

**USA NOTE**  
 IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO BE FAMILIAR WITH ALL STATE DIFFERENCES. LOCATION OF PIPES, STRUCTURES AND FILTERS. THE LANDSCAPE CONTRACTOR SHALL EXERCISE EXTREME CARE AND BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING AND PROPOSED AREAS. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING ALL FORMS AND OTHER SUBMITTALS FOR THE LOCATION OF UTILITIES AND THE INSTALLATION OF PIPE SLEEVES THROUGH PAVES, UNDER ROADWAYS AND UNDER STRUCTURES. PRIOR TO CONSTRUCTION, CONTACT ALL UTILITIES AGENCIES AND U.S.A. AT 1-800-242-2414 OR 1-800-227-0200 TO FIELD LOCATE ALL EXISTING UTILITIES.

**TYPICAL IRRIGATION LEGEND**

SYMBOL	EQUIPMENT	MANUFACTURER	MODEL	REMARKS
[Symbol]	Road Zone Metering System	Hunter	K200-10-25-CV	One per tree, typical
[Symbol]	Stream Bubbler 3" Pop-Up	Hunter	PROB-05-CV-R-PR350-1601-25G	One per tree, typical
[Symbol]	Landscape Dripline	Rain Bird	TRB-09-12	
[Symbol]	ECO-VEE	Hunter		
[Symbol]	Adjustable Line Flush Valve	Hunter	AFV-1	INSTALL 11" VALVE BOX & END OF CIRCUIT
[Symbol]	Any Meter Valve	Hunter	AVR-07B	INSTALL 11" VALVE BOX & END POINT OF CIRCUIT
[Symbol]	Control Valve	Hunter Industries	CV-1016-4B-ADJ	INSTALL UPSTREAM FROM SUB-ESTER
[Symbol]	Drip Zone Control Valve	Hunter Industries	CV-101-25	
[Symbol]	Isolation Valve - Ball Valve	PEE	CPVC 2" B	
[Symbol]	Water Valve	Hunter Industries	CV-1015	
[Symbol]	1" Reduced Pressure Backflow Preventer	Watts	LP0R-42-PC-0T-1	Required
[Symbol]	Flow Sensor	CAF	SLF-T10-101	
[Symbol]	Irrigation Controller - 8 Station	Hunter Industries	IC-800-H	
[Symbol]	8 Station Pump Expansion Resistor	Hunter	CA-800	(4 TOTAL)
[Symbol]	48" Line	PVC BONAFIDE 40		
[Symbol]	Laterals	PVC BONAFIDE 40		

**MANA AND ETWU CALCULATIONS**

**U. Hidden Apple**

MANA = (ETw) (0.82) (0.95 + LA) + (0.45 X RLA)

ETw = Annual Net Reference Evapotranspiration (Inches)  
 0.82 = ET Adjustment Factor (Conservative)  
 0.95 = ET Adjustment Factor (Conservative)  
 LA = Landscape Area (Acres)  
 RLA = Rooted Landscape Area (Acres)

**ETw = 2.00 in**  
 LA = 10.00 ac  
 RLA = 10.00 ac

MANA = (2.00) (0.82) (0.95 + 10.00) + (0.45 X 10.00) = 20.00 + 4.50 = 24.50 in

**ETWU = 24.50 in**

**ETWU = 24.50 in X 42 K = 10,290 gal/yr**

**Irrigation Efficiency Factor**  
 Square Footage of Landscape on Site = 10,000 sq ft  
 Square Footage of Landscape on Sprinkler = 10,000 sq ft  
 Total Square Footage of Landscape = 20,000 sq ft  
 Adjusted Irrigation Efficiency Factor = 0.51

**CONCEPT HYDROZONE DETAIL TABLE**

Name	Method	Water Use Value	Water Use Value	Hydrozone Area in SF	% of Landscape
15	ROCK PAVING SYSTEM	LOW	0.3	2,171.17 SF	4.7%
20	SUB-SURFACE DRAINAGE	LOW	0.3	2,068.00 SF	4.1%
25	SUB-SURFACE DRAINAGE	LOW	0.3	2,068.00 SF	4.1%
40	ROCK PAVING SYSTEM	LOW	0.3	848.22 SF	1.6%
				45,200 SF	100%

**CONCEPT SUMMARY HYDROZONE TABLE**

PLANT TYPE	AREA	% OF LANDSCAPE
VERY LOW	0.00	0%
LOW	48,148.55	100%
MEDIUM	0.00	0%
HIGH	0.00	0%
<b>TOTAL</b>	<b>48,148.55</b>	<b>100%</b>

**BIORETENTION AREAS**

**SUPPLEMENTAL TEMPORARY IRRIGATION**

CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY SUPPLEMENTAL IRRIGATION OF ALL BIORETENTION AREAS THROUGH THE SOG OR PLANT ESTABLISHMENT PERIOD. METHOD OF IRRIGATION APPLICATION IS DISCRETIONARY AND MAY INCLUDE HAND WATERING OR INSTALLATION OF A TEMPORARY ABOVE GRADE OVERHEAD SPRAY CIRCUIT. ANY REPLACEMENT NECESSARY FOR LOSS OR DAMAGE TO SOG OR PLANTS DUE TO LACK OF WATER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AT CONTRACTOR'S EXPENSE.

INSTALL DRIPLINE 3" BELOW GRADE IN ALL PLANTING AREAS AT 24" OC TYPICAL. ALL DRIPLINE SHALL BE INSTALLED PARALLEL TO GENERALLY FOLLOWING CONTOURS.

TREE BUBBLERS, TWO PER TREE. TYPICAL ONE ABOVE GRADE STREAM BUBBLER AND ONE SUB-SURFACE BUBBLER.

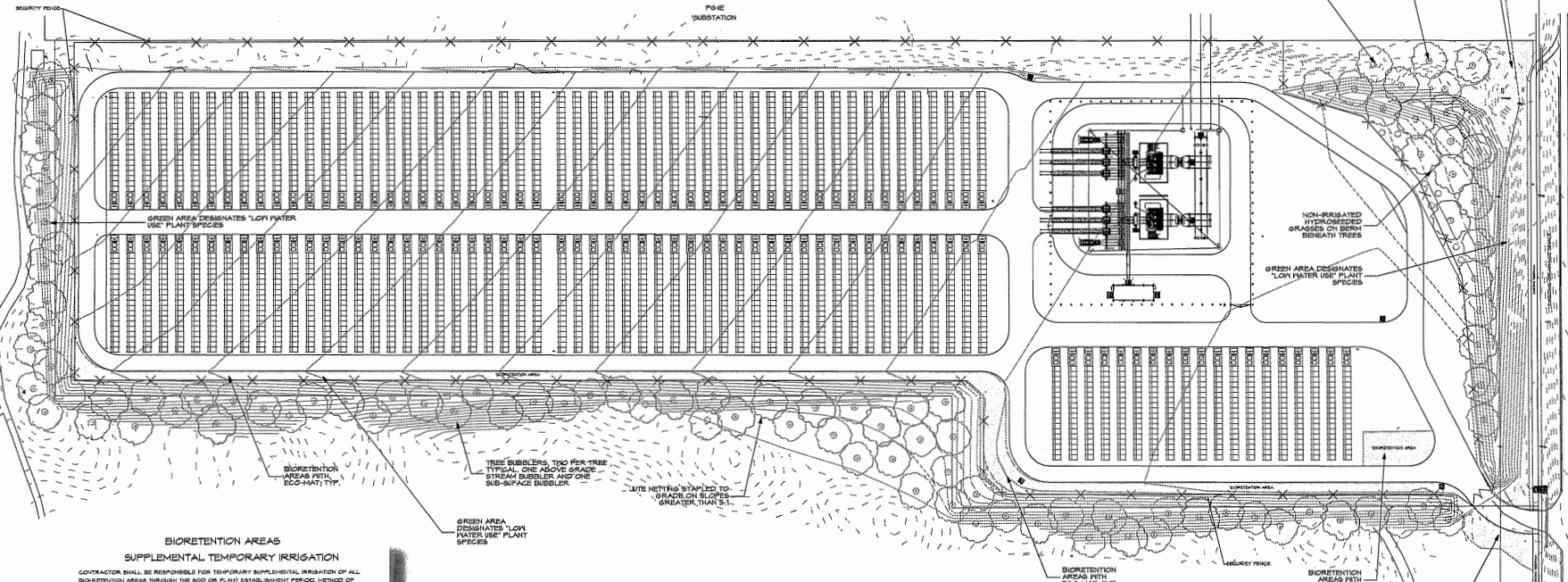
TREE HYDROZONE AREAS ARE CALCULATED WITH A 6" FITTED DIAMETER (24.00" Ø) PER TREE.

NON-IRRIGATED HYDROSEEDED GRASSES OR BERM BENEATH TREES

GREEN AREA DESIGNATES "LOW WATER USE" PLANT SPECIES

BIORETENTION AREAS WITH ECO-MAT, TYP.

NON-IRRIGATED HYDROSEEDED GRASSES OR BERM BENEATH TREES



**IRRIGATION HYDROZONES**

Scale: 1" = 50'-0"



**IRRIGATION HYDROZONES**

**NORTH BAY ENERGY STORAGE**  
 1901 FRATES ROAD  
 PETALUMA, CA  
 APN #017-140-011 & 012, 017-050-006

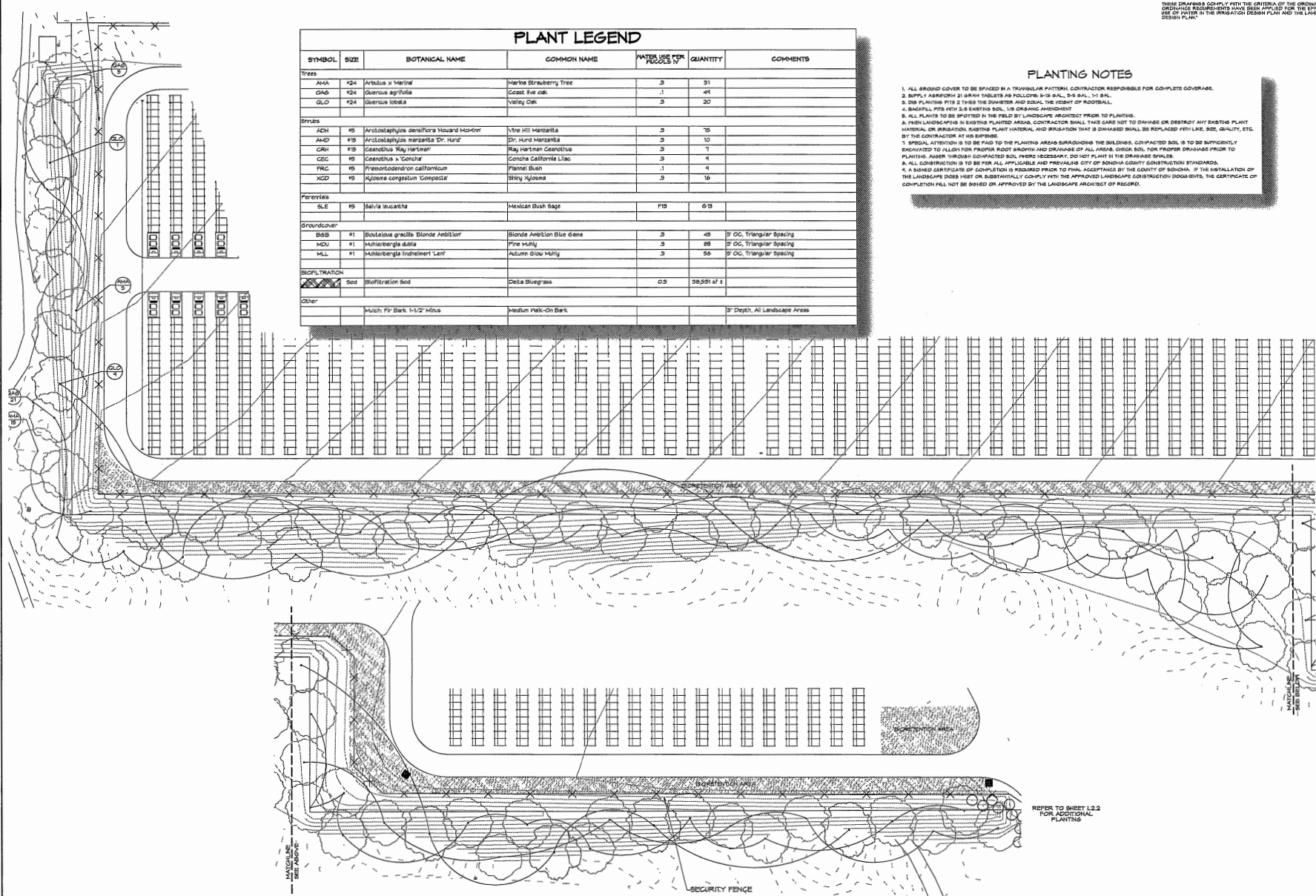
DATE: 1/28/22  
 IMA JOB #: 2021-21  
 SCALE: 1" = 20'  
 DRAWN: DM

**L1.1**

SHEET L1.1 OF 5



**MACNAIR**  
 A RECREATION  
 POST OFFICE BOX 151  
 1000 20TH AVENUE  
 ATHERTON, CALIFORNIA 95420



### PLANT LEGEND

SYMBOL	SIZE	BOTANICAL NAME	COMMON NAME	WATER USE PER 100 SQ. FT.	QUANTITY	COMMENTS
<b>Trees</b>						
AVA	#24	<i>Avicennia x maritima</i>	Marine Strawberry Tree	.3	31	
QAS	#24	<i>Quercus agrifolia</i>	Coast Live oak	.1	41	
GLO	#24	<i>Quercus lobata</i>	Valley Oak	.3	20	
<b>Shrubs</b>						
ADR	#5	<i>Arctostaphylos densiflora</i> Howard Monier	Yue Hill Manzanita	.3	15	
AND	#15	<i>Arctostaphylos manzanita</i> Dr. Hurd	Dr. Hurd Manzanita	.3	12	
GRH	#15	<i>Ceanothus 'Ray Hartman'</i>	Ray Hartman Ceanothus	.3	7	
CEC	#5	<i>Ceanothus s 'Concha'</i>	Concha California Lilac	.3	4	
FRG	#5	<i>Franseria californicum</i>	Flannel Bush	.1	4	
XCD	#5	<i>Xylocopa congestum</i> 'Compass'	Shiny Xylocopa	.3	15	
<b>Perennials</b>						
SLE	#5	<i>Salvia leucantha</i>	Mexican Bush Sage	FB	613	
<b>Groundcover</b>						
SDS	#1	<i>Donulaea gracilis</i> Blonde Ambition	Blonde Ambition Blue diana	.3	49	3' OC, Triangular Spacing
MDU	#1	<i>Muhlenbergia dani</i>	Pine Muhly	.3	25	3' OC, Triangular Spacing
MLL	#1	<i>Muhlenbergia Indehmet</i> Leaf	Autumn Glow Muhly	.3	56	3' OC, Triangular Spacing
<b>BIOFILTRATION</b>						
	Soil	Biofiltration Soil	Delta Bluegrass	0.3	30,001 sq ft	
<b>Other</b>						
		Mulch: Fir Bark 1-1/2" Minus	Medium Pink-On Bark			3" Depth, All Landscape Areas

### PLANTING NOTES

1. ALL GROUND COVER TO BE SPACED IN A TRIANGULAR PATTERN, CONTRACTOR RESPONSIBLE FOR COMPLETE COVERAGE.
2. SUPPLY AND INSTALL 21 GRAFT TABLETS AS FOLLOWS: 3-3 GAL., 3-3 GAL., 1-1 GAL.
3. DO NOT PLANTING PITS 2 TIMES THE DIAMETER AND EQUAL THE HEIGHT OF FOOTBALL.
4. BACKFILL PITS WITH 2:1 BENTONITE SOIL, 1/2 ORGANIC AMENDMENT
5. ALL PLANTS TO BE SPOTTED IN THE FIELD BY LANDSCAPE ARCHITECT PRIOR TO PLANTING.
6. PRIOR TO CONSTRUCTION IN EXISTING PLANTED AREAS, CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE OR DESTROY ANY EXISTING PLANT MATERIAL OR IRRIGATION EXISTING PLANT MATERIAL AND IRRIGATION THAT IS DAMAGED SHALL BE REPLACED WITH LIKE SIZE, QUALITY, ETC. BY THE CONTRACTOR AT HIS EXPENSE.
7. SPECIAL ATTENTION IS TO BE PAID TO THE PLANTING AREAS SURROUNDING THE BUILDINGS. COMPACTED SOIL IS TO BE SUFFICIENTLY ESCAVATED TO ALLOW PROPER ROOT GROWTH AND DRAINAGE OF ALL AREAS. GROUND SOIL FOR PROPER DRAINAGE PRIOR TO PLANTING. AVOID THROUGH COMPACTED SOIL, WHERE NECESSARY, DO NOT PLANT IN THE DRAINAGE SWALES.
8. ALL CONTRIBUTION IS TO BE FOR ALL APPLICABLE AND PREVIOUS CITY OF SONOMA COUNTY CONSTRUCTION STANDARDS.
9. A SIGNED CERTIFICATE OF COMPLETION IS REQUIRED PRIOR TO FINAL ACCEPTANCE BY THE COUNTY OF SONOMA. IF THE INSTALLATION OF THE LANDSCAPE DOES NOT SUBSTANTIALLY COMPLY WITH THE APPROVED LANDSCAPE CONSTRUCTION DOCUMENTS, THE CERTIFICATE OF COMPLETION WILL NOT BE ISSUED OR APPROVED BY THE LANDSCAPE ARCHITECT OF RECORD.

THESE DRAWINGS COMPLY WITH THE CRITERIA OF THE ORDINANCE, ORDINANCE REQUIREMENTS HAVE BEEN APPLIED FOR THE SPECIFIC USE OF WATER IN THE IRRIGATION DESIGN PLAN AND THE LANDSCAPE DESIGN PLAN.



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SUITE 100  
EMERYVILLE, CALIFORNIA 94542  
TEL: 925-236-1100  
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## PLANTING PLAN

**NORTH BAY ENERGY STORAGE**  
1901 FRATES ROAD  
PETALUMA, CA  
AFN #017-140-011 6 012, 017-050-006

**USA NOTE**  
IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO BE FAMILIAR WITH ALL GRADE DIFFERENCES, LOCATION OF WALLS, STRUCTURES, AND UTILITIES. THE IRRIGATION CONTRACTOR SHALL PROVIDE EXISTING ELEVATIONS AND BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING AND REMAINING WALLS OR UTILITIES. THE LANDSCAPE CONTRACTOR SHALL COORDINATE ALL WORK WITH THE OTHER TRADE CONTRACTORS AND FOR THE LOCATION OF UTILITIES AND THE INSTALLATION OF PIPES THROUGH WALLS, UNDER ROADWAYS, AND NEAR STRUCTURES, PRIOR TO CONSTRUCTION, CONTACT ALL APPLICABLE AGENCIES AND USA AT 1-800-452-4244 OR 1-800-452-4244 TO RESOLVE ALL EXISTING UTILITIES.

## PLANTING PLAN

Scale: 1" = 30'-0"



DATE: 1/26/22  
MLA JOB #: 2021-21  
SCALE: 1" = 30'  
DRAWN: DN

### L2.1

SHEET L2.1 OF 5

**U.S.A. NOTE**  
 IT IS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO BE FAMILIAR WITH ALL GRADE DIFFERENCES, LOCATION OF PAVES, STRUCTURES, AND UTILITIES. THE INSTALLING CONTRACTOR SHALL PROVIDE THE NECESSARY EROSION CONTROL MEASURES TO PREVENT SOIL EROSION AND TO PROTECT EXISTING UTILITIES. THE LANDSCAPE CONTRACTOR SHALL VERIFY ALL GRADES AND LOCATIONS WITH THE OTHER CONTRACTORS. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. CONTACT ALL APPLICABLE AGENCIES AND U.S.A. AT 1-800-833-3444 OR 1-800-877-5800 TO FIELD LOCATE ALL EXISTING UTILITIES.

THESE DRAWINGS COMPLY WITH THE CRITERIA OF THE GRADING AND DRAINAGE REQUIREMENTS HAVE BEEN APPLIED FOR THE EFFICIENT USE OF WATER IN THE RESIDENTIAL DESIGN PLAN AND THE LANDSCAPE DESIGN PLAN.

THIS PLAN IS THE PROPERTY OF THE ARCHITECT AND SHALL BE KEPT IN THE ARCHITECT'S OFFICE. NO PART OF THIS PLAN IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF THE ARCHITECT. THE ARCHITECT'S OFFICE SHALL BE NOTIFIED IMMEDIATELY IN WRITING OF ANY UNAUTHORIZED REPRODUCTION OR TRANSMISSION OF THIS PLAN.



**MACNAIR**  
 ARCHITECTURE  
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**PLANTING PLAN**

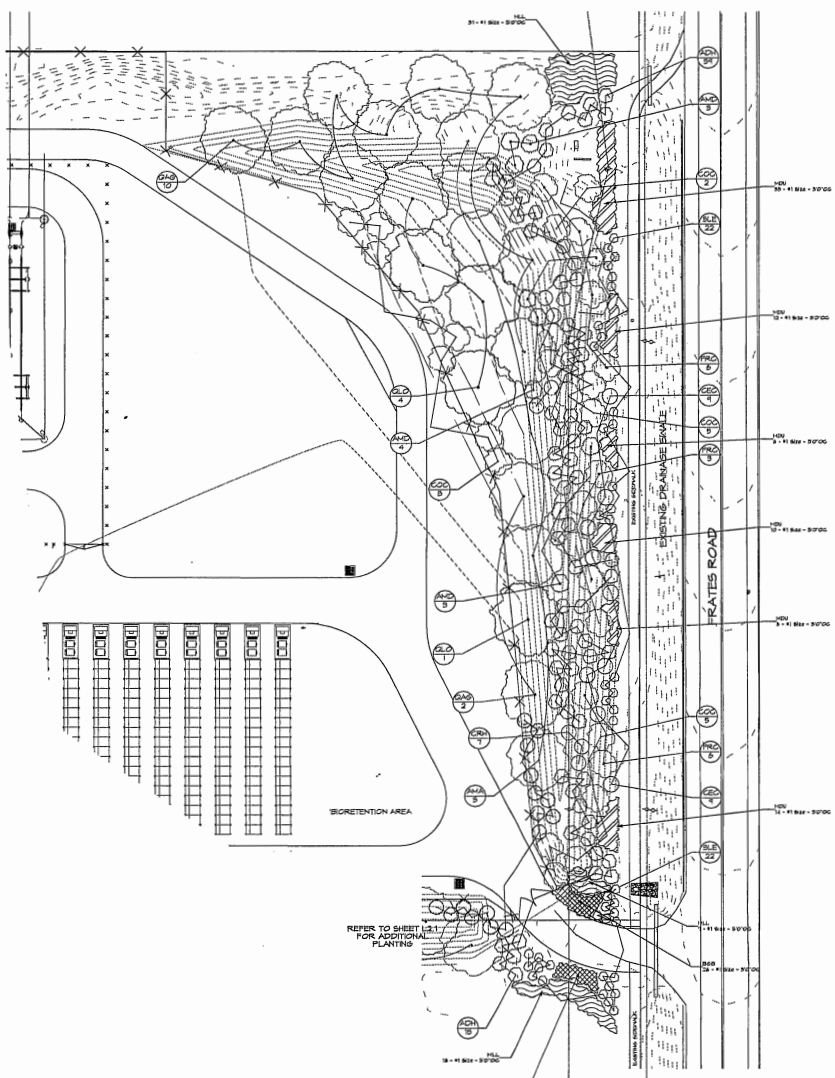
**NORTH BAY ENERGY STORAGE**  
 1501 FRATES ROAD  
 PETALUMA, CA  
 AFB #017-140-011 & 012, 017-050-006

DATE: 1/28/22  
 M.L.A. JOB #: 2021-21  
 SCALE: 1" = 20'  
 DRAWN: DM  
**L2.2**  
 SHEET L2.2 OF 5

PLANT LEGEND						
SYMBOL	SIZE	BOTANICAL NAME	COMMON NAME	PATTERN FOR ACCESS TO	QUANTITY	COMMENTS
<b>Trees</b>						
AMA	#24	<i>Arbutus x hehneri</i>	Native Strawberry Tree	5	51	
QAD	#24	<i>Quercus agrifolia</i>	Coast Live Oak	1	45	
QLO	#24	<i>Quercus lobata</i>	Valley Oak	5	20	
<b>Shrubs</b>						
ADH	#5	<i>Arctostaphylos densiflora</i> Howard McMill	Vine Hill Manzanita	5	75	
AHD	#15	<i>Arctostaphylos menziesii</i> Dr. Hunt	Dr. Hunt Manzanita	3	10	
CRH	#15	<i>Ceanothus 'Ray Hartman'</i>	Ray Hartman Ceanothus	5	1	
CEC	#5	<i>Ceanothus 'Concha'</i>	Concha California Lilac	3	4	
FRG	#5	<i>Fremontodendron californicum</i>	Fernand Bush	1	4	
XCD	#5	<i>Xylocopa congestum</i> 'Compact'	Shiny Xylocopa	3	16	
<b>Perennials</b>						
SLE	#5	<i>Salvia leucantha</i>	Mexican Bush Sage	FD	03	
<b>Groundcover</b>						
SDS	#1	<i>Bouteloua gracilis</i> 'Borde Amblion'	Borde Amblion Blue Gram	3	45	5' OC, Triangular Spacing
MUJ	#1	<i>Muhlenbergia dila</i>	Pink Muhly	3	20	5' OC, Triangular Spacing
MAL	#1	<i>Muhlenbergia lindheimeri</i> 'Lant'	Ancient Glow Muhly	3	55	5' OC, Triangular Spacing
<b>BIOFILTRATION</b>						
		Sod	Soilfiltration Sod	0.3	58.50 sf ±	
<b>Other</b>						
		Mulch: Fir Bark 1-1/2" Minus	Medium Fir-On Bark			5" Depth, All Landscape Areas

**PLANTING NOTES**

- ALL GROUND COVER TO BE SPACED IN A TRIANGULAR PATTERN CONTRACTOR RESPONSIBLE FOR COMPLETE COVERAGE.
- SUPPLY APPROX 21 GRAM TABLETS AS FOLLOWS: 5-9 GAL, 8-9 GAL, 11 GAL.
- DOE PLANTING FIB 2 TIMES THE DIAMETER AND EQUAL THE HEIGHT OF FOOTBALL.
- BACKFILL FIB WITH 20 EXISTING SOIL, 15 ORGANIC AMENDMENT.
- ALL PLANTS TO BE SPOTTED IN THE FIELD BY LANDSCAPE ARCHITECT PRIOR TO PLANTING.
- IF LANDSCAPING IN EXISTING PLANTED AREAS, CONTRACTOR SHALL TAKE CARE NOT TO DAMAGE OR DESTROY ANY EXISTING PLANT MATERIAL OR IRRIGATION EXISTING PLANT MATERIAL AND IRRIGATION THAT IS DAMAGED SHALL BE REPLACED WITH LIKE SIZE, QUALITY, ETC. BY THE CONTRACTOR AT HIS EXPENSE.
- SPECIAL ATTENTION IS TO BE PAID TO THE PLANTING AREAS SURROUNDING THE BUILDINGS. COMPACTED SOIL IS TO BE SUFFICIENTLY DISAGGREGATED TO ALLOW FOR PROPER ROOT GROWTH AND DRAINAGE OF ALL AREAS. GIVE SOIL FOR PROPER DRAINAGE PRIOR TO PLANTING. WATER THROUGH COMPACTED SOIL, WHERE NECESSARY, DO NOT PLANT IN THE DRAINAGE SWALES.
- ALL CONSTRUCTION IS TO BE PER ALL APPLICABLE AND PREVAILING CITY OF SONOMA COUNTY CONSTRUCTION STANDARDS.
- A WRITTEN CERTIFICATE OF COMPLETION IS REQUIRED PRIOR TO FINAL ACCEPTANCE BY THE COUNTY OF SONOMA. IF THE INSTALLATION OF THE LANDSCAPE DOES MEET OR SUBSTANTIALLY COMPLY WITH THE APPROVED LANDSCAPE CONSTRUCTION DOCUMENTS, THE CERTIFICATE OF COMPLETION SHALL NOT BE ISSUED OR APPROVED BY THE LANDSCAPE ARCHITECT OF RECORD.



**PLANTING PLAN**  
 Scale: 1" = 30'-0"

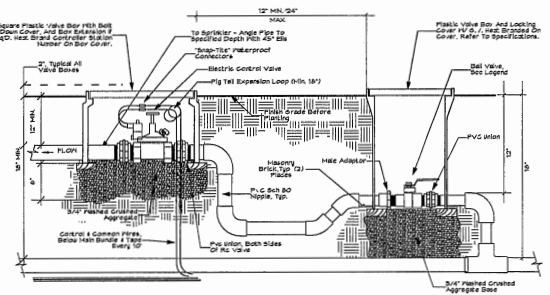


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**LANDSCAPE DETAILS**

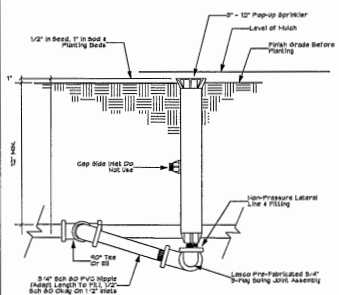
**NORTH BAY ENERGY STORAGE**  
1901 FRATES ROAD  
PETALUMA, CA  
APN #017-140-011 & 012, 017-050-006

DATE: 1/28/22  
M.A. JOB #: 2021-21  
SCALE: AS SHOWN  
DRAWN: DM  
**L3**  
SHEET L3 OF 5



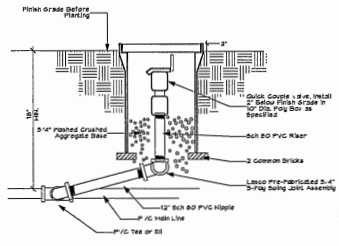
- NOTES:  
1) INSTALL CONTROL VALVES A MINIMUM OF 18" FROM STRUCTURES OR HARDSCAPING.  
2) INSTALL VALVES IN PLANT BEDS WHEREVER POSSIBLE.  
3) PLACE VALVE BOX AT RIGHT ANGLES TO STRUCTURES OR HARDSCAPING.  
4) INSTALL VALVE BOX SO THAT TOP OF BOX IS FLUSH WITH ADJACENT HARDSCAPING.  
5) PLACE AGGREGATE FROM TO INSTALLATION OF VALVE BOX.  
6) INSTALL VALVE BOXES SO THAT TOP OF BOX IS FLUSH WITH ADJACENT HARDSCAPING.  
7) INSTALL ONE BALL VALVE IN BOX IMMEDIATELY UPSTREAM FROM EACH REMOTE CONTROL VALVE.

**A ELECTRIC CONTROL VALVE WITH SHUT OFF**  
NTS

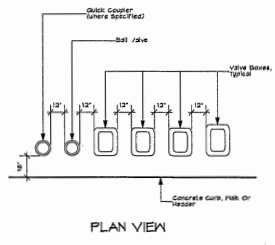


- NOTES:  
1) LOCATE HEAD 6" FROM ALL EDGES IN LAWN AREAS. LOCATE HEAD 12" FROM ALL EDGES IN DRIVE AREAS.  
2) LOCATE STREAM SPRAY AND BUBBLER HEADS 6" FROM ALL EDGES.  
3) USE TEFLON PASTE ON ALL MALE THREADS.

**B POP-UP SPRINKLER DETAIL**  
INCLUDES 4", 6" AND 12"

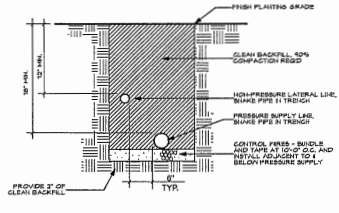


**C QUICK COUPLER DETAIL**  
NTS



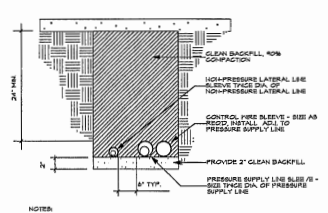
- NOTES:  
1) LOCATE VALVE BOX OVER VALVE ASSEMBLY.  
2) LOCATE VALVE BOXES IN BOUND COVER/SHRUB AREAS FIRST POSSIBLE.  
3) SET VALVE BOXES PARALLEL TO EACH OTHER AND PERPENDICULAR TO EDGE.

**D VALVE BOX LAYOUT**  
NTS



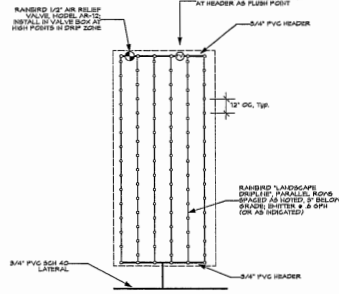
- NOTES:  
1) INSTAL AND LOOP CONTROL PIPES AT ALL CHANGES IN DIRECTION.  
2) PROVIDE 18" EXPANSION LOOP AT ALL 90° ANGLES, AND EVERY 100' OF STRAIGHT CURVE RUN.

**E PIPE INSTALLATION IN PLANTED AREA**  
NTS



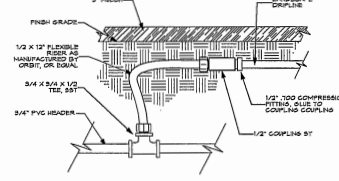
- NOTES:  
1) ALL SLEEVES TO BE 8\"/>

**F PIPE INSTALLATION UNDER PAVING**  
NTS

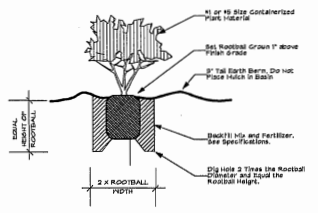


**G PLAN**

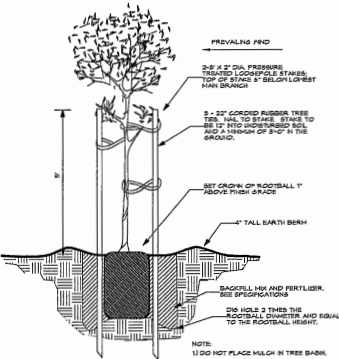
**G DRIP CIRCUIT LAYOUT**  
NTS



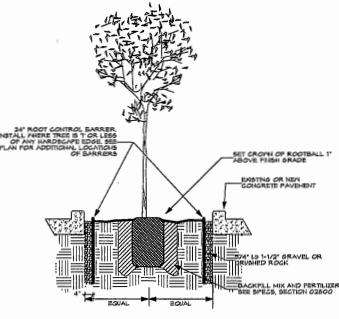
**H POLY TO PVC COMPRESSION FITTING DETAIL**  
NTS



**I SHRUB PLANTING DETAIL**  
NTS



**J TREE PLANTING DETAIL**  
NTS



- NOTE:  
1) DO NOT PLACE MULCH IN TREE BASK.  
2) PLANTING HOLES TO BE TESTED FOR DRAINAGE PRIOR TO PLANTING. IF HOLES DO NOT DRAIN WITHIN 4 HOURS CONTACT LANDSCAPE ARCHITECT.  
3) INSTALL ROOT BARRIERS ON ALL FOUR SIDES OF PLANTER.

**K TREE WELL WITH ROOT BARRIER**  
NTS

