

PLANTING LEGEND

BOTANICAL NAME / COMMON NAME	WUCOLS	SIZE	QTY.	COMMENTS
TREES				
PISTACIA CHINENSIS / CHINESE PISTACHE	L	24" BOX	3	STANDARD TREE FORM, MATCHED HEIGHT
PLATANUS A. 'EXCLAMATION' / 'EXCLAMATION' SYCAMORE	M	24" BOX	4	STANDARD TREE FORM, MATCHED HEIGHT
QUERCUS AGRIFOLIA / COAST LIVE OAK	VL	24" BOX	5	STANDARD TREE FORM, MATCHED HEIGHT
SHRUBS				
CISTUS x. PURPUREAS / PURPLE ROCKROSE	L	5 GAL	50	5' O.C. SPACING
RHAPHIOLEPIS 'BALLERINA' / HAWTHORNE	L	5 GAL	36	4' O.C. SPACING
GROUNDCOVERS & PERENNIALS				
PENNISETUM 'KARLEY ROSE' / FOUNTAIN GRASS	L	1 GAL	157	3' O.C. SPACING
ROSMARINUS 'PROSTRATUS' / PROSTRATE ROSEMARY	L	1 GAL	24	5' O.C. SPACING
VERBENA 'De La Mina' / CEDROS ISLAND VERBENA	L	1 GAL	67	4' O.C. SPACING
BIOFILTRATION PLANTERS				
CALIFORNIA NATIVE BIOFILTRATION SOD	M	SOD	1,000 FT ²	PER MFG'S RECOMMENDATIONS
FROM DELTA BLUEGRASS CO. CONSISTING OF:				
FESTUCA RUBRA 'MOLATE' / MOLATE FESCUE				HTTPS://WWW.DELTABLUEGRASS.COM
NASSELLA PULCHRA / PURPLE NEEDLEGRASS				(800) 637-8873
HORDEUM CALIFORNICUM / CALIFORNIA BARLEY				
HORDEUM BRACHYANTHERUM / MEADOW BARLEY				

MWELo STATEMENT

"I HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE LANDSCAPE PLAN"

Stephen A. Kovanis 8/23/2022
STEPHEN A. KOVANIS DATE
REGISTERED LANDSCAPE ARCHITECT CA #6197

PLANTING NOTES

- ALL WORK IS TO BE PERFORMED UNDER THE DIRECTION OF A LICENSED LANDSCAPE CONTRACTOR (C-27 LICENSE) OR CERTIFIED BY THE STATE OF CALIFORNIA FOR THE TYPE OF WORK SHOWN ON THE PLANS.
- A MINIMUM THREE INCH (3") LAYER OF SHREDDED WOOD MULCH (ARBOR MULCH) SHALL BE APPLIED ON ALL EXPOSED SOIL SURFACES OF PLANTING AREAS EXCEPT IN TURF AREAS, CREEPING OR ROOTING GROUNDCOVERS, OR DIRECT SEEDING APPLICATIONS WHERE MULCH IS CONTRAINDICATED. "GORILLA HAIR" REDWOOD MULCH IS PROHIBITED.
- CONTRACTOR IS TO SUBMIT SOIL SAMPLES FROM TYPICAL PLANTING AREAS TO A LABORATORY FOR ANALYSIS AND RECOMMENDATIONS. SOIL SAMPLING SHALL BE CONDUCTED IN ACCORDANCE WITH LABORATORY PROTOCOL, INCLUDING PROTOCOLS REGARDING ADEQUATE SAMPLING DEPTH FOR THE INTENDED PLANTS. THE SOIL ANALYSIS SHALL INCLUDE:
 - SOIL TEXTURE
 - INFILTRATION RATE DETERMINED BY LABORATORY TEST OR SOIL TEXTURE INFILTRATION RATE TABLE
 - PH
 - TOTAL SOLUBLE SALTS
 - SODIUM
 - PERCENT ORGANIC MATTER
 - RECOMMENDATIONS
- THE SOIL ANALYSIS REPORT SHALL BE MADE AVAILABLE, IN A TIMELY MANNER, TO THE PROFESSIONALS PREPARING THE LANDSCAPE DESIGN PLANS AND IRRIGATION DESIGN PLANS TO MAKE ANY NECESSARY ADJUSTMENTS TO THE DESIGN PLANS.
- INCORPORATE COMPOST OR NATURAL FERTILIZER INTO THE SOIL TO A MINIMUM DEPTH OF 8" AT A MINIMUM RATE OF 6 CUBIC YARDS PER 1000 SQUARE FEET OR PER SPECIFIC AMENDMENT RECOMMENDATIONS FROM A SOILS LABORATORY REPORT.
- IF A GRADING PERMIT IS REQUIRED, THE SOIL ANALYSIS REPORT SHALL BE SUBMITTED TO THE CITY WITH THE CERTIFICATE OF COMPLETION. IF A GRADING PERMIT IS NOT REQUIRED, THE SOIL ANALYSIS REPORT SHALL BE SUBMITTED TO THE CITY WITH THE LANDSCAPE DOCUMENTATION PACKAGE.
- THE PROJECT APPLICANT, OR HIS/HER DESIGNEE, SHALL SUBMIT DOCUMENTATION VERIFYING IMPLEMENTATION OF SOIL ANALYSIS REPORT RECOMMENDATIONS TO THE CITY WITH CERTIFICATE OF COMPLETION."
- A MINIMUM OF 8" OF NON-MECHANICALLY COMPACTED SOIL SHALL BE AVAILABLE FOR WATER ABSORPTION AND ROOT GROWTH IN PLANTED AREAS.
- PLANTS SHALL BE OF QUALITY NURSERY STOCK, FREE OF PESTS AND DISEASES, AND CONFORM TO THE SIZE SPECIFICATIONS OF THE PLANT LEGEND AND THE LATEST EDITION OF THE AMERICAN NURSERYMAN STANDARDS.
- ALL PLANT LOCATIONS SHOWN ARE DIAGRAMMATIC AND SHALL BE CONFIRMED IN THE FIELD BY THE LANDSCAPE ARCHITECT. PROVIDE 48 HOURS ADVANCE NOTICE TO SCHEDULE SITE VISITS. CONTRACTOR IS TO ADJUST ALL PLANTING WITH UTILITY LOCATIONS OR OTHER OBSTACLES NOT SHOWN ON THESE PLANS. ANY CONFLICTS BETWEEN LOCATIONS OF PROPOSED PLANTING AND UTILITIES OR OTHER OBSTRUCTIONS ARE TO BE CALLED TO THE ATTENTION OF THE LANDSCAPE ARCHITECT.
- PLANT QUANTITIES ARE FOR INFORMATIONAL USE ONLY. IN THE CASE OF ANY DISCREPANCIES BETWEEN PLANT QUANTITIES AND SYMBOLS SHOWN, THE PLANTING PLAN SHALL GOVERN. NOTIFY THE LANDSCAPE ARCHITECT IF CLARIFICATION IS NEEDED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PLANTS AS SHOWN ON THE DRAWINGS.
- PLANTS ARE TO BE INSTALLED IN A TRIANGULAR SPACING PATTERN UNLESS OTHERWISE NOTED.
- NURSERY TRAINING STAKES SHALL BE REMOVED AT THE TIME OF PLANTING. BACKFILL HOLES WITH AMENDED PLANTING SOIL. TREES AND OTHER PLANTINGS THAT REQUIRE STAKING SHALL BE INSTALLED PER DETAIL.
- TREES SHALL BE CAPABLE OF SUPPORTING THEMSELVES WHEN STAKED. TREES WHICH HAVE BEEN "TOPPED" OR CUT ALONG THE LEAD TRUNK WILL BE REJECTED. TREES CLOSER THAN 8' TO PAVEMENTS OR FOUNDATIONS SHALL HAVE A ROOT BARRIER INSTALLED. PRODUCT TO BE NDS #SM-2420 OR APPROVED EQUAL.
- THE CONTRACTOR SHALL MAINTAIN AND MONITOR THE LANDSCAPE INSTALLATION FOR 60 DAYS UPON FINAL ACCEPTANCE. PLANTS IN AN UNHEALTHY OR DISTRESSED STATE SHALL BE REPLACED AT THE SAME SIZE AND SPECIFICATION AS THE ORIGINAL AT NO ADDITIONAL COST TO THE OWNER. ALL TREES SHALL BE GUARANTEED FOR ONE YEAR AND ALL SHRUBS AND GROUND COVER SHALL BE GUARANTEED FOR 6 MONTHS UPON FINAL ACCEPTANCE.
- UPON COMPLETION OF THE INSTALLATION, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEERING DEVELOPMENT SERVICES INSPECTOR A COMPLETED AND SIGNED "CERTIFICATE OF COMPLETION" STATING THAT THE PROJECT HAS BEEN INSTALLED AS DESIGNED.
- THE CERTIFICATE OF COMPLETION SHALL BE ACCOMPANIED BY AN IRRIGATION AUDIT, IRRIGATION SCHEDULE AND MAINTENANCE SCHEDULE, AS DESCRIBED IN THE CITY ORDINANCE.
- A FINAL CITY INSPECTION SHALL BE PERFORMED. THE INSTALLATION CONTRACTOR SHALL ATTEND THIS INSPECTION AND MAKE ALL REQUIRED REPAIRS AND ADJUSTMENTS TO ACHIEVE APPROVAL AND COMPLETION FROM THE CITY. TO SCHEDULE AN INSPECTION, CONTACT ENGINEERING DEVELOPMENT SERVICES AT (707) 543-4611.

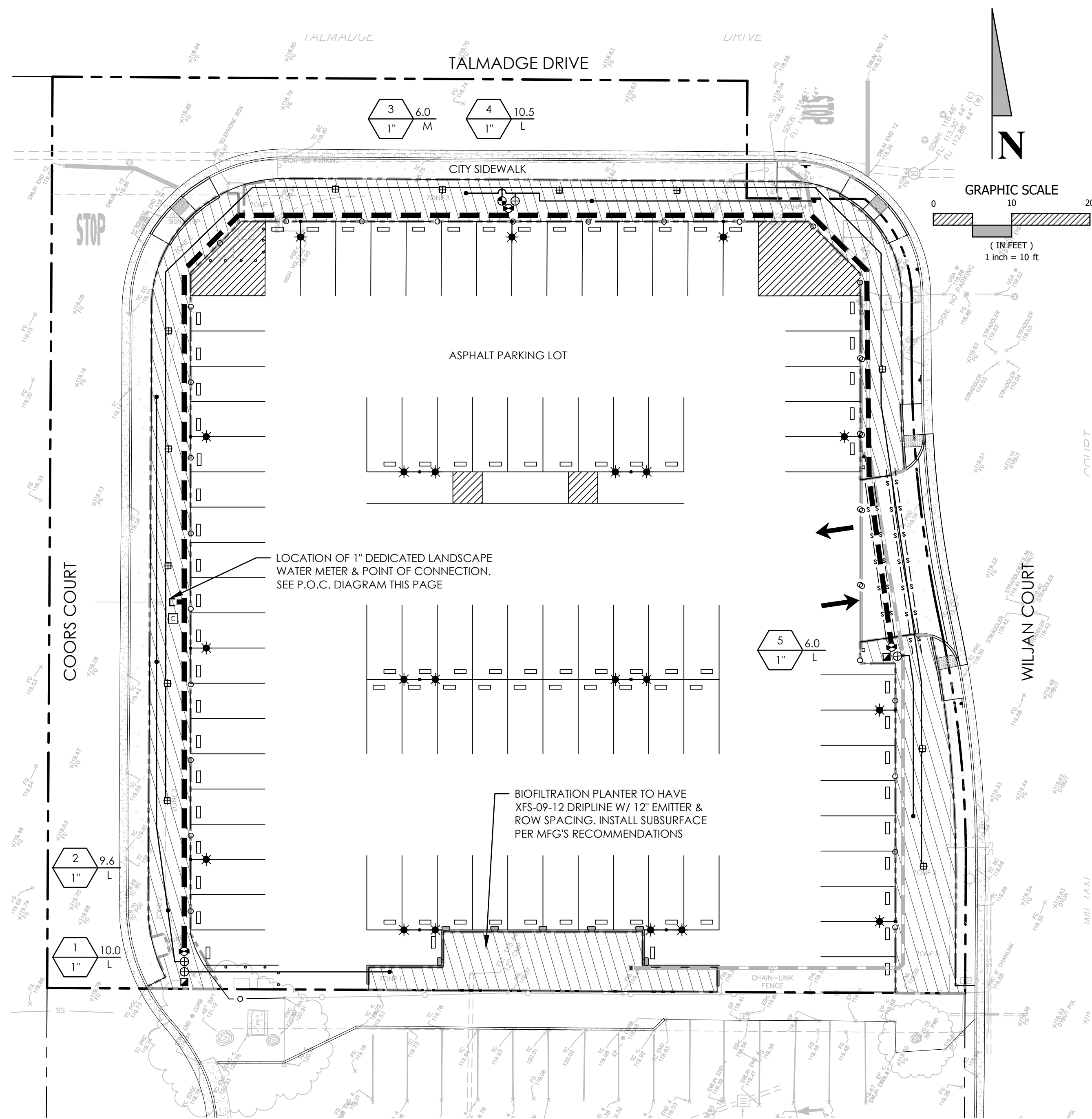
DATE	BY	DESCRIPTION	REV.

BC ENGINEERING GROUP, INC.
CIVIL ENGINEERING & LAND PLANNING
www.bceengineeringgroup.com
Phone: 707.542.4321
418 B Street, Third Floor
Santa Rosa, CA 95401

PLANTING PLAN
0 COORS COURT
SANTA ROSA, CA 95407

Stephen A. Kovanis
PLA 6197 Exp. 6/30/23

Date:	08/23/22
Job:	1311-19
Drawn:	SK
Scale:	AS SHOWN
APN:	043-134-047
Permit #:	
Sheet:	L1.0 1 of 4



HYDROZONE TABLE

Hydrozone Table
This worksheet is filled out by the project applicant and it is a required element of the Landscape Documentation Package. Please complete the hydrozone table(s) for each hydrozone. Use as many tables as necessary to provide the square footage of landscape area per hydrozone.

Hydrozone ^a	Zone or Valve	Irrigation Method ^a	Area (Sq. Ft.)	% of Landscape Area
Moderate (Bio Planter)	1	D	1000	13%
Low	2	D	2150	29%
Moderate (Trees)	3	B	600	8%
Low	4	D	2350	32%
Low	5	D	1350	18%
Total			7450	100%

Summary Hydrozone Table		
Hydrozone ^a	Area (Sq. Ft.)	
High Water Use	0	0%
Moderate Water Use	1600	21%
Low Water Use	5850	79%
Total	7450	

^aHydrozone
HW=High Water Use Plants
MW=Moderate Water Use Plants
LW=Low Water Use Plants

^aIrrigation Method
MS=Micro-spray
S=Spray
R=Rotor B=Bubbler D=Drip

WATER BUDGET CALCS. 'APPENDIX A'

Minimum Applied Water Allowance

The following calculations will help you determine your site specific water budget and establish a watering schedule that will allow you to meet your water budget. Your Estimated Total Water Use must be less than your Minimum Applied Water Allowance.

1.) Minimum Applied Water Allowance (MAWA) - CONTROLLER CONTROL

MAWA = (ET_a) (0.62) (0.45 LA) + (0.55 x SLA)

Where:
 ET_a = Annual Net Reference Evapotranspiration (inches)
 0.45 = ET Adjustment Factor
 LA = Landscaped Area (square feet)
 0.62 = Conversion Factor (to gallons per square foot)
 SLA = Portion of the landscape area identified as Special Landscape Area (square feet)
 0.55 = the additional ET adjustment factor for Special Landscape Area (0.45 + 0.10)

A.) Net Evapotranspiration Calculation

ET _a (Annual Net Reference Evapotranspiration)	2.51	
ET _a (Adjusted)	2.12	
ET _a (Adjusted) x 0.25	0.53	
ET _a (Adjusted) - Effective Rainfall	1.59	
Net Evapotranspiration Calculation	1.59	

B.) Adjusted Landscape Area Calculation

Landscaped Area	7450	
Special Landscape Area	0	
Special Landscape Area	0	
Sum of Adjusted Landscape Area	7450	

MAWA = 1.59 x 0.62 x 7450 = 7450 gallons

2.) Estimated Total Water Use (ETWU)

A.) Net Evapotranspiration Calculation

ET _a (Annual Net Reference Evapotranspiration)	2.51	
ET _a (Adjusted)	2.12	
ET _a (Adjusted) x 0.25	0.53	
ET _a (Adjusted) - Effective Rainfall	1.59	
Net Evapotranspiration Calculation	1.59	

B.) Adjusted Landscape Area Calculation

Landscaped Area	0	
Special Landscape Area	2850	
Special Landscape Area	1600	
Special Landscape Area	0	
Sum of Adjusted Landscape Area	4450	

ETWU = 1.59 x 0.62 x 4450 = 4450 gallons

Irrigation Efficiency Factor

Irrigation Efficiency Factor	0.81
Square Footage of Landscape on site	7450
Square Footage of Landscape on spec	0
Total square footage of landscape	7450
Adjusted Irrigation Efficiency Factor	0.81

IRRIGATION LEGEND

SYMBOL	MFG.	MODEL #	DESCRIPTION	DETAIL
[M]	N/A	N/A	1" DEDICATED LANDSCAPE WATER METER & SERVICE BY OTHERS	
[B]	FEBCO	LF825Y-QT1	1" REDUCED PRESSURE ZONE ASSEMBLY, INSTALL PER CITY STD. 876	BF/L3.1
[C]	N/A	N/A	1" IRRIGATION POINT OF CONNECTION DOWNSTREAM OF BACKFLOW DEVICE	N/A
[PR]	FEBCO	LFU5B-Z3	LEAD-FREE PRESSURE REDUCING VALVE, SIZE PER LINE, SET TO 55 P.S.I.	PR/L3.1
[B]	NIBCO	N/A	BALL VALVE, FULL PORT, SIZE PER LINE	BV/L3.0
[C]	HUNTER	N/A	ICORE IC-600-M 6 STA. CONTROLLER W/ ACC-PED METAL PEDESTAL	CO/L3.0
[MV]	HUNTER	IBV-101G-FS	1" BRASS MASTER VALVE, NORMALLY CLOSED	MV/L3.0
[FS]	HUNTER	FCT-150	1-1/2" FLOW CLICK FLOW SENSOR, RANGE 5-35 G.P.M.	MV/L3.0
[R]	HUNTER	ICV-101G	1" ICV SERIES REMOTE CONTROL VALVE W/ FLOW CONTROL	RC/L3.0
[DZ]	HUNTER	ICZ-101LF-40	DRIP ZONE KIT W/ 1" ICV GLOBE VALVE & 1" HFR-100-075 40 P.S.I. REGULATOR	DZ/L3.0
[QC]	RAINBIRD	33DLRC	3/4" QUICK COUPLER W/ DOUBLE TRACK KEY LUG & LOCKING RUBBER COVER	QC/L3.1
[---]	N/A	N/A	HYDROZONE BOUNDARY	N/A

PIPE

SYMBOL	DESCRIPTION	DETAIL
[---]	1-1/2" PRESSURE MAINLINE, SCH. 40 PVC	TS/L3.0
[---]	NON-PRESSURE LATERAL PIPE, SCH. 40 PVC, SIZED PER CHART ON PLAN	TS/L3.0
[---]	SCH. 40 PVC SLEEVES, SEE NOTES	TS/L3.0

DRIP IRRIGATION & EMISSION DEVICES

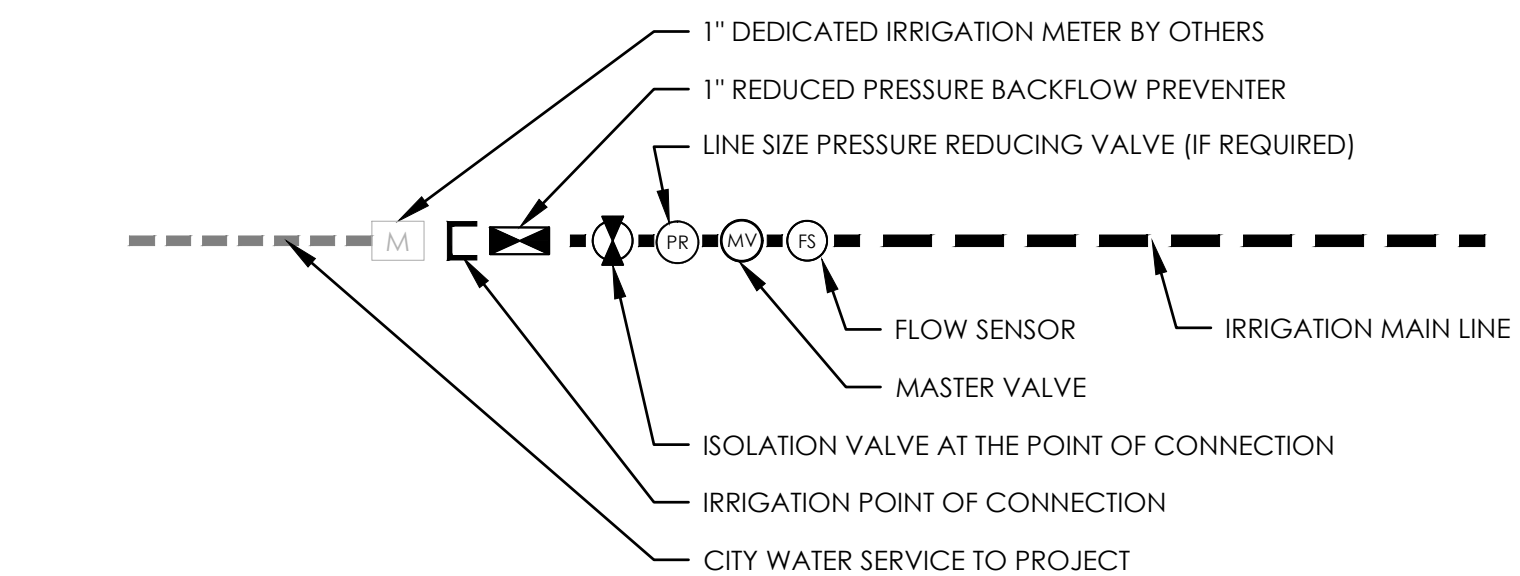
SYMBOL	MFG.	DESCRIPTION	DETAIL
[---]	RAINBIRD	XFCV-06-18 DRIFLINE W/ PRESSURE COMPENSATION & 3.5 PSI CHECK VALVE FOR ON-SURFACE APPLICATIONS, OPENING PRESSURE-14.5 PSI, OPERATING PRESSURE: 20-60PSI, FLOW RATE 0.6 GPH; 18" ROW & EMITTER SPACING. FITTINGS: XF SERIES 17MM INSERT FITTINGS, EASY FIT COMPRESSION FITTINGS OR TLF TWIST LOCK FITTINGS.	DI/L3.1
[---]	RAINBIRD	TREE BUBBLERS: (1) ROOT WATERING SYSTEM #RWS-B-C-1401, & (1) 1401 FLOOD BUBBLER INSTALLED AT SURFACE, EACH SYMBOL REPRESENTS BOTH EMISSION DEVICES	TB/L3.0

PIPE SIZING CHART

ZONE FLOW	PIPE SIZE
0 - 4 GPM	DRIFLINE TUBING
0 - 7 GPM	3/4" PVC
7.1 - 12 GPM	1" PVC
12.1 - 22 GPM	1 1/4" PVC
22.1 - 30 GPM	1 1/2" PVC



IRRIGATION POINT OF CONNECTION DIAGRAM



IRRIGATION NOTES

- THE IRRIGATION SYSTEM SHALL BE ASSEMBLED AND INSTALLED ACCORDING TO THE IRRIGATION PLANS, DESIGN SPECIFICATIONS, LOCALLY APPLIED CODES AND STANDARDS, AND MANUFACTURERS' PRODUCT REQUIREMENTS. WORK IS TO BE EXECUTED BY A LICENSED LANDSCAPE CONTRACTOR [C-27 LICENSE]. CONTRACTOR SHALL BE CAPABLE OF QUALITY WORKMANSHIP AND THE SAFE USE OF PROPER EQUIPMENT.
- THESE IRRIGATION DRAWINGS ARE DIAGRAMMATIC AND INDICATIVE OF THE WORK TO BE INSTALLED. ALL PIPING, VALVES, AND OTHER IRRIGATION COMPONENTS MAY BE SHOWN WITHIN PAVED AREAS FOR GRAPHIC CLARITY ONLY AND ARE TO BE INSTALLED WITHIN PLANTING AREAS.
- CONTRACTOR IS TO BE FAMILIAR WITH ALL STRUCTURAL AND FINISHED CONDITIONS AFFECTING THE CONTRACT WORK AND PLAN ACCORDINGLY. COORDINATE IRRIGATION WORK WITH APPLICABLE CONTRACTORS FOR THE LOCATION AND INSTALLATION OF PIPE, CONDUIT OR SLEEVES THROUGH OR UNDER WALLS, PAVING AND STRUCTURES BEFORE CONSTRUCTION. IN THE EVENT THESE NOTIFICATIONS ARE NOT PERFORMED, THE CONTRACTOR ASSUMES FULL RESPONSIBILITY FOR ANY REQUIRED REVISIONS.
- SCHEDULE FIELD INSPECTIONS WITH LANDSCAPE ARCHITECT AND PROVIDE 48 HOURS ADVANCE NOTICE.
- THE IRRIGATION SYSTEM DESIGN IS BASED ON THE MINIMUM AVAILABILITY OF 30 G.P.M. AND OPERATING PRESSURE OF 55 P.S.I. AT THE POINT OF CONNECTION DOWNSTREAM OF THE BACKFLOW DEVICE. CONTRACTOR IS TO NOTIFY LANDSCAPE ARCHITECT IF THESE DEMANDS CANNOT BE MET PRIOR TO COMMENCING ANY WORK.
- TEST ALL PRESSURE LINES AT 150 P.S.I. FOR 2 HOURS PRIOR TO BACKFILLING TRENCH. IF LEAKS DEVELOP, MAKE ALL NECESSARY REPAIRS AND REPEAT TEST UNTIL PRESSURE IS HELD.
- SLEEVES SHALL BE SCH. 40 PVC, TWICE THE DIAMETER OF THE PIPING OR WIRING BUNDLE THAT IT HOLDS, AND EXTEND A MINIMUM 18" BEYOND THE EDGE OF SURFACES. SLEEVE ALL PIPES AND WIRE BUNDLES SEPARATELY.
- COORDINATE EXACT CONTROLLER LOCATION WITH OWNER. COORDINATE POWER SUPPLY AND SLEEVING WITH GENERAL CONTRACTOR. ALL 120V ELECTRICAL POWER SUPPLY WORK TO BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR AND MEET ALL APPLICABLE CODES. LANDSCAPE CONTRACTOR SHALL MAKE ALL HARDWIRE CONNECTIONS FOR CONTROL WIRES.
- THE IRRIGATION CONTRACTOR SHALL BE RESPONSIBLE FOR MINOR CHANGES IN THE IRRIGATION LAYOUT DUE TO OBSTRUCTIONS NOT SHOWN ON THE IRRIGATION DRAWINGS SUCH AS LIGHTS, FIRE HYDRANTS, SIGNS, ELECTRICAL ENCLOSURES, ETC.
- IRRIGATION CONTROL WIRES SHALL BE SOLID COPPER WITH U.L. APPROVAL FOR DIRECT BURIAL IN GROUND AND CONTINUOUS FROM THE CONTROLLER (NO SPLICES). COMMON GROUND WIRE: SIZE #12-1 WIRE WITH A WHITE INSULATING JACKET. CONTROL WIRE SERVICING REMOTE CONTROL VALVES SHALL BE SIZE #14-1 WIRE WITH A RED INSULATING JACKET. SPLICES SHALL BE MADE WITH 3M-DBY SEAL PACKS OR APPROVED EQUAL. SPLICING OF LOW VOLTAGE WIRES IS PERMITTED IN VALVE BOXES ONLY.
- INSTALL TWO SPARE CONTROL WIRES OF A DIFFERENT COLOR ALONG THE ENTIRE MAIN LINE. LOOP 36" EXCESS WIRE INTO EACH SINGLE VALVE BOX AND INTO ONE VALVE BOX IN EACH GROUP OF VALVES. TAPE WIRES TOGETHER TO AMIN LINE EVERY TEN FEET. DO NOT TAPE WIRES TOGETHER WHERE CONTAINED WITHIN SLEEVES OR CONDUIT.
- INSTALL REMOTE CONTROL VALVE BOXES 12" FROM WALK, CURB, BUILDING OR LANDSCAPE FEATURE. AT MULTIPLE VALVE BOX GROUPS, INSTALL EACH BOX AN EQUAL DISTANCE FROM THE WALK, CURB, BUILDING OR LANDSCAPE FEATURE AND PROVIDE 12" BETWEEN BOX TOPS. ALIGN THE SHORT SIDE OF RECTANGULAR VALVE BOXES PARALLEL TO WALK, CURB, BUILDING OR LANDSCAPE FEATURE. VALVE LOCATIONS SHOWN ARE DIAGRAMMATIC. INSTALL IN GROUND COVER/SHRUB AREAS ONLY.
- FOR PLANTS INSTALLED ON SLOPES, LOCATE EMITTER OUTLETS AND BUBBLERS ON UPHILL SIDE OF PLANT OR TREE.
- ALL MATERIALS PROVIDED BY THE CONTRACTOR SHALL BE NEW OR VIABLE AND FREE OF ANY CONTAMINATION OR DAMAGE. MATERIALS NOT SPECIFICALLY ADDRESSED IN THESE SPECIFICATIONS OR ASSOCIATED NOTES AND DRAWINGS BUT ARE UNDERSTOOD AS NECESSARY TO COMPLETE THE PROJECT AS A MATTER OF INDUSTRY STANDARDS SHALL NEVERTHELESS BE PROVIDED BY THE CONTRACTOR.
- PRESSURE REGULATING DEVICES ARE REQUIRED IF WATER PRESSURE IS BELOW OR EXCEEDS THE RECOMMENDED PRESSURE OF THE SPECIFIED IRRIGATION DEVICES.
- CHECK VALVES OR ANTI-DRAIN VALVES ARE REQUIRED ON ALL SPRINKLER HEADS WHERE LOW POINT DRAINAGE COULD OCCUR.
- THE CONTRACTOR SHALL KEEP A DETAILED REDLINE PLAN OF THE INSTALLATION AS IT PROGRESSES. THIS "AS-BUILT" PLAN SHALL SHOW ANY DISCREPANCIES TO THE DESIGN PLANS. LOCATION OF POINT OF CONNECTION, MAIN LINE AND LATERAL PIPE LAYOUT, WIRE PATH, VALVES, SPRINKLER HEADS, ETC. AND BE SUBMITTED TO THE OWNER FOR APPROVAL. UPON ACCEPTANCE, THE AS-BUILT PLAN SHALL BE REDUCED TO 11x17 AND PERMANENTLY MOUNTED IN THE CONTROLLER ENCLOSURE. THE APPROVED AS-BUILT SHALL BE A CONDITION OF COMMENCEMENT OF THE MAINTENANCE PERIOD.
- A DIAGRAM OF THE IRRIGATION PLAN SHOWING HYDROZONES SHALL BE KEPT WITH THE IRRIGATION CONTROLLER FOR SUBSEQUENT MANAGEMENT PURPOSES.
- A CERTIFICATE OF COMPLETION SHALL BE FILLED OUT AND CERTIFIED BY EITHER THE DESIGNER OF THE LANDSCAPE PLANS, IRRIGATION PLANS, OR THE LICENSED LANDSCAPE CONTRACTOR FOR THE PROJECT.
- AN IRRIGATION AUDIT REPORT SHALL BE COMPLETED AT THE TIME OF FINAL INSPECTION. ALL LANDSCAPE IRRIGATION AUDITS SHALL BE CONDUCTED BY A CITY CERTIFIED LANDSCAPE IRRIGATION AUDITOR OR A THIRD PARTY CERTIFIED LANDSCAPE IRRIGATION AUDITOR.
- A REGULAR MAINTENANCE SCHEDULE SHALL BE SUBMITTED WITH THE CERTIFICATE OF COMPLETION AND SHALL INCLUDE, BUT NOT BE LIMITED TO, ROUTINE INSPECTION; AUDITING; ADJUSTMENT AND REPAIR OF THE IRRIGATION SYSTEM AND ITS COMPONENTS; AND REMOVING OBSTRUCTIONS TO EMISSION DEVICES.
- THE CONTRACTOR SHALL GUARANTEE THE IRRIGATION SYSTEM FOR A PERIOD OF 12 MONTHS BEYOND THE DATE OF FINAL ACCEPTANCE. ALL MATERIALS AND WORKMANSHIP REQUIRING REPAIRS OR REPLACEMENT SHALL BE PERFORMED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. REPAIRS SHALL BE MADE WITHIN A 48 HOUR TIMEFRAME, AND IMMEDIATELY SHOULD THEY POSE A SAFETY ISSUE.

MWEO STATEMENT

"I HAVE COMPLIED WITH THE CRITERIA OF THE ORDINANCE AND APPLIED THEM FOR THE EFFICIENT USE OF WATER IN THE IRRIGATION DESIGN PLAN"

Stephen A. Kovanis 8/23/2022
 STEPHEN A. KOVANIS
 REGISTERED LANDSCAPE ARCHITECT #6197 DATE

DATE: _____
 BY: _____
 DESCRIPTION: _____
 REV. _____

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IRRIGATION PLAN
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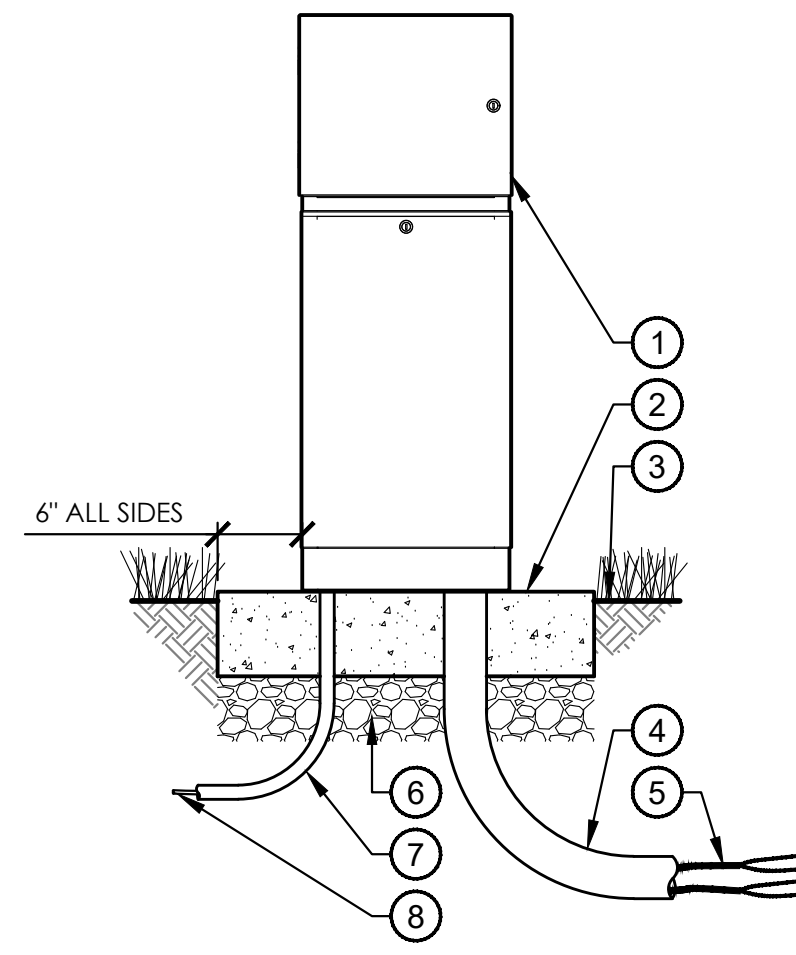
Date: 08/23/22
 Job: 1311-19
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 APN: 043-134-047
 Permit #: _____
 Sheet: L2.0
 2 of 4

KEY:

- 1 CONTROLLER IN METAL CABINET & PEDESTAL
- 2 CONCRETE PAD 6" THICK MIN.
- 3 FINISH GRADE
- 4 3" SCH. 40 PVC CONDUIT, FITTINGS & SWEEP ELL FOR TWO-WIRE CABLE
- 5 TWO-WIRE PATH TO DECODERS
- 6 4" CLASS II AGGREGATE BASE ROCK, 95% COMPACTION
- 7 1" SCH. 40 PVC CONDUIT, FITTINGS AND SWEEP ELL TO POWER SUPPLY
- 8 POWER SUPPLY WIRE

NOTES:

1. INSTALL CONTROLLER, CABINET AND PEDESTAL PER MANUFACTURER'S RECOMMENDATIONS.
2. PROVIDE PROPER GROUNDING COMPONENTS TO ACHIEVE GROUND RESISTANCE OF 10 OHMS OR LESS.
3. USE A DIFFERENT CABLE JACKET COLOR FOR EACH PATH.



PC PEDESTAL CONTROLLER

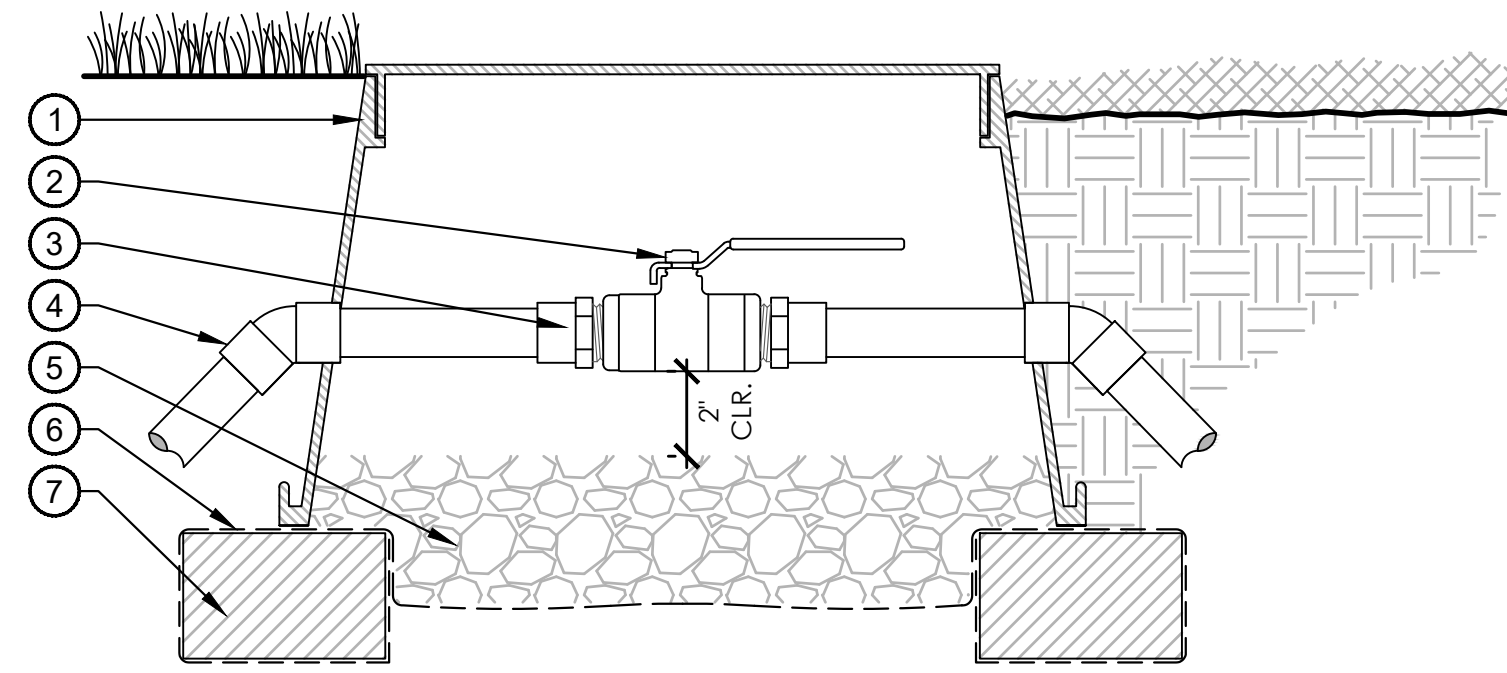
NO SCALE

KEY:

- 1 VALVE BOX AND LID, EXTENSION AS REQ'D
- 2 BALL VALVE, PER PLAN
- 3 MALE ADAPTER, (2)
- 4 IRRIGATION PIPE & FITTINGS PER PLAN
- 5 3/4" DRAIN ROCK, 4" MIN. DEPTH
- 6 FILTER FABRIC, WRAP 2X AROUND BRICK SUPPORTS
- 7 BRICK SUPPORTS, (4)

NOTES:

1. BALL VALVE MAY BE INSTALLED WITH HANDLE ON THE SIDE. MAINTAIN CLEARANCE ABOVE DRAIN ROCK
2. VALVE BOX SHALL NOT REST ON PIPE
3. USE TEFLON TAPE ON THREADED CONNECTIONS



BV BALL VALVE

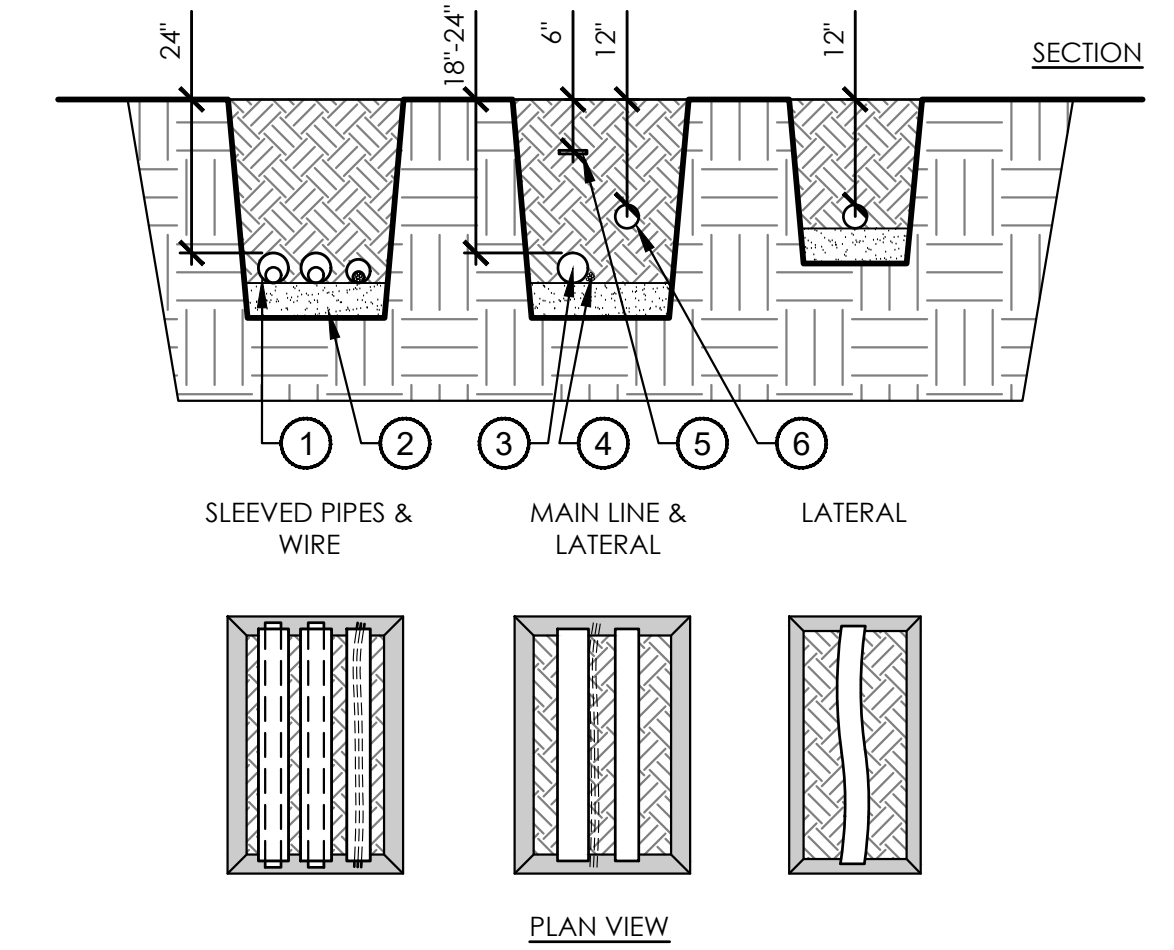
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KEY:

- 1 PVC SLEEVE, 2X DIAMETER OF PIPE CONTAINED
- 2 4" SAND BEDDING LAYER
- 3 MAINLINE, PER PLAN
- 4 CONTROL WIRE, TAPE & BUNDLE @ 10" O.C. MAX.
- 5 DETECTABLE MARKING TAPE, PER SPECS
- 6 LATERAL PIPE, PER PLAN

NOTES:

1. ALL 120V WIRE TO BE INSTALLED IN CONDUIT PER LOCAL CODE
2. ALL PIPE AND WIRE BELOW PAVEMENT TO BE IN SLEEVES. SLEEVES SHALL EXTEND 12" MIN. BEYOND SURFACE EDGES
3. TRENCH BACKFILL MATERIAL SHALL BE NATIVE MATERIAL COMPACTED TO 90% MIN. REFER TO GEOTECH'S RECOMMENDATIONS FOR TRENCH COMPACTION UNDER PAVEMENT
4. SNAKE PIPES IN TRENCHES TO ALLOW FOR CONTRACTION & EXPANSION
5. MAINLINE 2-1/2" & SMALLER TO HAVE 18" COVER, MAINLINE 3" & LARGER TO HAVE 24" COVER

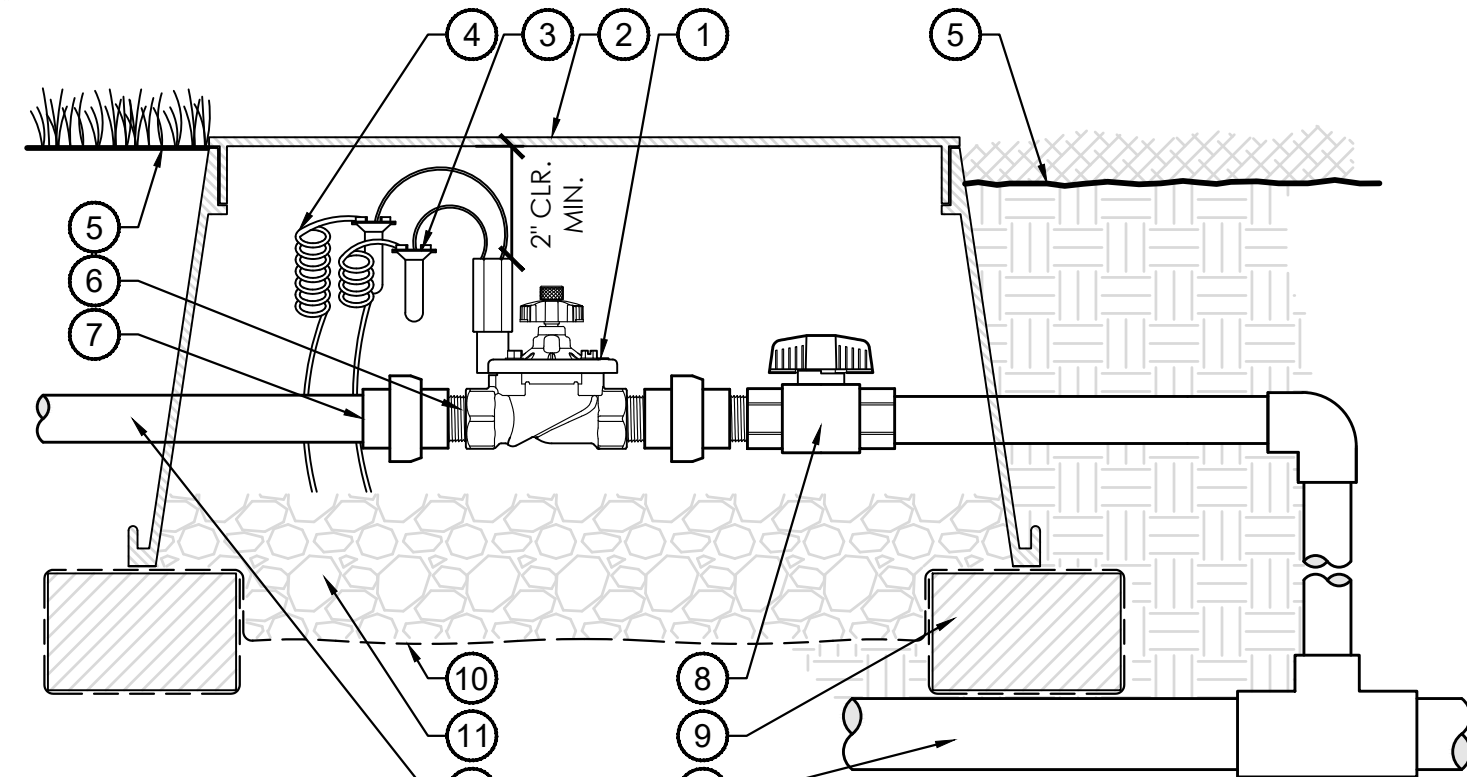


TS TRENCH SECTION

NO SCALE

KEY:

- 1 REMOTE CONTROL VALVE PER PLAN
- 2 IRRIGATION VALVE BOX: HEAT STAMP LID WITH 'RCV' IN 2" LETTERS
- 3 WATERPROOF CONNECTORS (2)
- 4 18"-24" COILED WIRE TO CONTROLLER
- 5 FINISH GRADE AT ADJACENT SURFACE
- 6 SCH. 80 CLOSE NIPPLE, MATCH SIZE TO VALVE
- 7 PVC SLIP (OR FPT) X FPT UNION (2)
- 8 ISOLATION VALVE, SIZE AND TYPE PER PLAN
- 9 BRICK SUPPORTS (4)
- 10 FILTER FABRIC - WRAP 2X AROUND BRICKS
- 11 3/4" WASHED GRAVEL, 4" MIN. DEPTH
- 12 IRRIGATION LATERAL
- 13 MAINLINE LATERAL AND FITTINGS

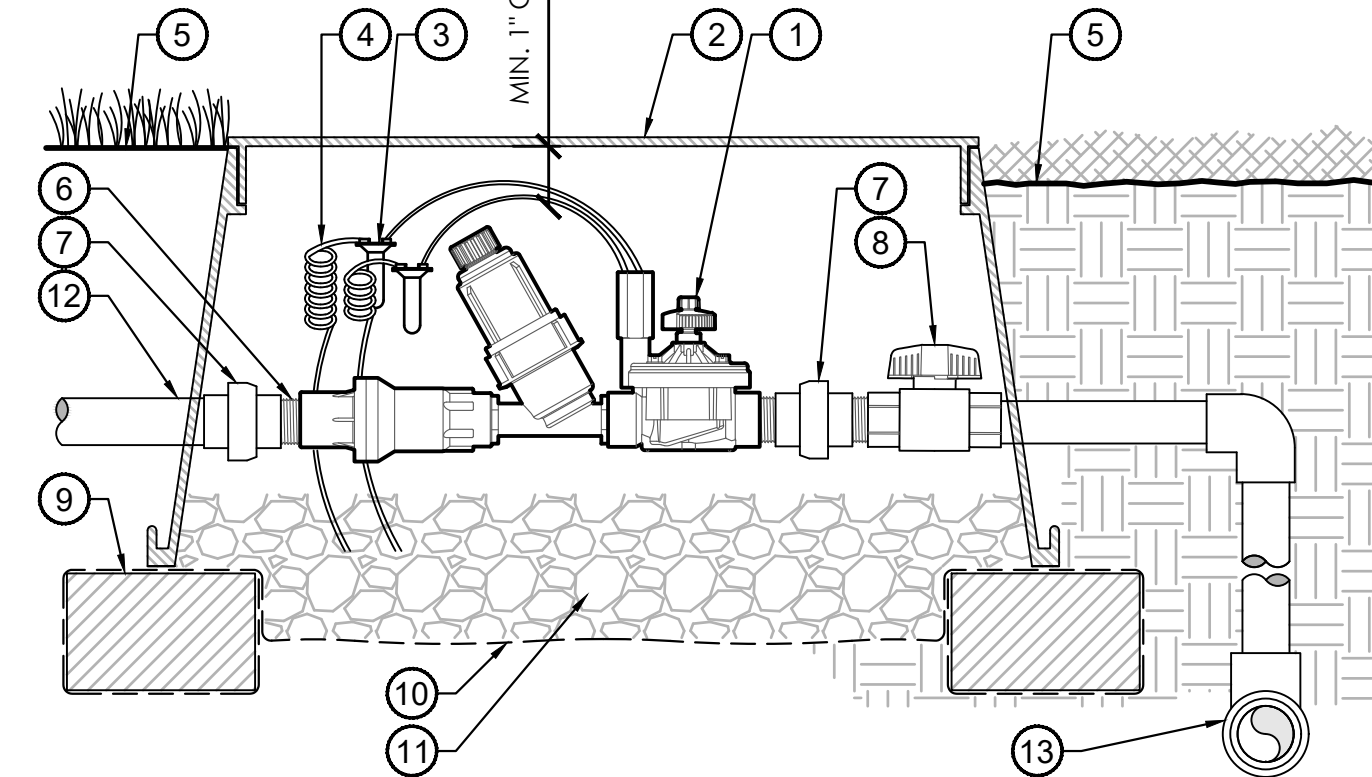


RC REMOTE CONTROL VALVE

NO SCALE

KEY:

- 1 REMOTE CONTROL VALVE W/ FILTER & REGULATOR
- 2 IRRIGATION VALVE BOX: HEAT STAMP LID WITH 'RCV' IN 2" LETTERS
- 3 WATERPROOF CONNECTORS (2)
- 4 18"-24" COILED WIRE TO CONTROLLER
- 5 FINISH GRADE AT ADJACENT SURFACE
- 6 SCH. 80 CLOSE NIPPLE, MATCH SIZE TO VALVE
- 7 PVC SLIP X FPT ADAPTOR
- 8 ISOLATION VALVE, SIZE AND TYPE PER PLAN
- 9 BRICK SUPPORTS (4)
- 10 FILTER FABRIC - WRAP 2X AROUND BRICKS
- 11 3/4" WASHED GRAVEL, 4" MIN. DEPTH
- 12 IRRIGATION LATERAL
- 13 MAINLINE LATERAL AND FITTINGS

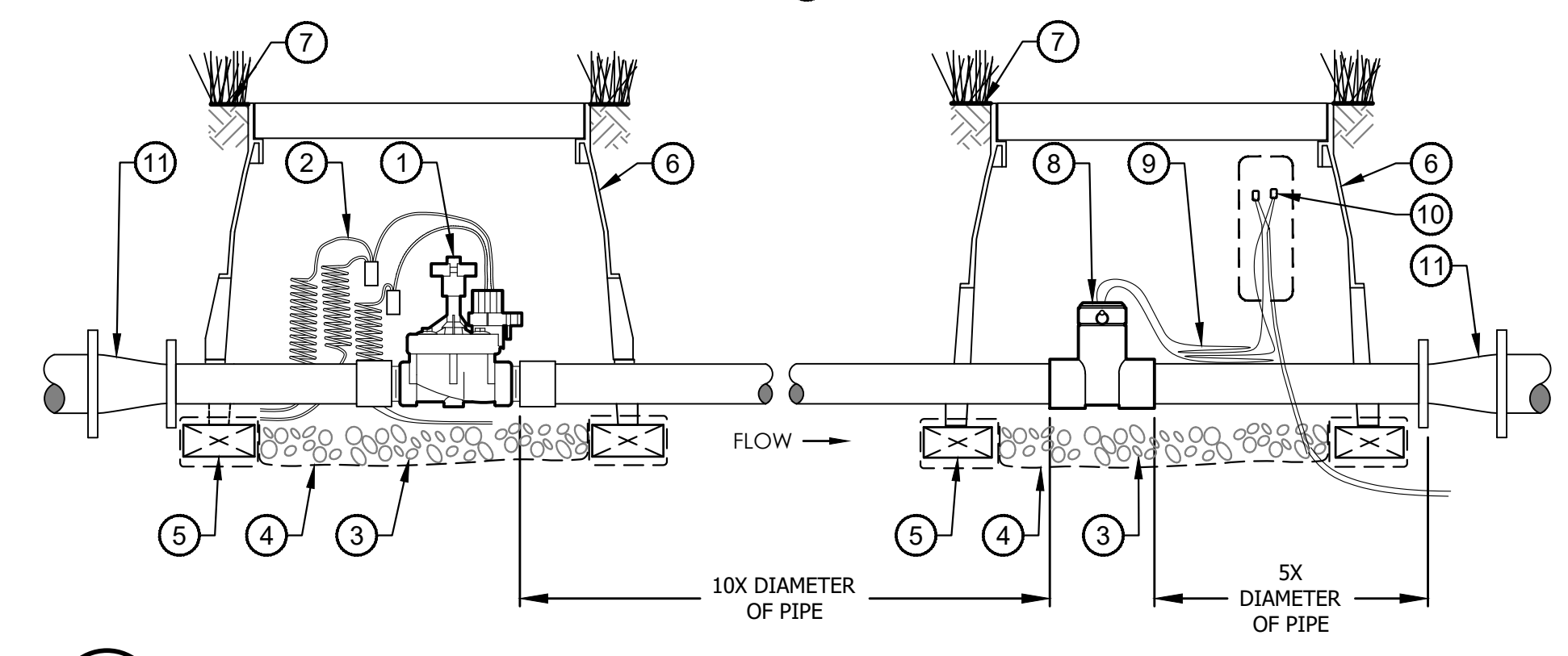


DZ DRIP ZONE KIT

NO SCALE

KEY:

- 1 MASTER VALVE, PER PLAN
- 2 36" LENGTH OF COILED WIRE TO CONTROLLER MASTER VALVE CIRCUIT
- 3 3" MINIMUM DEPTH OF 3/4" WASHED GRAVEL
- 4 FILTER FABRIC - WRAP TWICE AROUND BRICK SUPPORTS
- 5 BRICK (1 OF 4)
- 6 12" VALVE BOX WITH COVER
- 7 FINISH GRADE
- 8 FLOW SENSOR, PER PLAN
- 9 36-INCH LENGTH OF COILED PE-CABLE TO FLOW SENSING EQUIPMENT AT CONTROLLER ASSEMBLY
- 10 WATER PROOF CONNECTOR FOR SPLICE
- 11 CONCENTRIC REDUCER

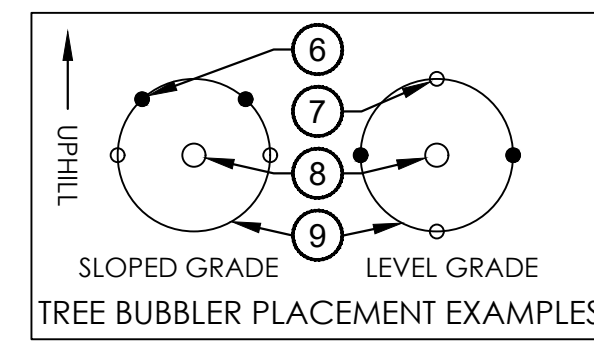


MV MASTER VALVE & FLOW SENSOR

NO SCALE

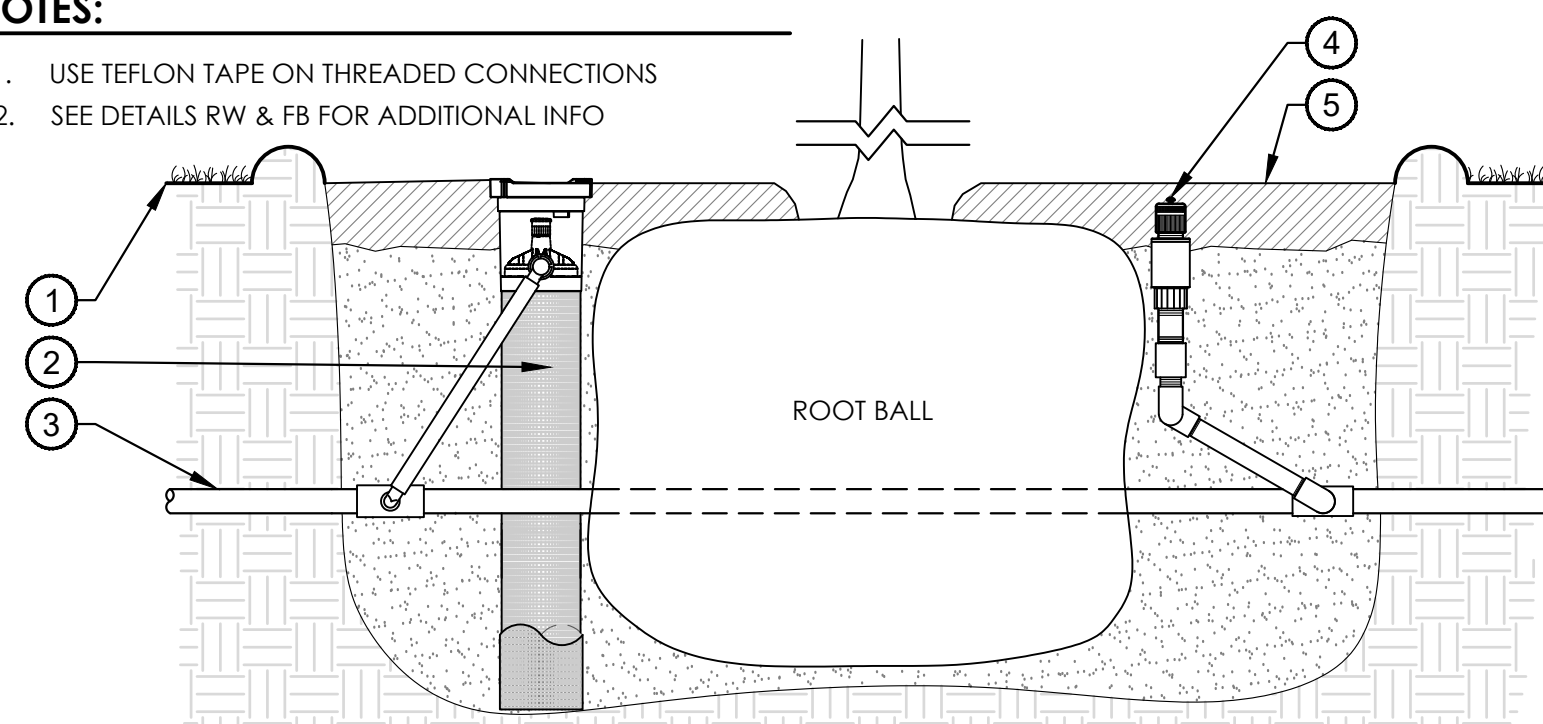
KEY:

- 1 FINISH GRADE
- 2 ROOT WATERING SYSTEM, PER PLAN
- 3 LATERAL PIPE, SIZE PER PLAN
- 4 FLOOD BUBBLER, PER PLAN
- 5 MULCH
- 6 BUBBLER (TYP)
- 7 TREE STAKES
- 8 TRUNK OF TREE OR SHRUB
- 9 EDGE OF ROOTBALL (TYP)



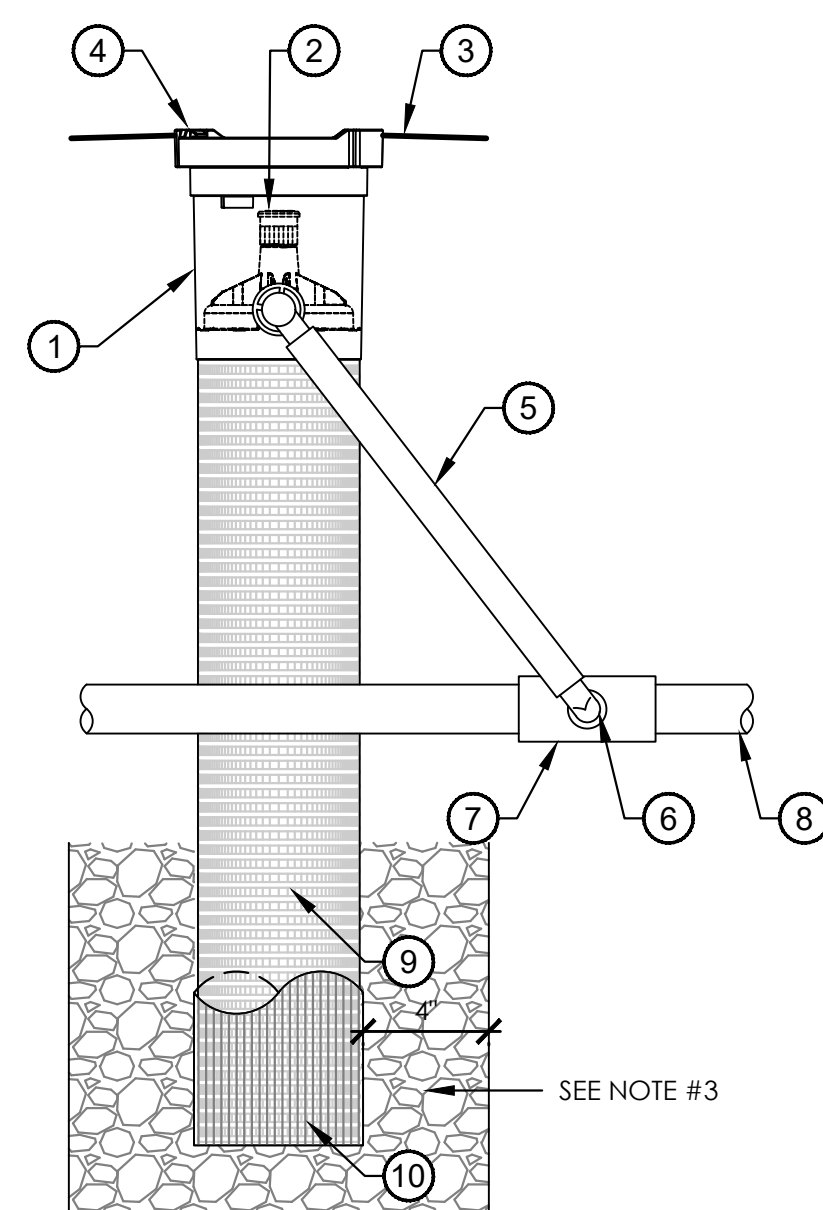
NOTES:

1. USE TEFLON TAPE ON THREADED CONNECTIONS
2. SEE DETAILS RW & FB FOR ADDITIONAL INFO



TB TREE BUBBLERS

NO SCALE



RW ROOT WATERING SYSTEM

NO SCALE

KEY:

- 1 ROOT WATERING SYSTEM INCLUDING TUBE, BUBBLER, GRATE, & SWING ASSEMBLY
- 2 BUBBLER
- 3 FINISH GRADE/TOP OF MULCH
- 4 4" LOCKING GRATE
- 5 SWING ASSEMBLY
- 6 1/2" MALE NPT INLET
- 7 PVC SCH. 40 TEE OR ELL
- 8 LATERAL PIPE PER PLAN
- 9 RIGID BASKET WEAVE CANISTER
- 10 OPTIONAL SOCK FOR SANDY SOILS

NOTES:

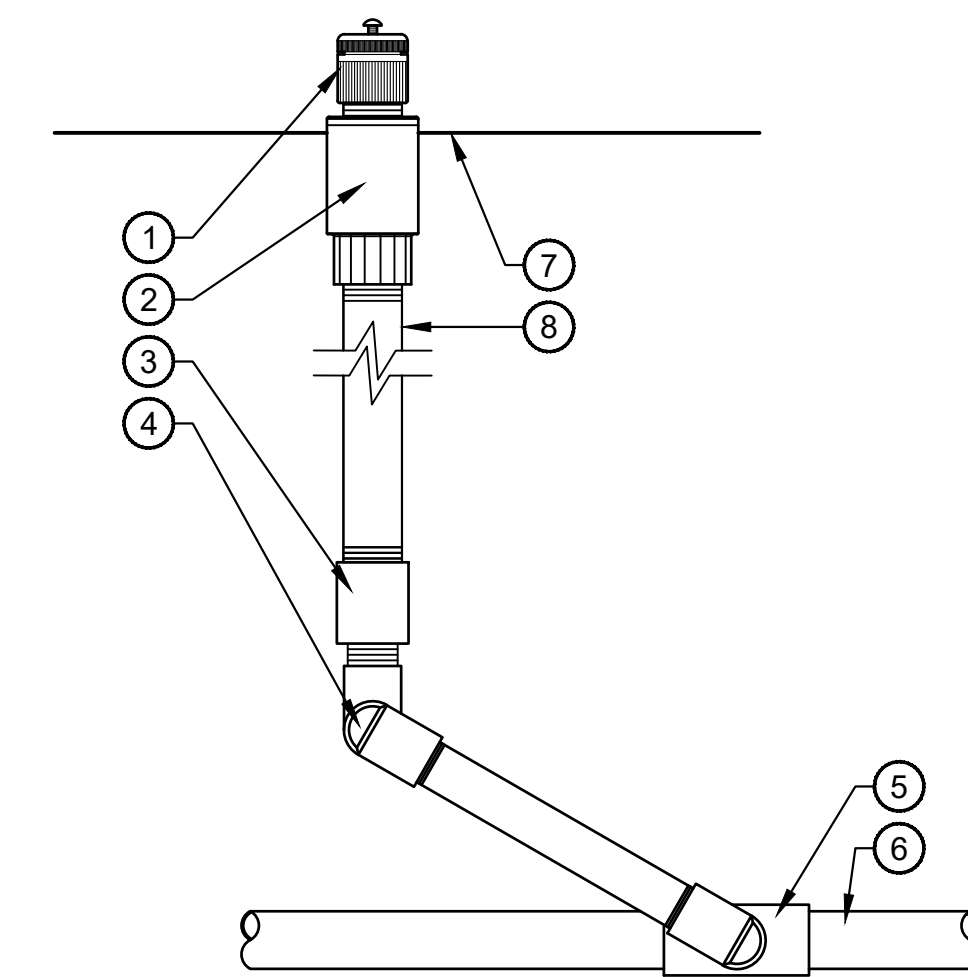
1. INSTALL PURPLE GRATE FOR RECYCLED WATER
2. INSTALL PRODUCT SO THAT THE GRATE IS EVEN WITH FINISH GRADE OR TOP OF MULCH
3. WHEN INSTALLING IN EXTREMELY HARD OR CLAY SOILS, ADD 3/4" GRAVEL UNDER & AROUND THE UNIT TO ALLOW FASTER WATER INFILTRATION AND ROOT PENETRATION
4. ONCE RWS HAS BEEN INSTALLED FILL THE BASKET WITH PEA GRAVEL BEFORE LOCKING LID

KEY:

- 1 BUBBLER, PER PLAN
- 2 CHECK VALVE
- 3 SCH 40 THREADED COUPLER
- 4 SWING JOINT, TYP.
- 5 LATERAL TEE OR ELL
- 6 LATERAL PIPE
- 7 FINISH GRADE
- 8 SCH 80 NIPPLE

NOTES:

1. USE TEFLON TAPE ON THREADED CONNECTIONS



FB FLOOD BUBBLERS

NO SCALE

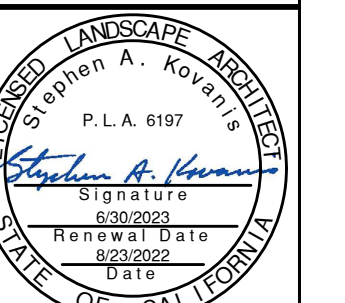
REV.	DATE	DESCRIPTION

BC ENGINEERING & LAND PLANNING
 CIVIL ENGINEERING & LAND PLANNING
 www.bceengineeringgroup.com
 Phone: 707.542.4321
 418 B Street, Third Floor
 Santa Rosa, CA 95401



PLANTING & IRRIGATION DETAILS

0 COORS COURT
 SANTA ROSA, CA 95407



Stephen A. Kovanis
 P.L.A. 6197 Exp. 6/30/23

Date: 08/23/22

Job: 1311-19

Drawn: SK

Scale: AS SHOWN

APN: 043-134-047

Permit #:

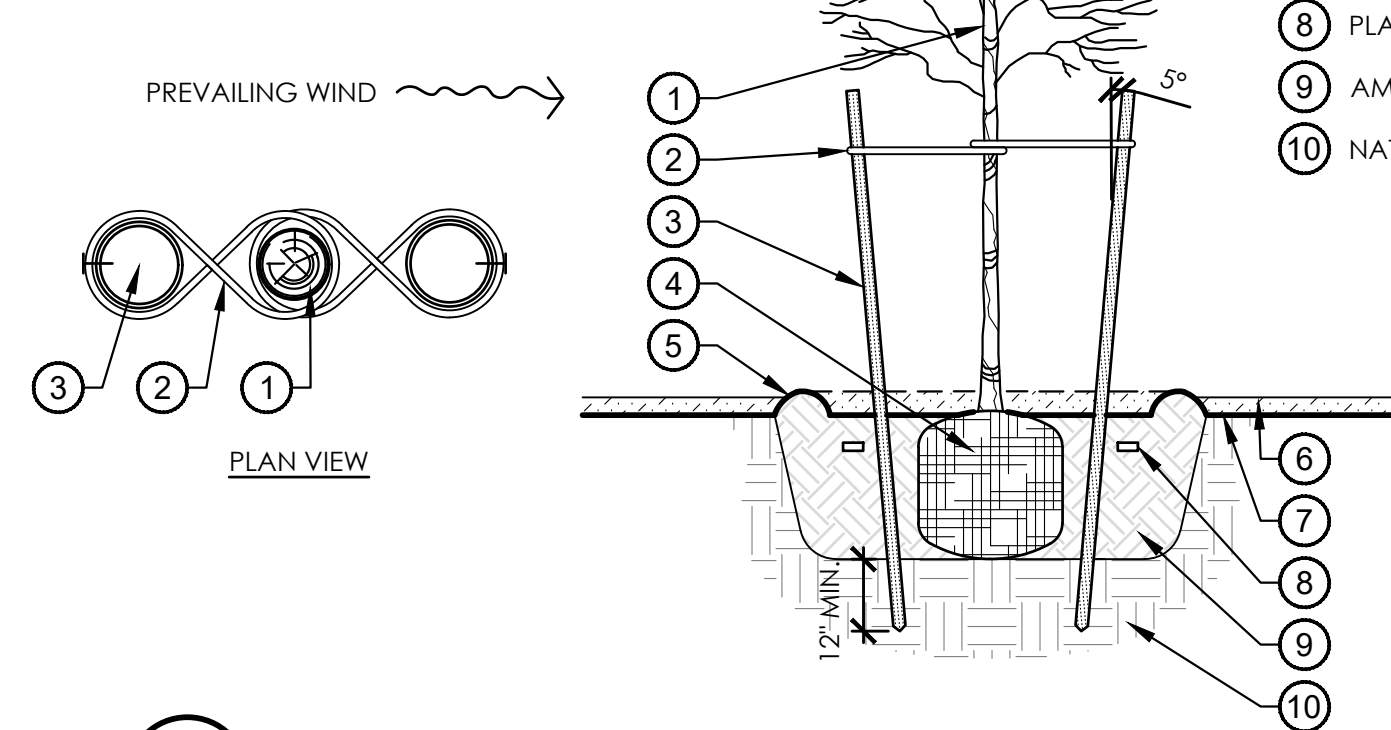
Sheet:

L3.0

3 of 4

NOTES:

1. PLANT TREE SO THAT ROOT CROWN AT TRUNK IS 2" ABOVE GRADE WITH SOIL TAPERING AWAY FROM TRUNK
2. SET STAKES A MIN. 12" INTO UNDISTURBED SOIL
3. INSTALL TREE TIES LOOPED IN A FIGURE 8 AROUND TREE TRUNK, 6" ABOVE LOWEST POINT ON THE TREE WHERE THE TREE WILL REMAIN UPRIGHT. FASTEN TO STAKES W/ GALV. SCREWS OR NAILS
4. TRIM STAKES 6" ABOVE TREE TIES
5. EXCAVATE PLANT PIT 3X AS WIDE AS ROOT BALL AND 2" LESS THAN ROOT BALL DEPTH
6. SCARIFY ALL SIDES OF PLANT PIT



TP TREE PLANTING AND STAKING

NO SCALE

KEY:

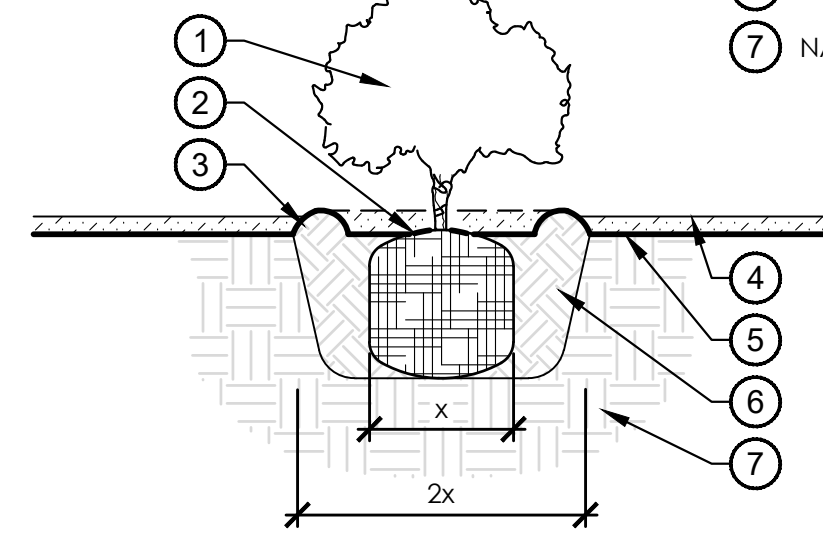
- 1 TREE, PER PLAN
- 2 NON-ABRASIVE RUBBER TREE TIE
- 3 2" Ø LAG POLE STAKE
- 4 ROOT BALL
- 5 4" MIN. WATER BASIN BERM AT EDGE OF PLANT PIT
- 6 3" MIN. LAYER OF MULCH
- 7 FINISH GRADE
- 8 PLANTING TABLET PER SPECS, 3" DEPTH
- 9 AMENDED PLANTING SOIL, PER SPECS
- 10 NATIVE UNDISTURBED SOIL

NOTES:

1. PLANT SHRUB SO THAT ROOT CROWN AT TRUNK IS 1" ABOVE GRADE WITH SOIL TAPERING AWAY FROM TRUNK
2. EXCAVATE PLANT PIT 2X AS WIDE AS ROOT BALL AND 1" LESS THAN ROOT BALL DEPTH
3. KEEP MULCH 3" CLEAR FROM TRUNK

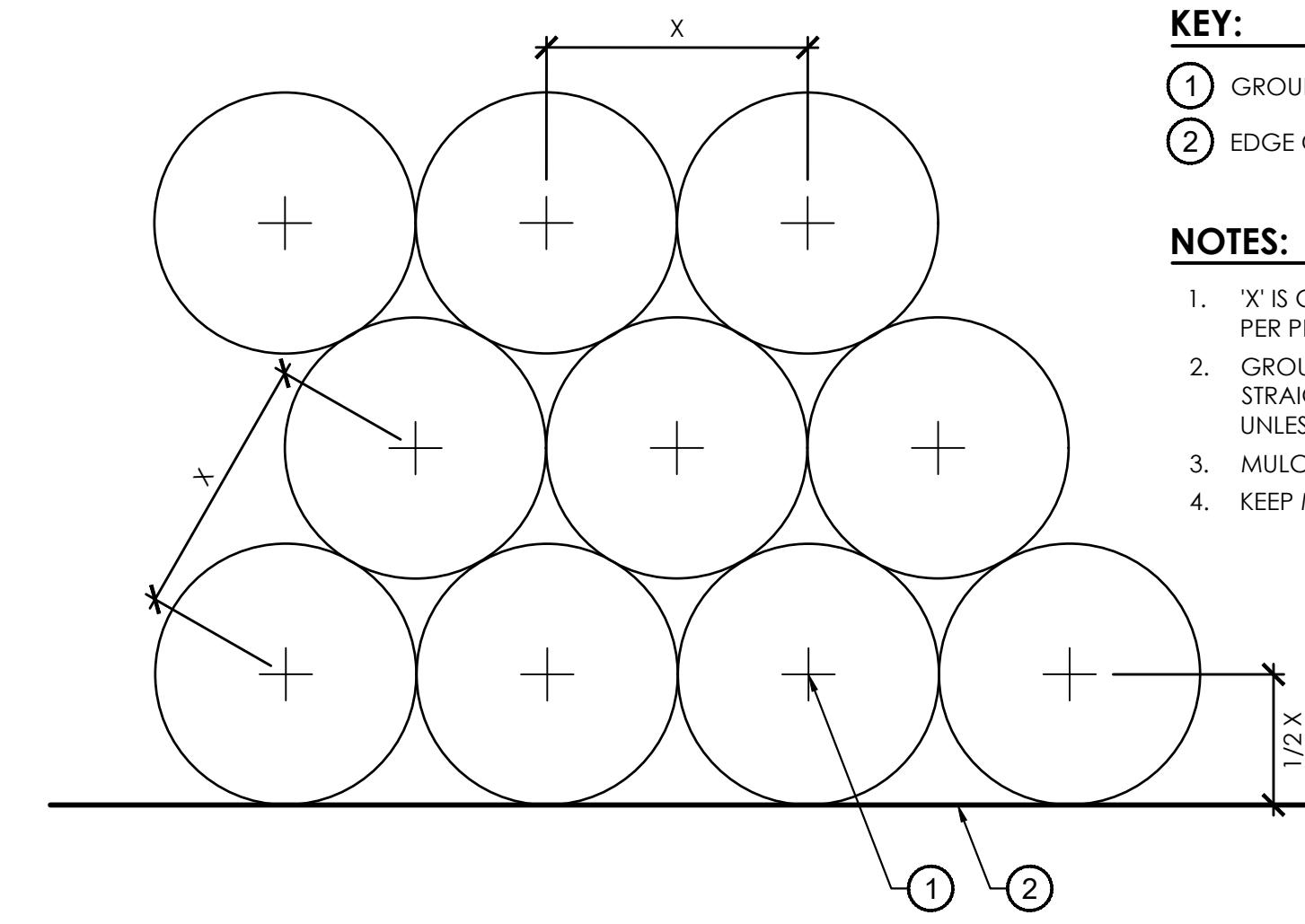
KEY:

- 1 SHRUB, PER PLAN
- 2 ROOT BALL
- 3 4" WATER BASIN BERM AT EDGE OF PLANT PIT
- 4 3" MIN. LAYER OF MULCH
- 5 FINISH GRADE
- 6 AMENDED PLANTING SOIL, PER SPECS
- 7 NATIVE UNDISTURBED SOIL



SP SHRUB PLANTING

NO SCALE



KEY:

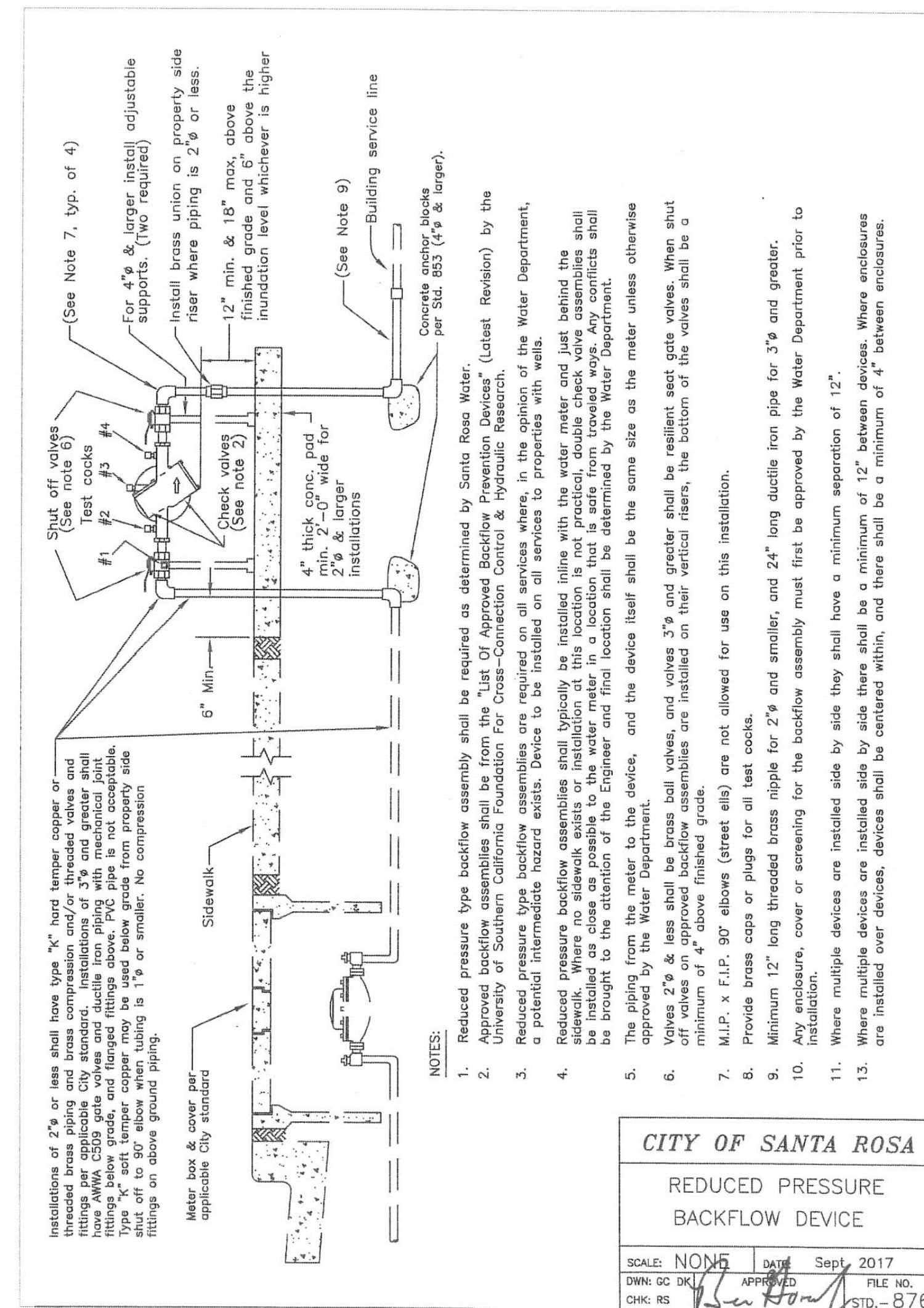
- 1 GROUNDCOVER OR SHRUB, PER PLAN
- 2 EDGE OF PAVING, HEADER, CURB, BUILDING, ETC.

NOTES:

1. 'X' IS GROUNDCOVER OR SHRUB SPACING, PER PLANTING PLAN
2. GROUNDCOVERS SHALL BE LAID OUT IN STRAIGHT ROWS WITH TRIANGULAR SPACING UNLESS OTHERWISE NOTED
3. MULCH ENTIRE PLANTING AREA, PER SPECS
4. KEEP MULCH CLEAR OF PLANT BASE

PL PLANTING LAYOUT

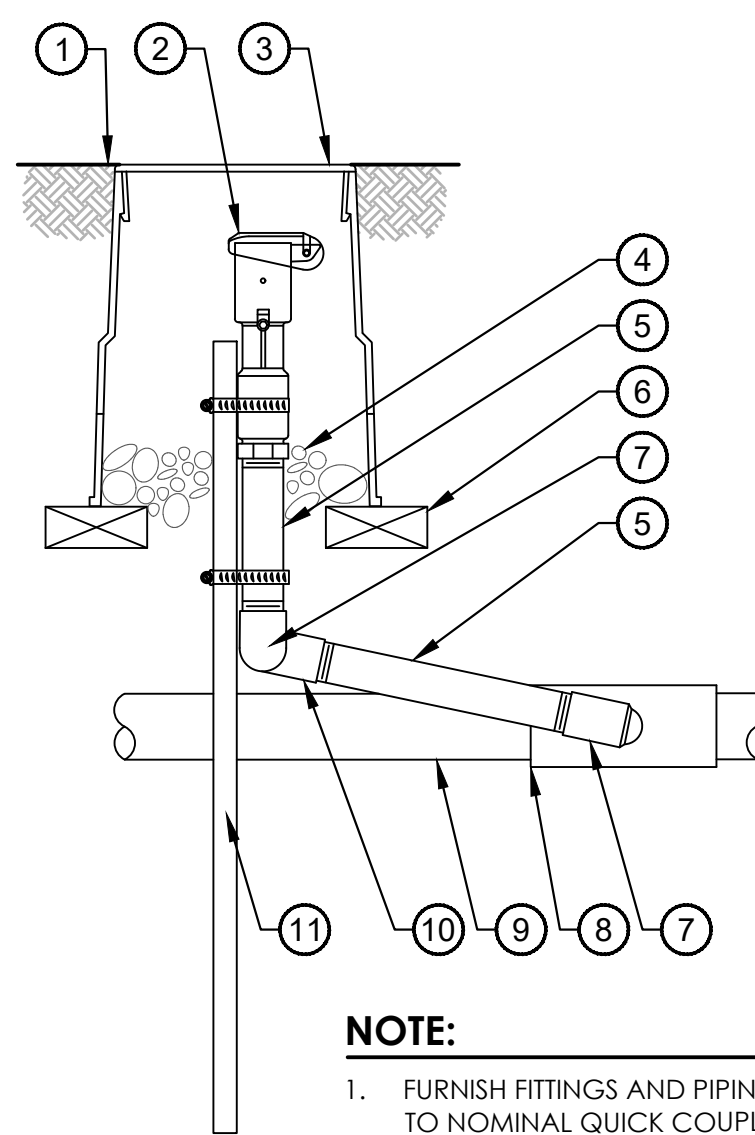
NO SCALE



CITY OF SANTA ROSA
REDUCED PRESSURE BACKFLOW DEVICE
 SCALE: NONE
 DATE: Sept. 2017
 DWG: GC DKL
 CHK: RS
 APPROVED: [Signature]
 FILE NO.: STD.-876

BF BACKFLOW PREVENTER

NO SCALE



KEY:

- 1 FINISH GRADE
- 2 QUICK COUPLING VALVE, PER PLAN
- 3 VALVE BOX WITH COVER, PER SPECS
- 4 4" MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
- 5 PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
- 6 BRICK (1 OF 2)
- 7 PVC SCH 40 STREET ELL
- 8 PVC SCH 40 TEE OR ELL
- 9 PVC MAINLINE PIPE
- 10 PVC SCH 40 ELL
- 11 3' LENGTH OF #4 REBAR SECURE W/ STEEL ROTARY DRIVE PIPE CLAMPS, 2 MIN.

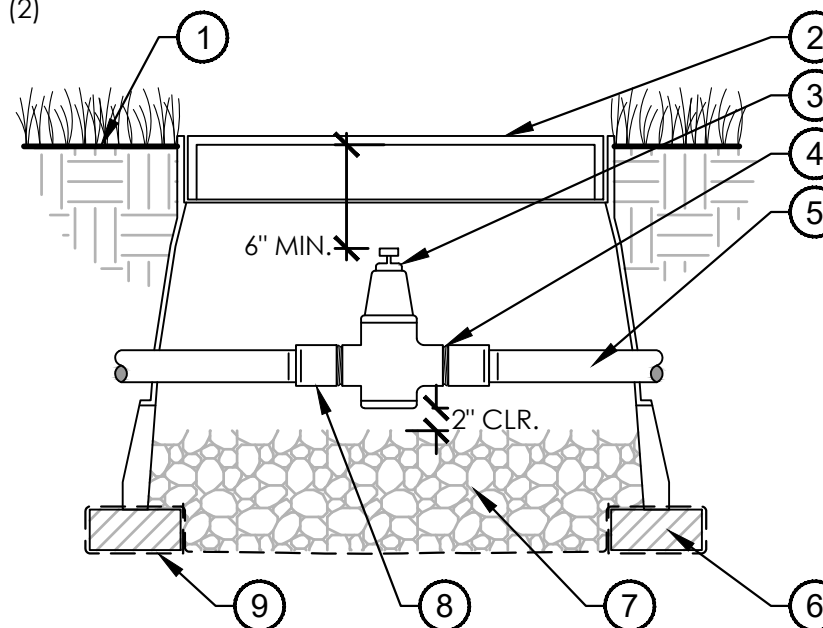
NOTE:
 1. FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.

QC QUICK COUPLER

NO SCALE

KEY:

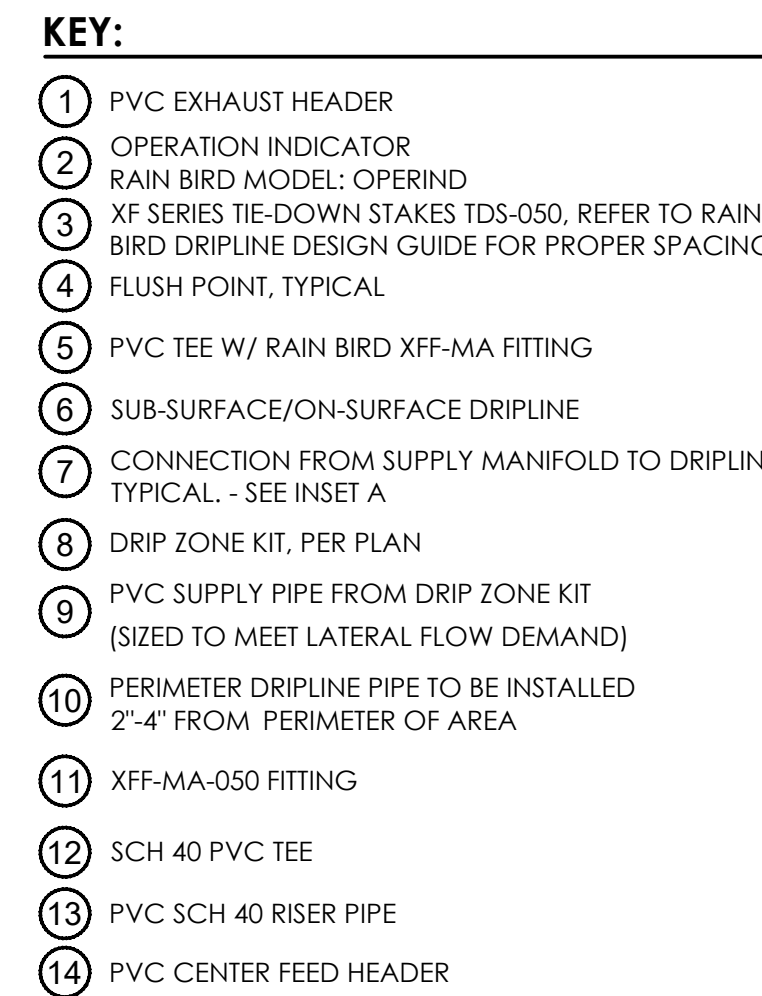
- 1 FINISH GRADE
- 2 RECTANGULAR PLASTIC VALVE BOX WITH LID, SECURE LID W/ 3/8" STAINLESS STEEL MACHINE BOLTS. TOP OF LID SHALL BE STENCILED WITH: "PRV"
- 3 PRESSURE REDUCING VALVE
- 4 SCH. 80 CLOSE NIPPLE, (2)
- 5 PVC MAINLINE PIPE
- 6 COMMON BRICK, (4) ONE AT EACH CORNER
- 7 4" MINIMUM DEPTH OF 3/4" WASHED GRAVEL
- 8 PVC SLP x FPT ADAPTER, (2)
- 9 FILTER FABRIC, WRAP 2x AROUND BRICKS



NOTES:
 1. INSTALL PRESSURE REDUCING VALVE PER MFG'S RECOMMENDATIONS
 2. INSTALL VALVE BOX EXTENSIONS AS NECESSARY

PR PRESSURE REDUCING VALVE

NO SCALE



KEY:

- 1 PVC EXHAUST HEADER
- 2 OPERATION INDICATOR
- 3 RAIN BIRD MODEL: OPERIND
- 4 XF SERIES TIE-DOWN STAKES TDS-050, REFER TO RAIN BIRD DRIPLINE DESIGN GUIDE FOR PROPER SPACING
- 5 FLUSH POINT, TYPICAL
- 6 PVC TEE W/ RAIN BIRD XFF-MA FITTING
- 7 SUB-SURFACE/ON-SURFACE DRIPLINE
- 8 CONNECTION FROM SUPPLY MANIFOLD TO DRIPLINE, TYPICAL - SEE INSET A
- 9 DRIP ZONE KIT, PER PLAN
- 10 PVC SUPPLY PIPE FROM DRIP ZONE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
- 11 PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PERIMETER OF AREA
- 12 XFF-MA-050 FITTING
- 13 SCH 40 PVC TEE
- 14 PVC SCH 40 RISER PIPE
- 15 PVC CENTER FEED HEADER

NOTES:

1. FOR ALL XFS-CV AND POLY CONNECTIONS INSTALL XFF AND/OR XFD FITTINGS.
2. DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. SEE INSTALLATION SPECIFICATIONS ON RAIN BIRD WEB SITE (WWW.RAINBIRD.COM) FOR SUGGESTED SPACING.
3. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM SPACING SHOWN IN THE ACCOMPANYING TABLE.

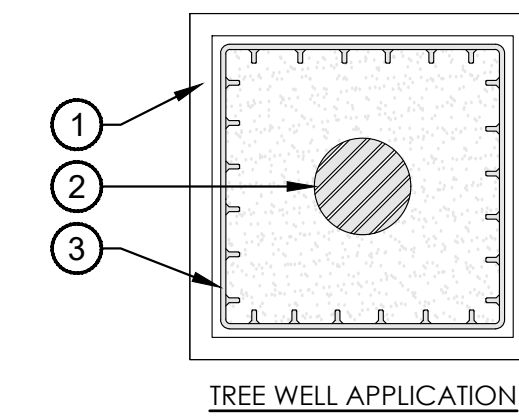
Inlet Pressure (psi)	XFS-CV Dripline Maximum Lateral Lengths (Feet)	
	12" Spacing	18" Spacing
10	148	148
20	192	192
30	240	240
40	288	288
50	336	336
60	384	384

DI DRIP IRRIGATION

NO SCALE

KEY:

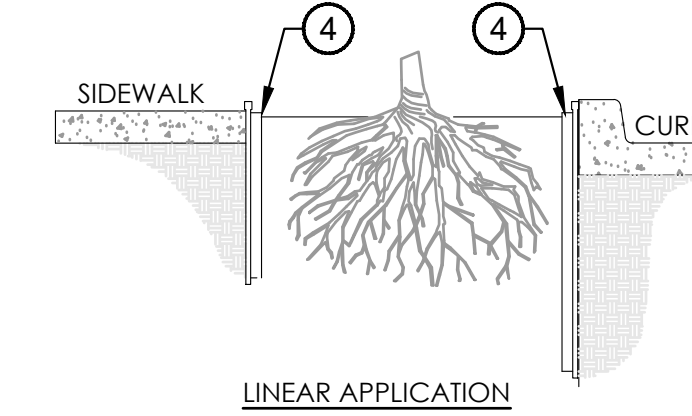
- 1 CURB OR PAVEMENT
- 2 TREE TRUNK
- 3 ROOT BARRIER, PER SPECS
- 4 INNER 90° DEFLECTING RIBS



TREE WELL APPLICATION

NOTES:

1. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
2. THE RAISED ROOT GUIDING RIBS MUST BE FACING TOWARDS THE TREE ROOTS.
3. THE TOP OF THE BARRIER PANELS MUST BE SLIGHTLY ABOVE GRADE (NEVER BELOW GRADE)
4. POSITION BARRIER PANELS VERTICALLY WITH TOP AGAINST THE STRUCTURE TO BE PROTECTED
5. ALL TREES WITHIN 8' OF PAVING OR BUILDINGS SHALL RECEIVE ROOT BARRIER.
6. IN LINEAR APPLICATIONS, CENTER ROOT BARRIER ON TRUNK & EXTEND 4' MIN ON EACH SIDE (8' MIN. LENGTH)



LINEAR APPLICATION

RB ROOT BARRIER

NO SCALE

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 0 COORS COURT
 SANTA ROSA, CA 95407

STEPHEN A. KOVANIS
 P.L.A. 6197
 State of California
 License No. 83029
 Expires 08/31/2022

Date: 08/23/22
 Job: 1311-19
 Drawn: SK
 Scale: AS SHOWN
 APN: 043-134-047
 Permit #:
 Sheet: **L3.1**
 4 of 4