

A P P E N D I X P

LANDSCAPING AND VEGETATION
PLANS



MOSAIC PROJECT



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PROJECT SCOPE

THE MOSAIC CAMP IS AN OVERNIGHT CAMP AND ENVIRONMENTAL SCHOOL FOR YOUNG PEOPLE WITH THE MISSION OF WORKING TOWARDS A FUTURE WITH PEACEFUL COMMUNITIES THROUGH THE UNITY AND CELEBRATION OF DIVERSE CHILDREN. THE CAMPGROUND IN CASTRO VALLEY, CALIFORNIA IS PROPOSING NEW CONSTRUCTION WHICH WILL INCLUDE SITE MODIFICATION TO CREATE THE VISION FOR AN ENGAGING, VIBRANT, UNFORGETTABLE OUTDOOR LEARNING ENVIRONMENT. THE OVERALL PROJECT INCLUDES NEW CAMP CABINS, STAFF HOUSING, SHOWER HOUSE, AND MAIN CAMP BUILDING.

THE GOALS OF THE SITE ARE TO GREATLY MINIMIZE THE WATER FOOTPRINT AND UTILIZE INNOVATIVE WATER MANAGEMENT SOLUTIONS TO ENSURE A RESILIENT CAMP FOR THE FUTURE AS WELL AS MINIMIZE IMPACT AND RELIANCE ON PUBLIC WATER AND SEWER UTILITIES. TO MEET THESE GOALS, AN ONSITE BLACKWATER TREATMENT SYSTEM IN CONJUNCTION WITH GREYWATER, RAINWATER, AND CLIMATE-APPROPRIATE, WATER-EFFICIENT LANDSCAPING HAVE BEEN CONSIDERED IN THE SITE DESIGN.

THE PROPOSED GREYWATER SYSTEMS ON THE SITE INCLUDE A 2,500-GALLON/DAY COLLECTION, TREATMENT AND PUMP SYSTEM FOR REUSE AT SUBSURFACE IRRIGATED AREAS AROUND CABINS AND A 100-GALLON/DAY PASSIVE FILTRATION AND LAUNDRY-TO-LANDSCAPE SYSTEM FOR REUSE FOR SUBSURFACE ORCHARD IRRIGATION. COLLECTIVELY, THE GREYWATER REUSE SYSTEMS ARE ESTIMATED TO REUSE 380,000-GALLONS PER YEAR FOR IRRIGATION DEMANDS.

A RAINWATER COLLECTION SYSTEM HAS BEEN INCLUDED IN THE DESIGN TO MEET IRRIGATION DEMANDS AS THE BASIS OF DESIGN AND AS AN ALTERNATE TO MEET ADDITIONAL FUTURE NON-POTABLE DEMANDS INCLUDING TOILET FLUSHING AND FIRE PROTECTION. THIS SYSTEM INCLUDES A 65,000-GALLON RAINWATER SYSTEM AND A SMALLER 5,000-GALLON SYSTEM. COLLECTIVELY, THE RAINWATER HARVESTING SYSTEMS ARE ESTIMATED TO HARVEST BETWEEN 130,000 AND 140,000-GALLONS IN DRY YEARS AND AVERAGE YEARS, RESPECTIVELY FOR USE TOWARDS OFF-SETTING NON-POTABLE WATER DEMANDS. THE TANKS HAVE BEEN SIZED UNDER THE ASSUMPTION THAT LARGE DRAW DOWNS FROM TOILET FLUSHING CAN HAPPEN CONSISTENTLY THROUGHOUT THE YEAR. AS THE DRAWDOWNS OCCUR, SPACE IS MADE WITHIN THE TANKS TO COLLECT MORE RAINWATER IN THE WINTER MONTHS FOR PROLONGED STORAGE AND BENEFIT IN THE LATER SUMMER MONTHS. FOR THIS REASON, THE STORAGE VOLUME IS OPTIMIZED AT 65,000-GALLONS FOR MAXIMUM CAPTURE AND OFFSET IN THE SUMMER MONTHS. AS THE DESIGN PROGRESSES, THE RAINWATER COLLECTION SYSTEM WILL BE UPDATED WITH THE GOAL OF OPTIMIZING THE SITE'S WATER RESILIENCY AND FINAL DESIGN SITE WATER BALANCE.

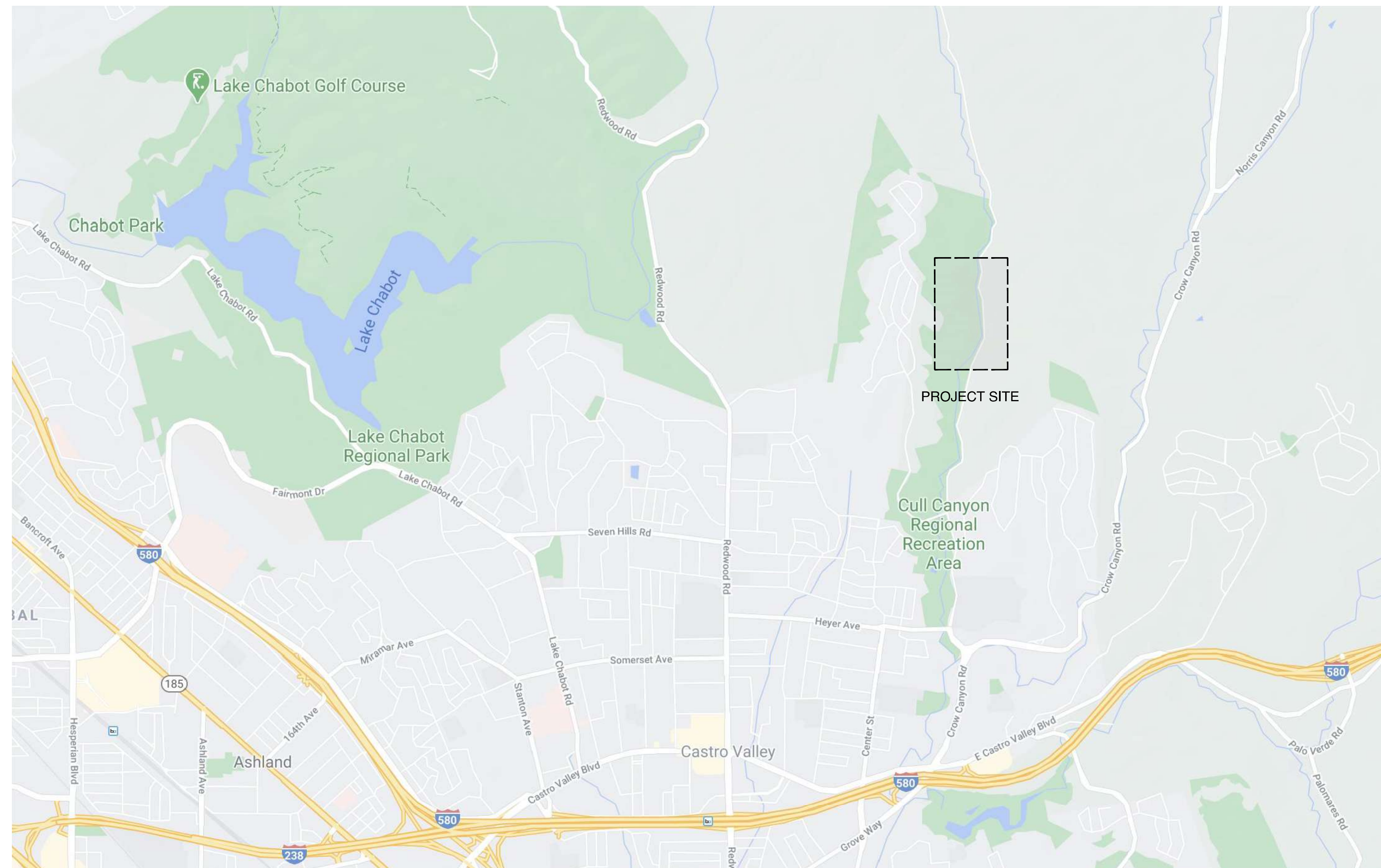
SHEET INDEX

L0.0	COVER SHEET
L0.1	PROJECT SPECIFICATIONS
L0.2	EQUIPMENT SCHEDULES
L0.3	PLANTING - OVERALL SITE - PLAN
L1.0	PLANTING - PHASE 1 / ZONE 1 - PLAN
L1.1	PLANTING - PHASE 1 / ZONE 1A/1B - PLAN
L1.2	PLANTING - PHASE 1 / ZONE 1A-C - SCHEDULE
L1.3	PLANTING - PHASE 2 / ZONE 2 - PLAN & SCHEDULE
L1.4	PLANTING - PHASE 2 / ZONE 5 - PLAN
L1.5	PLANTING - PHASE 2 / ZONE 5 - SCHEDULE
L1.6	PLANTING - PHASE 2 / ZONE 9 - PLAN
L1.7	PLANTING - PHASE 2 / ZONE 9 - SCHEDULE
L1.8	PLANTING - PHASE 2 / ZONE 11 - PLAN
L1.9	PLANTING - PHASE 2 / ZONE 11 - SCHEDULE
L2.0	IRRIGATION - OVERALL SITE - PLAN
L2.1	IRRIGATION - OVERALL SITE - SPECS & MWELO
L3.0	ALT. WATER USE - OVERALL SITE - PLAN
L3.1	ALT. WATER USE - OVERALL SITE - CALCS & CODE COMPL.
L5.0	DETAILS
L5.1	DETAILS

CLIENT

CAMP MOSAIC
17015 CULL CANYON ROAD
CASTRO VALLEY, CA 94546

SITE MAP | PROJECT LOCATION



MOSAIC PROJECT
17015 Cull Canyon Road, Castro Valley - 94546

DATE:	10.05.20
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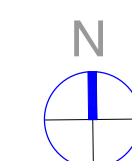
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COVERSHEET

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GRAYWATER PROJECT GENERAL NOTES

- A. THE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ARE CREATED TO REPRESENT THE CONCEPTS AS ASSOCIATED WITH THE GREYWATER SYSTEM INSTALLATIONS. FOR ALL SITE DIMENSIONS AND EXACT RELATIVE LOCATIONS, FIELD CONDITION AS-BUILTS SHOULD BE REQUESTED FROM THE PROPERTY OWNER.
- B. GREYWATER SYSTEM INSTALLATION, AS DEFINED IN SECTION 1502.1.2 OF THE CALIFORNIA PLUMBING CODE, CHAPTER 15 AND SHALL COMPLY WITH THE ENTIRETY OF THE CHAPTER. SECTIONS RELEVANT TO THE DESIGN, AS OUTLINED BELOW, SHALL BE VERIFIED FOR COMPLIANCE IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION (AHJ).
 - B.1. 1501.4: ALL SYSTEM COMPONENTS SHALL BE PROPERLY IDENTIFIED PER MANUFACTURER'S INSTRUCTIONS.
 - B.2. 1501.5: ALL SYSTEMS AND COMPONENTS SHALL BE INSPECTED AND MAINTAINED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION. WHERE NO RECOMMENDATIONS EXIST, REFER TO TABLE 1501.5, BELOW.
 - B.3. 1501.6: AN OPERATION MANUAL FOR THE SYSTEM AND COMPONENTS SHALL BE PROVIDED TO INCLUDE THE FOLLOWING TO THE SYSTEM OWNER. THE MANUAL SHALL REMAIN WITH THE BUILDING THROUGHOUT THE LIFE OF THE STRUCTURE.
 - B.3.1. A DIAGRAM OF THE SYSTEM, INSTRUCTIONS FOR OPERATING, MAINTAINING, TESTING, START UP, SHUTDOWN AND DEACTIVATING THE SYSTEM.
 - B.3.2. A METHOD OF CONTACT FOR THE MANUFACTURER.
 - B.4. 1501.14: ALL GREYWATER PIPING SHALL BE SIZED IN ACCORDANCE WITH CALIFORNIA PLUMBING CODE FOR SANITARY DRAINAGE AND VENTING.
 - B.5. 1502.1: HEALTH AND SAFETY CODE SECTION 1891.7 SHALL BE FOLLOWED UNLESS AN OTHERWISE MORE RESTRICTIVE STANDARD IS DETERMINED BY AHJ.
 - B.5.1. THREE-WAY DIVERTER VALVE SHALL BE PROVIDED WITH CLEAR LABEL INDICATING DIRECTION OF FLOW. DIVERTER VALVE SHALL BE READILY ACCESSIBLE.
 - B.6. 1502.2: GREYWATER DRAINS SHALL BE PROVIDED WITH A BACKWATER VALVE AT THE POINT OF CONNECTION TO THE BUILDING SEWER SYSTEM AND BE ACCESSIBLE FOR INSPECTION AND MAINTENANCE.
 - B.7. 1502.4: THE LOCATION OF THE GREYWATER SYSTEM SHALL FOLLOW TABLE 1502.4 AS OUTLINED, BELOW.
 - B.8. 1502.8: GREYWATER SYSTEMS SHALL BE DESIGNED TO DISTRIBUTE THE TOTAL AMOUNT OF GREYWATER ON A DAILY BASIS PER SECTION 1502.8.1 FOR RESIDENTIAL PROJECTS AND 1502.8.2 FOR COMMERCIAL PROJECTS.
 - B.9. 1503.7: ALL MECHANICAL EQUIPMENT, INCLUDING CONTROL VALVES, APPURTENANT TO RECYCLED WATER SUPPLY SYSTEMS SHALL BE PAINTED PURPLE OR COMPOSED OF PURPLE MATERIAL MATCHING PANTONE COLOR NO. 512, 522C OR EQUIVALENT. RECYCLED WATER SUPPLY SYSTEMS SHALL BE IDENTIFIED AND PERMANENTLY MARKED WITH CLEARLY VISIBLE BLACK UPPERCASE LETTERING ON PURPLE BACKGROUND. FOR EITHER MATERIAL, THE TAPE OR PIPE SHALL BE INSTALLED SO THE WORDING IS CLEARLY VISIBLE AND SHALL BE FIELD OR FACTORY MARKED AS FOLLOWS, EVERY 5-FEET: "CAUTION: NONPOTABLE RECYCLED WATER, DO NOT DRINK".
- C. ALL VALVES AND DEVICES SHALL BE ANS/NSF APPROVED, ACCOMPANIED WITH REFERENCE AND MAINTENANCE INSTRUCTIONS AS LISTED IN THE PROVIDED MAINTENANCE CONTRACT.

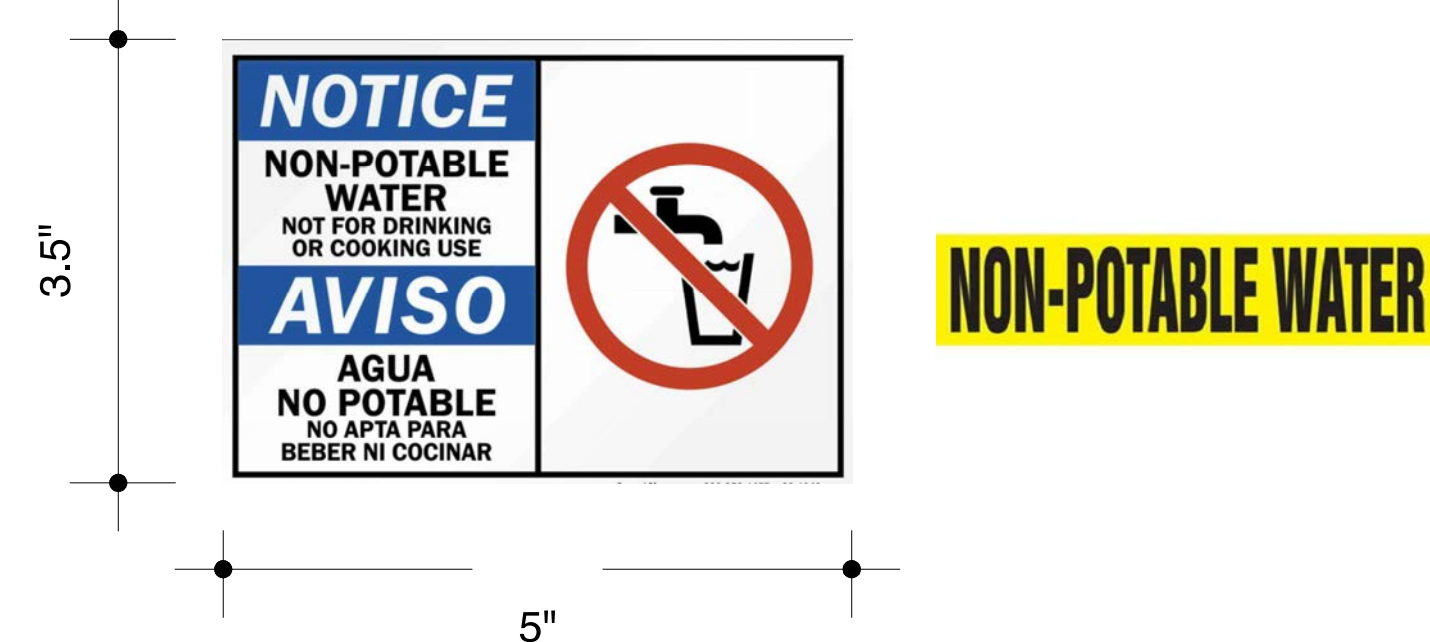
RAINWATER PROJECT GENERAL NOTES

- A. THE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND ARE CREATED TO REPRESENT THE CONCEPTS AS ASSOCIATED WITH ON-SITE WATER REUSE AND STORM WATER MANAGEMENT / BASIN INSTALLATIONS. FOR ALL SITE DIMENSIONS AND EXACT RELATIVE LOCATIONS, FIELD CONDITION AS-BUILTS SHOULD BE REQUESTED FROM THE PROPERTY OWNER.
- B. ABOVE GROUND RAINWATER TANKS:
 1. EACH OUTLET SHALL BE MARKED 'CAUTION NON-POTABLE RAIN WATER, DO NOT DRINK' IN BLACK, CAPITAL LETTERING.
 2. RAINWATER PIPING SHALL BE MARKED 'CAUTION NON-POTABLE RAIN WATER, DO NOT DRINK' WITH THE INTERNATIONAL DO NOT DRINK SYMBOL OF A CIRCLED WATER GLASS WITH A DIAGONAL SLASH THROUGH IT
 3. TANKS INSTALLED ABOVE GROUND SHALL BE OF AN OPAQUE MATERIAL OR SHIELDED FROM SUNLIGHT
 4. RAINWATER TANKS MUST BE INSTALLED WITH A MEANS OF SUFFICIENT VENTING, DRAINING AND CLEANING, INCLUDING ACCESS FOR CLEANING/INSPECTION
 5. OVERFLOW SIZING SHALL MATCH OR EXCEED THE AREA OF ALL THE INFLOW PIPING. BACKFLOW PREVENTION FOR OVERFLOW SHALL BE EQUIPPED IF THE TANK DISCHARGES DIRECTLY TO THE STORM DRAIN SYSTEM
 6. ALL TANK INLETS, VENTS AND OVERFLOWS SHALL BE PROTECTED WITH A 1/16" OR SMALLER SCREEN
 7. TANK MARKING: TANKS SHALL BE PERMANENTLY MARKED WITH 'NON-POTABLE RAINWATER', PERSONNEL TANK ENTRANCES SHALL BE MARKED 'DANGER-CONFINED SPACE'
 8. RAINWATER PUMPS SERVING RAINWATER CATCHMENT SYSTEMS SHALL BE LISTED (APPROVED BY A LISTING AGENCY FOR EXPECTED USE)
 9. IF THE RAINWATER USE WITHIN A BUILDING EXCEEDS 80 PSI, A PRESSURE REDUCING VALVE SHALL BE INSTALLED TO REDUCE THE PRESSURE TO 80 PSI OR LESS
 10. ALL GUTTERS, ROOF DRAINS AND ASSOCIATED PIPING MUST COMPLY WITH RELEVANT CALIFORNIA BUILDING CODES
 11. RAINWATER TREATMENT DEVICES MUST PERFORM TO THE MINIMUM STANDARD DETERMINED BY THE AUTHORITY HAVING JURISDICTION
 12. ALL EQUIPMENT USED FOR RAINWATER QUALITY TREATMENT SHALL BE LISTED OR LABELED BY AN ACCREDITED LISTING AGENCY AND HAVE APPROVAL FOR THE INTENDED PURPOSE
 13. TANKS AND PIPING INSTALLED IN REGIONS KNOWN TO FREEZE MUST BE PROVIDED WITH APPROVED MEANS OF FREEZE PROTECTION
 14. RAINWATER CATCHMENT INFLOW PIPING OR CONVEYANCE PIPING MUST HAVE A 'DEBRIS EXCLUDER' INSTALLED TO PREVENT LEAVES, NEEDLES AND SEDIMENT FROM ENTERING THE TANK
 15. PREVENTION DEVICES MUST BE SIZED CORRECTLY FOR THE SYSTEM, ACCESSIBLE, AND INSTALLED ACCORDING TO THE MANUFACTURER'S GUIDELINES
 16. RAINWATER SIGNS IN BUILDINGS MUST FOLLOW THE GUIDELINES OF SECTIONS CPC 1602.10.1 AND 1602.10.2 AND OTHER REQUIREMENTS IN THE CALIFORNIA BUILDING CODE
 17. INSPECTION: RAINWATER CATCHMENT SYSTEMS SHALL BE INSPECTED AND TESTED IN ACCORDANCE WITH CPC SECTIONS 1602.11.1 AND 1602.11.2.
 18. INSPECTION INCLUSIONS: RAINWATER CATCHMENT SYSTEMS SHALL BE INSPECTED AND TESTED IN ACCORDANCE WITH CODE PROVISIONS FOR TESTING OF POTABLE WATER SYSTEMS AND STORM DRAINAGE SYSTEMS. STORAGE TANKS SHALL BE FILLED WITH WATER TO THE OVERFLOW LINE FOR A PERIOD OF 24 HOURS AND DURING INSPECTION. SEAMS AND JOINTS SHALL BE EXPOSED DURING INSPECTION AND CHECKED FOR WATERTIGHT-NESS.
- C. TRENCHES WILL BE COVERED DURING END OF WORK DAY AND CROSSING BOARDS LAID EVERY 4 FEET DURING WORK DAY. TRENCHES TO BE FILLED IN AND SET PROPERLY.
- D. ALL ABOVE GROUND PIPES SHALL BE PROTECTED FROM HUMAN/ANIMAL TRAFFIC BEFORE, DURING AND AFTER INSTALLATION.
- E. DEVICES INSTALLED SHALL BE ANS/NSF APPROVED. ALL DEVICES SHOULD BE ACCOMPANIED WITH REFERENCE AND MAINTENANCE INSTRUCTIONS AS LISTED IN MAINTENANCE CONTRACT.
- F. "WET" PLUMBING PIPES/SYSTEMS SHALL BE DRAINED AFTER THE RAINY SEASON.
- G. FLUSH DIVERTER SHALL BE SIZED ACCORDING TO ROOF SQ. FT. AREA AND EXPECTED SEDIMENT LEVELS.
- H. ALL PIPES SHALL BE INSTALLED A MINIMUM OF 18" FROM TOP OF PIPE TO FINAL GRADE.
- I. ALL NON -POTABLE WATER SUPPLY PIPES FROM RAINWATER TANKS AND PUMPS SHALL BE LABELED PER CPC. CH 16.
- J. ALL GRAVITY PIPES SHALL BE INSTALLED AT 1/4"/1' SLOPE UNLESS OTHERWISE INDICATED.
- K. ALL BURIED PIPES SHALL HAVE A MINIMUM OF 3" SAND OR PEA GRAVEL AS THEIR BASE.
- L. ALL GRAVITY CONVEYANCE PIPES SHALL ENSURE WATER-TIGHT FITTINGS BY MEANS OF GLUE OR MANUFACTURER'S INSTRUCTIONS.
- M. CONTRACTOR SHALL VERIFY ALL EXISTING UNDERGROUND UTILITY LOCATIONS PRIOR TO EXCAVATION.

LEGEND AND ABBREVIATIONS

P.O.C	POINT OF CONNECTION
(E)	EXISTING
(N)	NEW
⊕	DOWNSPOUT
— —	PIPE CONTINUATION
—>—	RAINWATER CONVEYANCE
--- ---	OVERFLOW CONVEYANCE
--->---	MAKEUP WATER CONVEYANCE
-----	SITE BOUNDARY
- - - - -	50' TOP OF BANK CREEK SETBACK
- · - · - · -	100' WELL SETBACK
○-○-○-○	FENCE

NON-POTABLE WATER SIGNAGE



APPLICABLE CODES AND REGULATIONS

- 1. CALIFORNIA PLUMBING CODE
- 2. CALIFORNIA BUILDING CODE



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DESIGN BY:	ABR, MS
DRAWN BY:	MS
REVIEW BY:	ABR, RH

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PROJECT SPECIFICATIONS

L0.1

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DESIGN CRITERIA

PLUMBING DESIGN CRITERIA
RECLAIMED WATER PIPING SYSTEM:
BASIS OF DESIGN: 2016 CALIFORNIA PLUMBING CODE, APPENDIX A 'RECOMMENDED RULES FOR SIZING THE WATER SUPPLY SYSTEM. PIPING SIZED ON 3 PSI/100 FT. PRESSURE LOSS MAXIMUM, VELOCITIES NOT TO EXCEED 8 FT./SEC.
GREYWATER, WASTE AND VENT PIPING SYSTEM:
BASIS OF DESIGN: 2016 CALIFORNIA PLUMBING CODE, CHAPTER 7, 'SANITARY DRAINAGE'. ALL GRAVITY WASTE DRAINAGE PIPING SLOPED AT 1/4"/FT UNLESS OTHERWISE NOTED.
ROOF DRAIN/STORM DRAIN PIPING SYSTEM:
BASIS OF DESIGN: 2016 CALIFORNIA PLUMBING CODE, CHAPTER 11, 'STORM DRAINAGE'. STORM DRAIN PIPING SIZED AT 1/8"/FT. SLOPE UNLESS OTHERWISE NOTED AND A RAINFALL RATE OF 1.5"/HR TRADITIONAL SYSTEM, 3"/HR FOR A COMBINED PRIMARY AND OVERFLOW SYSTEM.

TABLE 1501.5: RECOMMENDED MINIMUM ALTERNATE WATER SOURCE TESTING, INSPECTION, AND MAINTENANCE FREQUENCY	
DESCRIPTION	MINIMUM FREQUENCY
INSPECT AND CLEAN FILTERS SCREENS AND REPLACE WHERE NECESSARY	PER AHJ REQUIREMENTS OR EVERY 3 MONTHS
INSPECT AND VERIFY THAT DISINFECTION, FILTERS AND WATER QUALITY TREATMENT DEVICES AND SYSTEMS ARE OPERATIONAL AND MAINTAINING MIN. WATER QUALITY REQUIREMENTS	PER AHJ AND MANUFACTURER'S INSTRUCTIONS.
INSPECT PUMPS, VALVES, TANKS AND VERIFY OPERATION CLEAR DEBRIS FROM AND INSPECT STORAGE TANKS, VERIFY OPERATION	PER AHJ OR AFTER INSTALLATION AND EVERY 12 MONTHS THEREAFTER.
INSPECT CAUTION LABELS AND MARKINGS	
INSPECT AND MAINTAIN MULCH BASINS FOR GREYWATER IRRIGATION SYSTEMS	AS NEEDED TO MAINTAIN MULCH DEPTH AND PREVENT PONDING AND RUNOFF.

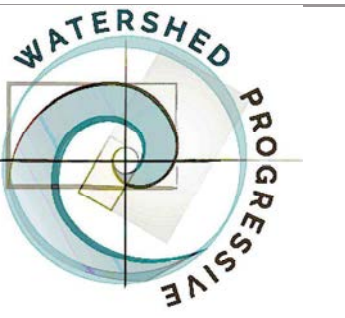
TABLE 1502.4: LOCATION OF GRAY WATER SYSTEM	
MINIMUM HORIZONTAL DISTANCE IN CLEAR REQUIRED FROM	SURFACE AND SUBSOIL IRRIGATION FIELD AND MULCH BASIN
BUILDING STRUCTURES	2
PROPERTY LINE ADJOINING PRIVATE PROPERTY	58
WATER SUPPLY WELLS	100
STREAMS AND LAKES	100
SEWAGE PITS OR CESSPOOLS	5
SEWAGE DISPOSAL FIELDS	46
SEPTIC TANKS	5
ON-SITE DOMESTIC WATER SERVICE LINE	0
PRESSURIZED PUBLIC WATER MAINS	10

TABLE 1501.5: RECOMMENDED MINIMUM ALTERNATE WATER SOURCE TESTING, INSPECTION, AND MAINTENANCE FREQUENCY	
DESCRIPTION	MINIMUM FREQUENCY
INSPECT AND CLEAN FILTERS SCREENS AND REPLACE WHERE NECESSARY	PER AHJ REQUIREMENTS OR EVERY 3 MONTHS
INSPECT AND VERIFY THAT DISINFECTION, FILTERS AND WATER QUALITY TREATMENT DEVICES AND SYSTEMS ARE OPERATIONAL AND MAINTAINING MIN. WATER QUALITY REQUIREMENTS	PER AHJ AND MANUFACTURER'S INSTRUCTIONS.
INSPECT PUMPS, VALVES, TANKS AND VERIFY OPERATION CLEAR DEBRIS FROM AND INSPECT STORAGE TANKS, VERIFY OPERATION	PER AHJ OR AFTER INSTALLATION AND EVERY 12 MONTHS THEREAFTER.
INSPECT CAUTION LABELS AND MARKINGS	
INSPECT AND MAINTAIN MULCH BASINS FOR GREYWATER IRRIGATION SYSTEMS	AS NEEDED TO MAINTAIN MULCH DEPTH AND PREVENT PONDING AND RUNOFF.

RAINWATER AND GRAYWATER SYSTEM EQUIPMENT

EQUIPMENT SCHEDULE		
TAG NUMBER	LOCATION	DESCRIPTION
RW SYSTEM-1	FAMILY DWELLING	RAINWATER CAPTURE AND TREATMENT SYSTEM INCLUDES: 65,000-GALLONS STORAGE (SEE TANK SCHED.) RAINWATER PRE-FILTER SUBMERSIBLE PUMP & CONTROL PANEL FILTRATION SYSTEM & UV DISINFECTION SYSTEM BACKFLOW PREVENTER & WATER METER MAKE-UP WELL WATER ACTUATED CONNECTION VARIOUS ACCESS AND OUTLET CONNECTION POINTS
RW SYSTEM-2	CARETAKER UNIT	RAINWATER CAPTURE AND TREATMENT SYSTEM INCLUDES: 5,000-GALLONS STORAGE (SEE TANK SCHED.) RAINWATER PRE-FILTER SUBMERSIBLE PUMP & CONTROL PANEL FILTRATION SYSTEM & UV DISINFECTION SYSTEM BACKFLOW PREVENTER & WATER METER MAKE-UP WELL WATER ACTUATED CONNECTION VARIOUS ACCESS AND OUTLET CONNECTION POINTS
GW SYSTEM-1	SHOWER BLDG	GREYWATER CAPTURE AND TREATMENT SYSTEM INCLUDES: (2) 1,250-GALLONS STORAGE (SEE TANK SCHED.) GREYWATER PRE-FILTER NSF350 © LISTED MEMBRANE BIOREACTOR TREATMENT UNITS SUBMERSIBLE PUMP & CONTROL PANEL EXPANSION TANK BACKFLOW PREVENTER & WATER METER MAKE-UP WELL WATER ACTUATED CONNECTION VARIOUS ACCESS AND OUTLET CONNECTION POINTS
GW SYSTEM-2	CARETAKER UNIT	GREYWATER SIMPLE FILTRATION SYSTEM INCLUDES: LAUNDRY TO LANDSCAPE FILTRATION AND PUMP SYSTEM SHOWER WATER FILTRATION AND BRANCHED DRAIN SYSTEM

RAINWATER TANK SCHEDULE				
TAG NUMBER	LOCATION	VOLUME (GROSS GAL.)	DIMENSIONS (DIA./L X H)	DESCRIPTION, MAKE, MODEL
RWT-1	STAFF HOUSING	20,000	22'-0" X 7'-2"	VERTICAL, STAINLESS STEEL, PIONEER, XL15/02
RWT-2	STAFF HOUSING	20,000	22'-0" X 7'-2"	VERTICAL, STAINLESS STEEL, PIONEER, XL15/02
RWT-3	STAFF HOUSING	20,000	15'-5" X 7'-2"	VERTICAL, STAINLESS STEEL, PIONEER, XL15/02
RWT-4	DINING HALL	5,000	11'-0" X 7'-2"	VERTICAL, STAINLESS STEEL, PIONEER, XL04/02
RWT-5	CARETAKER UNIT	5,000	11'-0" X 7'-2"	VERTICAL, STAINLESS STEEL, PIONEER, XL04/02
GWT-1	SHOWER BLDG	2,500	7'-6" X 12'-0"	HORIZONTAL, POLY, BELOW GROUND, GRAF CARAT
GWT-2		2,500	7'-6" X 12'-0"	HORIZONTAL, POLY, BELOW GROUND, GRAF CARAT



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EQUIPMENT SCHEDULES

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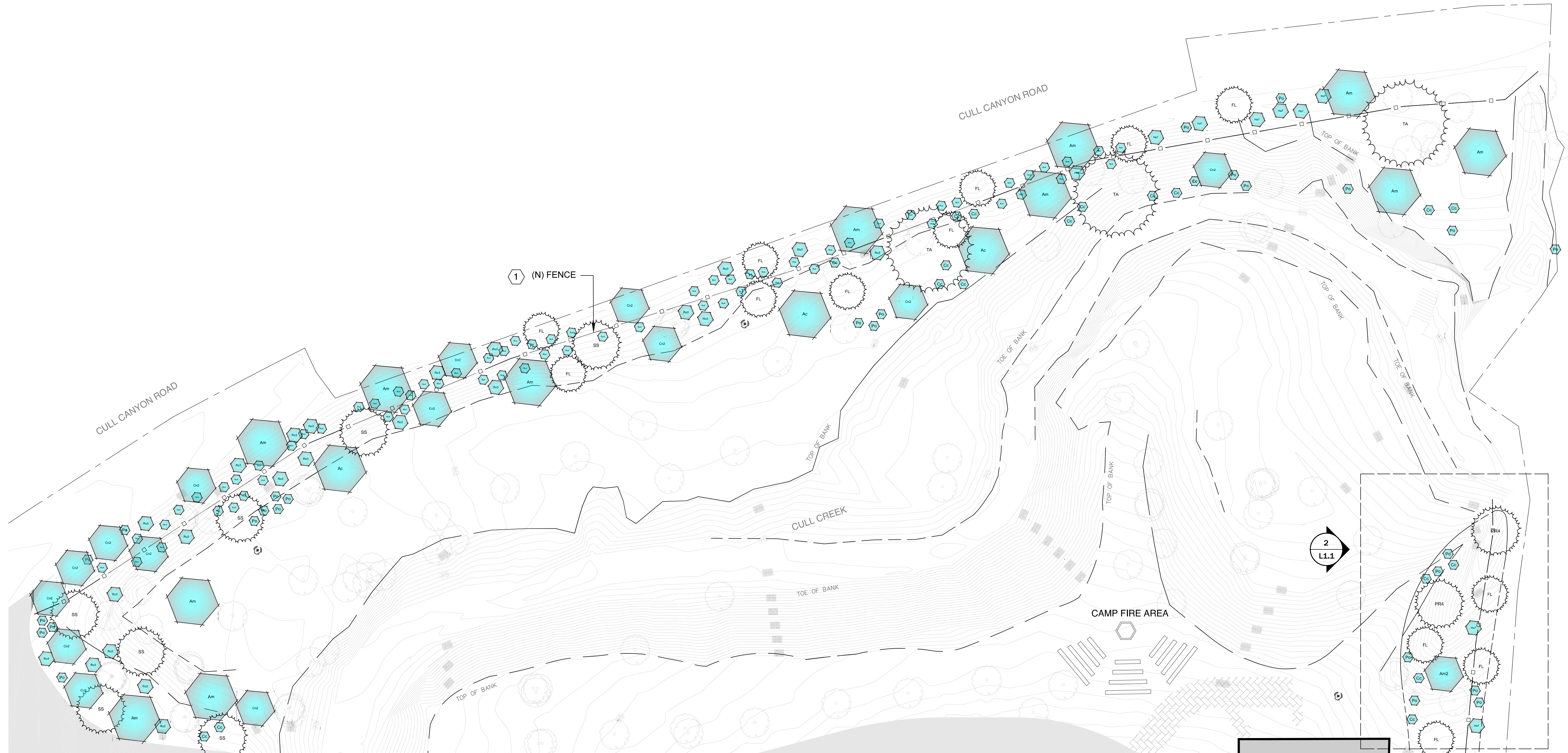
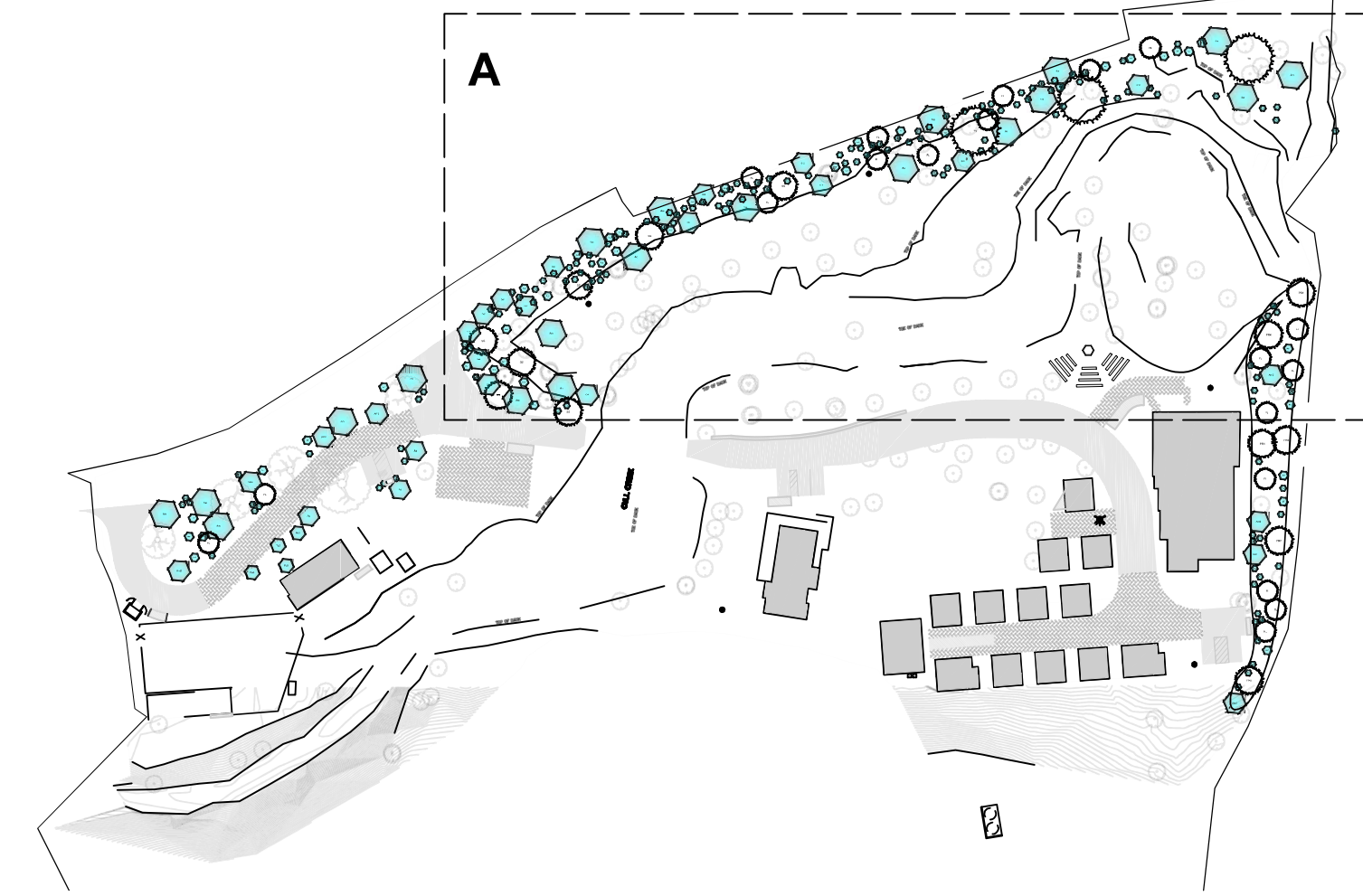
GENERAL NOTES

- A. PHASE 1 - (PLANTING ZONE 1) HAS BEEN IDENTIFIED BY THE PROJECT TEAM AND CLIENT AS AN AREA WHICH IS HIGH PRIORITY FOR PRIVACY SCREENING PLANTINGS. DUE TO THIS REASON, THE DESIGN ASSUMES THESE PLANTS WILL BE ESTABLISHED PRIOR TO FULL OPERATION AND OCCUPANCY ON THE SITE. THE INTENT IS TO ESTABLISH THE PLANTS IN PHASE 1 ZONES AS SOON AS POSSIBLE WITH THE EXISTING WELL WATER SUPPLY. DURING CONSTRUCTION OF THE SITE AND PRIOR TO OCCUPANCY, THE PHASE 1 PLANTS WILL ABANDON THE WELL WATER SOURCE AND RELY ON ALTERNATE WATER SOURCES FOR POST-OCCUPANCY, POST-ESTABLISHMENT PHASES. REFER TO OVERALL SITE WATER BALANCE ON L3.1 FOR 'PRIORITY 2 - ZONE 1 - POST-ESTABLISHMENT' FOR ESTIMATED ANNUAL WATER USAGE.
- B. FOR PLANTING SCHEDULE, REFER TO L1.2
- C. FOR IRRIGATION PLAN, REFER TO L2.0

SHEET NOTES

- 1. FENCE MATERIAL TBD

KEY MAP



MOSAIC PROJECT
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 DRAWN BY: MS
 REVIEW BY: ABR, RH

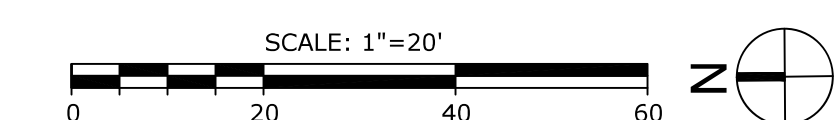
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PLANTING -
 PHASE 1 /
 ZONE 1A -
 PLAN

1 PHASE 1 - PLANTING ZONE 1A

L1.0

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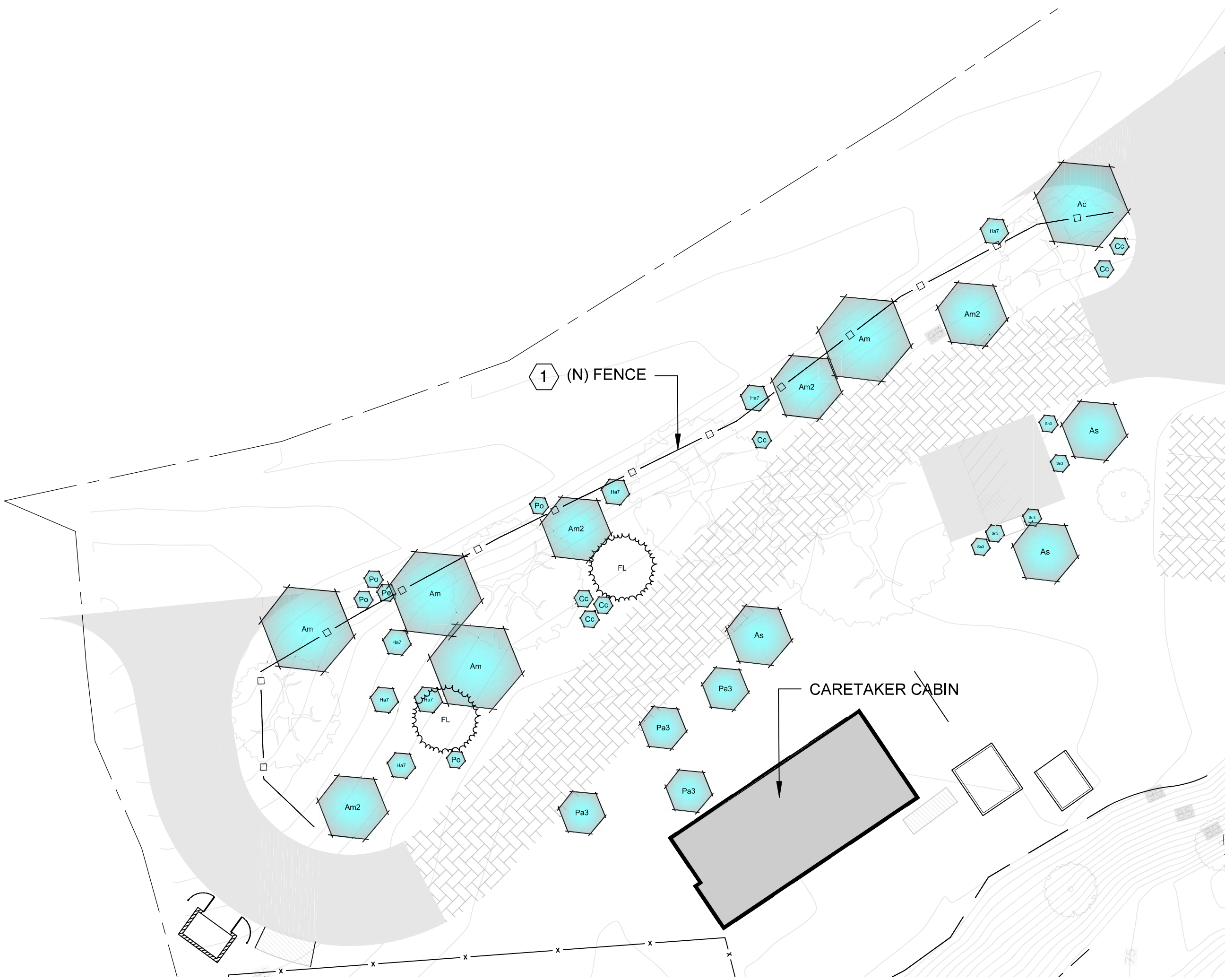
KEY MAP

GENERAL NOTES

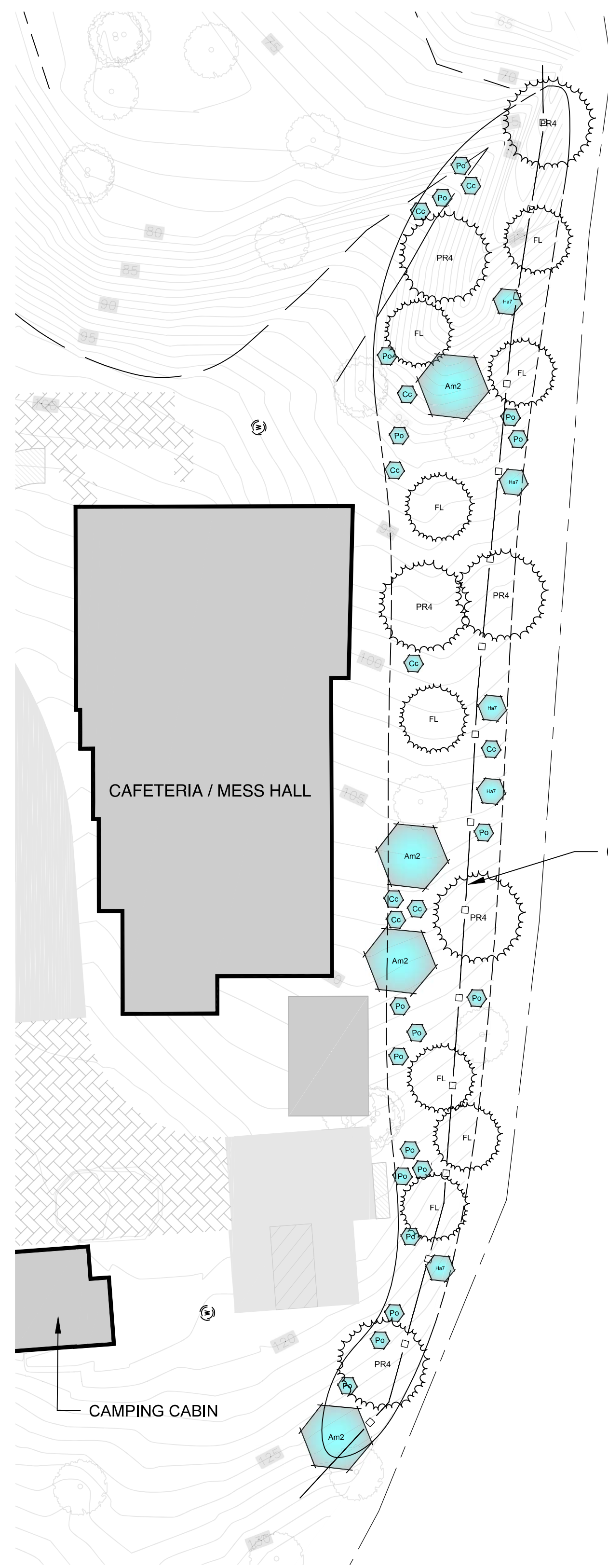
- A. PHASE 1 - (PLANTING ZONE 1) HAS BEEN IDENTIFIED BY THE PROJECT TEAM AND CLIENT AS AN AREA WHICH IS HIGH PRIORITY FOR PRIVACY SCREENING PLANTINGS. DUE TO THIS REASON, THE DESIGN ASSUMES THESE PLANTS WILL BE ESTABLISHED PRIOR TO FULL OPERATION AND OCCUPANCY ON THE SITE. THE INTENT IS TO ESTABLISH THE PLANTS IN PHASE 1 ZONES AS SOON AS POSSIBLE WITH THE EXISTING WELL WATER SUPPLY. DURING CONSTRUCTION OF THE SITE AND PRIOR TO OCCUPANCY, THE PHASE 1 PLANTS WILL ABANDON THE WELL WATER SOURCE AND RELY ON ALTERNATE WATER SOURCES FOR POST-OCCUPANCY, POST-ESTABLISHMENT PHASES. REFER TO OVERALL SITE WATER BALANCE ON L3.1 FOR 'PRIORITY 2 - ZONE 1 - POST-ESTABLISHMENT' FOR ESTIMATED ANNUAL WATER USAGE.
- B. FOR PLANTING SCHEDULE, REFER TO L1.2
- C. FOR IRRIGATION PLAN, REFER TO L2.0

SHEET NOTES

- 1. FENCE MATERIAL TBD



1 PHASE 1 - PLANTING ZONE 1B



2 PHASE 1 - PLANTING ZONE 1C

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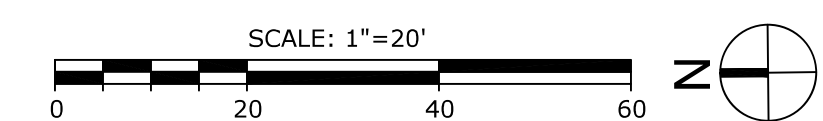
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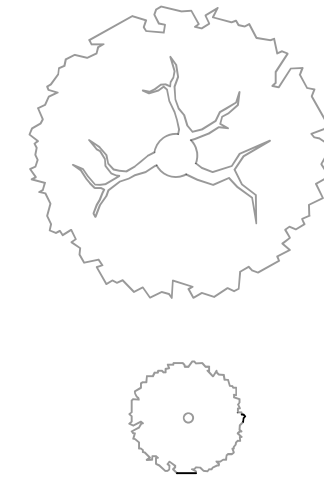
PLANTING -
 PHASE 1 /
 ZONE 1B & 1C -
 PLAN

L1.1

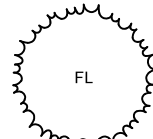
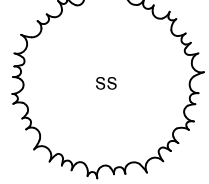
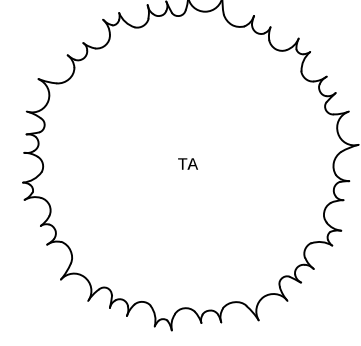
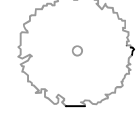
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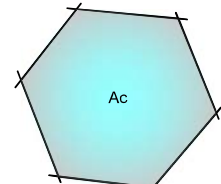
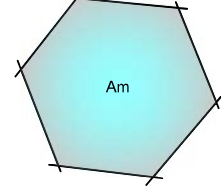








EXISTING TREES

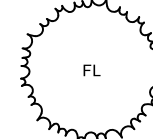
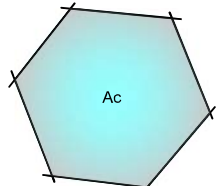

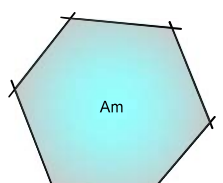





PLANT SCHEDULE ZONE 1A PLANTS

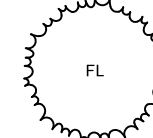
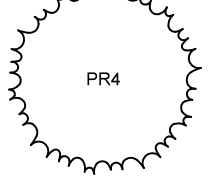




ZONE 1: SCREENING PLANTS - LARGE TREES					
CODE	COMMON / BOTANICAL NAME	SIZE	WATER	QTY	
FL	Oregon Ash / Fraxinus latifolia	---	L	9	
SS	Coast Redwood / Sequoia sempervirens	---	H	7	
TA	Suga Suga / Tsuga canadensis	---	M	3	
O					

ZONE 1: SCREENING PLANTS - SMALL TREES/LARGE SHRUBS					
CODE	COMMON / BOTANICAL NAME	SIZE	WATER USE	QTY	
Ac	Vine Maple / Acer circinatum	---	L	3	
Am	Pacific Madrone / Arbutus menziesii	---	L	12	
Cc	Bush Anemone / Carpenteria californica	---	L	15	
Cn2	Pacific Dogwood / Cornus nuttallii	---	M	14	
Ha7	Toyon / Heteromeles arbutifolia	---	L	7	
Po	Mint Bush / Prostanthera ovalifolia	---	L	21	
Ro3	Western Azalea / Rhododendron occidentale	---	L	22	
Rc4	California Wild Rose / Rosa californica	---	L	67	

PLANT SCHEDULE ZONE 1B PLANTS

ZONE 1: SCREENING PLANTS - LARGE TREES					
CODE	COMMON / BOTANICAL NAME	SIZE	WATER	QTY	
FL	Oregon Ash / Fraxinus latifolia	---	L	2	
Ac	Vine Maple / Acer circinatum	---	L	1	
Am2	Big Leaf Maple / Acer macrophyllum	---	M	4	
Am	Pacific Madrone / Arbutus menziesii	---	L	4	
Cc	Bush Anemone / Carpenteria californica	---	L	6	
Ha7	Toyon / Heteromeles arbutifolia	---	L	7	
Po	Mint Bush / Prostanthera ovalifolia	---	L	5	

PLANT SCHEDULE ZONE 1C PLANTS

ZONE 1: SCREENING PLANTS - LARGE TREES					
CODE	COMMON / BOTANICAL NAME	SIZE	WATER	QTY	
FL	Oregon Ash / Fraxinus latifolia	---	L	8	
PR4	California Sycamore / Platanus racemosa	---	M	6	
Am2	Big Leaf Maple / Acer macrophyllum	---	M	4	
Cc	Bush Anemone / Carpenteria californica	---	L	9	
Ha7	Toyon / Heteromeles arbutifolia	---	L	5	
Po	Mint Bush / Prostanthera ovalifolia	---	L	18	



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PLANTING -
 PHASE 1 /
 ZONE 1A-C -
 SCHEDULE

L1.2

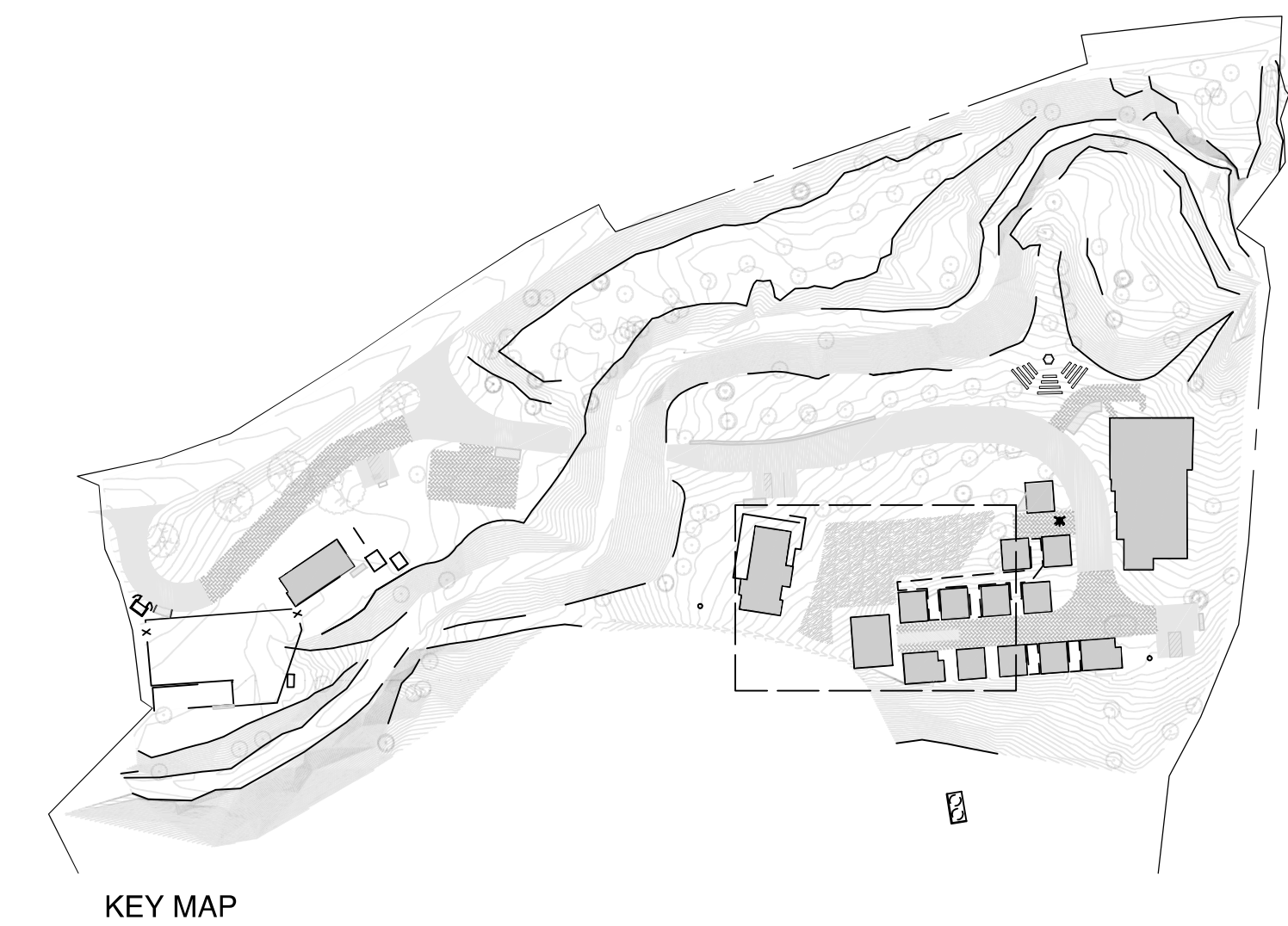
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GENERAL NOTES

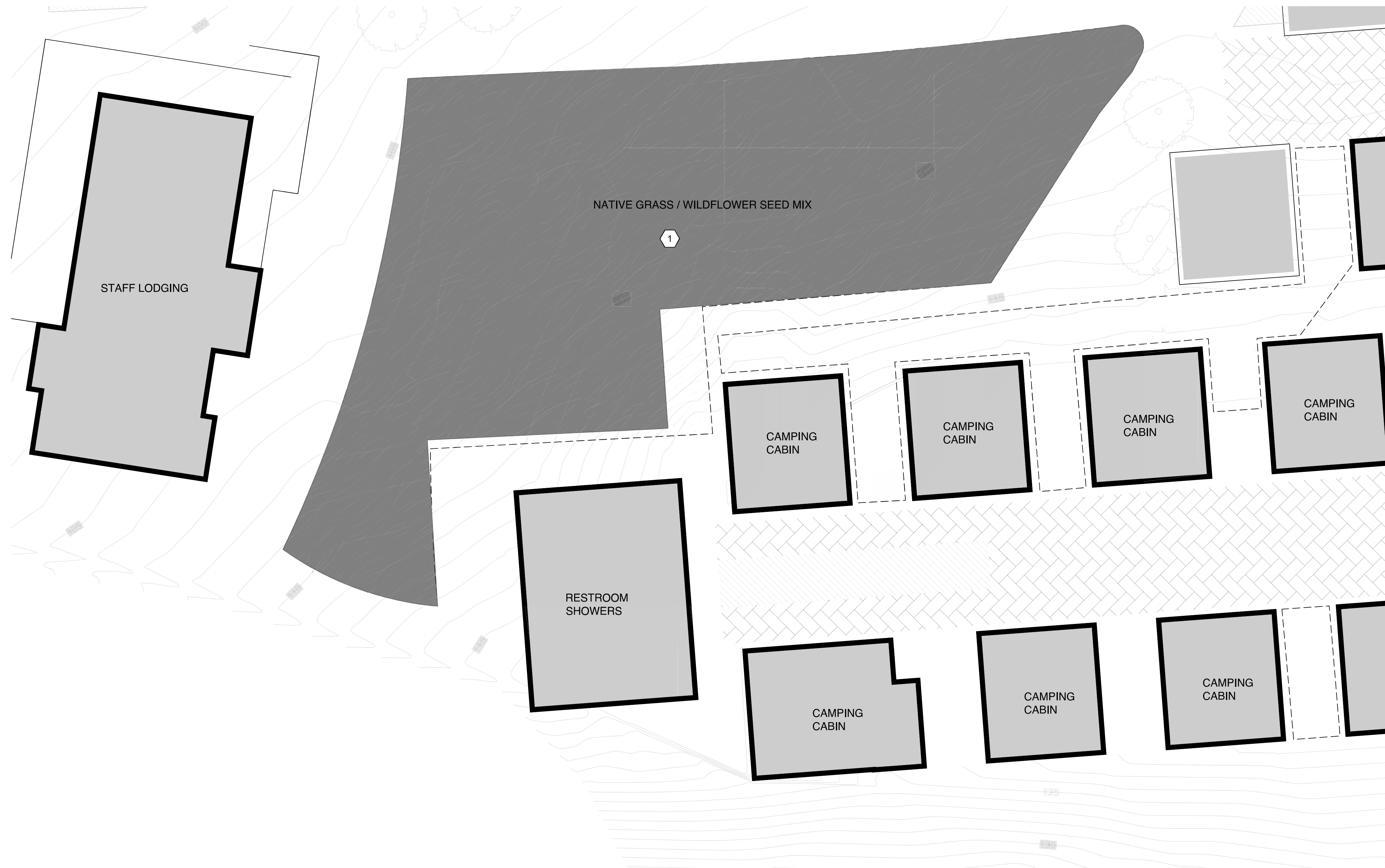
- A. PHASE 2 - (PLANTING ZONES 2, 5, 9 AND 11) HAVE BEEN IDENTIFIED BY THE PROJECT TEAM AS AREAS WHICH ARE SUITABLE AND CODE-COMPLIANT FOR RECEIVING ON-SITE TREATED WASTE-WATER SOURCES INCLUDING GREYWATER AND BLACKWATER. DUE TO THE NATURE OF THE IRRIGATION SUPPLY OFFSET BEING DEPENDENT ON THE WASTEWATER GENERATION, PHASE 2 WILL BE INSTALLED AND ESTABLISHED POST-OCCUPANCY.
- A.A. ZONE 2 PLANTING AREA WILL BE DESIGNED IN COORDINATION WITH THE TREATED BLACKWATER SYSTEM.
- A.B. ALL PHASE 2 ZONES EXIST WITHIN SETBACKS REQUIRED BY THE CALIFORNIA PLUMBING CODE AS WELL AS THE ENVIRONMENTAL HEALTH CODE FOR GRAYWATER DISPERSAL ADJACENT TO CREEKS, BUILDINGS AND WELL SUPPLIES.
- A.C. ALL PHASE 2 ZONES HAVE BEEN DESIGNED WITH INTENT OF MEETING 100% OF IRRIGATION DEMANDS WITH THE RESPECTIVE ALTERNATE WATER SOURCES LISTED ABOVE & COMPLETELY INDEPENDENT OF POTABLE WELL WATER.

SHEET NOTES

- 1. ZONE 2 PLANTING INCLUDES GROUND COVER / SEED MIX AS COORDINATED WITH THE BLACKWATER TREATMENT SYSTEM WATER REUSE SOURCE. AN IRRIGATION PLAN HAS NOT BEEN FULLY DEVELOPED AND WILL BE INCORPORATED AS THE DESIGN PROGRESSES. FOR INFORMATION ON THE IRRIGATION AND WATER USAGE OF THIS ZONE, REFER TO IRRIGATION SCHEDULE AND WELO COMPLIANCE TABLES ON L2.1.



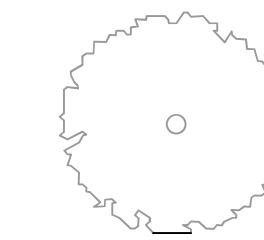
KEY MAP



ZONE 2 - PLANTING SCHEDULE

ZONE 2: GRASS/RUSH/SEDGE	CODE	COMMON NAME	WATER USE	SQ.FT
	Fr	Native Grass/Wildflower Seed Mix Blue-Eyed Grass Creeping Red Fescue Evergreen Lupine Basket Rush	L	6,345 sf

EXISTING TREES



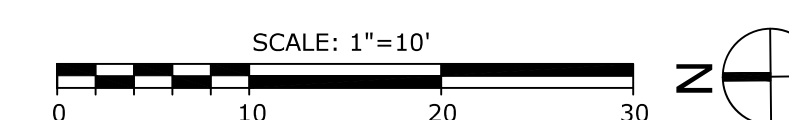
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**PLANTING -
 PHASE 2 /
 ZONE 2 -
 PLAN**

1 PHASE 2 - PLANTING ZONE 2 (POST OCCUPANCY)



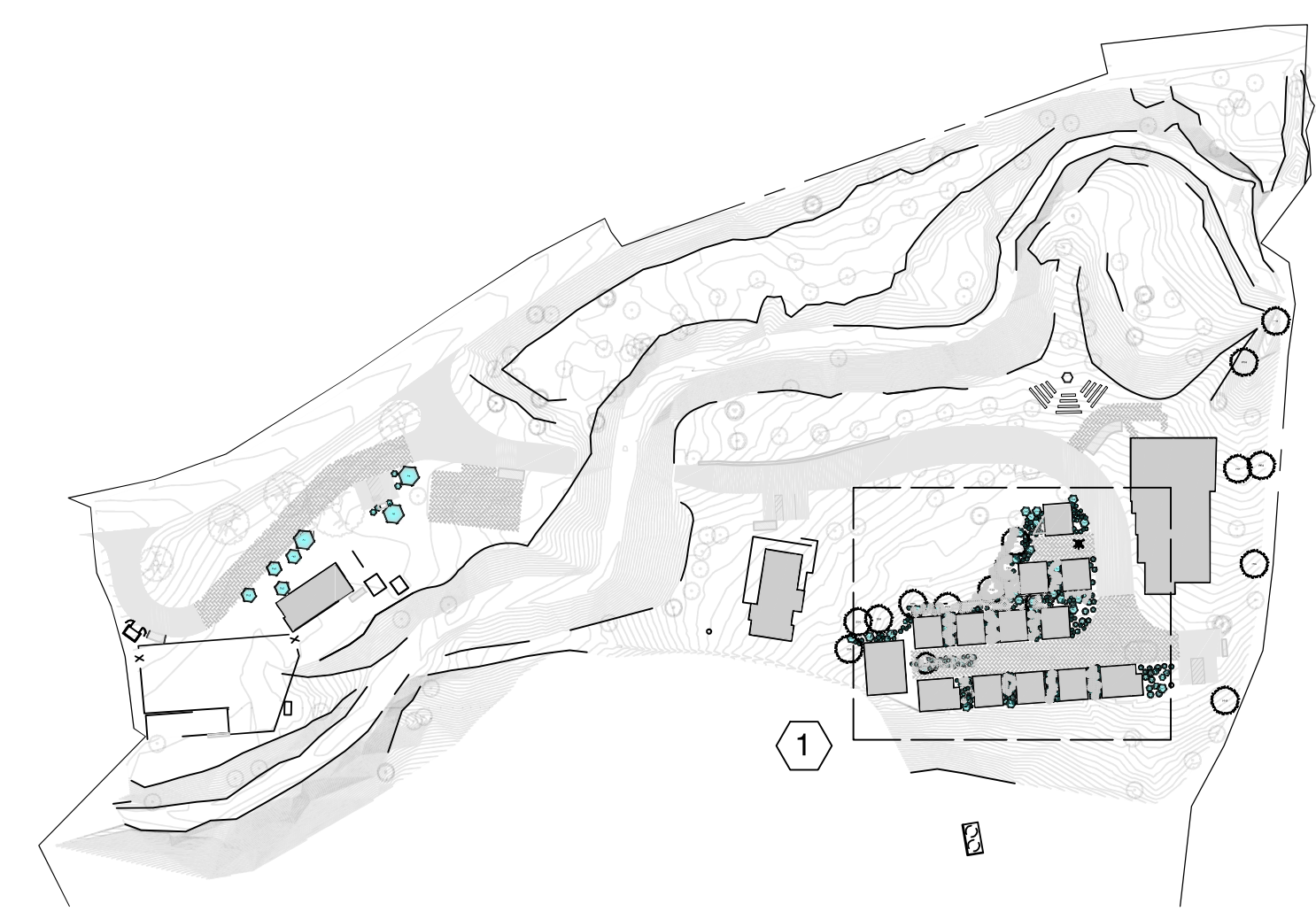
L1.3

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KEY MAP

GENERAL NOTES

- A. PHASE 2 - (PLANTING ZONES 2, 5, 9 AND 11) HAVE BEEN IDENTIFIED BY THE PROJECT TEAM AS AREAS WHICH ARE SUITABLE AND CODE-COMPLIANT FOR RECEIVING ON-SITE TREATED WASTE-WATER SOURCES INCLUDING GREYWATER AND BLACKWATER. DUE TO THE NATURE OF THE IRRIGATION SUPPLY OFFSET BEING DEPENDENT ON THE WASTEWATER GENERATION, PHASE 2 WILL BE INSTALLED AND ESTABLISHED POST-OCCUPANCY.
 - A.A. ZONE 5, 9, AND 11 PLANTING AREAS WILL BE DESIGNED IN COORDINATION WITH THE TREATED GREYWATER SYSTEM. WHERE GRAYWATER GENERATION EXCEEDS THE DAILY REQUIREMENTS FOR THE PLANTS WITHIN ZONE 5, 9 AND 11, THE TREATED GRAYWATER WILL BE ALLOCATED TO OFFSET OTHER NON-POTABLE WATER DEMANDS ON-SITE.
 - A.B. ALL PHASE 2 ZONES EXIST WITHIN SETBACKS REQUIRED BY THE CALIFORNIA PLUMBING CODE AS WELL AS THE ENVIRONMENTAL HEALTH CODE FOR GRAYWATER DISPERSAL ADJACENT TO CREEKS, BUILDINGS AND WELL SUPPLIES.
 - A.C. ALL PHASE 2 ZONES HAVE BEEN DESIGNED WITH INTENT OF MEETING 100% OF IRRIGATION DEMANDS WITH THE RESPECTIVE ALTERNATE WATER SOURCES LISTED ABOVE & COMPLETELY INDEPENDENT OF POTABLE WELL WATER.
- B. REFERENCE PLANTING SCHEDULE ON SHEET L1.5
- C. REFERENCE IRRIGATION PLAN ON SHEET L2.0

SHEET NOTES

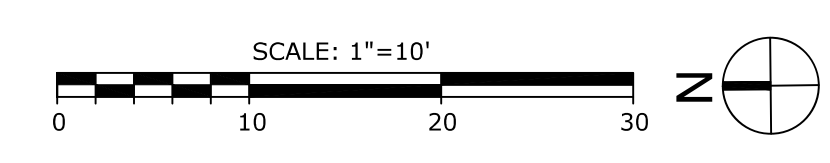
- 1. ZONE 5 PLANTING INCLUDES PLANTINGS AROUND THE CABINS AS COORDINATED WITH THE GREYWATER TREATMENT SYSTEM WATER REUSE SOURCE.

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PLANTING -
 PHASE 2 /
 ZONE 5 -
 PLAN

1 PHASE 2 - PLANTING ZONE 5 (POST OCCUPANCY)



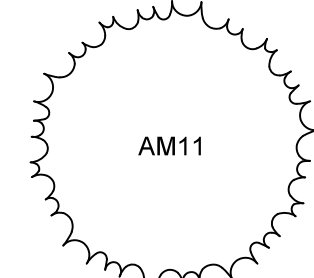
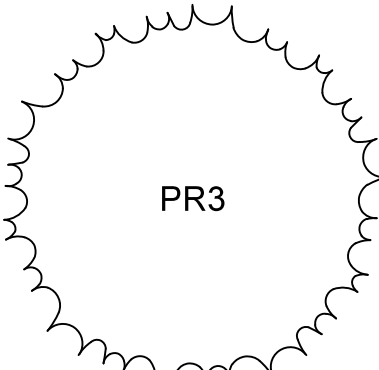
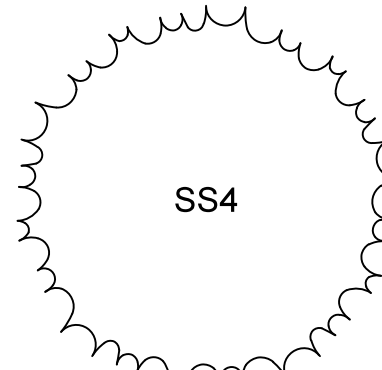
L1.4
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ZONE 5: PLANTING SCHEDULE




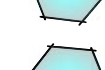

ZONE 5: CABIN GRAYWATER - LARGE TREES

	CODE	COMMON / BOTANICAL NAME	SIZE	WATER	QTY
	AM11	Big Leaf Maple / <i>Acer macrophyllum</i>	---	M	1
	PR3	California Sycamore / <i>Platanus racemosa</i>	---	M	6
	SS4	Coast Redwood / <i>Sequoia sempervirens</i>	---	H	3


ZONE 5: CABIN GRAYWATER - PERENNIALS

	CODE	COMMON / BOTANICAL NAME	SIZE	WATER USE	QTY
	Ap	Indian Mallow / <i>Abutilon palmeri</i>	---	VL / L	18
	Am4	Common Yarrow / <i>Achillea millefolium</i>	---	L	20
	Ac7	British Columbia Wild Ginger / <i>Asarum caudatum</i>	---	M	88
	Eg	Seep Monkeyflower / <i>Erythranthe guttata</i>	---	M	9
	Ha2	Coral Bells / <i>Heuchera</i> x 'spp.'	---	M	121
	Pn2	Ninebark / <i>Physocarpus opulifolius</i>	---	L	20

ZONE 5: CABIN GRAYWATER - SMALL TREES/LARGE SHRUBS

	CODE	COMMON / BOTANICAL NAME	SIZE	WATER USE	QTY
	Cw2	California Hazelnut / <i>Corylus cornuta</i>	---	M	16
	Pw	Mockorange / <i>Philadelphus lewisii</i>	---	M	17
	Rt4	Thimbleberry / <i>Rubus parviflorus</i>	---	M	23
	Sn2	Black Elderberry / <i>Sambucus nigra</i>	---	H	2
	Vo2	Evergreen Huckleberry / <i>Vaccinium ovatum</i>	---	M	1

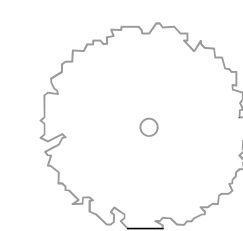
ZONE 11: GRASS/RUSH/SEDGE

	CODE	COMMON / BOTANICAL NAME	SIZE	WATER USE	SPACING	QTY
	C15	Berkeley Sedge / <i>Carex tumulicola</i>	---	L		262 sf

ZONE 5: GRASS/RUSH/SEDGE

	CODE	COMMON / BOTANICAL NAME	SIZE	WATER USE	SPACING	QTY
	C12	Berkeley Sedge / <i>Carex tumulicola</i>	---	M		698 sf
	Ir2	Western Blue Flag Iris / <i>Iris missouriensis</i>	---	H		1,130 sf
	Sb	Blue-eyed Grass / <i>Sisyrinchium</i> x 'Blue Ice'	---	M		1,020 sf

EXISTING TREES



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 17015 Cull Canyon Road, Castro Valley - 94546

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PLANTING -
 PHASE 2 /
 ZONE 5 -
 SCHEDULE

L1.5

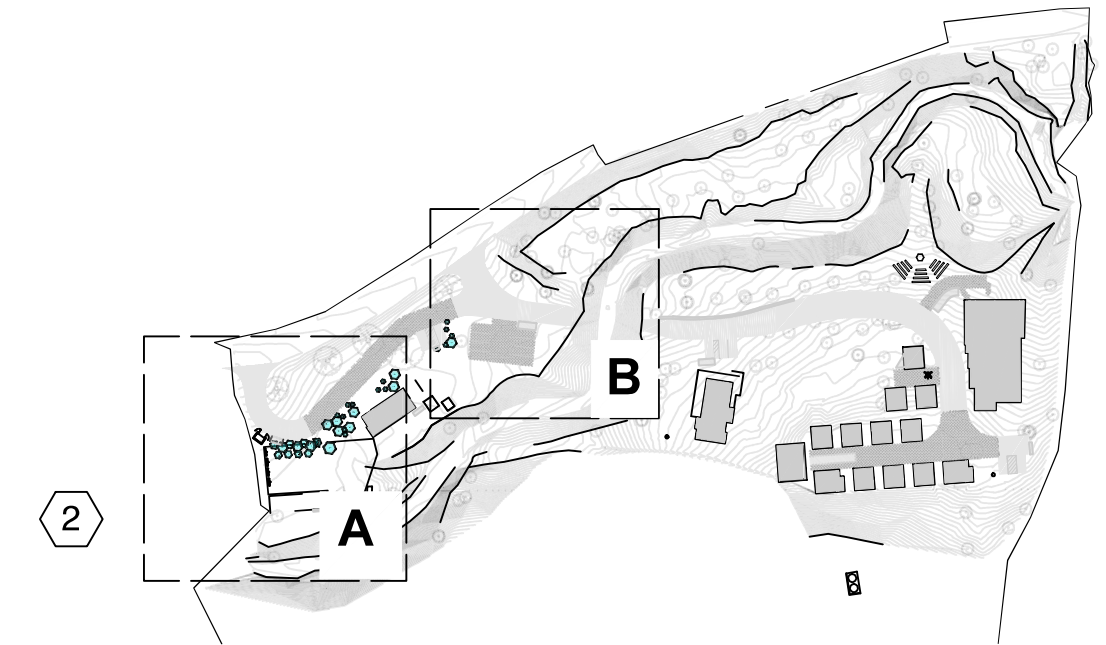
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GENERAL NOTES

- A. PHASE 2 - (PLANTING ZONES 2, 5, 9 AND 11) HAVE BEEN IDENTIFIED BY THE PROJECT TEAM AS AREAS WHICH ARE SUITABLE AND CODE-COMPLIANT FOR RECEIVING ON-SITE TREATED WASTE-WATER SOURCES INCLUDING GREYWATER AND BLACKWATER. DUE TO THE NATURE OF THE IRRIGATION SUPPLY OFFSET BEING DEPENDENT ON THE WASTEWATER GENERATION, PHASE 2 WILL BE INSTALLED AND ESTABLISHED POST-OCCUPANCY.
- A.A. ZONE 5, 9, AND 11 PLANTING AREAS WILL BE DESIGNED IN COORDINATION WITH THE TREATED GREYWATER SYSTEM. WHERE GRAYWATER GENERATION EXCEEDS THE DAILY REQUIREMENTS FOR THE PLANTS WITHIN ZONE 5, 9 AND 11, THE TREATED GRAYWATER WILL BE ALLOCATED TO OFFSET OTHER NON-POTABLE WATER DEMANDS ON-SITE.
- A.B. ALL PHASE 2 ZONES EXIST WITHIN SETBACKS REQUIRED BY THE CALIFORNIA PLUMBING CODE AS WELL AS THE ENVIRONMENTAL HEALTH CODE FOR GRAYWATER DISPERSAL ADJACENT TO CREEKS, BUILDINGS AND WELL SUPPLIES.
- A.C. ALL PHASE 2 ZONES HAVE BEEN DESIGNED WITH INTENT OF MEETING 100% OF IRRIGATION DEMANDS WITH THE RESPECTIVE ALTERNATE WATER SOURCES LISTED ABOVE & COMPLETELY INDEPENDENT OF POTABLE WELL WATER.
- B. REFERENCE PLANTING SCHEDULE ON SHEET L1.7
- C. REFERENCE IRRIGATION PLAN ON SHEET L2.0

SHEET NOTES

1. FENCING MATERIAL TBD.
2. ZONE 9 PLANTING INCLUDES PLANTINGS AROUND THE CARE TAKER UNIT AS COORDINATED WITH THE GREYWATER TREATMENT SYSTEM WATER REUSE SOURCE.



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PLANTING -
 PHASE 2 /
 ZONE 9 -
 PLAN

L1.6

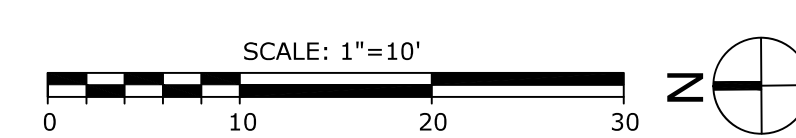
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PHASE 2 - PLANTING ZONE 9B

1

PHASE 2 - PLANTING ZONE 9A



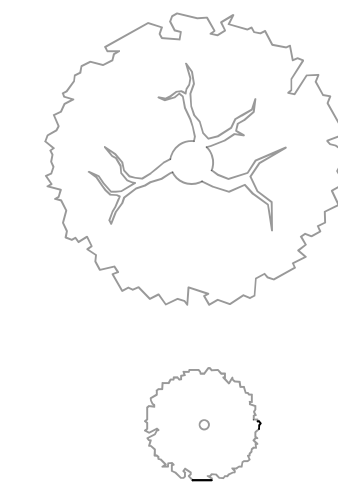


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ZONE 9: PLANTING SCHEDULE

ZONE 9: SMALL TREES/LARGE SHRUBS	CODE	COMMON / BOTANICAL NAME	SIZE	WATER USE	QTY
	As	Sugar Maple / <i>Acer saccharum</i>	---	M	3
	Df	Fuyu Persimmon / <i>Diospyros kaki 'Fuyu'</i>	---	L	4
	Ej	Loquat / <i>Eriobotrya japonica</i>	---	M	1
	Pa3	Apricot / <i>Prunus armeniaca</i>	---	L	4
	Ps2	Japanese Plum / <i>Prunus salicina</i>	---	M	5
	Pg	Pomegranate / <i>Punica granatum</i>	---	L	4
	Pb	Bartlett Pear / <i>Pyrus communis 'Bartlett'</i>	---	M	6
	Rs2	Red Raspberry / <i>Rubus arcticus 'Summit'</i>	---	M	4
	Sn3	Black Elderberry / <i>Sambucus nigra</i>	---	H	5
	Vc5	Dwarf Blueberry / <i>Vaccinium caespitosum</i>	---	M	10
ZONE 9: VINES	CODE	COMMON / BOTANICAL NAME	SIZE	WATER USE	QTY
	Vc3	California Wild Grape / <i>Vitis californica</i>	---	M	4

EXISTING TREES



MOSAIC PROJECT
 17015 Cull Canyon Road, Castro Valley - 94546

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DRAWN BY:	MS
REVIEW BY:	ABR, RH

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**PLANTING -
 PHASE 2 /
 ZONE 9 -
 SCHEDULE**

L1.7

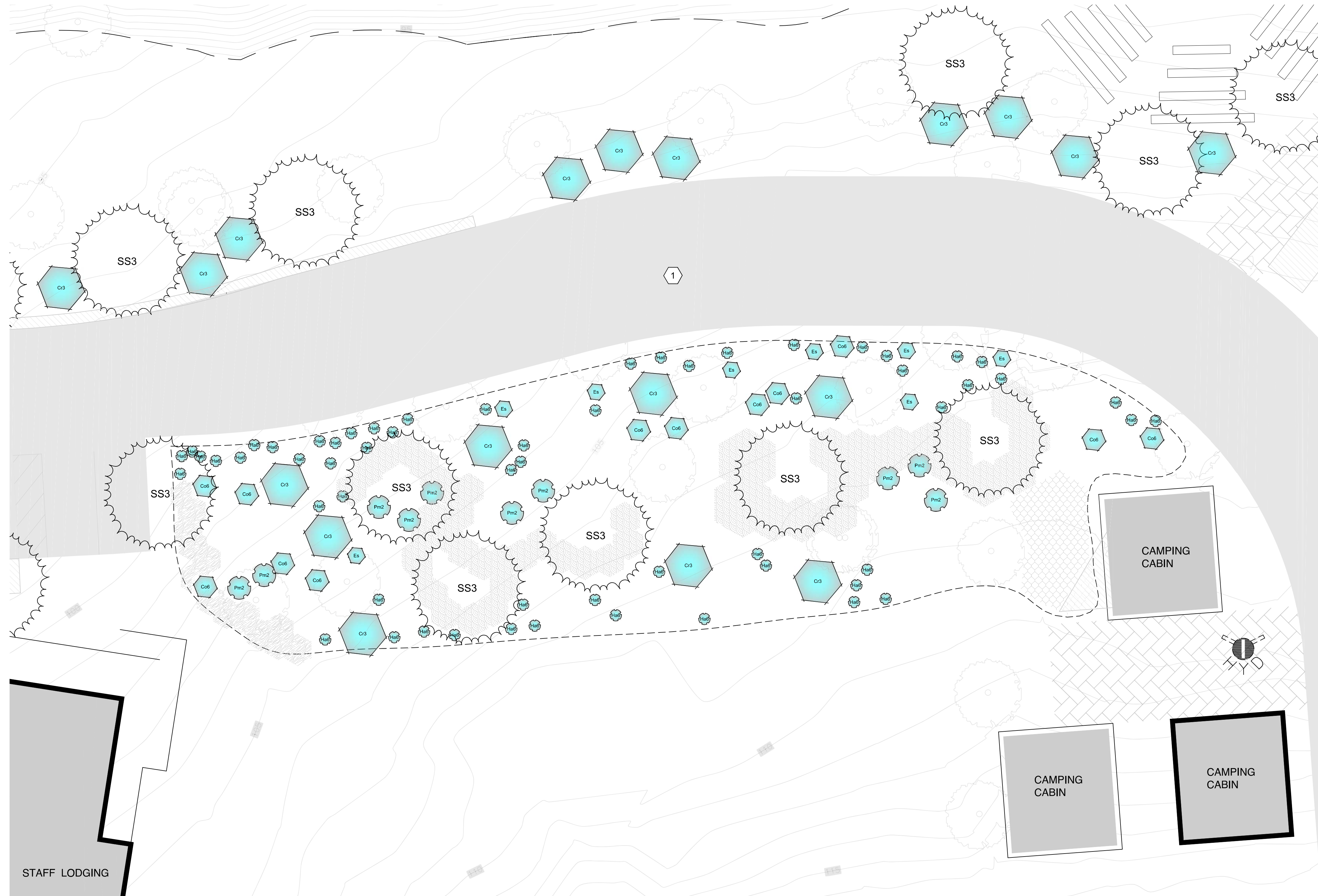
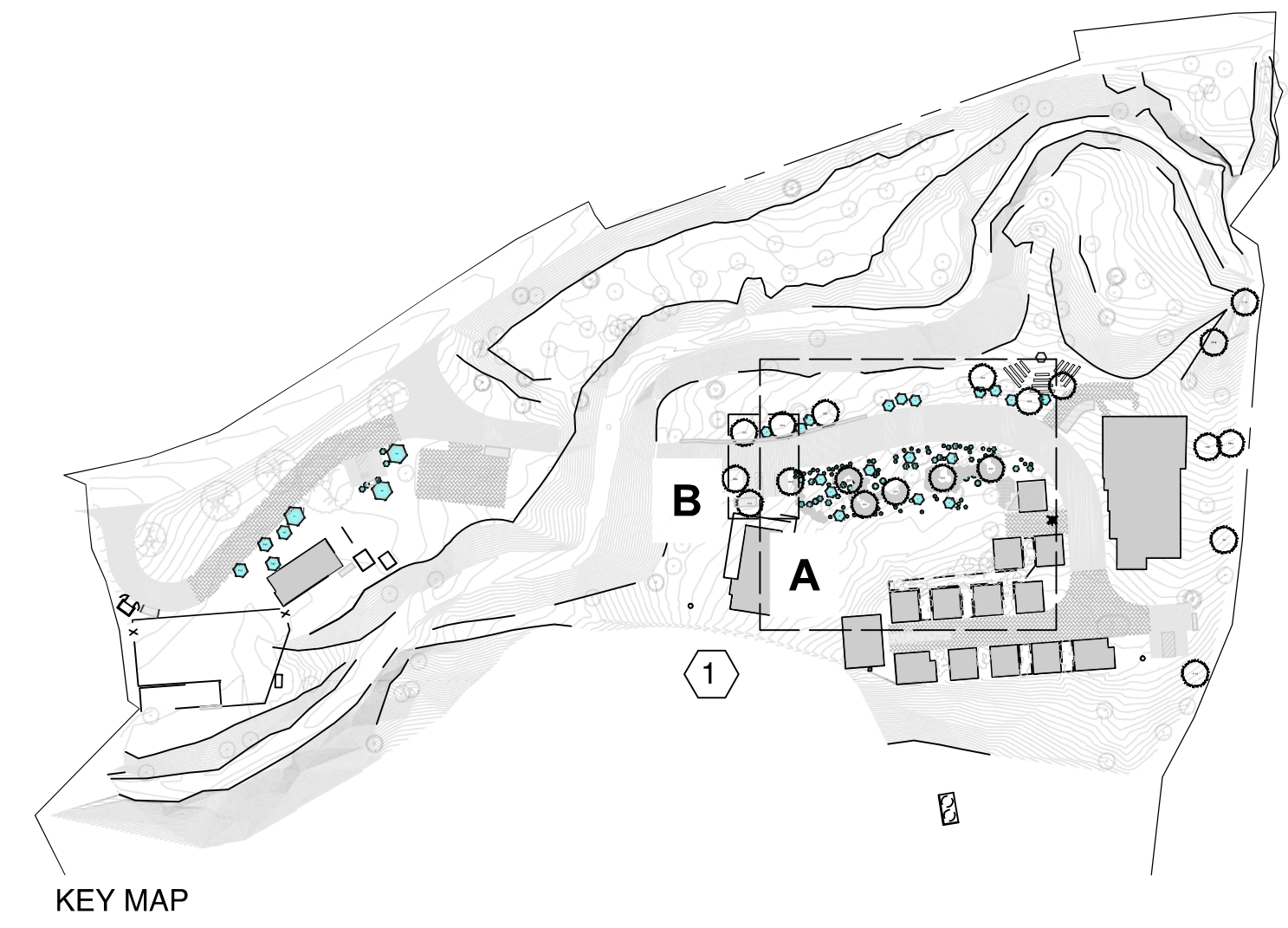
50% PLAN SET
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GENERAL NOTES

- A. PHASE 2 - (PLANTING ZONES 2, 5, 9 AND 11) HAVE BEEN IDENTIFIED BY THE PROJECT TEAM AS AREAS WHICH ARE SUITABLE AND CODE-COMPLIANT FOR RECEIVING ON-SITE TREATED WASTE-WATER SOURCES INCLUDING GREYWATER AND BLACKWATER. DUE TO THE NATURE OF THE IRRIGATION SUPPLY OFFSET BEING DEPENDENT ON THE WASTEWATER GENERATION, PHASE 2 WILL BE INSTALLED AND ESTABLISHED POST-OCCUPANCY.
- A.A. ZONE 5, 9, AND 11 PLANTING AREAS WILL BE DESIGNED IN COORDINATION WITH THE TREATED GREYWATER SYSTEM. WHERE GRAYWATER GENERATION EXCEEDS THE DAILY REQUIREMENTS FOR THE PLANTS WITHIN ZONE 5, 9 AND 11, THE TREATED GRAYWATER WILL BE ALLOCATED TO OFFSET OTHER NON-POTABLE WATER DEMANDS ON-SITE.
- A.B. ALL PHASE 2 ZONES EXIST WITHIN SETBACKS REQUIRED BY THE CALIFORNIA PLUMBING CODE AS WELL AS THE ENVIRONMENTAL HEALTH CODE FOR GRAYWATER DISPERSAL ADJACENT TO CREEKS, BUILDINGS AND WELL SUPPLIES.
- A.C. ALL PHASE 2 ZONES HAVE BEEN DESIGNED WITH INTENT OF MEETING 100% OF IRRIGATION DEMANDS WITH THE RESPECTIVE ALTERNATE WATER SOURCES LISTED ABOVE & COMPLETELY INDEPENDENT OF POTABLE WELL WATER.
- B. REFERENCE PLANTING SCHEDULE ON SHEET L1.9
- C. REFERENCE IRRIGATION PLAN ON SHEET L2.0

SHEET NOTES

- 1. ZONE 11 PLANTING INCLUDES PLANTINGS AROUND THE ROAD AS COORDINATED WITH THE GREYWATER TREATMENT SYSTEM WATER REUSE SOURCE.



1 PHASE 2 - PLANTING ZONE 11A



2 PHASE 2 - PLANTING ZONE 11B

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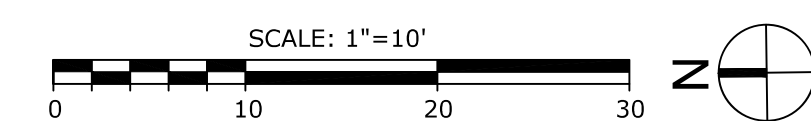
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PLANTING -
 PHASE 2 /
 ZONE 11 -
 PLAN

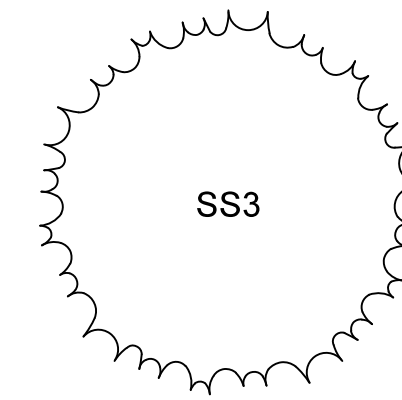
L1.8

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ZONE 11 - PLANTING SCHEDULE

ZONE 11: REDWOOD FOREST



CODE	COMMON / BOTANICAL NAME	SIZE	WATER	QTY
SS3	Coast Redwood / Sequoia sempervirens	---	H	14

ZONE 11: REDWOOD FOREST - PERENNIALS



CODE	COMMON / BOTANICAL NAME	SIZE	WATER USE	QTY
Es	Stream Orchid / Epipactis gigantea	---	M	8



Ha6	Coral Bells / Heuchera x "spp."	---	M	59
-----	---------------------------------	-----	---	----



Pm2	Western Sword Fern / Polystichum munitum	---	M	10
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ZONE 11: REDWOOD FOREST - SMALL TREES/LARGE SHRUBS

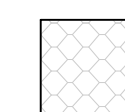


CODE	COMMON / BOTANICAL NAME	SIZE	WATER USE	QTY
Co6	Spice Bush / Calycanthus occidentalis	---	L	12

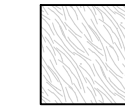


Cr3	Red Twig Dogwood / Cornus sericea	---	M	18
-----	-----------------------------------	-----	---	----

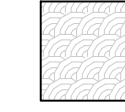
ZONE 11: GRASS/RUSH/SEDGE



CODE	COMMON / BOTANICAL NAME	SIZE	WATER USE	SPACING	QTY
Ct5	Berkeley Sedge / Carex tumulicola	---	L		262 sf

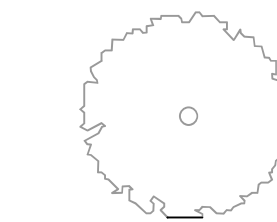


Fr4	Red Fescue / Festuca rubra	---	L		212 sf
-----	----------------------------	-----	---	--	--------



Or	Redwood Sorrel / Oxalis oregana	---	M		1,245 sf
----	---------------------------------	-----	---	--	----------

EXISTING TREES



WATERSHED PROGRESSIVE
 WWW.WATERSHEDPROGRESSIVE.COM
 209.732.2019
 CENTRAL SIERRA OFFICE
 18653 MAIN STREET
 GROVELAND, CALIFORNIA 95321
 OJAI OFFICE
 256 N. SIGNAL ST., SUITE 6
 OJAI, CALIFORNIA 93023

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PLANTING -
 PHASE 2 /
 ZONE 11 -
 SCHEDULE

L1.9

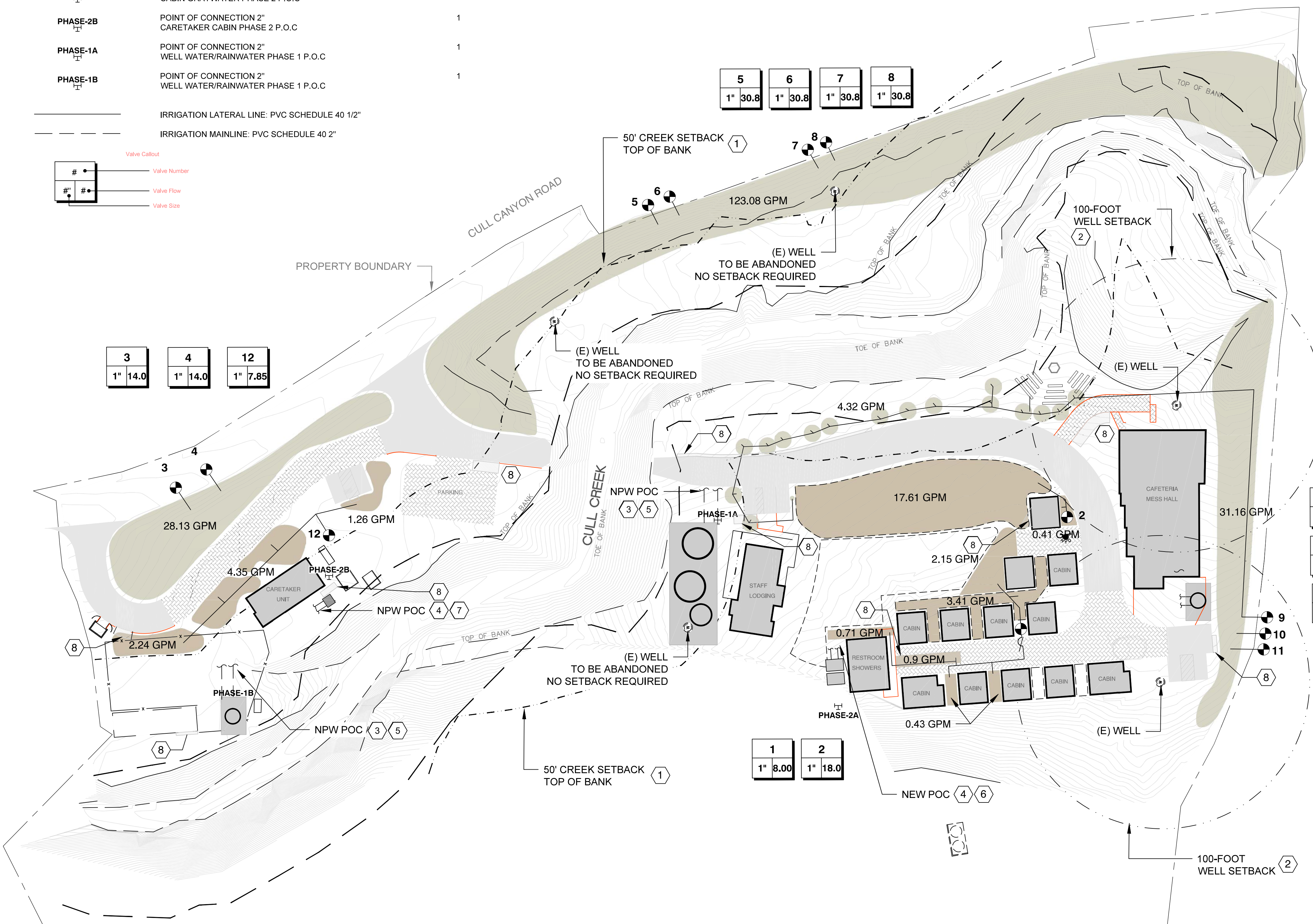
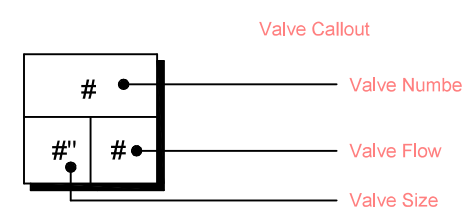
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IRRIGATION SCHEDULE

SYMBOL	DESCRIPTION	AREA	PRECIP	PSI	GPM
PHASE-1	SHRUB DRIPLINE 0.6 GPH @ 18" O.C. DRIPLINE WITH 0.60 GPH EMITTERS AT 18" O.C., ROW SPACING AT 18" O.C.	42,547 S.F.	0.43 IN/H	35	190
PHASE-2	SHRUB DRIPLINE 0.6 GPH @ 24" O.C. DRIPLINE WITH 0.60 GPH EMITTERS AT 24" O.C., ROW SPACING AT 24" O.C.	13,626 S.F.	0.24 IN/H	35	34

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	RAIN BIRD EFB-CP 1" 1", 1-1/2", 2" BRASS REMOTE CONTROL VALVE, THAT IS CONTAMINATION PROOF W/SELF-FLUSHING FILTER SCREEN, GLOBE CONFIGURATION, RECLAIMED WATER COMPATIBLE, AND PURPLE HANDLE COVER DESIGNATES NON-POTABLE WATER USE.	12
PHASE-2A	POINT OF CONNECTION 2" CABIN GRAYWATER PHASE 2 P.O.C	1
PHASE-2B	POINT OF CONNECTION 2" CARETAKER CABIN PHASE 2 P.O.C	1
PHASE-1A	POINT OF CONNECTION 2" WELL WATER/RAINWATER PHASE 1 P.O.C	1
PHASE-1B	POINT OF CONNECTION 2" WELL WATER/RAINWATER PHASE 1 P.O.C	1

IRRIGATION LATERAL LINE: PVC SCHEDULE 40 1/2"
IRRIGATION MAINLINE: PVC SCHEDULE 40 2"



GENERAL NOTES

- ALL POINTS OF CONNECTION ARE SHOWN FOR INTENT OF MEETING PLANTING PLAN DEMANDS AND EXACT LOCATION TO BE DEVELOPED AS DESIGN PROGRESSES.
- IRRIGATION ZONES SHOWN SCHEMATICALLY FOR WATER BUDGETING PURPOSES.
- IRRIGATION EQUIPMENT AND PIPING LAYOUT IS SHOWN DIAGRAMMATICALLY FOR SIZING PURPOSES. ALL IRRIGATION ELEMENTS SHOWN WITHIN PAVED AREAS ARE FOR DESIGN CLARIFICATION ONLY AND ARE TO BE INSTALLED IN PLANTING AREAS WHERE POSSIBLE. ALL VALVES ARE TO BE PLACED IN SHRUB / GROUND COVER AREAS.
- SCHEMATIC IRRIGATION PLAN IS DESIGNED PER WATER EFFICIENT LANDSCAPE ORDINANCE (WEL0)
- REFERENCE MWEL0 AND IRRIGATION ANALYSIS ON SPECIFICATIONS SHEET L2.1
- AN ONSITE RAINWATER COLLECTION SYSTEM HAS BEEN DESIGNED AS AN ALTERNATE MEANS OF WATER SUPPLY WITH THE INTENT OF PROVIDING A BACKUP WATER SOURCE TO MEET NON-POTABLE DEMANDS. AT THIS TIME, THE BASIS OF DESIGN INCLUDES SERVING IRRIGATION DEMANDS ONLY WITH THE TREATED AND STORED RAINWATER. A DESIGN OPTION /ALTERNATE EXISTS TO SERVE OTHER NON-POTABLE WATER DEMANDS SUCH AS TOILET-FLUSHING AND FIRE SUPPRESSION. THE RAINWATER COLLECTION SYSTEM WILL BE UPDATED TO REFLECT THE FINAL DESIGN DIRECTION PRIOR TO SUBMITTING FOR CONSTRUCTION PERMIT.
- MUNICIPAL REGIONAL STORMWATER PERMITTING AND COMPLIANCE HAS BEEN ACCOUNTED FOR IN THE CIVIL PLAN SET WITH BIOSWALES AS THE PRIMARY BEST MANAGEMENT PRACTICE. AS AN ALTERNATE OR BACKUP FOR STORMWATER MITIGATION, THE RAINWATER COLLECTION SYSTEM CAN BE UTILIZED. THE BASIS OF DESIGN ASSUMES ALL STORMWATER WILL BE TREATED WITH BIOSWALES, PER CIVIL PLANS. REFER TO CIVIL PLANS AND TABLES FOR A BREAKDOWN OF BMP'S AND ASSOCIATED DRAINAGE AREAS.

SHEET NOTES

- GRAYWATER DISPERSAL SETBACK FROM CREEK (50-FT) IS PROPOSED BASED ON THE DESIGN OF THE GRAYWATER SYSTEM INCLUDING FILTRATION PRIOR TO DISPERSAL. THE MINIMUM HORIZONTAL SETBACK DISTANCE HAS BEEN REDUCED FROM 100-FEET TO 50-FEET PER CPC TABLE 1503.4 NOTE 10.
- GRAYWATER DISPERSAL SETBACK FROM WELL WATER SOURCES (100-FT) IS INCLUDED FOR ALL PROPOSED ACTIVE WELLS. WELL WHICH HAVE BEEN ABANDONED OR WILL BE ABANDONED AS A PART OF THE PROPOSED DESIGN ARE ASSUMED TO BE EXCLUDED FROM THE REQUIREMENT UNLESS OTHERWISE INSTRUCTED BY ALAMEDA COUNTY.
- PHASE-1 IRRIGATION TO BE SUPPLIED PRE OCCUPANCY WITH WELL WATER DURING ESTABLISHMENT PHASE AND NON-POTABLE ALTERNATE WATER SOURCE (GRAY/RAINWATER) POST OCCUPANCY.
- PHASE-2 IRRIGATION TO BE SUPPLIED POST OCCUPANCY WITH NON-POTABLE GRAYWATER FOR ESTABLISHMENT AND POST ESTABLISHMENT.
- POINT OF CONNECTION FROM RAINWATER STORAGE TANKS: RAINWATER STORAGE TANKS HAVE BEEN INCLUDED IN THE DESIGN AS AN ALTERNATE WATER SOURCE. THE BASIS OF DESIGN INCLUDES UTILIZING THE TANKS FOR RAINWATER COLLECTION AND SUPPLEMENTAL WELL-WATER STORAGE FOR IRRIGATION SUPPLY IN THE ESTABLISHMENT WATERING IN PHASE 1 OF THE PROJECT. THE SIZE AND QUANTITY OF TANKS SHOWN INCLUDES MAXIMUM RAINWATER COLLECTION AND MAY BE UPDATED UPON REVIEW AND/OR APPROVAL OF THE RAINWATER COLLECTION SYSTEM. UPON FUTURE REVIEW AND APPROVAL, THE WELL WATER CONNECTION TO THE TANKS WILL REMAIN TO ENSURE THE TANK CAPACITY IS RELIABLE FOR NON-POTABLE USES.
- POINT OF CONNECTION FROM GRAYWATER SYSTEM 1: INCLUDES A NSF-350 CERTIFIED MEMBRANE BIO-REACTOR SYSTEM AND STORAGE VOLUME SPECIFIED TO PROCESS 1-DAY OF GRAYWATER GENERATION FROM THE VARIOUS BUILDINGS ON THE SITE. EXACT SYSTEM ROUTING AND EQUIPMENT SPECIFICATIONS TO BE DETERMINED AS DESIGN PROGRESSES. REFER TO 'GRAYWATER GENERATION SUPPLY' TABLE FOR 1-DAY SUPPLY VOLUMES.
- POINT OF CONNECTION FROM GRAYWATER SYSTEM 2: INCLUDES A SIMPLE LAUNDRY TO LANDSCAPE SYSTEM TO SUPPLY ORCHARD TREES WITH SUBSURFACE IRRIGATION. ORCHARD TREES TO BE SUPPLIED WITH GRAYWATER WILL BE LOCATED OUTSIDE THE SETBACK AREAS AND WILL MEET CODE REQUIREMENTS FOR GRAYWATER BASIC DISPERSAL.
- STORMWATER MANAGEMENT BIOSWALES - PRELIMINARY LOCATION PER CIVIL DESIGN. FINAL LOCATION, PLANTING DESIGN AND SIZES TO BE DEVELOPED AS DESIGN PROGRESSES.



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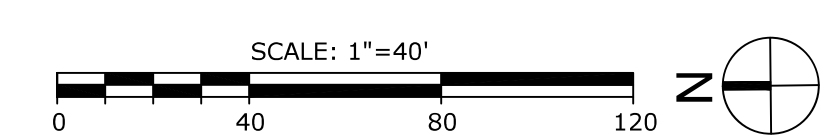
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IRRIGATION - OVERALL SITE PLAN

L2.0

50% PLAN SET
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1 OVERALL SITE IRRIGATION PLAN



IRRIGATION DESIGN ASSUMPTIONS

1. PLANT FACTORS RANGE FROM 0 (NEEDS NO IRRIGATION) TO 1.0 (NEEDS HIGH AMOUNT OF IRRIGATION)
2. PLANT FACTORS HAVE BEEN DETERMINED BY THE PLANT TYPE IN EACH HYDROZONE, DUE TO A FEW HYDROZONES WHICH CONSIST OF LOW AND MEDIUM PLANTS, AN AVERAGE PLANT FACTOR WAS DETERMINED.
3. IRRIGATION EFFICIENCY IS SET BY MWEO AND DETERMINED TO BE .91 FOR DRIFLINE IRRIGATION.
4. PHASE 1 WELO (MAWA & ETWU) CALCULATIONS ASSUME WATER USE FOR ESTABLISHMENT PERIOD OF ZONE 1. FOR POST-ESTABLISHMENT WATER USAGE ESTIMATES RELATIVE TO THE OVERALL LONG-TERM WATER BALANCE OF THE SITE, REFER TO L3.0.

1. MAWA AND ETWU TABLES (PHASE 1 AND PHASE 2)

PHASE 1 / PRE-OCCUPANCY

Eto for Project Site	44.5	inches/year					
Enter Eppt @ site here	0.0	inches/year					
LA for Project Site	45,772	square feet					
MAWA = (Eto - Eppt)(0.62)(PF x HA) / (IA + SLA)							
MAWA =	44.5	0.0	0.62	0.7	45,772	0.3	0
MAWA =	883,796	Gallons/Year	2.71	Acres Foot/Year			
	1182	Units/Year					

MAWA = Maximum Applied Water Allowance (gallons per year)
 Eto = Reference Evapo-transpiration (for location in inches per year)
 Eppt = Effective Precipitation (no more than 25% of local Eto, typically 10%)
 0.62 = conversion factor to gallons
 0.7 = Eto Adjustment Factor (average Ks of .5 divided by 0.7 irrigation efficiency)
 LA = Total Irrigated Landscape Area (in square feet) including Special Landscape Area (SLA)
 SLA = Portion of the total Irrigated Landscape Area identified as Special Landscape Area (recreational turf)
 0.3 = The additional ET Adjustment Allowance Factor for Special Landscape Area (1.0 - 0.7 = 0.3)

Hydrazone	Plant water Use Type(s)	Plant Factor (PF)*	Area Sq. Ft (HA)	PF x Area (square feet)	Irrigation Efficiency (IA)
Zone 1	Medium	0.4	45,772	18,309	0.91
*Plant Factor from WULCOLS					

ETWU = (Eto)(0.62)/((PF x HA)/(IA + SLA))					
ETWU =	44.5	0.62	20,120	0	
ETWU =	554,974	Gallons/Year			
	742	Units/Year			
	1.7	Acres-Ft/Year			

ETWU must be less than MAWA

PHASE 2 / POST-OCCUPANCY

Eto for Project Site	44.5	inches/year					
Enter Eppt @ site here	0.0	inches/year					
LA for Project Site	15,791	square feet					
MAWA = (Eto - Eppt)(0.62)(PF x HA) / (IA + SLA)							
MAWA =	44.5	0.0	0.62	0.7	15,791	0.3	0
MAWA =	266,296	Gallons/Year	0.82	Acres Foot/Year			
	356	Units/Year					

MAWA = Maximum Applied Water Allowance (gallons per year)
 Eto = Reference Evapo-transpiration (for location in inches per year)
 Eppt = Effective Precipitation (no more than 25% of local Eto, typically 10%)
 0.62 = conversion factor to gallons
 0.7 = Eto Adjustment Factor (average Ks of .5 divided by 0.7 irrigation efficiency)
 LA = Total Irrigated Landscape Area (in square feet) including Special Landscape Area (SLA)
 SLA = Portion of the total Irrigated Landscape Area identified as Special Landscape Area (recreational turf)
 0.3 = The additional ET Adjustment Allowance Factor for Special Landscape Area (1.0 - 0.7 = 0.3)

Hydrazone	Plant water Use Type(s)	Plant Factor (PF)*	Area Sq. Ft (HA)	PF x Area (square feet)	Irrigation Efficiency (IA)
Zone 5	Medium	0.6	3,375	2,025	0.91
Zone 9	Medium	0.6	3,188	1,913	0.91
Zone 11	Medium	0.6	7,228	4,337	0.91
*Plant Factor from WULCOLS					

ETWU = (Eto)(0.62)/((PF x HA)/(IA + SLA))					
ETWU =	44.5	0.62	9,093	0	
ETWU =	250,819	Gallons/Year			
	335	Units/Year			
	0.8	Acres-Ft/Year			

ETWU must be less than MAWA

2. FULL SITE MAWA AND ETWU TABLES

Eto for Project Site	44.5	inches/year					
Enter Eppt @ site here	0.0	inches/year					
LA for Project Site	177,118	square feet					
MAWA = (Eto - Eppt)(0.62)(PF x HA) / (IA + SLA)							
MAWA =	44.5	0.0	0.62	0.7	177,118	0.3	0
MAWA =	3,431,496	Gallons/Year	10.53	Acres Foot/Year			
	4508	Units/Year					

MAWA = Maximum Applied Water Allowance (gallons per year)
 Eto = Reference Evapo-transpiration (for location in inches per year)
 Eppt = Effective Precipitation (no more than 25% of local Eto, typically 10%)
 0.62 = conversion factor to gallons
 0.7 = Eto Adjustment Factor (average Ks of .5 divided by 0.7 irrigation efficiency)
 LA = Total Irrigated Landscape Area (in square feet) including Special Landscape Area (SLA)
 SLA = Portion of the total Irrigated Landscape Area identified as Special Landscape Area (recreational turf)
 0.3 = The additional ET Adjustment Allowance Factor for Special Landscape Area (1.0 - 0.7 = 0.3)

Hydrazone	Plant water Use Type(s)	Plant Factor (PF)*	Area Sq. Ft (HA)	PF x Area (square feet)	Irrigation Efficiency (IA)
Zone 1	Medium	0.4	45,772	18,309	0.91
Zone 2	Medium	0.5	7,000	3,500	0.91
Zone 3	Medium	0.4	13,000	5,200	0.91
Zone 4	Medium	0.5	70,700	35,350	0.91
Zone 5	Medium	0.6	3,375	2,025	0.91
Zone 6	TBD	TBD	TBD	TBD	
Zone 7	Low	0.3	3,100	930	0.91
Zone 8	Medium	0.5	24,000	12,000	0.91
Zone 9	Medium	0.6	3,188	1,913	0.91
Zone 10	Medium	0.6	353	213	0.91
Zone 11	Medium	0.6	7,228	4,337	0.91
Sum					83,776

ETWU = (Eto)(0.62)/((PF x HA)/(IA + SLA))					
ETWU =	44.5	0.62	92,862	0	
ETWU =	2,539,419	Gallons/Year			
	3,395	Units/Year			
	7.8	Acres-Ft/Year			

ETWU must be less than MAWA

WELL WATER / PHASE 1

NUMBER	MODEL	TYPE	PRECIP	IN./WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
5	Rain Bird EFB-CP	SHRUB DRIFLINE 0.6 GPH @ 18" O.C.	0.43 in/h	0.75	105	3,231	461.5
6	Rain Bird EFB-CP	SHRUB DRIFLINE 0.6 GPH @ 18" O.C.	0.43 in/h	0.75	105	3,231	461.5
7	Rain Bird EFB-CP	SHRUB DRIFLINE 0.6 GPH @ 18" O.C.	0.43 in/h	0.75	105	3,231	461.5
8	Rain Bird EFB-CP	SHRUB DRIFLINE 0.6 GPH @ 18" O.C.	0.43 in/h	0.75	105	3,231	461.5
9	Rain Bird EFB-CP	SHRUB DRIFLINE 0.6 GPH @ 18" O.C.	0.43 in/h	0.75	105	1,914	273.4
10	Rain Bird EFB-CP	SHRUB DRIFLINE 0.6 GPH @ 18" O.C.	0.43 in/h	0.75	105	1,091	155.8
11	Rain Bird EFB-CP	SHRUB DRIFLINE 0.6 GPH @ 18" O.C.	0.43 in/h	0.75	105	1,091	155.8
TOTALS:						735	17,019

WELL WATER / PHASE 1

NUMBER	MODEL	TYPE	PRECIP	IN./WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
3	Rain Bird EFB-CP	SHRUB DRIFLINE 0.6 GPH @ 18" O.C.	0.43 in/h	0.75	105	1,470	210
4	Rain Bird EFB-CP	SHRUB DRIFLINE 0.6 GPH @ 18" O.C.	0.43 in/h	0.75	105	1,470	210
TOTALS:						210	2,940

GW SYSTEM-1 / PHASE 2

NUMBER	MODEL	TYPE	PRECIP	IN./WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
1	Rain Bird EFB-CP	SHRUB DRIFLINE 0.6 GPH @ 24" O.C.	0.24 in/h	0.75	188	1,505	215.0
2	Rain Bird EFB-CP	SHRUB DRIFLINE 0.6 GPH @ 24" O.C.	0.24 in/h	0.75	188	3,389	484.1
TOTALS:						376	4,893

GW SYSTEM-2 / PHASE 2

NUMBER	MODEL	TYPE	PRECIP	IN./WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
12	Rain Bird EFB-CP	SHRUB DRIFLINE 0.6 GPH @ 24" O.C.	0.24 in/h	0.75	188	1,495	213.5
TOTALS:						188	1,495

IRRIGATION VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	PSI	PRECIP
1	Rain Bird EFB-CP	1"	SHRUB DRIFLINE 0.6 GPH @ 24" O.C.	8.00	40.13	0.24 in/h
2	Rain Bird EFB-CP	1"	SHRUB DRIFLINE 0.6 GPH @ 24" O.C.	18.02	40.78	0.24 in/h
3	Rain Bird EFB-CP	1"	SHRUB DRIFLINE 0.6 GPH @ 18" O.C.	14.00	38.39	0.43 in/h
4	Rain Bird EFB-CP	1"	SHRUB DRIFLINE 0.6 GPH @ 18" O.C.	14.00	38.39	0.43 in/h
5	Rain Bird EFB-CP	1"	SHRUB DRIFLINE 0.6 GPH @ 18" O.C.	30.77	42.9	0.43 in/h
6	Rain Bird EFB-CP	1"	SHRUB DRIFLINE 0.6 GPH @ 18" O.C.	30.77	42.9	0.43 in/h
7	Rain Bird EFB-CP	1"	SHRUB DRIFLINE 0.6 GPH @ 18" O.C.	30.77	42.9	0.43 in/h
8	Rain Bird EFB-CP	1"	SHRUB DRIFLINE 0.6 GPH @ 18" O.C.	30.77	42.89	0.43 in/h
9	Rain Bird EFB-CP	1"	SHRUB DRIFLINE 0.6 GPH @ 18" O.C.	7.84	64.27	0.43 in/h
10	Rain Bird EFB-CP	1"	SHRUB DRIFLINE 0.6 GPH @ 18" O.C.	15.58	39.25	0.43 in/h
11	Rain Bird EFB-CP	1"	SHRUB DRIFLINE 0.6 GPH @ 18" O.C.	15.58	39.31	0.43 in/h
12	Rain Bird EFB-CP	1"	SHRUB DRIFLINE 0.6 GPH @ 24" O.C.	7.85	39.1	0.24 in/h



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OJAI OFFICE
 206 N SIGNAL ST., SUITE 6
 OJAI, CALIFORNIA 93023

MOSAIC PROJECT
 17015 Cull Canyon Road, Castro Valley - 94546

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DESIGN BY: ABR, MS
 DRAWN BY: MS
 REVIEW BY: ABR, RH

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IRRIGATION -
 OVERALL SITE -
 SPECIFICATIONS
 & MWEO
 CALCS

L2.1



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GENERAL NOTES

- A. ALL POINTS OF CONNECTION ARE SHOWN FOR INTENT OF MEETING IRRIGATION PLAN DEMANDS AND EXACT LOCATION TO BE DEVELOPED AS DESIGN PROGRESSES.
- B. RAINWATER AND GRAYWATER EQUIPMENT LAYOUT IS SHOWN DIAGRAMMATICALLY FOR SIZING PURPOSES. ALL SYSTEM ELEMENTS SHOWN WITHIN PAVED AREAS ARE FOR DESIGN CLARIFICATION ONLY.
- C. AN ONSITE RAINWATER COLLECTION SYSTEM HAS BEEN DESIGNED AS AN ALTERNATE MEANS OF WATER SUPPLY WITH THE INTENT OF PROVIDING A BACKUP WATER SOURCE TO MEET NON-POTABLE DEMANDS. AT THIS TIME, THE BASIS OF DESIGN INCLUDES SERVING IRRIGATION DEMANDS ONLY WITH THE TREATED AND STORED RAINWATER. A DESIGN OPTION /ALTERNATE EXISTS TO SERVE OTHER NON-POTABLE WATER DEMANDS SUCH AS TOILET-FLUSHING AND FIRE SUPPRESSION. THE SIZE AND QUANTITY OF TANKS SHOWN INCLUDES MAXIMUM RAINWATER COLLECTION AND MAY BE UPDATED UPON REVIEW AND/OR APPROVAL OF THE RAINWATER COLLECTION SYSTEM. THE RAINWATER COLLECTION SYSTEM WILL BE UPDATED TO REFLECT THE FINAL DESIGN DIRECTION PRIOR TO SUBMITTING FOR CONSTRUCTION PERMIT.
- D. ALL SETBACKS SHOWN ARE INTENTED TO REPRESENT LIMITS FOR GREYWATER TREATMENT AND DISPERSAL. SETBACKS DO NOT APPLY TO RAINWATER SYSTEMS. RAINWATER SYSTEM LOCATION AND INSTALLATION SHALL BE COMPLIANT WITH CHAPTER 16 OF THE CALIFORNIA PLUMBING CODE, CALIFORNIA BUILDING CODE FOR STRUCTURAL CONSTRUCTION INTEGRITY AND / OR AUTHORITY HAVING JURISDICTION, WHICHEVER IS MORE STRINGENT.

SHEET NOTES

- 1. GRAYWATER DISPERSAL SETBACK FROM CREEK (50-FT) IS PROPOSED BASED ON THE DESIGN OF THE GRAYWATER SYSTEM INCLUDING FILTRATION PRIOR TO DISPERSAL. THE MINIMUM HORIZONTAL SETBACK DISTANCE HAS BEEN REDUCED FROM 100-FEET TO 50-FEET PER CPC TABLE 1503.4 NOTE 10.
- 2. GRAYWATER DISPERSAL SETBACK FROM WELL WATER SOURCES (100-FT) IS INCLUDED FOR ALL PROPOSED ACTIVE WELLS. WELL WHICH HAVE BEEN ABANDONED OR WILL BE ABANDONED AS A PART OF THE PROPOSED DESIGN ARE ASSUMED TO BE EXCLUDED FROM THE REQUIREMENT UNLESS OTHERWISE INSTRUCTED BY ALAMEDA COUNTY.
- 3. POINT OF CONNECTION FROM RAINWATER STORAGE TANKS:
THE BASIS OF DESIGN INCLUDES UTILIZING RAINWATER TANKS TO STORE WATER TO MEET IRRIGATION DEMANDS. WELL-WATER WILL FILL THE TANKS AND SUPPLY NON-POTABLE WATER TO IRRIGATION DURING THE ESTABLISHMENT PHASE 1 OF THE PROJECT. POST-ESTABLISHMENT PHASE, RAINWATER WILL FILL THE TANKS FOR SUPPLY TO IRRIGATION, FULLY OFFSETTING THE NEED FOR WELL-WATER. AN AUTOMATED WELL-WATER CONNECTION WILL BE PROVIDED TO THE TANK TO PROVIDE THE OPTION FOR RELIABLE TANK CAPACITY. IF FUTURE DEMANDS ARE ADDED TO THE RAINWATER COLLECTION SYSTEM, THE WELL WATER MAKE-UP CONNECTION WILL BE DESIGNED TO BE ON OR OFF IN CONJUNCTION WITH THE DEMAND TYPE IN AN EFFORT TO SAVE WATER. REFER TO GENERAL NOTES FOR ELABORATION ON DESIGN ALTERNATE FOR RAINWATER COLLECTION SYSTEM.
- 4. POINT OF CONNECTION FROM GRAYWATER SYSTEM 1:
INCLUDES A NSF-350 CERTIFIED MEMBRANE BIO-REACTOR SYSTEM AND STORAGE VOLUME SPECIFIED TO PROCESS 1-DAY OF GRAYWATER GENERATION FROM THE VARIOUS BUILDINGS ON THE SITE. EXACT SYSTEM ROUTING AND EQUIPMENT SPECIFICATIONS TO BE DETERMINED AS DESIGN PROGRESSES. REFER TO 'GRAYWATER GENERATION SUPPLY' TABLE FOR 1-DAY SUPPLY VOLUMES.
- 5. POINT OF CONNECTION FROM GRAYWATER SYSTEM 2:
INCLUDES A SIMPLE LAUNDRY TO LANDSCAPE SYSTEM TO SUPPLY ORCHARD TREES WITH SUBSURFACE IRRIGATION. ORCHARD TREES TO BE SUPPLIED WITH GRAYWATER WILL BE LOCATED OUTSIDE THE SETBACK AREAS AND WILL MEET CODE REQUIREMENTS FOR GRAYWATER BASIC DISPERSAL.
- 6. REFER TO SCHEDULES FOR SYSTEM COMPONENTS BASIS OF DESIGN. REFER TO DETAILS FOR EQUIPMENT DESIGN INTENT EXAMPLES.
- 7. PIPING THROUGH BLACKWATER TREATMENT AND DISPERSAL SYSTEM SHALL BE AVOIDED, WHERE POSSIBLE. PIPING SHOW IS FOR INTENT ONLY AND WILL BE DEVELOPED TO AVOID ALL INSTANCES OF CROSS CONTAMINATION WITH THE BLACKWATER SYSTEM.
- 8. STORMWATER MANAGEMENT BIOSWALES - PRELIMINARY LOCATION PER CIVIL DESIGN. FINAL LOCATION, PLANTING DESIGN AND SIZES TO BE DEVELOPED AS DESIGN PROGRESSES.

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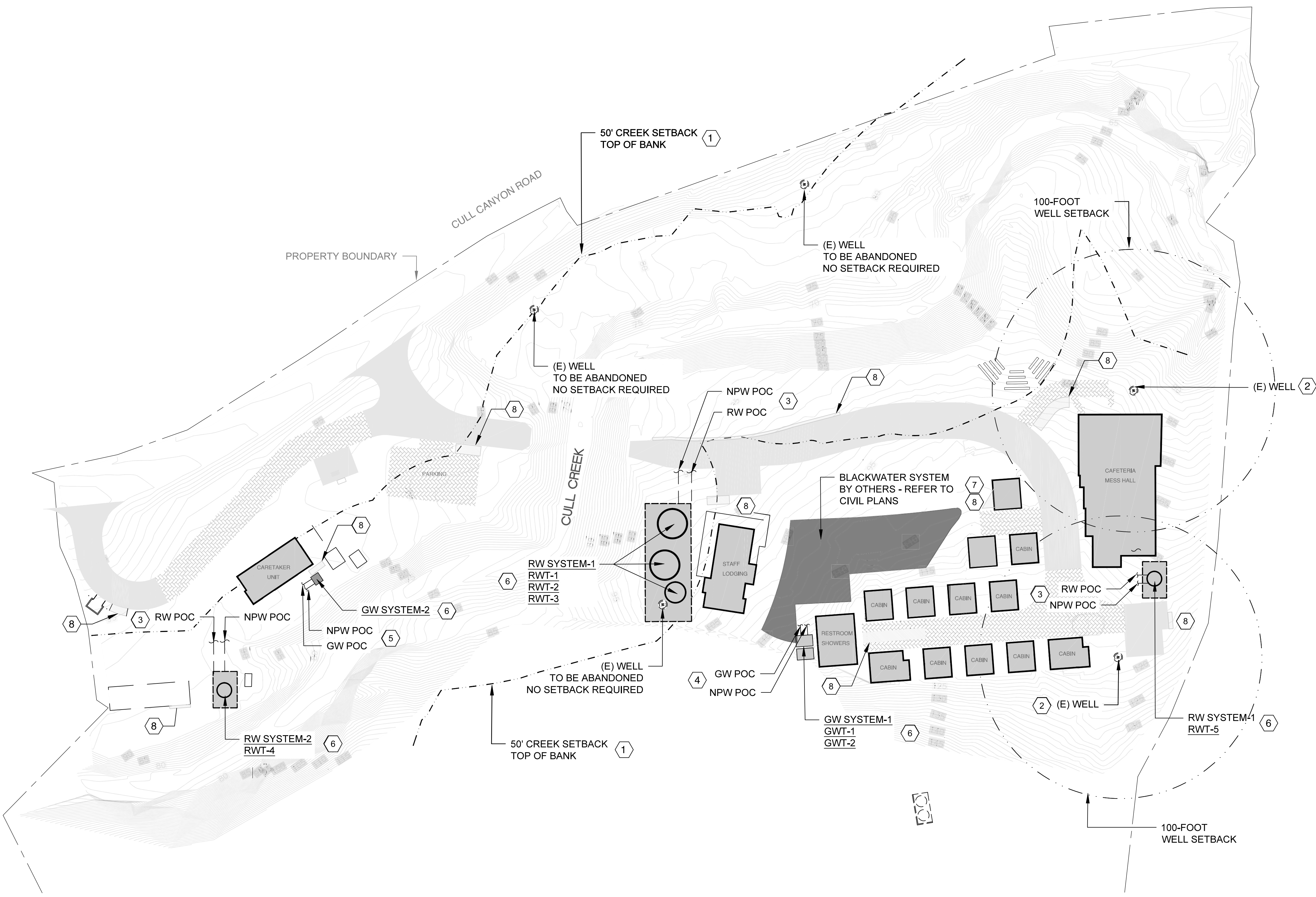
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DRAWN BY:	MS
REVIEW BY:	ABR, RH

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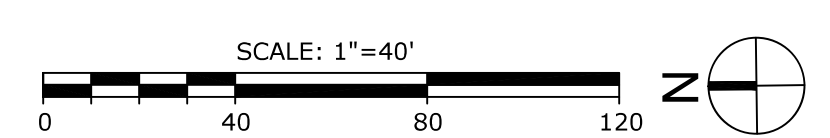
ALTERNATE WATER USE - OVERALL SITE - PLAN

L3.0

50% PLAN SET
NOT FOR CONSTRUCTION



1 ON-SITE WATER RE-USE SYSTEM LOCATIONS



DAILY GREYWATER GENERATION - PER BUILDING BY FIXTURE						
DINING HALL						
FIXTURE TYPE	USES PER DAY PER		TOTAL OCCUPANTS		TOTAL DAILY USES (USES / FIXTURE)	TOTAL DAILY GW GENERATION
	EMPLOYEES	STUDENTS	EMPLOYEES	STUDENTS		
Public Lavatory	3.0	3.0			24.0	
Public Showerhead	1.0	1.0	8	0	8.0	
FIXTURE TYPE	FIXTURE FLOW RATE	USE DURATION	TOTAL DAILY USES	TOTAL DAILY WATER USE	GREYWATER COLLECTION EFFICIENCY	TOTAL DAILY GW GENERATION
	(GPM)	(MINS)	(USES / FIXTURE)	(GAL/DAY)	%	(GAL/DAY)
Public Lavatory	0.5	0.5	24	6	95%	6
Public Showerhead	2.0	10.0	8	160		152
DINING HALL TOTAL						158 GAL/DAY
DINING HALL - COMMERCIAL LAUNDRY						
TOTAL BEDS	BED WASH FREQ.	TOTAL WASH FREQ.				
120	2	BEDS/MK	BEDS/DAY			
		240	34			
WASH REQUIREMENT	CAPACITY PER WASHER	TOTAL LOADS	LOAD WATER USE	TOTAL WATER USE	GREYWATER COLLECTION EFFICIENCY	TOTAL DAILY GW GENERATION
BEDS/DAY	BEDS/LOAD	LOADS/DAY	GAL/LOAD	GAL/DAY	%	(GAL/DAY)
34	5	7	60	420	95%	399
DINING HALL - COMMERCIAL LAUNDRY TOTAL						399 GAL/DAY
SHOWER BUILDING						
FIXTURE TYPE	USES PER DAY PER		TOTAL OCCUPANTS		TOTAL DAILY USES (USES / FIXTURE)	TOTAL DAILY GW GENERATION
	EMPLOYEES	STUDENTS	EMPLOYEES	STUDENTS		
Public Lavatory	3.0	3.0			300.0	
Public Showerhead	1.0	1.0	0	100	100.0	
FIXTURE TYPE	FIXTURE FLOW RATE	USE DURATION	TOTAL DAILY USES	TOTAL DAILY WATER USE	GREYWATER COLLECTION EFFICIENCY	TOTAL DAILY GW GENERATION
	(GPM)	(MINS)	(USES / FIXTURE)	(GAL/DAY)	%	(GAL/DAY)
Public Lavatory	0.5	1	300	75	95%	71
Public Showerhead	2.0	10	100	2,000		1,900
SHOWER BUILDING TOTAL						1,971 GAL/DAY
FAMILY DWELLING						
FIXTURE TYPE	USES PER DAY PER		TOTAL OCCUPANTS		TOTAL DAILY USES (USES / FIXTURE)	TOTAL DAILY GW GENERATION
	EMPLOYEES	STUDENTS	EMPLOYEES	STUDENTS		
Public Lavatory	3.0	3.0			24.0	
Public Showerhead	1.0	1.0	8	0	8.0	
FIXTURE TYPE	FIXTURE FLOW RATE	USE DURATION	TOTAL DAILY USES	TOTAL DAILY WATER USE	GREYWATER COLLECTION EFFICIENCY	TOTAL DAILY GW GENERATION
	(GPM)	(MINS)	(USES / FIXTURE)	(GAL/DAY)	%	(GAL/DAY)
Public Lavatory	0.5	1	300	75	95%	6
Public Showerhead	2.0	10	8	160		152
FAMILY DWELLING TOTAL						158 GAL/DAY
CARE TAKER UNIT						
FIXTURE TYPE	USES PER DAY PER		TOTAL OCCUPANTS		TOTAL DAILY USES (USES / FIXTURE)	TOTAL DAILY GW GENERATION
	EMPLOYEES	STUDENTS	EMPLOYEES	STUDENTS		
Residential Washer	0.25	0.0			1.0	
Public Showerhead	1.0	1.0	4	0	4.0	
FIXTURE TYPE	FIXTURE FLOW RATE	USE DURATION	TOTAL DAILY USES	TOTAL DAILY WATER USE	GREYWATER COLLECTION EFFICIENCY	TOTAL DAILY GW GENERATION
	(GPM)	(MINS)	(USES / FIXTURE)	(GAL/DAY)	%	(GAL/DAY)
Residential Washer	30.0	-	1.0	30	95%	29
Public Showerhead	2.0	10	4	80		76
CARE TAKER UNIT TOTAL						105 GAL/DAY
SITE TOTAL GREYWATER GENERATION						2,790 GAL/DAY

GREYWATER GENERATION AND DISPERSAL REQUIREMENT COMPLIANCE				
BLDG INFO AND GW GENERATION RATES		SOIL ABSORPTION DESIGN CRITERIA		
BLDG NAME	GREYWATER GENERATION*	CODE RQMT (LOAM/CLAY/SILT)	PERCOLATION TEST RESULTS	
Dining Hall	158	394 SQ.FT.	162 SQ.FT.	
Dining Hall - Commercial Laundry	399	998 SQ.FT.	411 SQ.FT.	
Shower Building	1971	2.50 GAL/SQ.FT. 4,928 SQ.FT.	1.03 GAL/SQ.FT. 2,030 SQ.FT.	
Family Dwelling	158	394 SQ.FT.	162 SQ.FT.	
Caretaker Unit	105	261 SQ.FT.	108 SQ.FT.	
TOTAL GW GENERATION: 2,790 GAL/DAY		6,975 SQ.FT.	MINIMUM DISPERSAL AREA: 2,874 SQ.FT.	
PROPOSED GW PLANTING ZONE AREAS				
		Planting Zone 5	4,000 SQ.FT.	
		Planting Zone 11	7,000 SQ.FT.	
		Caretaker Fruit Trees	200 SQ.FT.	
		TOTAL AREA PROVIDED	11,200 SQ.FT.	
		MINIMUM DISPERSAL AREA REQUIRED	2,864 SQ.FT.	

SITE WATER BALANCE - ALTERNATE WATER SOURCES BY PRIORITY						
PRIORITY 1 - GREYWATER REUSE FOR IRRIGATION OFFSET				PRIORITY 2 - GREYWATER + RAINWATER FOR FUTURE NPW OFFSETS		
AVAILABLE GREYWATER						
BUILDING GREYWATER SOURCE	DAILY GENERATION (GAL/DAY)	ANNUAL DAYS OF CAMP OPERATION	ANNUAL GW GENERATION (GAL/YR)	TOTAL AVAILABLE (GAL)		ANNUAL CAPTURE (GAL/YR)
	AVG-YR			DRY-YR		
Dining Hall	158		21,920	158,070	985,438	5,000
Dining Hall - Commercial Laundry	399		56,461			
Shower Building	1,971	139	274,004			132,000
Family Dwelling	158		21,920			
Caretakers Unit	105		14,526			8,800
GREYWATER SUBTOTAL:	2,790		387,831			128,800
PRIORITY 1 - PHASE 2 DESIGN IRRIGATION DEMAND						
IRRIGATION ZONES	PEAK MONTH DAILY DEMAND (GAL/DAY)	PEAK MONTH MONTHLY DEMAND (GAL/MONTH)	ANNUAL DEMAND (GAL/YR)	REMAINING GREYWATER (AFTER MEETING PRIORITY 1 OFFSETS)		
	AVG-YR	DRY-YR		AVG-YR	DRY-YR	
Zone 5	285	8,559	60,219			
Zone 9	299	9,084	65,882			
Zone 11	611	18,328	128,964			
IRRIGATION SUBTOTAL:	1,165	34,971	246,065			
GREYWATER OFFSET SUMMARY						
MAWA Potable Allocation (Zone 5, 9, 11)		268,288 gal/yr Potable		Total Available Greywater 387,831 gal/yr		
Available GW for Potable Offset		387,831 gal/yr-Greywater		Greywater Used for Priority 1 Offsets 246,065 gal/yr		
Total Available Water for Subsurface Irrigation		654,117 gal/yr-Total		REMAINING GREYWATER SUBTOTAL: 141,766 gal/yr		
ETWU (Zone 5, 9, 11)		250,819 gal/yr		PRIORITY 2 - PHASE 1 FUTURE IRRIGATION DEMAND		
Priority 1 - Phase 2 Design Irrigation Demand		246,065 gal/yr		IRRIGATION ZONES		
Design Demand <= ETWU & MAWA?		YES		Zone 1 - POST-ESTABLISHMENT		
Available GW for Potable Offset		387,831 gal/yr		PEAK MONTH DAILY DEMAND (GAL/DAY)		
Usable GW for Offset (during Irrigation Months)		246,065 gal/yr		PEAK MONTH MONTHLY DEMAND (GAL/MONTH)		
Priority 1 - Phase 2 Design Irrigation Demand		246,065 gal/yr		ANNUAL DEMAND (GAL/YR)		
Irrigation Water Demand Deficit		0 gal/yr		Zone 1 - POST-ESTABLISHMENT		
Greywater Utilized for Priority 1 - Phase 2 Irrigation:		246,065 gal/yr		IRRIGATION SUBTOTAL:		
REMAINING GW FOR PRIORITY 2 NPW OFFSETS:		141,766 gal/yr		1,263 38,217 268,907 gal/yr		
RAINWATER & REMAINING GREYWATER OFFSET SUMMARY						
Available Rainwater for NPW Offset		140,800 gal/yr		AVG-YR DRY-YR		
Remaining Greywater For NPW Offset		141,766 gal/yr		140,800 128,000 gal/yr		
RW + REMAINING GW FOR NPW OFFSET:		282,566 gal/yr		RW + REMAINING GW FOR NPW OFFSET:		
Priority 2 - Phase 1 Future Irrigation Demand		288,907 gal/yr		282,566 270,166 gal/yr		
Estimated Future Water Demand Deficit		0 gal/yr		Priority 2 - Phase 1 Future Irrigation Demand		
Total RW & GW Supply >= Priority 2 Future NPW Demands?		YES		Estimated Future Water Demand Deficit		
REMAINING RW & GW FOR FUTURE NPW OFFSETS:		13,659 gal/yr		0 gal/yr		
				Total RW & GW Supply >= Priority 2 Future NPW Demands?		
				YES		
				REMAINING RW & GW FOR FUTURE NPW OFFSETS:		
				13,659 1,259 gal/yr		

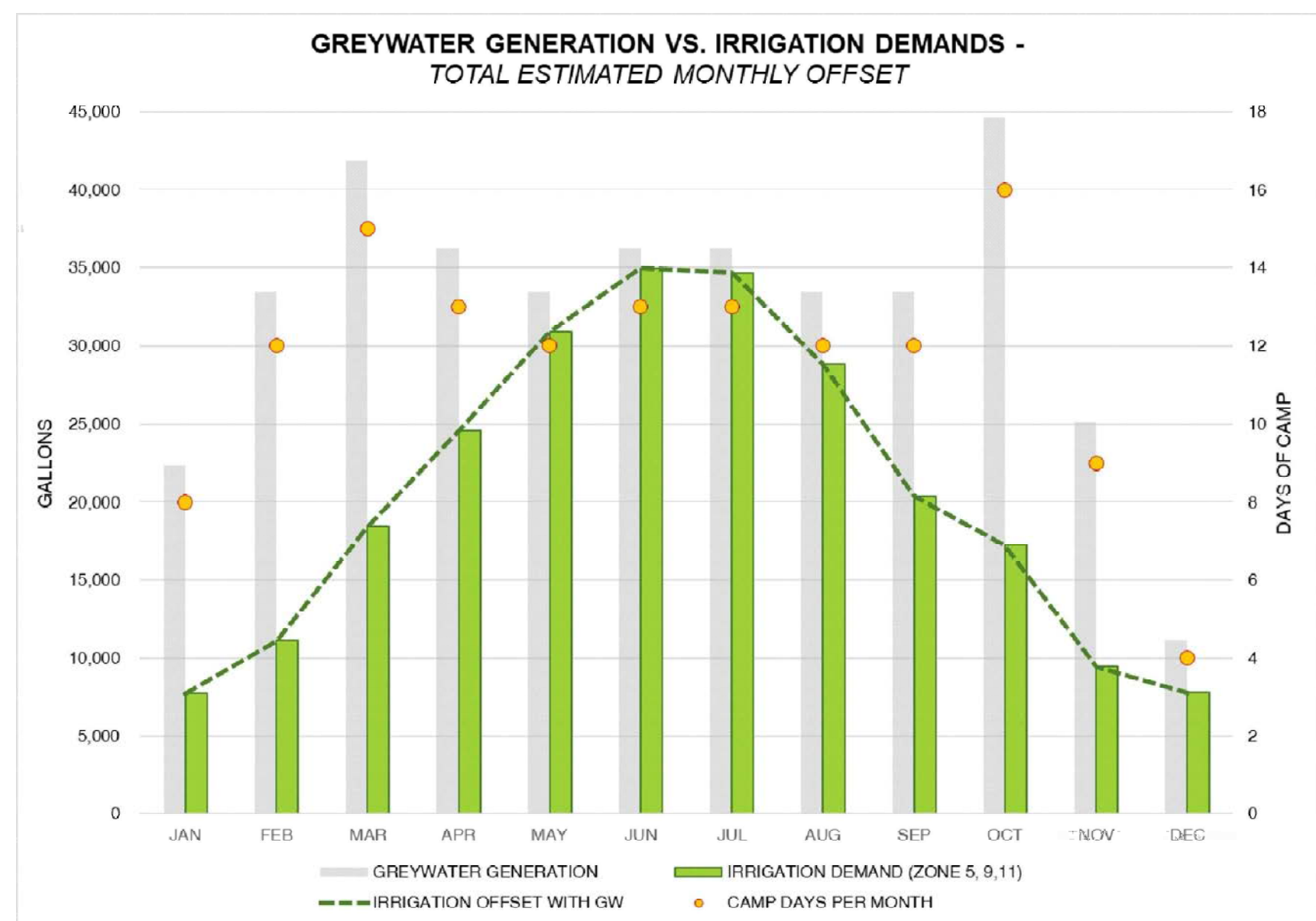
NOTES & DESIGN ASSUMPTIONS:

(1) RAINWATER
 For US Climate Data, rainwater collection analysis is based on average water-year rainfall of 33.86-inches for Alameda County and 17.11-inches for dry-water-year. Total Annual Rainwater Capture Potential (gal) = Area * (Precipitation) * (100% runoff coefficient).
 Rainwater tanks have been sized to optimize collection as it relates to rainfall supply versus tank draw on a monthly basis. Further explanation is provided below:
 - The basis of design for rainwater use is to meet irrigation demands. An alternate exists for additional future non-potable water demands to be offset with rainwater. The tank system size was optimized under the design alternate to meet toilet flushing.
 - This method was taken to address and understand what the tank sizes would need to be in scenarios where maximum rainwater inflow (in winter months) aligns with consistent tank drawdown over the course of the year.
 - Because the camp is occupied every month, toilet flushing demand is considered "consistent" as opposed to variable/unpredictable draw down in winter when irrigation demands are minimized.
 - This consistent drawdown assumption on a monthly basis allows for rainwater storage volume to be optimized which means maximizing rainwater collection for offset benefit while minimizing overall tank size.
 - Final tank size will be optimized to match the design parameters and potential non-potable demand offset as design progresses.
 Rainwater tanks at the Family Dwelling and Dining Hall buildings are considered a single system as the tanks will be connected for a cumulative volume of 65,000-gallons. Refer to Schedules and Design Criteria for breakdown of equipment associated with rainwater collection, treatment and non-potable supply.

(2) GREYWATER
 Greywater was calculated using LEED baseline for the occupant-type and associated building fixture usage assumptions. This is equal to approximately 95% of blackwater design (total wastewater generation) to ensure maximum design scenario. Occupancy for the site to determine monthly greywater generation was provided by Mosaic. Consistent with the Northstar "Blockwater Basis of Design" report, the total annual days of operation is assumed as 139 days for greywater calculations.
 Dining Hall - Dining hall contains showers - for this reason, water use and greywater generation for 8 staff are accounted for within the Dining Hall.
 - Dining hall commercial laundry greywater generation assumptions were made based on a similar sized operation.
 Shower Building - It is assumed that all 100 students utilize the shower building for showers therefore will be accounted for for water usage and greywater generation.
 Family Dwelling - It is assumed that water use and greywater generation for 8 staff are accounted for within the Family Dwelling Building.
 Care Taker Unit - Caretaker unit assumes a simple laundry-to-landscape and shower-to-landscape system. No lavatory water will be collected for greywater reuse purposes.
 - 4 staff are accounted for for water use and arewater generation at the Care Taker Unit. Residential LEED assumptions are utilized for laundry use and arewater generation.
 Because the camp is not occupied everyday, greywater generation was calculated both on a daily maximum and total annual basis. Days of occupancy for the camp were provided for each month by Mosaic and can be provided upon request.
 Refer to "Greywater Generation vs. Irrigation Demands - Total Monthly Offset" Table for camp occupancy, associated greywater generation and irrigation demand distribution over a typical year.
 Daily greywater generation was calculated based on the monthly occupancy distribution provided by Mosaic using the following equation:
 MONTHLY GREYWATER DISTRIBUTION = (% OCCUPANTS PER MONTH) * (TOTAL ANNUAL GREYWATER SUPPLY)
 DAILY GREYWATER DISTRIBUTION = (MONTHLY GW DISTRIBUTION VOLUME) * (DAYS CAMP/MONTH)

(3) IRRIGATION
 Phase 2 Irrigation values are estimates at this point of the design and will be refined based on a more detailed irrigation distribution layout. For more information, refer to "Irrigation Water Budget & Valve Schedule".
 Phase 1 planting zone (Zone 1) will be established with well water, as shown on plans. Post-establishment irrigation demand for the purposes of a site water balance have been estimated using the method described below.
 - Post-establishment irrigation demand is assumed to be "Priority 2 - Future NPW" demand at this time as the demands will be refined as the design progresses.
 Monthly irrigation demands were calculated utilizing EPA's Watersense Water Budget Tool (V1.04) <https://www.epa.gov/watersense/water-budget-tool> with assumptions as follows:
 - Station Location: Castro Valley, Peak Watering Month: Jul, Average Monthly ETU: 6.36-in/month
 - Monthly irrigation was determined based on scaling the peak watering month relative to the average monthly distribution of ETU for the station.
 - Post-establishment irrigation demand assumes "low" water use classification for Zone 1.
 MAWA = Maximum Applied Water Allowance (gal/yr), ETWU = Estimated Total Water Use (gal/yr) and are calculated based on the Water Efficient Landscape Ordinance issued by CA Dept of Water Resources.
 Refer to "MWELO Data Tables and Calculations" for details on water budget for all irrigation zones.

(4) RAINWATER + GREYWATER FOR ADDITIONAL NPW OFFSETS
 Cumulative water demands for the site (potable and non-potable) are still being determined. The intent of the RW + GW collection systems is to offset as much annual water demand as possible on site to reduce the dependency on well water. For this reason, the remaining RW + GW has been stated as what is available until all NPW demands are determined and an efficient approach to maximizing offset is designed.
 Additional NPW demands on the site which may be considered include but are not limited to: toilet flushing, fire protection/suppression, animal watering



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DRAWN BY:	MS
REVIEW BY:	ABR, RH

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ALTERNATE WATER USE - OVERALL SITE - CALCS & CODE COMPLIANCE

L3.1

Carat XL underground tank
8,500 and 10,000 litres (2,240 and 2,640 US gal.)

GRAF

Carat XL underground tank
Suitable for vehicle / lorry-bearing

- Suitable for lorry-bearing up to 12 to (26456 lbs)
- Can be mounted in groundwater
- Lower weight than concrete and steel
- Various connection surfaces: DN 100 (4"), DN 150 (6"), DN 200 (8")
- Investment security thanks to a 15-year warranty

Webcode GT03

Illustration shows 10,000 l (2,640 US gal.) tank with telescopic dome shaft with cast iron lid, suitable for vehicle loading.

Volume	Width B	Length L	Height H	Height H _{in}	Height of dome shaft H _d	Internal Ø of dome shaft	Weight	Order no.
8,500 l (2,240 US gal.)	2040 mm (6' 7")	3500 mm (11' 6")	2085 mm (6' 10")	2695 mm (8' 10")	610 mm (24")	650 mm (25.6")	380 kg (838 lbs)	370005
10,000 l (2,640 US gal.)	2240 mm (7' 4")	3520 mm (11' 7")	2285 mm (7' 6")	2895 mm (9' 6")	610 mm (24")	650 mm (25.6")	455 kg (1003 lbs)	370006

Technical data

- Max. earth covering (without groundwater, vehicle loading): 2000 mm (6' 7")
- Max. axle load: 8 to (17637 lbs)
- Max. total weight: 12 to (24456 lbs)
- Earth covering required for vehicle loading: 800 - 2000 mm (31.5" - 6' 7")
- Groundwater stability: up to middle of tank
- Earth covering required for groundwater stability: 800 - 1800 mm (31.5" - 5' 11")
- Connection: DN 100 (4") / DN 150 (6") / DN 200 (8") on top

3 GREYWATER COLLECTION/HOLDING TANK - DESIGN INTENT SAMPLE

GENERAL ARRANGEMENT EXAMPLES (XL10 - XL150)

PioneerWaterTanksAmerica.com - (877) 223-7784

2 PIONEER RAINWATER TANK (TYP.) - DESIGN INTENT SAMPLE

Ecovio AQUALOOP Commercial Greywater System
water management Models GW1800L and GW5400L

NSF
Certified to NSF/ANSI Standard 350

Description

Aqualoop commercial scale systems treat greywater to superior water quality at any capacity. With NSF 350 (C) certification, Aqualoop allows use of water for indoor non-potable uses (e.g. toilet flushing and laundry) and outdoor (spray irrigation, drip irrigation, and cooling tower make up). Aqualoop's patented MBR technology is unique with extremely low maintenance and high reliability. The technology is scalable to any throughput needs with NSF 350 (C) certification through multiple, parallel installation of GW1800L or GW5400L units. NSF listing assures top water quality with minimal maintenance.

Specification

Specifications		GW1800L	GW5400L
Model Number		GW1800L	GW5400L
Rated Daily Average Capacity		476 GPD	1427 GPD
Clean-In-Place		Semi-Automatic	Automatic
Tank Size		8-48 hours residence time in one or more bioreactor tanks	
Tank Sizing		240-960 Gallons Working Capacity/Unit	480-2850 Gallons Working Capacity/Unit
Pre-Filtration		Intewa PURAIN DN150 with Automatic Cleaning Shower	
Growth Media		Intewa AL-FK30, 6 Packages, 180 litres	Intewa AL-FK30, 18 Packages, 540 litres
Blower Sizing		>200 LPM Per 476 GPD	
Tank Type		Above or Below Ground, Packaged Systems Available	
Tank Material		Fiberglass, HDPE, Stainless Steel, or Concrete	
Approved Source Water		NSF 350 Bath-Laundry Challenge Greywater Quality, Max. 180 PPM BOD, 100 PPM TSS	
Booster Pump		Supplied Separately by Ecovio Sales Rep	

Notes:

- Scaling to >1500 GPD requires engineering approval by the NSF 350 certification listing holder. Parallel GW1800L or GW5400L listed units are required using the design parameters above.
- See listing at <http://info.nsf.org/Certified/Wastewater/listings.asp?TradeName=aqu&Standard=350>
- Number of units of GW1800L or GW5400L based on dividing expected average daily greywater supply by rated daily average capacity above. Round to next largest number of units.

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INTEWA

1 AQUALOOP COMMERCIAL GRAYWATER SYSTEM - TREATMENT DESIGN INTENT ONLY (SEE DETAIL 3/L5.0 FOR TANK TYPE)

Ecovio AQUALOOP Commercial Greywater System
water management Models GW1800L and GW5400L

Technical Overview

- Treated water for toilets, cooling tower, laundry, spray irrigation
- NSF 350 certification reached with biological treatment and ultrafiltration (Moving Bed MBR)
 - Pre-screening with PURAIN Pre-Filter
 - Biological treatment using aeration and growth media in a moving bed
 - Patented hollow fiber membrane cartridge ultra-filtration disinfection to 0.02 microns
 - Certified with no chlorine and no UV. Can be added if desired or for local regulations.
- Scalable to any capacity
 - Design approval required for systems >1500 GPD. Contact Ecovio for details.
- Remote monitoring and data acquisition from central control panel
- Flexible Tank Design - Treatment equipment fits in any style tank and multiple units can be installed in a single bioreactor tank. Packaged systems with GW1800LP and GW5400LP.
- Booster pump repressurization supplied by local Ecovio sales rep.

Multiple Unit System Schematic

1. Pre-Filter 5. Blowers
2. Bioreactor 6. Sludge Pump
3. Membrane Cartridge 7. 100' SDC Tank
4. Controller 8. Booster Pump
9. Membrane Cartridge

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MOSAIC PROJECT
17015 Cull Canyon Road, Castro Valley - 94546

DATE:	10.05.20
PROJECT NO.	..
REVISION	DATE
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DESIGN BY: ABR, MS
DRAWN BY: MS
REVIEW BY: ABR, RH

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DETAILS

L5.0

50% PLAN SET
NOT FOR CONSTRUCTION



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General Notes:

- A. The drawings are diagrammatic in nature and are created to represent the concepts as associated with on-site water reuse and storm water management / basin installations. For all site dimensions and exact relative locations, field condition as-builts should be requested from the property owner.
- B. Typical front loading washing machine is able to distribute water up to eight locations. A typical top loading washing machine is able to distribute water up to twelve locations (depending on the site conditions).
- C. All irrigation points to be 2 inches below the surface in mulch basins.
- D. The end of main line should be fully open with no plug / or valve.
- E. Verify minimum horizontal offsets for graywater (per CPC 2016) + local county codes for the following:
 - Building Structures
 - Property Line
 - Water Supply Wells
 - Septic Tank
- F. Laundry to Landscape (L2L) system must be equipped with accessible three way diverter valve with sign that indicates operation, so washing machine discharge water can be diverted to septic/sewer during rain events or if soil reaches a high level of saturation.
- G. Products with bleach, salt, alcohol or other industrial chemicals are not recommended for use in these graywater systems.
- H. 1" SCH 40 PVC will slope downward at 2 degrees or 1/4" per foot.
- I. All graywater conveyance lines shall be marked "Non Potable, Do not Drink".
- J. Laundry to Landscape (L2L) graywater systems are exempt from permitting per CPC 2016.
 - Water is coming directly from washing machine.
 - No existing house plumbing has been altered
- K. All devices will be ASNI/NSF approved. All devices to be accompanied with reference and maintenance instructions per maintenance and monitoring plan.
- L. Client will be provided with a maintenance manual for the system.
- M. Auto Vent must be higher than fill line of washing machine.
- N. All existing tanks, piping, and electrical work will be avoided and protected when necessary throughout construction.
- O. 811 - know what's below - call before you dig

Sheet Notes:

1. Front loading washing machine (TYP.)
2. Washing machine drain hose
3. Standpipe to sewage provision
4. 1" PVC 90 elbow
5. Mounting brackets (4" Spacing)
6. 1" PVC Pipe
7. 1" PVC Male Barbed X Female Slip Adapter
8. 3-Way diverter valve
9. Auto Vent (minimum size 1.5") - To prevent potential siphon in the system
 *Optional - Install outside if laundry room is not well ventilated or too warm.
10. 1.5" Threaded Adapter
11. 1.5 to 1" Bushing
12. 1" PVC Tee
13. 1" PVC Check Valve - To prevent the back-flow of laundry water
14. 1" to 1/2" barbed fitting to 1/2" poly line
15. 1/2" poly line
16. 1/2" Drain valve -
17. 6" Round irrigation valve box w/ lid for each mulch basin
18. Mulch Basin - Irrigating trees, shrubs or ground cover
19. Landscape pins to secure irrigation box into place

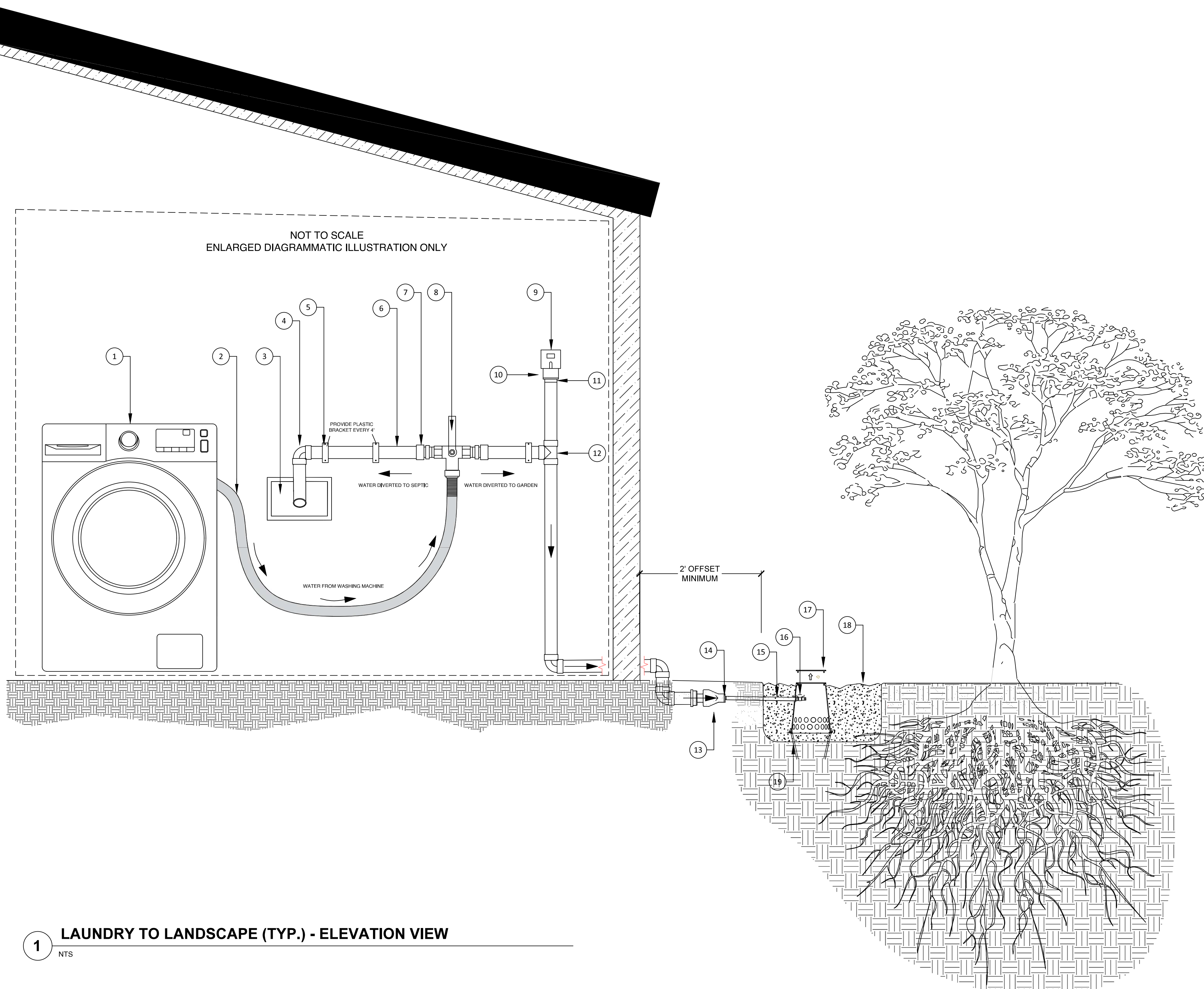
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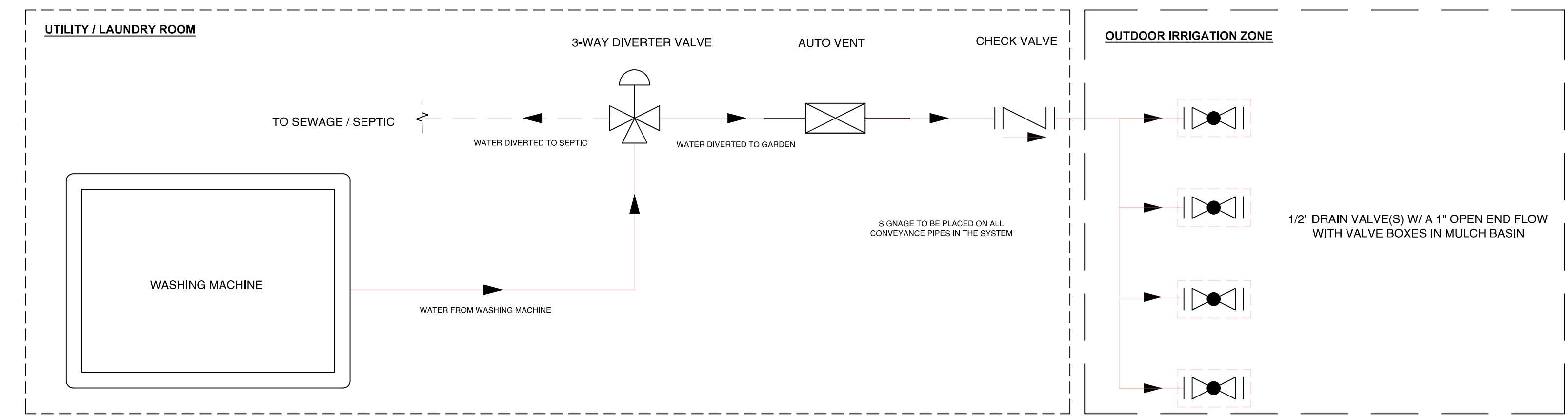
DETAILS

L5.1

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1 LAUNDRY TO LANDSCAPE (TYP.) - ELEVATION VIEW
 NTS



2 LAUNDRY TO LANDSCAPE (TYP.) - P&ID PLAN VIEW
 NTS