESERVE	$570
4	Strawberry Tree	*Arbutus 'Marina'*	**est. 8**	8	15	15	**FAIR**	MATURE	LOW	7	LOW	**MODERATE**	PRESERVE	$1,220

KEY:

#	**on neighboring parcel / street tree**
	proposed removal
	exempt from protection

SEE GLOSSARY FOR DEFINITION OF TERMS

*** MINMUM TREE PROTECTION FENCING RADIUS BASED ON 10X DBH (AS DESECRIBED IN THE CITY OF PALO ALTO TREE TECHNICAL MANUAL)**
****ASSUMES STANDARD AND SPECIAL TREE PROTECTION MEASURES ARE FOLLOWED.**

Prepared by Busara Firestone
ISA Certified Arborist #WE-8525A

NEW CONSTRUCTION OF TWO HOMES
OXFORD AVE DUPLEX
542-546 OXORD AVE, PALO ALTO, CA 94306, APN 137-01-004

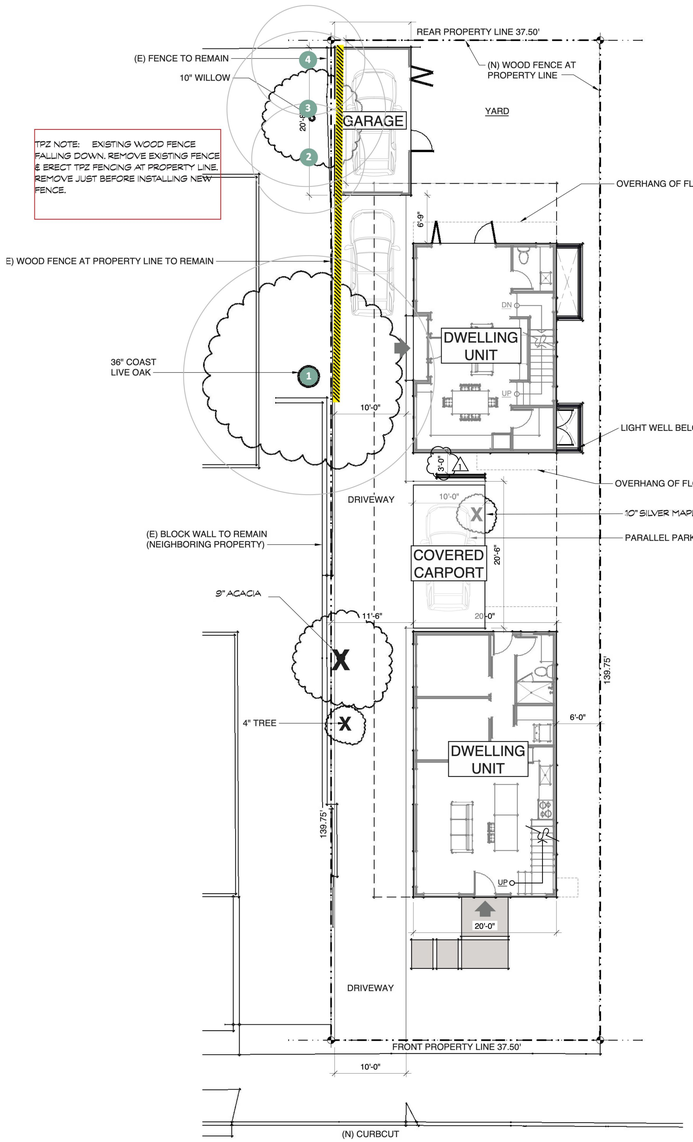
Project Data

T-2

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

Special Tree Protection Instruction Sheet
City of Palo Alto

T-4

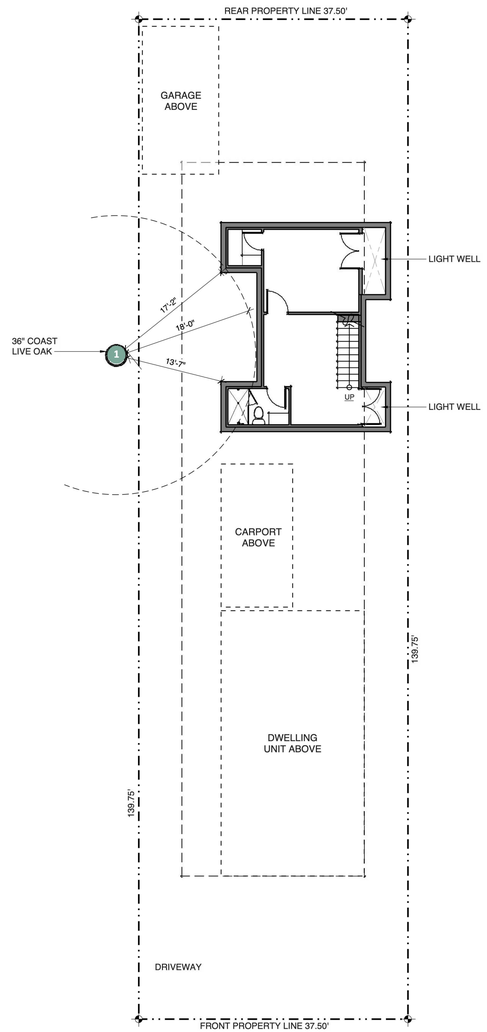


GROUND LEVEL SITE PLAN 1

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

TPZ MAP LEGEND:

- PROTECTED TREE TO REMOVE (D)
- PROTECTED TREE TO REMAIN ON PROPERTY (D)
- IMPACTED TREE ON NEIGHBORS' PROPERTY
- TREE PROTECTION FENCING (SEE REPORT FOR SPEC.)
- TRUNK WRAP (SEE ATTACHED SPEC. IF APPLICABLE)
- X - NON-REGULATED TREE TO BE REMOVED



BASEMENT LEVEL SITE PLAN 2

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

TREE PROTECTION ZONE MAP

542-546 OXFORD AVE, PALO ALTO, CA

DATE:
10/18/21

TPZ ELEMENTS DRAWN:
B. FIRESTONE
ISA-CERTIFIED ARBORIST
#WE-8525A

BASE MAP: SITE PLAN A1.1
by ACS ARCHITECTS
(OCTOBER 2021)

SHEET
1 OF 1

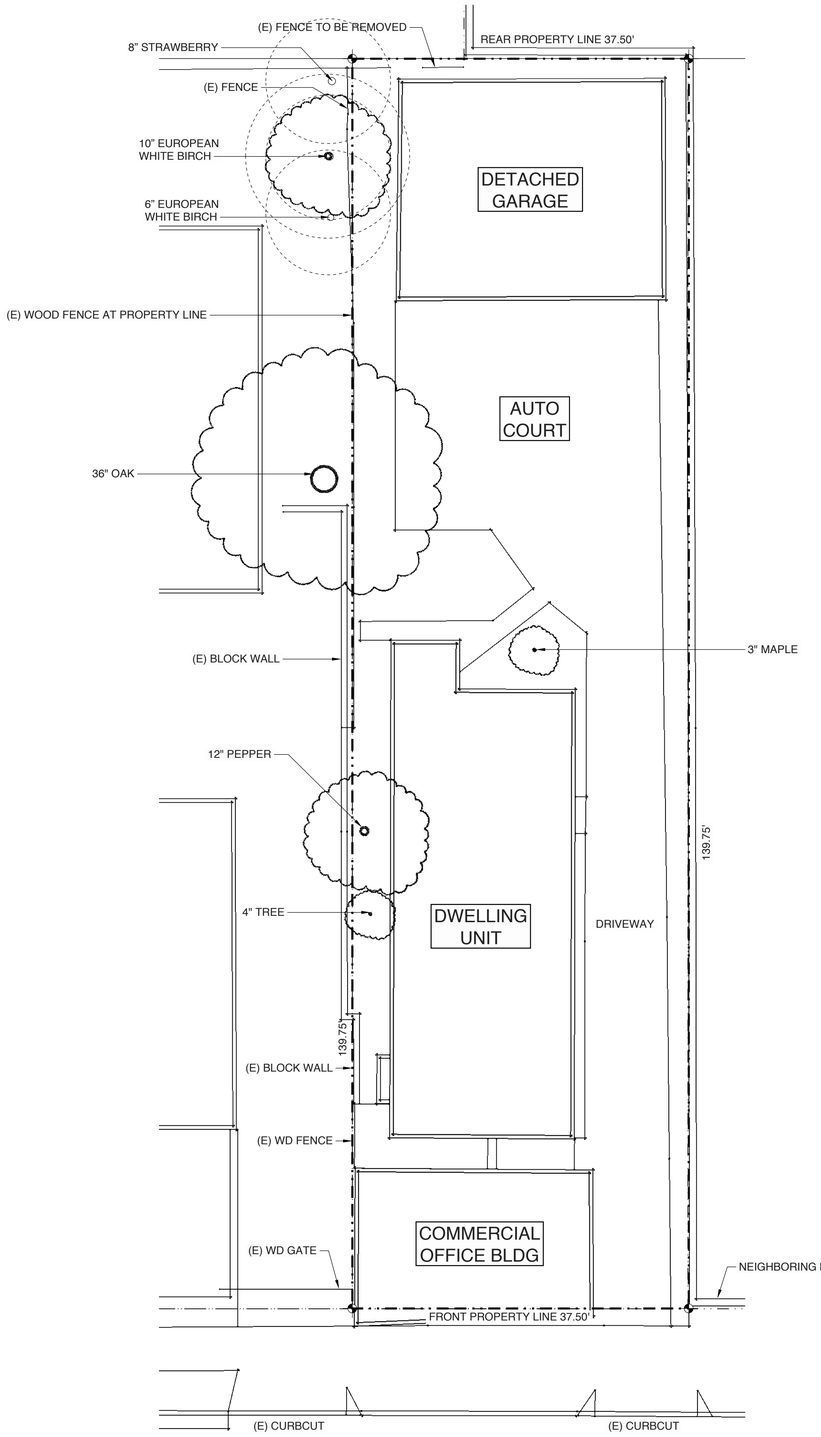
report page 19

NEW CONSTRUCTION OF TWO HOMES

OXFORD AVE DUPLEX

542-546 OXORD AVE, PALO ALTO, CA 94306, APN 137-01-004

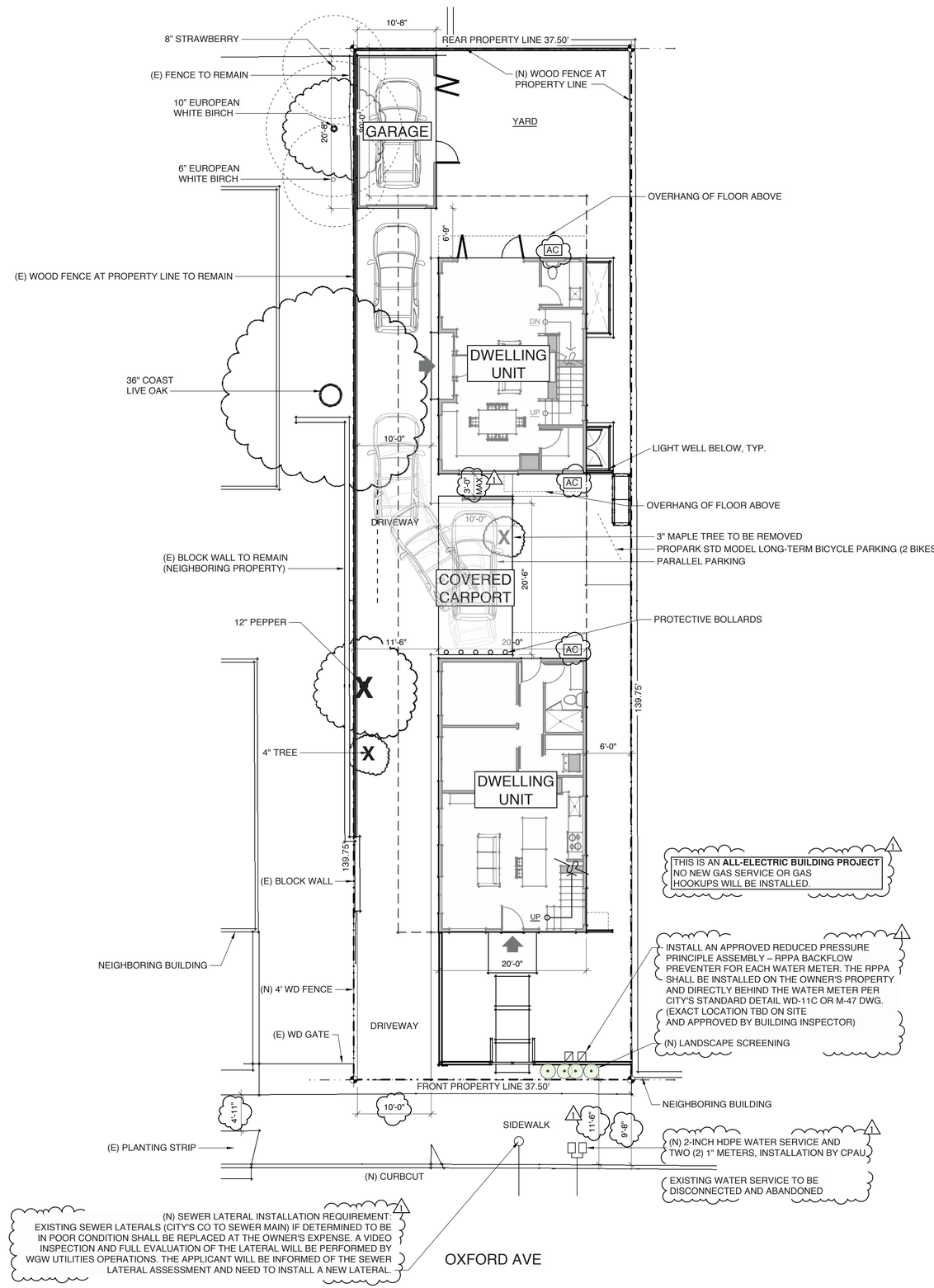
Project Data



EXISTING SITE PLAN

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

1



PROPOSED SITE PLAN

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

2

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NEW CONSTRUCTION OF TWO HOMES

OXFORD AVE DUPLEX

542-546 OXORD AVE, PALO ALTO, CA 94306, APN 137-01-004

Version History	Date
PIn Entitlement	12/22/21
PIn Entitlement	02/25/22

Notes

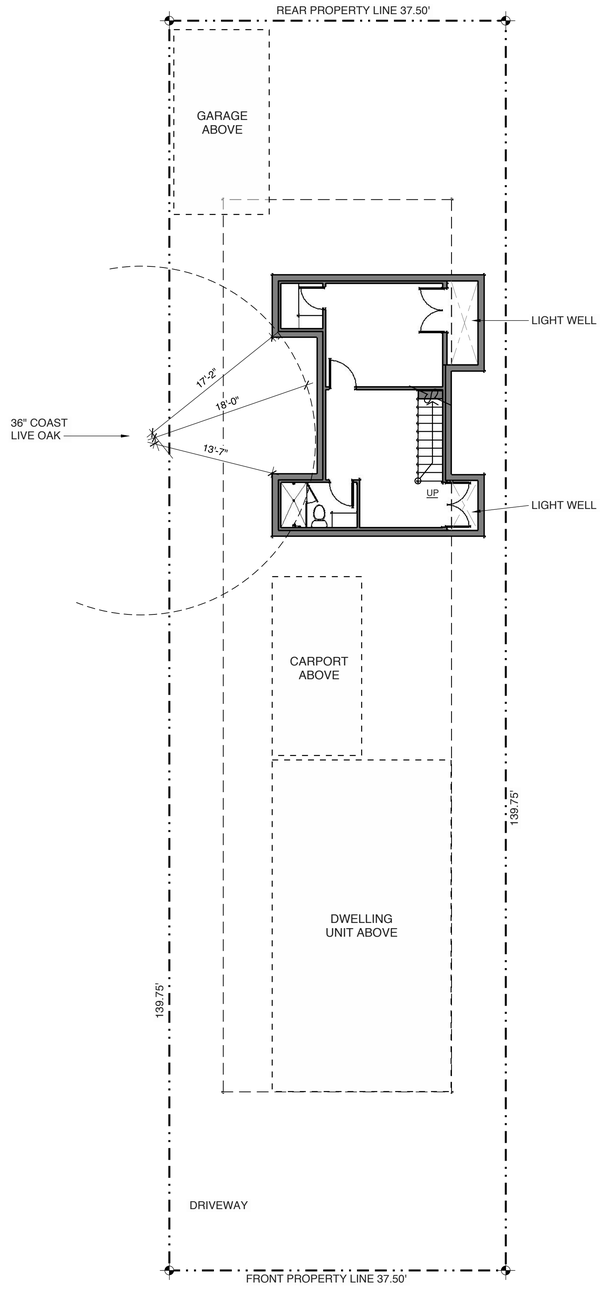
Title: Site Plans

Scale:

Date: 02/25/22

Sheet: A1.0

Of Sheets

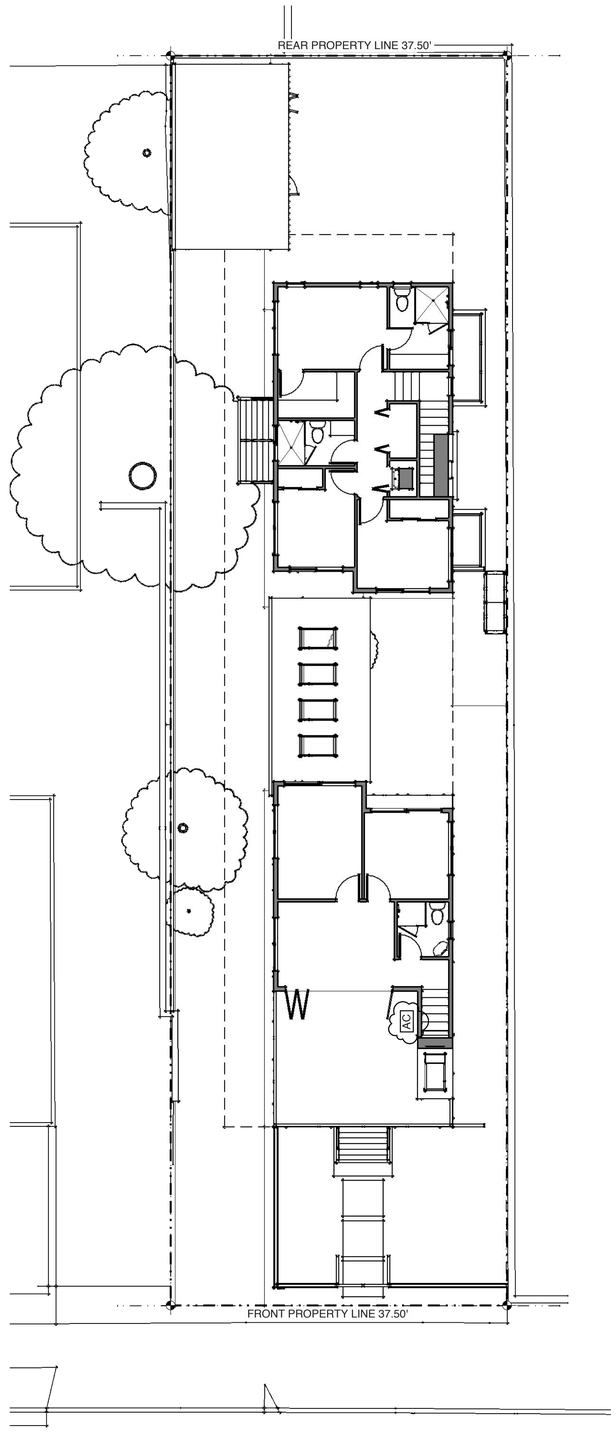


OXFORD AVE

BASEMENT LEVEL SITE PLAN

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

1



SECOND FLOOR SITE PLAN

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

2

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PIn Entitlement	02/25/22

Notes

Title

Site Plans

Scale

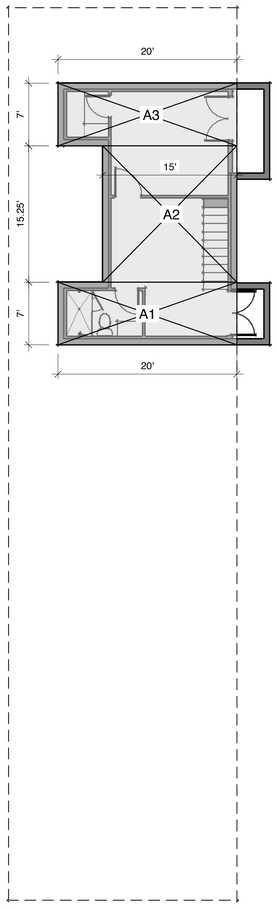
Date

02/25/22

Sheet

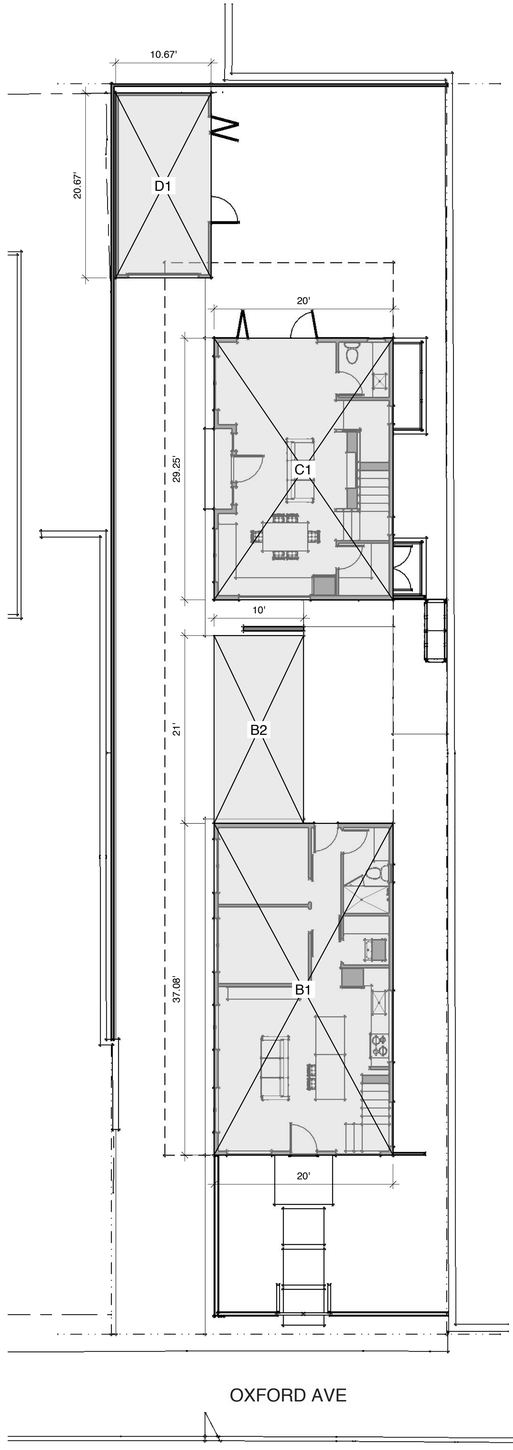
A1.1

Of Sheets



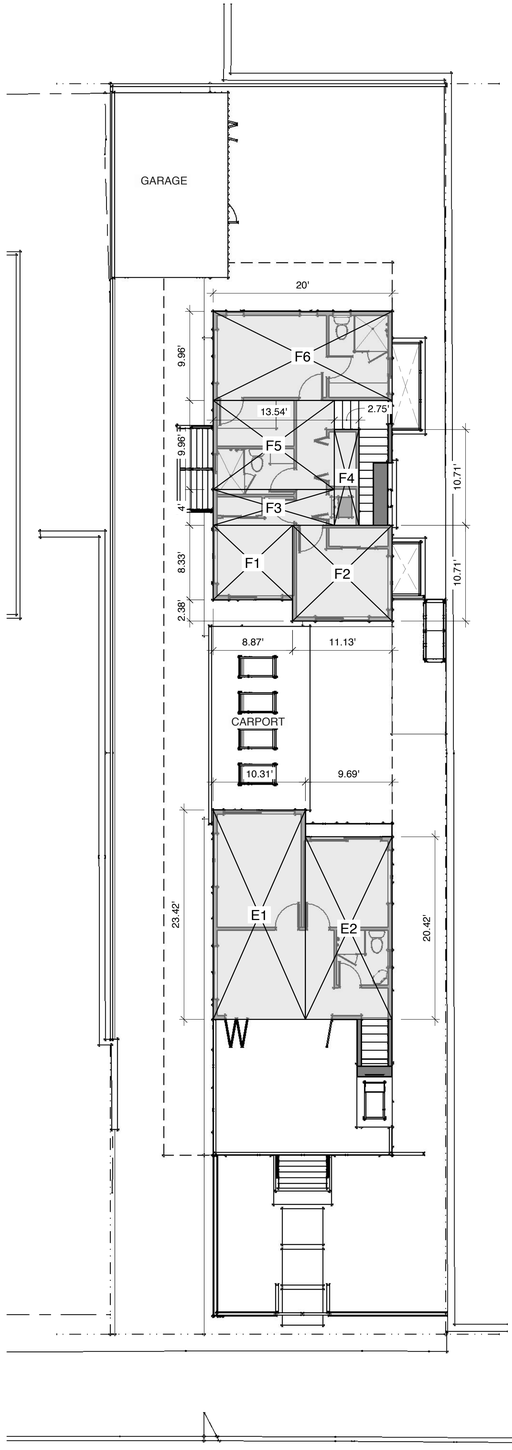
BASEMENT LEVEL FLOOR PLAN 1

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



FIRST FLOOR SITE PLAN 2

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



SECOND FLOOR SITE PLAN 3

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

OXFORD AVE

Area Spreadsheet

BASEMENT			
A1	20.00	7.00	140.00
A2	15.00	15.25	228.75
A3	20.00	7.00	140.00
FIRST FLOOR			
B1	20.00	37.08	741.60
B2	10.00	21.00	210.00
C1	20.00	29.25	585.00
D1	10.67	20.67	220.55
SECOND FLOOR			
E1	10.31	23.42	241.46
E2	9.69	20.42	197.87
F1	8.87	8.33	73.89
F2	11.13	10.71	119.20
F3	13.54	4.00	54.16
F4	2.75	10.71	29.45
F5	13.54	9.96	134.86
F6	20.00	9.96	199.20

Area Tabulation

Front Dwelling Unit =
B1+B2+E1+E2 = 1,390.93 S.F.

Rear Dwelling Unit =
C1+D1+F1+F2+F3+F4+F5+F6 = 1,416.31 S.F.

Rear Dwelling Unit (incl. basement) =
A1+A2+A3+C1+D1+F1+F2+F3+F4+F5+F6 = 1,925.06 S.F.

Lot Coverage =
B1+B2+C1+(11.13 x 2.38)+D1 = 1,783.64 S.F.

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OXFORD AVE DUPLEX
542-546 OXORD AVE, PALO ALTO, CA 94306, APN 137-01-004

Version History	Date
Pln Entitlement	12/22/21
Pln Entitlement	02/25/22

Notes

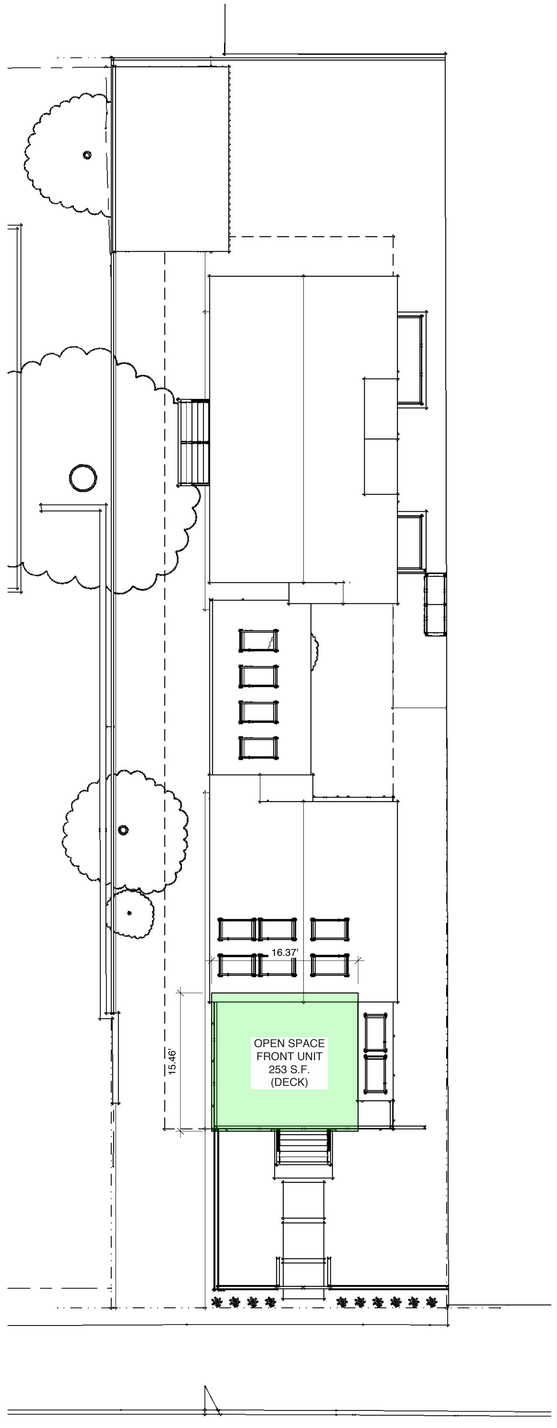
Title: Area Calculations

Scale:

Date: 02/25/22

Sheet: A1.2

Of Sheets

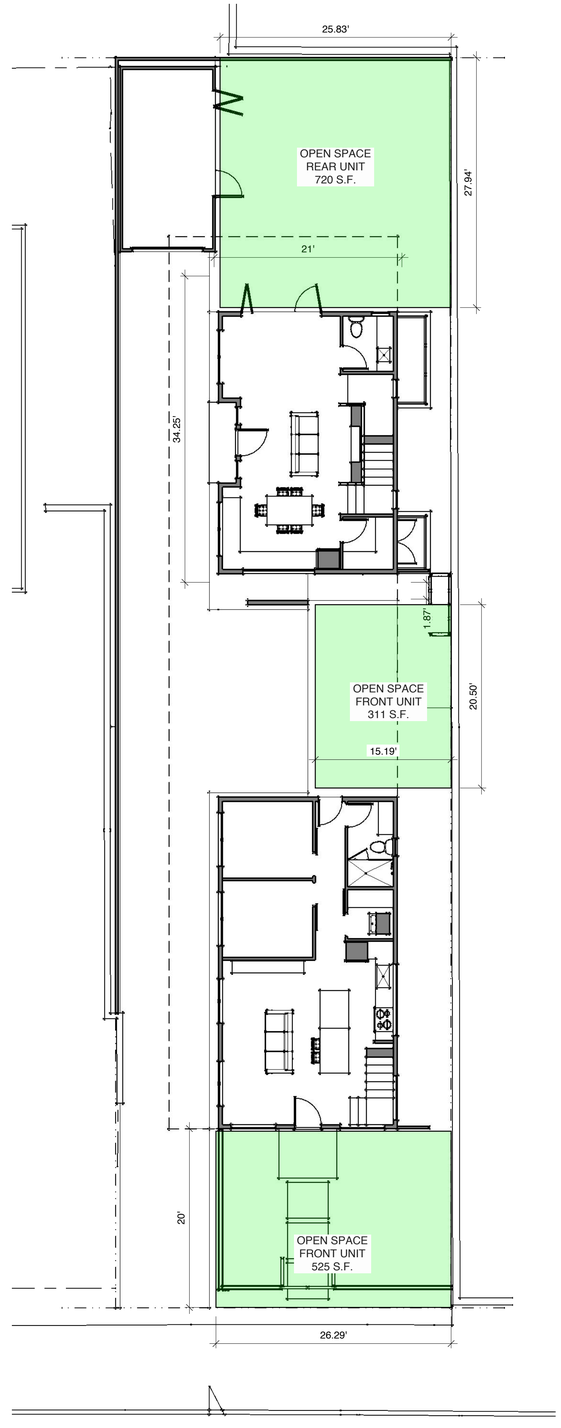


OXFORD AVE

ROOF PLAN

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

2



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OPEN SPACE PLAN

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

1

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Version History	Date
PIn Entitlement	12/22/21
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Title

Open Space Plan
Roof Site Plan

Scale

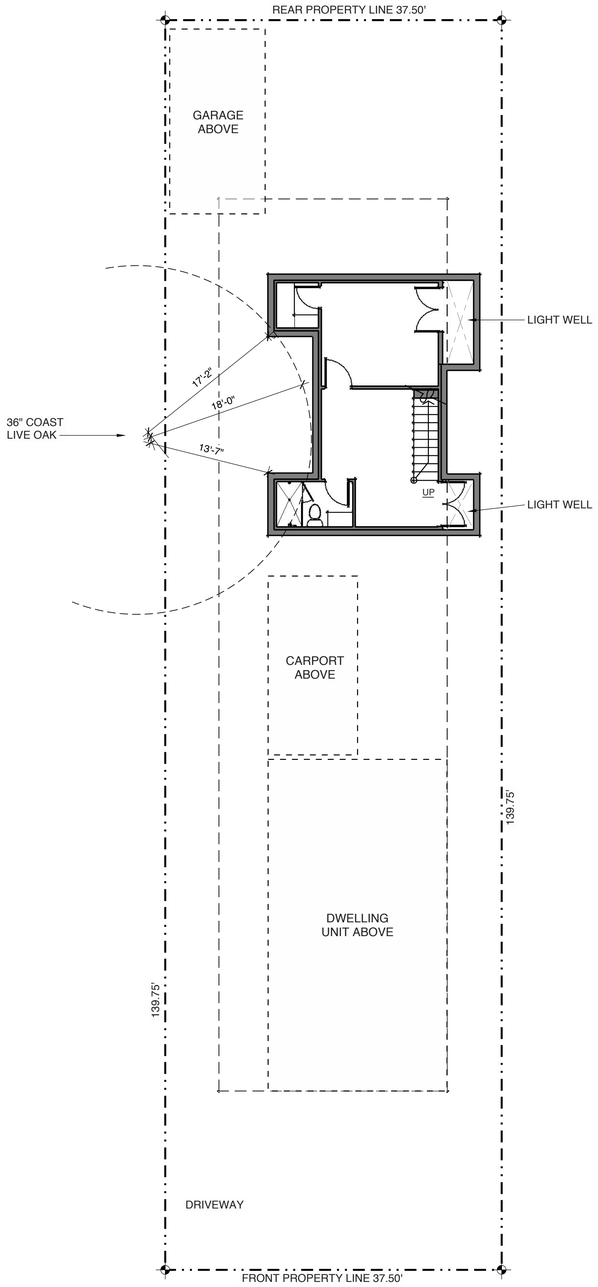
Date

02/25/22

Sheet

A1.3

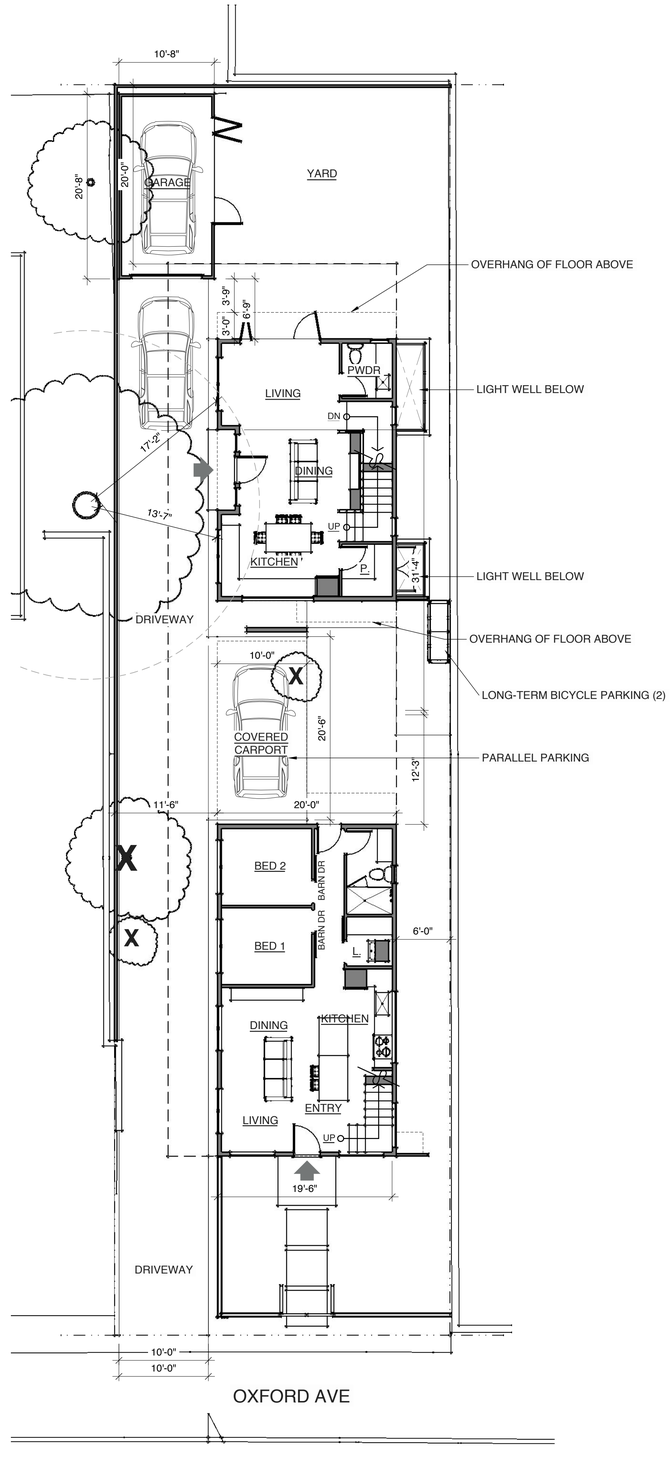
Of Sheets



OXFORD AVE

BASEMENT LEVEL FLOOR PLAN 1

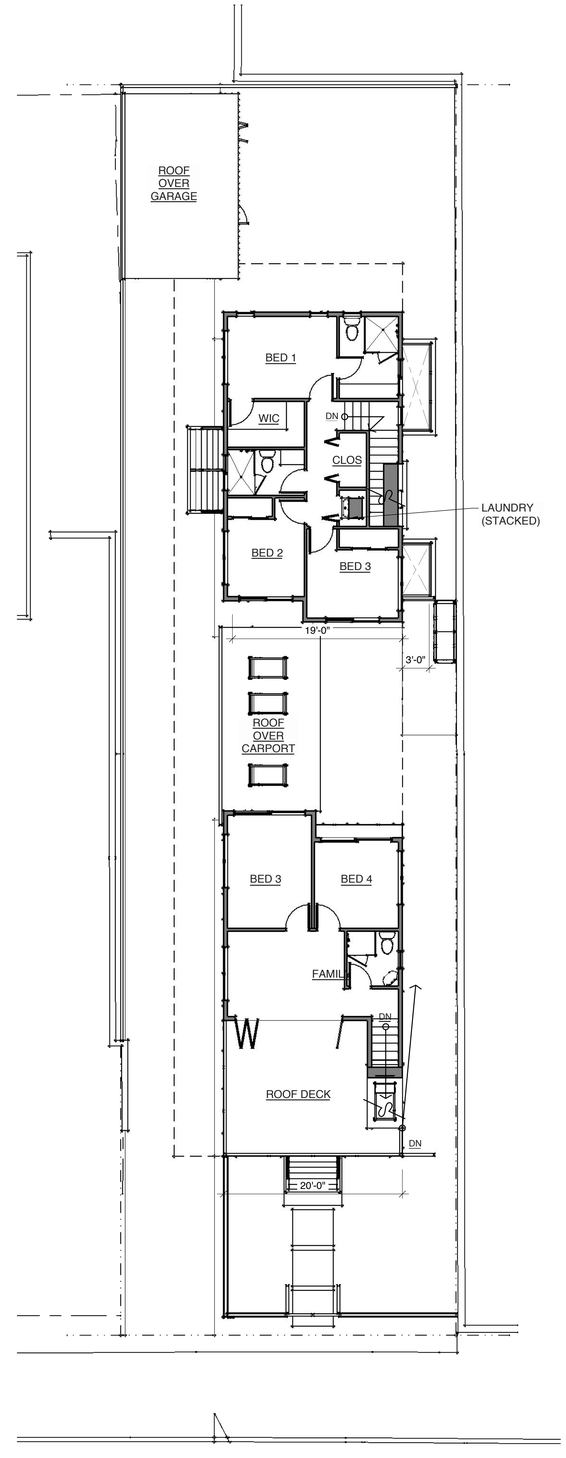
SCALE: 1/8" = 1'-0"



OXFORD AVE

FIRST FLOOR SITE PLAN 2

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



SECOND FLOOR SITE PLAN 3

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

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NEW CONSTRUCTION OF TWO HOMES

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Version History	Date
PIn Entitlement	12/22/21
PIn Entitlement	02/25/22

Notes

Title

Propose
Floor Plan
Site Plan

Scale

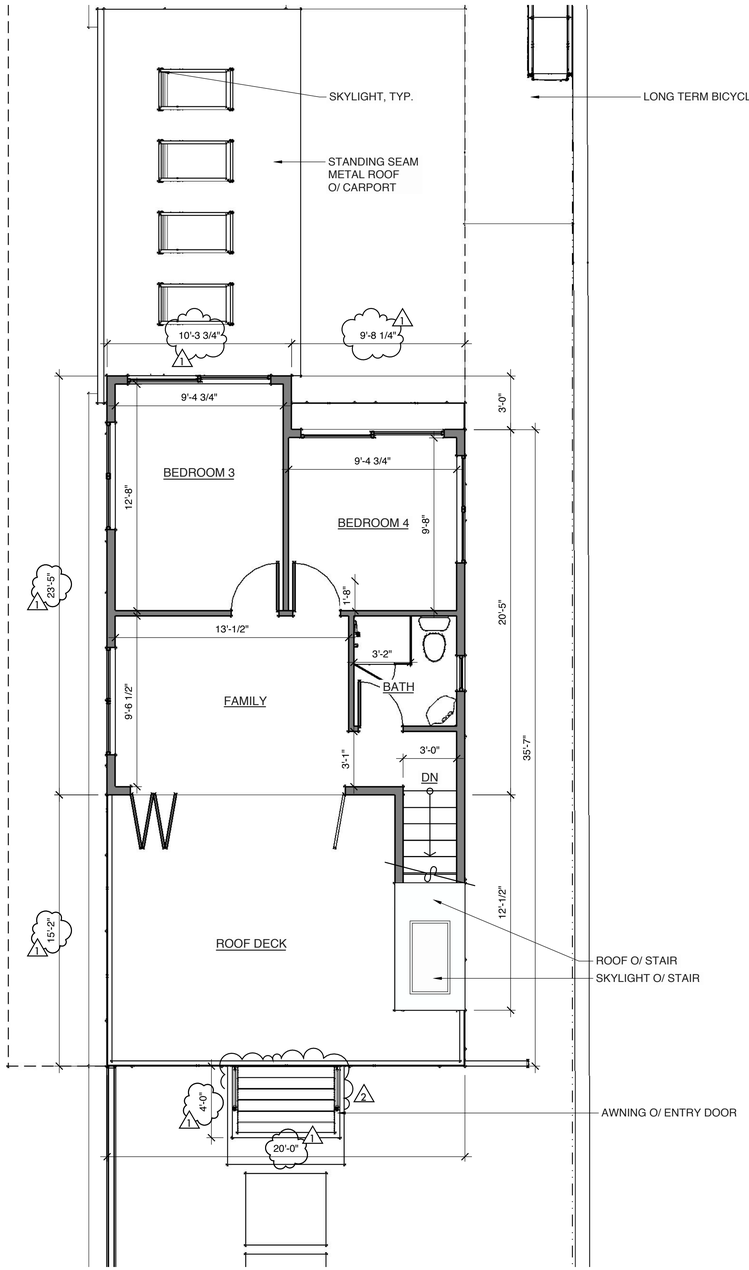
Date

02/25/22

Sheet

A2.0

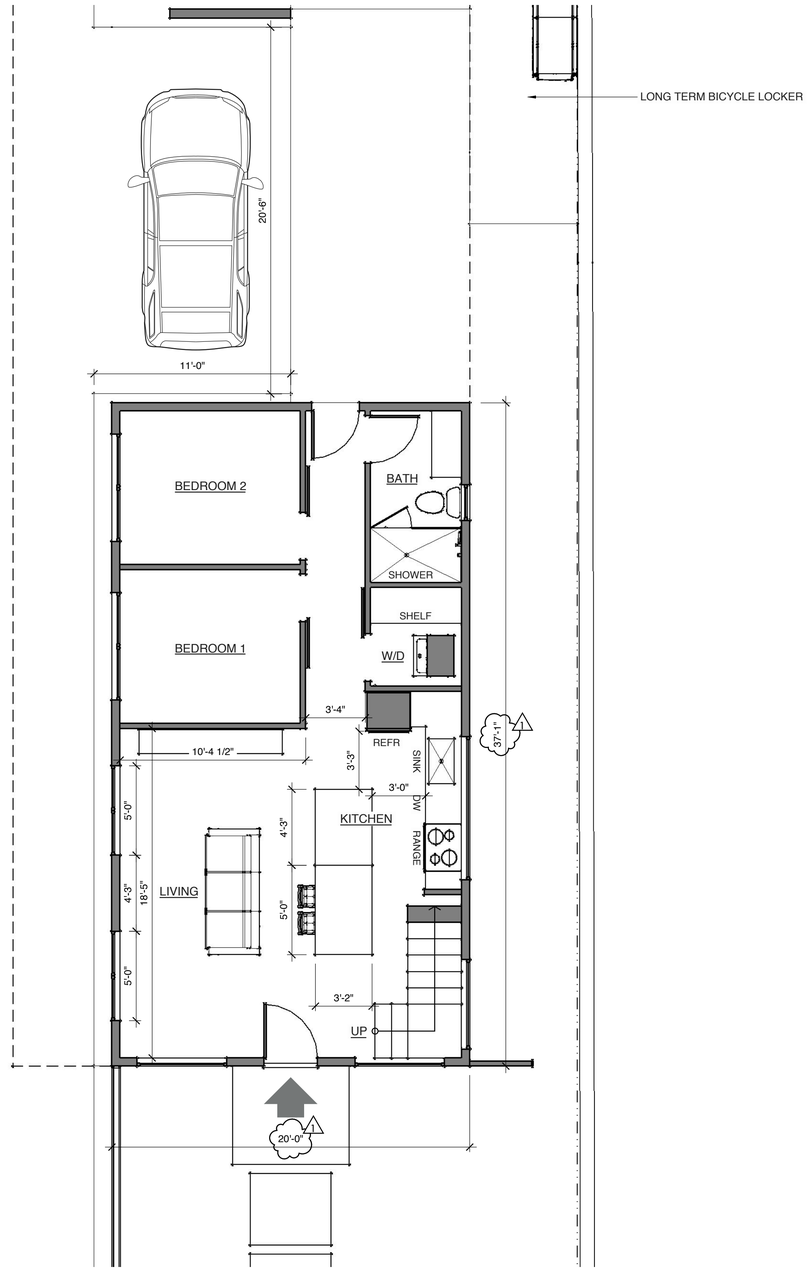
Of Sheets



SECOND FLOOR PLAN – FRONT UNIT

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

2



FIRST FLOOR PLAN – FRONT UNIT

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

1

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Version History	Date
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PIn Entitlement	02/25/22

Notes

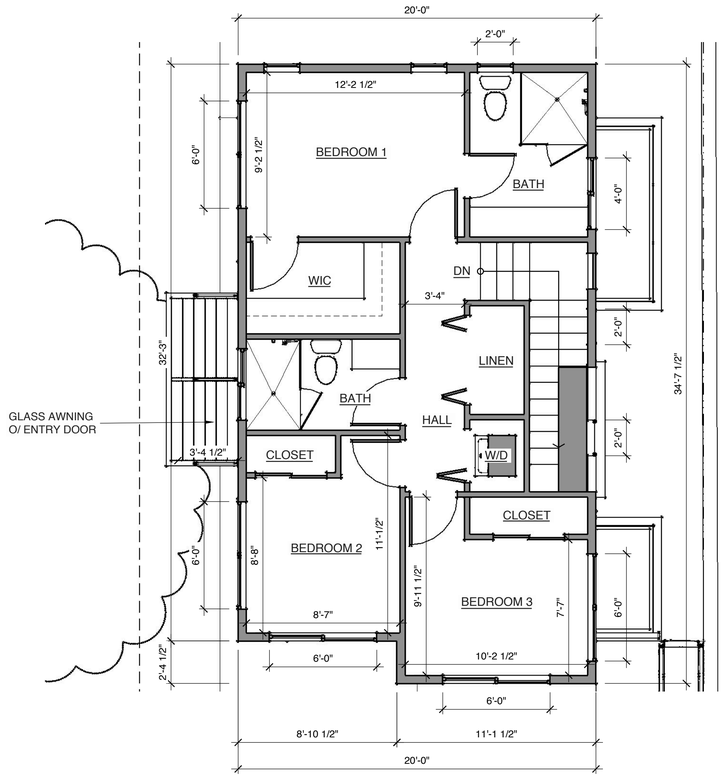
Title
Enlarged Floor Plans
Front Unit

Scale

Date
02/25/22

Sheet
A2.1

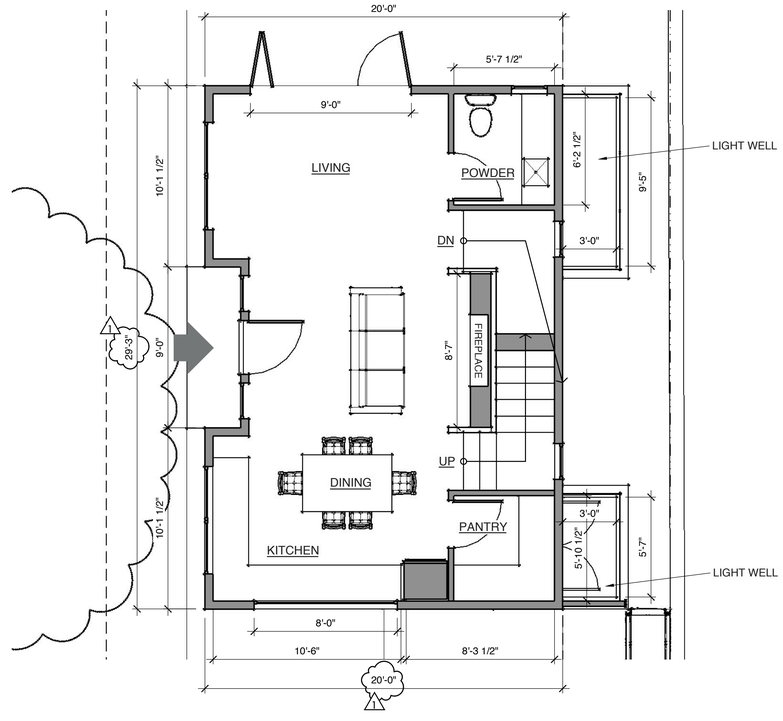
Of Sheets



SECOND FLOOR PLAN – REAR UNIT

2

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



FIRST FLOOR PLAN – REAR UNIT

1

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

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NEW CONSTRUCTION OF TWO HOMES

OXFORD AVE DUPLEX

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Version History	Date
PIn Entitlement	12/22/21
PIn Entitlement	02/25/22

Notes

Title

Enlarged Floor Plans
Rear Unit

Scale

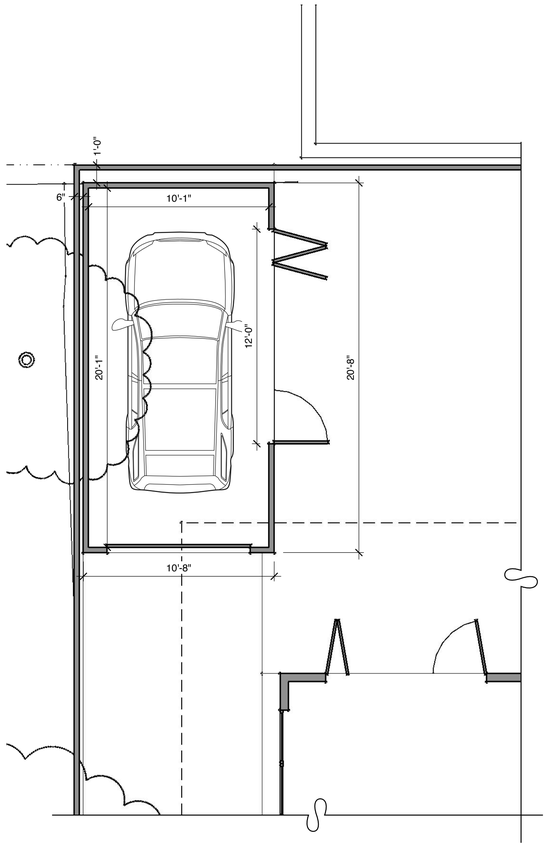
Date

02/25/22

Sheet

A2.2

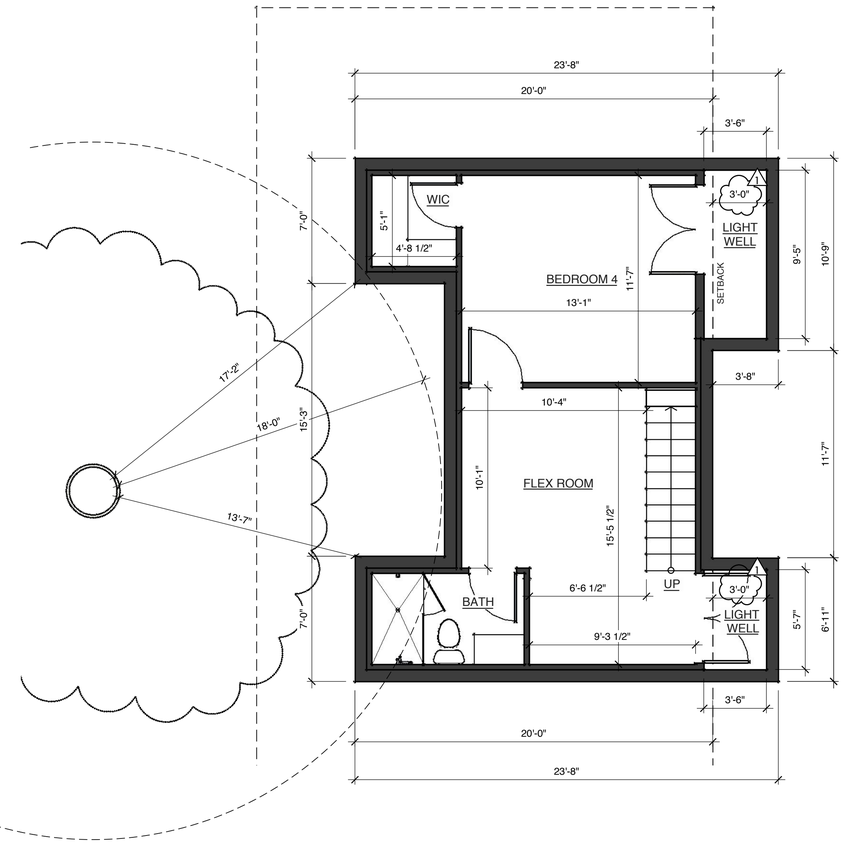
Of Sheets



GARAGE FLOOR PLAN – REAR UNIT

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

2



BASEMENT FLOOR PLAN – REAR UNIT

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

1

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NEW CONSTRUCTION OF TWO HOMES

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PIn Entitlement	02/25/22

Notes

Title

Enlarged Floor Plans
Rear Unit

Scale

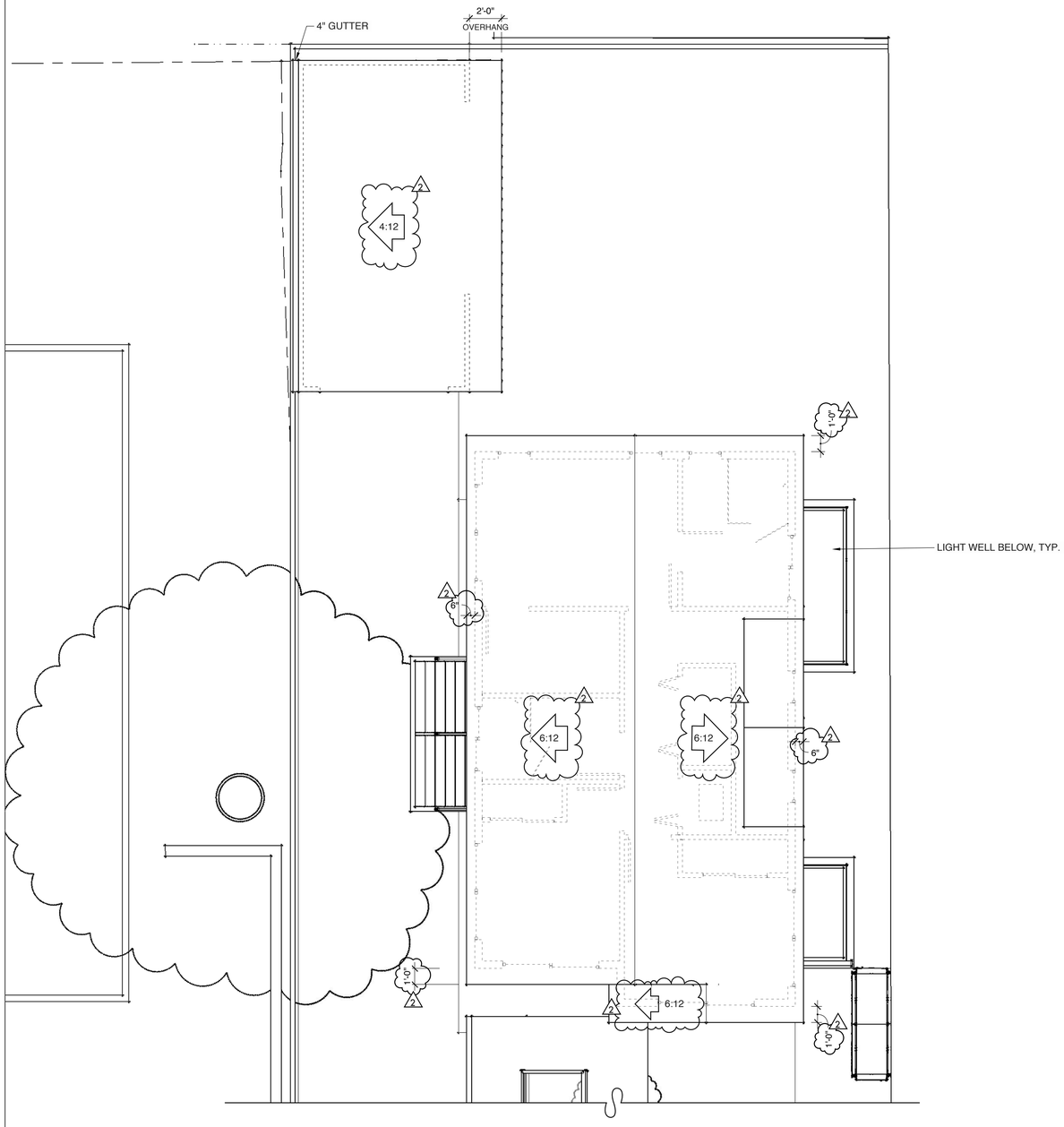
Date

02/25/22

Sheet

A2.3

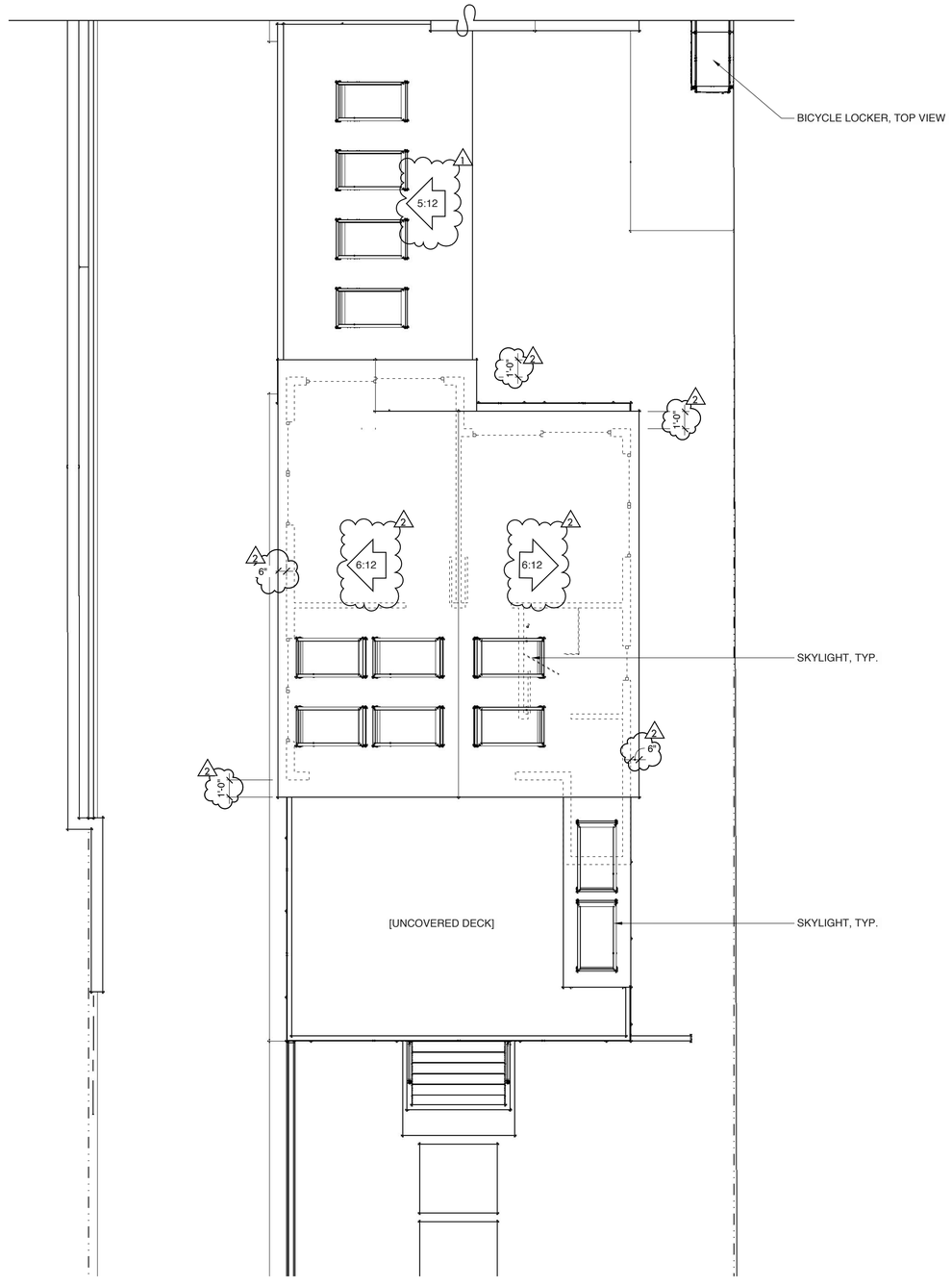
Of Sheets



REAR UNIT ROOF PLAN

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

2



FRONT UNIT ROOF PLAN

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

1

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NEW CONSTRUCTION OF TWO HOMES

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Enlarged Roof Plans

Scale

Date

02/25/22

Sheet

A2.4

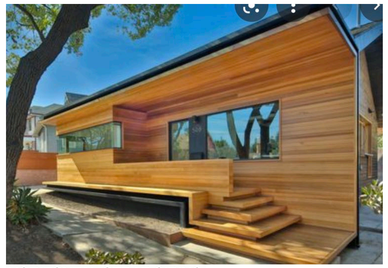
Of Sheets

MATERIALS BOARD

BRONZE MILGARD TUSCANY CASEMENT WINDOWS

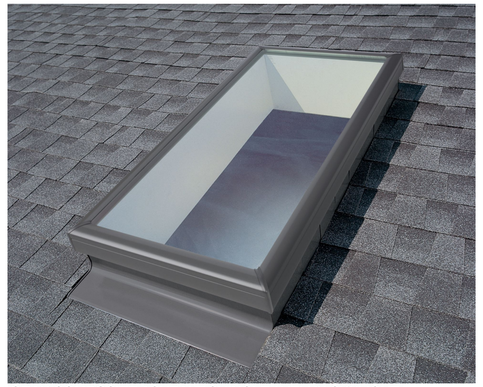
TEMPERED GLASS GUARDS

BRONZE MILGARD TUSCANY SERIES DOORS

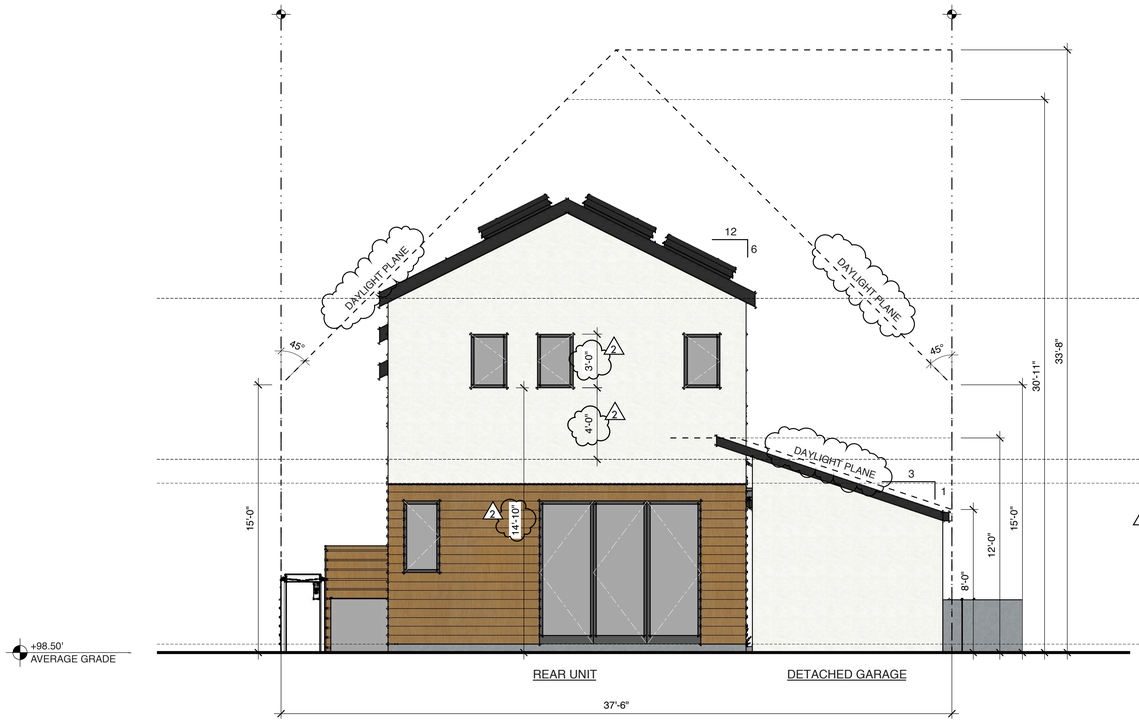


HORIZONTAL CEDAR SIDING

INTEGRATED COLOR STUCCO



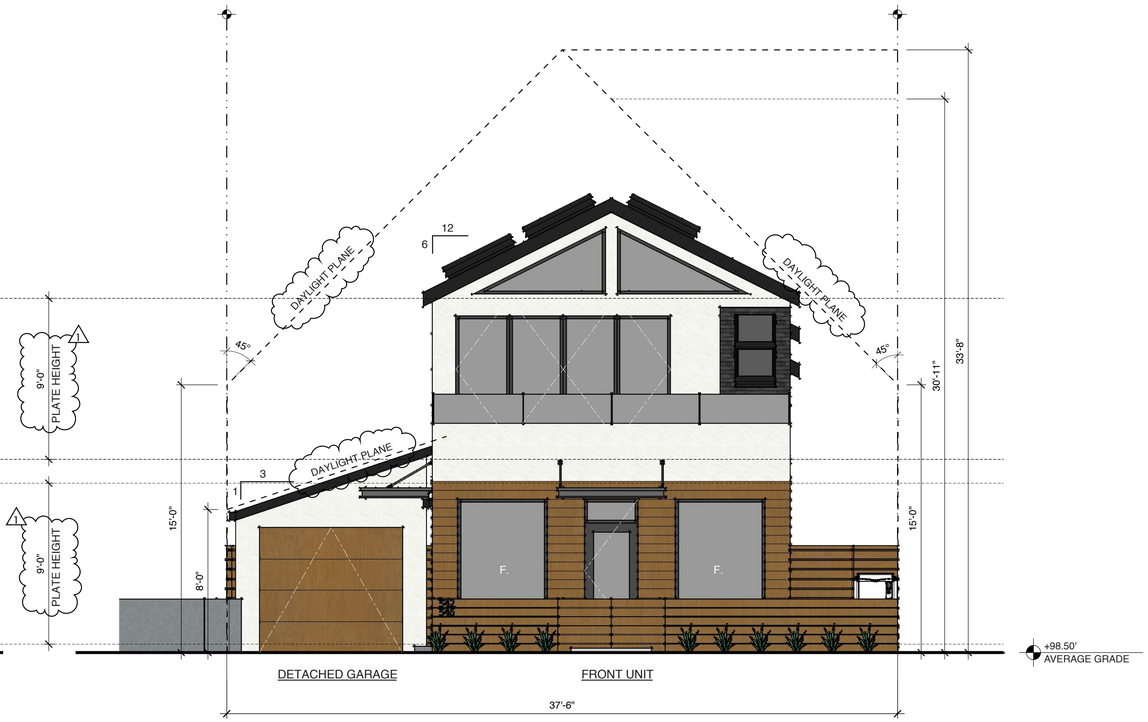
GRAY COMPOSITE ASHPALT SHINGLE / VELUX SKYLIGHT



REAR ELEVATION

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

2



OXFORD AVENUE ELEVATION

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

1

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NEW CONSTRUCTION OF TWO HOMES
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Version History	Date
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PIn Entitlement	02/25/22

Notes

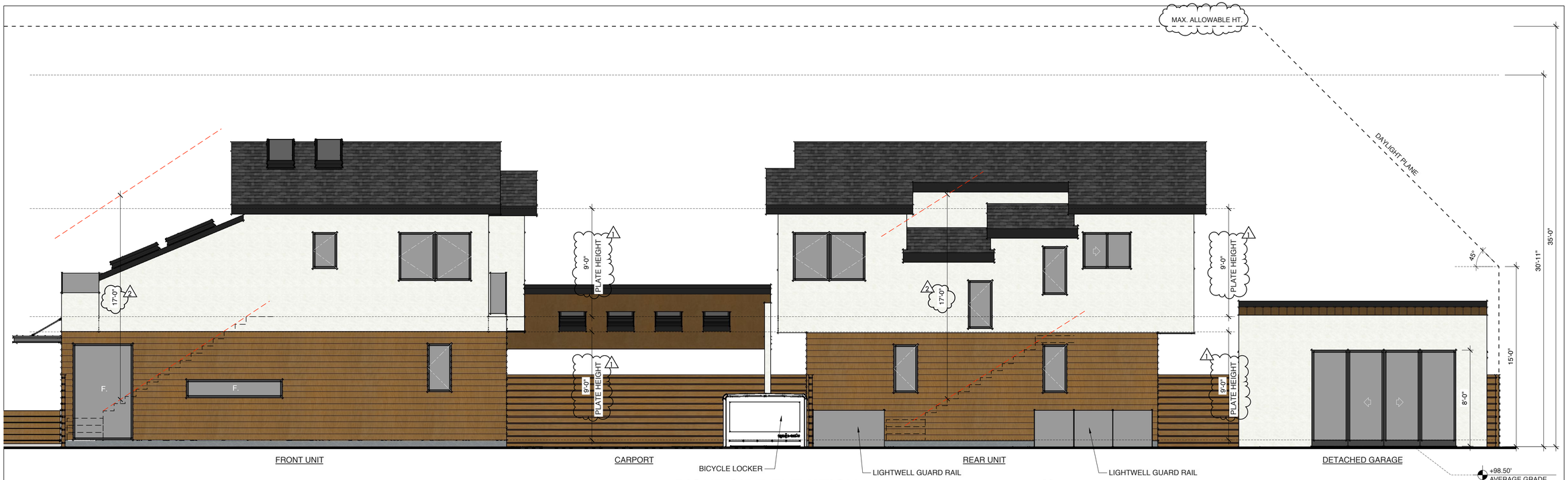
Title: Elevations

Scale:

Date: 02/25/22

Sheet: A3.1

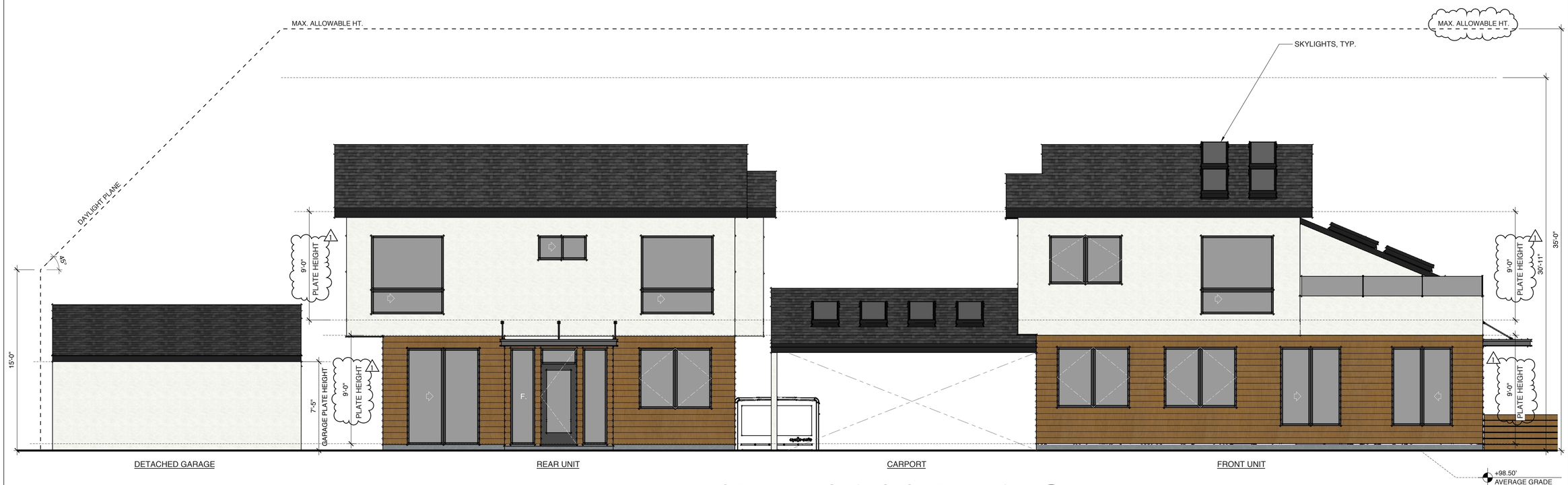
Of Sheets



RIGHT SIDE ELEVATION

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

2



LEFT SIDE ELEVATION (ALONG DRIVEWAY)

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

1

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NEW CONSTRUCTION OF TWO HOMES

OXFORD AVE DUPLEX

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Version History	Date
PIn Entitlement	12/22/21
PIn Entitlement	02/25/22

Notes

Title: Elevations

Scale:

Date: 02/25/22

Sheet: A3.2

Of Sheets

OXFORD AVENUE PERSPECTIVE

N.T.S.

2

LEFT SIDE PERSPECTIVE (ALONG DRIVEWAY)

N.T.S.

1

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Version History	Date
Pln Entitlement	12/22/21
Pln Entitlement	02/25/22

Notes

Title

3d Perspective Views

Scale

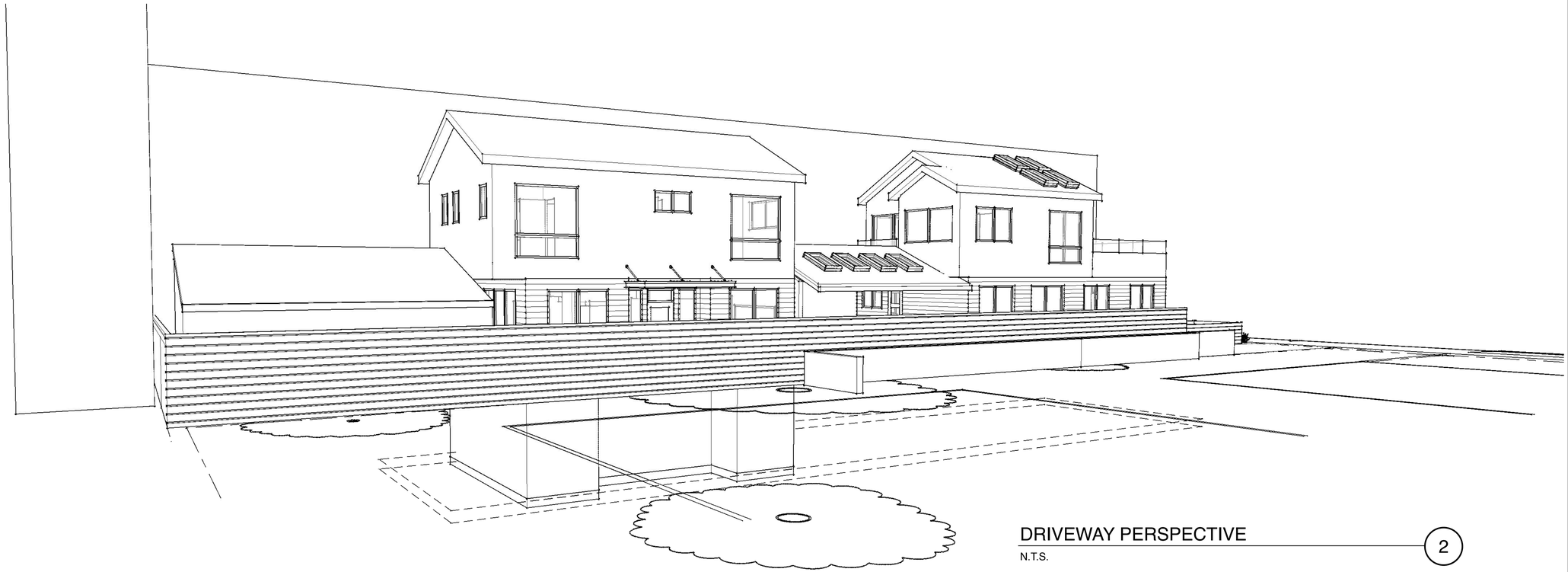
Date

02/25/22

Sheet

A4.1

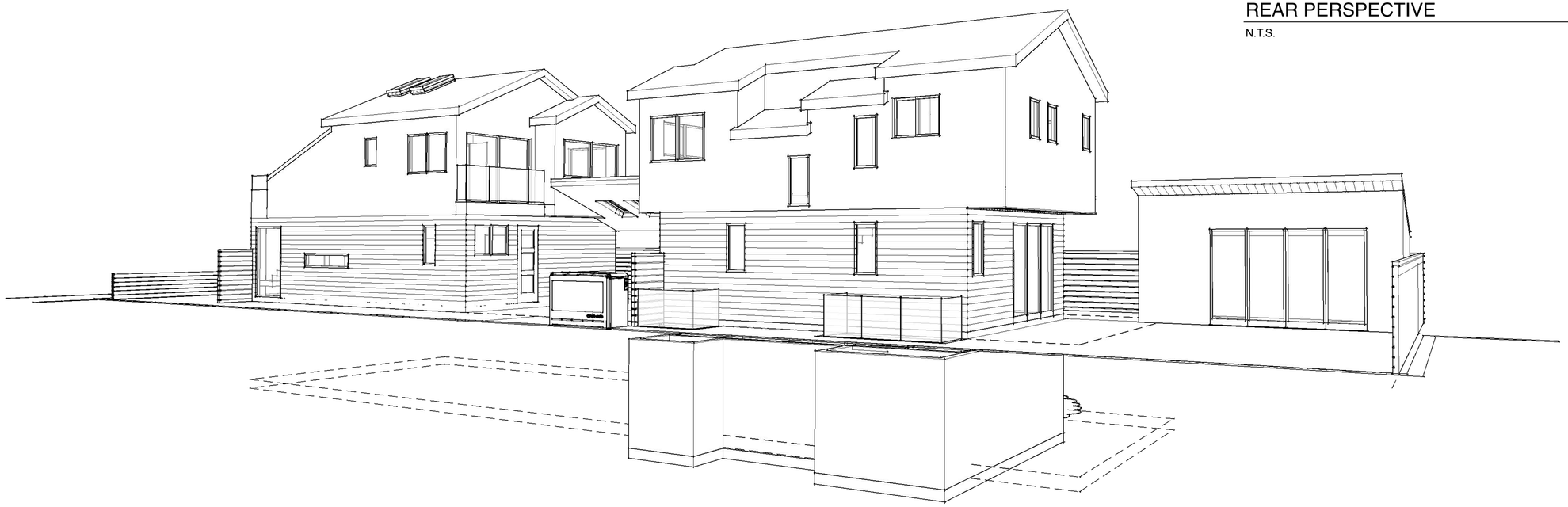
Of Sheets



DRIVEWAY PERSPECTIVE

N.T.S.

2



REAR PERSPECTIVE

N.T.S.

1

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Project

NEW CONSTRUCTION OF TWO HOMES

OXFORD AVE DUPLEX

542-546 OXORD AVE, PALO ALTO, CA 94306, APN 137-01-004

Version History	Date
PIn Entitlement	12/22/21
PIn Entitlement	02/25/22

Notes

Title

3d Perspective Views

Scale

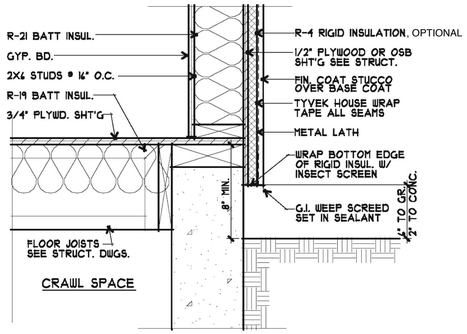
Date

02/25/22

Sheet

A4.2

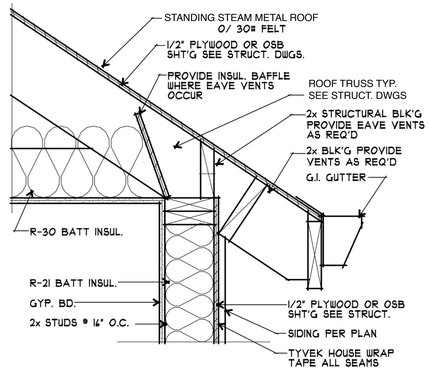
Of Sheets



FOOTING AT STUCCO SIDING

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

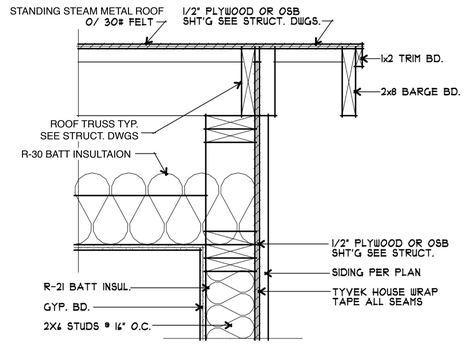
9



TYPICAL EAVE DETAIL

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

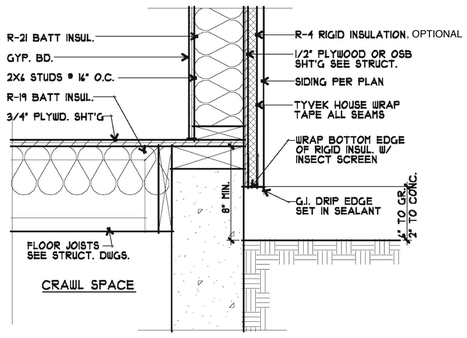
6



TYPICAL RAKE DETAIL

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

3



FOOTING DETAIL AT WOOD SIDING

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

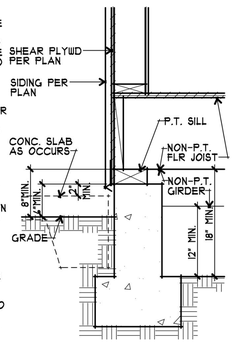
8

R317.1 LOCATION REQUIRED. PROTECTION OF WOOD AND WOODBASED PRODUCTS FROM DECAY SHALL BE PROVIDED IN THE FOLLOWING LOCATIONS BY THE USE OF NATURALLY DURABLE WOOD OR WOOD THAT ISPRESERVATIVE-TREATED IN ACCORDANCE WITH AWPA UI FOR THE SPECIES, PRODUCT, PRESERVATIVE AND END USE. PRESERVATIVES SHALL BE LISTED IN SECTION 4 OF AWPA UI.

I. WOOD JOISTS OR THE BOTTOM OF A WOOD STRUCTURAL FLOOR WHEN CLOSER THAN 18 INCHES (457 MM) OR WOOD GIRDERS WHEN CLOSER THAN 12 INCHES (305 MM) TO THE EXPOSED GROUND IN CRAWL SPACES OR UNEXCAVATED AREA LOCATED WITHIN THE PERIPHERY OF THE BUILDING FOUNDATION.

2. WOOD FRAMING MEMBERS THAT REST ON CONCRETE OR MASONRY EXTERIOR FOUNDATION WALLS AND ARE LESS THAN 8 INCHES (203 MM) FROM THE EXPOSED GROUND.

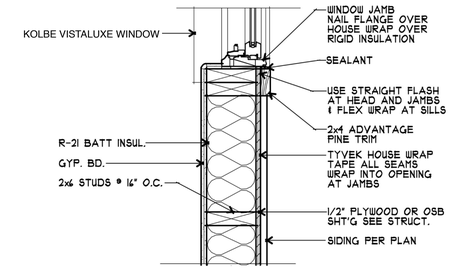
5. WOOD SIDING, SHEATHING AND WALL FRAMING ON THE EXTERIOR OF A BUILDING HAVING A CLEARANCE OF LESS THAN 6 INCHES (152 MM) FROM THE GROUND OR LESS THAN 2 INCHES (51 MM) MEASURED VERTICALLY FROM CONCRETE STEPS, PORCH SLABS, PATIO SLABS AND SIMILAR HORIZONTAL SURFACES EXPOSED TO THE WEATHER.



WEEP SCREED DETAIL

SCALE: 1" = 1'-0"

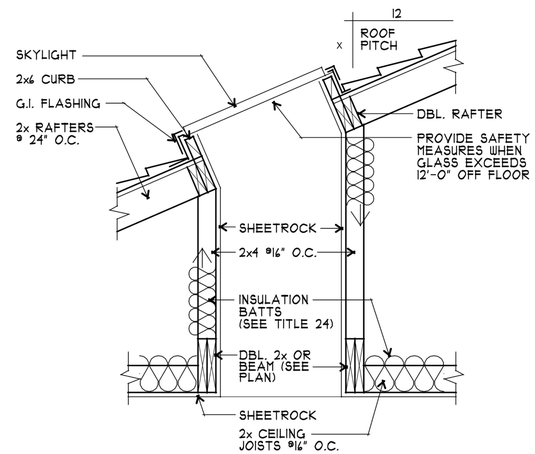
5



TYPICAL JAMB DETAIL (HEAD SIM.)

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

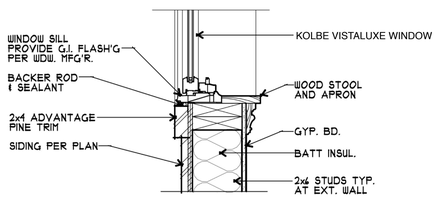
2



SKYLIGHT DETAIL

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

4



TYPICAL SILL DETAIL

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

1

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OXFORD AVE DUPLEX

542-546 OXORD AVE, PALO ALTO, CA 94306, APN 137-01-004

Version History	Date
PIn Entitlement	12/22/21
PIn Entitlement	02/25/22

Notes

Title

Preliminary Architectural Details

Scale

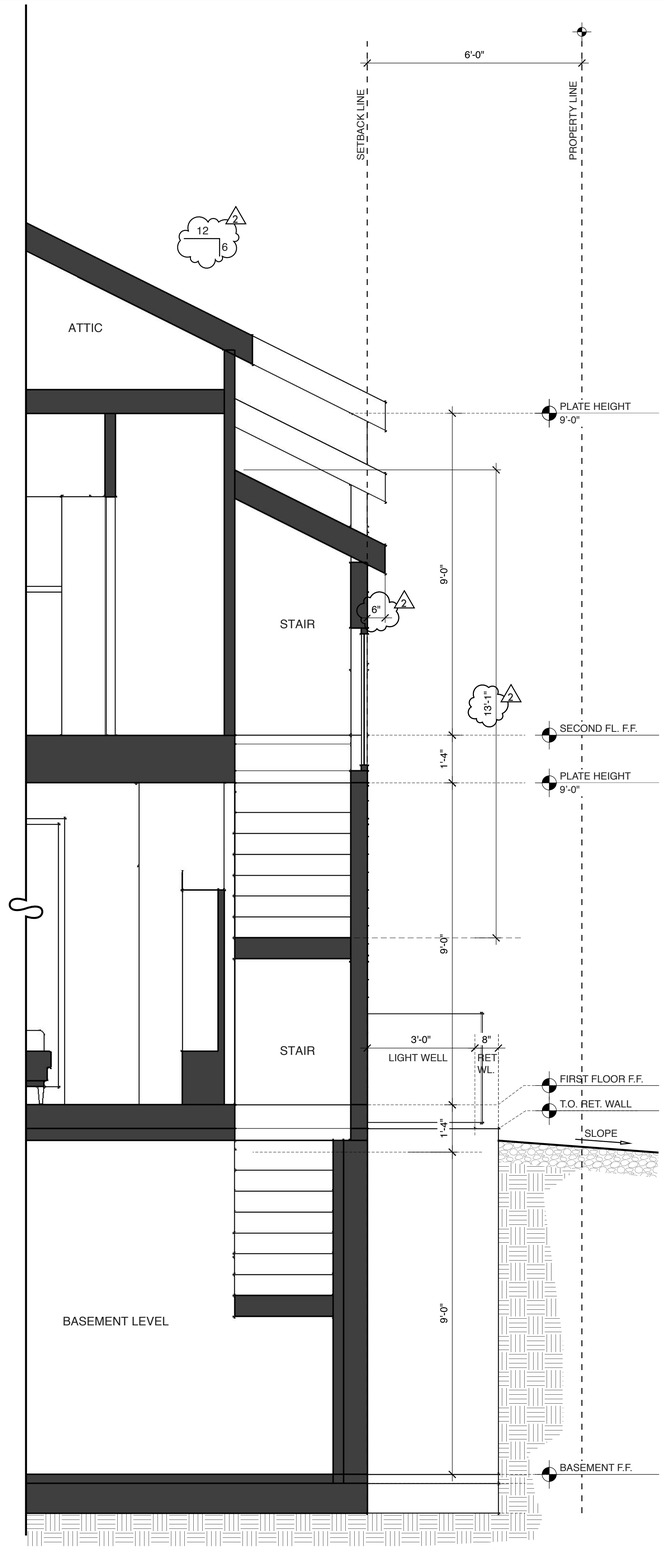
Date

02/25/22

Sheet

A5.1

Of Sheets



TYPICAL WALL SECTION

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

1

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NEW CONSTRUCTION OF TWO HOMES

OXFORD AVE DUPLEX

542-546 OXORD AVE, PALO ALTO, CA 94306, APN 137-01-004

Version History	Date
Pln Entitlement	12/22/21
Pln Entitlement	02/25/22

Notes

Title

Preliminary Architectural Details

Scale

Date

02/25/22

Sheet

A5.2

Of Sheets

LEGEND

	COMMON NAME	BOTANICAL NAME	QTY	SIZE	WUCOLS
A	ALOE, RED	ALOE 'SAFARI ROSE'	12	1 GAL.	L
B	BIRD-OF-PARADISE	STRELITZIA REGINAE	3	5 GAL.	M
C	BUDDHIST PINE	PODOCARPUS MACROPHYLLA	12	5 GAL.	M
D	CLARITY BLUE DIANELLA	DIANELLA DP401 'CLARITY BLUE'	10	1 GAL.	M
E	CORDYLINE, RED SENSATION	CORDYLINE AUSTRALIS 'RED SENSATION'	5	5 GAL.	L
F	ELM, DRAKE	ULMUS PARVIFOLIA 'DRAKE'	1	24" BOX	L
G	GUAVA, PINEAPPLE	FEIJOA SELLOWIANA - STANDARD FORM	8	5 GAL.	L
H	HOLLY, YAUPON, DWARF	ILEX VOMITORIA 'NANA'	6	5 GAL.	L
I	PALM, PYGMY DATE	PHOENIX ROEBELENII	8	10 GAL.	L

Front Yard Style Concept - Clean, minimalist
Tall plant: Cordyline 'Red Sensation" used in side yard

"Low Leafy Plant:" Aloe 'Safari Sunet'

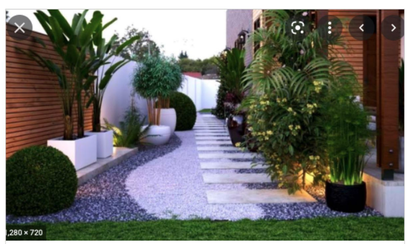
Grass-like plant: 'Clarity Blue' Dianella
(Plant shown on right is not allowed in significant quantities - Lady Palm)

Lolly-pop Tree: Pineapple Guava
Must request "Standard Form"

Small round plant: Dwarf Yaupon Holly
From google.com

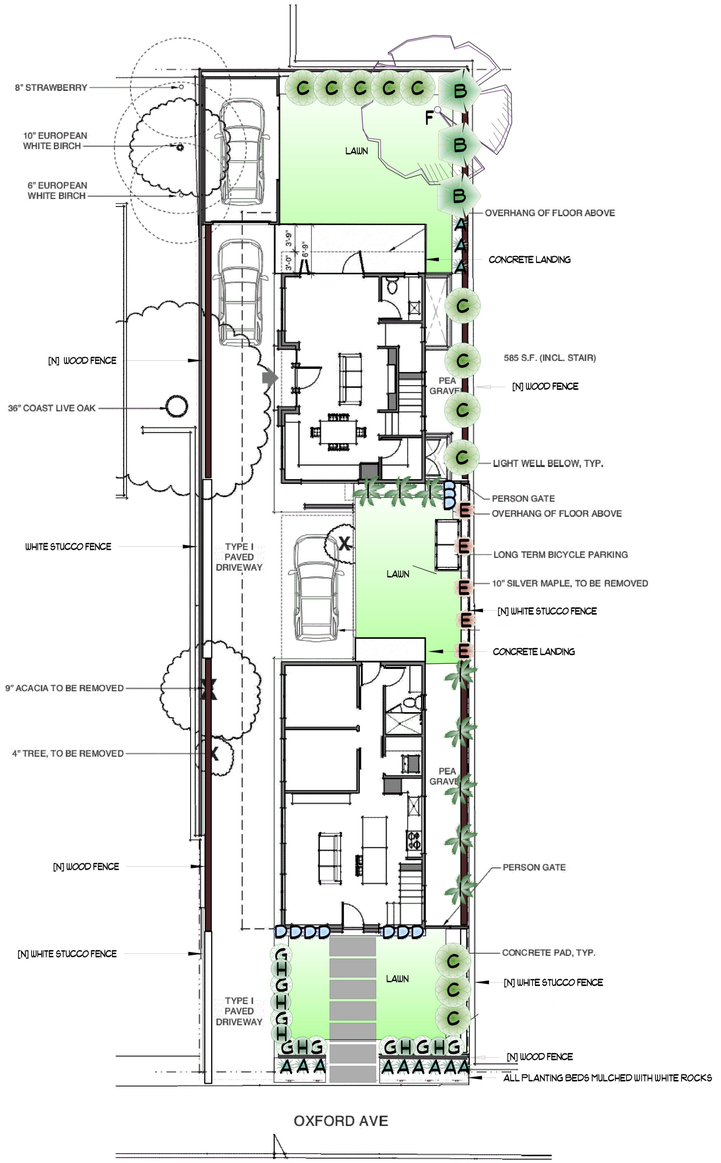
OXFORD DUPLEX
MOOD BOARD

Pygmy Date Palm



Side Yard Style Concept
Bird of Paradise used in side yard (shown on the left in white planter boxes)
The Lollypop Tree shown in background is bamboo (NOT used)

Podocarpus macrophyllus 'Maki' (Buddhist Pine)



FINAL PLANTING AND IRRIGATION PLAN MUST BE APPROVED BY PLANNING AND UTILITIES MARKETING PRIOR TO BUILDING PERMIT ISSUANCE

Date: 2/15/2022

Scale: 1/8" = 1'

Landscape Plan: L-1

542-546 Oxford Ave.

Landscape Design by: B. Firestone

Bo Firestone Trees & Gardens

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Project

NEW CONSTRUCTION OF TWO HOMES
OXFORD AVE DUPLEX
542-546 OXORD AVE, PALO ALTO, CA 94306, APN 137-01-004

Version History	Date
Pln Entitlement	12/22/21
Pln Entitlement	02/25/22

Notes

Title: Landscape Plan

Scale

Date: 02/25/22

Sheet: L-1 2

Of Sheets

						Compliance Path Verification							
						Plan Check		Rough GB Inspection IVR # 152		Final Inspection IVR # 153			
					Plan Sheet, Spec or Attachment Reference					Part 1	Part 1	Part 2	Part 2
4.1 Planning and Design			Code Section	Y N		CORR	INITIAL	CORR	INITIAL	CORR	INITIAL	CORR	INITIAL
Mandatory	Mandatory	Storm water drainage and retention during construction (less than one acre)	4.106.2										
	Tier 2 Mand.	Topsoil protection - Tier 2 requirements	PAMC 16.14.070/ A4.106.2.3										
	Mandatory	Grading and paving	4.106.3										
	Tier 2 Mand.	Water permeable surfaces for 30% - Tier 2 requirements	A4.106.4										
	Tier 2 Mand.	Cool roof for reduction of heat island effect -Tier 2 requirements	PAMC 16.14.070/ A4.106.5										
	Tier 2 Mand.	Electric vehicle (EV) charging for residential structures (Locally amended)	PAMC 16.14.420 / A4.106.8										
	Mandatory	EV Charging: New single family residences	PAMC 16.14.420/ A4.106.8.1										
	Mandatory	EV Charging: New multi-family residential structures	PAMC 16.14.420/ A4.106.8.2										
	Mandatory	EV Charging: New Hotels	PAMC 16.14.420/A4.106.8.3										
	Mandatory	Bicycle Parking [MF] (locally amended)When an addition or change of use results in increased parking	PAMC 18.54.060/ A4.106.9										
Electives (choose 4)	Elective	Site selection	A4.103.1										
	Elective	Community connectivity	A4.103.2										
	Elective	Supervision and education by a Special Inspector (Locally amended)	PAMC 16.14.090/ A4.104.1										
	Elective	Deconstruction (Locally amended, Mandatory on or after July 1, 2020)	PAMC 16.14.130/ A4.105.1										
	Elective	Reuse of existing materials (Locally amended)	PAMC 16.14.130/ A4.105.2										
	Elective	Soil analysis	A4.106.2.1										
	Elective	Soil protection	A4.106.2.2										
	Elective	Landscape design	A4.106.3										
	Elective	Vegetated roof	A4.106.6										
	Elective	Reduction of heat island effect for nonroof areas	A4.106.7										
	Elective	Light pollution reduction (Locally amended)	PAMC 16.14.170/ A4.106.10										
	Elective	Innovative concepts and local environmental conditions	A4.108.1										
PAMC 16.17 Energy Reach Code													
Mandatory	Mandatory	**Effective April 1, 2020:** All-Electric Design with performance approach specified within the 2019 California Energy Code shall be used to demonstrate the energy budget calculated for the proposed design building is no greater than the energy budget calculated for the Standard Design Building. Exception: Detached newly constructed Accessory Dwelling Units, ADU's	PAMC 16.17.110/ 2016 Title 24, Part6		Palo Alto Building Inspector will verify Title 24 Energy Compliance in the Field.								
4.3 Water Efficiency and Conservation													
Mandatory	Mandatory	Indoor Water Use: Water closets (1.28 gpf)	4.303.1.1										
	Mandatory	Indoor Water Use: Urinals (Wall Mounted 0.125 gpf, all others 0.5 gpf)	4.303.1.2										
	Mandatory	Indoor Water Use: Single showerhead (1.8 gpm at 80 psi)	4.303.1.3.1										
	Mandatory	Indoor Water Use: Multiple showerheads serving one shower (1.8 gpm at 80 psi)	4.303.1.3.2										
	Mandatory	Indoor Water Use: Residential lavatory faucets (1.2 gpm at 60 psi)	4.303.1.4.1										
	Mandatory	Indoor Water Use: [MF] Lavatory faucets in common and public use areas (0.5 gpm at 60 psi)	4.303.1.4.2										
	Mandatory	Indoor Water Use: Metering faucets (0.2 gallons per cycle)	4.303.1.4.3										
	Mandatory	Indoor Water Use: Kitchen faucets (1.8 gpm at 60 psi)	4.303.1.4.4										
	Mandatory	Indoor Water Use: Standards for plumbing fixtures and fittings (Meet 2019 Plumbing Code)	4.303.2										
	Mandatory	Outdoor potable water use in landscape areas (MWELO)	4.304.1										
	Mandatory	Recycled water supply systems [N]	4.305.1										
	Tier 2 Mand.	Recycled water for landscape irrigation [MF only][AA] (when landscape >1,000 sq. ft)	PAMC 16.14.230/ A4.305.3										
Electives (choose 3)	Elective	Kitchen faucets (1.5 gpm at 60 psi)	A4.303.1										
	Elective	Alternate water sources for nonpotable applications	A4.303.2										
	Elective	Appliances	A4.303.3										
	Elective	Nonwater supplied urinals and waterless toilets	A4.303.4										
	Elective	Hot water recirculation systems	A4.303.5										
	Elective	Rainwater catchment systems	A4.304.1										
	Elective	Potable water elimination	A4.304.2										
	Elective	Irrigation metering device (locally amended)	PAMC 16.14.220/ A4.304.3										
	Elective	Graywater (Locally amended, Whole house graywater system counts as 3 electives)	PAMC 16.14.230/ A4.305.1										
	Elective	Recycled water piping (Locally amended)	PAMC 16.14.230/ A4.305.2										
	Elective	Recycled water for landscape irrigation (Locally amended)	PAMC 16.14.230/ A4.305.3										
	Elective	Innovative concepts and local environmental conditions	A4.306.1										
4.4 Material Conservation and Resource Efficiency													
	Tier 2 Mand.	Recycled content - 15% - Tier 2 requirements	PAMC 16.14.070 / A4.405.3.1										
	Mandatory	Rodent proofing fill annular spaces around pipes, cables, conduits or other openings to protect against rodents	4.406.1										
Ma y	Mandatory	Waste management company	4.408.3										
	Mandatory	Operation and maintenance manual provided to the building owner	4.410.1										
	Mandatory	Recycling by occupants (≥ 5 multi-family units)	4.410.2										
Electives (choose 4)	Elective	Reduction in cement use - 25%	PAMC 16.14.250/ A4.403.2										
	Elective	Efficient framing techniques - Lumber size	A4.404.1										
	Elective	Efficient framing techniques - Dimensions and layouts	A4.404.2										
	Elective	Efficient framing techniques - Building systems	A4.404.3										
	Elective	Efficient framing techniques - Pre-cut materials and details	A4.404.4										
	Elective	Prefinished building materials	A4.405.1										
	Elective	Concrete floors	A4.405.2										
	Elective	Use of building materials from rapidly renewable sources	A4.405.4										
	Elective	Drainage around foundations	A4.407.1										
	Elective	Roof drainage	A4.407.2										
	Elective	Flashing details	A4.407.3										
	Elective	Material protection	A4.407.4										
	Elective	Door protection	A4.407.6										
	Elective	Roof overhangs	A4.407.7										
	Elective	Innovative concepts and local environmental conditions	A4.411.1										

						Compliance Path Verification							
						Plan Check		Rough GB Inspection IVR # 152		Final Inspection IVR # 153			
					Plan Sheet, Spec or Attachment Reference					Part 1	Part 1	Part 2	Part 2
4.5 Environmental		uality	Code Section	Y N		CORR	INITIAL	CORR	INITIAL	CORR	INITIAL	CORR	INITIAL
Mandatory	Mandatory	Fireplaces shall be direct-vent sealed combustion type (all-electric on of after April 1, 2020)	4.503.1										
	Mandatory	Covering of duct openings, protection of mechanical equipment during construction	4.504.1										
	Mandatory	Adhesives, sealants and caulks - Table 4.504.1 and 4.504.2 for VOC limits	4.504.2.1										
	Mandatory	Paints and coatings - Table 4.504.3 for VOC limits	4.504.2.2										
	Mandatory	Aerosol paints and coatings	4.504.2.3										
	Mandatory	Verification - documentation to verify complaint VOC limit on finish materials	4.504.2.4										
	Mandatory	Carpet systems compliant with VOC limits	4.504.3										
	Mandatory	Carpet cushion	4.504.3.1										
	Mandatory	Carpet systems: Carpet adhesive - Table 4.504.1 for VOC limits	4.504.3.2										
	Tier 2 Mand.	Resilient flooring systems for 100% - Tier 2 requirements	PAMC 16.14.070/ A4.504.2										
	Mandatory	Composite wood products	4.504.5										
	Mandatory	Concrete slab foundations - vapor retarder required	4.505.2										
	Mandatory	Capillary break for slab-on-grade foundations	4.505.2.1										
	Mandatory	Moisture content of building materials ≤ 19% for wall and floor framing	4.505.3										
	Mandatory	Bathroom exhaust fans (when required) shall be provided with the following: 1. ENERGY STAR fans ducted to outside of building. 2. Humidity controlled OR functioning as a component of a whole-house ventilation system 3. Humidity controls with manual or automatic means of adjustment for relative humidity range of ≤ 50% to 80% max	4.506.1										
	Mandatory	Heating and air conditioning system design	4.507.2										
	Mandatory	Indoor Air Quality Management Plan	PAMC 16.14.410										
Electives (1)	Elective	Compliance with formaldehyde limits	PAMC 16.14.265/ A4.504.1										
	Elective	Thermal insulation	PAMC 16.14.270/ A4.504.3										
	Elective	Construction filters [HR]	A4.506.2										
	Elective	Direct-vent appliances	A4.506.3										
	Elective	Innovative concepts and local environmental conditions.	A4.509.1										

Legend:

Y - Yes; the m asure is in the scope of work
N - No; the m asure is not in the scope of work
PAMC - Palo lto Municipal Code; locally amended
[N] - New Cor truction
[MF] - Multi-fa ily dwellings
[AA] - Additio and alterations
[HR] - High-ris building

ADU Exception:
Free standing detached Accessory Dwelling Units of new construction shall meet the following:
1. California Green Building Standards Code Mandatory plus Tier 2 prerequisite requirements.
2. No Planning and Design electives.
3. Two (2) Water Efficiency and Conservation electives.
4. Two (2) Material Conservation and Resource Efficiency electives.
5. One (1) Environmental Quality elective.

The Green Bu ding Survey is a required project submittal. The survey can be found at the following link. The online survey shall be completed and a Green Buildin Survey Report will be sent in an email. Include a copy of the survey report on a separate page in this plan set. Please indicate the reference pag here _____.

Special Inspector Acknowledgement

The project will be verified by a RESIDENTIAL GREEN BUILDING SPECIAL INSPECTOR

I have reviewed the project plans and specifications, and they are in conformance with the CALGreen mandatory and elective measures claimed. I have reviewed and understand the after-construction requirements below.

Signature (Green Building Special Inspector)

Print Name

Phone or Email

Date

Certified Energy Analyst Acknowledgement

The project will be verified by a CERTIFIED ENERGY ANALYST

REQUIREMENT EFFECTIVE ON APRIL 1, 2020

The Certificate of Compliance shall be prepared and signed by a Certified Energy Analyst and the energy budget for the Proposed Design shall be no greater than the Standard Design Building.

I am a Certified Energy Analyst with the California Association of Building Energy Consultants as of the date of submission of a Certificate of Compliance as required under Section 10-103 of the Building Energy Efficiency Standards for Residential and Non-Residential Buildings.

Signature (Certified Energy Analyst)

Print Name

Phone or Email

Date

SECTION TO BE COMPLETED AFTER CONSTRUCTION

After construction is complete submit the following at the City Development Center to schedule your final inspection:

- ☐ Construction debris receipts from an approved facility using Green Halo.
- ☐ If HERS testing was required per the homes energy report, attach the completed forms.
- ☐ If there were alterations during construction that impacted the energy report (i.e. R values, U factors, Equipment Types) rerun the report and attach it.

I certify that:

- ☐ CALGreen inspections were performed throughout construction.
- ☐ The home has met the CALGreen measures as claimed on this sheet. Those required for landscaping may be excluded from this confirmation if verified within 6 months of final inspection.
- ☐ Through a combination of onsite inspections and confirmation from the Contractor there have been no alterations that impacted the energy report for the home, unless the new report is provided as an attachment.

Signature (Green Building Special Inspector)

Sign only after project is complete

Print Name

Date

CITY STAMPS ONLY

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Project

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542-546 OXFORD AVE, PALO ALTO, CA 94306, APN 137-01-004

Version History	Date
PIn Entitlement	12/22/21
PIn Entitlement	02/25/22

Notes

Title: CalGreen Mandatory Measures Tier 2

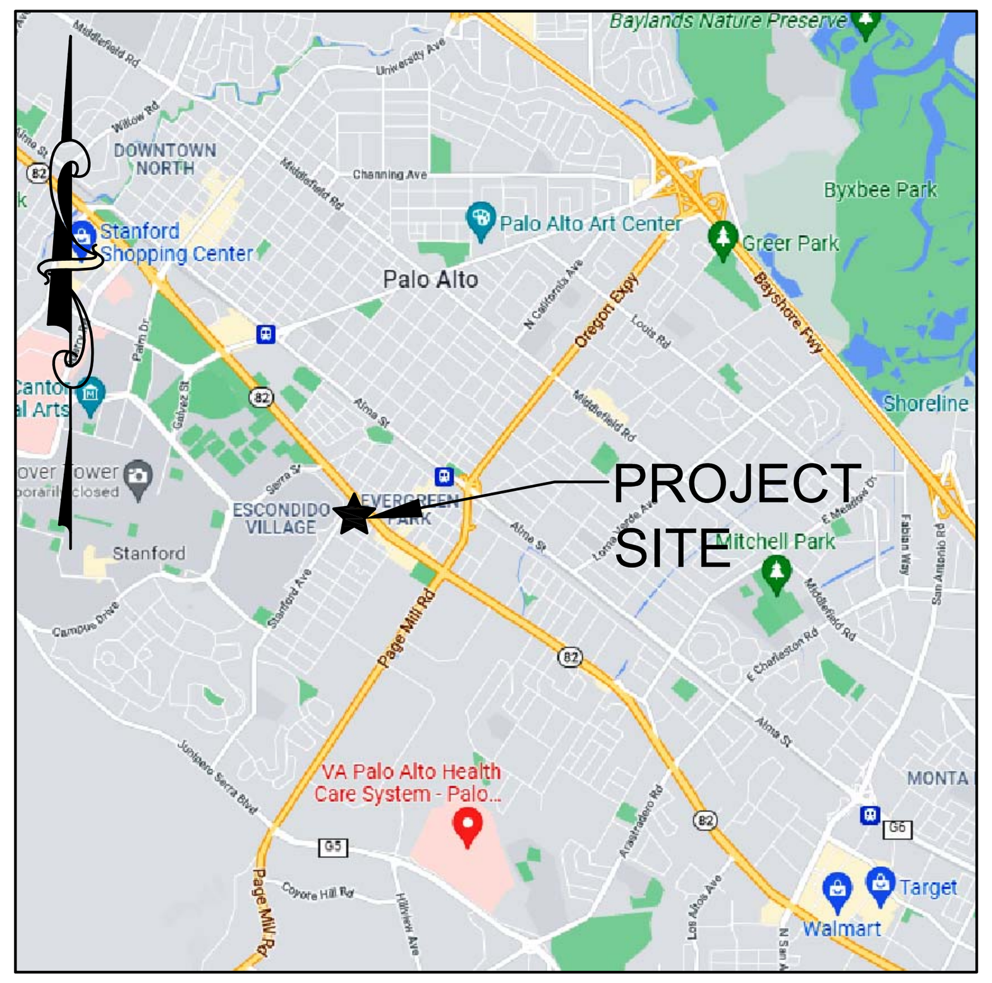
Scale

Date: 02/25/22

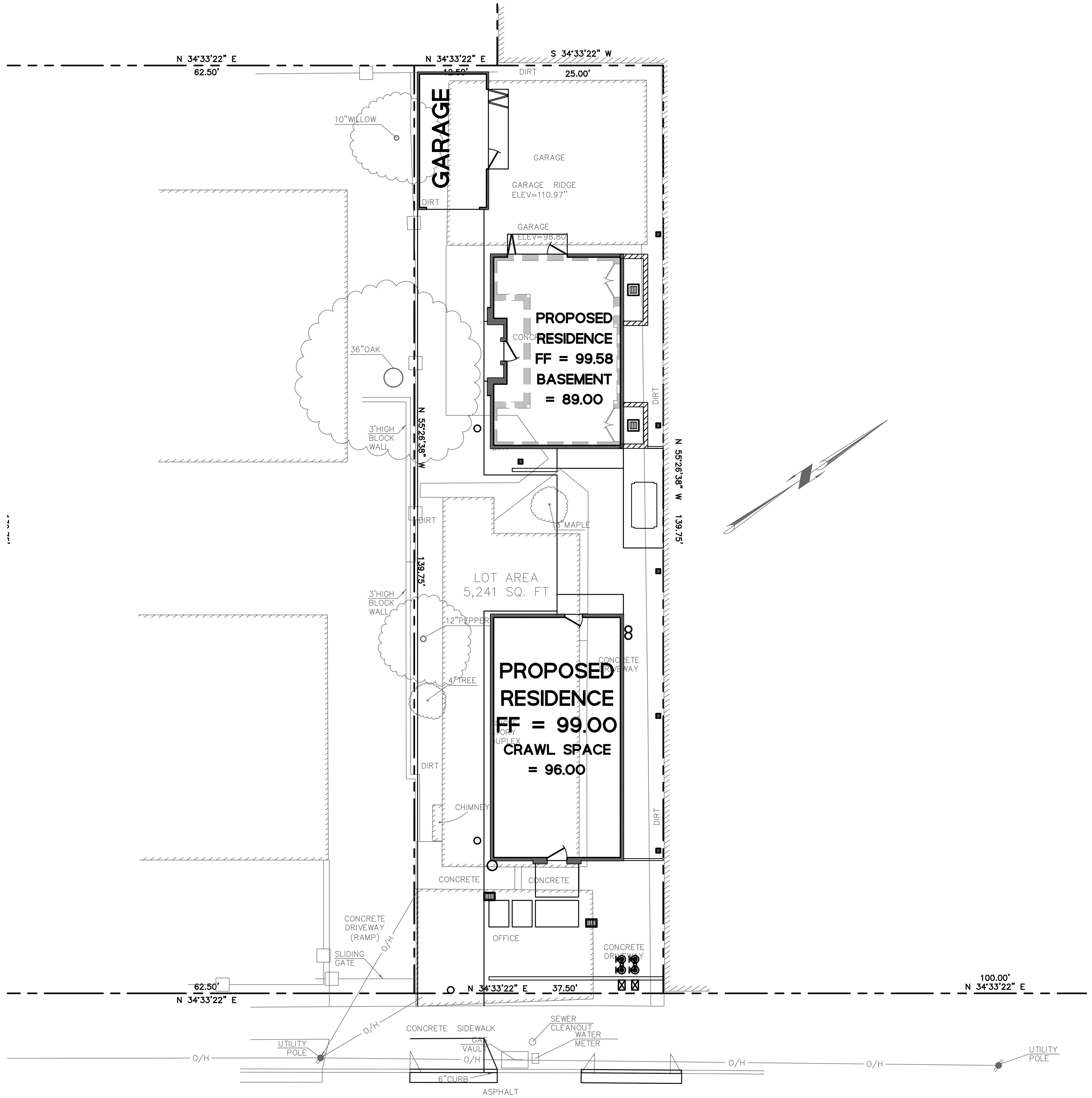
Sheet: GB-1

Of Sheets

NEW DUPLEX
542 OXFORD AVENUE
PALO ALTO, CA 94306



VICINITY MAP
N.T.S.



OXFORD AVENUE
(60' R/W)

0 10 20
GRAPHIC SCALE

LOCATION MAP
N.T.S.

ABBREVIATIONS

AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
AD	AREA DRAIN
ATD	ATRIUM DRAIN
BFP	BACK FLOW PREVENTION DEVICE
BW	BOTTOM OF WALL ELEVATION
CB	CATCH BASIN
CL	CENTER LINE
CS	CRAWL SPACE ELEVATION
CIP	CAST IRON PIPE
CONC	CONCRETE
DD	DECK DRAIN
DDCV	DOUBLE DETECTOR CHECK VALVE
DG	DECOMPOSED GRANITE
DIP	DUCTILE IRON PIPE
DS	ROOF DOWN SPOUT
DWY	DRIVEWAY
(E)	EXISTING
ELEC	ELECTRICAL
EM	ELECTRICAL METER
EP	EDGE OF PAVEMENT
FC	FACE OF CURB ELEVATION
FDC	FIRE DEPARTMENT CONNECTION
FF	FINISHED FLOOR ELEVATION
FG	FINISHED GROUND ELEVATION
FL	FLOW LINE ELEVATION
FM	FORCE MAIN LINE
FS	FINISHED SURFACE ELEVATION
FP	FINISHED PAVEMENT ELEVATION
FW	FIRE WATER LINE
GB	GRADE BREAK
GM	GAS METER
GR	GRATE ELEVATION
GV	GATE VALVE
HP	HIGH POINT
HW	HEATED WATER LINE
INV	PIPE INVERT ELEVATION
JT	JOINT TRENCH
JP	JOINT POLE
LD	LANDSCAPE DRAIN
LF	LINEAR FEET
LP	LOW POINT
(N)	NEW
PIV	POST INDICATOR VALVE
POC	POINT OF CONNECTION
RIM	RIM ELEVATION
S	SLOPE
SAP	SEE ARCHITECTURAL PLANS
SBD	STORM SUB DRAIN
SBDCO	STORM SUB DRAIN CLEANOUT
SD	STORM DRAIN
SDCO	STORM DRAIN CLEANOUT
SGR	SEE GEOTECHNICAL REPORT
SICB	SIDE INLET CATCH BASIN
SLP	SEE LANDSCAPE PLANS
SPP	SEE PLUMBING PLANS
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEANOUT
SSP	SEE STRUCTURAL PLANS
TW	TOP OF WALL ELEVATION
TYP	TYPICAL
VD	PIPE VERTICAL DROP
W	DOMESTIC WATER LINE
WM	WATER METER

EARTHWORK QUANTITIES

CUT	270 C.Y.
FILL	90 C.Y.
TOTAL TO BE MOVED	360 C.Y.
BALANCE	180 C.Y. CUT (OFF-HAUL)

EARTHWORK QUANTITIES SHOWN ABOVE ARE FOR PLANNING PURPOSES ONLY. CONTRACTOR SHALL CALCULATE THEIR OWN EARTHWORK QUANTITIES, AND USE THEIR CALCULATIONS FOR BIDDING AND COST ESTIMATING PURPOSES.

LEGEND:

EXISTING / PROPOSED

- SANITARY SEWER
- STORM DRAIN
- STORM SUB-DRAIN (PERFORATED PIPE)
- TRANSITION FROM PERF. PIPE TO SOLID PIPE
- FORCE MAIN
- FIRE WATER LINE
- DOMESTIC WATER SERVICE
- IRRIGATION SERVICE
- NATURAL GAS
- ELECTRIC
- JOINT TRENCH
- FENCE
- CLEAN OUT
- DOUBLE DETECTOR CHECK VALVE
- POST INDICATOR VALVE
- VALVE
- METER BOX
- STREET LIGHT
- AREA DRAIN
- CATCH BASIN
- FIRE HYDRANT
- FIRE DEPARTMENT CONNECTION
- BENCHMARK
- MANHOLE
- SIGN
- DOWNSPOUT
- SPLASH BLOCK
- CONTOURS
- PROPERTY LINE
- SETBACK
- GRASS SWALE
- RETAINING WALL/ BUILDING STEMWALL
- (E) TREE TO BE REMOVED

SHEET INDEX

HYDROLOGY

(E) IMPERVIOUS AREA	(N) IMPERVIOUS AREA	REQUIRED STORAGE VOL.	STORAGE VOL. PROVIDED
4,011 SF	3,308 SF	0 CF	0 CF

PRECISION ENGINEERING AND CONSTRUCTION
1331 Old County Road, Suite B
Belmont, CA 94002
T: 650.226.8640
Travis@precision-ec.com

DATE:

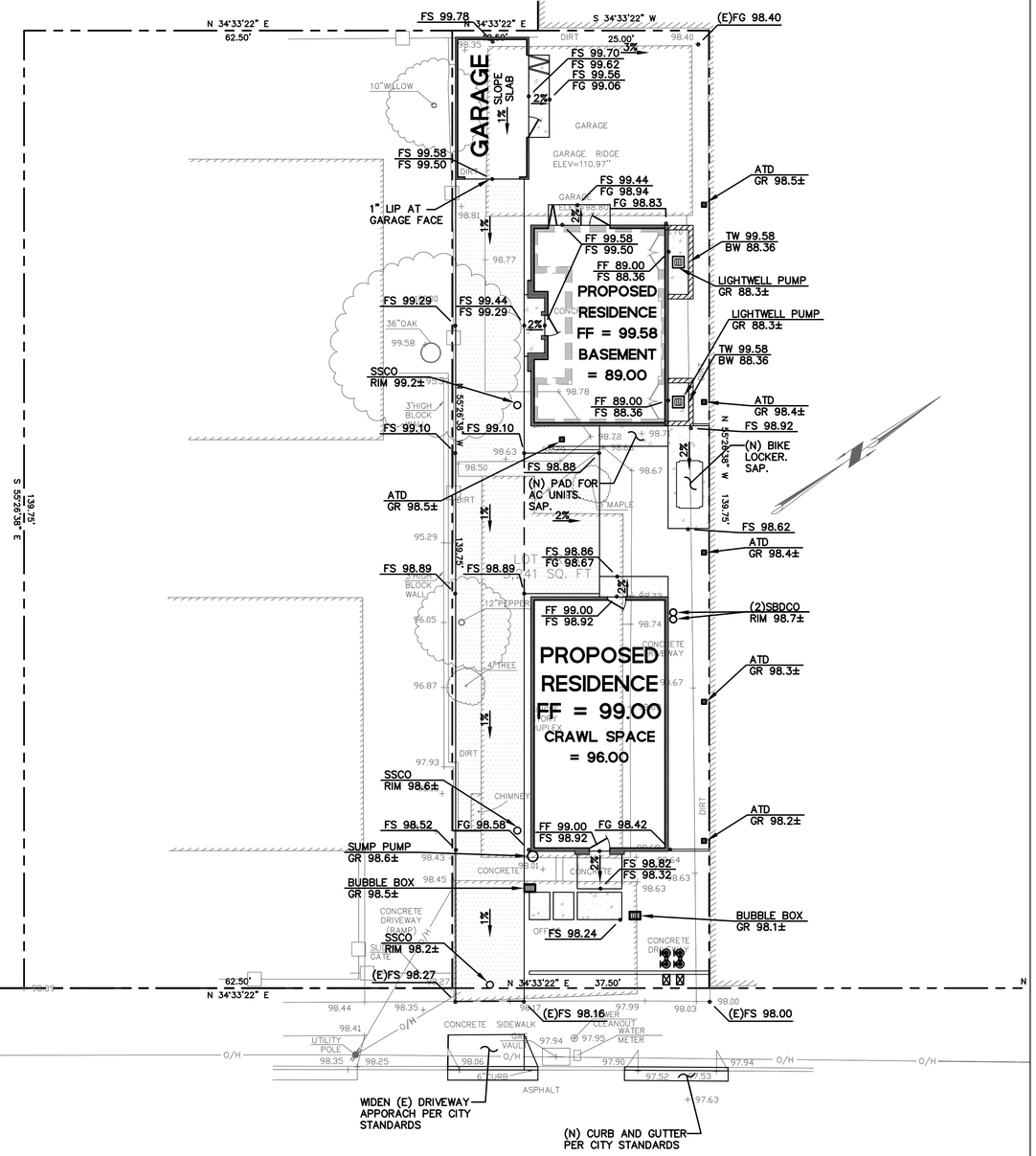
REVISIONS:

REGISTERED PROFESSIONAL ENGINEER
TRAVIS R. LUTZ
73638
CIVIL
STATE OF CALIFORNIA

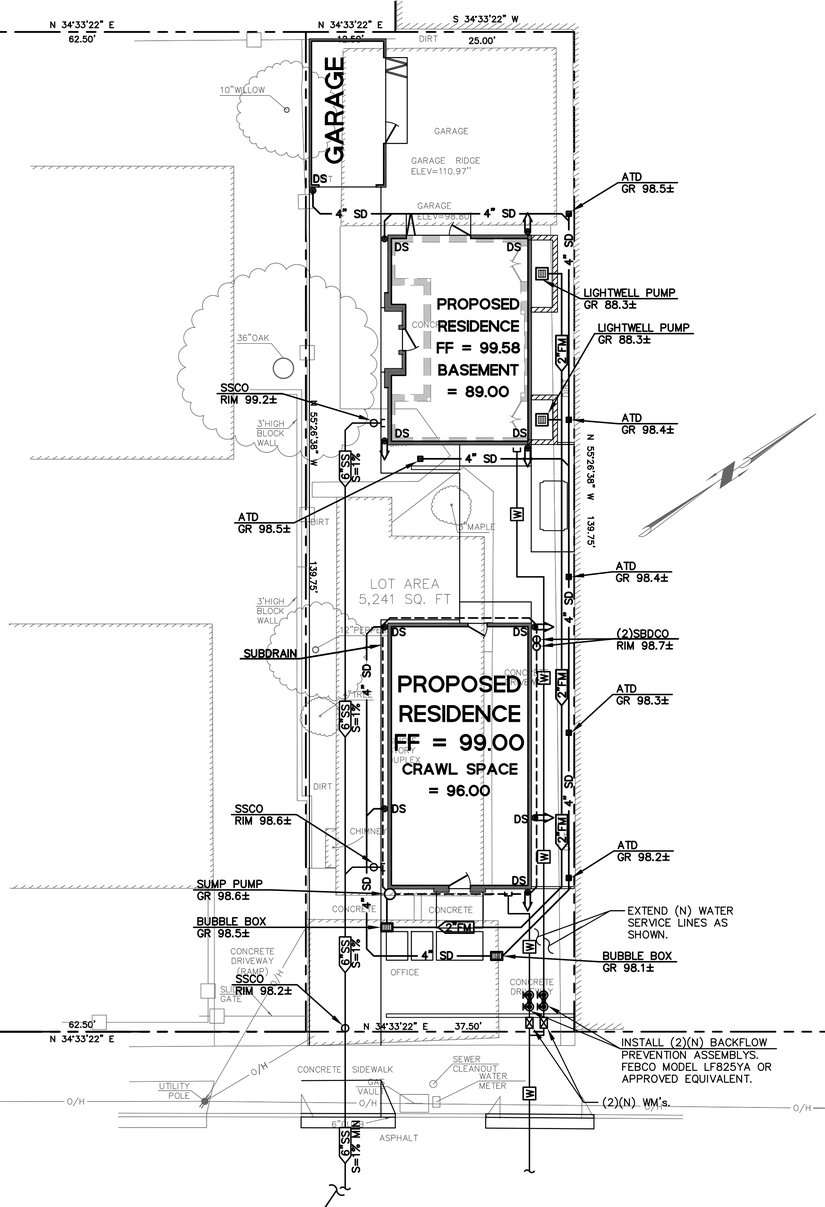
TITLE SHEET
NEW DUPLEX
542 OXFORD AVENUE
PALO ALTO, CA 94306

Date:	12/13/2021
Scale:	AS SHOWN
Design:	AJP
Check:	TRL
Drawing Number:	C-0
PEC Job No.	PEC 21-118

GRADING PLAN



UTILITY PLAN



PAVEMENT LEGEND:

SEE GEOTECHNICAL REPORT IF ONE EXISTS FOR EXACT PAVEMENT SECTIONS, OVER-EXCAVATION AND COMPACTION REQUIREMENTS. SEE ARCHITECTURAL PLAN(S) FOR EXACT MATERIAL SELECTION.

CONCRETE	4" CONCRETE W/#4 BARS 12" O.C. - EACH WAY OVER 8" OF CALTRANS CLASS II AGGREGATE BASE ROCK.
AC PAVING	2.5" OF AC PAVING OVER 8" MIN OF CALTRANS CLASS II AGGREGATE BASE ROCK.

SEE SHEET C-0 FOR LEGEND AND SHEET C-1 FOR NOTES

811 CALL BEFORE YOU DIG UNDERGROUND SERVICE ALERT

0 10 20
GRAPHIC SCALE

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CIVIL
STATE OF CALIFORNIA

GRADING AND UTILITY PLAN
NEW DUPLEX
542 OXFORD AVENUE
PALO ALTO, CA 94306

Date: 12/13/2021
Scale: 1" = 10'
Design: AJP
Check: TRL
Drawing Number: C-2
PEC Job No. PEC 21-118

DRAWING NAME: G:\Shared drives\PEC Projects Files\2021\PEC 21-118 - 542 Oxford Avenue, Palo Alto\Dwg\PEC 21-118 SHEETS.dwg
PLOTTED BY: