



August 12, 2022 (revised 3-9-23)

Oppidan Investment Company
Attn: Ian Halker
1100 Lincoln Avenue, Suite 382
San Jose, CA 95125
(612) 803-8377 | IanH@oppidan.com

Re: Revised Arborist Report for 865 Embedded Way – Parcel B

Dear Ian,

This arborist report addresses the proposed project at 865 Embedded Way, Parcel B. Per the City of San Jose's Tree Removal Ordinance Chapter 13.32, the scope of work includes the following:

- Tag, identify and measure all trees on or overhanging the project area that may be affected by proposed construction.
- Note any ordinance-sized or heritage trees, if present. Ordinance-sized trees are single-trunked trees with circumferences ≥ 38 " (~12" diameter) at 4.5' above grade and multi-stemmed trees with a combined trunk circumference ≥ 38 ".
 - Heritage trees must be specially designated, and a list of such trees are available on the city website.
- Assess proposed improvements for potential encroachment.
- Based on proposed encroachment, tree health, structure, and species susceptibility, make recommendations for preservation.
- Provide above information on a Tree Protection Plan, to include: tag #s, approximate dripline, whether a tree is removed or preserved, tree protection fencing locations, and tree protection recommendations.

The 3-9-23 update addresses tree #114, which was originally noted as a removal. Per your 1-31-23 email, I provided recommendations for preservation and the bioretention basin was redesigned to reduce encroachment on the tree's root system. I did not review any other trees or plan elements.

Project Summary

Parcel B is a 10.17 acre site located in an office park on the southeastern edge of San Jose, east of Highway 101. The western property line butts up to walking trails along Coyote Creek with single-family homes west of the creek. The site is at a similar elevation to Parcel A, but sits above the other adjacent properties, with steep slopes to the north, south, and west. Though undeveloped, the plateau portion of the site appears to have been graded and consists of mainly grassy vegetation and some shrubs (figure 1).

South of the plateau, a narrow sliver of Parcel B is nestled between an existing paved driveway and Coyote Creek (figure 3). This is where most of the trees reviewed in my report are located (76%). Many of them appear to be planted, though 59% are native oak species. One additional on-site tree is on the northeastern corner of the project site and six off-site trees are on Parcels 1 and A. The northwest corner of Parcel B and southwest corner of Parcel 1 have several native oaks that are clear of construction and were not inventoried.

The proposed building and most of the associated infrastructure will sit in the center of the plateau. An exception is the largest bioretention basin which is proposed to be located on the southern sliver of Parcel B. A storm drain line will connect the bioretention basin to an existing storm drain near Embedded Way. Moreover, some infrastructure is proposed off-site, including a water line along Embedded Way and a walkway that will connect Parcel B with the existing building and parking on Parcel A.

I reviewed 29 trees in my report, 12 of which are ordinance-sized. It is my opinion that a total of 11 trees will need to be removed (two of which are ordinance-sized) to accommodate the proposed project. The remaining 18 trees can be retained given that the protection measures within this report are followed, including the rerouting of the proposed storm drain and water lines near trees #101-108 & 125-127.

Assumptions & Limitations

This report is based on my site visits on 7-27-22 & 8-9-22 and the following plans by AMS Associates, Inc:

- Grading Plans dated 7-1-22 & 1-23-23
- Utility Plans dated 4-25-22 & 1-23-23 (revised 2-21-23)
- Topographic Survey dated Feb. 2022

It was assumed that the trees and the proposed improvements were accurately surveyed. A few trees were not surveyed, so I approximately located them on the tree protection plan. Their precise locations will not affect the recommendations in this report. I did not review any other plans, such as landscape. The 3-9-23 revision only addresses tree #114; I did not review the rest of the utility or grading plans for Parcel B nor any updated improvements affecting adjacent parcels.

The health and structure of the trees were assessed visually from ground level. No drilling, root excavation, or aerial inspections were performed. Internal or non-detectable defects may exist and could lead to part or whole tree failures. Due to the dynamic nature of trees and their environment, it is not possible for arborists to guarantee that trees will not fail in the future.

Tree Inventory & Assessment Table

#s: Each tree was given a square metal tag with numbers ranging from #101-129. Their locations are given in the tree protection plan.

DBH (Diameter at Breast Height): Trunk diameters in inches were measured at 4.5' above average grade with a diameter tape. Height of measurement may deviate from the standard on atypical trunks; deviations are noted under the "Comments" section.

Ord (Ordinance-sized tree): X indicates that the tree is considered "Ordinance-sized" per city ordinance, defined as single-trunked trees with circumferences (~12" diameter) and multi-stemmed trees with a combined trunk circumference ≥ 38 ".

Health Rating

Dead: Dead or declining past chance of recovery.

Poor (P): Stunted or declining canopy, sparsely foliated with poor foliar color. Possible disease or insect issues. Unreliable specimen for preservation. Would require significant maintenance, and a protection zone well beyond the dripline in order to retain. Acceptable to leave for nature if not a threat to property.

Fair (F): Fair to moderate vigor, typical for the species. Will require an adequate protection zone, and supplemental maintenance such as: crown cleaning of mistletoe, dead, broken, or diseased branches. Additional maintenance such as fertilizing, soil aeration, and mulching may be recommended to improve vigor.

Good (G): Good vigor and color, with no obvious problems or defects. Generally more resilient to impacts. Minor maintenance may be recommended.

Very Good (VG): Exceptional specimen with excellent vigor and structure. Unusually nice.

Structure Rating

Poor (P): Exhibiting defects such as weak attachments, extensive decay, large deadwood, root defects, leans, cracks or cavities that may threaten existing or future targets. May or may not be correctable with pruning, cabling or bracing.

Fair (F): Minor correctable defects, may or may not have a target. Should receive maintenance as recommended.

Good (G): Well-structured with no significant or obvious defects.

Dripline: Canopy radius (in feet) was visually estimated in each cardinal direction.

Age

Young (Y): Within the first 20% of expected life span. High resiliency to encroachment.

Mature (M): Between 20% - 80% of expected life span. Moderate resiliency to encroachment.

Overmature (OM): In >80% of expected life span. Low resiliency to encroachment.

DE: Dripline Encroachment (X indicates encroachment)

CI: Anticipated Construction Impact (L = Low, M = Moderate, H = High)



Figure 1. Plateau portion of Parcel B appears to have been graded and consists of mostly grass and some shrubs. Photo taken from the northeastern corner looking west.

#	Species	DBH	Ord	Health	Structure	Dripline				Age	DE	CI	Comments	Recommendations
						N	E	S	W					
101	Callery Pear (<i>Pyrus calleryana</i>)	7		G-F	G-F	5 all				Y-M	X	M	Fire blight. Typical of species. 4' from proposed storm drain.	Reroute proposed storm drain & water lines to west; keep outside of Tree Protection Zone. See suggested alternate route on plans. Install temporary 6' chain-link protection fencing along curb & minimum 10' from tree #101; 15' from tree #102; 25' from #104; 20' from tree #107 & 15' from tree #108.
102	Valley Oak (<i>Quercus lobata</i>)	13	X	G	G	10	10	15	10	M		L	Wide unions. 15' from proposed storm drain.	
103	Valley Oak	10, 13	X	G/G-F	G-F	10	15	15	5	M	X	H	Codominant stems at 3' with wide union. Minor epicormic growth on some branches. Slightly sparse canopy. 2' from proposed storm drain.	
104	Valley Oak	9, 14	X	G/G-F	G	15	15	10	20	M	X	M-H	Slightly sparse canopy. 6' from proposed storm drain.	
105	Callery Pear	5.5		G/G-F	G-F/F	5	5	5	0	Y	X	M-H	Fire blight. Typical of species. 3' from proposed storm drain.	
106	Coast Live Oak (<i>Quercus agrifolia</i>)	7, 6, 7, 4	X	G	P	10	15	15	5	M	X	M	Tree not surveyed. Trunk location & DBH estimated. Understory tree, shrub-like growth. Codominant stems at 1' from grade with included bark. Trunk slightly buried. 7' from proposed storm drain.	
107	Valley Oak	10, 9, 12, 13	X	G	F	20	20	20	15	M		L	Codominant stems with included bark 2'-3' from grade. Debris collecting between unions. 22' from proposed storm drain.	
108	Valley Oak	8		G	G-F	10	20	10	5	Y	X	L	Slight phototropic growth to NW. Circling surface root. 8' from proposed storm drain.	
109	Callery Pear	6.5		G/G-F	G-F	5 all				Y	X	H	Fire blight. Typical of species. In proposed bioretention basin.	Remove.
110	Callery Pear	6		G-F	G-F	5 all				Y	X	H	Fire blight. Minor dieback. In proposed bioretention basin.	
111	Callery Pear	6		G	G-F	5 all				Y	X	H	Fire blight. Typical of species. In proposed bioretention basin.	
112	Coast Live Oak	10.5		G	G-F	10	10	10	10	M	X	M-H	Unions at 10' with included bark. Very minor old sycamore borer damage. Nice root flare and growth cracks on stem. 8' from proposed bioretention basin.	

#	Species	DBH	Ord	Health	Structure	Dripline				Age	DE	CI	Comments	Recommendations
						N	E	S	W					
113	Coast Live Oak	7		F	G-F	10 all				Y	X	H	Not surveyed. Trunk location & DBH estimated. Sparse canopy, light-colored foliage. Root crown appears buried. <i>In proposed bioretention basin.</i>	Remove.
114	Valley Oak	14.5	X	G	G/G-F	20	15	10	15	M	X	H	Root crown slightly buried. Codominant stems at 10' with wide union. 11' from proposed bioretention basin.	Install temporary 6' chain-link protection fencing 10' east, 15' north & south of trunk. Project arborist shall be called on-site to monitor excavation within the tree's dripline. Uncover buried root crown by hand or with an air spade under project arborist supervision.
115	Valley Oak	11		G	G	10	15	15	10	M	X	H	Nice central leader. <i>In proposed bioretention basin.</i>	Remove.
116	Valley Oak	9.5		P	G	10	10	5	5	Y	X	H	Very sparse canopy. Remaining leaves yellowing and browning. Significant dieback. <i>In proposed bioretention basin.</i>	
117	Valley Oak	8, 8	X	F	F	10	10	10	10	M	X	H	Codominant stems 2' from grade with included bark. Minor dieback & epicormic growth on branches. <i>In proposed bioretention basin.</i>	
118	Valley Oak	10, 16	X	G-F	F	15	20	15	15	M	X	H	Buried root crown. Irrigation at trunk. Codominant stems with included bark at 2' & 5' from grade. Larger stem measured at 1' below union (3.5'). Slightly sparse canopy and epicormic growth on branches. <i>In proposed bioretention basin.</i>	
119	Callery Pear	3.5		F	F	5	3	2	3	Y	X	H	Leader dieback. <1' from proposed bioretention basin.	
120	Holly Oak (<i>Quercus ilex</i>)	5		G	G-F	5 all				Y	X	H	Not surveyed. Trunk location & DBH estimated. Shrub-like growth. Growing against chain-link fence. Buried root crown. <i>In proposed driveway.</i>	
121	Mexican Fan Palm (<i>Washingtonia robusta</i>)	20	X	F	F	3 all				M		L	Off-site tree (Parcel 1). Not surveyed. Trunk location & DBH estimated. No tree tag. 17' brown trunk. 22' from proposed retaining wall.	Install temporary protection fencing 5' from tree #121 for visibility (heavy gauge poly-vinyl fencing is acceptable if spaced on 6' centers).

#	Species	DBH	Ord	Health	Structure	Dripline				Age	DE	CI	Comments	Recommendations
						N	E	S	W					
122	Coast Live Oak	4, 4, 7	X	F	F	5 all				Y-M		L	Off-site tree (Parcel 1). Not surveyed. Trunk location & DBH estimated (at 1' from grade). No tree tag. Codominant stems from base; may have included bark. Shrub-like growth. Slightly sparse canopy, undersized, yellowing foliage. Root crown appears buried. 10' from proposed retaining wall.	Install temporary protection fencing 5' from tree #123 & 10' from trees #122 & 124 for visibility (heavy gauge poly-vinyl fencing is acceptable if spaced on 6' centers).
123	Coast Live Oak	2, 3		F	F	5 all				Y		L	Off-site tree (Parcel 1). Not surveyed. Trunk location & DBH estimated. Slightly sparse canopy and light green foliage. Codominant stems at 2.5' from grade with included bark. 15' from proposed retaining wall.	
124	Coast Live Oak	7, 3, 3, 3, 4	X	F	F	10	5	5	5	Y-M		L	Off-site tree (Parcel 1). Not surveyed. Trunk location & DBH estimated. No tree tag. Codominant stems from grade with included bark. Sparse, yellowing, undersized foliage. 22' from proposed retaining wall.	
125	Callery Pear	11.5		G	G-F	15	10	10	10	M	X	M-H	Not surveyed. Trunk location estimated. Dense canopy. Significant water sprout growth at 5'. Typical fire blight. 5' from proposed storm drain line.	Reroute proposed storm drain & water line to west; keep outside of Tree Protection Zone. See suggested alternate route on plans.
126	Purple Leaf Plum (<i>Prunus cerasifera</i> 'Atropurpurea')	11		G/G-F	F	10	5	10	10	M	X	M	Not surveyed. Trunk location estimated. DBH measured at 2.5'. Included bark at 3' & 4.5'. Interior foliage removed. 8' from proposed storm drain line.	Install temporary 6' chain-link protection fencing at curb & 15' from trees #125-127.
127	Purple Leaf Plum	5, 6, 4.5	X	G-F	G-F	10	5	10	5	M	X	M	Not surveyed. Trunk location estimated. Tri-dominant stems at 4'. One union has included bark. Interior foliage removed. 7' from proposed storm drain line.	
128	Holly Oak	5.5		G-F	G-F	3	5	3	3	Y	X	L	Off-site tree (Parcel A). Somewhat sparse canopy. Adjacent to construction.	Install temporary protection fencing to enclose existing planter prior to demolition of existing pavement & installing walkway. Heavy gauge poly-vinyl fencing is acceptable (primarily for visibility). If contractor encounters roots >2" in diameter, consult project arborist for recommendations.
129	Holly Oak	5.5		F	G-F	5	10	5	5	Y	X	L	Off-site tree (Parcel A). Somewhat sparse canopy with dieback on W side. Asymmetrical from western wind. Wound on W side of trunk, possible sunburn. Adjacent to construction.	

Tree Encroachment Summary

- Trees that will need to be removed: 11 trees (#109-113 & 115-120)
- Trees to be saved that will be subjected to dripline encroachment: 3 trees (#114 & 128-129)
- Trees to be saved that will not be encroached: 4 trees (#121-124)
- Trees to be saved that will not be encroached if storm drain & water line are rerouted: 11 trees (#101-108 & 125-127)



Figure 2. Trees #109-113 & 115-116 will need to be removed to accommodate the proposed bioretention basin. Three additional trees (#117-119 not pictured) will also need to be removed. Recent design changes reduce root encroachment on tree #114, so this tree will be retained.

Discussion

Bioretention Basin

The proposed bioretention basin on the southern sliver of Parcel B will require the removal of 10 trees, two of which are ordinance-sized (figure 2). Per my communication with Roger Bernstein, Oppidan's Vice President of Construction, constructing the bioretention basin will require approximately 4' of over-excavation and extensive grading surrounding the basin to create the necessary slope for drainage. Original design plans would have resulted in extensive root loss for trees just outside the basin (#112 & 114), necessitating their removal. You asked me to provide recommendations to preserve tree #114, which is reflected in the latest plan for Parcel B. To avoid impacting large structural roots, the bioretention basin was shifted to provide an additional 4' from the trunk.

Though plans have been modified to reduce encroachment, trees can be negatively impacted during the construction process when excavators pull roots and compact soil. To minimize damage to roots during excavation, the project arborist shall be called on-site to monitor excavation within the dripline of tree #114. Moreover, to keep construction-related activity outside the tree's root zone, contractors shall install temporary 6' chain-link protection fencing, as indicated on the tree protection plan.

Lastly, tree #114 has a buried root crown (area of transition from trunk to root). Buried root crowns hold moisture next to the trunk, which creates an environment preferable to decay pathogens. Over time, this can negatively impact tree health and even stability. To reduce stress and increase the longevity of tree #114, I recommend uncovering the root crown with hand tools or an air spade under the project arborist's supervision.

Storm Drain & Water Line

The proposed storm drain and water lines run directly south from the proposed bioretention basin towards Embedded Way. This would require the removal of several trees, many of which are ordinance-sized. Per my suggestion, the VP of Construction said it was feasible to reroute the lines to the west (figure 3), which would avoid these removals (see suggested alternate route on tree protection plan). Assuming the storm drain and water lines will be rerouted, contractors shall install temporary protection fencing around trees #101-108 & 125-127, to protect roots and soil.



Figure 3. South sliver of Parcel B. Trees #101-108 & 125-127 can be preserved by rerouting the proposed storm drain and water lines to the west of the grove (green line approximate suggested path). Trees #109-113 & 115-118 conflict with the proposed bioretention basin and will need to be removed.

Proposed Walkway on Parcel A

A walkway is proposed to connect the new building on Parcel B with the existing building on Parcel A. The walkway will be located where there is existing asphalt and will run past two trees, #128-129. Per the grading plan, the existing pavement will be sawcut, removed, and replaced. I assume the soil beneath the existing asphalt was compacted and has little pore space, making it inhospitable to roots. Given the small size of these trees and soil conditions, I do not anticipate many roots to be growing into the existing pavement. However, to protect soil in the planter as well as the trees' trunks and canopies, I recommend that protection fencing be installed to encompass the planter. Orange poly-vinyl fencing is acceptable, as the fencing is mostly for visual purposes. If contractors encounter roots greater than 2" in diameter, they shall consult the project arborist for recommendations.

Retaining Wall

A proposed retaining wall on the north side of the project site is adjacent to four off-site trees located on Parcel 1. Per my conversation with the VP of Construction, there will be no grading below (north) of the retaining wall. Given these trees' size and approximate distance from the wall, I anticipate minimal construction impact. However, I recommend installing orange poly-vinyl fencing as a visual reminder to contractors to keep any materials, equipment, and personnel outside of the trees' root zones.

Trees Along Embedded Way

A 12" water line is proposed to run east / west along Embedded Way. The street is lined with London plane trees (*Platanus x hispanica*) and a few purple leaf plums (*Prunus cerasifera* 'Atropurpurea'). Their trunks are approximately 5' north of the existing sidewalk. This puts the trees approximately 18' from the proposed water line, which will be located in the street. Given the trees' trunk diameters and distance from the proposed water line, I do not expect roots to conflict with excavation. However, if contractors encounter roots greater than 2" in diameter, they shall consult the project arborist for recommendations.

Tree Protection Recommendations (to be printed on site plans)

Design Phase

- Reroute proposed storm drain & water lines to the west of trees #101-108 & 125-127, keeping outside of the Tree Protection Zone (TPZ).
 - See suggested alternate path (in green) on tree protection plan.

Pre-Construction Phase

- Remove trees #109-113 & 115-120.
- Mulch from tree removals may be spread out under the driplines of trees that will be retained, keeping at least 12" away from the trunks, to improve soil and general tree health.
- Prior to construction or grading, contractor shall install fencing to construct a temporary Tree Protection Zone (TPZ) around each tree or grove of trees as indicated on the tree protection plan.
 - Fencing shall be attached to metal stakes spaced 10' apart and driven firmly into the ground. They can be supported by stands if over pavement & wired together to avoid easily moving them.
 - Heavy gauge poly-vinyl fencing shall be spaced on 6' centers.
- TPZ fencing shall remain in an upright sturdy manner from the start of grading until the completion of construction. Fencing shall not be adjusted or removed without consulting the project arborist.

Foundation, Grading, and Construction Phase

- Prior to construction, contractors shall meet with the Project Arborist (PA) to discuss working around trees and ensure protection measures are in place.
- PA shall be called on-site to monitor excavation within the dripline of tree #114.
 - Excavation may need to be performed by hand or with an air spade.
- Uncover buried root crown of tree #114 by hand or with an air spade under PA supervision.
- If roots ≥ 2 " in diameter are encountered during demolition or excavation by trees #128-129, consult the PA for recommendations. If appropriate, roots shall be cleanly pruned with a handsaw or sawzall, immediately covered, and kept moist till backfilled.
- If needed, pruning shall be performed by personnel certified by the International Society of Arboriculture (ISA). All pruning shall adhere to ISA and American National Standards Institute (ANSI) Standards and Best Management Practices.
- Should Tree Protection Zone (TPZ) encroachment be necessary, the contractor shall contact the PA for consultation and recommendations.
- Contractor shall keep TPZs free of all construction-related materials, debris, fill soil, equipment, etc. The only acceptable material is mulch spread out beneath the trees.
- Should any damage to the trees occur, the contractor shall promptly notify the PA to appropriately mitigate the damage.

Landscaping Phase (if applicable)

- The Tree Protection Zone (TPZ) fencing shall remain in place with the same restrictions until landscape contractor notifies and meets with the project arborist.
- Avoid all fill work, grade changes, and trenching within driplines unless it is performed by hand.
- Pipes shall be threaded under or through large roots without damaging them.
- Contractor shall avoid trenching and grade changes within oak driplines.
- All planting and irrigation shall be kept a minimum of 10' away from native oaks. All irrigation within the driplines shall be targeted at specific plants, such as drip emitters or bubblers. No overhead irrigation shall occur within the driplines of native oaks.
- All planting within oak driplines shall be compatible with oaks, consisting of plant material that requires little to no water after two years' establishment. A list of oak-compatible plants can be found in a publication from the California Oak Foundation, available at:
<http://californiaoaks.org/wp-content/uploads/2016/04/CompatiblePlantsUnderAroundOaks.pdf>

Thank you for the opportunity to provide this report, and please do not hesitate to contact me if there are any questions or concerns.

Please see attached tree protection plan.

Sincerely,



Maija Wigoda-Mikkila
Certified Arborist #WE-12986A
ISA Tree Risk Assessor Qualified



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Project:
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 San Jose, CA 95138

Sheet Title:
TREE INVENTORY & PROTECTION PLAN

By: **Majja Wjgoda-Mikkila**
 Certified Arborist #WE-12986A

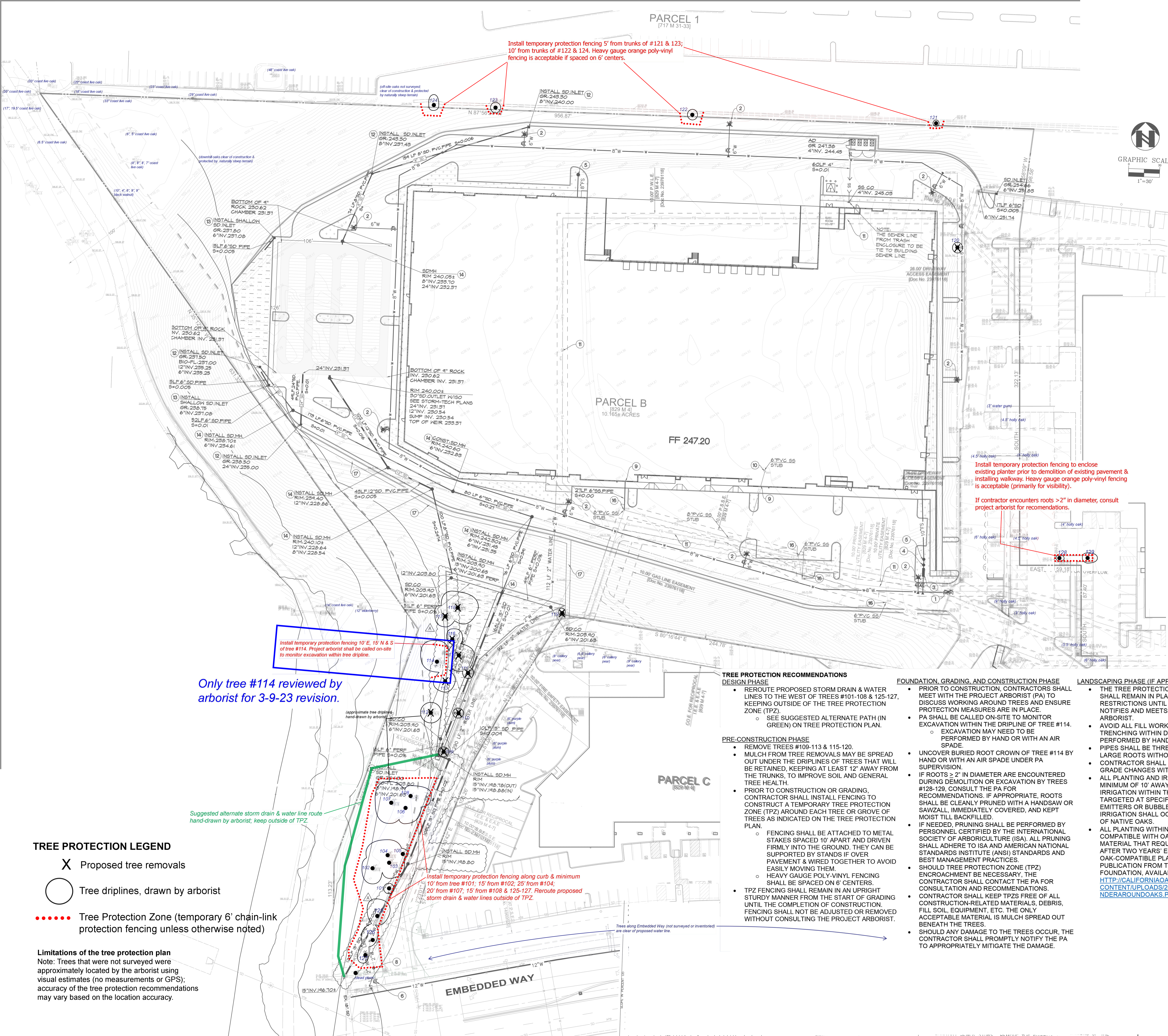
Date: 8-12-2022 (revised 3-9-23)

Backgrounds by AMS Associates, Inc.:
 - Survey dated Feb. 2022
 - Utility Plan dated 1-23-23 (revised 2-21-23)

Revisions:

No.	Change(s)	Date
1	Bioretention basin redesign to preserve #114.	3-9-23

Sheet No.:



- TREE PROTECTION RECOMMENDATIONS**
- DESIGN PHASE**
- REROUTE PROPOSED STORM DRAIN & WATER LINES TO THE WEST OF TREES #101-108 & 125-127, KEEPING OUTSIDE OF THE TREE PROTECTION ZONE (TPZ).
 - SEE SUGGESTED ALTERNATE PATH (IN GREEN) ON TREE PROTECTION PLAN.
- PRE-CONSTRUCTION PHASE**
- REMOVE TREES #109-113 & 115-120.
 - MULCH FROM TREE REMOVALS MAY BE SPREAD OUT UNDER THE DRIPLINES OF TREES THAT WILL BE RETAINED, KEEPING AT LEAST 12' AWAY FROM THE TRUNKS, TO IMPROVE SOIL AND GENERAL TREE HEALTH.
 - PRIOR TO CONSTRUCTION OR GRADING, CONTRACTOR SHALL INSTALL FENCING TO CONSTRUCT A TEMPORARY TREE PROTECTION ZONE (TPZ) AROUND EACH TREE OR GROVE OF TREES AS INDICATED ON THE TREE PROTECTION PLAN.
 - FENCING SHALL BE ATTACHED TO METAL STAKES SPACED 10' APART AND DRIVEN FIRMLY INTO THE GROUND. THEY CAN BE SUPPORTED BY STANDS IF OVER PAVEMENT & WIRED TOGETHER TO AVOID EASILY MOVING THEM.
 - HEAVY GAUGE POLY-VINYL FENCING SHALL BE SPACED ON 6' CENTERS.
 - TPZ FENCING SHALL REMAIN IN AN UPRIGHT STURDY MANNER FROM THE START OF GRADING UNTIL THE COMPLETION OF CONSTRUCTION. FENCING SHALL NOT BE ADJUSTED OR REMOVED WITHOUT CONSULTING THE PROJECT ARBORIST.
- FOUNDATION, GRADING, AND CONSTRUCTION PHASE**
- PRIOR TO CONSTRUCTION, CONTRACTORS SHALL MEET WITH THE PROJECT ARBORIST (PA) TO DISCUSS WORKING AROUND TREES AND ENSURE PROTECTION MEASURES ARE IN PLACE.
 - PA SHALL BE CALLED ON-SITE TO MONITOR EXCAVATION WITHIN THE DRIPLINE OF TREE #114.
 - EXCAVATION MAY NEED TO BE PERFORMED BY HAND OR WITH AN AIR SPADE.
 - UNCOVER BURIED ROOT CROWN OF TREE #114 BY HAND OR WITH AN AIR SPADE UNDER PA SUPERVISION.
 - IF ROOTS > 2" IN DIAMETER ARE ENCOUNTERED DURING DEMOLITION OR EXCAVATION BY TREES #128-129, CONSULT THE PA FOR RECOMMENDATIONS. IF APPROPRIATE, ROOTS SHALL BE CLEANLY PRUNED WITH A HANDSAW OR SAWZALL, IMMEDIATELY COVERED, AND KEPT MOIST TILL BACKFILLED.
 - IF NEEDED, PRUNING SHALL BE PERFORMED BY PERSONNEL CERTIFIED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE (ISA). ALL PRUNING SHALL ADHERE TO ISA AND AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) STANDARDS AND BEST MANAGEMENT PRACTICES.
 - SHOULD TREE PROTECTION ZONE (TPZ) ENCROACHMENT BE NECESSARY, THE CONTRACTOR SHALL CONTACT THE PA FOR CONSULTATION AND RECOMMENDATIONS.
 - CONTRACTOR SHALL KEEP TPZS FREE OF ALL CONSTRUCTION-RELATED MATERIALS, DEBRIS, FILL SOIL, EQUIPMENT, ETC. THE ONLY ACCEPTABLE MATERIAL IS MULCH SPREAD OUT BENEATH THE TREES.
 - SHOULD ANY DAMAGE TO THE TREES OCCUR, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE PA TO APPROPRIATELY MITIGATE THE DAMAGE.
- LANDSCAPING PHASE (IF APPLICABLE)**
- THE TREE PROTECTION ZONE (TPZ) FENCING SHALL REMAIN IN PLACE WITH THE SAME RESTRICTIONS UNTIL LANDSCAPE CONTRACTOR NOTICES AND MEETS WITH THE PROJECT ARBORIST.
 - AVOID ALL FILL WORK, GRADE CHANGES, AND TRENCHING WITHIN DRIPLINES UNLESS IT IS PERFORMED BY HAND.
 - PIPES SHALL BE THREADED UNDER OR THROUGH LARGE ROOTS WITHOUT DAMAGING THEM.
 - CONTRACTOR SHALL AVOID TRENCHING AND GRADE CHANGES WITHIN OAK DRIPLINES.
 - ALL PLANTING AND IRRIGATION SHALL BE KEPT A MINIMUM OF 10' AWAY FROM NATIVE OAKS. ALL IRRIGATION WITHIN THE DRIPLINES SHALL BE TARGETED AT SPECIFIC PLANTS, SUCH AS DRIP EMITTERS OR BUBBLERS. NO OVERHEAD IRRIGATION SHALL OCCUR WITHIN THE DRIPLINES OF NATIVE OAKS.
 - ALL PLANTING WITHIN OAK DRIPLINES SHALL BE COMPATIBLE WITH OAKS, CONSISTING OF PLANT MATERIAL THAT REQUIRES LITTLE TO NO WATER AFTER TWO YEARS' ESTABLISHMENT. A LIST OF OAK-COMPATIBLE PLANTS CAN BE FOUND IN A PUBLICATION FROM THE CALIFORNIA OAK FOUNDATION, AVAILABLE AT: [HTTP://CALIFORNIAOAKS.ORG/WP-CONTENT/UPLOADS/2016/04/COMPATIBLEPLANTSUNDERAROUNDOAKS.PDF](http://californiaoaks.org/wp-content/uploads/2016/04/COMPATIBLEPLANTSUNDERAROUNDOAKS.PDF)

- TREE PROTECTION LEGEND**
- X Proposed tree removals
 - Tree driplines, drawn by arborist
 - Tree Protection Zone (temporary 6' chain-link fencing unless otherwise noted)

Limitations of the tree protection plan
 Note: Trees that were not surveyed were approximately located by the arborist using visual estimates (no measurements or GPS); accuracy of the tree protection recommendations may vary based on the location accuracy.