THE WATERMARK AT SANTA CRUZ

Revised Pre-Application Submittal

OPPIDAN
builder of towns, creator of value.

The Freshwater Group

May 15 2020

CALLISONRTKL

CONTENT

SITE LOCATION & PROJECT DESCRIPTION

PROJECT DESCRIPTION
The Watermark at Santa Cruz is a proposed new senior living community located on an approximately 3-acre site steps away from the Pacific coastline in Santa Cruz, California. Situated on a property within the larger 6.6-acre parcel of Oblates St John campus at 126 Eucalyptus Ave.

The program consists of a new build, two story structure and one three story wing consisting of 92 units assembled into four categories:

- 13 independent living units (IL)
- 57 assisted living units (AL)
- 18 memory care units (MC)
- 4 inclusionary units (IU)

The larger independent and assisted living wing is located to the south closer to the main entry and service, while the memory care wing is on the northern edge of the site where it is quieter and easier to secure access. The public components of both wings are connected by a courtyard which becomes the center of activity as well as the visual focal point.

The units of each wing are easily accessed from the central common areas that provide dining and communal amenities. The idea of community is broadened by breaking down the larger massing of the senior housing program into smaller blocks to respect the scale of the single-family residential neighborhood. This down scaling helps with the street scape as not to dominate the neighboring houses creating opportunities for increased natural light, views and circulation to flow through the porous building blocks.

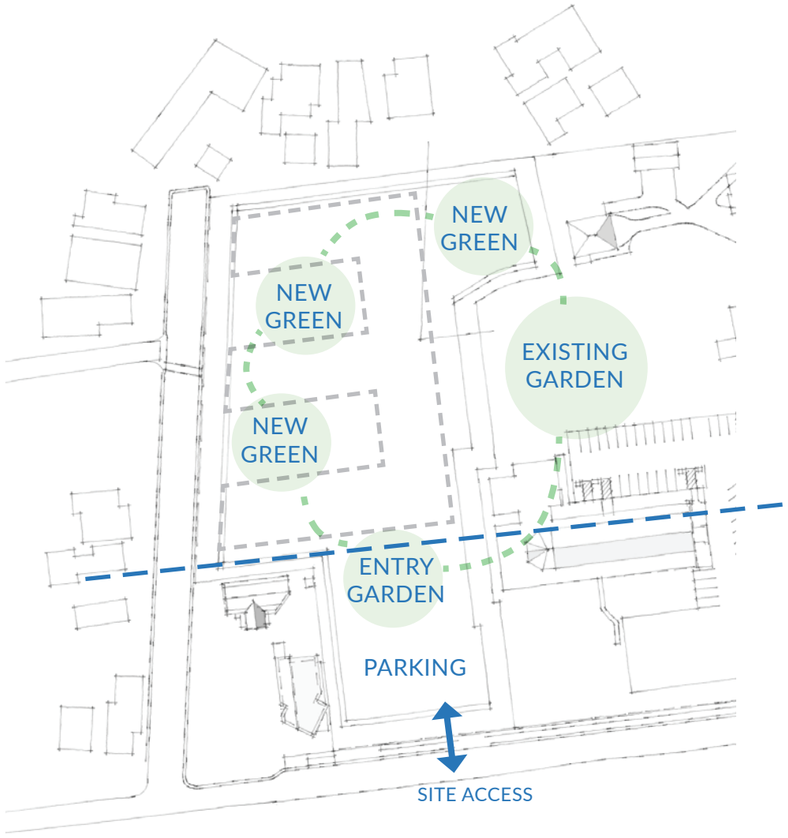
PROJECT SITE
Project site is a part of the larger 'Oblates of St. Joseph' shrine and chapel grounds, steps away from the Pacific coastline in Santa Cruz. The design for the new senior community aims to capture the best use of the extraordinary settings - the ocean views, the abundant greeneries around, the California sunshine - as part of the nurturing and healing environment for the senior living community.

OSJ CAMPUS

CAMPUS STRUCTURES
The OSJ campus includes structures and buildings from different eras that built up over time. Although diverse in stylistic languages, the distinct elements of these structures such as arches, arcades, recessed balconies and colonnades can inspire and be incorporated into the new building's design.

ENVIRONMENT OF HEALING & RETREAT
Natural beauty of the environment together with the well-maintained gardens of the campus create an ideal grounds for the community of healing and retreat that the design aims to incorporate synergistically into the new seniors community.

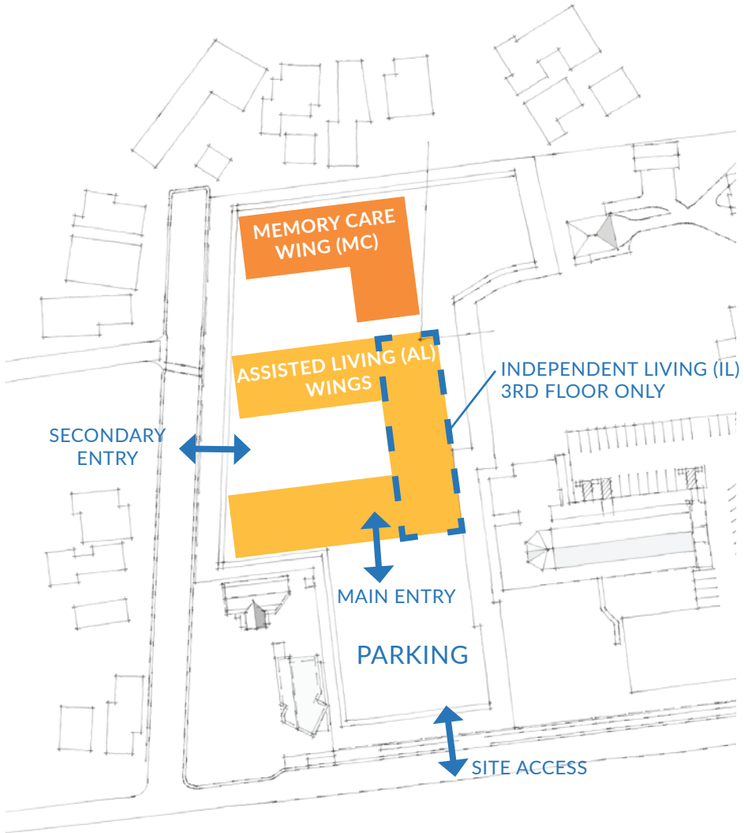
SITE CONCEPT



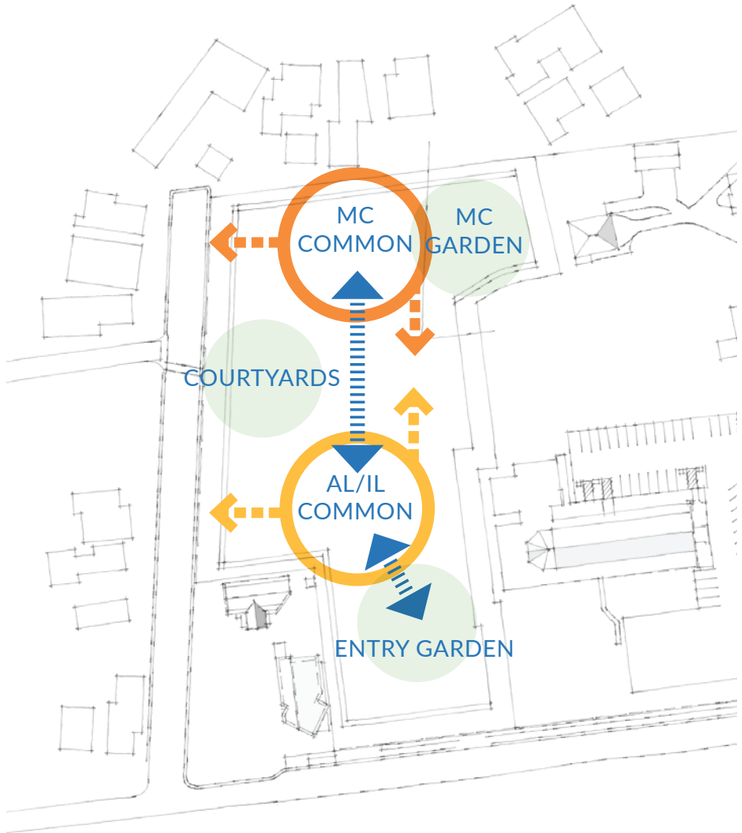
SENSE OF COMMUNITY
New senior living community is designed with the OSJ campus in mind, forming a larger community as a whole. This is achieved by setting back the new building beyond the chapel's main axis with a new garden visible from the west side of the chapel and also by forming a network of open green spaces around the project that can be enjoyed by the surrounding communities

BEING A GOOD NEIGHBOR
The idea of community is broadened by breaking down the larger massing of the senior housing program into smaller blocks to respect the scale of the single-family residential neighborhood. This down-scaling strategy together with two large courtyards open towards the west enhance the streetscape greatly compared to the existing school building on the site with a continuous wall against the street

ORGANIZATIONAL CONCEPT



SITE ORGANIZATION
New senior living community will be composed of 57 assisted living units (AL), 13 independent living (IL), a 18-unit memory care (MC) wing and 4 inclusionary housing units (IU). The larger assisted and independent living wing is located to the south closer to the main entry and service, while memory care wing is on the northern edge of the site where it is quieter and easier to secure access



FLOW OF CIRCULATION
The public components of both wings are connected by two courtyards which are the centers of activity as well as the visual focal points. The units of each wing are easily accessed from the central common areas that provide dining and communal amenities in each program component

LANDSCAPE CONCEPT

URBAN FARM
Growing plants and flowers in the community enhances the health and the mind of the residents as well as providing clean and organic supply of food materials in a sustainable manner.

HEALING ‘BUTTERFLY ‘ GARDENS
Santa Cruz and the Central Coast region have been well-known habitats of Monarch butterflies with annual visits of the famous species. The healing gardens on the site can double as butterfly gardens to enliven the resident experience even further with the beautiful creatures.

ARCHITECTURAL REFERENCE

MONTEREY STYLE & ARCHITECTURE OF THE CENTRAL COAST

Since the first half of the last century, architectural scene of the California's Central Coast was influenced by the Monterey Revival architectural style among various classical revivalist movements. With its simple roof lines and the smooth white walls articulated with prominent balconies, loggias, stairways and chimneys on the facades that culminated to an architectural style representing California.

LIVING WITH NATURE

These classical architecture often brought nature into the lifestyle by incorporating courtyards, paseos and portales with rich landscape for added enjoyment, and with the architectural elements that allowed activities protected from the sun, wind and rain.

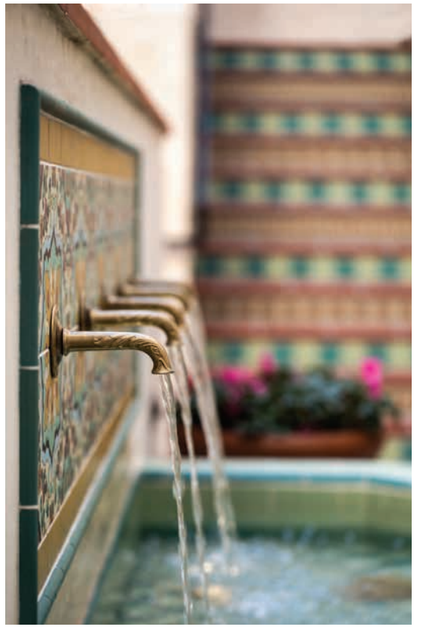
ARCHITECTURAL REFERENCE

EARLY MODERNISM IN CALIFORNIA
In the early 20th century, modernist architecture has been brought to California by the pioneering architects such as Irving Gill, Rudolph Schindler and Richard Neutra, among others. Gill's restrained palette of light on the white boxes with the use of natural materials such as vines on the trellis leads the eye to the simple architectural style that is modern, classical and Californian all at the same time.

SCALES & ARTICULATIONS
Even with the simple and bare forms, Gill showed that changing the scale and articulation of the stacked box volumes, together with the use of varying fenestration types and sizes including archways create rich composition of architectural elements in harmony, giving the larger housing project an appropriate scale fitting to the residential neighborhood.

ARCHITECTURAL PRECEDENT

THE ANDALUCIA
Pasadena, CA



SITE PLAN

THE WATERMARK AT SANTA CRUZ

APPLICANT
Roger Bernstein
Oppidan Investment Company
1100 Lincoln Avenue, Suite 382
San Jose, CA. 95125
760-419-8032
roger@oppidan.com

PROJECT ADDRESS
126 Eucalyptus Ave
Santa Cruz, CA
95060

ZONING DESIGNATION
R1-5 Single Family Residential
CZ - Coastal Zone Overlay
WCD-O - West Cliff Drive Overlay

PARCEL NUMBER
004-571-02

LOT AREA : 2.84 acres

GROSS FLOOR AREA: 90,980 sf

MINIMUM SET BACKS

Front Yard Setback (Eucalyptus Ave)	20' min plus 40% at 25' min
Interior (north) side yard setback: 1st floor:	10' min
Interior (north) side yard setback: 2nd floor	15' min
Exterior (south) side yard setback: 1st floor:	20' min
Exterior (south) side yard setback: 2nd floor:	25' min
Rear Setback	20' min

CODE REQUIRED PARKING

IL **	1 per 3 DU	4
IU**	1 per 3 DU	1
AL**	1 per 3 DU	19
MC***	1 per 5 people	23
+1 for the manager & each employee during the largest shift		
TOTAL		**47**

CODE 24.12.240 USE
** *Senior Housing Development*
*** *Community Care Residential Facility*

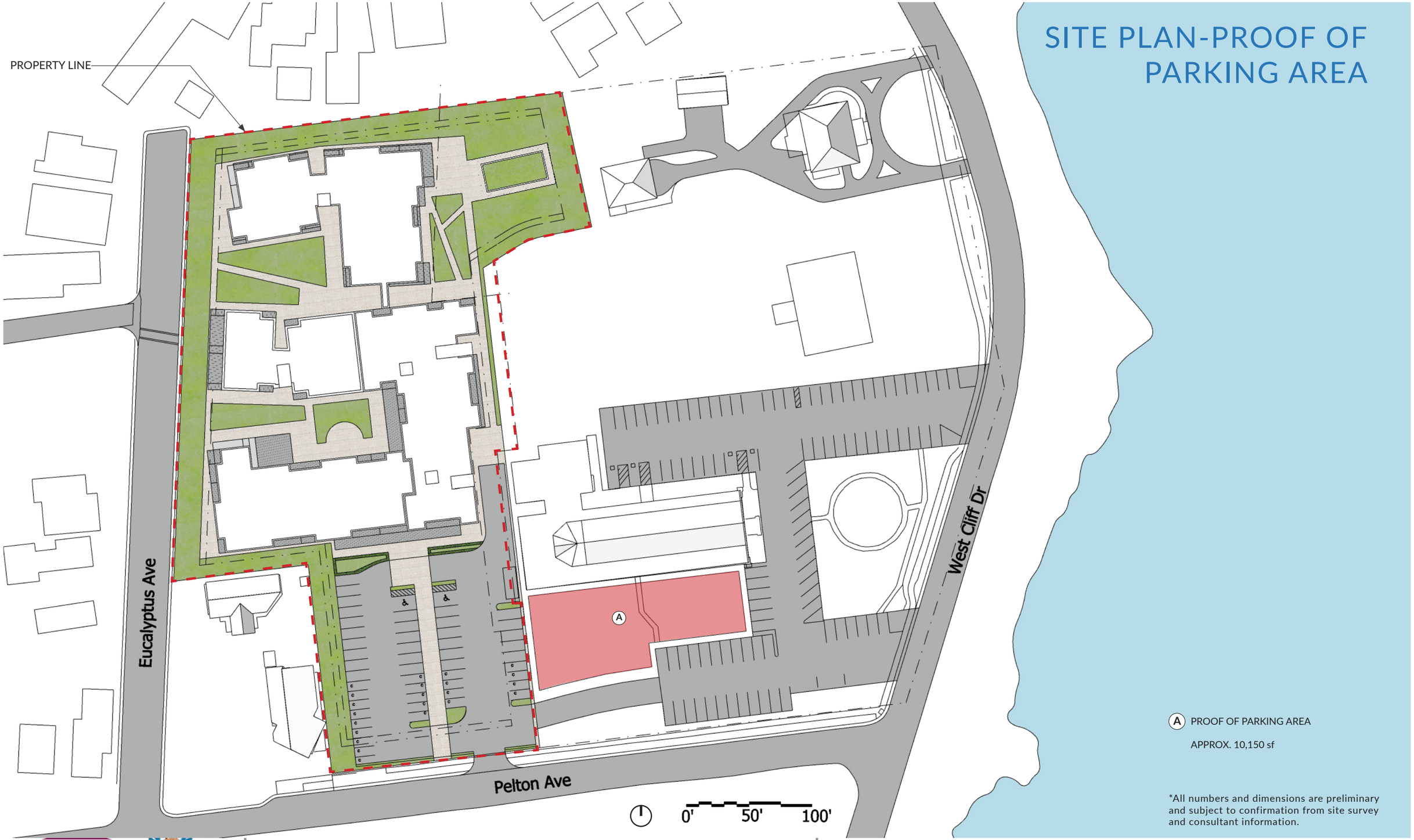
PARKING PROVIDED

Standard	27
Compact (50% max. allowed)	22
Accessible	2
TOTAL	**51**

Code: 24.10.4230.4.b.(2) Lots with more than 100 feet width
1st Floor Combined Setback: 30% of 514' (total site width)=154'min.
Interior (north) setback 10'+ Exterior (south) setback 176'-7"=187'-7"
2nd Floor Combined Setback: 35% of 514' (total site width)=180' min.
Interior (north) setback 15'+ Exterior (south) setback 183'-8"=198'-8"

*All numbers and dimensions are preliminary and subject to confirmation from site survey and consultant information.

SITE PLAN-PROOF OF PARKING AREA



A PROOF OF PARKING AREA

APPROX. 10,150 sf

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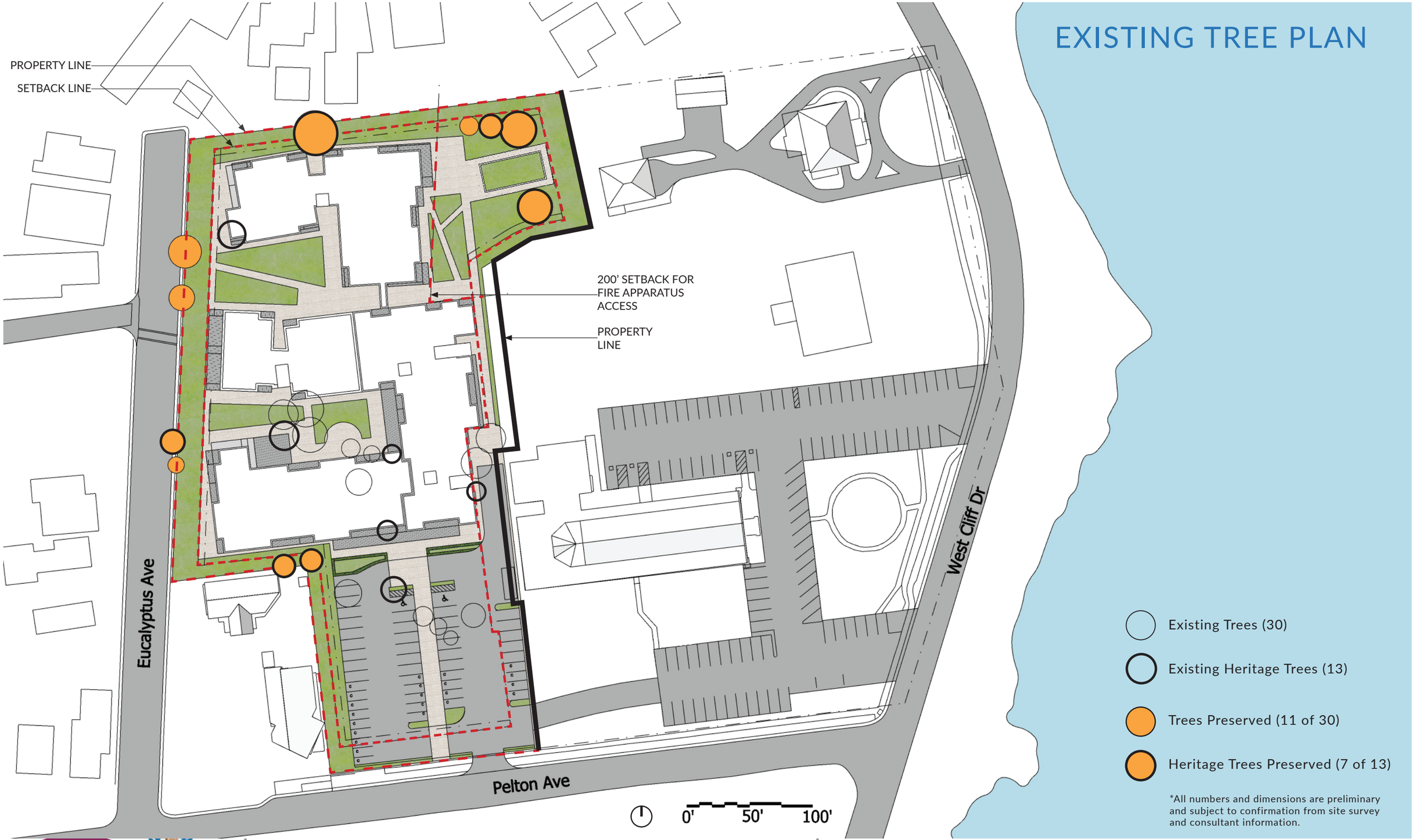
EXISTING TREE PLAN



Existing Trees (30)

Existing Heritage Trees (13)

Trees Preserved (11 of 30)

Heritage Trees Preserved (7 of 13)

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LEGAL DESCRIPTION

First American	ISSUED BY **First American Title Insurance Company**
Exhibit A	File No: NCS-987550-MPLS

File No.: NCS-987550-MPLS

The Land referred to herein below is situated in the City of Santa Cruz, County of Santa Cruz, State of California, and is described as follows:

PARCEL ONE:

BEGINNING IN THE WESTERLY LINE OF CLIFF DRIVE AT THE SOUTHEAST CORNER OF "CLIFF MANOR" AS SHOWN UPON THE RECORDED MAP THEREOF; AND RUNNING THENCE ALONG SAID LINE OF CLIFF DRIVE SOUTH 11° 28' EAST 139.06 FEET TO THE NORTHEAST CORNER OF LAND NOW OR FORMERLY OF FRANCIS H. DAVIS AND FRED DAVIS, AS DESCRIBED IN DEED RECORDED IN VOLUME 239 OF DEEDS, PAGES 304 AND 305, SANTA CRUZ COUNTY RECORDS; THENCE ALONG THE NORTHERLY LINE OF THE LAST NAMED LAND SOUTH 82° 41' WEST 509.24 FEET TO THE NORTHWEST CORNER THEREOF; IN THE EASTERLY LINE OF THE PHELAN PARK TRACT; THENCE ALONG SAID LAST MENTIONED LINE, NORTH 6° 36' WEST 138.67 FEET TO THE SOUTHERLY LINE OF SAID "CLIFF MANOR"; AND THENCE ALONG SAID LINE NORTH 82° 41' EAST 497.64 FEET TO THE PLACE OF BEGINNING; MORE OR LESS.

PARCEL TWO:

COMMENCING AT THE POINT FORMED BY THE INTERSECTION OF THE NORTHERLY LINE OF PELTON AVENUE WITH THE WESTERLY LINE OF WEST CLIFF DRIVE; THENCE RUNNING IN A GENERAL NORTHEASTERLY DIRECTION ALONG SAID WESTERLY LINE OF WEST CLIFF DRIVE 290.40 FEET TO THE PROPERTY ON SAID WEST CLIFF DRIVE NOW OWNED BY OBLATES OF ST. JOSEPH; THENCE AT A RIGHT ANGLE ALONG THE PRESENT PROPERTY LINE OF OBLATES OF ST. JOSEPH AND PARALLEL WITH PELTON AVENUE 518.76 FEET; THENCE SOUTHERLY 265.32 FEET TO THE NORTHERLY LINE OF PELTON AVENUE; THENCE EASTERLY AT A RIGHT ANGLE ALONG SAID NORTHERLY LINE OF PELTON AVENUE 415.14 FEET TO THE POINT OF COMMENCEMENT;

PARCEL THREE:

BEGINNING ON THE WEST SIDE OF THE STREET OR ROAD LEADING TO THE SANTA CRUZ LIGHTHOUSE, SAID STREET OR ROAD BEING NOW KNOWN AS THE CLIFF DRIVE AT THE NORTHEAST CORNER OF LANDS OF JAMES D. PHELAN, SAID LANDS BEING THE SAME LANDS CONVEYED BY RICHARD THOMPSON TO JAMES PHELAN, BY DEED RECORDED IN VOLUME 54 AT PAGE 308, OF DEEDS IN THE OFFICE OF THE COUNTY RECORDER OF SANTA CRUZ COUNTY; THENCE ALONG THE WESTERLY SIDE OF SAID CLIFF DRIVE NORTH 11° 28' WEST 110.42 FEET; THENCE LEAVING SAID CLIFF DRIVE SOUTH 82° 41' WEST 509.24 FEET TO THE EASTERLY BOUNDARY OF LANDS NOW KNOWN AS PHELAN PARK TRACT; THENCE ALONG THE LAST NAMED BOUNDARY SOUTH 6° 36' EAST 110.15 FEET TO THE NORTHWESTERLY CORNER OF SAID LANDS OF JAMES D. PHELAN; THENCE ALONG THE NORTHERLY BOUNDARY OF LANDS OF SAID JAMES D. PHELAN, NORTH 82° 41' EAST 518.76 FEET TO THE PLACE OF BEGINNING.

PARCEL FOUR:

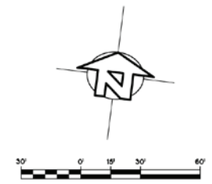
LOT 22, 23, 24, 25, 26, 27 AND 28 AS SHOWN UPON THAT CERTAIN MAP ENTITLED "PHELAN PARK TRACT, BEING PART OF THE TRACT MARKED "AL. ROUNDTREE 143 ACRES" ON OFFICE MAP "B" OF THE CITY OF SANTA CRUZ, FILED FOR RECORD MARCH 19, 1907, IN VOLUME 13 OF MAPS, PAGE 20, SANTA CRUZ COUNTY.

PARCEL FIVE:

PARCEL A AS SHOWN UPON THAT CERTAIN PARCEL MAP FILED FOR RECORD ON MAY 11, 1976 IN BOOK 21, PAGE 16 OF PARCEL MAPS, SANTA CRUZ COUNTY RECORDS.

For conveyancing purposes only: APN 004-571-02 (as to Parcels One through Four) & 004-571-04 (as to Parcel Five)

EXISTING SITE SURVEY



Legend

- MONUMENT FOUND AS NOTED
- BENCHMARK
- ( ) INDICATES RECORD DATA
- R&C RECORD & CALCULATED DATA
- FENCE
- PROPERTY BOUNDARY
- CONTOUR LINE
- DENSE VEGETATION LINE

ALL DISTANCES SHOWN ARE IN FEET AND DECIMALS THEREOF.

Basis of Bearings

THE BASIS OF BEARINGS FOR THIS SURVEY IS BETWEEN MONUMENTS FOUND ALONG THE EASTERLY RIGHT-OF-WAY OF LIGHTHOUSE AVENUE, AS SHOWN ON THAT MAP FILED IN VOLUME 87 OF MAPS, AT PAGE 22, SANTA CRUZ COUNTY RECORDS.

BASIS OF BEARINGS = N 4°09' E

Benchmark

THE BENCHMARK FOR THIS SURVEY IS CITY OF SANTA CRUZ BENCHMARK H4 – 10, WHICH IS A 7/8" BRASS TAG, LOCATED AT THE NORTHEAST CORNER OF WEST CLIFF DRIVE AND PELTON AVENUE.

BENCHMARK ELEVATION = 36.63' (NAVD88)

1. Oblates of St.Joseph - Dwelling
2. Oblates of St.Joseph - Accessory Building
3. Gateway School - Accessory Building
4. Gateway School
5. Gateway School - Playground Equipment
6. Oblates of St.Joseph - Garden
7. Shrine Coffee
8. Oblates of St.Joseph - Chapel

REVISIONS

APPROVED

IFLAND SURVEY
Surveying - Mapping - GIS
5000 Soquel Avenue, Suite 101, Santa Cruz, CA 95062
Tel 831.426.7941 Fax 831.426.0268

Record Boundary and UAV Topography for:
Oppidan Sr. Housing
Pelton Avenue, Santa Cruz, CA

APN 004-571-02
DATE 11/19/19
DRAWN VCL
SHEET 1

SITE PLAN WITH EXISTING SITE SURVEY

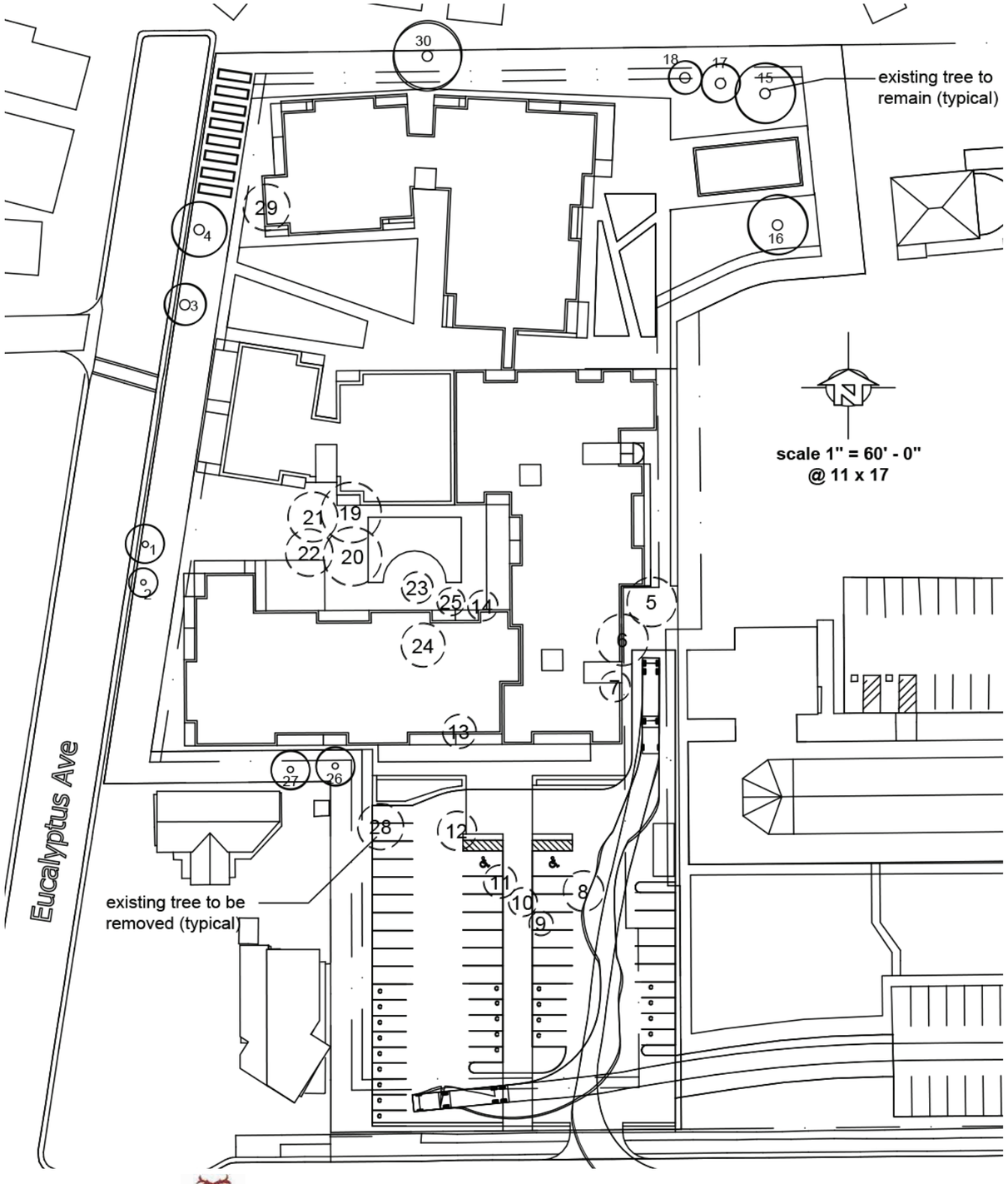
PROPERTY LINE

1. Oblates of St.Joseph - Dwelling
2. Oblates of St.Joseph - Accessory Building
3. Oblates of St.Joseph - Garden
4. Oblates of St.Joseph - Chapel

Property Line

CASQA POTENTIAL SOURCES OF AIR AND WATER POLLUTANTS

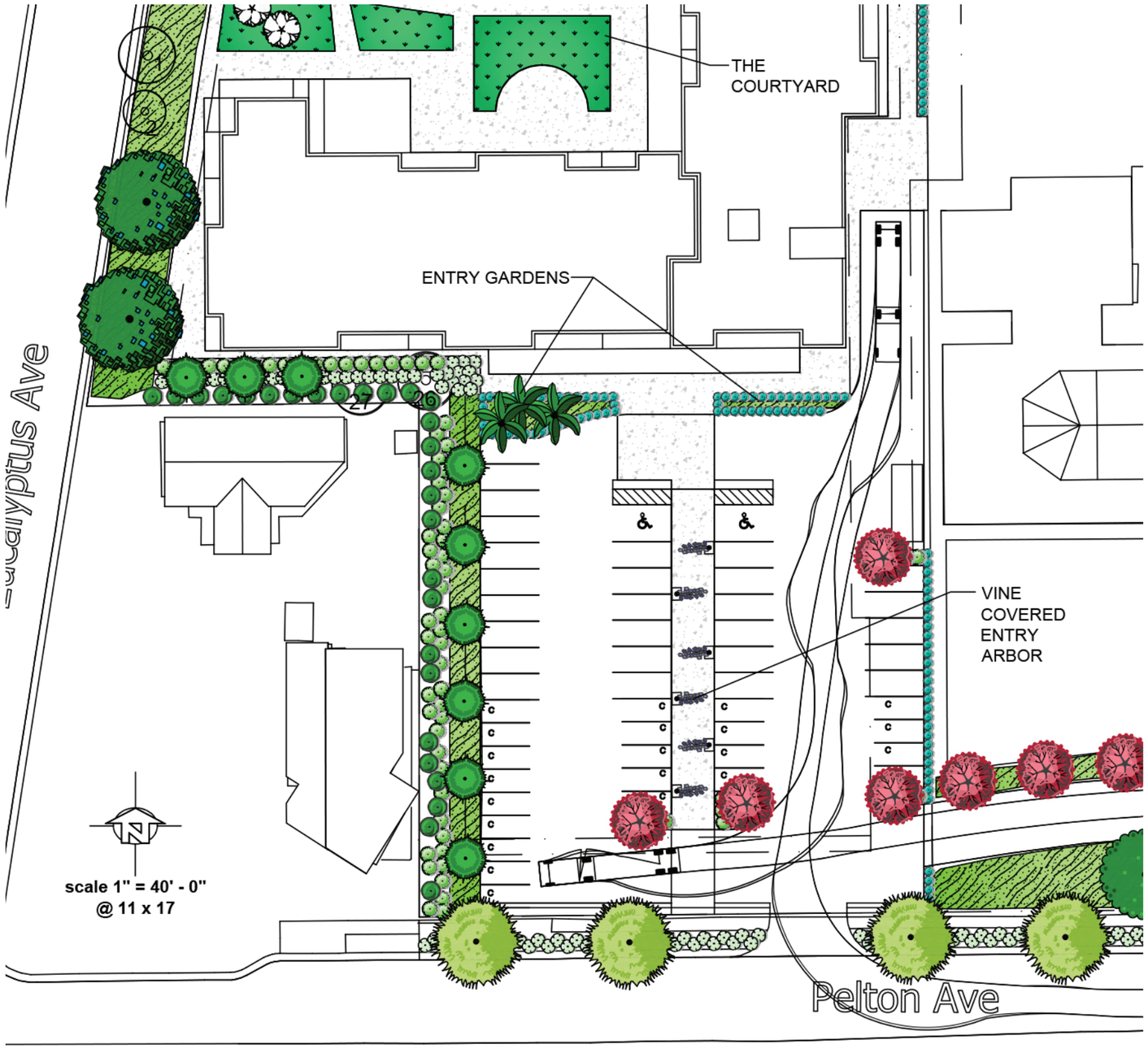
- Kitchen exhaust
- Diesel emergency generators
- Accidental spills or leaks
- Interior floor drains
- Parking/Storage area maintenance
- Indoor and structural pest control
- Landscape/outdoor pesticide use
- Pools, spas, ponds, decorative fountains and other water features
- Restaurants, grocery stores and other food service operations
- Refuse areas
- Outdoor storage of equipment or materials
- Loading docks
- Fire sprinkler test water
- Drain or wash water from boiler drain lines, condsate drain lines, rooftop equipment, drainage sumps and other sources
- Building and ground maintenance



EXISTING TREE INVENTORY

KEY	BOTANICAL NAME	COMMON NAME	TRUNK DIAMETER (INCHES)	CANOPY DIAMETER (FEET)	COMMENTS
1	Acacia spp.	Acacia	double trunk 20" & 22"	18'	non native heritage tree
2	Zelcova serrata	Sawleaf zelkova	12"	13'	non native tree
3	Quercus agrifolia	Coast Live Oak	double trunk 10" & 6"	20'	native tree
4	Acacia spp.	Acacia	double trunk 12" & 12"	26'	non native tree
5	Syagrus romanzoffiana	Queen Palm	11"	24'	non native tree
6	Syagrus romanzoffiana	Queen Palm	9"	24'	non native tree
7	Syagrus romanzoffiana	Queen Palm	14"	7'	non native heritage tree
8	Olea europea	Olive	11"	19'	non native tree
9	Olea europea	Olive	6"	11'	non native tree
10	Syagrus romanzoffiana	Queen Palm	10"	14'	non native tree
11	Olea europea	Olive	10"	15'	non native tree
12	Syagrus romanzoffiana	Queen Palm	15"	18'	non native heritage tree
13	Syagrus romanzoffiana	Queen Palm	16"	16'	non native heritage tree
14	Syagrus romanzoffiana	Queen Palm	18"	14'	non native heritage tree
15	Phoenix canariensis	Canary Island Date Palm	40"	29'	non native heritage tree
16	Phoenix canariensis	Canary Island Date Palm	40"	28'	non native heritage tree
17	Acacia spp.	Acacia	30"	18'	non native heritage tree
18	Acacia spp.	Acacia	4 trunks 10", 9", 8" & 8"	15'	non native tree
19	Pyrus calleryana	Flowering Pear	3 trunks 8", 8" & 6"	28'	non native tree
20	Pyrus calleryana	Flowering Pear	12"	28'	non native tree
21	Pyrus calleryana	Flowering Pear	double trunk 6" & 8"	24'	non native tree
22	Pyrus calleryana	Flowering Pear	14"	22'	non native heritage tree
23	Metasequoia glyptostroboides	Dawn Redwood	12"	15'	non native tree
24	Ulmus spp.	Elm	11"	21'	non native tree
25	Acacia spp.	Acacia	double trunk 12" & 10"	13'	non native tree
26	Morus spp.	Mulberry	17"	17'	non native heritage tree
27	Morus spp.	Mulberry	16"	18'	non native heritage tree
28	Olea europea	Olive	12"	22'	non native tree
29	Zelkova serrata	Sawleaf zelkova	15"	22'	non native heritage tree
30	Sequoia sempervirens	Redwood	39"	33'	native heritage tree

0' 50' 100'



CONCEPT PLANT SCHEDULE

CALIFORNIA NATIVE TREE 1	Quercus agrifolia / Coast Live Oak	11
CALIFORNIA NATIVE TREE 2	Acer circinatum / Vine Maple	12
CALIFORNIA NATIVE TREE 3	Cercis occidentalis / Western Redbud	10
CALIFORNIA NATIVE TREE 4	Lyonothamnus floribundus asplenifolius / Fernleaf Catalina Ironwood	9
CALIFORNIA NATIVE TREE 5	Washingtonia filifera / California Fan Palm	18
CALIFORNIA NATIVE TREE 6	Umbellularia californica / California Laurel	5
CALIFORNIA NATIVE TREE 7	Cupressus macrocarpa / Monterey Cypress	18
CALIFORNIA NATIVE TREE 8	Cornus nuttallii / Western Flowering Dogwood	12

CALIFORNIA NATIVE SHRUBS
Alyogyne huegelii 'Santa Cruz' / Blue Hibiscus
Alyogyne huegelii 'White Swan' / White Swan Hibiscus
Arctostaphylos uva-ursi 'Emerald Carpet' / Emerald Carpet Manzanita
Arctostaphylos x 'Pacific Mist' / Pacific Mist Manzanita
Ceanothus griseus horizontalis 'Carmel Creeper' / Carmel Creeper
Ceanothus x 'Concha' / California Lilac
Cistus ladanifer / Crimson Spot Rockrose
Cistus x skanbergii / Coral Rockrose
Festuca californica / California Fescue
Heuchera maxima / Island Alum Root
Iris douglasiana 'Pacific Coast Hybrids' / PCH Iris
Rhamnus californica 'Eve Case' / California Coffeeberry
Ribes sanguineum glutinosum / Red Flowering Currant
Ribes viburnifolium / Evergreen Currant
Salvia apiana / White Sage
Salvia clevelandii / Cleveland Sage
Zauschneria californica / California Fuchsia

BUTTERFLY HABITAT PLANTS
Abutilon x hybridum / Flowering Maple
Achillea millefolium / Common Yarrow
Buddleja davidii / Butterfly Bush
Encelia californica / California Encelia
Lantana montevidensis / Trailing Lantana
Leptospermum scoparium / New Zealand Tea Tree
Rosmarinus officinalis / Rosemary
Salvia leucantha / Mexican Bush Sage
Salvia mellifera / Black Sage
Verbena lilacina 'De la Mina' / Lilac Verbena
Viburnum tinus 'Spring Bouquet' / Spring Bouquet Laurestinus
Zauschneria californica / California Fuchsia

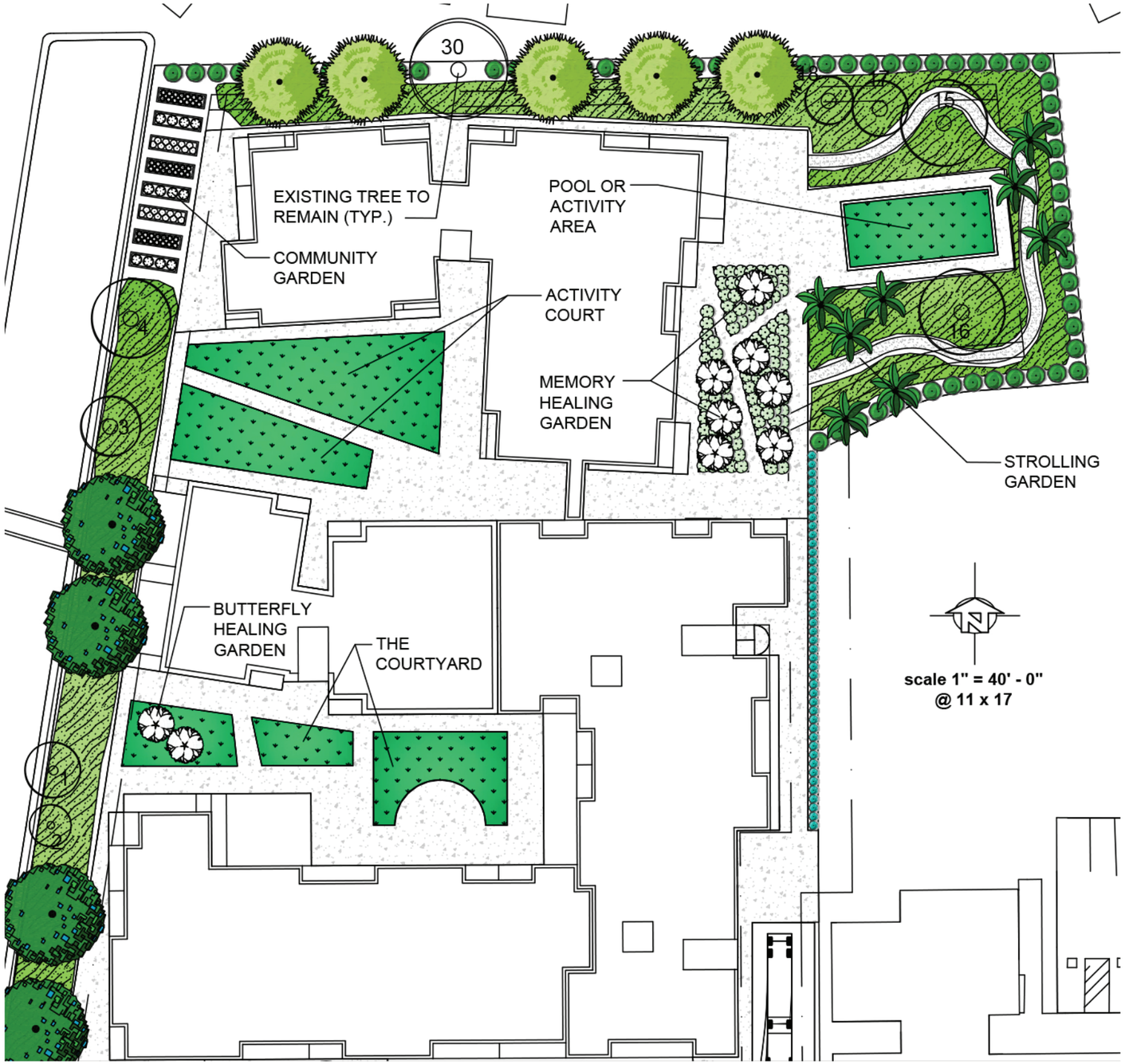
HEDGES
Grewia caffra / Lavender Starflower
Pittosporum eugenioides / Tarata Pittosporum
Pittosporum tenuifolium 'Marjorie Channon' / Tawhiwhi

BORDER PLANT
Agapanthus africanus 'White' / White Lily of the Nile
Buxus sempervirens / American Boxwood
Escallonia x 'Red Elf' / Escallonia

VINE ON TRELLIS
Bougainvillea x 'La Jolla' / Bougainvillea
Bougainvillea x 'San Diego Red' / Bougainvillea
Distictis buccinatoria / Blood Red Trumpet Vine
Lonicera x 'Honeyrose' / Honeyrose Honeysuckle
Syringa vulgaris / Common Lilac

VINE ON WALL/FENCE
Ficus pumila / Creeping Fig
Hydrangea anomala 'Skylands' / Climbing Hydrangea
Parthenocissus tricuspidata 'Fenway Park' / Boston Ivy

TURF	Festuca arundinacea 'Medallion' / Tall Fescue	6,938 sf
FLOWERING GROUND COVERS	Arctostaphylos hookeri 'Monterey Carpet' / Hooker's Manzanita Arctostaphylos x 'Emerald Carpet' / Emerald Carpet Manzanita Bacopa x 'Snowflake' / White Bacopa Ceanothus griseus horizontalis / Carmel Creeper Cotoneaster 'Lowfast' / Lowfast Cotoneaster	34,592 sf



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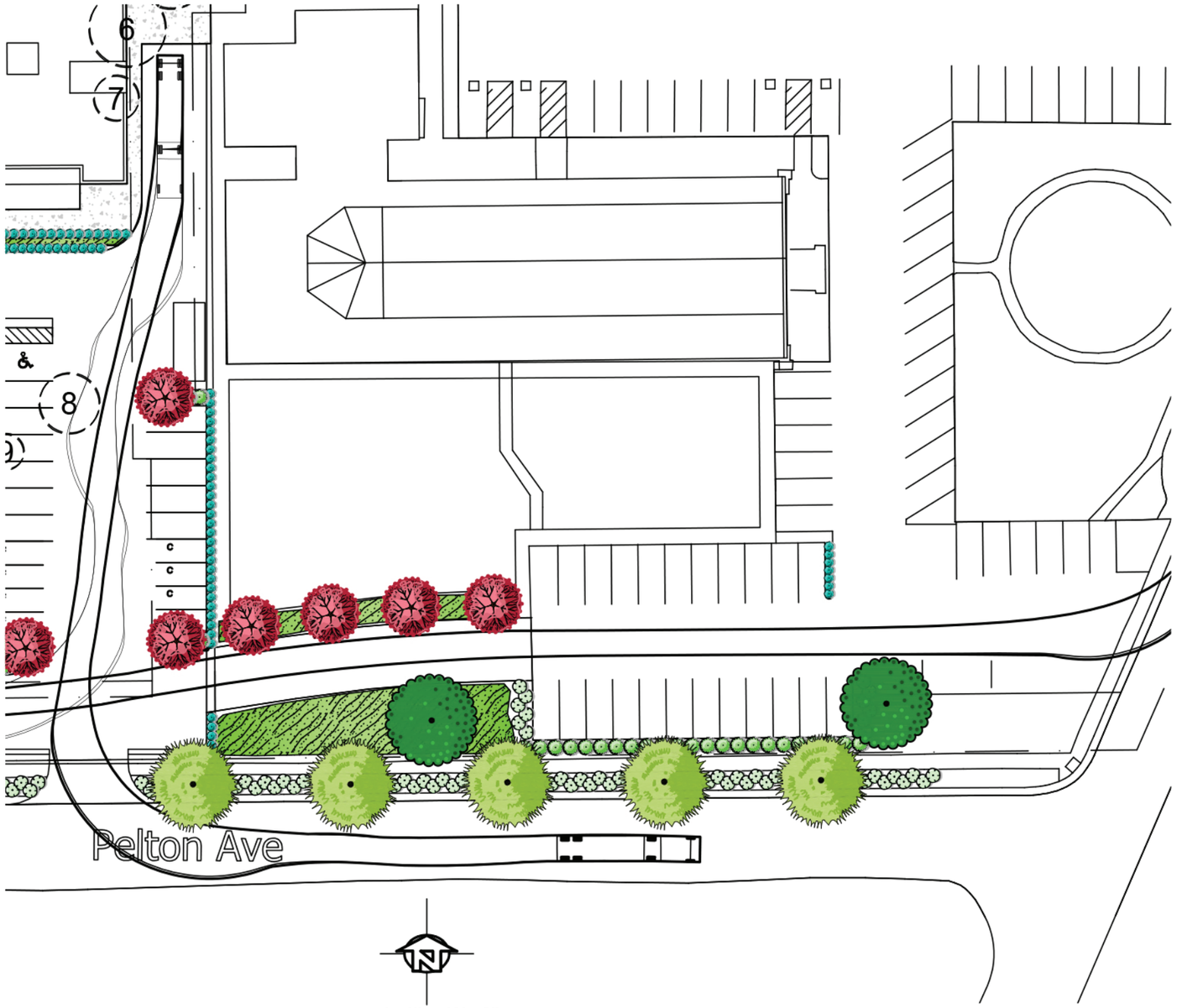
	BUTTERFLY HABITAT PLANTS Abutilon x hybridum / Flowering Maple Achillea millefolium / Common Yarrow Buddleja davidii / Butterfly Bush Encelia californica / California Encelia Lantana montevidensis / Trailing Lantana Leptospermum scoparium / New Zealand Tea Tree Rosmarinus officinalis / Rosemary Salvia leucantha / Mexican Bush Sage Salvia mellifera / Black Sage Verbena lilacina 'De la Mina' / Lilac Verbena Viburnum tinus 'Spring Bouquet' / Spring Bouquet Laurestinus Zauschneria californica / California Fuchsia	
	HEDGES Grewia caffra / Lavender Starflower Pittosporum eugenioides / Tarata Pittosporum Pittosporum tenuifolium 'Marjorie Channon' / Tawhiwhi	
	BORDER PLANT Agapanthus africanus 'White' / White Lily of the Nile Buxus sempervirens / American Boxwood Escallonia x 'Red Elf' / Escallonia	
	VINE ON TRELLIS Bougainvillea x 'La Jolla' / Bougainvillea Bougainvillea x 'San Diego Red' / Bougainvillea Distictis buccinatoria / Blood Red Trumpet Vine Lonicera x 'Honeyrose' / Honeyrose Honeysuckle Syringa vulgaris / Common Lilac	
	VINE ON WALL/FENCE Ficus pumila / Creeping Fig Hydrangea anomala 'Skylands' / Climbing Hydrangea Parthenocissus tricuspidata 'Fenway Park' / Boston Ivy	
	TURF Festuca arundinacea 'Medallion' / Tall Fescue	6,938 sf
	FLOWERING GROUND COVERS Arctostaphylos hookeri 'Monterey Carpet' / Hooker's Manzanita Arctostaphylos x 'Emerald Carpet' / Emerald Carpet Manzanita Bacopa x 'Snowflake' / White Bacopa Ceanothus griseus horizontalis / Carmel Creeper Cotoneaster 'Lowfast' / Lowfast Cotoneaster	34,592 sf



scale 1" = 40' - 0"
@ 11 x 17

CONCEPT PLANT SCHEDULE

CALIFORNIA NATIVE TREE 1 Quercus agrifolia / Coast Live Oak		11
CALIFORNIA NATIVE TREE 2 Acer circinatum / Vine Maple		12
CALIFORNIA NATIVE TREE 3 Cercis occidentalis / Western Redbud		10
CALIFORNIA NATIVE TREE 4 Lyonothamnus floribundus asplenifolius / Fernleaf Catalina Ironwood		9
CALIFORNIA NATIVE TREE 5 Washingtonia filifera / California Fan Palm		18
CALIFORNIA NATIVE TREE 6 Umbellularia californica / California Laurel		5
CALIFORNIA NATIVE TREE 7 Cupressus macrocarpa / Monterey Cypress		18
CALIFORNIA NATIVE TREE 8 Cornus nuttallii / Western Flowering Dogwood		12
CALIFORNIA NATIVE SHRUBS Alyogyne huegelii 'Santa Cruz' / Blue Hibiscus Alyogyne huegelii 'White Swan' / White Swan Hibiscus Arctostaphylos uva-ursi 'Emerald Carpet' / Emerald Carpet Manzanita Arctostaphylos x 'Pacific Mist' / Pacific Mist Manzanita Ceanothus griseus horizontalis 'Carmel Creeper' / Carmel Creeper Ceanothus x 'Concha' / California Lilac Cistus ladanifer / Crimson Spot Rockrose Cistus x skanbergii / Coral Rockrose Festuca californica / California Fescue Heuchera maxima / Island Alum Root Iris douglasiana 'Pacific Coast Hybrids' / PCH Iris Rhamnus californica 'Eve Case' / California Coffeeberry Ribes sanguineum glutinosum / Red Flowering Currant Ribes viburnifolium / Evergreen Currant Salvia apiana / White Sage Salvia clevelandii / Cleveland Sage Zauschneria californica / California Fuchsia		
BUTTERFLY HABITAT PLANTS Abutilon x hybridum / Flowering Maple Achillea millefolium / Common Yarrow Buddleja davidii / Butterfly Bush Encelia californica / California Encelia Lantana montevidensis / Trailing Lantana Leptospermum scoparium / New Zealand Tea Tree Rosmarinus officinalis / Rosemary Salvia leucantha / Mexican Bush Sage Salvia mellifera / Black Sage Verbena lilacina 'De la Mina' / Lilac Verbena Viburnum tinus 'Spring Bouquet' / Spring Bouquet Laurestinus Zauschneria californica / California Fuchsia		
HEDGES Grewia caffra / Lavender Starflower Pittosporum eugenioides / Tarata Pittosporum Pittosporum tenuifolium 'Marjorie Channon' / Tawhiwhi		
BORDER PLANT Agapanthus africanus 'White' / White Lily of the Nile Buxus sempervirens / American Boxwood Escallonia x 'Red Elf' / Escallonia		
VINE ON TRELLIS Bougainvillea x 'La Jolla' / Bougainvillea Bougainvillea x 'San Diego Red' / Bougainvillea Distictis buccinatoria / Blood Red Trumpet Vine Lonicera x 'Honeyrose' / Honeyrose Honeysuckle Syringa vulgaris / Common Lilac		
VINE ON WALL/FENCE Ficus pumila / Creeping Fig Hydrangea anomala 'Skylands' / Climbing Hydrangea Parthenocissus tricuspidata 'Fenway Park' / Boston Ivy		
TURF Festuca arundinacea 'Medallion' / Tall Fescue		6,938 sf
FLOWERING GROUND COVERS Arctostaphylos hookeri 'Monterey Carpet' / Hooker's Manzanita Arctostaphylos x 'Emerald Carpet' / Emerald Carpet Manzanita Bacopa x 'Snowflake' / White Bacopa Ceanothus griseus horizontalis / Carmel Creeper Cotoneaster 'Lowfast' / Lowfast Cotoneaster		34,592 sf

CALIFORNIA NATIVE TREES

Acer circinatum "Pacific Fire'
Pacific Fire Vine Maple

Cercis occidentalis
Western Redbud

Cornus nuttallii
Western Flowering Dogwood

Cupressus macrocarpa
Monterey Cypress

Lyonthamnus floribundus asplenifolius
Fernleaf Catalina Ironwood

Quercus agrifolia
Coast Live Oak

Umbellularia californica
California Laurel

Washingtonia filifera
California Fan Palm

UNIT SUMMARY

UNITS	
INDEPENDENT LIVING UNITS (IL)	
STUDIO	3
1 BEDROOM	8
2 BEDROOM	2
SUB TOTAL	**13**

ASSISTED LIVING UNITS (AL)	
STUDIO	21
1 BEDROOM	30
2 BEDROOM	6
SUB TOTAL	**57***

* AL UNITS INCLUDE KITCHENETTE

MEMORY CARE UNITS (MC)	
STUDIO	16
SHARED 2 BEDROOM	2
SUB TOTAL	**18**

INCLUSIONARY UNITS (IU)	
STUDIO	2
1 BEDROOM	2
SUB TOTAL	**4**

TOTAL PROJECT UNITS	**92**

*All numbers are preliminary and subject to change

LEVEL 1 PLAN

Gross Floor Area: 43,870sf

LEVEL 1

ASSISTED LIVING UNITS	
STUDIO	7
1 BEDROOM	8
TOTAL UNITS	**15**

MEMORY CARE UNITS	
STUDIO	16
SHARED 2 BEDROOM	2
TOTAL UNITS	**18**

INCLUSIONARY UNITS	
STUDIO	2
1 BEDROOM	2
TOTAL UNITS	**4**

TOTAL LEVEL 1 UNITS	**37**

*All numbers are preliminary and subject to change

LEVEL 2 PLAN

Gross Floor Area: 35,390sf

LEVEL 2

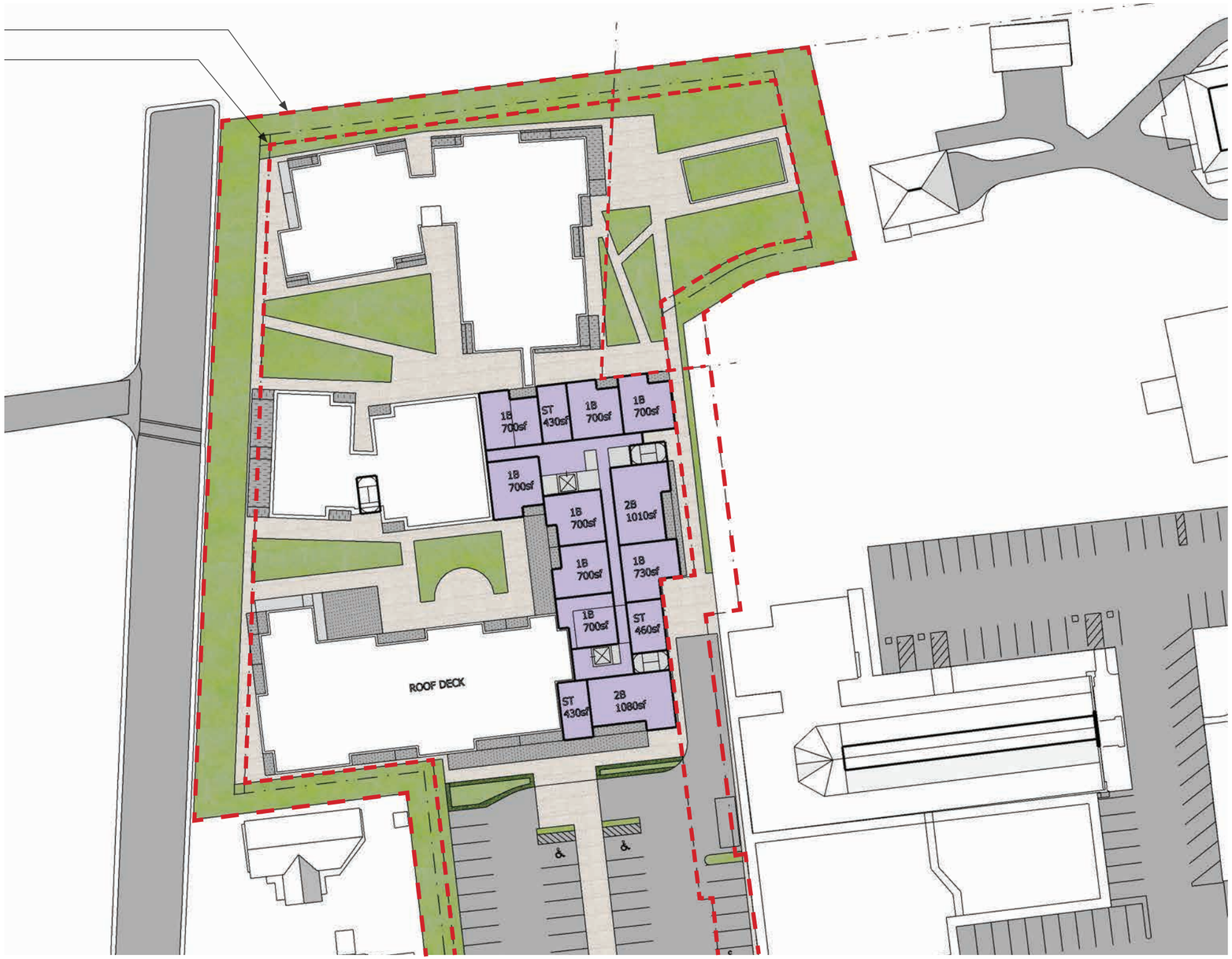
ASSISTED LIVING UNITS	
STUDIO	14
1 BEDROOM	22
2 BEDROOM	6
TOTAL LEVEL 2 UNITS	**42**

*All numbers are preliminary and subject to change

LEVEL 3 PLAN

PROPERTY LINE

SETBACK LINE



Gross Floor Area: 11,720sf

LEVEL 3

INDEPENDENT LIVING UNITS	
STUDIO	3
1 BEDROOM	8
2 BEDROOM	2
TOTAL LEVEL 3 UNITS	**13**

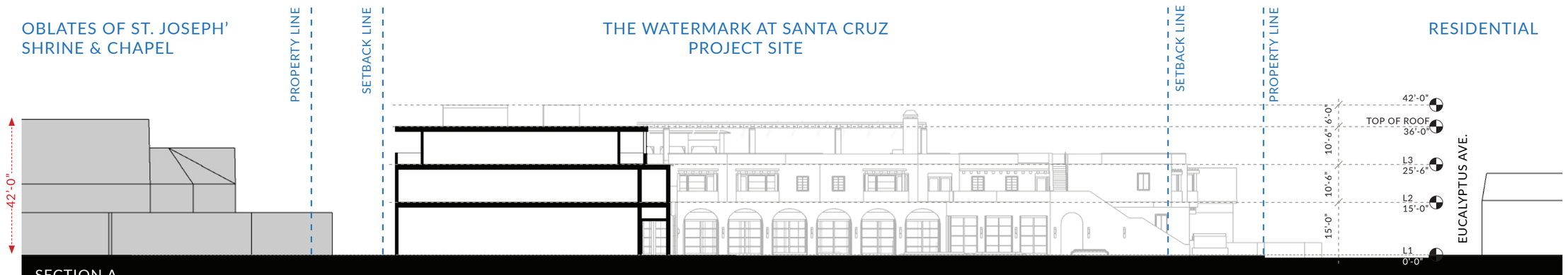
*All numbers are preliminary and subject to change

0' 50' 100'

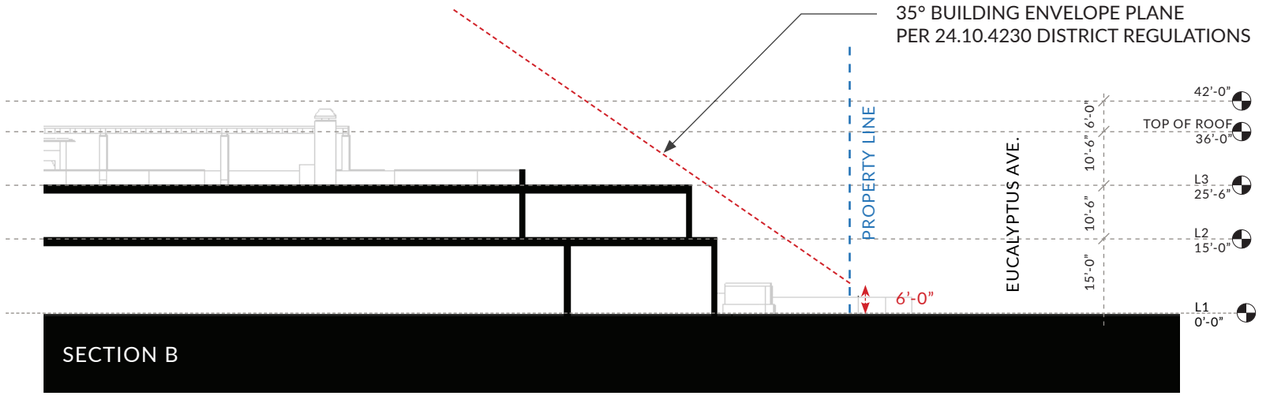
Independent Living

Support/Back of House

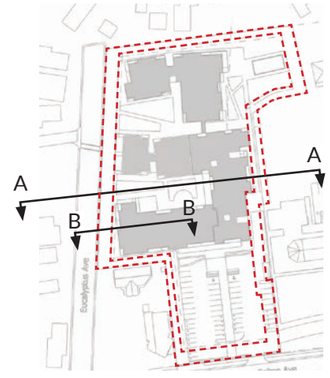
SITE SECTION



SECTION A



SECTION B



KEY PLAN

NORTH AND SOUTH ELEVATION

ELEVATION 1 - SOUTH ELEVATION

ELEVATION 2 - NORTH ELEVATION

KEY PLAN

EAST AND WEST ELEVATION

ELEVATION 3 - EAST ELEVATION

ELEVATION 4 - WEST ELEVATION

KEY PLAN

TYPICAL ELEVATION MATERIALS

COPPER CROWN

METAL FLASHING TRIM

WOOD/ALUMINUM FRAME AND MULLION

HIGH-PERFORAMCE GLAZING

TIMBER TRELLIS AND COLUMNS

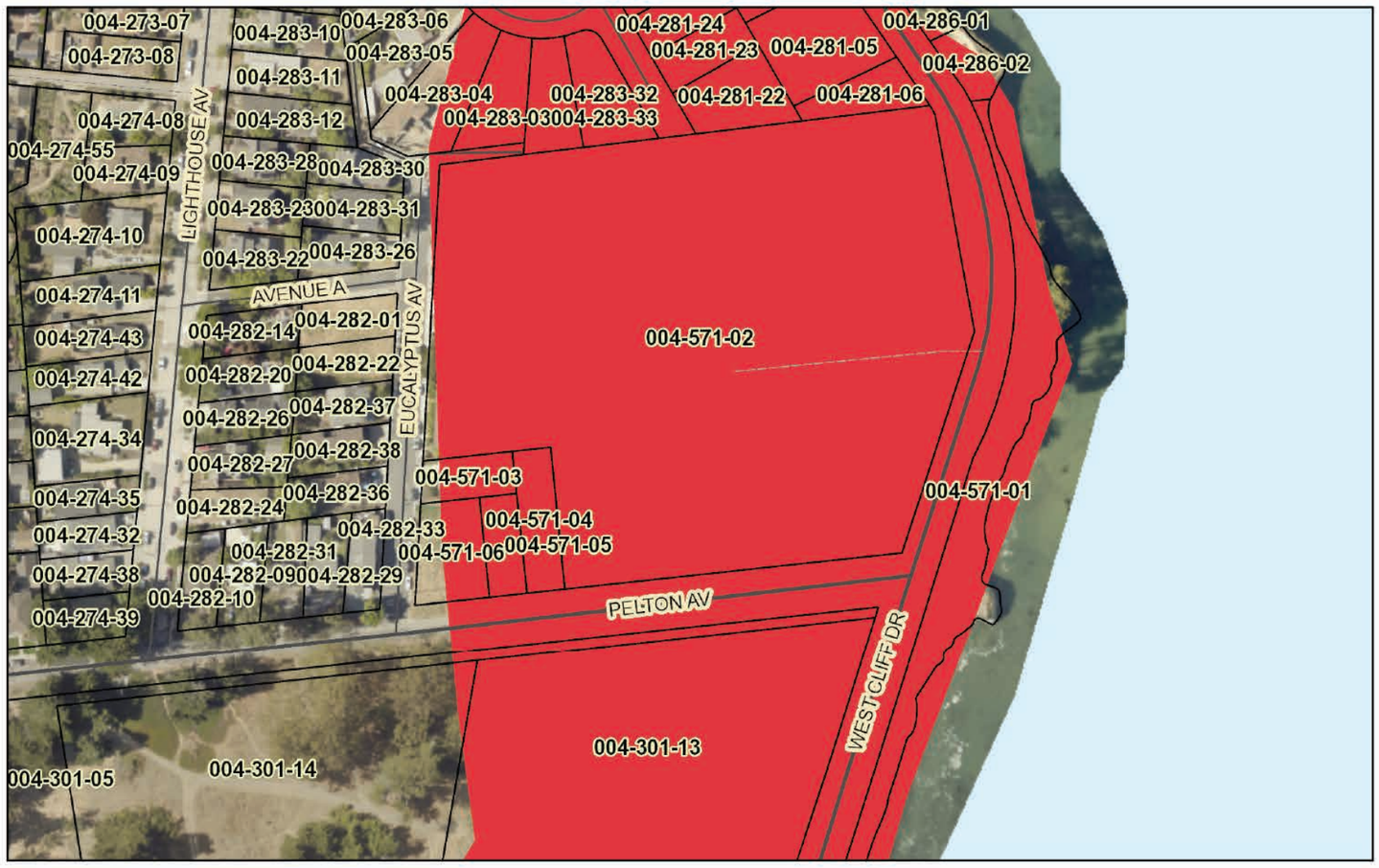
STUCCO

METAL RAILING

OUTDOOR PENDANT FIXTURE

WALL SCONCE

COUNTY GIS - TSUNAMI AREA



November 14, 2019

Attn: Roger Bernstein
Vice President of Construction
Oppidan Investment Company
1100 Lincoln Avenue, Suite 382
San Jose, CA. 95125

Subject: Biotic Assessment for the proposed Watermark at Santa Cruz Senior Housing Project, Santa Cruz, California

Dear Mr. Bernstein,

At the request of Oppidan Investment Company, Ecosystems West conducted a biotic assessment for the proposed development of The Watermark at Santa Cruz senior housing facility on a portion of the property owned and managed by the Oblates of St. Joseph in Santa Cruz, California (APNs: 004-57-102 and 004-57-104). The project site is located on the former site of Gateway School and currently supports the closed campus, a remnant urban farm and garden, and semi-maintained landscaping (Figure 1). The proposed project will demolish all existing developed areas and develop 100 senior housing units. Individual units will be studio, one, and two-bedroom apartments in two or three-story buildings situated around central courtyard. Resident and visitor parking will be located on the southern portion of the property along Pelton Avenue. The project will incorporate an urban farm and a butterfly garden supporting nectar plants typically utilized by monarch butterflies.

The objectives of this assessment were to:

- Determine whether any sensitive habitats, plants or wildlife species occur on the site. In particular, the assessment evaluated whether heritage trees, coastal terrace prairie, breeding birds, roosting bats and/or monarch butterfly roosting habitat are present on the site;
- Provide a general characterization of the natural plant communities and/or habitat types on the site;
- Assess potential impacts of the proposed project to sensitive biological resources.

On 4 November 2019, EcoSystems West visited the proposed Watermark at Santa Cruz (hereafter Watermark) senior housing project site to evaluate the potential for special-status biological resources including rare plants and wildlife and sensitive habitats including wetland and riparian areas. The evaluation also included a site visit to a known monarch butterfly autumnal and overwintering roost site approximately 200 feet southwest of the project site in Lighthouse Field State Park. This area supports an approximately 0.95-acre grove of non-native Monterey cypress and blue gum eucalyptus that provides autumnal and winter roost habitat for thousands of migrating monarch butterflies annually.

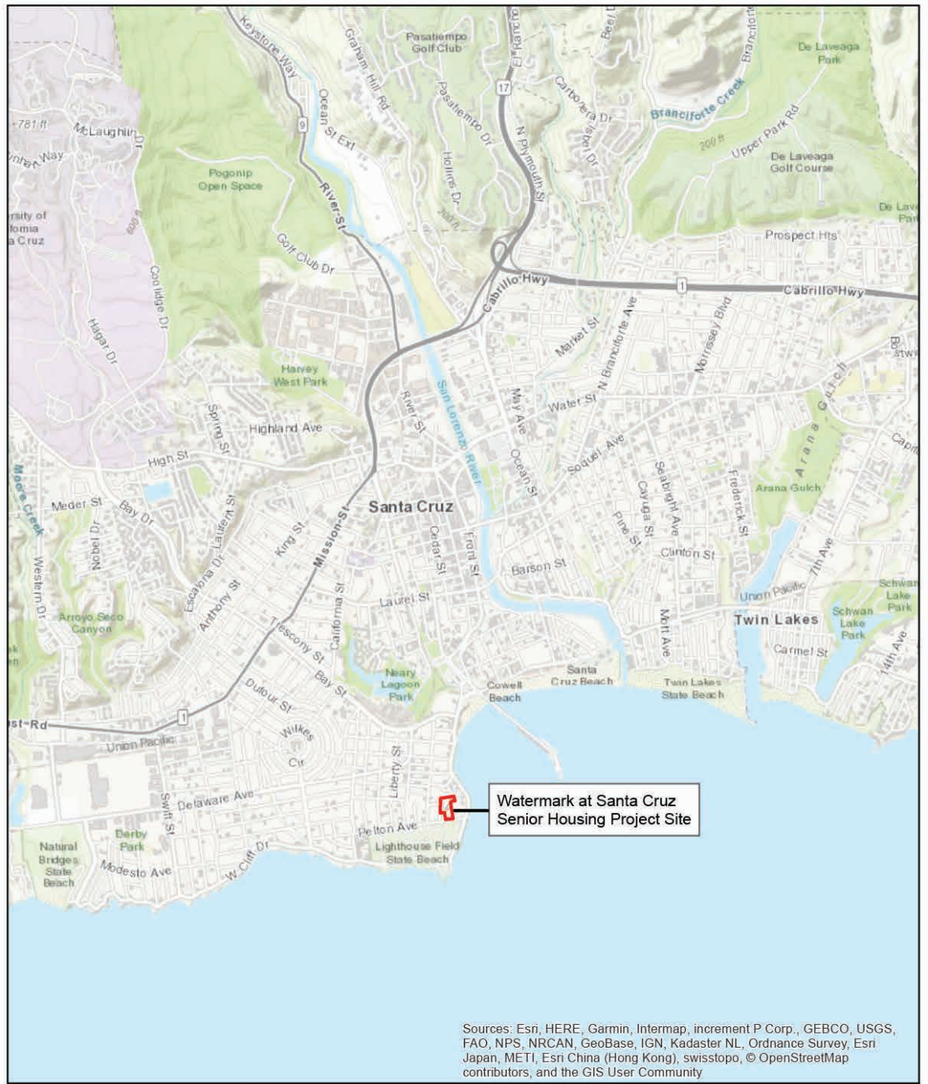


Figure 1.

Watermark at Santa Cruz Senior Housing Proect Site Location

PROJECT SITE CHARACTERIZATION

The entire Watermark project site is currently developed as the former Gateway School campus and supports existing classroom buildings, landscaping, remnants of an urban farm and garden, and other infrastructure. The project site is bounded by Eucalyptus Avenue to the west, Pelton Avenue to the south, St. Joseph's Church and West Cliff Drive to the west, and a residential neighborhood to the North. There are no wildland areas with potential to support special-status plants as this site has been fully developed and actively used as a school campus for more than 50 years. Soils are mapped as Watsonville loam, a clayey "hydric" soil which is known to support wetlands and various special-status plant and wildlife species elsewhere including Santa Cruz tarplant (*Holocarpha macradenia*; FE, CNPS List 1B.1), San Francisco popcorn flower (*Plagiobothrys diffusus*; SE, CNPS List 1B.1), and Santa Cruz clover (*Trifolium buckwestiorum*; CNPS List 1B.1), and Ohlone tiger beetle (*Cicindela Ohlone*; FE). Nevertheless, due the developed and maintained condition of vegetated areas within the project site, habitat for these species are not present within the project site and none of these species are documented to occur in Lighthouse Field State Park. A focused floristic study is not recommended for this project as there are no areas available to support special-status plants.

The project site supports three habitat types: developed, ornamental-landscaped, and ruderal grassland (Figure 2). Developed areas include the former Gateway School classroom buildings and paved areas. Landscaped areas include planted ornamental vegetation and remnants of an urban farm and garden maintained by the school. This garden contains raised planter beds with food crops (e.g. tomatoes) and ornamental forbs, shrubs and trees. Because the Gateway School campus has only been closed for approximately 15 months, much of the garden remains intact, although it does not appear regularly maintained. Ruderal grassland areas are mowed by church staff and are comprised of non-native Bermuda grass (*Cynodon dactylon*), white clover (*Trifolium repens*), and tall fescue (*Festuca arundinaceae*).

RESULTS AND OBSERVATIONS

Monarch Butterfly

The monarch butterfly was petitioned to be listed as a Threatened species under the federal ESA in 2014, and it is currently under review by USFWS after a positive 90-day finding (USFWS 2014). In May 2019, the USFWS announced an extension of the deadline to determine whether the monarch butterfly warrants ESA protection. The USFWS will continue efforts to collect data and analyze the monarch's status and threats until December 15, 2020 (USFWS 2019f).

The winter roost sites of the monarch butterfly are listed by NatureServe as imperiled/vulnerable (S2/S3) within California (CDFW CNDDB 2018). In the City of Santa Cruz 2030 General Plan the monarch butterfly is identified as a special-status species in Natural Resources and Conservation 2.4.1 and in Table 1, which lists avoidance and minimization measures (City of Santa Cruz 2012). The overwintering monarch population has seen an overall decline of 97% in coastal California within the last 20 years (IELP and Xerces Society 2012, Schultz et al. 2017Pelton et al. 2016).

The life history of the monarch butterfly can be divided into two temporally defined periods: a spring/summer reproductive period and a fall/winter non-reproductive (wintering) period. During the spring and summer, monarchs exploit the widely distributed North American milkweed flora (*Asclepias* spp.) as food for their larvae. In the fall, the adult butterflies that are produced during the latter part of

Figure 2.

Habitat Types within the Watermark at Santa Cruz Senior Housing Proect Site

summer migrate to wintering habitats in coastal California or central. Monarchs spend from 1 to 9 months as adults, depending on when they become reproductive. If they become reproductive immediately, they live 1-2 months as adults. Monarch adults that emerge from August through October typically migrate and overwinter before becoming reproductive the following spring. These monarchs live approximately 8-9 months.

Monarchs arrive at overwintering sites in late September and the first half of October to form fall aggregations. By mid-November they form more stable aggregations, which persist through January or February (Pelton et al. 2016). The monarch butterfly utilizes eucalyptus, Monterey pine, Monterey cypress, or redwood tree groves for winter roost sites, typically within 1.5 miles (2.4 kilometers) of the Pacific Ocean. Monarchs form aggregations in the foliage on the underside of peripheral branches. The suitability of the stand is determined by both abiotic and biotic factors including:

- periodic exposure to (dappled) sunlight (often southeast aspect);
- cool shady roost areas for periods of warm weather;
- primary and secondary wind protection;
- proximity to nectaries (fall or winter blooming flowers);
- humidity; and
- water sources.

Monarchs typically emerge from a state of nocturnal torpor and begin to fly at temperatures around 55° F. Below this temperature, monarchs are unable to fly and are often killed or injured if dislodged from their roosts. Winter roost sites are sufficiently heterogeneous to permit shifts of roost location in accord with prevailing weather conditions and seasonal variation in insulation. The roost site consists of the trees upon which the butterflies cluster, as well as the surrounding trees that provide wind protection. In addition, overwintering habitat includes nectar plants and water sources surrounding the roost site, since monarchs may fly some distance to obtain these resources (Pelton et al. 2016, Griffiths and Villablanca 2015).

A substantial autumnal and occasional overwintering monarch butterfly population occurs in a Monterey cypress and blue gum eucalyptus grove approximately 200 feet southwest of the proposed project site. This population has been observed and regularly documents since 1990 (Sakai and Calvert), and annual population estimates have fluctuated significantly over that period. A recently documented trend indicating declining overwintering monarchs along the Pacific Coast has been observed locally in Santa Cruz and Lighthouse Field in particular. However, this grove remains one of the more stable and important roost habitats and a recent management plan (Pelton et al 2017) has been developed to manage and enhance this area for long-term viability as a roost site.

During the field visit, EcoSystems West observed hundreds of monarchs clustered (roosting) and flying within the grove and surrounding area. The majority of clustered individuals were on eucalyptus trees approximately 20 feet above the ground in the interior of the grove. We carefully evaluated trees within the entire St. Joseph's Church property for the potential to support roosting monarch butterflies. No potential roost sites were identified within the proposed Watermark project site. However, several mature trees in other portions of the church property were determined to have limited potential to support roosting monarchs; a hedgerow of five Monterey cypress occurs immediately south of the existing cathedral building and two large cypress are adjacent to northeast corner of the project site. However, these mature trees lack lower, spreading limbs and most likely lack sufficient wind protection to serve as primary winter roost habitat although monarchs may temporarily use these trees for temporary autumnal roosts during periods of suitable weather. While monarchs were observed roosting on trees within the Lighthouse Field grove, no monarchs were observed roosting in trees on the

Watermark project site or St. Joseph's Church during the November 2019 filed visit. Numerous monarchs were observed flying within the site and nectaring on flowering ornamental plants within maintained gardens on the Church grounds. These gardens serve as an important nectaring location for the Lighthouse Field monarch population. Monarchs were also observed within the remnant Gateway School farm planned for removal. Current Watermark project plans propose to incorporate a new rooftop urban farm in the northwest portion of the project site and a butterfly garden with flowering nectar plants in the interior courtyard. Plant species used in the butterfly garden and elsewhere as ornamental landscaping will include a pallete of native and non-invasive exotic plants as recommended by Dr. Richard Arnold (consulting entomologist), and the Xerces Society (Appendix B). Species may include yarrow (*Achillea millefolium*), bush sunflower (*Encelia californica*), black sage (*Salvia mellifera*), rosemary (*Rosemarinus offinalis*), and blueblossom (*Ceanothus thyrsiflorus*). As a result, removal of the existing Gateway School farm and garden and other ornamental vegetation will be mitigated by replacement nectaries associated with the project.

EcoSystems West did not conduct a formal monarch roosting surveys during fall 2019; it is unknown if butterflies roost within the trees on Watermark project site although none have ever been documented despite the close proximity to the Lighthouse Field roosts. Nevertheless, autumnal and overwintering sites may vary both from year to year and within the roosting season and as noted above, monarch populations have been steadily declining. In addition, other factors (timing of winter rains, winter temperatures, canopy density, and adequate food supply for larva) also vary from year to year. Therefore, survey results from one year would not be predictive of monarch autumnal or overwintering occupation in subsequent years.

Although unlikely due to marginal habitat conditions, monarch butterflies may utilize the Monterey cypress groves or other trees on the church property immediately adjacent to the Watermark project site as autumnal or winter roosts. If monarchs are present, removal of roost or buffer trees would directly impact roosting habitat. In addition, construction activities that generate dust, smoke, fumes and/or low frequency vibrations (grading, vegetation removal, earthmoving, and concrete work) may suffocate butterflies and/or dislodge them from their roosts.

An additional fall/early winter 2020 survey prior to commencing project activities by a qualified will be required to determine if monarchs are present in or near the project site. If monarchs are present:

- all roost trees including buffer trees will be retained;
- occupied roosts will be buffered by 100 feet; and
- daily construction will begin after temperatures are above 55° F, so that butterflies have emerged from nocturnal torpor and are capable of flying.

City of Santa Cruz Preservation of Heritage Trees and Shrubs

The City of Santa Cruz Preservation of Heritage Trees and Shrubs Ordinance prohibits any activity that will significantly impact or remove a heritage tree or shrub without obtaining a permit from the City Parks and Recreation Department. Heritage trees and shrubs include any tree, grove of trees, shrub or group of shrubs, growing on public or private property within the city limits of the City of Santa Cruz which meet(s) the following criteria shall have the "heritage" designation:

A. Any tree which has a trunk with a circumference of forty-four inches (approximately fourteen inches in diameter or more), measured at fifty-four inches above existing grade;

B. Any tree, grove of trees, shrub or group of shrubs which have historical significance, including but not limited to those which were/are:

1. Planted as a commemorative;
2. Planted during a particularly significant historical era; or
3. Marking the spot of an historical event.

C. Any tree, grove of trees, shrub or group of shrubs which have horticultural significance, including but not limited to those which are:

1. Unusually beautiful or distinctive;
2. Old (determined by comparing the age of the tree or shrub in question with other trees or shrubs of its species within the city);
3. Distinctive specimen in size or structure for its species (determined by comparing the tree or shrub to average trees and shrubs of its species within the city);
4. A rare or unusual species for the Santa Cruz area (to be determined by the number of similar trees of the same species within the city);
5. Providing a valuable habitat; or
6. Identified by the city council as having significant arboricultural value to the citizens of the city. (Ord. 94-01 § 2, 1994).

Exemptions are made for emergencies involving dead or diseased trees that pose an immediate danger to life or property. In these instances, pruning or removal of a heritage tree/shrub may be authorized by the director or by a responsible member of the police, fire, or public works department.

A total of 13 heritage size trees with a diameter greater than 14 inches were identified within the project site (see Watermark Landscape Plan). Of these, only one coast redwood (*Sequoia sempervirens*) is considered a native species. However, due to the urban location and solitary nature of this individual on a near coastal terrace, it is presumed this tree was planted as an ornamental and is not a naturalized specimen. No heritage shrubs were identified within the project site.

Because project plans are not currently finalized, the total number heritage trees to be removed is uncertain. A heritage tree removal permit will be required by the City of Santa Cruz from the removal of any heritage tree. Planting of replacement trees will be required with the species composition and replacement ratio (typically 2:1) to be determined by the City Planning Department. Preliminary landscaping plans propose more than 50 native trees to be planted on the property, which will likely satisfy permit requirements for heritage tree removal.

Nesting Birds/Roosting Bats

All nesting birds of prey (i.e., hawks and owls), other native nesting birds and their occupied nests and individual birds of prey are protected by the California Fish and Game Commission Code (CFGC) (§ 3503 and 3503.5) (CFGC 2016). Special-status bird species receive additional protections, primarily for nesting activities. Suitable potential nesting habitat for special-status birds and other common avian species is present within or adjacent to the proposed Watermark project site in trees and structures.

Bats may utilize mature trees or cavities in existing buildings and structures within the project site for roosting. Bat maternity roosting occurs typically between May 1 and September 1, and winter hibernacula (shelter occupied during the winter by a dormant animal) for many bat species are found between November 1 and February 15.

- If feasible, conduct tree and vegetation removal and building demolition outside of breeding bird and bat maternity roost/winter hybernacula seasons, ideally between September 1 and November 1.

If vegetation/tree and building removal cannot take place during this time, a qualified biologist will conduct pre-construction a breeding bird survey no more than seven days prior to the initiation of project activities.

If nesting activity is observed, postpone tree removal and building demolition until the qualified biologist has determined that young birds have fledged. If work cannot be postponed, establish a species-specific buffer zone [such as are listed in the Nesting Bird Management Plan (PG&E et al. 2015)] around active nest trees and coordinate with agency representatives if special-status birds are present.

If no nesting activity is observed, conduct tree/vegetation and building removal activities as soon as possible after preconstruction surveys.

- During any season, prior to tree removal, a qualified biologist will conduct a preconstruction roosting bat survey to ensure that bats are not using crevices, peeling bark or foliage within trees slated for removal or cavities or other features in buildings to be demolished:

For any trees/snags and structures that could provide roosting space for cavity or foliage-roosting bats, the trees/snags and foliage shall be thoroughly evaluated to determine if bats are present. Visual inspection and/or acoustic surveys shall be utilized as initial techniques. If roosting bats are found, the biologist shall develop and implement acceptable passive exclusion methods in coordination with or based on CDFW recommendations. Exclusion shall take place during the appropriate windows (September 1 and November 1) to avoid harming bat maternity roosts and/or winter hibernacula.

  - If winter hybernacula are present authorization from CDFW would be required to evict bats.
  - If established maternity colonies are found, a minimum 300-foot buffer shall be established around the colony to protect pre-volant young from construction noise until the young can fly; or implement other measures acceptable to CDFW.
  - If a tree is determined not to be an active roost site for roosting bats, it may be immediately limbed or removed as follows:

If foliage roosting bats are determined to be present, limbs shall be lowered, inspected for bats by a bat biologist, and chipped immediately or moved to a dump site. Alternately, limbs may be lowered and left on the ground until the following day, when they can be chipped or moved to a dump site. No logs or tree sections shall be dropped on downed limbs or limb piles that have not been in place since the previous day.

  - If the tree is not limbed or removed within four days of the survey, the survey efforts shall be repeated.
  - If no bats are present, remove trees immediately.
  - Buildings and structures should be removed immediately following a negative finding or permitted eviction of roosting bats.

Please don't hesitate to contact me if you have any questions or require additional information.

Sincerely,

Justin Davilla, Senior Ecologist

Attachment A.

Representative Photographs of the Proposed Watermark at Santa Cruz Senior Housing Project Site.

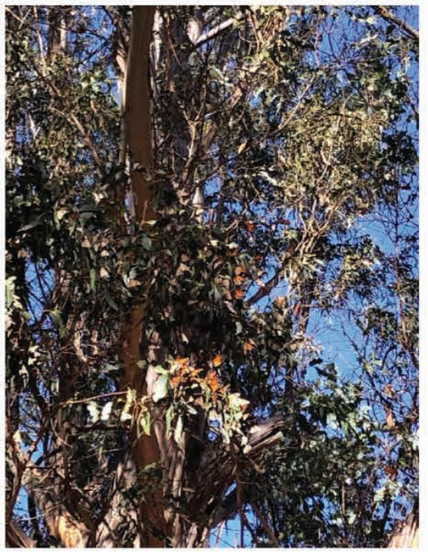
Top. Overview of the proposed Watermark at Santa Cruz Housing Project Site on the former Gateway School Campus at St. Joseph's Church.

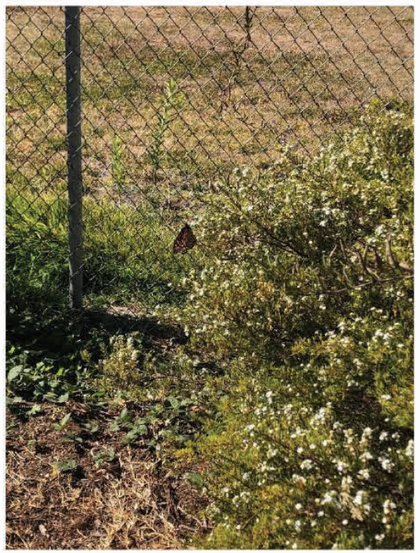
Bottom. Remnant Gateway School urban farm and garden on the Watermark project site.

ECOSYSTEMS WEST CONSULTING GROUP

Top. Hedgerow of mature Monterey cypress immediately southeast of the proposed Watermark project site.

Bottom. Monterey cypress immediately northeast of the proposed project site on the St. Joseph's Church property.





Top. Potential cavity roost for bats and/or birds in the former Gateway School building.

Bottom left. Roosting monarchs on eucalyptus tree in Lighthouse Field State Park.

Bottom right. Nectaring monarch on ornamental shrub in St. Joseph's Church garden immediately adjacent to the Watermark Project site.

Attachment B.

Xerces Society List of Monarch Nectar Plants
For the Central California Coast

MONARCH NECTAR PLANTS

California Coast

Left to right: Monarch on western goldentop, black sage, and bluedicks.

Stretching over 800 miles along the Pacific Ocean, the California coast is home to a diverse array of habitats, including shifting sand dunes, coastal prairies, oak woodlands, towering redwood forests, and estuarine wetlands. The winter homes of monarch butterflies can also be found in this region, in the form of hundreds of small eucalyptus and conifer groves. During spring and summer, monarchs leave these overwintering sites and fan out across the western landscape to breed and lay eggs on milkweed, the monarch's host plant. Several generations are likely produced during this time. In the fall, adults from throughout the western U.S. migrate back to overwintering sites in California and central Mexico, where they generally remain in reproductive diapause until the spring, when the cycle begins again.

Monarchs at overwintering sites in California and Mexico have declined dramatically since monitoring began in the late 1990s. The Xerces Society's Western Monarch Thanksgiving Count, a volunteer driven effort, has documented a 74% decline in monarchs that overwinter in California since 1997. Across their range in North America, monarchs are threatened by a variety of factors. Loss of milkweed from extensive herbicide use has been a major contributing factor, and habitat loss and degradation from other causes, natural disease and predation, climate change, and widespread insecticide use are probably also contributing to declines. Because of the monarch's migratory life cycle, it is important to protect and restore habitat across their entire range. Adult monarchs depend on diverse nectar sources for food during all stages of the year, from spring and summer breeding to fall migration and overwintering. Caterpillars are completely dependent on their milkweed host plants. Inadequate milkweed or nectar plant food sources at any point may impact the number of monarchs that successfully arrive at overwintering sites in the fall.

Providing nectar-rich flowers that bloom from fall through early spring is one of the most significant actions you can take to support monarch butterfly populations along the California coast. This guide features coastal California native plants that have documented monarch visitation, bloom during the times of year when monarchs are present, are commercially available as seeds or transplants, and are known to be hardy. The list also includes moisture requirements, so that you can choose plants to create a drought-tolerant monarch garden, if needed. These species are well-suited for wildflower gardens, urban greenspaces, and farm field borders. Beyond supporting monarchs, many of these plants attract other nectar- and/or pollen-seeking butterflies, bees, moths, and hummingbirds, and some are host plants for other butterfly and moth caterpillars. For a list of native plants that host butterflies and moths specific to your zip code see www.nwf.org/nativeplantfinder.

The species in this guide will be adaptable to growing conditions across most of coastal California, although a few species have limited distributions. Please consult Calflora (www.calflora.org) for details on species' distributions in your specific area.

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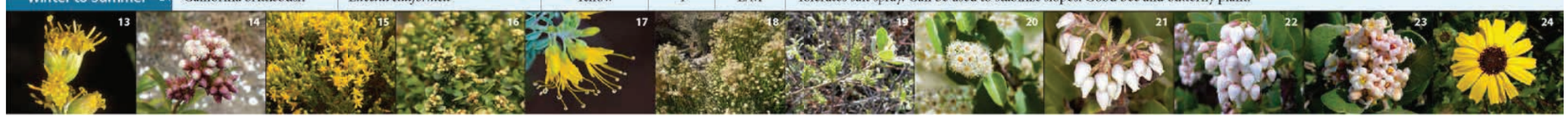
		Common Name	Scientific Name	Flower Color	Max. Height	Water Needs	Notes
		Forbs			(Feet)	Low, Medium, or High	All species are perennials. Monarchs are typically present in coastal California from September through March, but can be found year-round in some parts of the region.
Spring to Fall	1	Coastal sand verbena	*Abronia latifolia*	Yellow	1	L/M	Tolerates salt spray and prefers sandy soils. Can bloom year-round.
Summer to Fall	2	California goldenrod	*Solidago velutina* ssp. *californica*	Yellow	3	L	Important late-season forage for bees, butterflies, wasps, beetles, and more.
	3	Common sandaster	*Corethrogyne filaginifolia*	Yellow/purple	3	L/M	Host plant for Gabb's checkerspot (Chlosyne gabbii).
	4	Dunn's lobelia	*Lobelia dunnii* var. *serrata*	Purple	2	H	Excellent butterfly plant.
	5	Roughleaf aster	*Eurybia radulina*	Purple	2	M	High drought tolerance once established.
	6	Sweetscent	*Pluchea odorata*	Pink/purple	3	L	Mostly coastal, brackish plant. Can tolerate saline sites.
	7	Western goldentop	*Euthamia occidentalis*	Yellow	6	M/H	Wetland-riparian.
Winter to Spring	8	Bluedicks	*Dichelostemma capitatum*	Purple	3	L	Attracts other bees, butterflies, and hummingbirds. An early spring bloomer.
Winter to Summer	9	Seaside fleabane	*Erigeron glaucus*	Purple	2	L/M	A great butterfly plant.
		Shrubs and Trees					
Spring to Summer	10	Black sage	*Salvia mellifera*	Blue/purple	6	L	Important butterfly and hummingbird plant. Quail eat the seeds.
	11	Blueblossom	*Ceanothus thyrsiflorus*	Blue	15	L	Amazing pollinator plant. Host plant to many butterfly species. Birds will eat the seeds.
Spring to Fall	12	Dune ragwort	*Senecio blochmaniae*	Yellow	3	L/M	Limited distribution.
Summer to Fall	13	California broomsage	*Lepidospartum squamatum*	Yellow	6	L/M	Can be used in restoration and stream stabilization projects.
	14	Saltmarsh baccharis	*Baccharis douglasii*	White	3	M/H	Important nectar source for many species of wasps, butterflies, and flies.
Fall	15	California goldenbush	*Ericameria ericoides*	Yellow	3	L/M	Great late season nectar source for bees and butterflies.
Fall to Winter	16	Coyotebrush	*Baccharis pilularis*	Yellow/white	8	L	Easy to grow and extremely drought-tolerant. Attractive to many insects.
Fall to Summer	17	Bladderpod spiderflower	*Cleome isomeris*	Yellow	4	L	Tolerates salt spray. Also attracts bees.
Winter	18	Desertbroom	*Baccharis sarothroides*	Pink/white	10	L	Can be used for streambank stabilization.
Winter to Spring	19	Arroyo willow	*Salix lasiolepis*	Yellow/white	20	H	Tolerates sand and seasonal flooding; good for erosion control. Important wildlife plant.
	20	Hollyleaf cherry	*Prunus ilicifolia*	Yellow/white	14	L	Fruits eaten by many birds and small mammals.
	21	Morro manzanita	*Arctostaphylos morroensis*	Pink/white	20	L	Limited distribution. On CA rare/threatened/endangered list.
	22	Refugio manzanita	*Arctostaphylos refugioensis*	White	7	L	Limited distribution. On CA rare/threatened/endangered list.
	23	Sugar sumac	*Rhus integrifolia*	Pink	8	L/M	Good for erosion control on coastal bluffs. Fruits are eaten by birds and other wildlife.
Winter to Summer	24	California brittlebush	*Encelia californica*	Yellow	4	L/M	Tolerates salt spray. Can be used to stabilize slopes. Good bee and butterfly plant.



Planting for Success

Monarch nectar plants often do best in open, sunny sites. You can attract more monarchs by planting flowers in single species clumps and choosing a variety of plants that have overlapping and sequential bloom periods. Monarchs are typically present from September through March in coastal California, but can be present year-round. Providing nectar plants that bloom from fall through early spring will be important for overwintering monarchs in the region.

Why Plant Native?

Although monarchs use a variety of nectar plant species, including exotic invasives such as ice plant and cape ivy, we recommend planting native species. Native plants are often more beneficial to ecosystems, are adapted to local soils and climates, and help promote biological diversity. They can also be easier to maintain in the landscape, once established.

Tropical milkweed is a non-native plant that is widely available in nurseries. This milkweed can persist year-round in mild climates, allowing monarchs to breed throughout the winter rather than going into diapause. Tropical milkweed may foster higher loads of a monarch parasite called Oe (*Ophryocystis elektroscirrha*), which negatively impacts monarch health. Because of these implications, the Xerces Society does not recommend planting milkweed adjacent to overwintering sites or in areas where the plant did not historically occur. You can read more about Oe in a fact sheet by the Monarch Joint Venture: http://monarchjointventure.org/images/uploads/documents/Oe_fact_sheet.pdf.

Protect Monarchs from Pesticides

Both insecticides and herbicides can be harmful to monarchs. Herbicides can reduce floral resources and host plants. Although dependent on timing, rate, and method of application, most insecticides have the potential to poison or kill monarchs and other pollinators. Systemic insecticides, including neonicotinoids, have received significant attention for their potential role in pollinator declines (imidacloprid, dinotefuran, clothianidin, and thiamethoxam are examples of systemic insecticides now found in various farm and garden products). Because plants absorb systemic insecticides as they grow, the chemicals become distributed throughout all plant tissues, including the leaves and nectar. New research has shown that some neonicotinoids are toxic to monarch caterpillars that are poisoned as they feed on leaf tissue of treated plants. You can help protect monarchs by avoiding the use of these and other insecticides. Before purchasing plants from nurseries and garden centers, be sure to ask whether they have been treated with systemic insecticides. To read more about threats to pollinators from pesticides, please visit: www.xerces.org/pesticides.

Additional Resources

Gardening for Butterflies

Attracting Birds, Butterflies, and Other Backyard Wildlife

Available through www.xerces.org/books and http://bit.ly/1Xhxfgu.

Conservation Status and Ecology of the Monarch Butterfly in the U.S. Report
www.xerces.org/us-monarch-consv-report

Guide to Milkweeds and Monarchs in the Western U.S.
www.xerces.org/western-us-monarch-guide

Review of Laws and Regulations Affecting California Monarch Habitat www.xerces.org/ca-monarch-legal-status

Milkweed Seed Finder
www.xerces.org/milkweed-seed-finder

Websites

The Xerces Society www.xerces.org/monarchs

Monarch Joint Venture
www.monarchjointventure.org/resources

Natural Resources Conservation Service
www.nrcs.usda.gov/monarchs

National Wildlife Federation www.nwf.org/butterflies

Citizen Science Efforts in California

Xerces Society Western Monarch Thanksgiving Count
www.westernmonarchcount.org

Xerces Society & USFWS Milkweed and Monarch Survey
www.xerces.org/milkweedsurvey

Journey North www.learner.org/jnorth/monarch

Monarch Larva Monitoring Project www.mlmp.org

Project Monarch Health www.monarchparasites.org

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