

Albany Hill Forest Management & Habitat Restoration Plan

Parks, Recreation, and Open Space Commission Meeting
September 12, 2024



Project Team



- City of Albany



- Restoration Design Group



- Nomad Ecology



- Creekside Science



Purpose Statement

The City seeks a comprehensive plan for the phased **removal** of dead and dying eucalyptus trees on Albany Hill and the restoration of habitat for monarchs and native plants and wildlife in a way that creates **self-sustaining ecosystems** with low fire hazards and minimal maintenance requirements

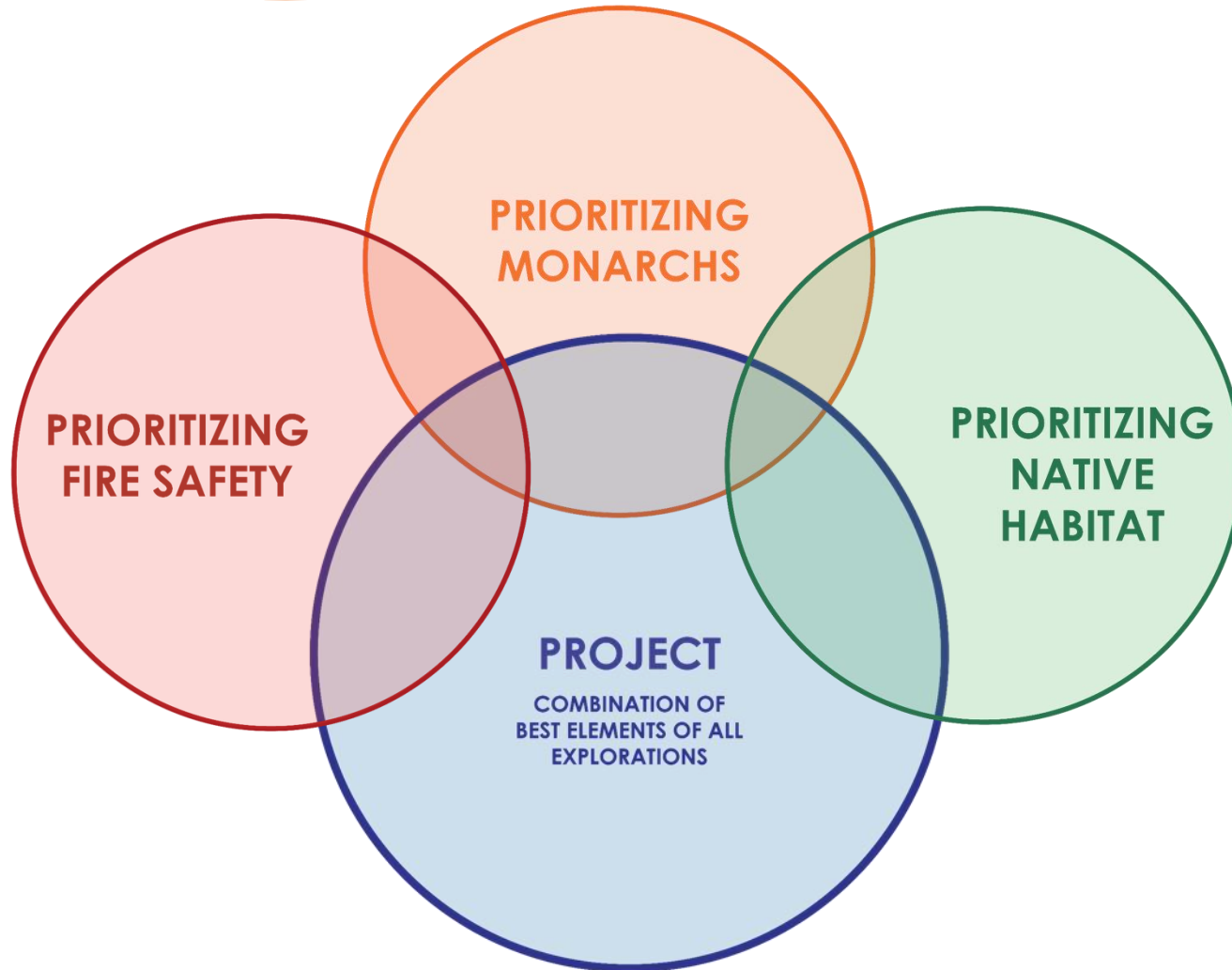


Session Goals

1. Provide an overview on project development
2. Share the Draft Plan Diagrams and Strategies
3. Solicit input from PROS Commission and the public



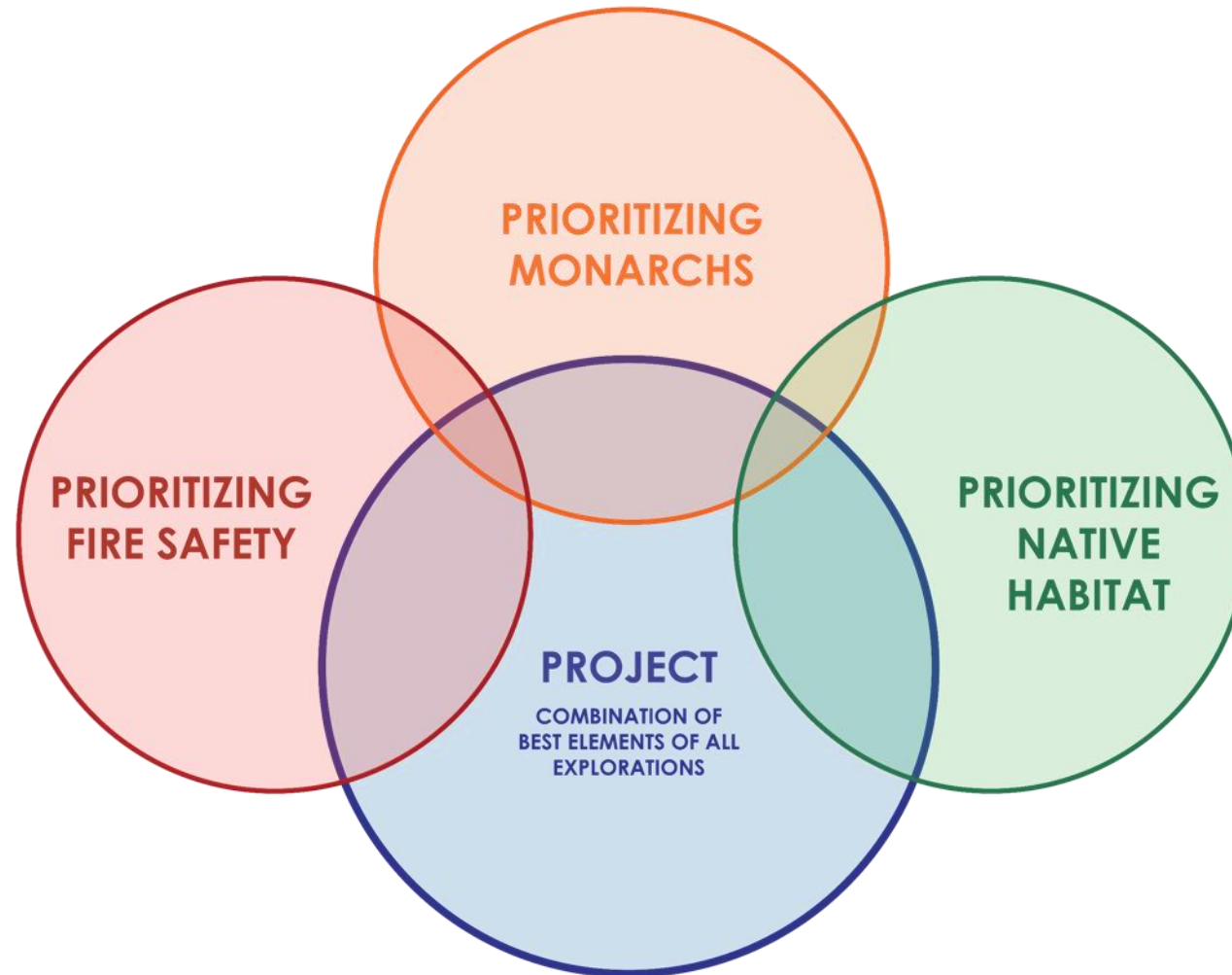
Previous Presentation



Priority Criteria were established based on public feedback, project mandates, and client goals.

By taking each priority and exploring its best expression, we generated three very different sets of options from which we can compose our final strategy.

Concept Exploration Phase Diagrams





Fire Department Priorities

- *Good access to the Hill for Fire Department Equipment and personnel*
- *Disconnected canopy and understory – interrupt fire ladders*
- *An aesthetic, enjoyable park – create a model for fire safe AND beautiful public spaces*
- *Remove eucalyptus and replace with more appropriate canopy species*

Priority Tree Removal Criteria

FIRE SPREAD RISK PRIORITY



63 TREES

FIRE REPORT FUEL MODELS*

CRITERIA FOR INCLUSION:

1. 163/TU3 :
 - Trees rated with spread rate high and flame moderate
 - Represents treed areas with a significant amount of understory and ladder fuels, flame lengths can be moderate to high with torching trees likely
2. TL9 189 / TL5 185 :
 - most hazardous timber-litter fuel model
 - can produce high flame lengths and rapid spread
 - stands categorized as TL9 can be expected to produce firebrands long distances

* See figure 3 (pp9) and table 1 (pp14) of "Characterization of Fuels Fire hazards Recommendations" WRM, 2022

RESIDENTIAL TARGET PRIORITY



95 TREES

TREES WITH IMPACTS TO ADJACENT PRIVATE PROPERTY

CRITERIA FOR INCLUSION:

1. Eucalyptus within 100' of a private residence
2. TRAQ2 arborist report listed 'residence' as target if the tree failed
3. TRAQ2 arborist report listed tree as Dead

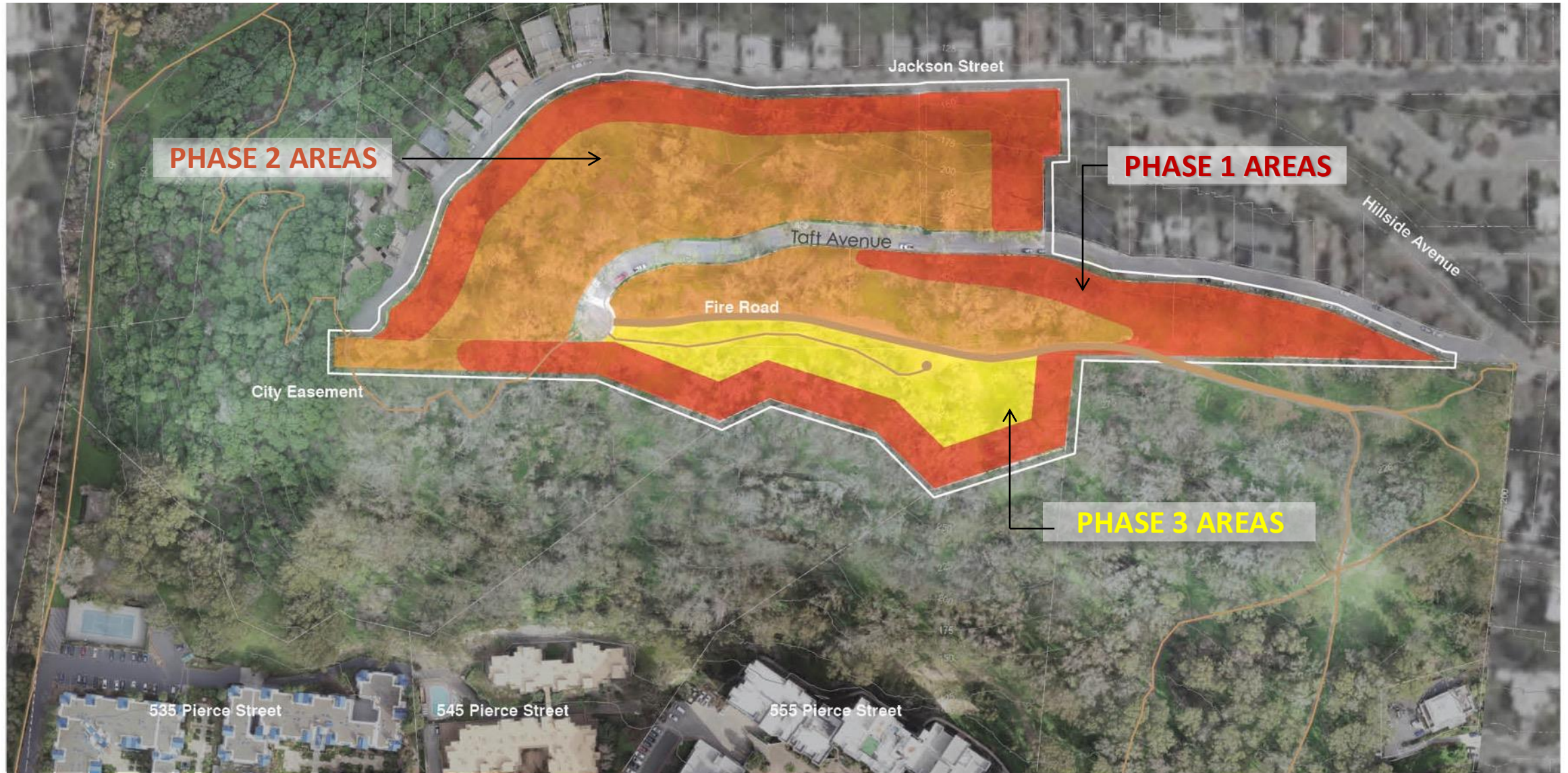


Priority Tree Removal List



- Pressing need for eucalyptus removals prior to onset of project
- Task was to list top 100-150 trees for ASAP triage
- Team reviewed the arborist reports, fire safety and life safety criteria
- No trees within Monarch cluster sites or windbreak trees were included
- **PRIORITY TREE REMOVAL IN PROGRESS**

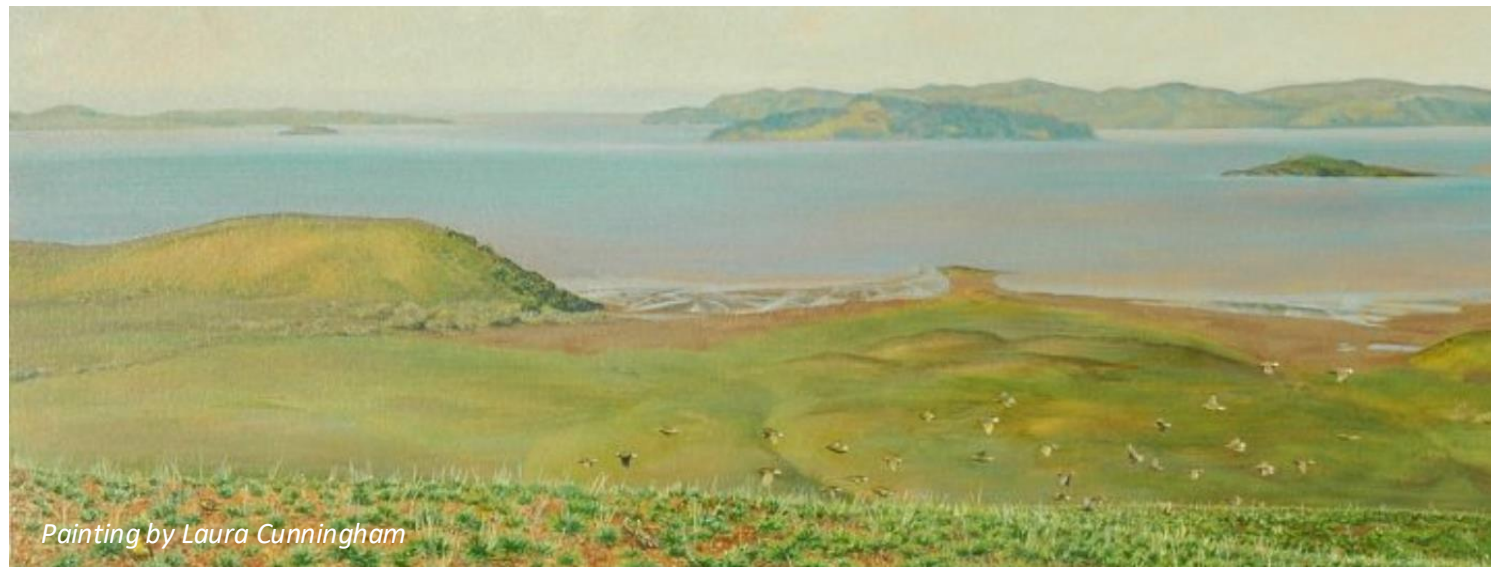
Fire Priority Exploration – Phase Diagram





Native Habitat -What do we want to bring forward?

- A. Oak Woodland with Shrubs
- B. Open Oak Grasslands
- C. Native Coastal Grasslands



Native Habitat Priority Exploration



Eucalyptus Removal Protocols





Monarchs

Monarch Habitat

- Solar Access
- Wind protection

“Albany Hill supports overwintering monarch butterflies because of specific forest canopy structures that provide suitable wind shelter and insolation (sunlight).”

Creekside Science, 2022

Ancestral Condition – Monterey Pines Pt. Lobos State Reserve 2011



Monarch Priority Exploration – Phase Diagram



Draft Plan – 7 Phases



Priority Criteria were established based on public feedback, project mandates, and client goals.

By taking each priority and exploring its best expression, we generated three very different sets of options from which to create our final composition and strategy

KEY STRATEGY 1

PUBLIC BID PROCESS – optimize chances for a successful outcome by separating project by expertise:

- **REMOVALS** – one contractor in charge of tree removals and processing
- **RESTORATION** – second contractor in charge of site protection, passive and active restoration activities

KEY STRATEGY 2

REMOVE FROM OUTSIDE IN – stand dynamics have an impact on remaining eucalyptus; changes in wind and solar exposure, water availability

- **OUTSIDE FIRST** – remove high fire and impact rated trees first, provide buffer zone for tree decline in remaining areas
- **MONARCH MANAGEMENT AREAS** – sensitive habitat areas will be the last zones in project plan, to allow for assessment, replacement tree growth timelines, and City oversight.

KEY STRATEGY 3

PROTECT EXISTING BEFORE IMPORTING – by staggering the restoration and removal phases, we can prioritize the natural assets already present on the hill (Selective Removal Zones)

- **PILOT PHASE**– salvage for transplant, collect seed and/or cuttings for propagation, plant field test replacement trees
- **PRIORITY NATIVE PLANT STANDS (PNPS)** – Project biologists will work with Restoration contractor to flag PNPS for protection during subsequent removals work

KEY STRATEGY 4

ADAPTIVE MANAGEMENT – this project is the start of a long term stewardship and management effort that will taper off in time. Allowing time and space for adjustments along the way will improve outcomes.

- **GENERAL REMOVAL AREAS** – in zones with limited or poor native plant communities, contract grown plant patches (islands) will be installed providing for more streamlined invasives control between islands. Over time, more successful species from the patches can be used for propagation or outplanting to expand the patches.
- **FIELD TEST REPLACEMENT TREES**– Providing the structure and habitat that works for Monarchs AND lowering fire risk AND keeping ecological integrity on the hill will require some experimentation. The project proposes doing this in place, and bringing the public along on the decision making process.

Restoration Overview

DIAGRAM AT LEFT SHOWS HABITAT AREAS BY TYPE

INDIVIDUAL PHASE DIAGRAMS WILL FOLLOW

RESTORATION PROJECT WILL HAVE A TRADITIONAL CONSTRUCTION SET WITH PLANT QUANTITIES, ETC.

POST-PROJECT HABITAT BY AREA



Phase 1 - Restoration (Pilot Phase)

Pilot Project: pre-removal work

Areas A, B1-2, C1-2, D

Pilot Project: initiate field test of replacement trees

Areas H, J1-2

Phase 2 - Removals (Exterior) - N.I.C.

Phase 3 - Restoration (Exterior)

Post removal planting and repair

Areas A, B1-2, C1-2, D1-3

Pre-removal preparation

Area F

Phase 4 - Removals (Interior) - N.I.C

Phase 5 - Restoration (Interior)

Post removal planting and repair

Areas E, F, G, D4

Pre-removal preparation

Area H, J

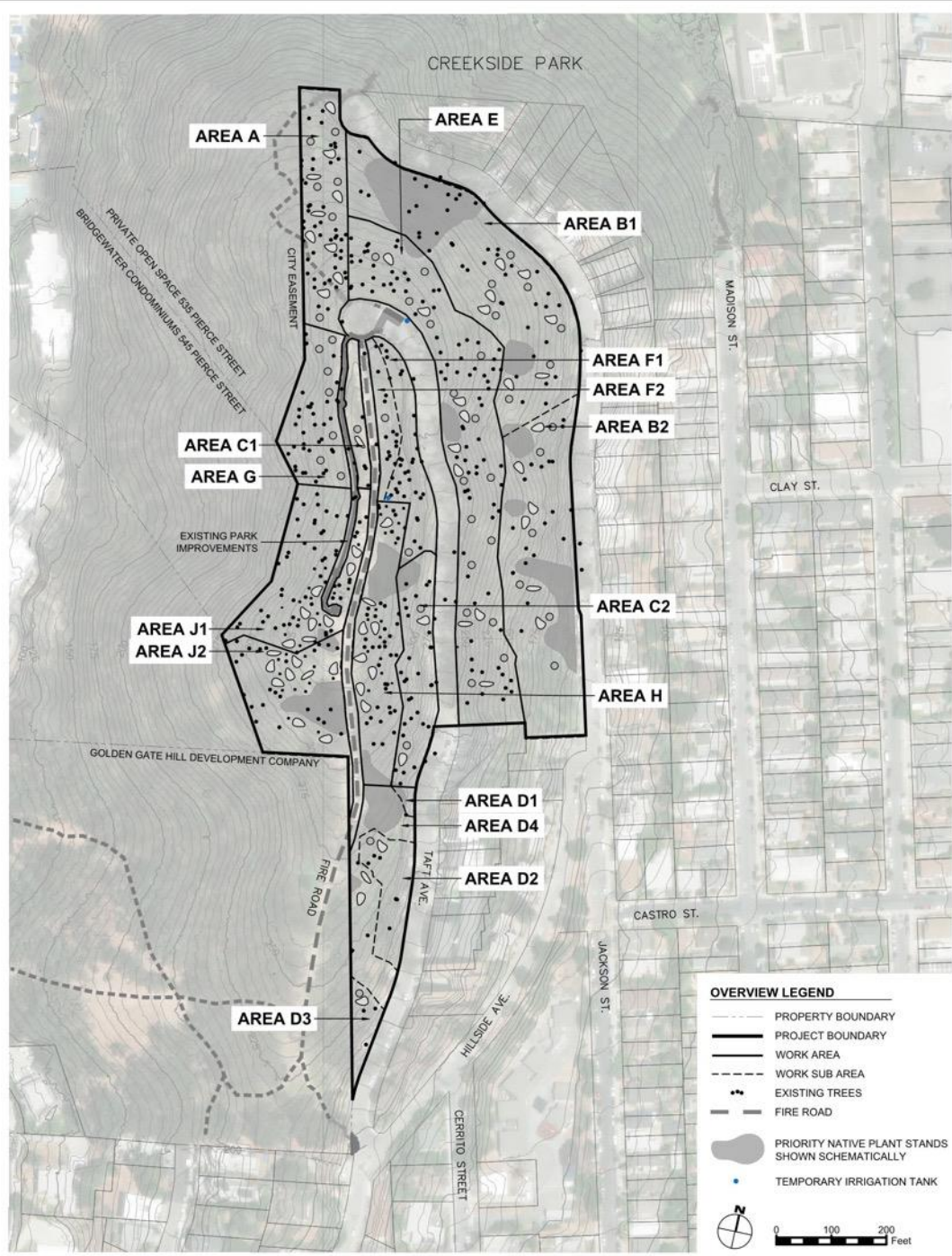
Phase 6 - Removals (Assessment) - N.I.C

Phase 7 - Restoration (Monarch Support)

Post removal planting and repair

Areas H, J1-2

Replacement tree planting



PROJECT SUMMARY

PHASING SEQUENCE:
THIS PROJECT WILL BE ACTIVE IN COORDINATION WITH THE EUCALYPTUS REMOVALS SCOPE OVER THE COURSE OF 7 PHASES. THIS PLAN SET REPRESENTS THE SCOPE OF WORK FOR THE FOUR RESTORATION PHASES THAT PRECEDE AND/OR FOLLOW THE 3 REMOVAL PHASES.

- PHASE 1 - RESTORATION (PILOT PHASE)
- PILOT PROJECT: PRE-REMOVAL WORK, AREAS A, B1-2, C1-2, D1-4
 - PILOT PROJECT: INITIATE FIELD TEST OF REPLACEMENT TREES, AREAS H, J1-2
- PHASE 2 - REMOVALS (EXTERIOR) - N.I.C.
- PHASE 3 - RESTORATION (EXTERIOR)
- POST REMOVAL PLANTING AND REPAIR, AREAS A, B1-2, C1-2, D1-3
 - PRE-REMOVAL PREPARATION, AREA F
- PHASE 4 - REMOVALS (INTERIOR) - N.I.C.
- PHASE 5 - RESTORATION (INTERIOR)
- POST REMOVAL PLANTING AND REPAIR, AREAS E, F1-2, G, D4
 - PRE-REMOVAL PREPARATION, AREA H, J1-2
- PHASE 6 - REMOVALS (ASSESSMENT) - N.I.C.
- PHASE 7 - RESTORATION (MONARCH SUPPORT)
- POST REMOVAL PLANTING AND REPAIR, AREAS H, J1-2
 - REPLACEMENT TREE PLANTING, AREAS, AREAS H, J1-2

GENERAL NOTES

- CONTRACTOR SHALL BE RESPONSIBLE FOR CONSTRUCTION SITE SECURITY DURING THE CONSTRUCTION PERIOD.
- THE GENERAL CONTRACTOR IS RESPONSIBLE FOR COORDINATING ALL OF THE WORK PERFORMED BY HIS SUBCONTRACTORS, WITHOUT EXCEPTION.
- THE CONTRACTOR SHALL IDENTIFY A RESPONSIBLE CONTACT PERSON, WHO IS AN EMPLOYEE OF THE CONTRACTOR, AND A 24-HOUR TELEPHONE NUMBER TO CALL TO RESOLVE PROBLEMS WITH NOISE, DUST OR OTHER CONSTRUCTION-RELATED ISSUES.
- ALL TRASH MUST BE REMOVED FROM THE SITE DAILY TO PROTECT WILDLIFE. REMOVE ALL LITTER AND CONSTRUCTION RELATED DEBRIS BEFORE LEAVING THE SITE EACH DAY.
- ANY DEVIATION FROM THESE APPROVED PLANS SHALL BE RE-APPROVED IN WRITING BY THE O.R. PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL PROVIDE PLACEMENT AND REPLACEMENT OF CONSTRUCTION GRADE STAKES. THE STAKES ARE TO BE ADEQUATELY IDENTIFIED, LOCATED, STABILIZED, ETC.
- ANY PROPERTY LINE STAKES OR ROAD MONUMENTS DISTURBED DURING CONSTRUCTION SHALL BE REPLACED BY CONTRACTOR'S ENGINEER AND LICENSED LAND SURVEYOR.
- CONTRACTOR SHALL NOTIFY USA (UNDERGROUND SERVICE ALERT) AT 1-800-277-2600 A MINIMUM OF 24 HOURS BEFORE BEGINNING UNDERGROUND WORK FOR VERIFICATION OF THE LOCATION OF UNDERGROUND UTILITIES.
- ACCURATE VERIFICATION AS TO SIZE, LOCATION, AND DEPTH OF EXISTING UNDERGROUND CONDUITS OR FACILITIES SHALL BE THE INDIVIDUAL CONTRACTORS RESPONSIBILITY. PLAN LOCATIONS ARE APPROXIMATE AND FOR GENERAL INFORMATION ONLY.

EROSION CONTROL NOTES

- EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND SHALL NOT BE REMOVED UNTIL THE WORK IS VERIFIED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS AND FINAL APPROVAL IS RECEIVED.
- RESTORATION CONTRACTOR SHALL COORDINATE WITH REMOVALS CONTRACTOR ON PRESERVING AND PROTECTING BMPs INSTALLED ON SITE AS PART OF THE REMOVALS WORK.
- SEE SPECIFICATIONS FOR ADDITIONAL EROSION CONTROL NOTES.

REVEGETATION NOTES

- PRESERVE AND PROTECT ALL EXISTING NATIVE VEGETATION AS FLAGGED BY OWNER WITHIN OR ADJACENT TO PATCHES.
- CLEAR ALL EUCALYPTUS DUFF AND LITTER FROM WITHIN AND 5' BEYOND PATCH AREAS PRIOR TO COMMENCING WORK.
- FINAL PATCH LAYOUT TO BE STAKED IN FIELD AND APPROVED BY O.R. PRIOR TO COMMENCING WORK.
- CONTRACTOR TO LAY OUT PLANTS FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION VIA ONE MOCK-UP PER PATCH TYPE PRIOR TO COMMENCING INSTALLATION OR LAYOUT OF FURTHER PATCHES.
- PLANTS SHALL BE PLANTED TO AVOID EQUAL SPACING, UNLESS OTHERWISE DIRECTED BY O.R.
- WATER IN ALL PLANTS IMMEDIATELY AFTER PLANTING. SEE SPECS.
- IRRIGATION STRATEGY TO BE COORDINATED AND APPROVED BY O.R. PRIOR TO COMMENCING PLANTING.
- IRRIGATION (HAND WATERING OR DRIP) SHALL CONTINUE FOR THE FIRST THREE YEARS AFTER SUBSTANTIAL COMPLETION.
- FINAL PLANT LIST PROVIDED BY THE CONTRACT GROW NURSERY FOR DELIVERY TO CONTRACTOR MAY DIFFER FROM PLANTING PLAN AND/OR CONTRACT QUANTITIES. CONTRACTOR SHALL CONFIRM FINAL PATCH COMPOSITION WITH LANDSCAPE ARCHITECT AND O.R. PRIOR TO PLANT DISTRIBUTION TO PATCHES OR COMMENCEMENT OF WORK.
- ALL IMPORTED PLANTS SHALL BE RESTORATION GRADE NATIVE PLANTS WITH DOCUMENTED SITE OF SOURCE POPULATION WITHIN 25 MILES OF THE PROJECT SITE. NO CULTIVARS WILL BE ACCEPTED. COORDINATE THE COLLECTION OF CUTTINGS ON CITY OF ALBANY PROPERTY WITH O.R.
- SOAK ALL PLANTINGS IMMEDIATELY FOLLOWING INSTALLATION. CONTRACTOR TO IRRIGATE AS NECESSARY TO ENSURE PLANT HEALTH UNTIL FINAL ACCEPTANCE.

IRRIGATION NOTES

- CONTRACTOR RESPONSIBILITIES:
 - IRRIGATION DURING CONTRACT PERIOD: THE CONTRACTOR IS REQUIRED TO IRRIGATE ALL PROJECT CONTAINER PLANTINGS THROUGHOUT THE CONTRACT PERIOD.
 - IRRIGATION SUBMITTAL: THE CONTRACTOR SHALL PROVIDE A DETAILED SUBMITTAL OF THE PROPOSED TEMPORARY IRRIGATION SYSTEM.
 - SYSTEM DESIGN AND INSTALLATION: THE ENTIRE IRRIGATION SYSTEM, INCLUDING FITTINGS, BACKFLOW PREVENTERS, AND METERS (IF REQUIRED), SHALL BE DESIGNED, INSTALLED, AND PAID FOR BY THE CONTRACTOR.
- TEMPORARY IRRIGATION OPTIONS: THE CONTRACTOR MAY USE TEMPORARY IRRIGATION TANKS AND/OR DESIGN A TEMPORARY CONNECTION TO THE HYDRANT AT TAFT.
- ZONES:
 - THE LAYOUT OF ZONES SHALL FACILITATE HAND WATERING OR DRIP/MICROSpray ZONES.
 - THE STRATEGY AND LAYOUT SHALL BE DEVELOPED TO SUPPORT CONTRACTOR-LED IRRIGATION.
 - ZONE LAYOUT SHALL BE DESIGNED BY THE BIDDER.
 - ZONES SHALL BE CONTROLLED BY A BATTERY OPERATED CONTROLLER.
- TEMPORARY WATER STORAGE:
 - TANK LOCATIONS: REFER TO THE PLANS FOR PROPOSED TANK LOCATIONS. EACH TANK SHALL HAVE ZONES TO SUPPORT IRRIGATION THROUGHOUT THE PROJECT AREA.
- TANK SPECIFICATIONS:
 - PROVIDE TWO (2) 1000-GALLON ROTO-MOLDED HDPE WATER STORAGE TANKS AS SHOWN ON THE PLANS.
 - ENSURE THE TANK HEIGHT TO WIDTH RATIO DOES NOT EXCEED 2 TO 1.
 - INSTALLATION REQUIREMENTS:
 - TANKS SHALL BE INSTALLED ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.
 - TANKS MUST BE SUPPORTED IN ACCORDANCE WITH THE CALIFORNIA BUILDING CODE.
 - THE INSTALLATION SITE MUST BE STABLE AND LEVEL TO SUPPORT THE TANK'S WEIGHT WHEN FULL AND CONSTRUCTED TO ACCOMMODATE LOADS AS PER THE CALIFORNIA BUILDING CODE.
- SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

APPROVALS

NO.	DATE	DESCRIPTION

ALBANY HILL HABITAT RESTORATION PLAN

OVERVIEW

65%
DESIGN



Restoration Design Group, Inc.
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Berkeley, CA 94710
T 510.644.2796 F 510.644.2799
www.restorationdesigngroup.com

DESIGN BY	AS
DRAWN BY	HH, HK, HC
CHECKED BY	ES
SCALE	1" = 100'
DATE	AUGUST 29, 2024
SHEET	T-2

OF 8

Removals Overview



DIAGRAM AT LEFT SHOWS COLOR
CODED REMOVAL PHASES

INDIVIDUAL PHASE DIAGRAMS
WILL FOLLOW

Phase 1 - Restoration (Pilot Phase) - N.I.C.

Phase 2 - Removals (Exterior)

Selective removals protocol:
Areas B1-2, C1-2, D

General removals
Area A

Phase 3 - Restoration (Exterior) - N.I.C.

Phase 4 - Removals (Interior)

Selective removals protocol:
Area F

General removals protocol:
Areas E, G

Phase 5 - Restoration (Interior) - N.I.C.

Phase 6 - Removals (Assessment)

Assessed removals protocol:
Areas J, H

Phase 7 - Restoration (Monarch Support)

For each area description on the following pages, total trunk counts from Lidar survey and best correlation of arborist tag numbers are included for Contractor reference. Total tree count for each eucalyptus removal area to be VIF by contractor.

PHASE 1 - RESTORATION

PILOT PHASE DIAGRAM



AREA A

- Trail protection
- Identify and flag removal access routes

AREA B1-2, C1-2, D

- Pre-removal plant salvage
- Identify and flag priority native plant stands
- Identify and flag removal access routes

AREA H

- Plant field trial trees
- Pruning/limbing of Eucalyptus near trails

AREA J1

- Pruning/limbing of Eucalyptus near trails

AREA J2

- Plant field trial trees
- Pruning/limbing of Eucalyptus near trails

LEGEND

 Monarch Management Areas

 PNPS

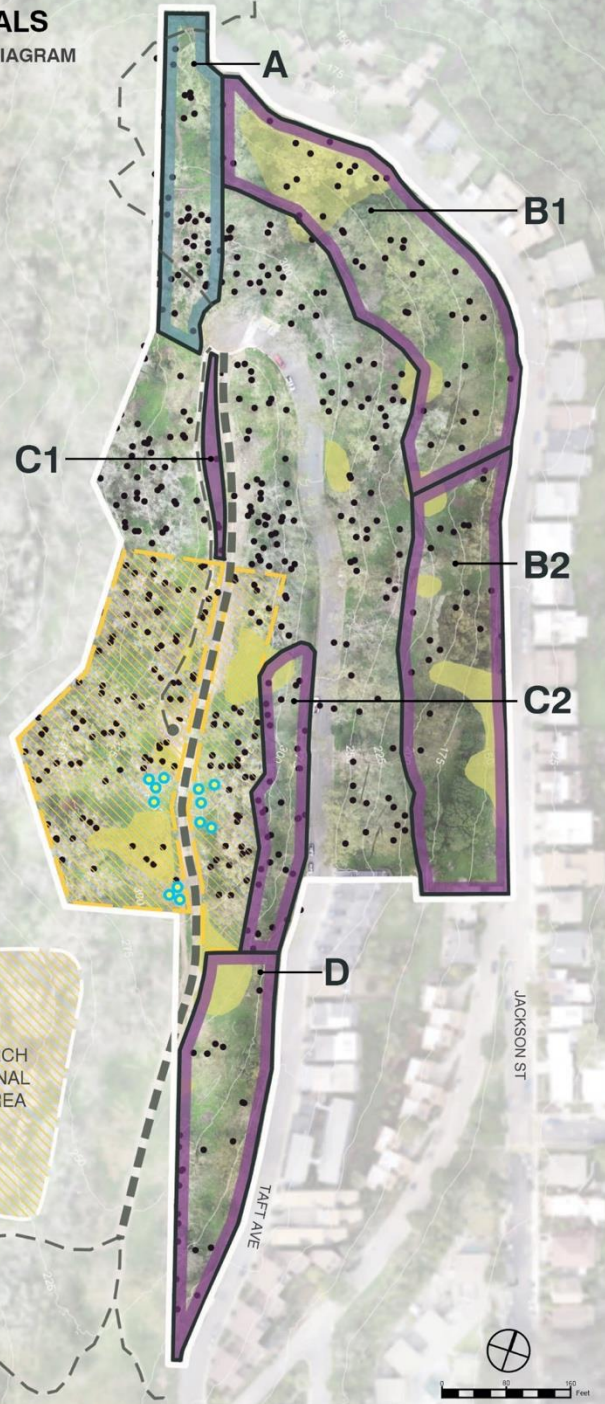
 Field Trial Tree Locations

Phase 1 Pilot Work

- ADVANCE PREP WORK IN AREAS SLATED FOR FIRST REMOVAL EFFORTS
- FIELD TRIAL TREE PLANTING
- PRUNING AND LIMBING NEAR TRAILS

PHASE 2 - REMOVALS

EXTERIOR AREAS FOCUS DIAGRAM



SELECTIVE REMOVAL ZONES

- Contractor will walk site with O.R. prior to commencing work to review Priority Native Plant Stands (PNPSs) and flagged existing plants to protect in place.
- Contractor to confirm designated drag routes indicated as a result of Restoration Phase 1.
- Trees within a PNPS may be cut at field grade or left with up to 4' of trunk as needed to protect adjacent vegetation.
- All Eucalyptus stumps to be treated per specifications.
- See specifications for other requirements.

AREA B1: ±45 EUCS

- Arborist #: 329-356, 385-388

AREA B2: ±27 EUCS

- Arborist #: 357-384

AREA C1: ±6 EUCS

- Arborist #: 9, 12, 81, 85, 128, 129

AREA C2: ±26 EUCS

- Arborist #: 64, 102-124

AREA D: ±12 EUCS

- Arborist #: 48-67, 125-127, 176-197

LEGEND

 Monarch Management Areas

 PNPS

 Field Trial Tree Locations

GENERAL REMOVAL ZONES

- No need for understory protection.
- Drag routes per contractor.
- Mulch may be left on site up to a depth of 8".
- Lengths of trunk to be used on site for bioengineering installations. See Construction Documents, Placed Log detail.
- See specifications for other requirements.

AREA A: ±41 EUCS

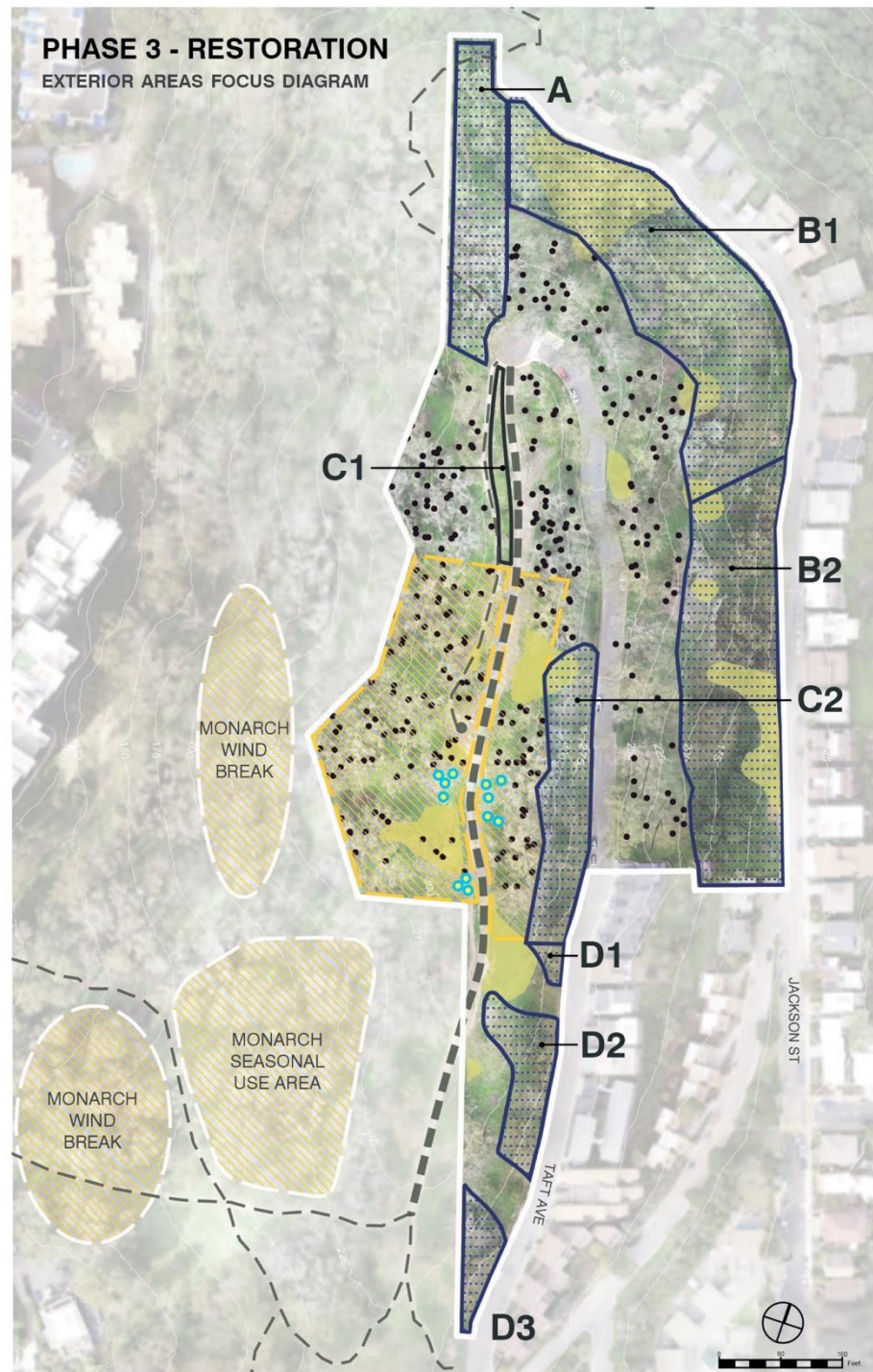
- Arborist #: 1-13, 261-328

Phase 2 Removals

- SELECTIVE REMOVAL PROTOCOLS TO AVOID PNPS
- GENERAL REMOVALS IN AREA A

PHASE 3 - RESTORATION

EXTERIOR AREAS FOCUS DIAGRAM



AREA A

- Heavy mulch for invasive control
- Tree patches/ planting islands

AREA B1-2, C2, D1-3

- Mulch for invasive control
- Reinstall salvaged plants to original areas
- Install Placed Logs on slope to help with erosion control
- Native plant patches

AREA C1

- Mulch for invasive control
- Reinstall salvaged plants to original areas

AREA D4

- Heavy mulch for invasive species outside PNPSs

LEGEND

 Monarch Management Areas

 PNPS

 Field Trial Tree Locations

TARGET HABITATS

 Open Oak Grassland

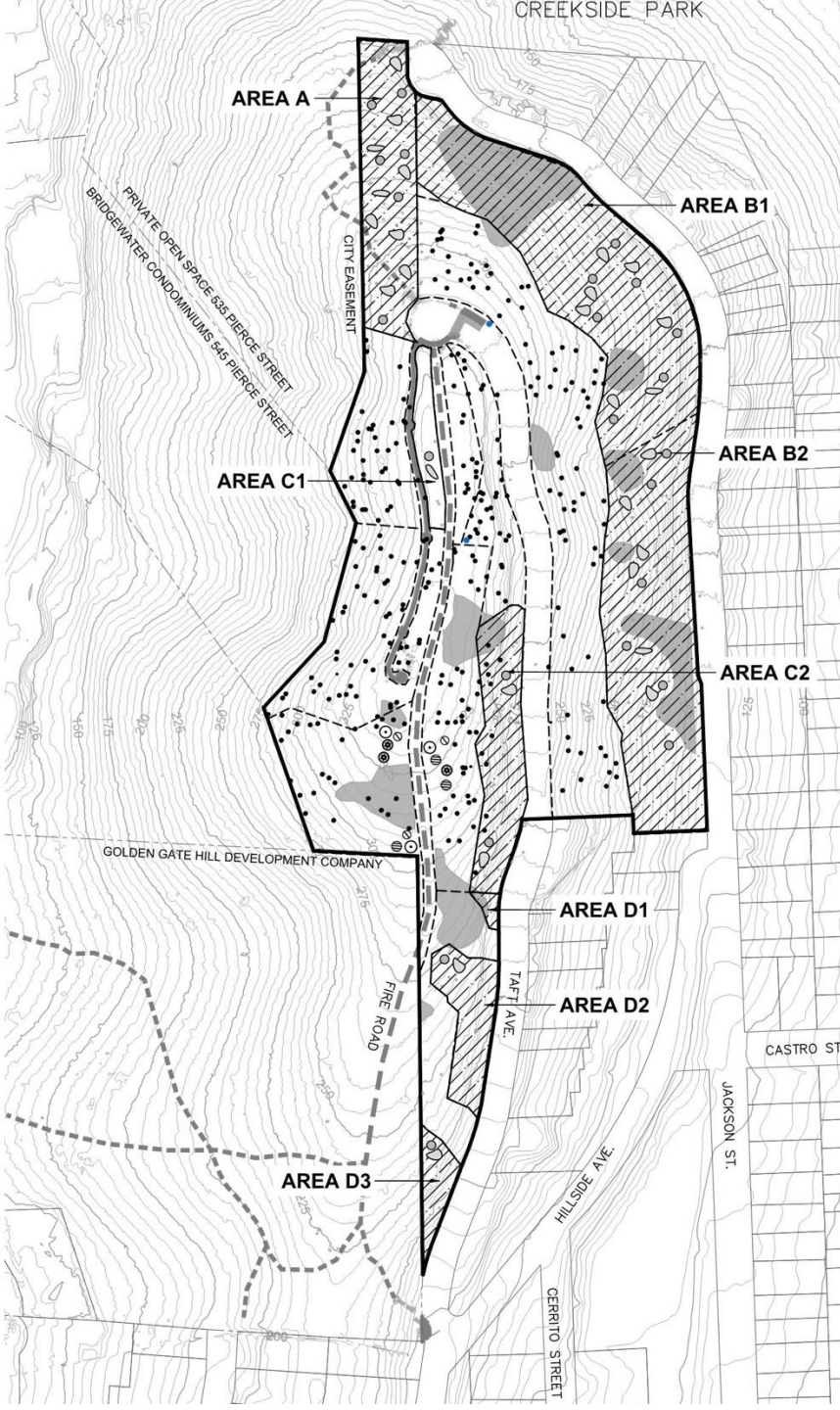
Phase 3 Restoration

- MULCH FOR CONTROL OF INVASIVE PLANT SPECIES
- NATIVE PLANT PATCH AREAS
- REINSTALL SALVAGED PLANTS

Phase 3 Restoration

Construction set draft

- MORE INTENSIVE PLANTING IN GENERAL REMOVAL AREAS
- LIGHTER PLANTING IN SELECTIVE REMOVAL AREAS – ADJACENT PNPS TO STREAMLINE MAINTENANCE EFFORTS



LEGEND

- PROPERTY BOUNDARY
- PROJECT BOUNDARY
- FIRE ROAD
- WORK AREA
- EXISTING TREES
- REMOVED EUCALYPTUS (STUMP)
- PRIORITY NATIVE PLANT STANDS (PNPS) SHOWN SCHEMATICALLY
- TEMPORARY IRRIGATION TANK
- TREE PATCH
- REVEGETATION PATCH
- REPLACEMENT TREE (SPECIES DETERMINED DURING PHASE 6)
- CONTRACTOR TO CONFIRM STAGING AREAS WITH O.R. AND TEAM BIOLOGIST
- FIELD TRIAL TREE LOCATIONS SHOWN SCHEMATICALLY

PHASE 4 - REMOVALS

INTERIOR AREAS FOCUS DIAGRAM



SELECTIVE REMOVAL ZONES

- Contractor will walk site with O.R. prior to commencing work to review Priority Native Plant Stands (PNPSs) and flagged existing plants to protect in place.
- Contractor to confirm designated drag routes indicated as a result of Restoration Phases 1 and Phase 3.
- Trees may be cut at field grade or left with up to 4' of trunk as needed to protect adjacent vegetation.
- All Eucalyptus stumps to be treated per specifications.
- See specifications for other requirements.

AREA F: ± 45 EUCS
 • Arborist #: 68-101, 128-139





GENERAL REMOVAL ZONES

- No need for understory protection.
- Drag routes per contractor.
- Mulch may be left on site up to a depth of 8".
- Lengths of trunk to be used on site for bioengineering installations. See Construction Documents, Placed Log detail.
- See specifications for other requirements.

AREA E: ± 81 EUCS
 • Arborist #: 14-47

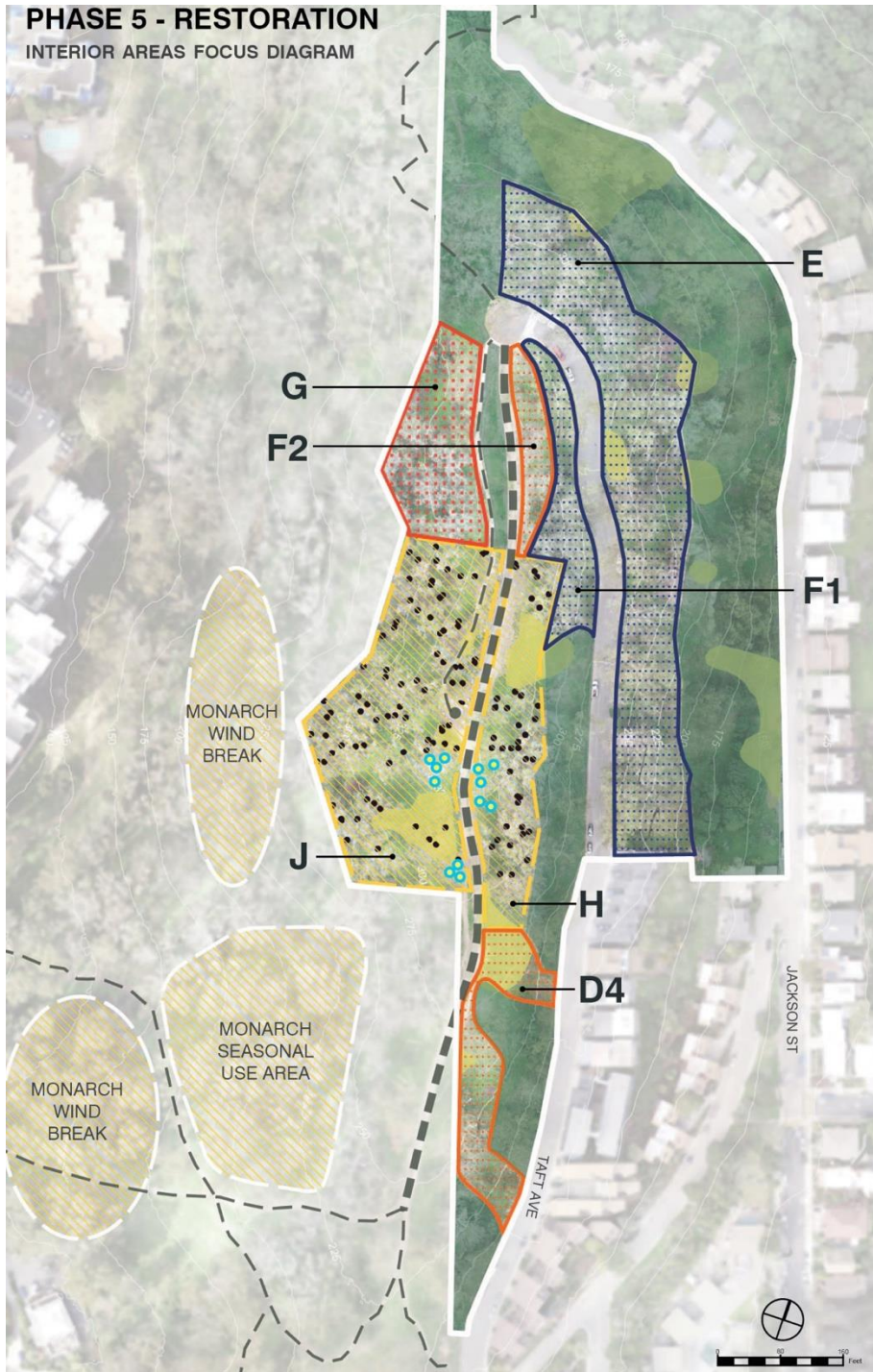
AREA G: ± 33 EUCS
 • Arborist #: 198-220

LEGEND

-  Monarch Management Areas
-  PNPS
-  Phase 1 & 3 Restoration
-  Field Trial Tree Locations

Phase 4 Removals

- INTERIOR REMOVALS ADJACENT TAF T
- WESTERN REMOVALS SOUTH OF TAF T CIRCLE
- GENERAL AND SELECTIVE REMOVAL







- AREA E, F1**
- Mulch for invasive control
 - Install Placed Logs on slope to help with erosion control
 - Additional patches/tree planting
 - F1 only: Direct transplant into Phase 2 removal areas

- AREA F2, D4**
- Mulch for invasive control
 - Direct transplant into Phase 4 removal areas

- AREA G**
- Heavy mulch and slash to remain for erosion and invasives control
 - Native oak planting patches

- MONARCH MANAGEMENT AREA (AREA J, H)**
- Pre-removal work for Phase 6
 - Assessment to inform last removal phase

- LEGEND**
-  Monarch Management Areas
 -  PNPS
 -  Phase 1 & 3 Restoration
 -  Field Trial Tree Locations

- TARGET HABITATS**
-  Oak Woodland + Shrubs
 -  Native Grasslands
 -  Open Oak Grassland

Phase 5 Restoration












- MULCH FOR CONTROL OF INVASIVE PLANT SPECIES
- NATIVE PLANT PATCH AREAS
- REINSTALL SALVAGED PLANTS

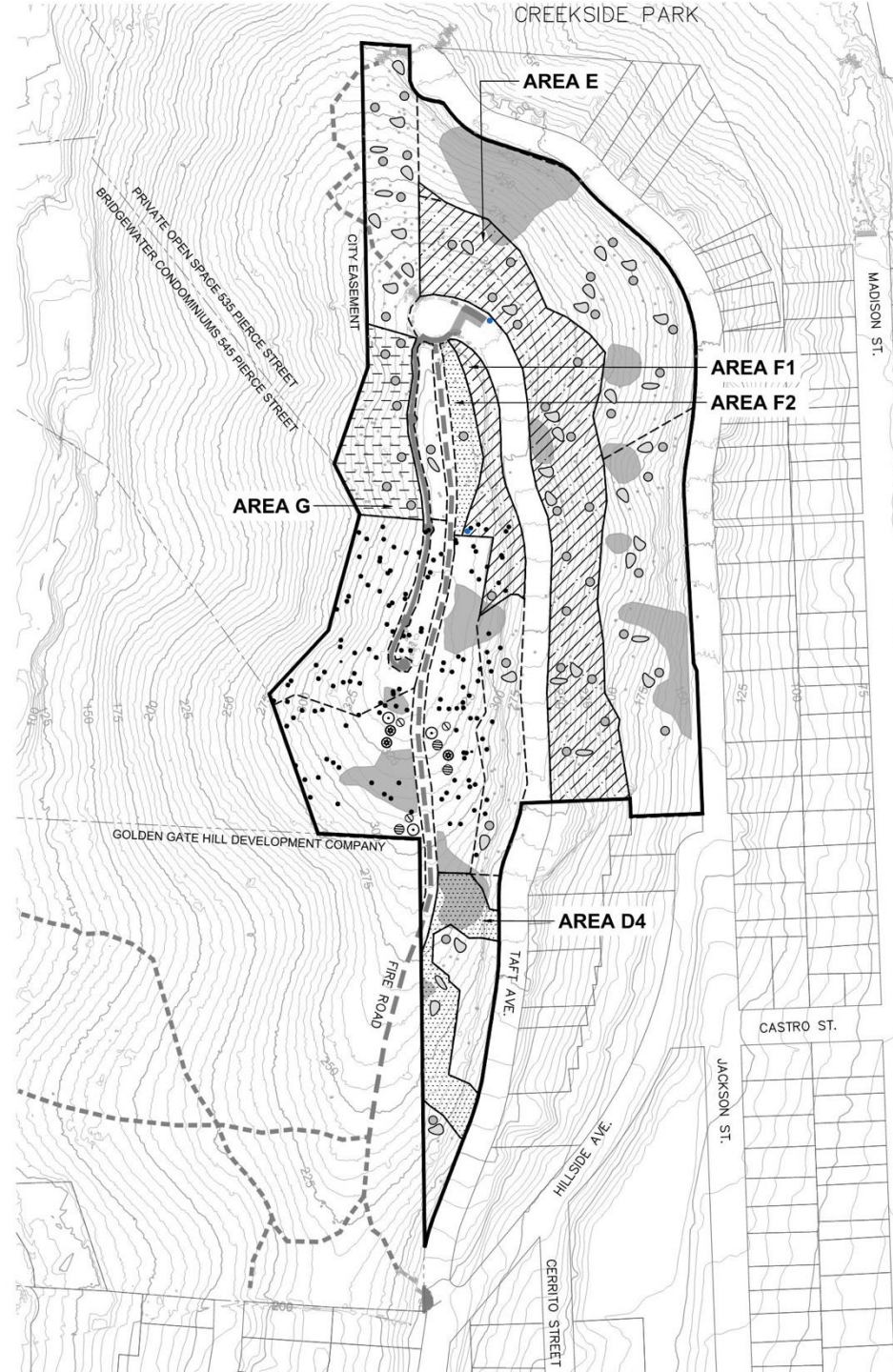
Phase 5 Restoration

Construction set draft

- ADDRESSING AREAS FROM PHASE 4 REMOVALS
- LIGHTER PLANTING IN SELECTIVE REMOVAL AREAS – ADJACENT PNPS TO STREAMLINE MAINTENANCE EFFORTS

LEGEND

	PROPERTY BOUNDARY
	PROJECT BOUNDARY
	FIRE ROAD
	WORK AREA
	EXISTING TREES
	REMOVED EUCALYPTUS (STUMP)
	PRIORITY NATIVE PLANT STANDS (PNPS) SHOWN SCHEMATICALLY
	TEMPORARY IRRIGATION TANK
	TREE PATCH
	REVEGETATION PATCH
	REPLACEMENT TREE (SPECIES DETERMINED DURING PHASE 6)
CONTRACTOR TO CONFIRM STAGING AREAS WITH O.R. AND TEAM BIOLOGIST	
FIELD TRIAL TREE LOCATIONS SHOWN SCHEMATICALLY	



PHASE 6 - REMOVALS
ASSESSMENT



**ASSESSED
REMOVALS**

- Trees in the Monarch Management Buffer Area will be assessed for health and potential removal in this phase.
- Trees in the Critical Monarch Zone are N.I.C. The City of Albany will regularly evaluate the trees in this area and remove them as needed, at their discretion. Monarch protection BMPs are to be strictly enforced in the Critical Monarch Zone.

**MONARCH MANAGEMENT
BUFFER ZONE: ± 53 EUCS**

- Tree removal to be assessed
- Arborist #: 221-230, 140-153

**CRITICAL MONARCH
ZONE: ± 66 EUCS**

- No tree removal - N.I.C.
- Arborist #: 154-176, 231-250, 389, 390

LEGEND

-  Monarch Management Buffer Area
-  Critical Monarch Zone
-  PNPS
-  Phase 1 & 3 Restoration
-  Field Trial Tree Locations

Phase 6 Removals

- TREES IN BUFFER ZONE ASSESSED FOR REMOVAL
- CRITICAL MONARCH ZONE ARE NOT IN THE SCOPE OF WORK FOR THE REMOVALS CONTRACTOR – WORK IN THIS AREA CLOSELY CONTROLLED BY CITY OF ALBANY

PHASE 7 - RESTORATION

MONARCH SUPPORT



AREA H

- Mulch for invasive control
- Native plant patches
- Additional patches/tree planting
- Install Placed Logs on slope to help with erosion control





AREA J1-2

- Mulch for invasive control
- Install Placed Logs on slope to help with erosion control
- Direct planting of salvage plants from restoration phase

REPLACEMENT TREE PLANTING

- Replacement tree species selected from field trials to be planted in groves at spacing to provide monarch habitat at maturity. Locations to be assessed after Phase 6 - Removals and reviewed by O.R. prior to installation.
- Trees shown in this phase assume stand survival at the start of Phase 7. Assessment in Phase 6 - Removals may result in trees removed from Monarch Management Area (J1-2 and H).

LEGEND

-  Phase 1, 3, & 5 Restoration
-  PNPS
-  Field Trial Tree Locations
-  Replacement Tree Locations

TARGET HABITATS

-  Oak Woodland + Shrubs
-  Native Grasslands
-  Open Oak Grassland

Phase 7 Monarch Support

- REPLACEMENT TREE PLANTING – SPECIES SELECTED DURING PHASE 6 ASSESSMENT
- MONARCH SUPPORT PLANTING PATCHES
- LOCATION AND ARRANGEMENT OF REPLACEMENT TREES TO BE VERIFIED IN FIELD IN CONSULTATION WITH MONARCH EXPERTS – SHOWN DIAGRAMATICALLY

Phase 7 Restoration

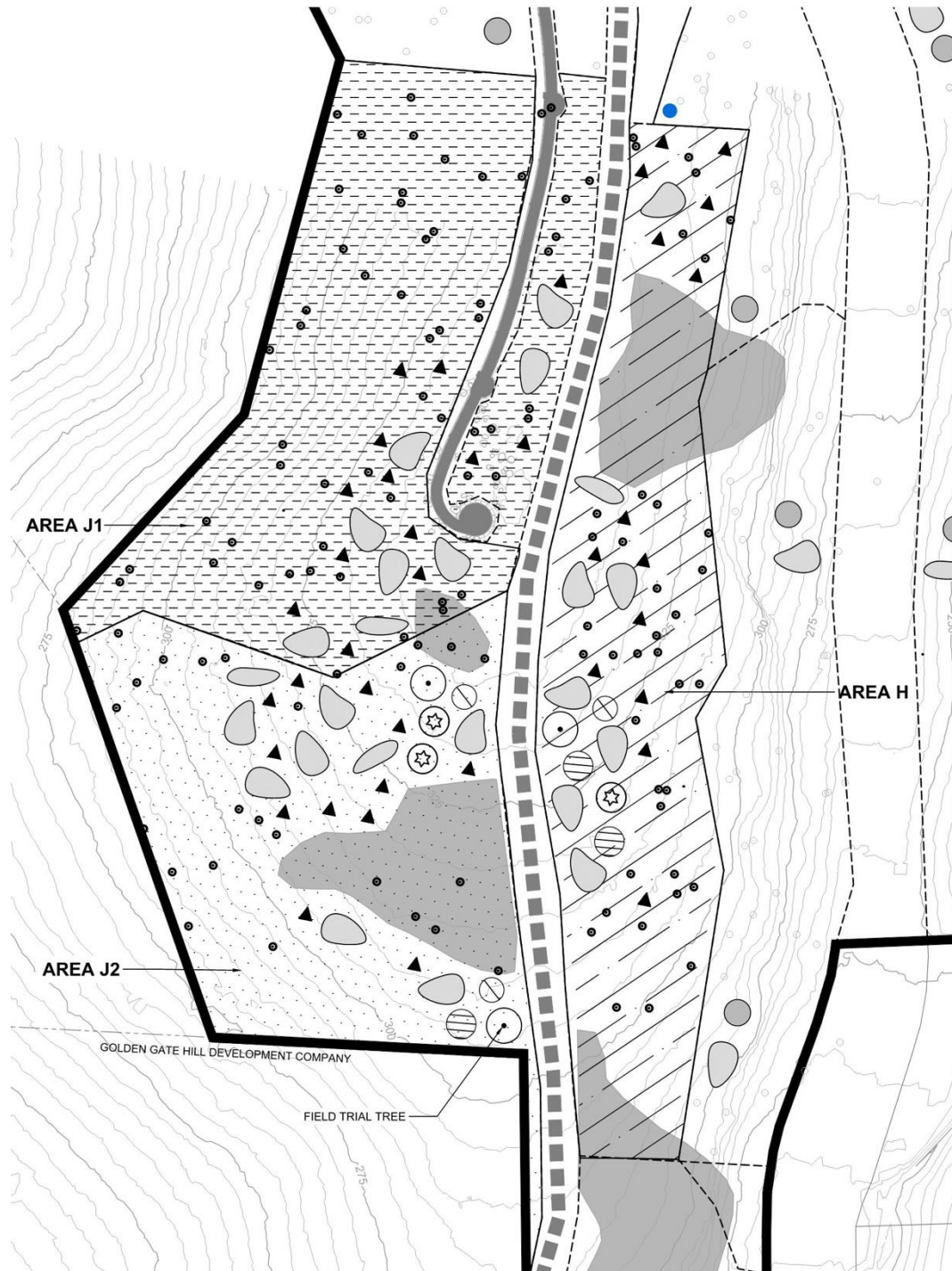
Construction set draft


- REPLACEMENT TREE PLANTING
- MONARCH SUPPORT PATCHES

LEGEND

	PROPERTY BOUNDARY
	PROJECT BOUNDARY
	FIRE ROAD
	WORK AREA
	EXISTING TREES
	REMOVED EUCALYPTUS (STUMP)
	PRIORITY NATIVE PLANT STANDS (PNPS) SHOWN SCHEMATICALLY
	TEMPORARY IRRIGATION TANK
	TREE PATCH
	REVEGETATION PATCH
	REPLACEMENT TREE (SPECIES DETERMINED DURING PHASE 6)
CONTRACTOR TO CONFIRM STAGING AREAS WITH O.R. AND TEAM BIOLOGIST	
FIELD TRIAL TREE LOCATIONS SHOWN SCHEMATICALLY	

EXISTING EUCALYPTUS IN THIS AREA SHOWN
UNIFORMLY - PRESENCE OR ABSENCE WILL BE
DEPENDENT ON ASSESSMENT PHASE RESULTS



A photograph of a forest with tall, slender trees and a paved road in the foreground. The trees have light-colored bark and dense green foliage. A paved road with white lines is visible in the bottom left corner.

What do we plant for the future?

- Replacement trees need to have a better fire profile (reduce ground fuels and ladders created)
- Drought tolerant and adapted to a rocky, coastal soil profile
- Provide the morphology needed for Monarch use (leaf shape and general structure)
- Less invasive – don't plant a future problem!
- **PROJECT IS CURRENTLY PROPOSING 4 SPECIES FOR FIELD TESTING**

Pinus sabiniana – Foothill Pine (native)



Pinus canariensis– Canary Island Pine (non-native)



Eucalyptus diversicolor – Karri (non-native)



Bonarup Drive, Western Australia
by David Jones



Karri trees of the Bonarup Forest near
Marget River, Western Australia by nodeworx

Lyonothamnus spp– Catalina Ironwood (native)



Lyonothamnus floribundus



Lyonothamnus floribundus spp
aspleniifolius

65% Design Cost Estimates

Phase 1 (Pilot):	\$54,000
Phase 2 (Removal):	\$461,000
Phase 3 (Restoration):	\$672,000
Phase 4 (Removal):	\$462,000
Phase 5 (Restoration):	\$661,000
Phase 6 (Removal):	\$80,000
Phase 7 (Restoration):	\$310,000

Next Steps and Timeline

- **STAY INFORMED**

- <https://www.albanyca.org/albany-hill/>

- **NEXT MEETINGS**

- Winter 2024
 - Possible 2nd site walk or PROSC presentation
 - Present to City Council

- **PUBLIC INPUT** Will be solicited at each meeting – please reach out with your comments!

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