

Ellyn Shea, Consulting Arborist

ISA Certified Arborist # WE-5476A - ISA Certified Risk Assessor # CTRA502

ASCA Registered Consulting Arborist #516

2085 Hayes Street, Suite 10 • San Francisco, CA 94117 • Phone: 415/846-0190 • E-Mail: ellyn.shea@sbcglobal.net



Zhaohui Max Ma
100 San Juan Avenue
San Francisco, CA 94112

August 25, 2017

RECEIVED

SEP 29 2017

Comm. Dev. Dept. Brisbane

Assignment

- Review the following:
 - Plans for development at 3848 San Bruno Avenue, Brisbane, CA: Sheets A1.0 and A1.1, dated 7/7/17.
 - City of Brisbane tree protection and removal ordinances.
 - Correspondence, provided by the property owner, from the San Francisco Public Utilities Commission (SF PUC) about vegetation management on their easement.
- Assess 22 trees on the subject property and PUC easement and identify species and trunk circumference, measured at 24 inches above natural grade.
- Determine the following:
 - Trees protected by City ordinance.
 - Trees to be removed and the reason for removal.
 - Trees to be preserved and recommended methods for protecting preserved trees during grading and construction.
- Identify trees on a provided site plan.
- Provide an arborist report with findings and recommendations.

Background

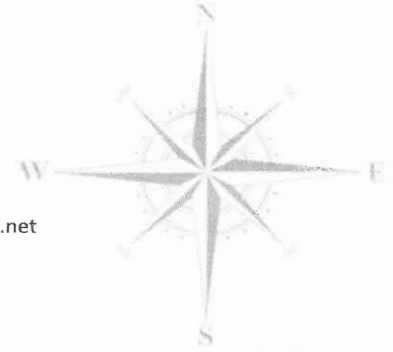
The property owner, Max Ma, is developing a single-family residence on 3848 San Bruno Avenue in Brisbane. A 40-foot easement in favor of the San Francisco Public Utilities Commission (SF PUC) has been noted in the property's front yard, containing two underground pipelines. The SF PUC conducted a site visit and strongly recommends removal of all woody vegetation located on their easement. The City of Brisbane Planning Department (the City) concurred with this decision but requires replacement of any protected trees on the easement or on the private property itself at a minimum 1 to 1 ratio. Mr. Ma retained me to assess the property and provide an arborist report to accompany his development plans for approval from the City.

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Supporting Documentation

Supporting documentation begins on page 8 in this order:

- Site Plan with Additions
- Sheet A1.0 dated 7/7/17
- Data Table 1: All Trees
- Data Table 2: Trees to Preserve
- Data Table 3: Trees to Remove
- Correspondence from PUC regarding woody vegetation on their easement, provided by property owner

Methodology

22 trees were considered on the subject property. Trees are numbered and located on the Site Plan with Additions at the end of this report. Individual tree data including species, circumference, and Protected Tree designations are included on Tables 1-3 at the end of this report. Trees were not physically tagged with numbers in the field.

Condition: Tree condition is based on health and structure and rated Good, Fair or Poor, using the following criteria:

- Good: Vigorous growth with foliage of normal size, shape and color. Canopy density 90-100%, little to no dead wood, minor or no pest infestation, little to no decay. Symmetrical or mostly symmetrical canopy. Structure does not contain included bark (bark inside the juncture of multiple trunks). No sign of previous branch failures. Tree is expected to live its natural lifespan.
- Fair: All or some of the new growth shoots are shorter than expected for the species. Canopy density 60-90%. Some small branch dieback. Noticeable pest infestation and/or decay. Some asymmetry in the canopy. Structure may have included bark, previous branch failures or end-heavy limbs. Tree is not in decline right now, but further stress such as construction impacts, increased pest pressure, drought etc. may cause a decline in health or create a hazard tree.
- Poor: Little to no new growth and significant dieback. Foliage may be undersized, distorted, yellowed or another color abnormal for the species. Canopy density 20-60% or less. Significant dead wood, pest infestation or decay. Structure may contain significant included bark, previous branch failures or asymmetry. Tree is not expected to live its natural lifespan and may be hazardous.

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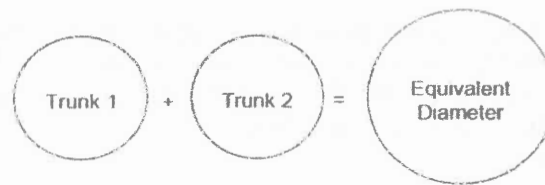
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Circumference was estimated wherever access was poor due to topography, dense vegetation or adjacent structures, or where trees had more than 3 trunks. For trees with two or more trunks, diameter was calculated using the Equivalent Diameter formula (shown below). Circumference was then calculated from this equivalent diameter.



The Equivalent Diameter is the sum of surface areas

Equivalent Diameter =
square root [trunk 1 radius (squared) + trunk 2 radius (squared)] X 2

Protected Trees

According to the [City of Brisbane Municipal Code](#), Protected trees include the following:

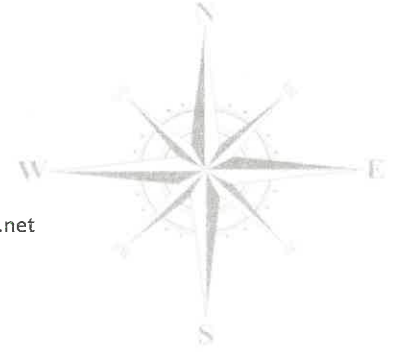
- Any California Bay (*Umbellularia californica*), Coast Live Oak (*Quercus agrifolia*), or California Buckeye (*Aesculus californica*) having a main stem or trunk which measures thirty (30) inches or greater in circumference at a height of twenty-four (24) inches above natural grade.
- Any street tree having a main stem or trunk which measures thirty (30) inches or greater in circumference at a height of twenty-four (24) inches above natural grade.
- Where three (3) or more trees of any one or more species, each having a main stem or trunk which measures thirty (30) inches or greater in circumference at a height of twenty-four (24) inches above natural grade, are proposed to be removed at the same time from the same property or from contiguous properties under common ownership, such trees shall collectively be regarded as a protected tree.
- Any tree designated as a protected tree by resolution of the city council.

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Removal permit required

Excerpted and paraphrased from the City of Brisbane Tree Removal Permit Application:

A permit is required to remove or severely trim any tree greater than 30 inches in circumference at 24” above grade level, not only protected trees. Severe trimming is the removal of more than 50% of the foliage crown or more than 30% of the height of the tree. Removal or trimming permits shall be automatically granted for any tree that is not a Protected Tree. For Protected Trees, a permit may be denied or granted with conditions, such as planting one or more replacement trees.

Reasons for removal include the following:

- Disease
- Imminent danger of falling
- Proximity to existing or proposed structures
- Interference with utility services
- Necessary for economic or other enjoyment of the property.

Summary of Findings

22 Trees were considered.

- Up to 4 Protected Trees were noted:
 - Two are protected due to their species and size: Tree 5 and Tree 13.
 - One, Tree 1, is located on the boundary between private property and public right of way. The City may choose to consider this a street tree and if so, it would be protected due to its size.
 - One collectively Protected Tree is present because 7 trees of more than 30 inches in circumference are proposed for removal at the same time. (Trees 2, 3, 4, 6, 8, 9, 10).
 - Note: the final definition of “Protected Tree” is at the discretion of the City of Brisbane.
- 12 trees are proposed for removal, 5 due to proximity to proposed structures (according to the plan shown on Sheet A1.0 dated 7/7/17) and 7 due to interference with utility services (removal of woody vegetation growing on the easement strongly recommended by the SF PUC).
- 7 of the 12 trees listed above are large enough to require a removal permit. Because they are proposed to be removed at the same time, they are collectively considered one Protected Tree by City Ordinance.
- 10 trees are proposed for preservation, including 3 Protected Trees.

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Tree Protection Plan

Construction Impacts on Trees

- **Soil Compaction:** Driving, operating equipment or storing materials on unprotected soil severely reduces soil oxygen, killing tree roots.
- **Root Loss and Damage:** Excavation equipment tears roots. A tree can more easily respond to a cleanly cut injury than a rip. Removal of structural roots makes a tree hazardous.
- **Grade Changes:** Adding soil within the root zone reduces soil oxygen necessary for root health. Removing soil exposes and damages roots.
- **Changes in Irrigation:** Mature trees can decline or die after sudden reductions or increases in irrigation within the root zone.
- **Trunk or Branch Damage:** Bark can be damaged by equipment or by storing/staging of materials.

The purpose of the Tree Protection Plan is to avoid or minimize impacts to roots and soil and to protect trunks and branches.

Tree Protection Zone (TPZ)

The Tree Protection Zone, or TPZ, is defined as an area around the tree with a radius equal to 12 times the trunk diameter as measured at 4'6" from the ground. The approximate TPZ radius is indicated on the site plan and in the tables at the end of this report. In some cases, part of the TPZ is paved or on another property. Protect exposed soil within the TPZ either by fencing off the TPZ or by buffering the soil from compaction. Specifications for fencing and root buffers are described below.

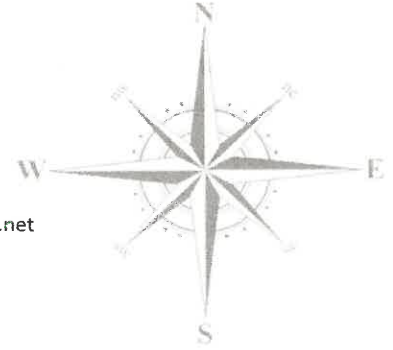
Project Arborist

A qualified Project Arborist must be involved throughout the project to advise on the impacts to trees caused by design changes, to make pruning recommendations and to be on site when work takes place within the Tree Protection Zone (TPZ). Landscaping also impacts trees, and the Project Arborist must be consulted on the landscape plan including species choice and placement, irrigation installation and programming, and soil grading, if any.

Tree Protection Measures and Specifications

TPZ Fencing

Place TPZ fencing around the exposed soil areas of the TPZ to prevent compaction. Where trees grow in groups a collective fence may be used. For example, trees 1, 5 and 7 could be collectively fenced, as could trees 14 and 15 or trees 16, 19 and 20.



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TPZ fencing shall consist of 5 or 6-foot high chain link fencing on 2 inch tubular galvanized iron posts spaced not more than 10 feet on center. Posts may be driven a minimum of 2 feet into undisturbed soil or placed into concrete blocks on pavement. Where posts would have to be driven into soil within 3 trunk diameters of the tree, place posts on pavement instead. Overlap buildings with fencing where required to close gaps and prevent entry into restricted areas.

TPZ fencing must be installed before construction begins and remain in place during the entire project. Ideally, the entire TPZ would be left alone for the duration of the project. In cases where work must take place within the TPZ, the following practices must be used:

- The Project Arborist must be present when work takes place within the TPZ.
- Excavate by hand, using air or water or via directional boring to protect roots. Immediately remove excavation tailings.
- Root cutting must be performed or supervised by the Project Arborist.
- Install a root buffer (defined below) on exposed soil areas before driving, operating equipment, storing or staging, or retain existing pavement as a root buffer.
- Do not raise or lower soil grades except as indicated by the Project Arborist.
- When landscaping within the TPZ, provide irrigation only as required by the species and choose understory plantings with the same water needs. Install surface drip irrigation to avoid trenching and plant small specimens spaced further apart to minimize root disturbance.
- TPZ fencing must remain closed when no work is being performed inside.

Trunk Protection

Trunk protection is indicated where fencing is not possible, or work is likely to take place within the TPZ. Wrap the lower 6 feet of the trunk using either of the following materials:

- A minimum of 4 layers of orange plastic snow fencing, then a layer of 2X4 planks set on end, edge-to-edge and wrapped with a minimum of 4 additional layers of orange plastic snow fencing.
- Straw wattles

Trunk protection is specified for Tree 13, and may or may not be needed for other trees to be preserved, depending on construction activities.

Irrigation

Install temporary irrigation within the TPZ fencing for trees 17, 14 and 15. Temporary irrigation should be installed above ground, not in trenches, using PVC pipe on undisturbed soil. The risers are attached to "T"s and elbows, as they would be in an underground system.

Do not irrigate *Quercus agrifolia*, *Aesculus californica* or *Umbellularia californica* between May and September except as indicated by the Project Arborist.

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Root Buffers



Root buffers prevent soil compaction and are only needed on exposed soil within the TPZ. Where exposed soil must be used for equipment, storing or staging, install a root buffer as follows:

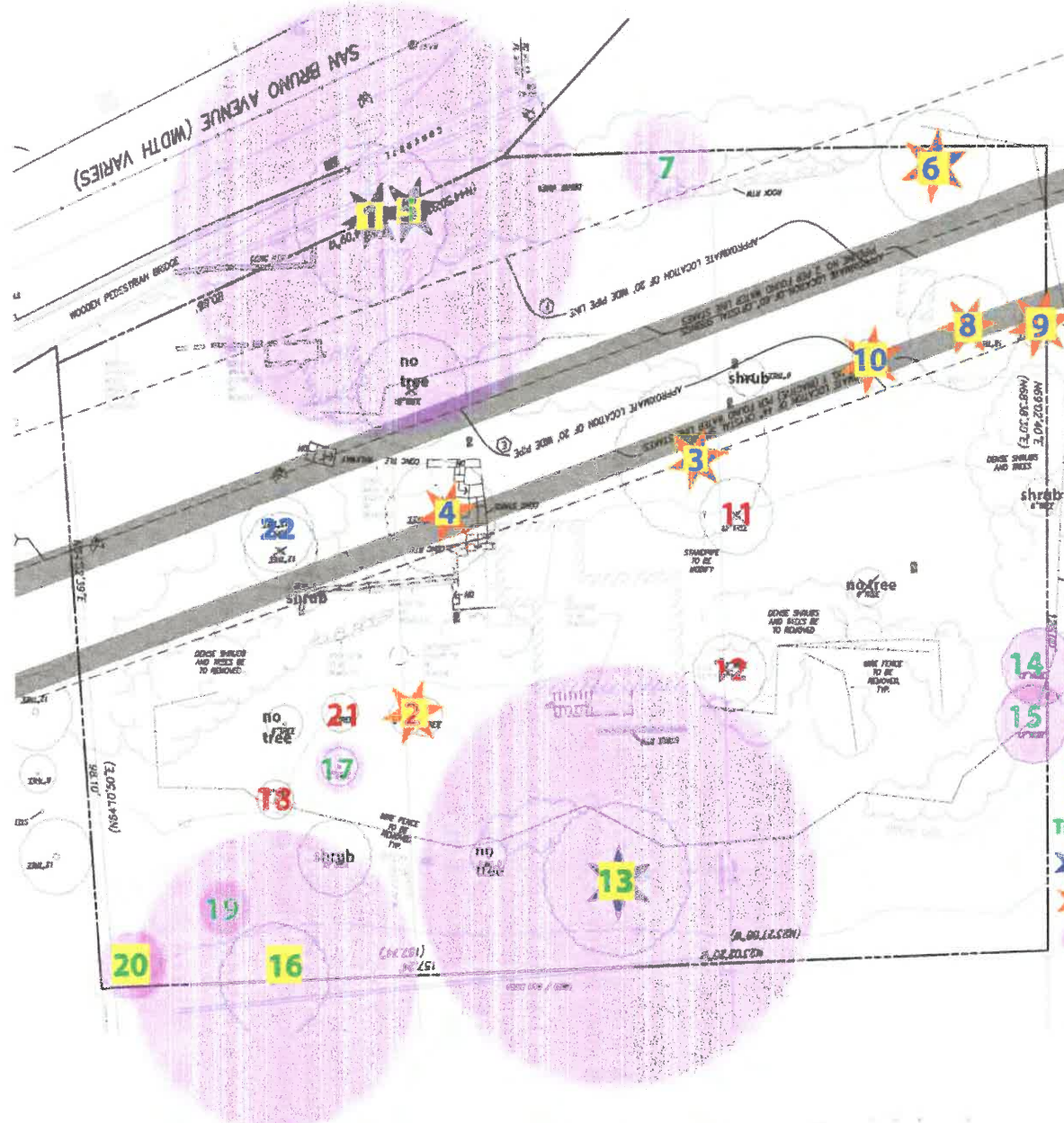
- Spread tree chips spread over the designated area to a minimum depth of 6 inches.
- Add a second course of 3/4-inch quarry gravel.
- Top with 3/4-inch plywood.
- The root buffer shall be installed prior to construction and remain in place for the duration of the project.

Prune or tie low limbs

Where tree limbs would interfere with construction equipment, prune them or tie them back prior to the beginning of construction to prevent injury. Trees recommended for low limb pruning have limbs lower than 14 feet over paved surfaces, where equipment may be operated or parked, or materials may be stored. Because the extent of construction is not known, more trees may have been recommended for low limb pruning than necessary. Do not prune trees in areas not impacted by construction except as indicated by the Project Arborist. Prune only to provide the necessary clearances and do not remove more than 25% of the living foliage except as directed by the Project Arborist. Pruning must be performed in compliance with ANSI A300 standards under the supervision of the Project Arborist.

Conclusions and Recommendations

- The property is currently heavily vegetated, but the proposed plans will require removal of over half the trees and much of the woody vegetation. Take appropriate measures to preserve the remaining trees and as much woody vegetation as possible.
-  Although Tree 13 is indicated for removal in Sheet A1.0 dated 7/7/17, this is a native tree in good condition and a protected species according to City ordinance. This tree should be retained and not have more than 25% of its living foliage removed. This report and all supporting documentation recommend its preservation, which may require design modification and will require proper preservation measures during construction.
-  Trees 16, 17, 19 and 20 are Blackwood Acacias (*Acacia melanoxyton*), generally not considered a desirable species due to its fast growth, invasiveness and susceptibility to decay. These trees are indicated for preservation because so many other trees are being removed. However, a case could also be made for their removal and replacement. A permit is not required to remove trees 17 and 19.
- Except as noted above, follow the recommendations noted in this report and supporting documentation.



STORM MANAGEMENT DURING CONSTRUCTION

1. ALL SITE WORK SHALL CONFORM TO COUNTY OF SAN DIEGO PUBLIC WORKS STANDARDS AND SAN MATEO COUNTY-WIDE WATER POLLUTION PREVENTION PROGRAM 1 CONSTRUCTION BEST MANAGEMENT PRACTICES
2. THE SITE SHALL BE CAREFULLY INSPECTED BY THE CONTRACTOR TO DETERMINE THE EXTENT OF THIS CLEARING, GRADING AND GRADING WORK TO BE DONE. NOTIFY NEIGHBORS PRIOR TO CONSTRUCTION AND GRADING.
3. THE CONTRACTOR SHALL BE RESPONSIBLE TO OBTAIN GROUND ELEVATIONS AND OVERALL TOPOGRAPHY OF THE SITE PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT IN WRITING IMMEDIATELY OF ANY DISCREPANCIES IN TOPOGRAPHY FROM THAT SHOWN ON THIS PLAN WHICH MAY REQUIRE CHANGES IN DESIGN AND AFFECT THE EARTHWORK QUANTITY.
4. THE CONTRACTOR SHALL ESTIMATE EARTHWORK QUANTITIES TO HIS SATISFACTION PRIOR TO START OF CONSTRUCTION AND SHALL ARRANGE FOR DISPOSAL OF EXCESS MATERIAL OR ACQUISITION OF IMPORT MATERIAL, AS REQUIRED TO COMPLETE THE GRADING AS SHOWN ON THIS PLAN.
5. STORM DRAINAGE SHALL BE IN EXISTING CONCRETE PRODUCTS MODEL 1/2" DRAIN 904 OR FOLLOW.
6. STORM DRAIN PIPE SHALL BE 4" DIAMETER PER.
7. PERFORM CLEARING AND EARTH MOVING ACTIVITIES ONLY DURING DRY WEATHER.
8. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED & MAINTAINED IN ACCORDANCE WITH THE CITY OF HILLBORN IMPROVEMENT STANDARDS, CURRENT EDITION.
9. EROSION CONTROL BEST MANAGEMENT PRACTICES SHALL BE INSTALLED AND MAINTAINED DURING THE WET SEASON (OCT. 1 THROUGH APRIL 30). SEDIMENT CONTROL BARRIERS SHALL BE INSTALLED AND MAINTAINED ALL YEAR.
10. ALL DRAIN INLETS IMMEDIATELY DOWNSTREAM OF THE WORK AREAS & WITHIN THE WORK AREA SHALL BE PROTECTED WITH SEDIMENT CONTROL AND MUST BE IN PLACE YEAR-ROUND. INLET THE SEDIMENT SHALL BE REMOVED FROM THE DRAINAGE INLETS UPON ACCEPTANCE OF THE PUBLIC IMPROVEMENTS BY THE COUNTY.
11. DELICATE WITH FIELD WORKERS CLEARING LIMITS, EASEMENTS, SETBACKS SENSITIVE OR CRITICAL AREAS, BIP-HAZ ZONING, TRAILS, AND DRAINAGE COURSE.
12. CONSTRUCTION, OPERATIONS AND MAINTENANCE OF EROSION AND SEDIMENT CONTROLS, INCLUDE INSPECTION FREQUENCY METHODS AND SCHEDULE FOR GRADING, EXCAVATION, FILLING, CLEARING OF VEGETATION, AND STORAGE AND DISPOSAL OF DEBRIS AND CLEAR WATER.
13. STORE, HANDLE AND DISPOSE OF CONSTRUCTION MATERIALS/ WASTES PROPERLY TO PREVENT CONTACT WITH STORMWATER.
14. CONTRACTOR SHALL TRAIN AND PROVIDE INSTRUCTION TO ALL EMPLOYEES/ SUBCONTRACTORS RE CONSTRUCTION BMP'S.
15. CONTROLS AND PREVENT THE DISCHARGE OF ALL POTENTIAL POLLUTANTS, INCLUDING PAVEMENT CUTTING WASTE, PAINTS, CONCRETE, PETROLEUM PRODUCTS, CHEMICAL WASHWATER OR SEDIMENTS, FUEL OILS FROM HIGH-TEMP. CONCRETE AND HOT-STEAM/ WATER DISCHARGE TO STORM DRAINS AND WATERCOURSES.

LEGEND

- ★ Trees to be removed - interference with utility services
- ★ Trees to be removed - proximity to proposed structures
- = City removal permit required
- Trees to be preserved
- ★ = Protected tree as per City Ordinance
- ★ = Collective Protected Tree as per City Ordinance
- = approximate Tree Protection Zone radius

Tree survey information added by:
Elynn Shea, Consulting Arborist
 415/846-0190

PROJECT
NEW RESIDENCE
 FOR
ZHAO HUI MA

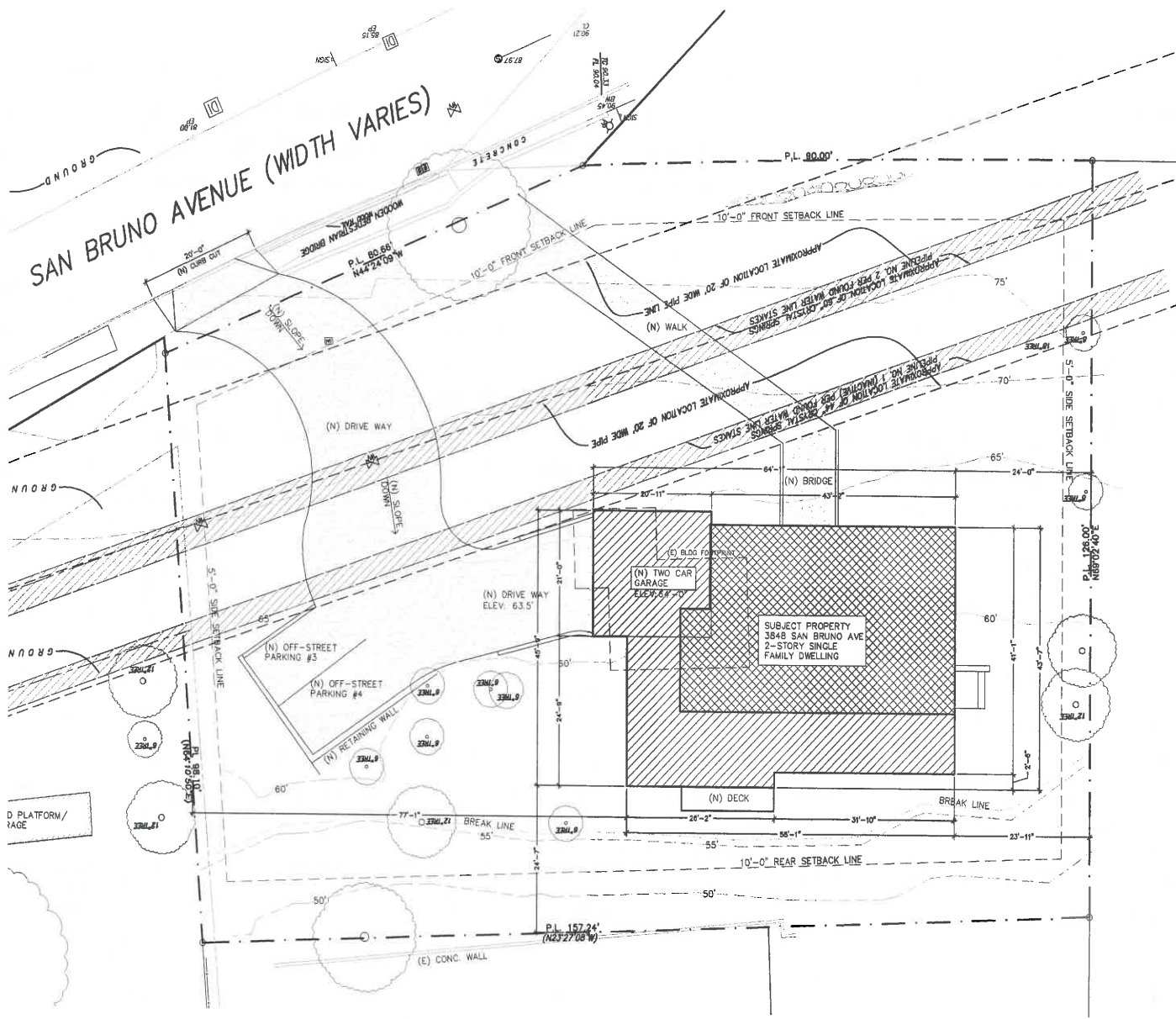
3646 SAN BRUNO AVE
 BRISBANE, CALIFORNIA

(E) SITE PLAN

A1.1

I-EXISTING SITE PLAN AND GRADING PLAN

G.1-98



I-PROPOSED SITE PLAN

GENERAL NOTES

1. ALL DESIGN AND CONSTRUCTION SHALL CONFORM TO ALL FEDERAL, STATE, CITY AND COUNTY CODES AND ORDINANCES. ANY WORK FOUND IN THESE DRAWINGS NOT IN COMPLIANCE WITH ANY APPLICABLE CODES SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGNER PRIOR TO COMMENCEMENT OF ANY RELATED WORK.

CODES USED:
 2016 CALIFORNIA BUILDING CODE
 2016 CALIFORNIA PLUMBING CODE
 2016 CALIFORNIA ELECTRICAL CODE
 2016 CALIFORNIA MECHANICAL CODE
 2016 CALIFORNIA FIRE CODE(CFC)
 2016 CALIFORNIA ENERGY CODE(CEC/T-14)
 2014 CALIFORNIA RESIDENTIAL CODE

2. ALL WORK SHALL CONFORM TO APPLICABLE LOCAL CODE AND STRUCTURAL PLANS BEFORE START ANY WORKS

PROPERTY DATA

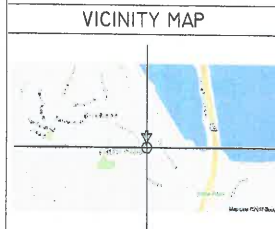
OWNER:	ZHAOHUI MA
ADDRESS:	3848 SAN BRUNO AVE BRISBANE, CA 94005
APN#:	007-553-160
ZONING:	SCSD-1
CONSTRUCTION TYPE:	V-B/U
OCCUPANCY:	R-3
YEAR BUILT:	
LOT AREA:	210,481 sq ft
MIN. FRONT SETBACK:	10'-0"
MIN. REAR SETBACK:	10'-0"
MIN. SIDE SETBACK:	5'-0"
MAX. HEIGHT LIMIT:	30'-0" (ROOF PITCH:3:12)
PARKING REQUIRED & PROVIDED:	4 SPACES
PROPOSED 1ST FLOOR AREA:	1,924 SF
PROPOSED 2ND FLOOR AREA:	1,418 SF
PROPOSED GARAGE:	592 SF
PROPOSED FLOOR AREA:	3,882 SF
PROPOSED LOT COVERAGE:	2,476 SF<70% ALLOWED

SCOPE OF WORK

- CONSTRUCT 2-STORY SINGLE FAMILY DWELLING WITH 4 OFF STREET PARKING SPACES

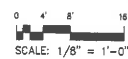
LEGEND

	PROPERTY LINE
	6" WOOD FENCE LINE
	EXISTING BLDG FOOTPRINT
	NEW BLDG FOOTPRINT
	2ND FLOOR FOOTPRINT
	(N) CONC. PAVING
	(E) TREE TO BE REMOVED



SHEET INDEX

A1.0	SITE PLANS & NOTES
A1.1	EXISTING SITE PLANS & NOTES
	SURVEY MAP
A2.0	EXISTING FLOOR PLANS AND ELEVATIONS
A2.1	PROPOSED 1ST FLOOR PLAN
A2.2	PROPOSED 2ND FLOOR PLAN
A2.3	PROPOSED ROOF PLAN & SECTIONS
A3.0	PROPOSED ELEVATIONS
A3.1	PROPOSED ELEVATIONS



PROJECT: **NEW RESIDENCE FOR ZHAO HUI MA**

DATE: 07/07/17

DESIGNED BY: ZHAO HUI MA

CHECKED BY: ZHAO HUI MA

REGISTERED ARCHITECT
 No. C-32565
 07/20/2008
 STATE OF CALIFORNIA

3848 SAN BRUNO AVE
BRISBANE, CALIFORNIA

SITE PLAN & NOTES

A1.0

G.1-99

3848 San Bruno Ave, Brisbane CA
Tree Survey August 21, 2017

Tree #	Circumference in inches (measured 24" above grade)	Estimated Circumference*	Latin Name	Common Name	Condition (Good, Fair, Poor, Dead)	Protected Tree?	Removal Permit required?	Location	Preserve	Remove	Reason for Removal	TPZ Fencing	TPZ Radius (feet)	Trunk Protection	Irrigate	Do not irrigate in summer	Use existing pavement as root buffer	Install root buffer	Prune or the low limbs if needed
1	144	*	<i>Eucalyptus globulus</i>	Blue Gum	Good	Possibly - Location	Yes	On the line between private property and public right-of-way	x			x	36						x
2	33		<i>Eriobotrya deflexa</i>	Fruiting Loquat	Good	Collective	Yes	Private Property		x	Proximity to proposed structures								
3	96		<i>Pseudotsuga menziesii</i>	Douglas Fir	Poor	Collective	Yes	PUC Easement		x	Interference with utility services								
4	66		<i>Pseudotsuga menziesii</i>	Douglas Fir	Poor	Collective	Yes	PUC Easement		x	Interference with utility services								
5	30	*	<i>Quercus agrifolia</i>	Coast Live Oak	Good	Yes-species	Yes	On the line between private property and public right-of-way	x			x	10			x			x
6	51	*	<i>Eriobotrya deflexa</i>	Fruiting Loquat	Good	Collective	Yes	PUC Easement		x	Interference with utility services								
7	27	*	<i>Rhamnus alaternus</i>	Italian Buckthorn	Good	No	No	Private Property	x			x	9		x				x
8	51		<i>Heteromeles arbutifolia</i>	Toyon	Good	Collective	Yes	PUC Easement		x	Interference with utility services								
9	108	*	<i>Eriobotrya deflexa</i>	Fruiting Loquat	Good	Collective	Yes	PUC Easement		x	Interference with utility services								
10	43		<i>Prunus persica</i>	Peach tree	Poor	Collective	Yes	PUC Easement		x	Interference with utility services								
11	12		<i>Prunus armenalca</i>	Apricot tree	Good	No	No	Private Property		x	Proximity to proposed structures								
12	20	*	<i>Malus domestica</i>	Apple tree	Fair	No	No	Private Property		x	Proximity to proposed structures								
13	144	*	<i>Aesculus californica</i>	California Buckeye	Good	Yes-species	Yes	Private Property	x			x	46	x		x		x	x
14	25	*	<i>Eriobotrya deflexa</i>	Fruiting Loquat	Good	No	No	Private Property	x			x	8		x				x
15	25	*	<i>Eriobotrya deflexa</i>	Fruiting Loquat	Good	No	No	Private Property	x			x	8		x				x
16	72	*	<i>Acacia melanoxylon</i>	Blackwood Acacia	Fair	No	Yes	Private Property	x			x	23					x	x
17	22		<i>Acacia melanoxylon</i>	Blackwood Acacia	Good	No	No	Private Property	x			x	7					x	x
18	22		<i>Acacia melanoxylon</i>	Blackwood Acacia	Good	No	No	Private Property		x	Proximity to proposed structures								
19	22		<i>Acacia melanoxylon</i>	Blackwood Acacia	Good	No	No	Private Property	x			x	7					x	x
20	36		<i>Acacia melanoxylon</i>	Blackwood Acacia	Good	No	Yes	Private Property	x			x	11					x	x
21	20		<i>Eriobotrya deflexa</i>	Fruiting Loquat	Good	No	No	Private Property		x	Proximity to proposed structures								
22	20	*	<i>Malus domestica</i>	Apple tree	Good	No	No	PUC Easement		x	Interference with utility services								

* = estimated circumference due to poor access or multiple trunks

3848 San Bruno Ave, Brisbane CA
Tree Survey August 21, 2017

Tree #	Circumference in inches (measured 24" above grade)	Estimated Circumference*	Latin Name	Common Name	Condition (Good, Fair, Poor, Dead)	Protected Tree?	Removal Permit required?	Location	Preserve	TPZ Fencing	TPZ Radius (feet)	Trunk Protection	Irrigate	Do not irrigate in summer	Use existing pavement as root buffer	Install root buffer	Prune or the low limbs if needed
1	144	*	<i>Eucalyptus globulus</i>	Blue Gum	Good	Possibly - Location	Yes	On the line between private property and public right-of-way	x	x	36						x
5	30	*	<i>Quercus agrifolia</i>	Coast Live Oak	Good	Yes-species	Yes	On the line between private property and public right-of-way	x	x	10			x			x
7	27	*	<i>Rhamnus alaternus</i>	Italian Buckthorn	Good	No	No	Private Property	x	x	9		x				x
13	144	*	<i>Aesculus californica</i>	California Buckeye	Good	Yes- species	Yes	Private Property	x	x	46	x		x		x	x
14	25	*	<i>Eriobotrya deflexa</i>	Fruiting Loquat	Good	No	No	Private Property	x	x	8		x				x
15	25	*	<i>Eriobotrya deflexa</i>	Fruiting Loquat	Good	No	No	Private Property	x	x	8		x				x
16	72	*	<i>Acacia melanoxylon</i>	Blackwood Acacia	Fair	No	Yes	Private Property	x	x	23					x	x
17	22		<i>Acacia melanoxylon</i>	Blackwood Acacia	Good	No	No	Private Property	x	x	7					x	x
19	22		<i>Acacia melanoxylon</i>	Blackwood Acacia	Good	No	No	Private Property	x	x	7					x	x
20	36		<i>Acacia melanoxylon</i>	Blackwood Acacia	Good	No	Yes	Private Property	x	x	11					x	x

* = estimated circumference due to poor access or multiple trunks

3848 San Bruno Ave, Brisbane CA
Trees to be Removed
August 21, 2017

Tree #	Circumference in inches (measured 24" above grade)	Estimated Circumference*	Latin Name	Common Name	Condition (Good, Fair, Poor, Dead)	Protected Tree?	Removal Permit required?	Location	Preserve	Remove	Reason for Removal
2	33		<i>Eriobotrya deflexa</i>	Fruiting Loquat	Good	Collective	Yes	Private Property		x	Proximity to proposed structures
3	96		<i>Pseudotsuga menziesii</i>	Douglas Fir	Poor	Collective	Yes	PUC Easement		x	Interference with utility services
4	66		<i>Pseudotsuga menziesii</i>	Douglas Fir	Poor	Collective	Yes	PUC Easement		x	Interference with utility services
6	51	*	<i>Eriobotrya deflexa</i>	Fruiting Loquat	Good	Collective	Yes	PUC Easement		x	Interference with utility services
8	51		<i>Heteromeles arbutifolia</i>	Toyon	Good	Collective	Yes	PUC Easement		x	Interference with utility services
9	108	*	<i>Eriobotrya deflexa</i>	Fruiting Loquat	Good	Collective	Yes	PUC Easement		x	Interference with utility services
10	43		<i>Prunus persica</i>	Peach tree	Poor	Collective	Yes	PUC Easement		x	Interference with utility services
11	12		<i>Prunus armenaica</i>	Apricot tree	Good	No	No	Private Property		x	Proximity to proposed structures
12	20	*	<i>Malus domestica</i>	Apple tree	Fair	No	No	Private Property		x	Proximity to proposed structures
18	22		<i>Acacia melanoxylon</i>	Blackwood Acacia	Good	No	No	Private Property		x	Proximity to proposed structures
21	20		<i>Eriobotrya deflexa</i>	Fruiting Loquat	Good	No	No	Private Property		x	Proximity to proposed structures
22	20	*	<i>Malus domestica</i>	Apple tree	Good	No	No	PUC Easement		x	Interference with utility services

* = estimated circumference due to poor access or multiple trunks

Ellyn Shea, Consulting Arborist
415/846-0190

All,

Undated
correspondence
from SF PUC,
provided by Max Ma.

Emily and I conducted a site visit today. We noted the existence of several large trees, as well as other woody vegetation. As already noted in the Project Review summary we encourage the removal of **all** woody vegetation from the easement for both pipelines. Additionally the use of a stump grinder should be avoided over the active CS2 (no vibratory equipment over pipeline). If the trees and root systems are to be removed mechanically (back hoe) the engineers will surely have some guidelines for working over pipelines.

Lastly as stated in the summary a landscape plan (showing location of pipelines and boundary of PUC easement) with plant legend will need to be submitted to the Right of Way manager for review.

As you'll see in the summary, the committee requested that tree and other encroachments be removed from the ROW; and that a landscaping plan be submitted for review and approval.

Jonathan S. Mendoza

Associate Land and Resources Planner

Natural Resources and Lands Management Division

San Francisco Public Utilities Commission

1657 Rollins Road, Burlingame, CA 94010

O: 650.652.3215

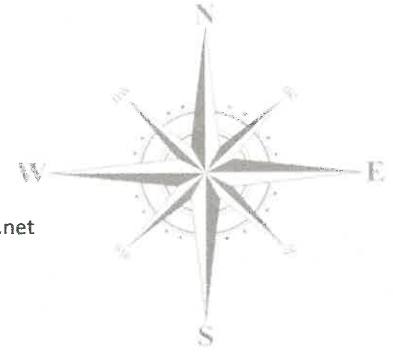
C: 415.770.1997

Ellyn Shea, Consulting Arborist

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ASCA Registered Consulting Arborist #516

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Assumptions and Limiting Conditions

1. Any legal description provided to the consultant is assumed to be correct. Title and ownership of all property considered are assumed to be good and marketable. No responsibility is assumed for matters legal in character. Any and all property is appraised or evaluated as though free and clear, under responsible ownership and competent management.
2. It is assumed that any property is not in violation of any applicable codes, ordinances, statutes or other governmental regulations.
3. Care has been taken to obtain all information from reliable sources. All data has been verified insofar as possible. The consultant can neither guarantee nor be responsible for the accuracy of information provided by others.
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9. The consultant shall not be required to give testimony or to attend court by reason of this report unless subsequent contractual arrangements are made, including payment of an additional fee for such services as described in the fee schedule, an agreement or a contract.
10. Information contained in this report reflects observations made only to those items described and only reflects the condition of those items at the time of the site visit. Furthermore, the inspection is limited to visual examination of items and elements at the site, unless expressly stated otherwise. There is no expressed or implied warranty or guarantee that problems or deficiencies of the plants or property inspected may not arise in the future.

Disclosure Statement

Arborists are tree specialists who use their education, knowledge, training, and experience to examine trees, recommend measures to enhance the beauty and health of trees, and attempt to reduce the risk of living near trees. Clients may choose to accept or disregard the recommendations of the arborist, or to seek additional advice.

Arborists cannot detect every condition that could possibly lead to the structural failure of a tree. Trees are living organisms that fail in ways we do not fully understand. Conditions are often hidden within trees and below ground. Arborists cannot guarantee that a tree will be healthy or safe under all circumstances, or for a specified period of time. Likewise, remedial treatments, like any medicine, cannot be guaranteed.

Treatment, pruning, and removal of trees may involve considerations beyond the scope of the arborist's services such as property boundaries, property ownership, site lines, disputes between neighbors, and other issues. An arborist cannot

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take such considerations into account unless complete and accurate information is disclosed to the arborist. An arborist should then be expected to reasonably rely upon the completeness and accuracy of the information provided.

Trees can be managed, but they cannot be controlled. To live near trees is to accept some degree of risk. The only way to eliminate all risk associated with trees is to eliminate the trees.

Certification of Performance

I, Ellyn Shea, Certify:

- That I have personally inspected the trees and/ or property evaluated in this report. I have stated my findings accurately, insofar as the limitations of my Assignment and within the extent and context identified by this report;
- That I have no current or prospective interest in the vegetation or any real estate that is the subject of this report, and have no personal interest or bias with respect to the parties involved;
- That the analysis, opinions and conclusions stated herein are my own and are based on current scientific procedures and facts and according to commonly accepted arboricultural practices;
- That no significant professional assistance was provided, except as indicated by the inclusion of another professional report within this report;
- That my compensation is not contingent upon the reporting of a predetermined conclusion that favors the cause of the client or any other party.
- I am a member in good standing, Certified Arborist (#WE-5476A), and a Qualified Tree Risk Assessor with the International Society of Arboriculture, and a Registered Consulting Arborist (#516) with the American Society of Consulting Arborists.

I have attained professional training in all areas of knowledge asserted through this report by completing relevant college courses, routinely attending pertinent professional conferences and by reading current research from professional journals, books and other media.

I have rendered professional services in a full time capacity in the field of horticulture and arboriculture for more than 17 years.

Signature:

Date: 8/25/17