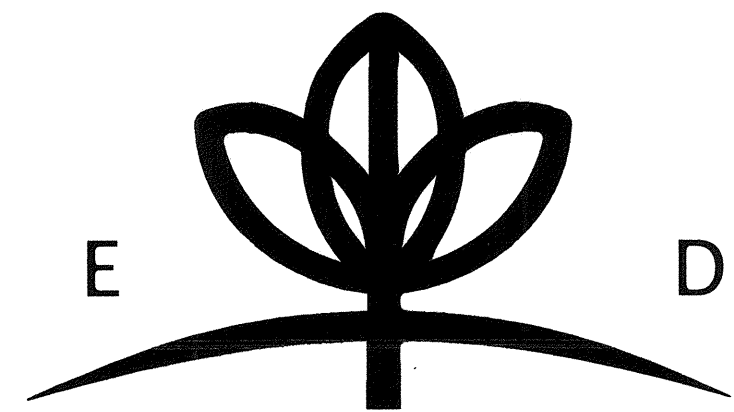


L A N D S C A P E D E V E L O P M E N T



TRACT 6130 - CANYON CREEK

LANDSCAPE IMPROVEMENT PLAN

FRESNO, CALIFORNIA

GENERAL NOTES:

- SEE CIVIL ENGINEERS DRAWINGS FOR GRADING AND DRAINAGE INFORMATION NOT SHOWN IN THESE DRAWINGS.
- UPON EXECUTION OF THE CONTRACT, PROVIDE THE LANDSCAPE ARCHITECT AND OWNER WITH A CRITICAL PATH SCHEDULE TO INCLUDE EACH ITEM, LEAD TIME, ORDER AND INSTALLATION DATE FOR SUBSTANTIAL COMPLETION.
- PROVIDE FOR POSITIVE DRAINAGE. NOTIFY LANDSCAPE ARCHITECT IF SITE CONDITIONS ARE OTHERWISE. MAINTAIN FLOWLINES AND DRAINAGE PATTERNS AS INDICATED ON ENGINEER'S GRADING DRAWINGS.
- VERIFY AND STAKE LOCATION OF UTILITIES PRIOR TO CONSTRUCTION AND IS REQUIRED BY GOVERNING AGENCIES BE HELD LIABLE FOR DAMAGES TO EXISTING UTILITIES INCURRED BY INSTALLATION OF THE WORK.
- REPAIR AND REPLACE ANY EXISTING IMPROVEMENTS THAT ARE DAMAGED DURING CONSTRUCTION.
- CHECK DIMENSIONS, FRAMING CONDITIONS AND SITE CONDITIONS BEFORE STARTING WORK. ANY DISCREPANCIES OR POSSIBLE DEFICIENCIES BETWEEN THE DRAWINGS AND THE SPECIFICATIONS WITH FIELD CONDITIONS SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE LANDSCAPE ARCHITECT AND THE OWNER.
- VERIFY PROPERTY LINES PRIOR TO COMMENCING WORK. NO CONSTRUCTION ITEM, INCLUDING FOOTINGS, SHALL EXTEND BEYOND PROPERTY LINE.
- GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUB-CONTRACTORS AS REQUIRED TO ACCOMPLISH THE WORK, PIPING, CONDUIT AND SLEEVES SHALL BE SET IN PRIOR TO INSTALLATION OF CONSTRUCTION ITEMS.
- THE DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISH STRUCTURE, CONSTRUCTION MEANS AND METHODS, SAFETY PROCEDURES, BRACING, TEMPORARY SUPPORTS, AND SHORING IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. OBSERVATION VISITS TO THE JOB SITE BY THE LANDSCAPE ARCHITECT DO NOT INCLUDE INSPECTION OF CONSTRUCTION METHODS AND SAFETY CONDITIONS AT THE WORK SITE. THESE VISITS SHALL NOT BE CONSTRUED AS CONTINUOUS AND DETAILED INSPECTIONS.
- GIVE LANDSCAPE ARCHITECT A MINIMUM OF 48 HOURS NOTICE FOR REQUIRED OR REQUESTED JOB SITE VISIT.
- FORMS AND ALIGNMENT OF PAVING SHALL BE REVIEWED AND APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO POURING.
- FOR SUBMITTALS, SAMPLES AND SHOP DRAWINGS REQUESTED, SUBMIT IN TRIPLICATE TO LANDSCAPE ARCHITECT WITH ONE COPY TO THE OWNER UNLESS OTHERWISE SPECIFIED.
- PROPOSED SURFACES SHALL MEET EXISTING SURFACES WITH SMOOTH AND CONTINUOUS TRANSITION AND FLUSH ALONG ENTIRE EDGE.
- DIMENSIONS ARE FROM OUTSIDE FACE OF THE BUILDING, PAVING AND WALLS UNLESS OTHERWISE NOTED. ANGLES ARE 90 OR 45 UNLESS OTHERWISE NOTED.
- COORDINATE AND COOPERATE WITH CONTRACTORS OF ATTACHED, ADJOINING AND INTERFACING WORK OF OTHER TRADES.
- MATERIALS AND WORKMANSHIP, CONFORM TO LATEST UNIFORM BUILDING CODES AND APPLICABLE GOVERNING AGENCY CODES AND ORDINANCES. NO PART OF CONTRACT DOCUMENTS TO BE IN VIOLATION OF CODES. IF DISCREPANCIES EXIST, NOTIFY LANDSCAPE ARCHITECT AND OWNER.

CONSTRUCTION NOTES:

- CONCRETE, MINIMUM COMPRESSIVE STRENGTH OF 2500 P.S.I. AT TWENTY EIGHT (28) DAYS.
- CEMENT: CONFORM TO A.S.T.M. C150 AND AGGREGATE SHALL CONFORM TO A.S.T.M. C33.
- CONCRETE SLUMP: MAXIMUM SLUMP 4 INCHES, EXCEPT FOR FOUNDATIONS WHICH MAY HAVE A 5 INCH MAXIMUM SLUMP.
- CONSTRUCTION TO BE PLUMB AND TRUE UNLESS OTHERWISE NOTED OR INDICATED.
- REBAR AND FOOTING SIZES, IF SHOWN, ARE FOR BIDDING PURPOSES ONLY. VERIFY WITH OWNER'S STRUCTURAL OR SOILS ENGINEER THE NEED FOR ALL REINFORCING, BASE MATERIAL, PRE SATURATION AND OTHER STRUCTURAL REQUIREMENTS.
- PAVING AND CONCRETE CONTRACTORS ARE TO COORDINATE AND COOPERATE WITH THE ELECTRICAL, DRAINAGE AND IRRIGATION SYSTEMS INSTALLATION FOR REQUIRED SLEEVES, PIPES, AND CONDUITS UNDER PAVING.
- PRIOR TO LAYOUT IF UNDERGROUND IMPROVEMENTS, REFER TO PLANTING PLANS FOR TREE LOCATIONS. STAKE TREES AND OUTLINE SPECIFIED BOX SIZE. ROUT UNDERGROUND DRAINAGE, ELECTRICAL, POOL AND IRRIGATION PIPING OUTSIDE EXCAVATION REQUIRED FOR TREES.
- ALLOW AT LEAST 6-8 WEEKS TIME FOR PLACEMENT OF ORDER UNTIL DELIVERY ON ANY MANUFACTURED ITEM UNLESS OTHERWISE NOTED.
- REFER TO FINISH GRADING/DRAINAGE PLANS FOR VERTICAL DIFFERENCES, GRADES AND DRAINAGE SYSTEMS.
- WRITTEN DIMENSIONS AND DETAILS TAKE PRECEDENCE OVER SCALED DIMENSIONS.
- VERIFY AND BE RESPONSIBLE FOR DIMENSIONS AND CONDITIONS AT THE JOB SITE. REPORT DISCREPANCIES TO THE IMMEDIATE ATTENTION OF THE OWNER AND THE LANDSCAPE ARCHITECT.
- CONFORM TO LATEST UNIFORM BUILDING CODE AND APPLICABLE GOVERNING AGENCY CODES AND ORDINANCES. NO PART OF THE CONTRACT DOCUMENTS ARE INTENDED TO BE IN VIOLATION OF CODES. IF DISCREPANCIES EXIST, NOTIFY LANDSCAPE ARCHITECT AND OWNER.
- COORDINATE AND COOPERATE WITH CONTRACTORS OF ATTACHED, ADJOINING AND INTERFACING WORK OF OTHER TRADES.



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VICINITY MAP

OWNER / CLIENT

Bonadelle Neighborhoods
7030 N. Fruit Ave. #101
Fresno, California 93711
(559) 435-9700
Contact: John Bonadelle

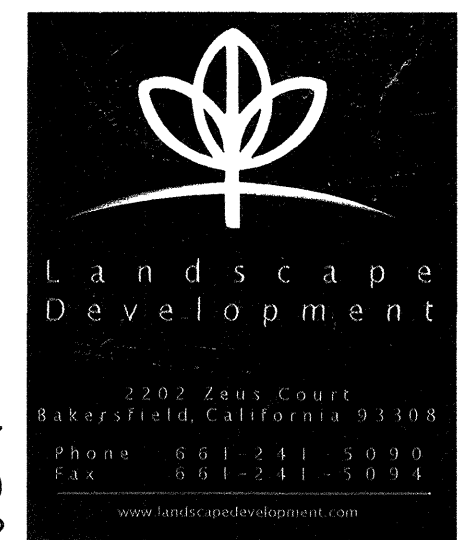
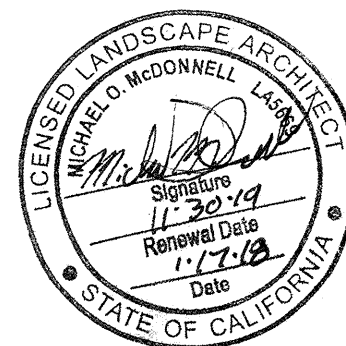
LANDSCAPE ARCHITECT

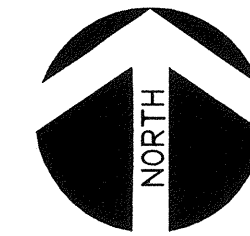
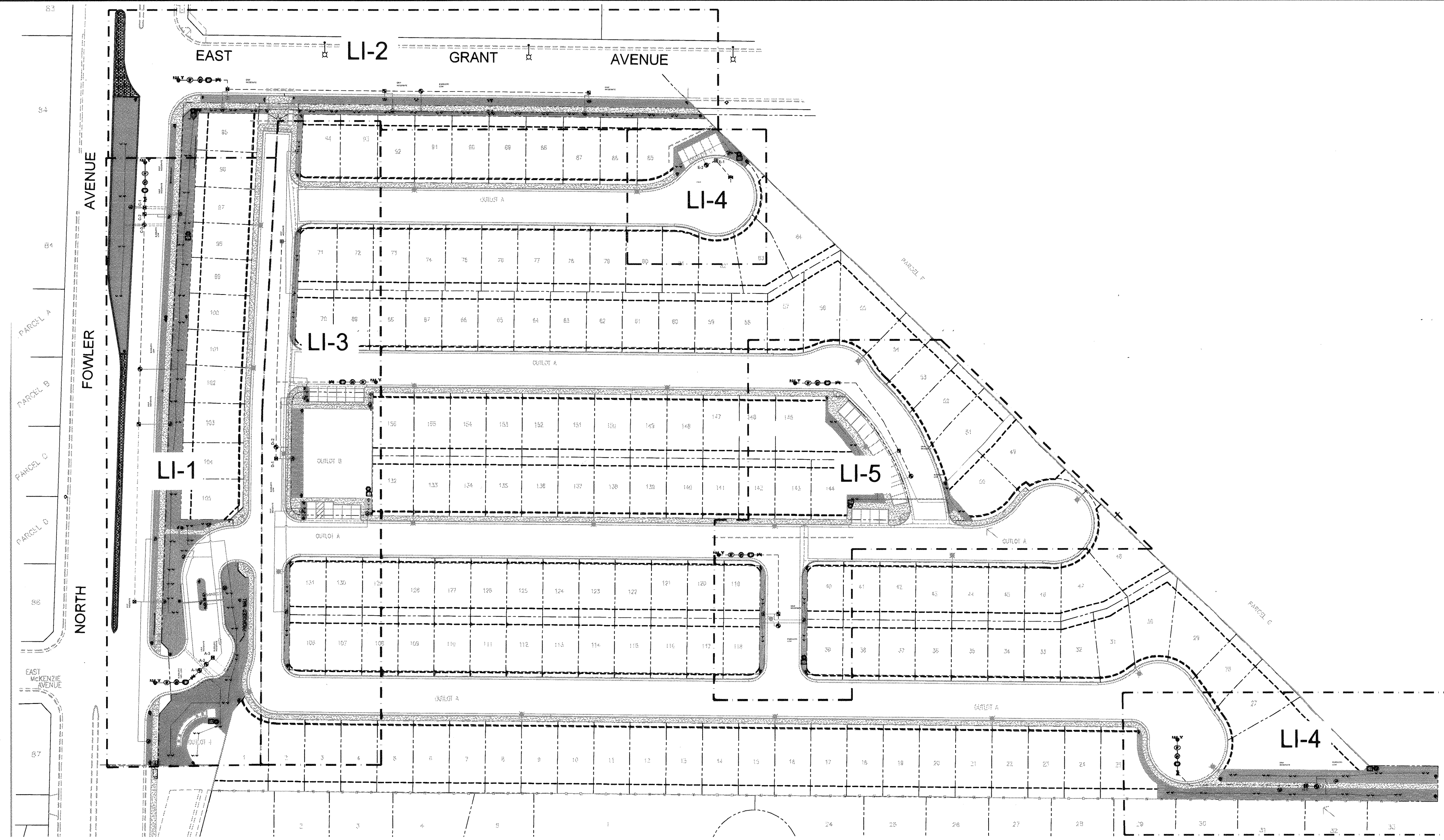
Landscape Development, Inc.
2202 Zeus Court
Bakersfield, California 93308
(661) 295-1970
Contact: Michael McDonnell

LANDSCAPE SHEET INDEX

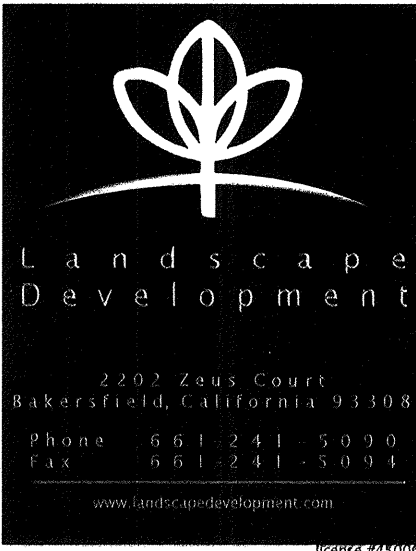
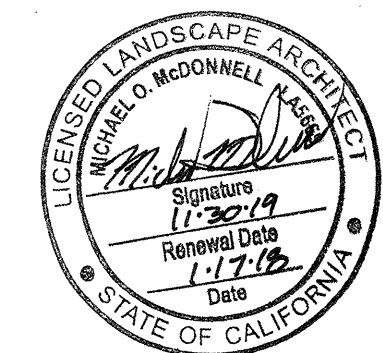
SHEET	DRAWING TITLE	SHEET NO.
CS	COVER SHEET	1
LI-KM	IRRIGATION KEY MAP	2
LI-1 - LI-5	IRRIGATION PLAN	3-7
LI-6 - LI-8	IRRIGATION CALCS/NOTES	8-10
LP-KM	PLANTING KEY MAP	11
LP-1 - 6	PLANTING PLAN/NOTES	12-17
IPD-1,2,3	IRRIGATION & PLANTING DETAILS	18-20
LS-1 - 2	IRRIGATION SPECIFICATIONS	21-22
LS-3	PLANTING SPECIFICATIONS	23

PW FILE NO. PROJ. ID FUND NO. ORG NO.	CITY OF FRESNO	DEPARTMENT OF PUBLIC WORKS
REF. & REV.	TRACT 6130 - CANYON CREEK LANDSCAPE IMPROVEMENT PLANS	APPROVED: <i>H.K. 2.7.18</i> CONST. ENG. <i>MB</i> DR. BY: <i>A/R</i> CH. BY: <i>R.F.M.M.</i> DATE: 12.4.2017 SCALE: 1/4"
		OFFICE ENG. _____ SHEET NO. 1 OF 23 SHEETS CS 15-C-171111A

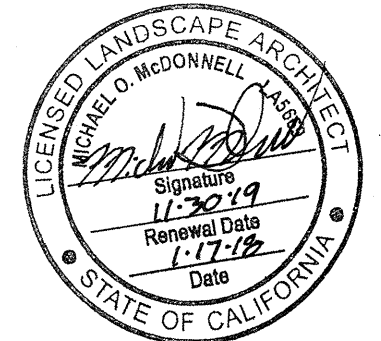
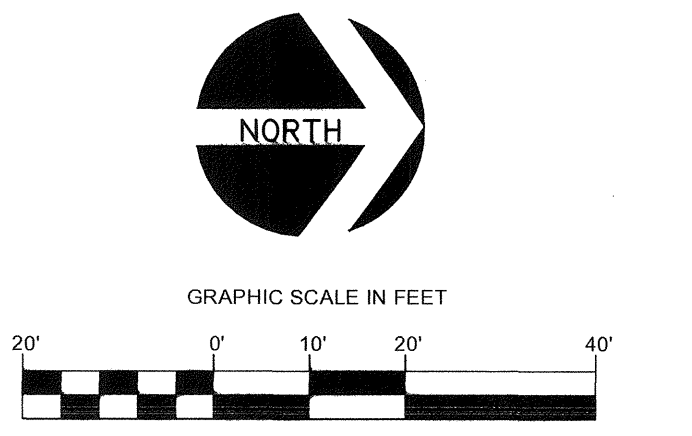
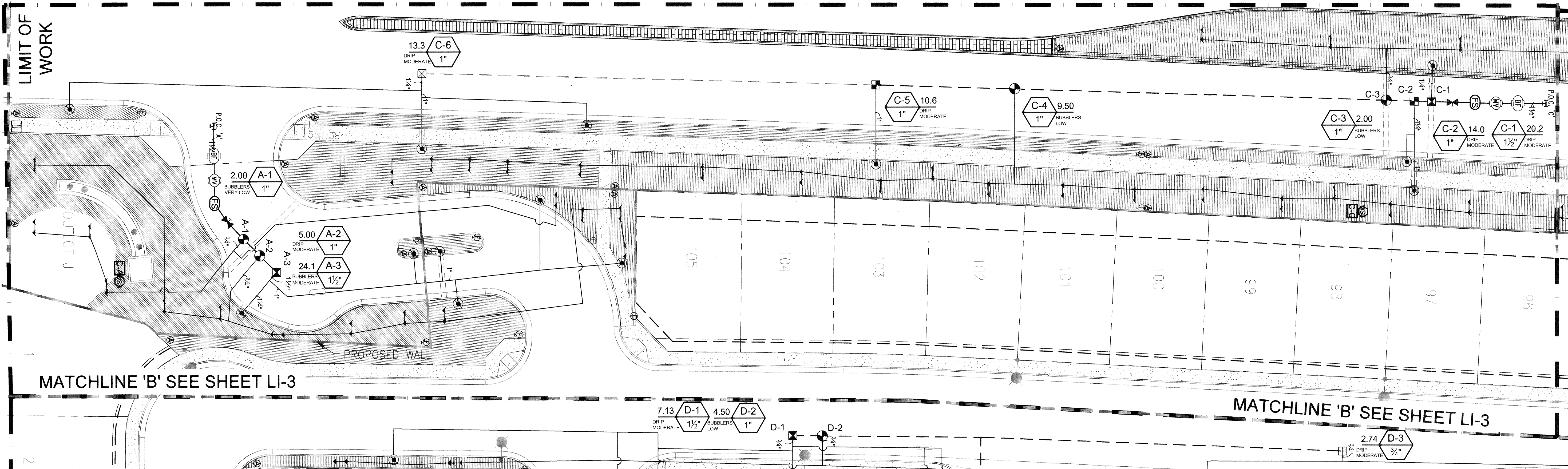




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REF. & REV.	TRACT 6130 - CANYON CREEK LANDSCAPE IMPROVEMENT PLANS	APPROVED - CONST. ENG. CITY ENG. <i>[Signature]</i> DR. BY: <i>[Signature]</i> CH. BY: R.F.M.M. DATE: 12.4.2017 SCALE: N.T.S.
	71.11.2.719	OFFICE ENG. _____ SHEET NO. 2 OF 23 SHEETS LI-KM 15-C-171111B



811

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Bakersfield, California 93308
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Fax 661-241-5094
www.landscapedevelopment.com
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SEE SHEET LI-6/LI-7 FOR IRRIGATION SCHEDULE/CALCULATIONS

PW FILE NO. PROJ. ID FUND NO.. ORG NO.		CITY OF FRESNO		DEPARTMENT OF PUBLIC WORKS	
REF. & REV.		TRACT 6130 - CANYON CREEK LANDSCAPE IMPROVEMENT PLANS		- APPROVED -	
				CONST. ENG. CITY ENG. <i>H.K.</i>	OFFICE ENG. _____
				DR. BY: _____ CH. BY: _____ DATE: 12.4.2017 SCALE: 1"=20' 0"	SHEET NO. 3 OF 23 SHEETS
				LI-1 15-C-171111C	

EAST

GRANT

AVENUE

P.O.C. 'B' 11/2" BF MV FS
B-1 2.51
1 1/2" DRIP MODERATE

B-2 7.37
1" DRIP MODERATE

B-3 9.00
1" BUBBLERS LOW

B-4 7.73
1" DRIP MODERATE

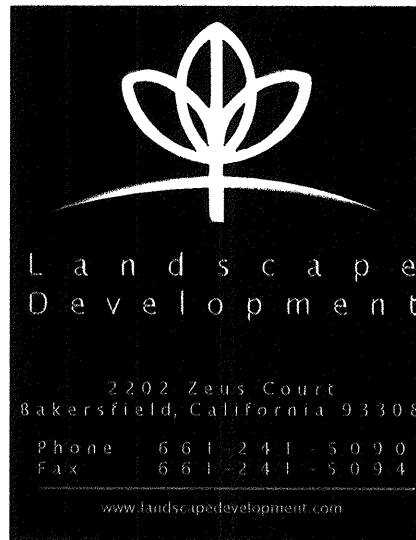
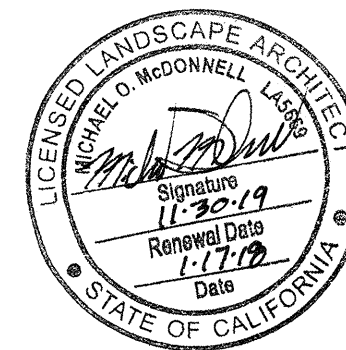
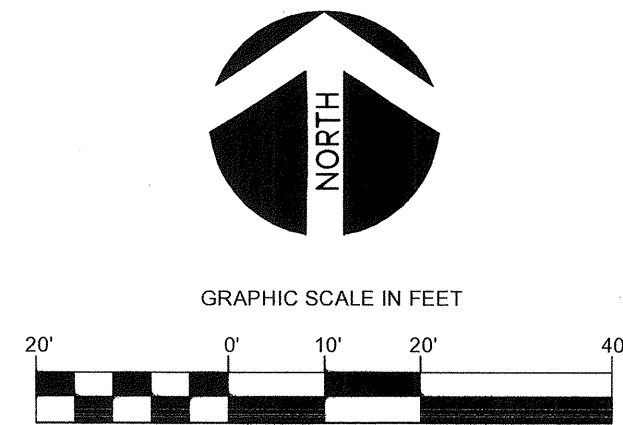
MATCHLINE 'C'
SEE SHEET LI-3

MATCHLINE 'B'
SEE SHEET LI-3

MATCHLINE 'E'
SEE SHEET LI-4

LIMIT OF WORK

MATCHLINE 'A'
SEE SHEET LI-1



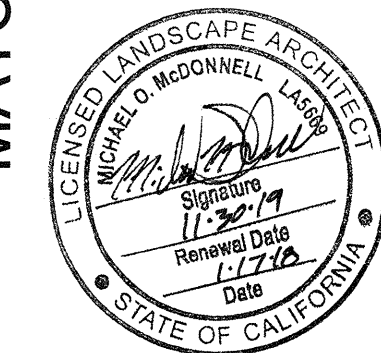
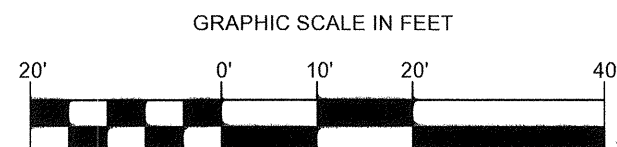
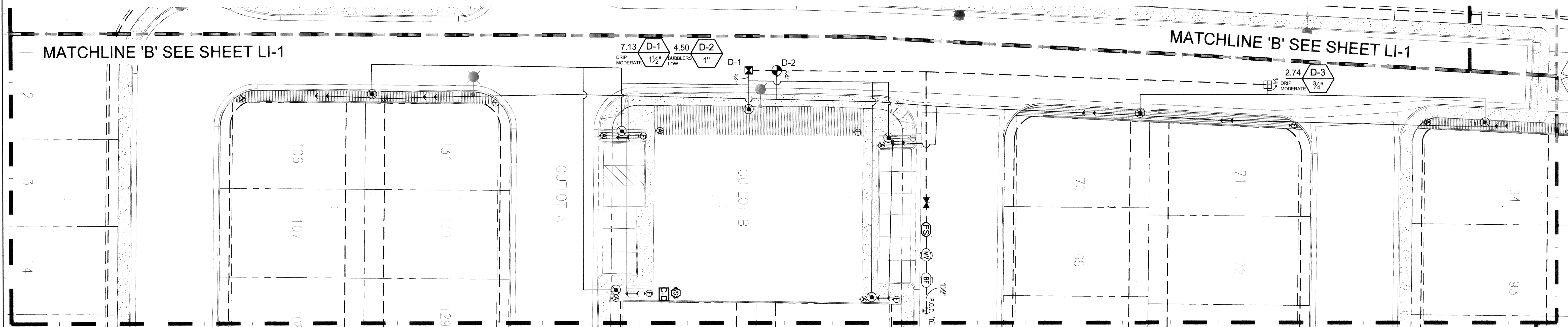
SEE SHEET LI-6/LI-7 FOR IRRIGATION
SCHEDULE/CALCULATIONS

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REF. & REV.			TRACT 6130 - CANYON CREEK LANDSCAPE IMPROVEMENT PLANS		
		CONST. ENG. <i>H.K.</i> CITY ENG. <i>aqb</i>		- APPROVED - OFFICE ENG. _____	
		DR. BY: <i>CA/R.F.</i> CH. BY: <i>R.F./M.M.</i> DATE: 12.4.2017 SCALE: 1"=20'-0"		SHEET NO. <u>4</u> OF <u>23</u> SHEETS	
				LI-2 15-C-171111D	

MATCHLINE 'B' SEE SHEET LI-1

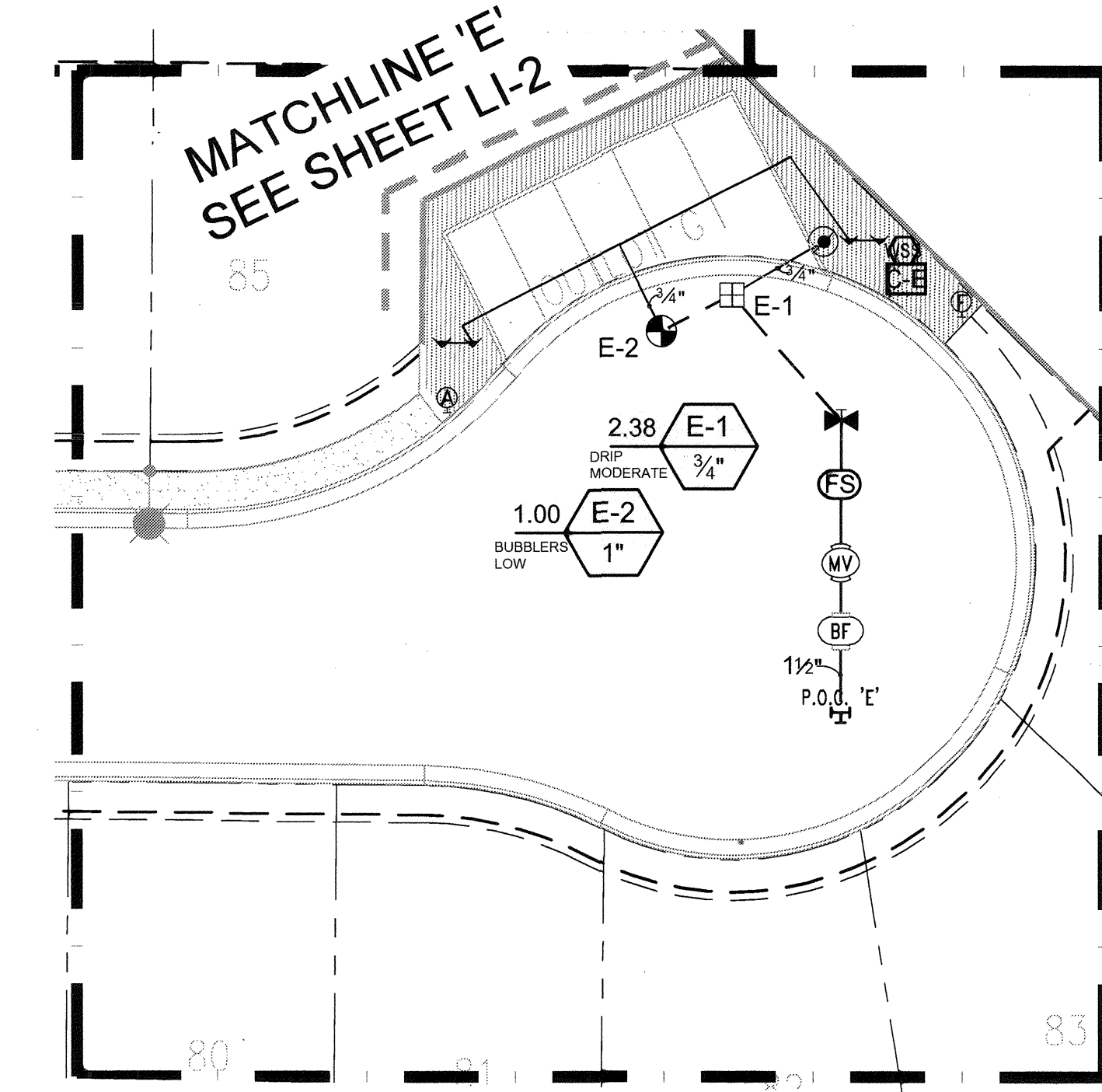
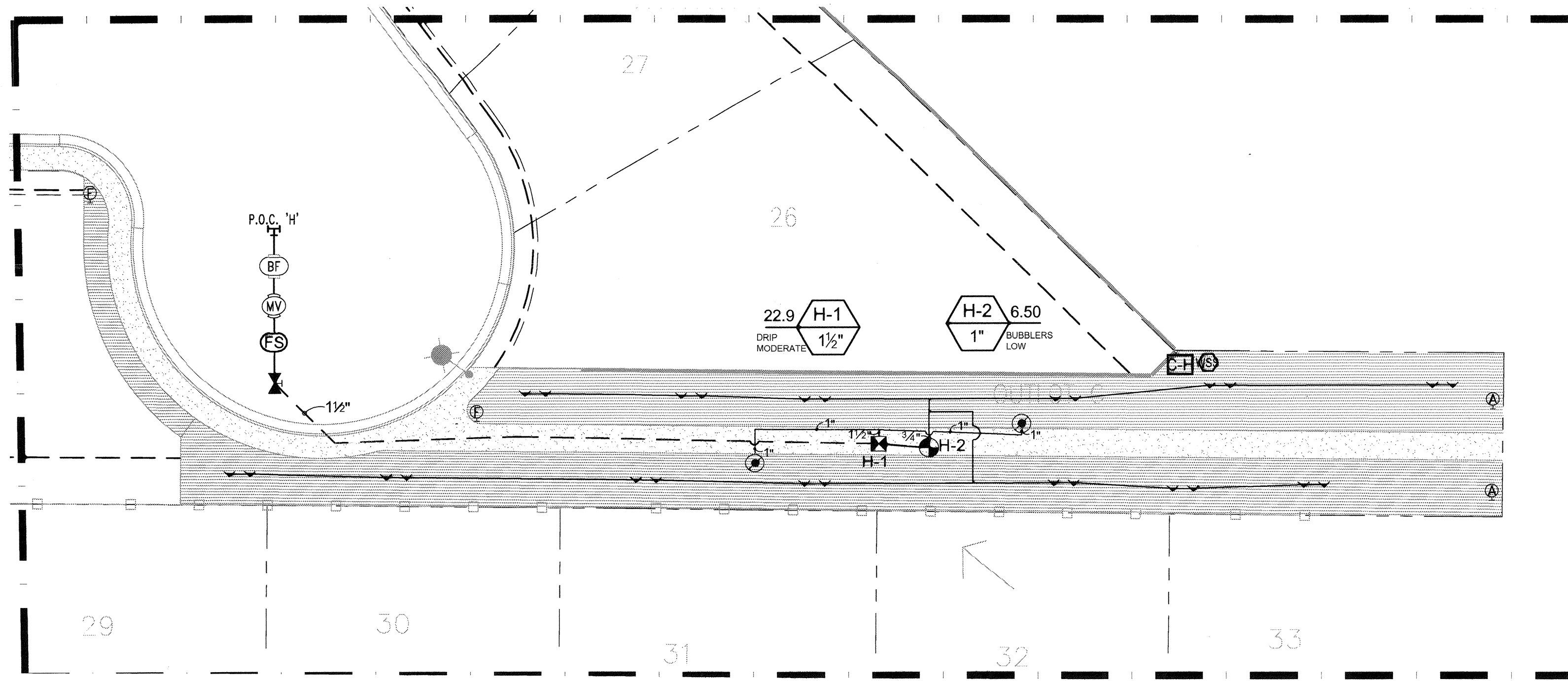
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MATCHLINE 'C' SEE SHEET LI-2

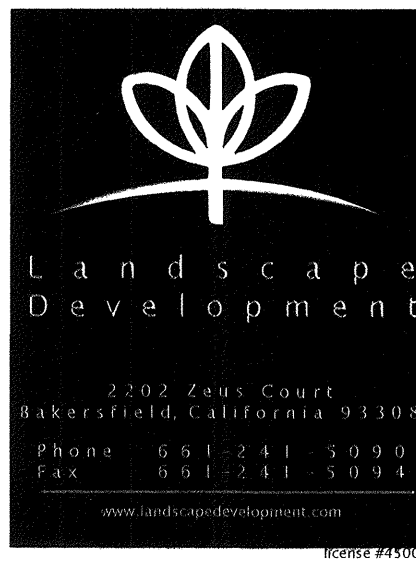
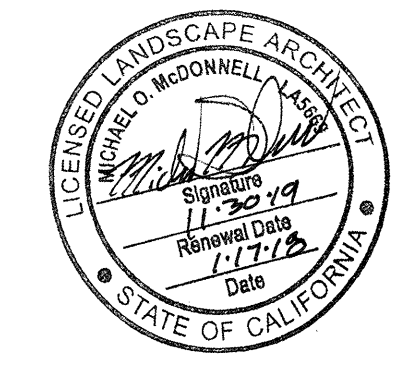
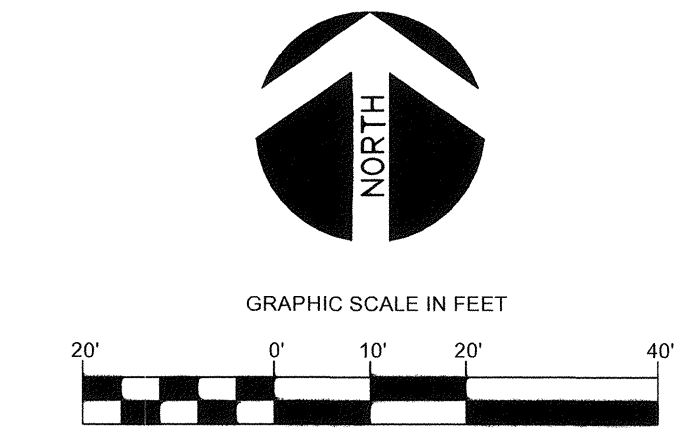


SEE SHEET LI-6/LI-7 FOR IRRIGATION SCHEDULE/CALCULATIONS

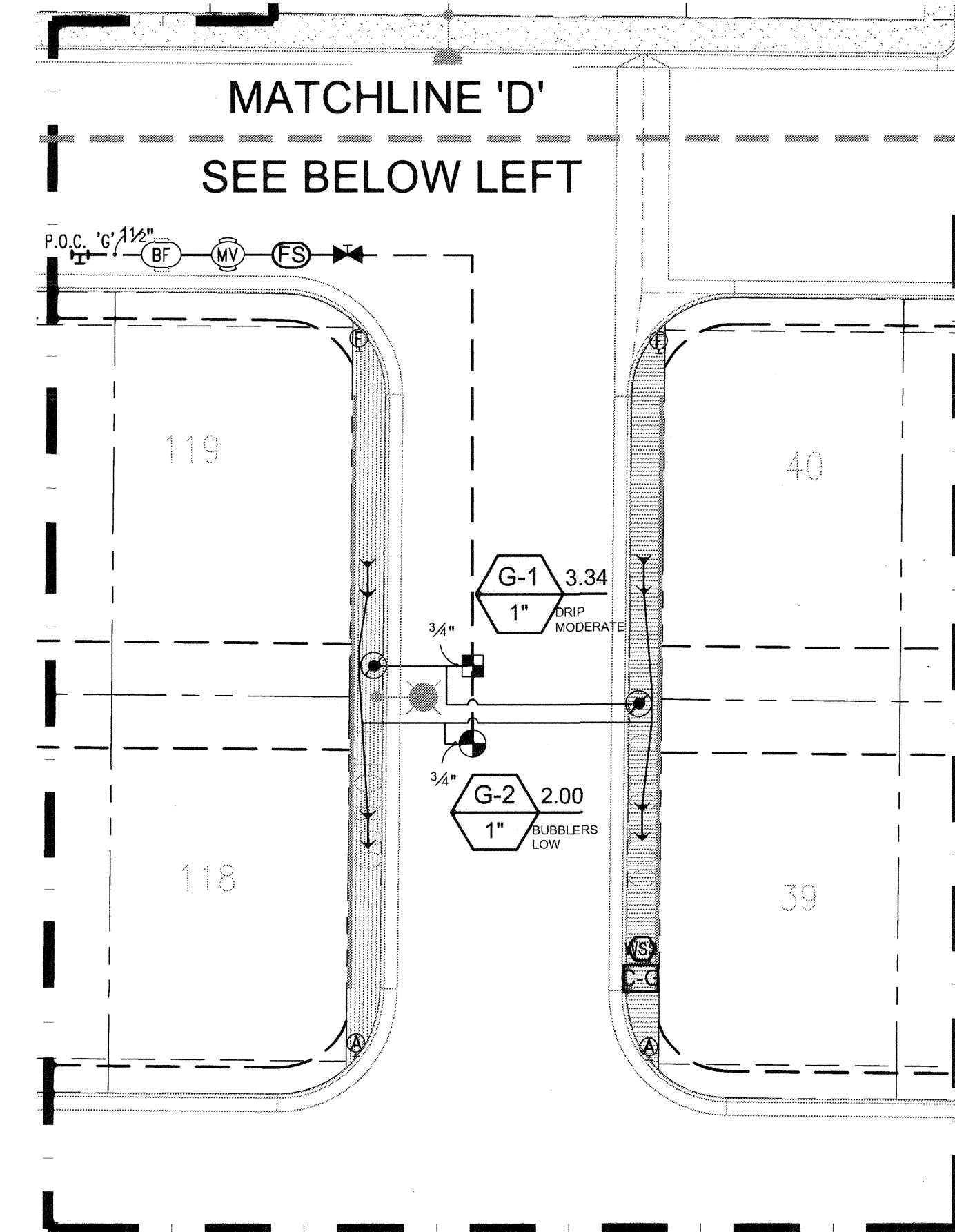
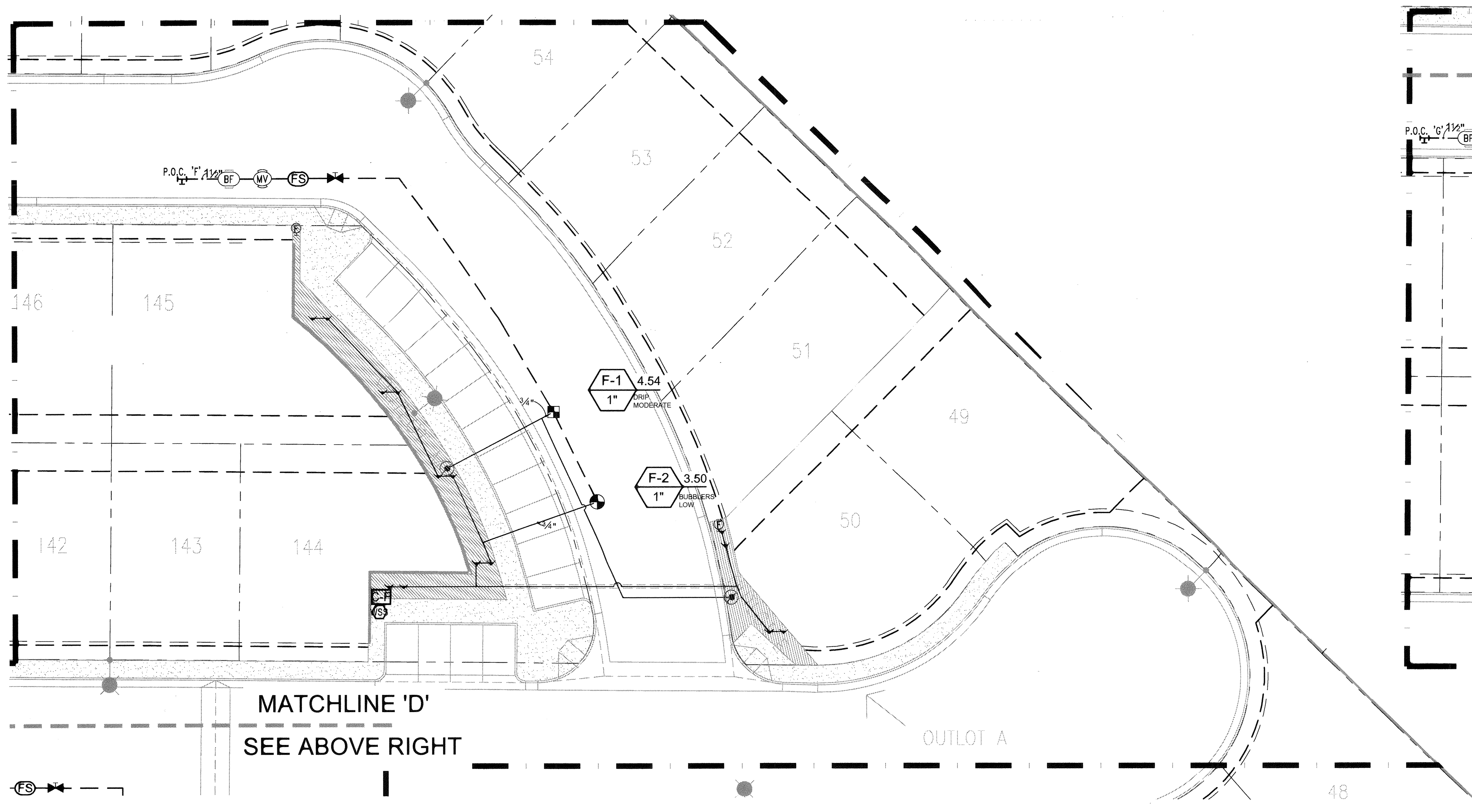
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REF. & REV.	TRACT 6130 - CANYON CREEK LANDSCAPE IMPROVEMENT PLANS	APPROVED: <i>H.K.</i> CITY ENG. <i>2-7-19</i> OFFICE ENG. _____ DR. BY: <i>A.R.E.</i> CH. BY: <i>R.F.M.M.</i> DATE: 12.4.2017 SCALE: 1"=20'-0"
		SHEET NO. 5 OF 23 SHEETS LI-3 15-C-171111E



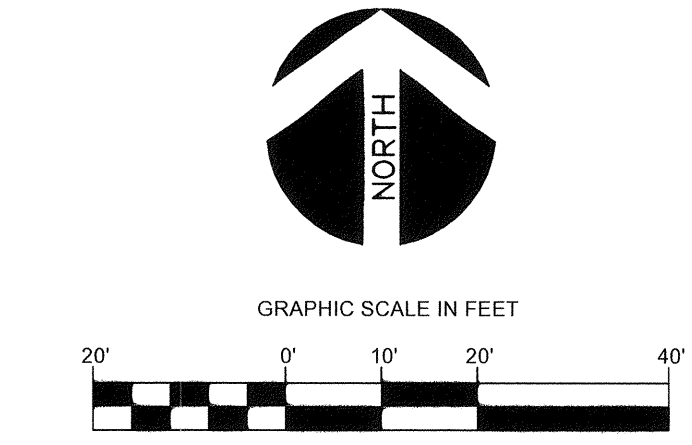
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SCHEDULE/CALCULATIONS



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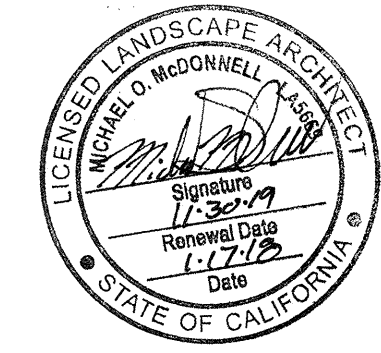


SEE SHEET LI-6/LI-7 FOR IRRIGATION
SCHEDULE/CALCULATIONS



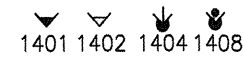











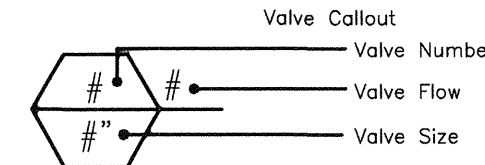











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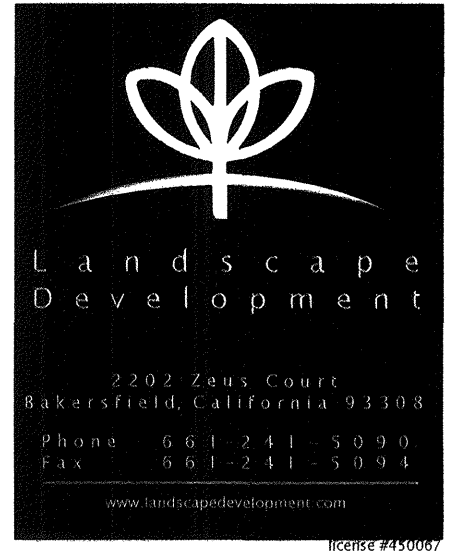
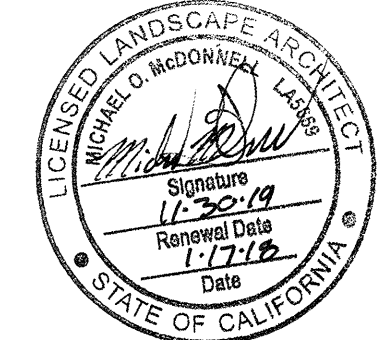
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PW FILE NO. PROJ. ID. FUND NO. ORG NO. REF. & REV.	CITY OF FRESNO TRACT 6130 - CANYON CREEK LANDSCAPE IMPROVEMENT PLANS	DEPARTMENT OF PUBLIC WORKS APPROVED - CONST. ENG. <i>agb</i> CITY ENG. <i>agb</i> DR. BY: <i>agb</i> CH. BY: <i>R.F.M.M.</i> DATE: 12.4.2017 SCALE: 1"=20'-0" OFFICE ENG. _____ SHEET NO. 7 OF 23 SHEETS LI-5 15-C-171111G
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IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI						
	RAIN BIRD RWS-B-C ROOT WATERING SYSTEM WITH 4.0" DIAMETER X 36.0" LONG WITH LOCKING GRATE, SEMI-RIGID MESH TUBE, AND CHECK VALVE. RAIN BIRD BUBBLER OPTION AS INDICATED: 1401 0.25 GPM, 1402 0.5 GPM, 1404 1.0 GPM, 1408 2.0 GPM.	180	20		NIBCO T-113 CLASS 125 BRONZE GATE SHUT OFF VALVE WITH WHEEL HANDLE, SAME SIZE AS MAINLINE PIPE DIAMETER AT VALVE LOCATION. SIZE RANGE - 1/4" - 3"	8		HUNTER HFS-100 FLOW SENSOR FOR USE WITH ACC CONTROLLER, 1" SCHEDULE 40 SENSOR BODY, 24 VAC, 2 AMP.	8
					RAIN BIRD PESB 1" 1", 1-1/2", 2" PLASTIC INDUSTRIAL VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION. WITH SCRUBBER TECHNOLOGY FOR RELIABLE PERFORMANCE IN DIRTY WATER IRRIGATION APPLICATIONS.	8		P.O.C. 'B' POINT OF CONNECTION 1-1/2"	1
								P.O.C. 'C' POINT OF CONNECTION 1"	1
								P.O.C. 'D' POINT OF CONNECTION 1-1/2"	1
								P.O.C. 'E' POINT OF CONNECTION 1"	1
								P.O.C. 'F' POINT OF CONNECTION 1"	1
								P.O.C. 'G' POINT OF CONNECTION 1"	1
								P.O.C. 'H' POINT OF CONNECTION 1"	1
								P.O.C. 'A' POINT OF CONNECTION 1-1/2"	1
							—————	IRRIGATION LATERAL LINE: PVC SCHEDULE 40	4,915 L.F.
							-----	IRRIGATION MAINLINE: PVC SCHEDULE 40	1,784 L.F.
							-----	PIPE SLEEVE: PVC SCHEDULE 40	224.3 L.F.
								Valve Callout Valve Number Valve Flow Valve Size	
					FEBCO 825Y 1" REDUCED PRESSURE BACKFLOW PREVENTER	8			
					HUNTER IC-0600-PED MODULAR CONTROLLER, 6 STATIONS, OUTDOOR MODEL, METAL PEDESTAL. NO MODULE REQUIRED. COMMERCIAL USE.	1			
					HUNTER IC-0600-PED MODULAR CONTROLLER, 6 STATIONS, OUTDOOR MODEL, METAL PEDESTAL. NO MODULE REQUIRED. COMMERCIAL USE.	1			
					HUNTER IC-0600-PED MODULAR CONTROLLER, 6 STATIONS, OUTDOOR MODEL, METAL PEDESTAL. NO MODULE REQUIRED. COMMERCIAL USE.	1			
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					HUNTER IC-0600-PED MODULAR CONTROLLER, 6 STATIONS, OUTDOOR MODEL, METAL PEDESTAL. NO MODULE REQUIRED. COMMERCIAL USE.	1			
					HUNTER IC-0600-PED MODULAR CONTROLLER, 6 STATIONS, OUTDOOR MODEL, METAL PEDESTAL. NO MODULE REQUIRED. COMMERCIAL USE.	1			
					HUNTER WSS WIRELESS SOLAR, RAIN FREEZE SENSOR WITH OUTDOOR INTERFACE, CONNECTS TO HUNTER PCC, PRO-C, AND I-CORE CONTROLLERS, INSTALL AS NOTED. INCLUDES 10 YEAR LITHIUM BATTERY AND RUBBER MODULE COVER, AND GUTTER MOUNT BRACKET.	8			
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY							
	RAIN BIRD PEB 1", 1-1/2", 2" PLASTIC INDUSTRIAL VALVES. LOW FLOW OPERATING CAPABILITY, GLOBE CONFIGURATION.	9							



PW FILE NO. PROJ. ID. FUND NO. ORG NO.	CITY OF FRESNO	DEPARTMENT OF PUBLIC WORKS	
		REF. & REV.	
TRACT 6130 - CANYON CREEK LANDSCAPE IMPROVEMENT PLANS		APPROVED - CONST. ENG. CITY ENG. <i>AKB</i> CH. BY: <i>C.M.R.F.</i> DATE: 12.4.2017 SCALE: N/A	OFFICE ENG. _____ SHEET NO. 8 OF 23 SHEETS LI-6 15-C-171111H

CRITICAL ANALYSIS

Generated: 2017-10-11 13:51

P.O.C. NUMBER: 01
Water Source Information:

FLOW AVAILABLE
Point of Connection Size: 1-1/2"
Flow Available: 47.66 gpm

PRESSURE AVAILABLE
Static Pressure at POC: 60.00 psi
Pressure Available: 60.00 psi

DESIGN ANALYSIS
Maximum Station Flow: 24.14 gpm
Flow Available at POC: 47.66 gpm
Residual Flow Available: 23.52 gpm

Critical Station: A-2
Design Pressure: 20.00 psi
Friction Loss: 1.92 psi
Fittings Loss: 0.19 psi
Elevation Loss: 0.00 psi
Loss through Valve: 9.99 psi
Pressure Req. at Critical Station: 32.11 psi
Loss for Fittings: 0.11 psi
Loss for Main Line: 1.08 psi
Loss for POC to Valve Elevation: 0.00 psi
Loss for Backflow: 10.70 psi
Loss for Master Valve: 4.02 psi
Critical Station Pressure at POC: 48.02 psi
Pressure Available: 60.00 psi
Residual Pressure Available: 11.98 psi

P.O.C. NUMBER: 02
Water Source Information:

FLOW AVAILABLE
Point of Connection Size: 1-1/2"
Flow Available: 47.66 gpm

PRESSURE AVAILABLE
Static Pressure at POC: 60.00 psi
Pressure Available: 60.00 psi

DESIGN ANALYSIS
Maximum Station Flow: 9.00 gpm
Flow Available at POC: 47.66 gpm
Residual Flow Available: 38.66 gpm

Critical Station: B-4
Design Pressure: 20.00 psi
Friction Loss: 0.31 psi
Fittings Loss: 0.03 psi
Elevation Loss: 0.00 psi
Loss through Valve: 6.50 psi
Pressure Req. at Critical Station: 26.85 psi
Loss for Fittings: 0.08 psi
Loss for Main Line: 0.82 psi
Loss for POC to Valve Elevation: 0.00 psi
Loss for Backflow: 12.13 psi
Loss for Master Valve: 1.75 psi
Critical Station Pressure at POC: 41.63 psi
Pressure Available: 60.00 psi
Residual Pressure Available: 18.37 psi

CRITICAL ANALYSIS

P.O.C. NUMBER: 03
Water Source Information:

FLOW AVAILABLE
Point of Connection Size: 1"
Flow Available: 20.24 gpm

PRESSURE AVAILABLE
Static Pressure at POC: 60.00 psi
Pressure Available: 60.00 psi

DESIGN ANALYSIS
Maximum Station Flow: 20.22 gpm
Flow Available at POC: 20.24 gpm
Residual Flow Available: 0.02 gpm

Critical Station: C-6
Design Pressure: 20.00 psi
Friction Loss: 1.96 psi
Fittings Loss: 0.20 psi
Elevation Loss: 0.00 psi
Loss through Valve: 13.27 psi
Pressure Req. at Critical Station: 35.43 psi
Loss for Fittings: 0.23 psi
Loss for Main Line: 2.34 psi
Loss for POC to Valve Elevation: 0.00 psi
Loss for Backflow: 11.74 psi
Loss for Master Valve: 2.16 psi
Critical Station Pressure at POC: 51.90 psi
Pressure Available: 60.00 psi
Residual Pressure Available: 8.10 psi

P.O.C. NUMBER: 04
Water Source Information:

FLOW AVAILABLE
Point of Connection Size: 1-1/2"
Flow Available: 47.66 gpm

PRESSURE AVAILABLE
Static Pressure at POC: 60.00 psi
Pressure Available: 60.00 psi

DESIGN ANALYSIS
Maximum Station Flow: 7.13 gpm
Flow Available at POC: 47.66 gpm
Residual Flow Available: 40.53 gpm

Critical Station: D-3
Design Pressure: 20.00 psi
Friction Loss: 0.24 psi
Fittings Loss: 0.02 psi
Elevation Loss: 0.00 psi
Loss through Valve: 7.84 psi
Pressure Req. at Critical Station: 28.10 psi
Loss for Fittings: 0.01 psi
Loss for Main Line: 0.07 psi
Loss for POC to Valve Elevation: 0.00 psi
Loss for Backflow: 11.80 psi
Loss for Master Valve: 1.47 psi
Critical Station Pressure at POC: 41.45 psi
Pressure Available: 60.00 psi
Residual Pressure Available: 18.55 psi

CRITICAL ANALYSIS

P.O.C. NUMBER: 05
Water Source Information:

FLOW AVAILABLE
Point of Connection Size: 1"
Flow Available: 20.24 gpm

PRESSURE AVAILABLE
Static Pressure at POC: 60.00 psi
Pressure Available: 60.00 psi

DESIGN ANALYSIS
Maximum Station Flow: 2.38 gpm
Flow Available at POC: 20.24 gpm
Residual Flow Available: 17.86 gpm

Critical Station: E-1
Design Pressure: 20.00 psi
Friction Loss: 0.08 psi
Fittings Loss: 0.01 psi
Elevation Loss: 0.00 psi
Loss through Valve: 7.48 psi
Pressure Req. at Critical Station: 27.58 psi
Loss for Fittings: 0.00 psi
Loss for Main Line: 0.01 psi
Loss for POC to Valve Elevation: 0.00 psi
Loss for Backflow: 11.80 psi
Loss for Master Valve: 1.44 psi
Critical Station Pressure at POC: 40.83 psi
Pressure Available: 60.00 psi
Residual Pressure Available: 19.17 psi

P.O.C. NUMBER: 06
Water Source Information:

FLOW AVAILABLE
Point of Connection Size: 1"
Flow Available: 20.24 gpm

PRESSURE AVAILABLE
Static Pressure at POC: 60.00 psi
Pressure Available: 60.00 psi

DESIGN ANALYSIS
Maximum Station Flow: 4.54 gpm
Flow Available at POC: 20.24 gpm
Residual Flow Available: 15.70 gpm

Critical Station: F-1
Design Pressure: 20.00 psi
Friction Loss: 0.43 psi
Fittings Loss: 0.04 psi
Elevation Loss: 0.00 psi
Loss through Valve: 3.83 psi
Pressure Req. at Critical Station: 24.30 psi
Loss for Fittings: 0.01 psi
Loss for Main Line: 0.10 psi
Loss for POC to Valve Elevation: 0.00 psi
Loss for Backflow: 11.80 psi
Loss for Master Valve: 1.65 psi
Critical Station Pressure at POC: 37.86 psi
Pressure Available: 60.00 psi
Residual Pressure Available: 22.14 psi

CRITICAL ANALYSIS

P.O.C. NUMBER: 07
Water Source Information:

FLOW AVAILABLE
Point of Connection Size: 1"
Flow Available: 20.24 gpm

PRESSURE AVAILABLE
Static Pressure at POC: 60.00 psi
Pressure Available: 60.00 psi

DESIGN ANALYSIS
Maximum Station Flow: 3.34 gpm
Flow Available at POC: 20.24 gpm
Residual Flow Available: 16.90 gpm

Critical Station: G-1
Design Pressure: 20.00 psi
Friction Loss: 0.15 psi
Fittings Loss: 0.01 psi
Elevation Loss: 0.00 psi
Loss through Valve: 3.10 psi
Pressure Req. at Critical Station: 23.27 psi
Loss for Fittings: 0.00 psi
Loss for Main Line: 0.05 psi
Loss for POC to Valve Elevation: 0.00 psi
Loss for Backflow: 11.80 psi
Loss for Master Valve: 1.53 psi
Critical Station Pressure at POC: 36.65 psi
Pressure Available: 60.00 psi
Residual Pressure Available: 23.35 psi

P.O.C. NUMBER: 08
Water Source Information:

FLOW AVAILABLE
Point of Connection Size: 1"
Flow Available: 20.24 gpm

PRESSURE AVAILABLE
Static Pressure at POC: 60.00 psi
Pressure Available: 60.00 psi

DESIGN ANALYSIS
Maximum Station Flow: 22.88 gpm
Flow Available at POC: 20.24 gpm
Residual Flow Available: -2.64 gpm

Critical Station: H-1
Design Pressure: 20.00 psi
Friction Loss: 1.42 psi
Fittings Loss: 0.14 psi
Elevation Loss: 0.00 psi
Loss through Valve: 9.69 psi
Pressure Req. at Critical Station: 31.26 psi
Loss for Fittings: 0.24 psi
Loss for Main Line: 2.42 psi
Loss for POC to Valve Elevation: 0.00 psi
Loss for Backflow: 10.85 psi
Loss for Master Valve: 3.68 psi
Critical Station Pressure at POC: 48.45 psi
Pressure Available: 60.00 psi
Residual Pressure Available: 11.55 psi

VALVE LOCATION NOTE:

ELECTRIC CONTROL VALVES AND ISOLATION VALVE LOCATIONS ON THIS DRAWING ARE APPROXIMATE. THE LANDSCAPE CONTRACTOR SHALL STAKE OUT EACH ELECTRICAL CONTROL VALVE AND ISOLATION VALVE LOCATION FOR REVIEW AND APPROVAL BY OWNER PRIOR TO INSTALLATION OF ALL VALVES. FINAL LOCATION AND EXACT POSITIONING FOR ELECTRIC CONTROL VALVES AND ISOLATION VALVES SHALL BE DETERMINED BY THE OWNER. MINOR MODIFICATIONS OF ELECTRIC CONTROL VALVES AND ISOLATION VALVE LOCATIONS AS REQUESTED BY THE OWNER SHALL BE PROVIDED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. FAILURE TO OBTAIN OWNER'S APPROVAL PRIOR TO THE INSTALLATION SHALL CAUSE THE CONTRACTOR TO MAKE OWNER DIRECTED REVISIONS AT NO ADDITIONAL COST TO THE OWNER. IN GENERAL, UNLESS OTHERWISE DIRECTED BY OWNER, ALL VALVES SHALL BE INSTALLED THREE FEET FROM EDGE OF HARDSCAPE, WALK OR CURB IN SHRUB PLANTING AREAS.

NOTES:

MAINLINE SHOWN WITHIN PAVING FOR CLARITY ONLY, ACTUAL MAINLINE LOCATION TO BE A MINIMUM OF 18" OFF ADJACENT HARDSCAPE AND OTHER OBSTACLES TYP.

ALL LATERAL LINES WITH GREATER THAN FIVE FEET OF ELEVATION CHANGE SHALL HAVE THE KING BROS. MOD. NO. KSC-(XXX)-S (APPROPRIATE LINE SIZE) SWING CHECK VALVE INSTALLED AT EVERY FIVE (5) FEET OF ELEVATION CHANGE MINIMUM. CONTRACTOR SHALL VERIFY ALL SWING CHECK VALVE LOCATIONS WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK.

ALL RCV'S CONTROLLING IRRIGATION HEADS ON SLOPE SHALL BE INSTALLED WITH A LINE SIZED KING PROS. MOD. NO. KSC-(XXX)-S (APPROPRIATE LINE SIZE) SWING CHECK VALVE. INSTALL SWING CHECK VALVE DIRECTLY DOWN STREAM OF THE RCV TO PREVENT DRAINAGE OF WATER IN PVC LATERAL INTO VALVE BOX DURING RCV MAINTENANCE.

IRRIGATION SLEEVES SHOWN FOR MAJOR STREET, DRIVEWAY AND HARDSCAPE CROSSINGS FOR CLARITY ONLY. CONTRACTOR SHALL INSTALL SLEEVING BELOW ALL PAVING, HARDSCAPE, ETC. AND AS DIRECTED BY OWNER'S AUTHORIZED REPRESENTATIVE.

ALL PIPING, MAINLINE AND LATERAL, AND WIRE SHALL BE SLEEVED UNDER PAVING. ALL SLEEVES TO BE MINIMUM 2X DIAMETER OF IRRIGATION PIPE SLEEVES. ALL MAINLINE SHALL BE ACCOMPANIED WITH A MINIMUM 2-INCH DIAMETER WIRE SLEEVE. SLEEVING TO EXTEND MINIMUM 12 INCHES BEYOND PAVING.

INSTALL NO. 14 POLYETHYLENE COATED COPPER TRACER WIRE WITH ALL NON-METALLIC IRRIGATION PIPE SLEEVES, PAIGE P7079D. CONTRACTOR SHALL INSTALL TRACER WIRE ON TOP OF PIPE SLEEVING, AND SHALL BE COVERED WITH T. CHRISTY "CAUTION TAPE - IRRIGATION MAINLINE BELOW". THE WIRE SHALL BE INSTALLED INTO A 6" GRAY LOCKABLE VALVE BOX AT THE ENDS OF SLEEVES. EACH WIRE SHALL BE MARKED WITH A T. CHRISTY CUSTOM I.D. TAG EXPLAINING THE WIRE IMPORTANCE, ALONG WITH A 3M-DBR WIRE CONNECT ON EACH END OF THE WIRE.

BUBBLERS AND LATERAL LINES ARE SHOWN WITHIN PAVING AND BUILDINGS FOR CLARITY ONLY, ACTUAL LOCATION TO BE WITHIN PLANTER. BUBBLERS SHALL BE ALIGNED WITH TREES AND AS DIRECTED BY OWNER'S AUTHORIZED REPRESENTATIVE. CONFIRM ALL LAYOUT IN FIELD WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK.

WATER PRESSURE NOTE:

CONTRACTOR SHALL VERIFY P.O.C. STATIC PRESSURE IN FIELD PRIOR TO BEGINNING ANY WORK. NOTIFY LANDSCAPE ARCHITECT FOR ANY DISCREPANCIES NOT SIMILAR TO STATIC PRESSURE GIVEN BY WATER PURVEYOR.

PSI: 50 PSI

CONTRACTOR TO VERIFY STATIC PRESSURE PRIOR TO COMMENCEMENT OF CONSTRUCTION. NOTIFY LANDSCAPE ARCHITECT OF ANY DISCREPANCIES.

NOTE:

ALL TURF & SHRUB SPRAY, ROTARY, ROTORS & BUBBLER HEADS SHALL BE PLACED 2'-0" FROM IMPERVIOUS SURFACE PER AB 1881 GUIDELINES.

NOTE A:

POINT OF CONNECTION A, B & D SHALL BE A 1-1/2" DOMESTIC WATER METER WITH A 1-1/2" SERVICE LINE. POINT OF CONNECTION C, E, F, G & H SHALL BE A 1" DOMESTIC WATER METER WITH A 1-1/2" SERVICE LINE. VERIFY THE ACTUAL LOCATION, SIZE AND WATER PRESSURE IN THE FIELD PRIOR TO STARTING WORK. IF ANY OF THE POC INFORMATION SHOWN ON THESE DRAWING IS FOUND TO BE DIFFERENT THAN THE ACTUAL POC INFORMATION GATHERED IN THE FIELD, IMMEDIATELY NOTIFY THE LANDSCAPE ARCHITECT. SHOULD THE CONTRACTOR FAIL TO VERIFY THE POC INFORMATION ANY CHANGES REQUIRED BY LOW PRESSURE OR VOLUME SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

STATIC WATER PRESSURE 60 PSI
DESIGN WATER PRESSURE 20 PSI
MAXIMUM SYSTEM DEMAND 24.14 GPM
RESIDUAL PRESSURE 8.10 PSI

NOTE B:

CONTROLLER 'C-A, B, C, D, E, F, G & H' SHALL BE A HUNTER IC-0600, 6 STATION CONTROLLER ASSEMBLY INSTALLED AS AN OUTDOOR PEDESTAL AS PART OF CONTROLLER ASSEMBLY. TOTAL STATIONS USED: 'C-A': 3, 'C-B': 4, 'C-C': 6, 'C-D': 3, 'C-E': 2, 'C-F': 2, 'C-G': 2, 'C-H': 2 FINAL LOCATION OF CONTROLLERS AND ELECTRICAL P.O.C SHALL BE CONFIRMED WITH OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO COMMENCING WORK.

NOTE:

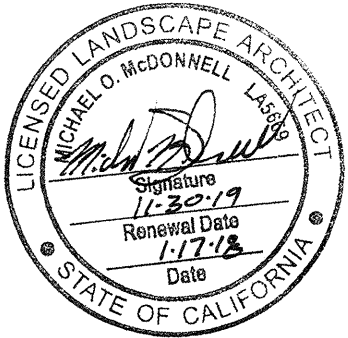
THIS DESIGN IS DIAGRAMMATIC. ALL EQUIPMENT SHOWN IN PAVED AREAS IS FOR DESIGN CLARITY ONLY AND IS TO INSTALLED WITHIN PLANTING AREAS.

I AGREE TO COMPLY WITH THE REQUIREMENTS OF THE WATER EFFICIENT LANDSCAPE ORDINANCE AND SUBMIT A COMPLETE LANDSCAPE DOCUMENTATION PACKAGE. (AB 1881 SEC. 492.3).

MICHAEL MCDONNELL, LANDSCAPE ARCHITECT DATE

PW FILE NO. PROJ. ID. PLUM NO. DRG NO.	REF. & REV.	CITY OF FRESNO	DEPARTMENT OF PUBLIC WORKS
		TRACT 6130 - CANYON CREEK LANDSCAPE IMPROVEMENT PLANS	APPROVED: OFFICE ENG. _____
		DATE: 12.4.2017	DR. BY: C.B.R.F. CH. BY: R.F.M.M. SCALE: N/A
			SHEET NO. 9 OF 23 SHEETS
			LI-7 15-C-1711111

HYDROZONE INFORMATION TABLE				
HYDROZONE*	ZONE OR VALVE	IRRIGATION METHOD	AREA (Sq. Ft)	% OF LANDSCAPE AREA
LW	A-1	B	24	0.0580%
LW	A-2	B	60	0.1449%
MW	A-3	D	6,897	16.6542%
MW	B-1	D	717	1.7313%
MW	B-2	D	2,823	6.8167%
LW	B-3	B	54	0.1304%
MW	B-4	D	2,209	5.3341%
MW	C-1	D	5,776	13.9473%
MW	C-2	D	4,014	9.6926%
LW	C-3	B	24	0.0580%
LW	C-4	B	114	0.2753%
MW	C-5	D	3,039	7.3383%
MW	C-6	D	3,797	9.1686%
MW	D-1	D	1,411	3.4071%
LW	D-2	B	54	0.1304%
MW	D-3	D	782	1.8883%
MW	E-1	D	680	1.6420%
LW	E-2	B	12	0.0290%
MW	F-1	D	1,298	3.1343%
LW	F-2	B	42	0.1014%
MW	G-1	D	953	2.3012%
LW	G-2	B	24	0.0580%
MW	H-1	D	6,537	15.7849%
LW	H-2	B	72	0.1739%
			41,413	
* Hydrozone			Irrigation Method	
HW = High Water Use Plants			MS = Micro Spray	
MW = Medium Water Use Plants			S = Spray	
LW = Low Water Use Plants			R = Rotor	
			B = Bubbler	
			D = Drip	
			O = Other	



Site Information

Site Name → Tract 6130 LMD - P.O.C. 'A'

Site Type → Residential

Annual Eto (inches/yr) → 54.3

Hydrozone or Planting Description	Plant Factor (PF)	Irrigation Method	Irrigation Efficiency (IE)	ETAF (PF/IE)	Hydrozone Area (sqft.)	ETAF x Area	Estimated Total Water Use (gal./yr.)	
Regular Landscape Areas								
A-1	0.09	Very Low	Drip	0.81	0.1	24	3	90
A-2	0.09	Very Low	Drip	0.81	0.1	60	7	224
A-3	0.4	Mod./Ave.	Drip	0.81	0.5	6,897	3,406	114,664
SUBTOTAL →						6,981	3,415	114,978
Estimated Total Water Use (ETWU) →						114,978		
Maximum Allowed Water Allowance (MAWA) →						129,262		

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area3,415

Total Area6,981

Average ETAF0.49

All Landscape Areas

Total ETAF x Area3,415

Total Area6,981

Sitewide ETAF0.49

Notes:

ETWU meets MAWA requirement.

Average ETAF meets requirement for this site type.

Calculator developed July 27, 2015.

This calculator is for estimating purposes only.

Hunter assumes no liability for use of this calculator.

Site Information

Site Name → Tract 6130 LMD P.O.C. 'B'

Site Type → Residential

Annual Eto (inches/yr) → 54.3

Hydrozone or Planting Description	Plant Factor (PF)	Irrigation Method	Irrigation Efficiency (IE)	ETAF (PF/IE)	Hydrozone Area (sqft.)	ETAF x Area	Estimated Total Water Use (gal./yr.)	
Regular Landscape Areas								
B-1	0.4	Mod./Ave.	Drip	0.81	0.5	717	354	11,920
B-2	0.4	Mod./Ave.	Drip	0.81	0.5	2,823	1,394	46,933
B-3	0.2	Low	Drip	0.81	0.2	54	13	449
B-4	0.4	Mod./Ave.	Drip	0.81	0.5	2,209	1,091	36,725
SUBTOTAL →						5,803	2,852	96,027
Estimated Total Water Use (ETWU) →						96,027		
Maximum Allowed Water Allowance (MAWA) →						107,450		

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area2,852

Total Area5,803

Average ETAF0.49

All Landscape Areas

Total ETAF x Area2,852

Total Area5,803

Sitewide ETAF0.49

Notes:

ETWU meets MAWA requirement.

Average ETAF meets requirement for this site type.

Calculator developed July 27, 2015.

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Site Information

Site Name → Tract 6130 LMD P.O.C. 'C'

Site Type → Residential

Annual Eto (inches/yr) → 54.3

Hydrozone or Planting Description	Plant Factor (PF)	Irrigation Method	Irrigation Efficiency (IE)	ETAF (PF/IE)	Hydrozone Area (sqft.)	ETAF x Area	Estimated Total Water Use (gal./yr.)	
Regular Landscape Areas								
C-1	0.4	Mod./Ave.	Drip	0.81	0.5	5,776	2,852	96,027
C-2	0.4	Mod./Ave.	Drip	0.81	0.5	4,014	1,982	66,733
C-3	0.2	Low	Drip	0.81	0.2	24	6	200
C-4	0.2	Low	Drip	0.81	0.2	114	28	948
C-5	0.4	Mod./Ave.	Drip	0.81	0.5	3,039	1,501	50,524
C-6	0.4	Mod./Ave.	Drip	0.81	0.5	3,797	1,875	63,126
SUBTOTAL →						16,764	8,244	277,557
Estimated Total Water Use (ETWU) →						277,557		
Maximum Allowed Water Allowance (MAWA) →						310,407		

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area8,244

Total Area16,764

Average ETAF0.49

All Landscape Areas

Total ETAF x Area8,244

Total Area16,764

Sitewide ETAF0.49

Notes:

ETWU meets MAWA requirement.

Average ETAF meets requirement for this site type.

Calculator developed July 27, 2015.

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Site Information

Site Name → Tract 6130 LMD P.O.C. 'D'

Site Type → Residential

Annual Eto (inches/yr) → 54.3

Hydrozone or Planting Description	Plant Factor (PF)	Irrigation Method	Irrigation Efficiency (IE)	ETAF (PF/IE)	Hydrozone Area (sqft.)	ETAF x Area	Estimated Total Water Use (gal./yr.)	
Regular Landscape Areas								
D-1	0.4	Mod./Ave.	Drip	0.81	0.5	1,411	697	23,458
D-2	0.2	Low	Drip	0.81	0.2	54	13	449
D-3	0.4	Mod./Ave.	Drip	0.81	0.5	782	386	13,001
SUBTOTAL →						2,247	1,096	36,908
Estimated Total Water Use (ETWU) →						36,908		
Maximum Allowed Water Allowance (MAWA) →						41,606		

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area1,096

Total Area2,247

Average ETAF0.49

All Landscape Areas

Total ETAF x Area1,096

Total Area2,247

Sitewide ETAF0.49

Notes:

ETWU meets MAWA requirement.

Average ETAF meets requirement for this site type.

Calculator developed July 27, 2015.

This calculator is for estimating purposes only.

Hunter assumes no liability for use of this calculator.

Site Information

Site Name → Tract 6130 LMD P.O.C. 'E'

Site Type → Residential

Annual Eto (inches/yr) → 54.3

Hydrozone or Planting Description	Plant Factor (PF)	Irrigation Method	Irrigation Efficiency (IE)	ETAF (PF/IE)	Hydrozone Area (sqft.)	ETAF x Area	Estimated Total Water Use (gal./yr.)	
Regular Landscape Areas								
E-1	0.4	Mod./Ave.	Drip	0.81	0.5	680	336	11,305
E-2	0.2	Low	Drip	0.81	0.2	12	3	100
SUBTOTAL →						692	339	11,405
Estimated Total Water Use (ETWU) →						11,405		
Maximum Allowed Water Allowance (MAWA) →						12,813		

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area339

Total Area692

Average ETAF0.49

All Landscape Areas

Total ETAF x Area339

Total Area692

Sitewide ETAF0.49

Notes:

ETWU meets MAWA requirement.

Average ETAF meets requirement for this site type.

Calculator developed July 27, 2015.

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Hunter assumes no liability for use of this calculator.

Site Information

Site Name → Tract 6130 LMD P.O.C. 'F'

Site Type → Residential

Annual Eto (inches/yr) → 54.3

Hydrozone or Planting Description	Plant Factor (PF)	Irrigation Method	Irrigation Efficiency (IE)	ETAF (PF/IE)	Hydrozone Area (sqft.)	ETAF x Area	Estimated Total Water Use (gal./yr.)	
Regular Landscape Areas								
F-1	0.4	Mod./Ave.	Drip	0.81	0.5	1,298	641	21,579
F-2	0.2	Low	Drip	0.81	0.2	42	10	349
SUBTOTAL →						1,340	651	21,929
Estimated Total Water Use (ETWU) →						21,929		
Maximum Allowed Water Allowance (MAWA) →						24,812		

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area651

Total Area1,340

Average ETAF0.49

All Landscape Areas

Total ETAF x Area651

Total Area1,340

Sitewide ETAF0.49

Notes:

ETWU meets MAWA requirement.

Average ETAF meets requirement for this site type.

Calculator developed July 27, 2015.

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Site Information

Site Name → Tract 6130 LMD P.O.C. 'G'

Site Type → Residential

Annual Eto (inches/yr) → 54.3

Hydrozone or Planting Description	Plant Factor (PF)	Irrigation Method	Irrigation Efficiency (IE)	ETAF (PF/IE)	Hydrozone Area (sqft.)	ETAF x Area	Estimated Total Water Use (gal./yr.)	
Regular Landscape Areas								
G-1	0.4	Mod./Ave.	Drip	0.81	0.5	953	471	15,844
G-2	0.2	Low	Drip	0.81	0.2	24	6	200
SUBTOTAL →						977	477	16,043
Estimated Total Water Use (ETWU) →						16,043		
Maximum Allowed Water Allowance (MAWA) →						18,090		

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area477

Total Area977

Average ETAF0.49

All Landscape Areas

Total ETAF x Area477

Total Area977

Sitewide ETAF0.49

Notes:

ETWU meets MAWA requirement.

Average ETAF meets requirement for this site type.

Calculator developed July 27, 2015.

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Site Information

Site Name → Tract 6130 LMD P.O.C. 'H'

Site Type → Residential

Annual Eto (inches/yr) → 54.3

Hydrozone or Planting Description	Plant Factor (PF)	Irrigation Method	Irrigation Efficiency (IE)	ETAF (PF/IE)	Hydrozone Area (sqft.)	ETAF x Area	Estimated Total Water Use (gal./yr.)	
Regular Landscape Areas								
H-1	0.4	Mod./Ave.	Drip	0.81	0.5	6,537	3,228	108,679
H-2	0.2	Low	Drip	0.81	0.2	72	18	599
SUBTOTAL →						6,609	3,246	109,277
Estimated Total Water Use (ETWU) →						109,277		
Maximum Allowed Water Allowance (MAWA) →						122,374		

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area3,246

Total Area6,609

Average ETAF0.49

All Landscape Areas

Total ETAF x Area3,246

Total Area6,609

Sitewide ETAF0.49

Notes:

ETWU meets MAWA requirement.

Average ETAF meets requirement for this site type.

Calculator developed July 27, 2015.

This calculator is for estimating purposes only.

Hunter assumes no liability for use of this calculator.

PW FILE NO.
PROJ. ID.
FUND NO.
ORIS NO.

REF. & REV.

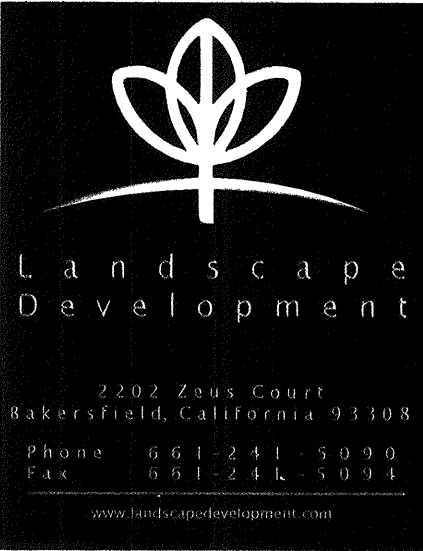
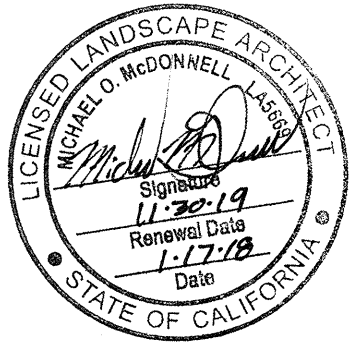
CITY OF FRESNO

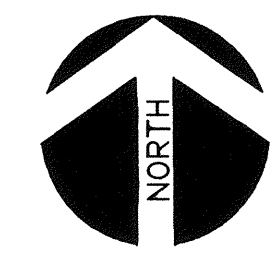
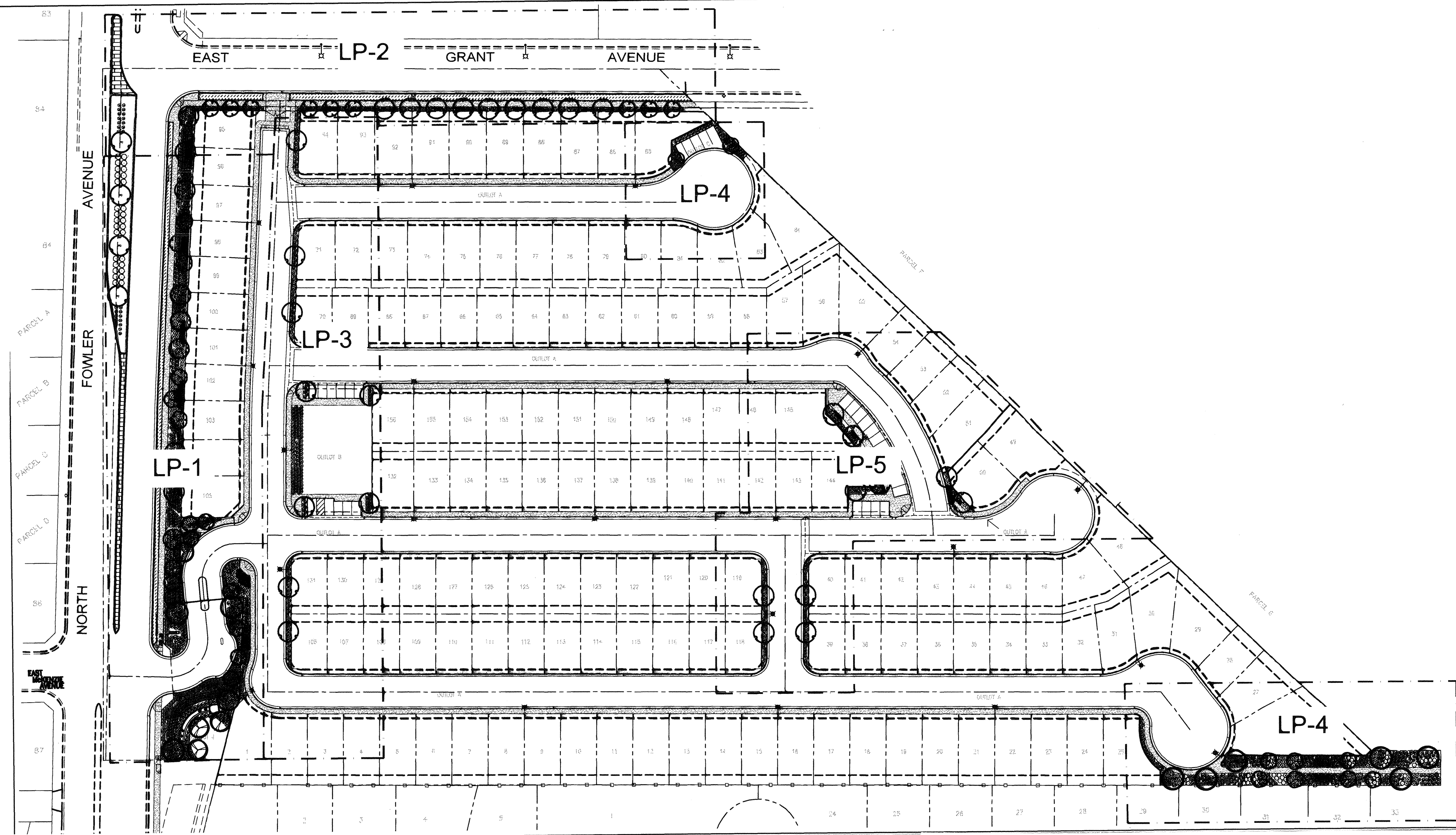
DEPARTMENT OF PUBLIC WORKS

TRACT 6130 - CANYON CREEK
LANDSCAPE IMPROVEMENT PLANS

CONST. ENG.
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DATE:
SCALE:

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SHEET NO. 10
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LI-8
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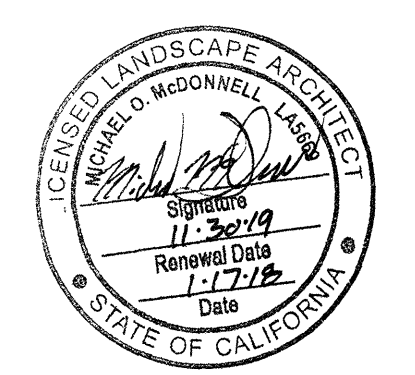


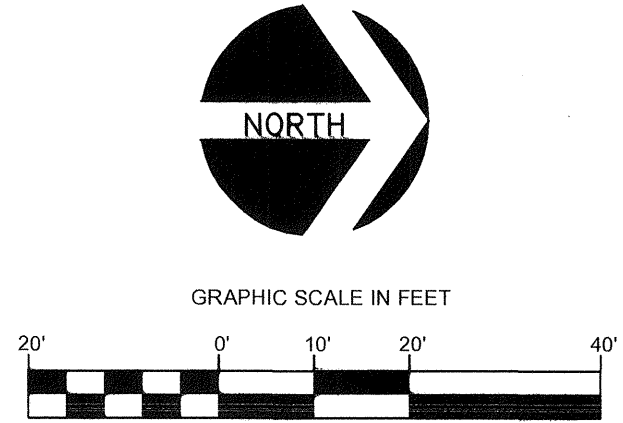
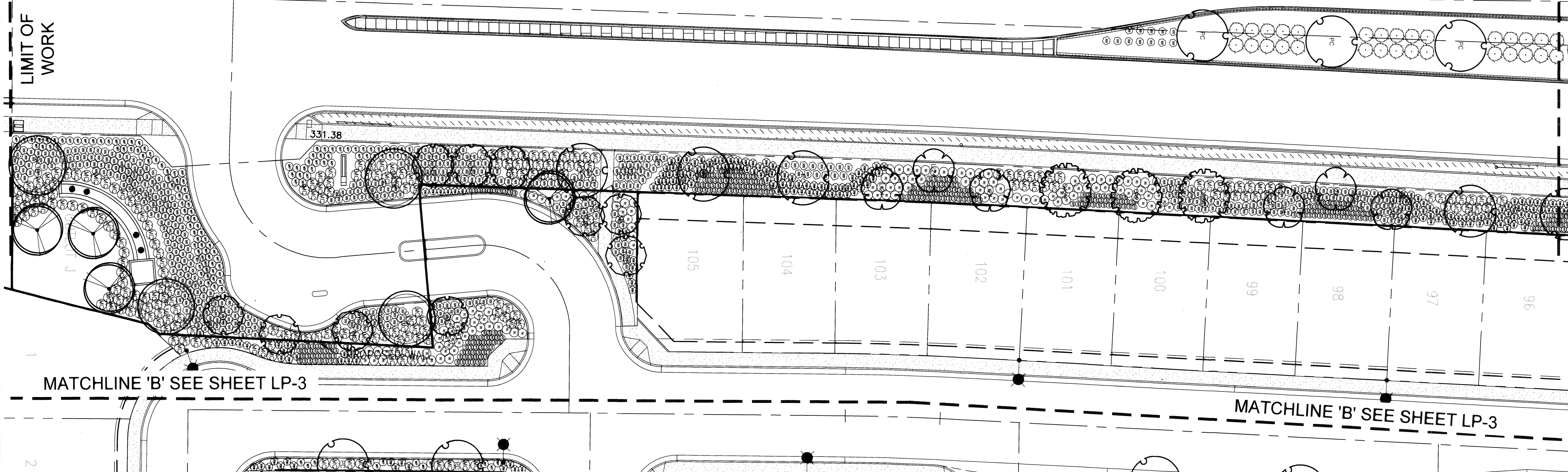
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Bakersfield, California 93308
Phone 661-241-5090
Fax 661-241-5094
www.landscapedevelopment.com

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				CITY ENG. <i>906</i>		
				DR. BY: <i>R.F.F.</i>		
				CH. BY: <i>R.F.F.</i>		
				DATE: <i>12.4.2017</i>		
			SCALE: <i>N.T.S.</i>		SHEET NO. <i>11</i> OF <i>23</i> SHEETS	
					LP-KM 15-C-171111K	





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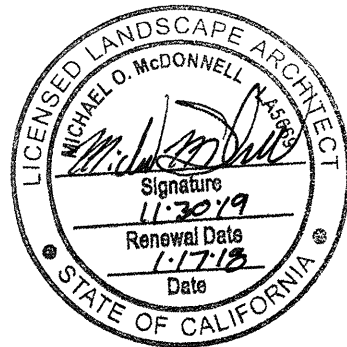
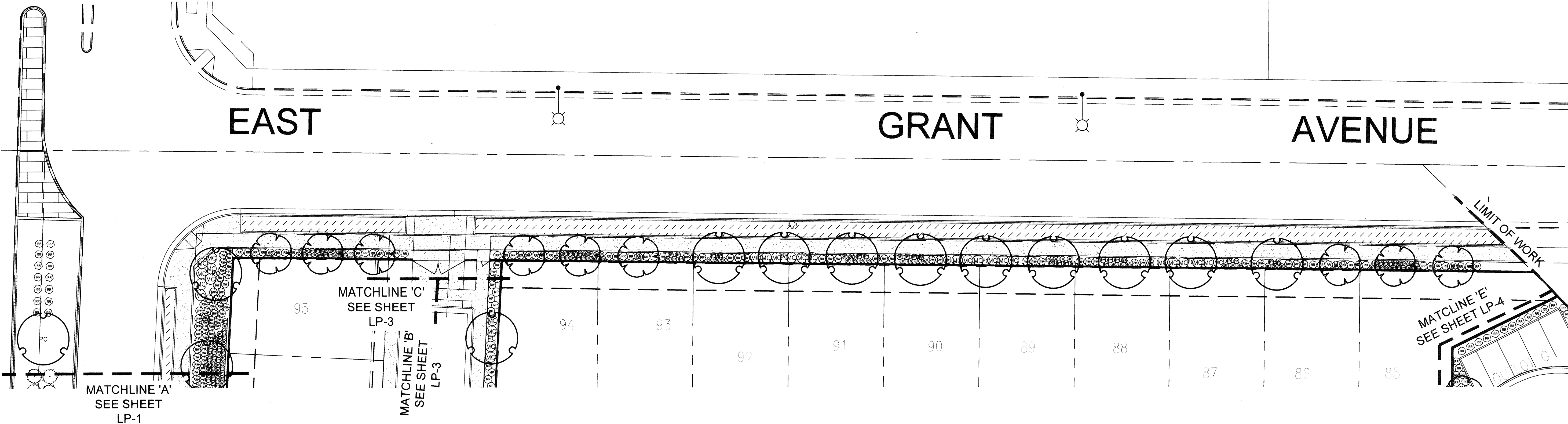
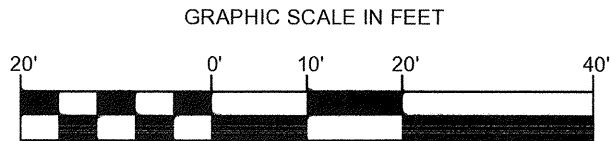
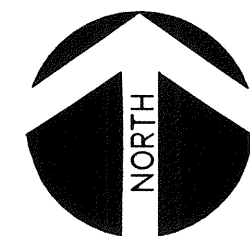
SEE SHEET LP-6 FOR PLANTING SCHEDULE/NOTES

PW FILE NO. PROJ. ID. FUND NO. ORG. NO.	CITY OF FRESNO		DEPARTMENT OF PUBLIC WORKS	
	TRACT 6130 - CANYON CREEK LANDSCAPE IMPROVEMENT PLANS		APPROVED - CONST. ENG. <i>[Signature]</i> CITY ENG. <i>[Signature]</i> DR. BY: <i>[Signature]</i> CH. BY: <i>[Signature]</i> DATE: 12.4.2017 SCALE: 1"=20'-0"	OFFICE ENG. _____ SHEET NO. 12 OF 23 SHEETS LP-1 15-C-171111L

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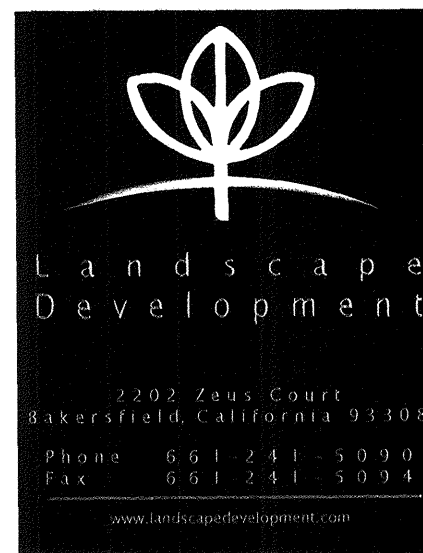
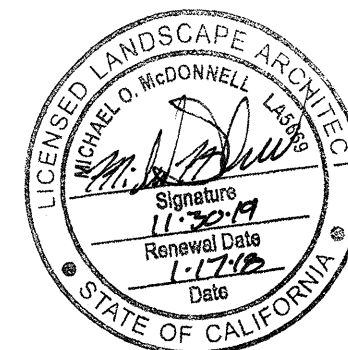
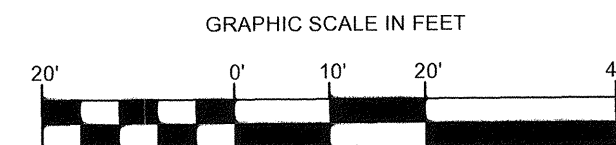
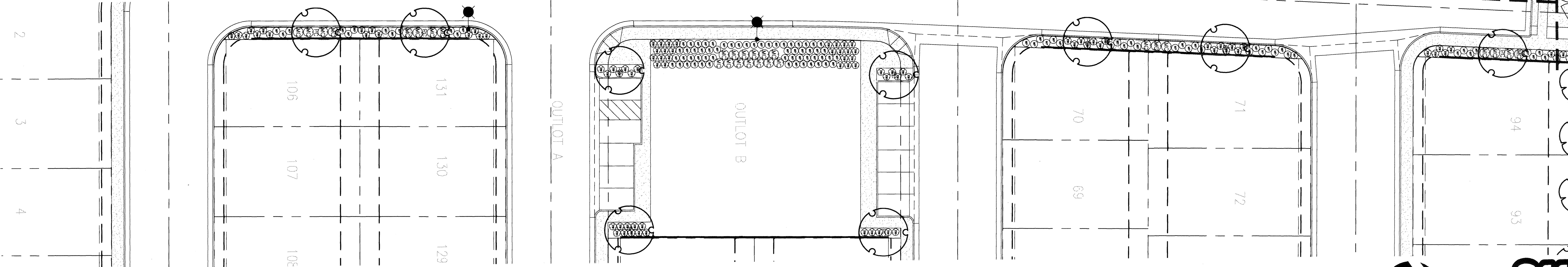
SEE SHEET LP-6 FOR PLANTING SCHEDULE/NOTES

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				SHEET NO. 13 OF 23 SHEETS LP-2 15-C-171111M	

MATCHLINE 'B' SEE SHEET LP-1

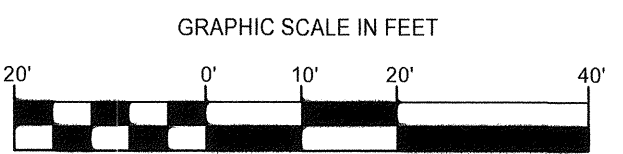
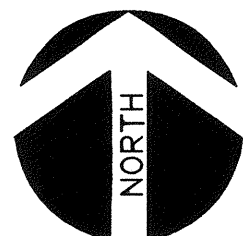
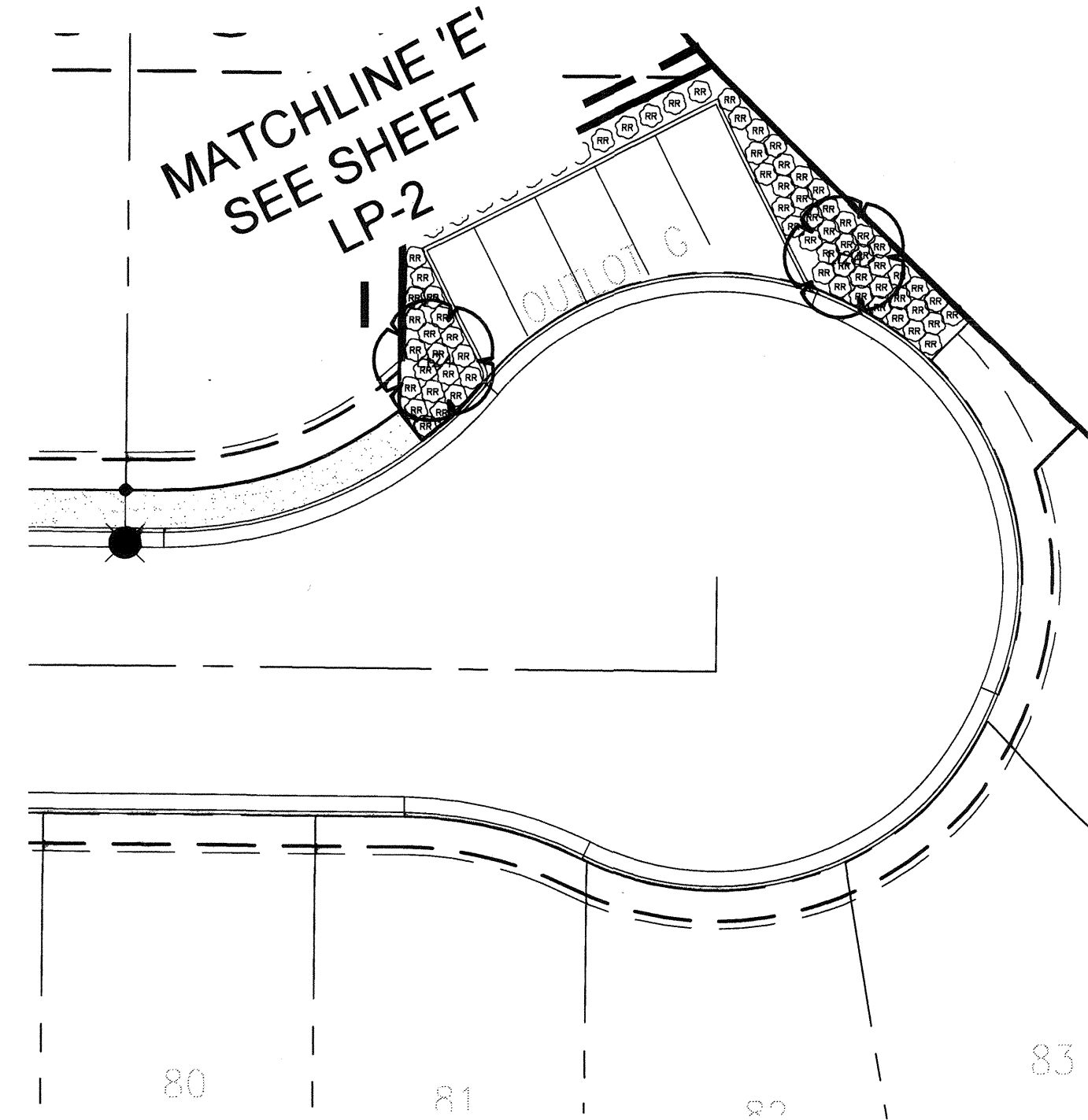
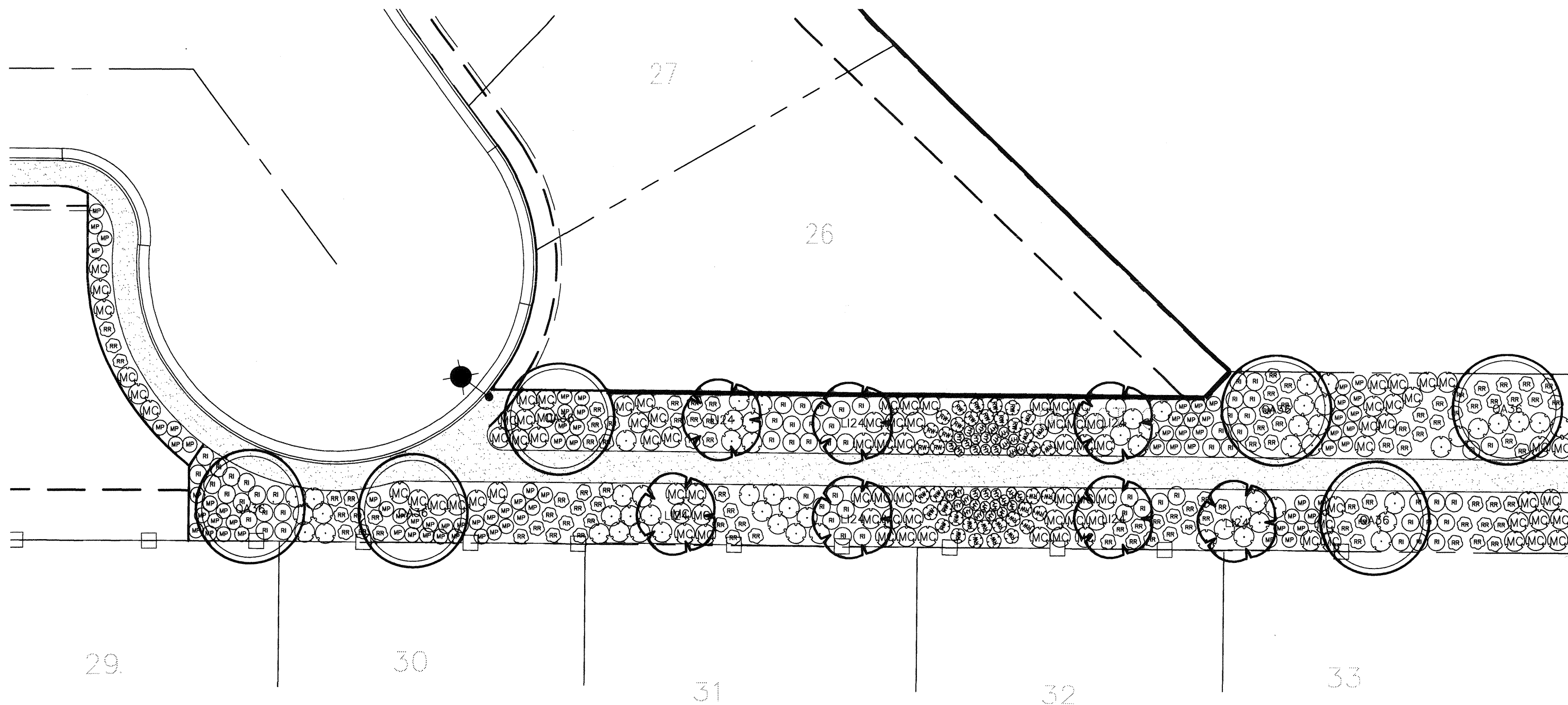
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MATCHLINE 'C' SEE SHEET LP-2



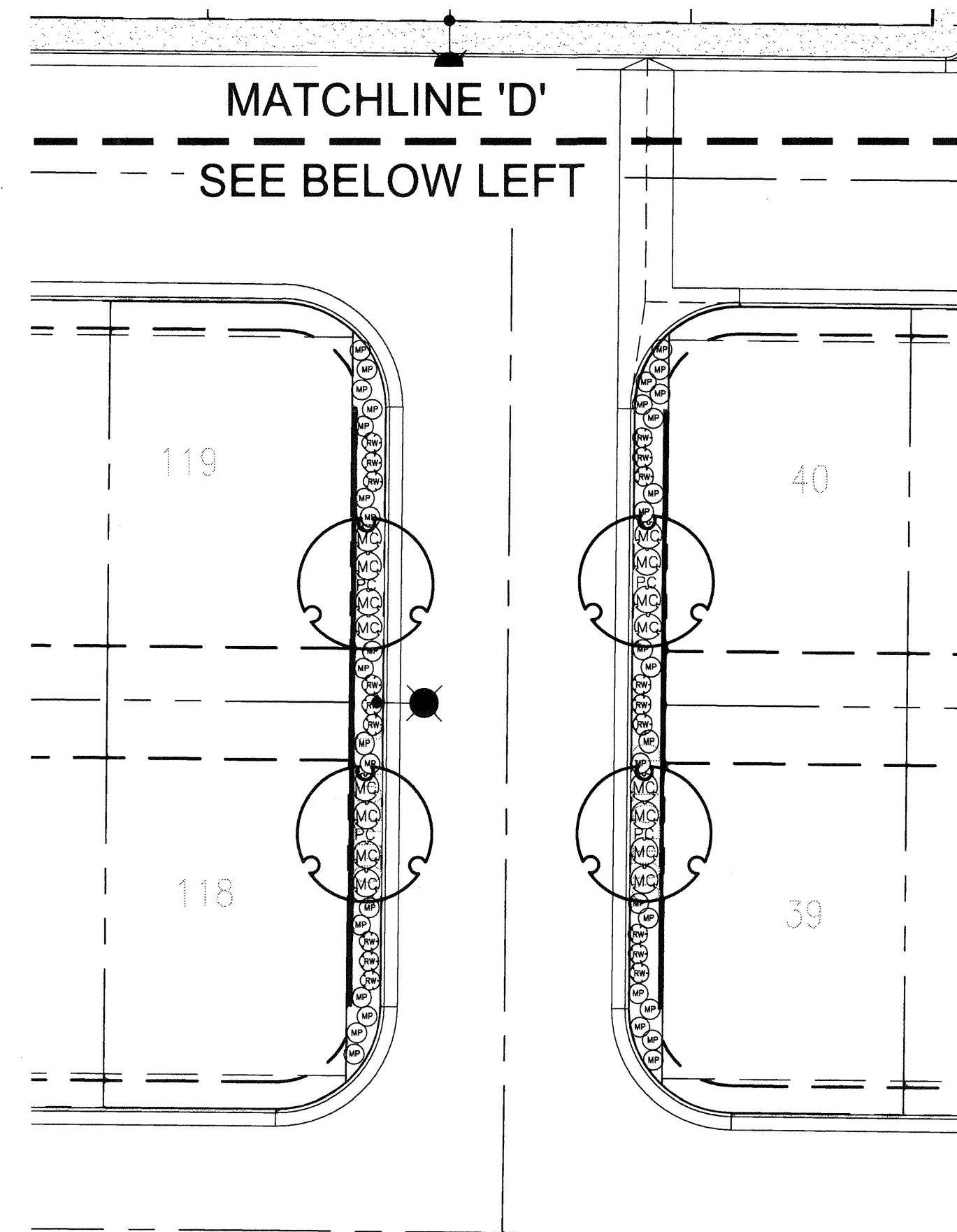
SEE SHEET LP-6 FOR PLANTING SCHEDULE/NOTES

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REF. & REV.	TRACT 6130 - CANYON CREEK LANDSCAPE IMPROVEMENT PLANS	APPROVED - CONST. ENG. <i>H.K.</i> CITY ENG. <i>AB</i> DR. BY: <i>C.R.F.</i> CH. BY: <i>R.F.M.M.</i> DATE: 12.4.2017 SCALE: 1"=20'-0"
		OFFICE ENG. _____ SHEET NO. 14 OF 23 SHEETS LP-3 15-C-171111N



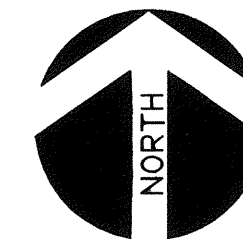
SEE SHEET LP-6 FOR PLANTING
SCHEDULE/NOTES

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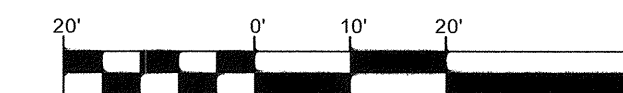


MATCHLINE 'D'
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SEE ABOVE RIGHT

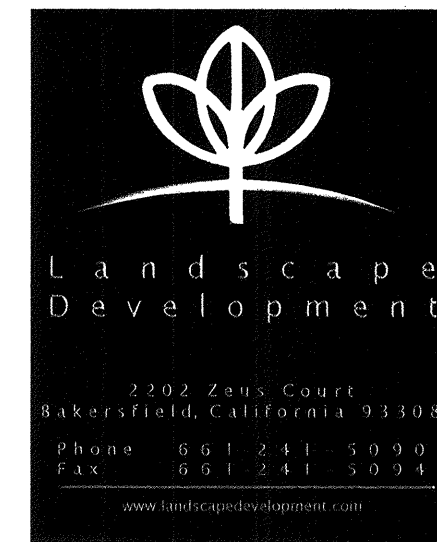
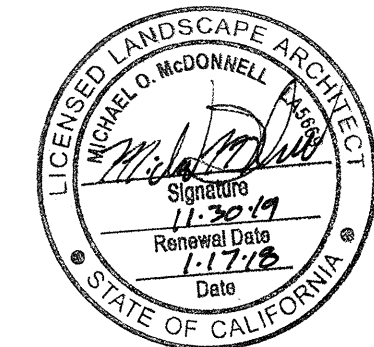
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SCHEDULE/NOTES



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DR. BY: CA/R.F.
CH. BY: R.F./M.M.
DATE: 12.4.201
SCALE: 1"=20'-0"

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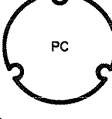











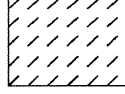
SHEET NO. 16

OF 23 SHEETS

LP-5

15-C-171111P

PLANT SCHEDULE

TREES	BOTANICAL NAME	CONT	WUCOLS	TYPE	QTY
	LAGERSTROEMIA INDICA 'LAVENDER' CRAPE MYRTLE MULTI-TRUNK	24"BOX	LOW	DECIDUOUS	24
	LAGERSTROEMIA INDICA 'LAVENDER' CRAPE MYRTLE MULTI-TRUNK	36"BOX	LOW	DECIDUOUS	10
	PISTACIA CHINENSIS 'KEITH DAVEY' KEITH DAVEY CHINESE PISTACHE	24"BOX	LOW	DECIDUOUS	39
	PLATANUS X ACERIFOLIA LONDON PLANE TREE	36"BOX	MODERATE	DECIDUOUS	4
	QUERCUS AGRIFOLIA COAST LIVE OAK	24"BOX	VERY LOW	EVERGREEN	3
	QUERCUS AGRIFOLIA 36 COAST LIVE OAK	36"BOX	VERY LOW	EVERGREEN	10
SHRUBS	BOTANICAL NAME	CONT	WUCOLS		QTY
	HEMEROCALLIS X 'EVERGREEN YELLOW' DAYLILY	1 GAL	MODERATE		537
	MUHLENBERGIA CAPILLARIS 'REGAL MIST' TM MUHLY	5 GAL	LOW		396
	MYOPORUM PARVIFOLIUM 'PROSTRATUM' MYOPORUM	1 GAL	LOW		378
	PITTOSPORUM TOBIRA 'WHEELER'S DWARF' DWARF PITTOSPORUM	5 GAL	MODERATE		61
	RHAPHIOLEPIS INDICA INDIAN HAWTHORN	5 GAL	MODERATE		30
	RHAPHIOLEPIS INDICA 'JACK EVANS' INDIAN HAWTHORN	5 GAL	MODERATE		204
	ROSA X 'NOARE' FLOWER CARPET RED GROUNDCOVER ROSE	5 GAL	MODERATE		761
	ROSA X 'NOASCHNEE' FLOWER CARPET WHITE GROUNDCOVER ROSE	5 GAL	MODERATE		409
GROUND COVERS	BOTANICAL NAME	CONT	WUCOLS	SPACING	QTY
	TRACHELOSPERMUM ASIATICUM STAR JASMINE	1 GAL	MODERATE	36" o.c.	559

PLANTING NOTES

- REFER TO PLANTING PLANS, PLAN NOTES, PLANT LEGEND, AND PLANTING DETAILS FOR ADDITIONAL PLANTING INFORMATION. REFER TO IRRIGATION PLANS, NOTES AND DETAILS FOR RELATED LANDSCAPE WORK.
- NOTIFY OWNER'S REPRESENTATIVE (REP.) 48 HOURS MINIMUM PRIOR TO COMMENCEMENT OF WORK TO COORDINATE PROJECT INSPECTION SCHEDULE.
- VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS BEFORE PROCEEDING WITH THE WORK. IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE OF FIELD CONDITIONS THAT VARY FROM THOSE SHOWN ON DRAWINGS AND SEEK CORRECTIONS AND DIRECTIONS BEFORE PROCEEDING WITH WORK. ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY CORRECTIONS DUE TO FAILURE TO REPORT KNOWN DISCREPANCIES.
- LOCATE AND MARK ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT. PROTECT FROM DAMAGE ALL UTILITIES, AREAS AND STRUCTURES IN AND AROUND LANDSCAPE WORK AREAS. ASSUME FULL RESPONSIBILITY AND EXPENSE FOR REPAIR AND REPLACEMENT OF DAMAGES CAUSED BY CONTRACTOR.
- LOCATION OF N.I.C. CONSTRUCTION ELEMENTS SUCH AS LIGHTS, SIGNS, VENTS, HYDRANTS, TRANSFORMERS, AND OTHER STRUCTURES OR ELEMENTS ARE APPROXIMATE. CONTRACTOR SHALL VERIFY FIELD CONDITIONS WHETHER SHOWN HEREON OR NOT. WHEN SHOWN ITEMS DO NOT CORRESPOND TO FIELD CONDITIONS, REPORT DISCREPANCIES TO OWNER'S REP. FOR CLARIFICATIONS AND INSTRUCTIONS PRIOR TO PROCEEDING WITH WORK.
- PLANTING ACCESSORIES & MATERIAL:
 - TREE TIE: CINCH TIE, BY V.I.T. PRODUCTS, 800-729-1314 OR APPROVED EQUAL.
 - TREE GUARD (IN TURF AREAS): 4" DIA. X 9" HT. PLASTIC TRUNK PROTECTOR, "ARBOR GUARD" BY DEEP ROOT PARTNERS, 800-458-7668 OR APPROVED EQUAL.
 - FERTILIZER TABLETS: AGRIFORM 20-10-5, THREE 20-GRAM TABLETS OR APPROVED EQUAL FOR 15 GALLON OR LARGER SIZE TREES, TWO 10-GRAM TABLETS FOR 5 GALLON SIZE PLANTS, ONE 10-GRAM TABLET FOR 1 GALLON SIZE.
 - ROOT BARRIER: UB-24"x10' ROOT BARRIER PANELS OR APPROVED EQUAL.
 - MULCH: 3" LAYER CONIFEROUS BARK MULCH IN ALL PLANTER AREAS. SUBMIT SAMPLE FOR APPROVAL.
- PRE-PLANTING PREPARATION:
 - PROCEED WITH PLANTING WORK ONLY AFTER IRRIGATION WORK IS COMPLETED, TESTED, AND APPROVED BY OWNER'S REP. PROTECT IRRIGATION SYSTEM FROM DAMAGE.
 - ROUGH GRADE PLANTING AREAS UNIFORMLY SMOOTH, DEVOID OF DEPRESSIONS, TO CONFORM TO THE GRADING PATTERNS ESTABLISHED BY CIVIL ENGINEERING DRAWINGS. ENSURE POSITIVE WATER REMOVAL TO DRAINAGE ELEMENTS OR STRUCTURES PROVIDED BY OTHERS. NOTIFY OWNER'S REP. WHEN ADDITIONAL AREA DRAINS AND SUBSURFACE DRAINAGE ARE REQUIRED FOR PROPER DRAINAGE OF PLANTING AREAS.
 - ENSURE POSITIVE DRAINAGE AWAY FROM BUILDING WALLS AND FOUNDATIONS FOR PLANTING AREAS ADJACENT SUCH STRUCTURES.
 - REMOVE ALL ROCKS GREATER THAN 2" DIAMETER AND ALL DEBRIS AND DELETERIOUS MATERIAL FROM PLANTING AREAS.
 - PREPARE PLANTING BEDS PER SOIL TEST REPORT'S RECOMMENDATIONS, ADDING AMENDMENTS, FERTILIZER, AND OTHER MATERIAL AS SPECIFIED TO SITE TOP SOIL.
 - CONTRACTOR SHALL AUGER 24"x10' DEEP THROUGH HARDPAN FOR ALL TREES.
- PLANTS: ALL PLANTS OF THE SAME SPECIES/CULTIVAR/VARIETY SHALL HAVE MATCHING FORM, FLOWER COLOR, AND SIZE, IN HEALTHY AND THRIVING CONDITION, FREE FROM INJURIES, DISEASES, PESTS AND ROOT-BOUND OR GIRDLING ROOTS. REPLACE REJECTED PLANTS WITH MATCHING SPECIES, SIZE AND FORM.

9. PLANTING:

- IRRIGATE PLANTING AREAS TO BRING TOP 6" OF SOIL TO FIELD CAPACITY. ALLOW SOIL TO DRAIN. DO NOT WORK SOIL UNTIL IT RETURNS TO A MOIST FRIABLE CONDITION. TREE EXCAVATIONS MAY REQUIRE ADDITIONAL IRRIGATION. FLOOD TREE PITS AS REQUIRED TO MOISTEN SUBGRADE.
- PLACE PLANTS IN THEIR CONTAINERS AT THE LOCATIONS PER PLANS FOR APPROVAL BY OWNER'S REP. MAKE MINOR ADJUSTMENTS AS REQUIRED BY FIELD CONDITIONS AND TO ALLOW OPTIMAL IRRIGATION COVERAGE.
- PLANT QUANTITIES GIVEN ON PLANT LEGEND ARE FOR GENERAL GUIDANCE ONLY. PROVIDE THE SPECIFIED PLANT SPECIES IN THE QUANTITIES AT THE REQUIRED SPACING TO ACHIEVE THE DESIGN EFFECT/INTENT SHOWN ON THE PLANS.
- PLANT GROUND COVER AND SHRUB MASSES ACCORDING TO TRIANGULATED SPACING DIAGRAM UNLESS OTHERWISE SHOWN OR NOTED.
- FOR TREES WITHIN 5 FEET OF PAVEMENT AND SLAB FOUNDATIONS, PRIOR TO TREE PLACEMENT, INSTALL 10' LONG ROOT BARRIER ADJACENT TO HARDSCAPE.
- PLANT TREES, SHRUBS, VINES, AND GROUND COVERS AS SHOWN ON DETAILS.
- INSTALL 3" DEEP CONIFEROUS BARK MULCH IN SHRUB BEDS.

10. WARRANTY: WARRANT TREES AND IRRIGATION SYSTEM FOR ONE YEAR FROM FINAL ACCEPTANCE OF COMPLETED WORK. REPLACE DEAD OR DYING TREES AND BROKEN IRRIGATION COMPONENTS WITHIN THIS PERIOD.

11. MAINTENANCE: MAINTAIN LANDSCAPE AND IRRIGATION FOR 90 DAYS.

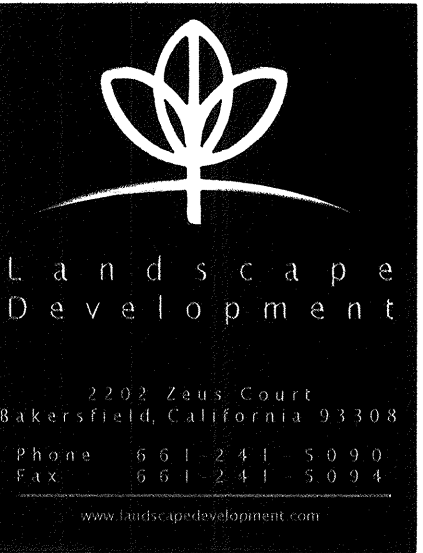
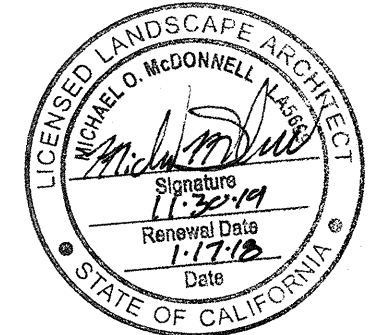
SOIL AMENDMENT NOTES:

SOIL PREPARATION PER 1,000 S.F.
3 CU. YDS. NITROLIZED WOOD SHAVINGS OR EQUAL
15 LBS. 15-15-15 FERTILIZER
ROTO-TILL TO DEPTH OF 8" (FOR SLOPES 3:1 AND LESS)

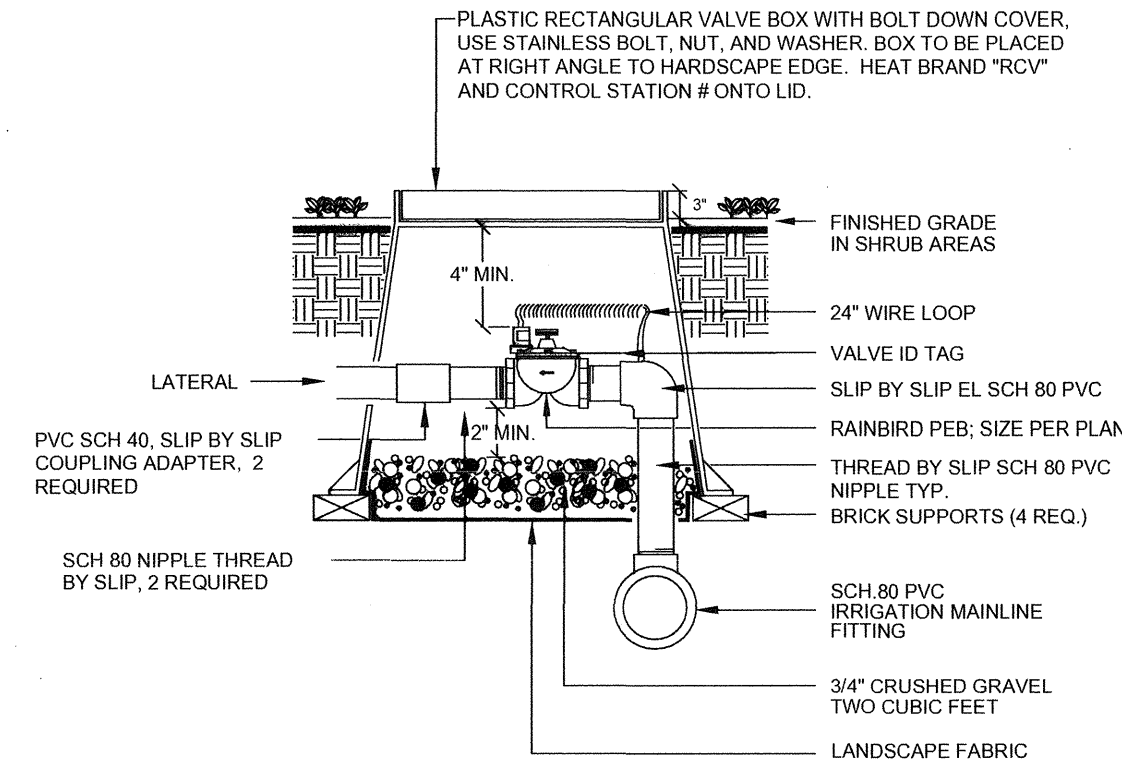
BACKFILL MIX
6 PARTS OF NATIVE ON-SITE SOIL
4 PARTS OF NITROLIZED SHAVINGS OR EQUAL
18 LBS. OF GRO-POWER PLUS PER CUBIC YARD OF MIX

GROW-POWER PLANTING TABLETS
ONE (1) per each 1-GALLON PLANT
TWO (2) per each 5-GALLON PLANT
THREE (3) per each 15-GALLON PLANT
FIVE (5) per each 24"-BOX PLANT

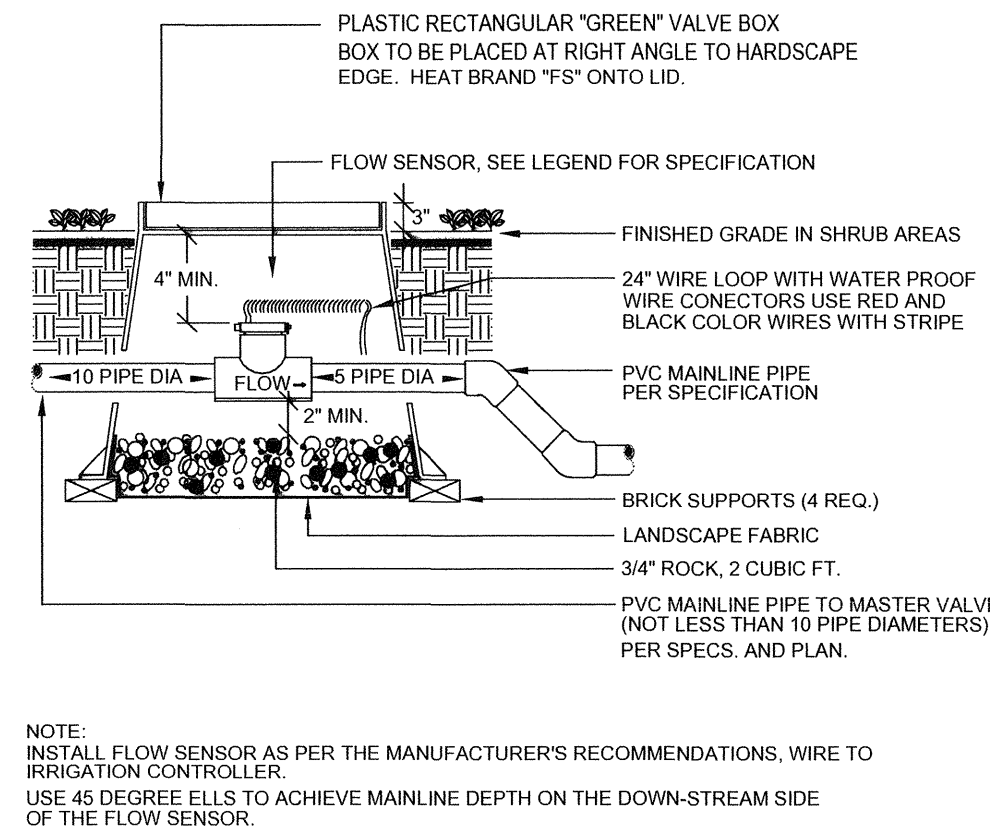
FOR BID PURPOSES ONLY. CONTRACTOR
TO OBTAIN SOILS TEST AND
RECOMMENDATIONS.



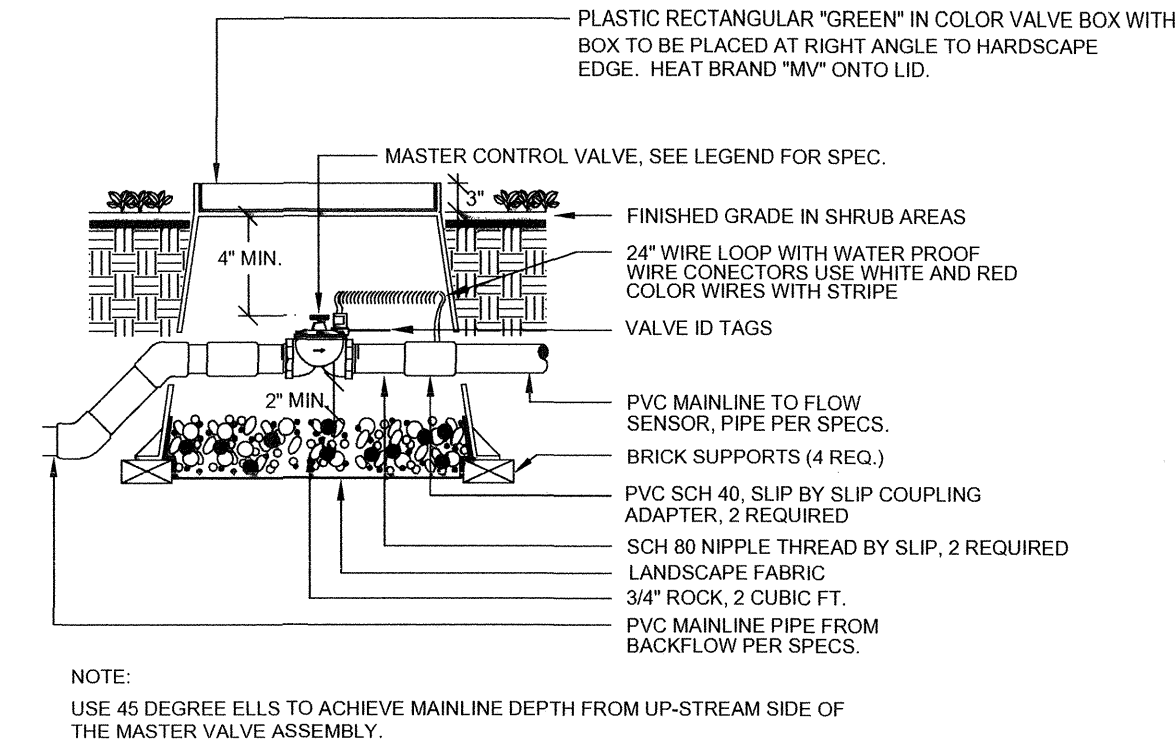
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APPROVED - CITY ENG. <i>[Signature]</i>		CONST. ENG. <i>[Signature]</i>	OFFICE ENG. _____
DR. BY: <i>[Signature]</i>		CH. BY: <i>[Signature]</i>	SHEET NO. 17 OF 23 SHEETS
DATE: 12.4.2017		SCALE: N/A	LP-6 15-C-171111Q



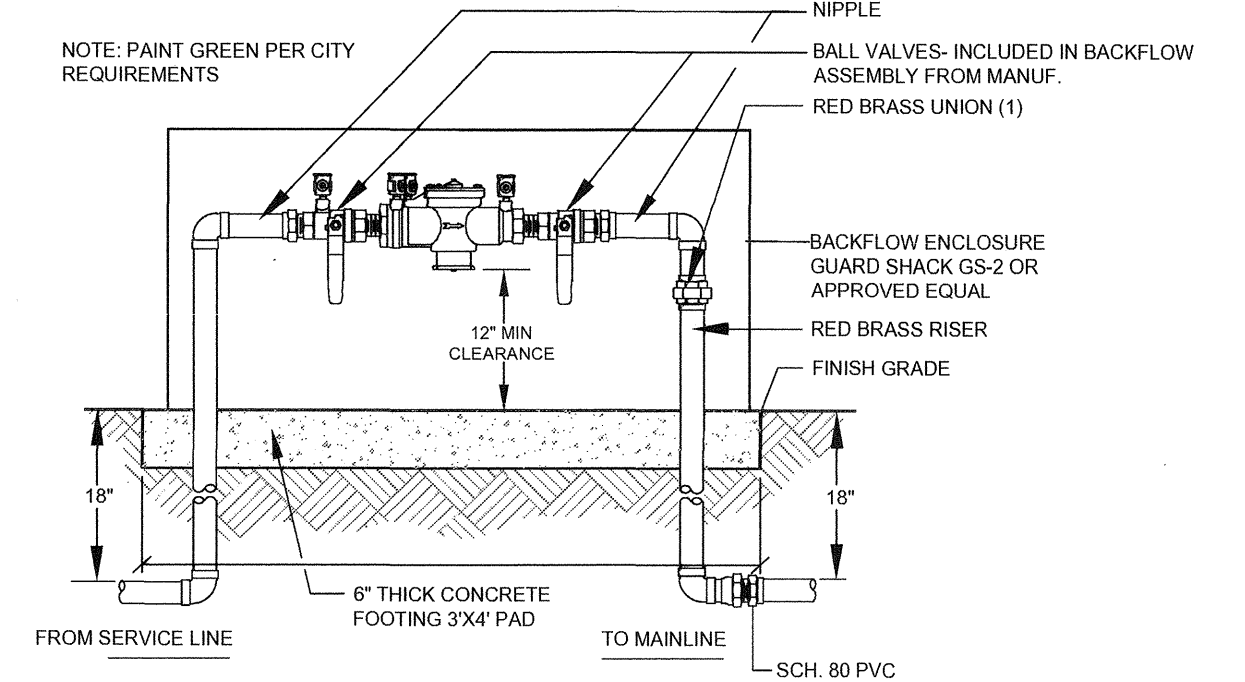
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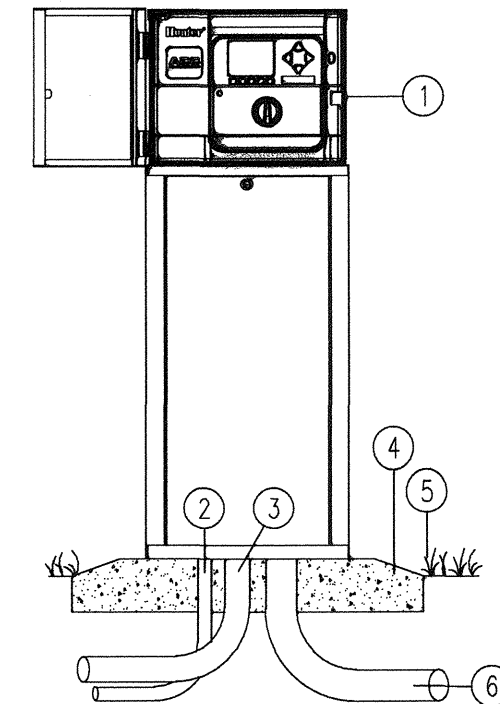
C FLOW SENSOR
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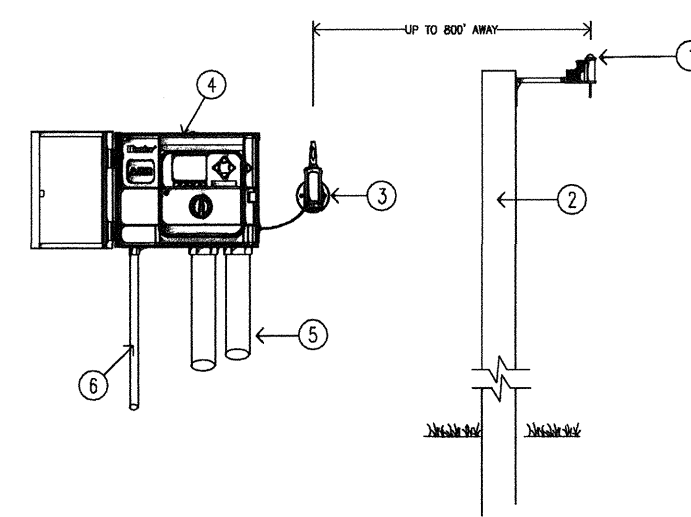
B MASTER VALVE
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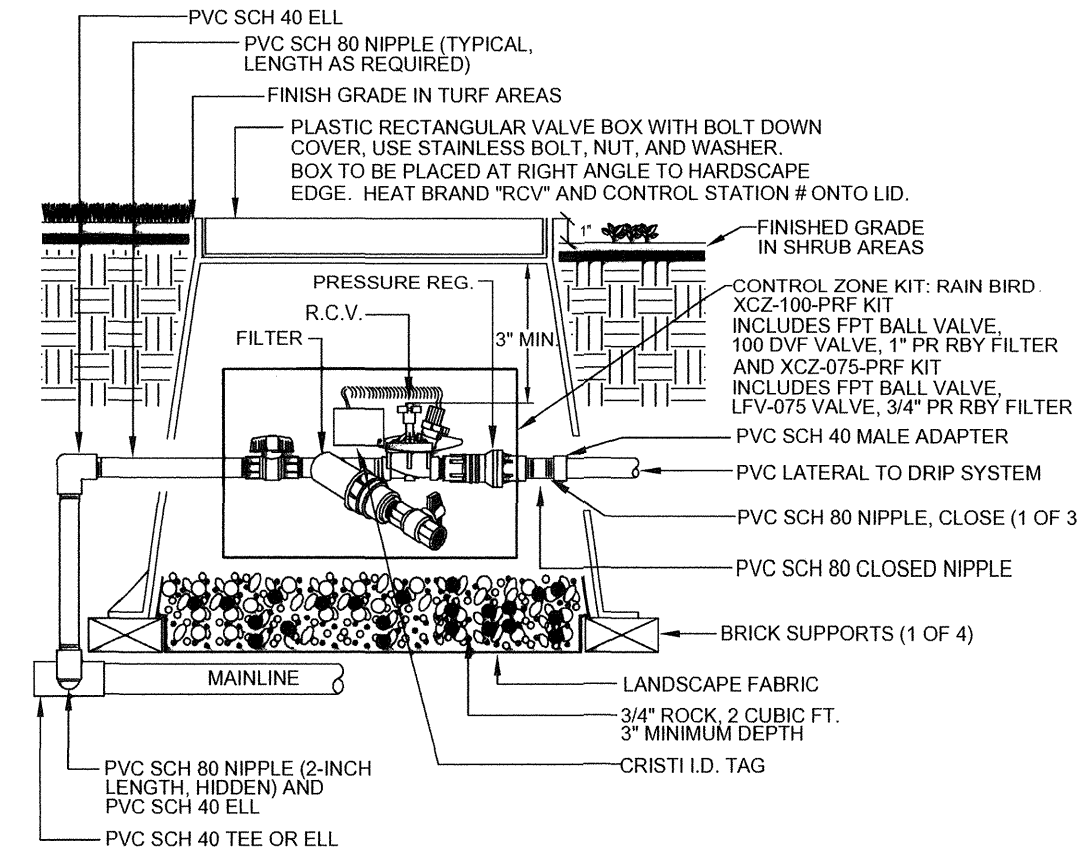
A BACKFLOW DEVICE
N.T.S.



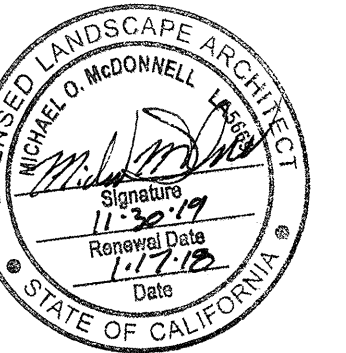
G IRRIGATION CONTROLLER
N.T.S.



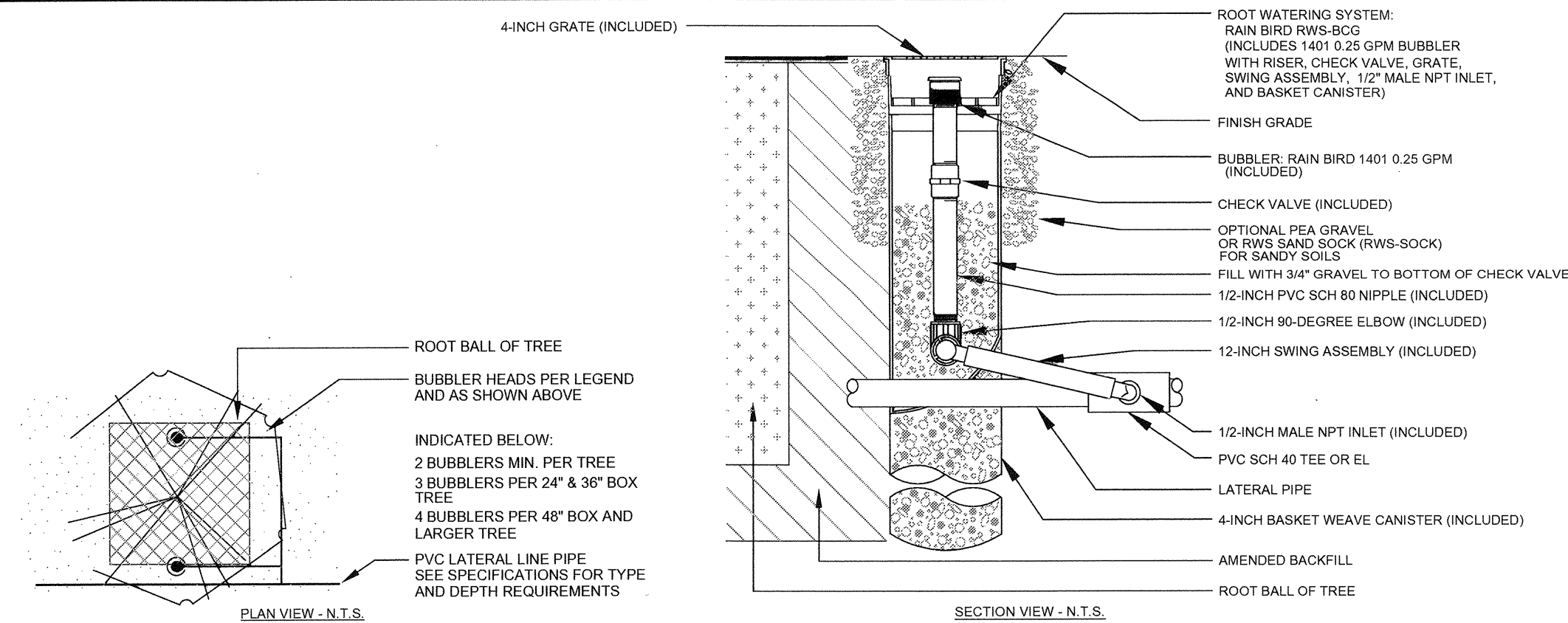
F WEATHER SENSOR
N.T.S.



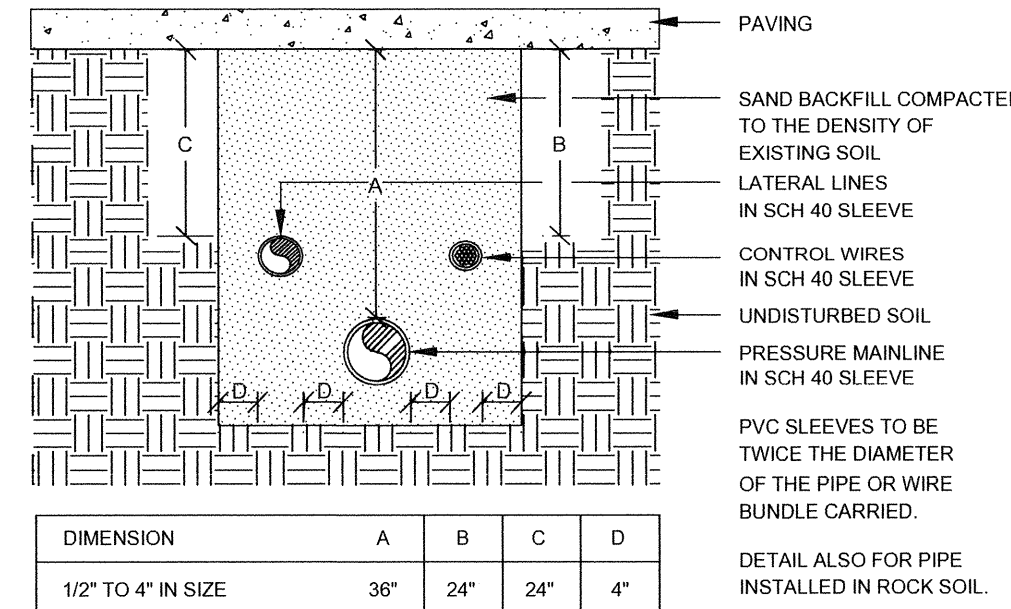
E INLINE DRIP VALVE
N.T.S.



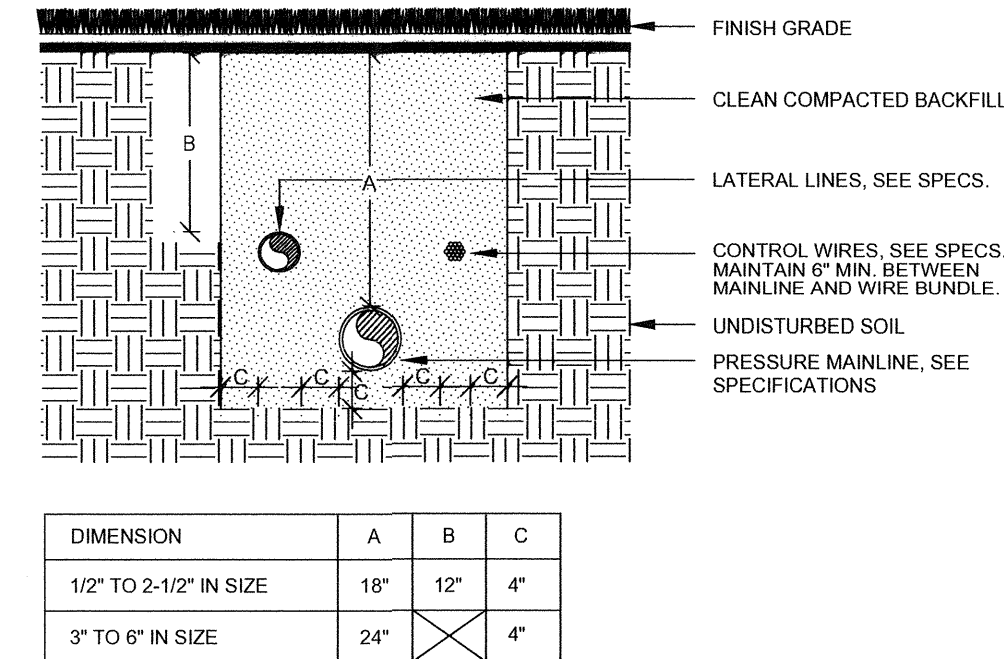
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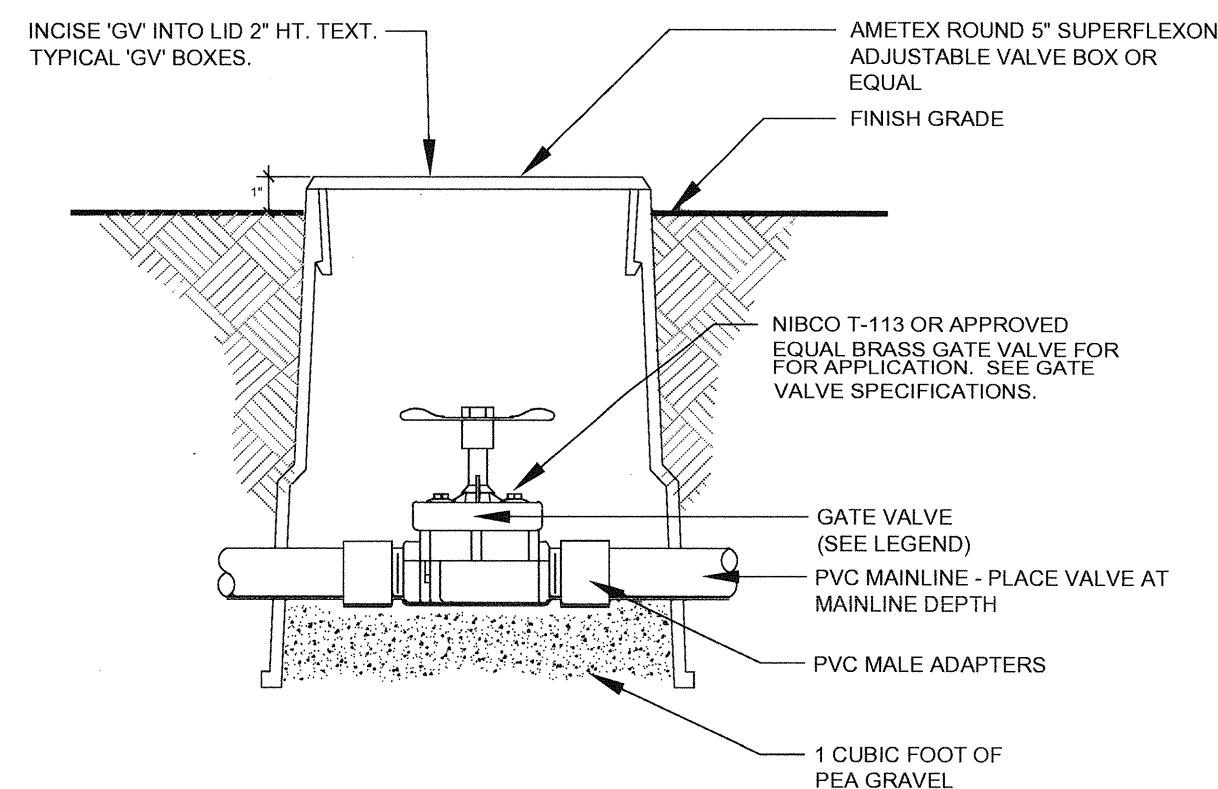
K DEEP WELL BUBBLER
N.T.S.



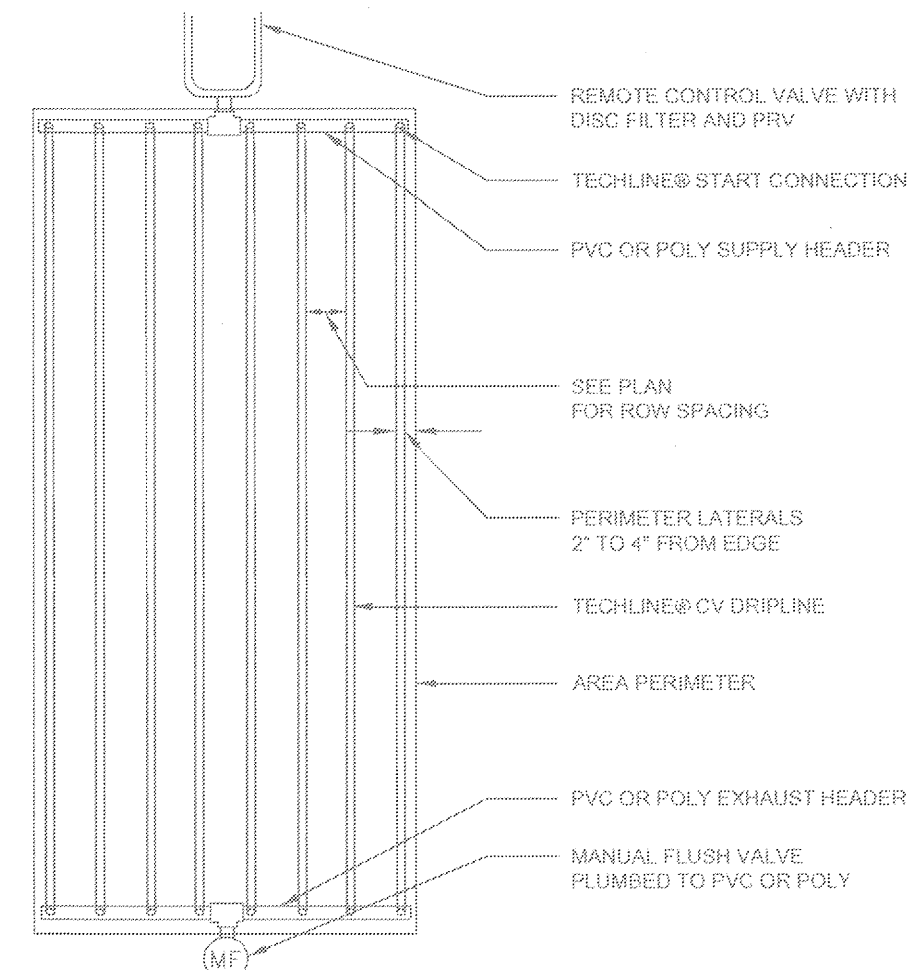
J SLEEVE INSTALLATION
N.T.S.



I PIPE INSTALLATION
N.T.S.

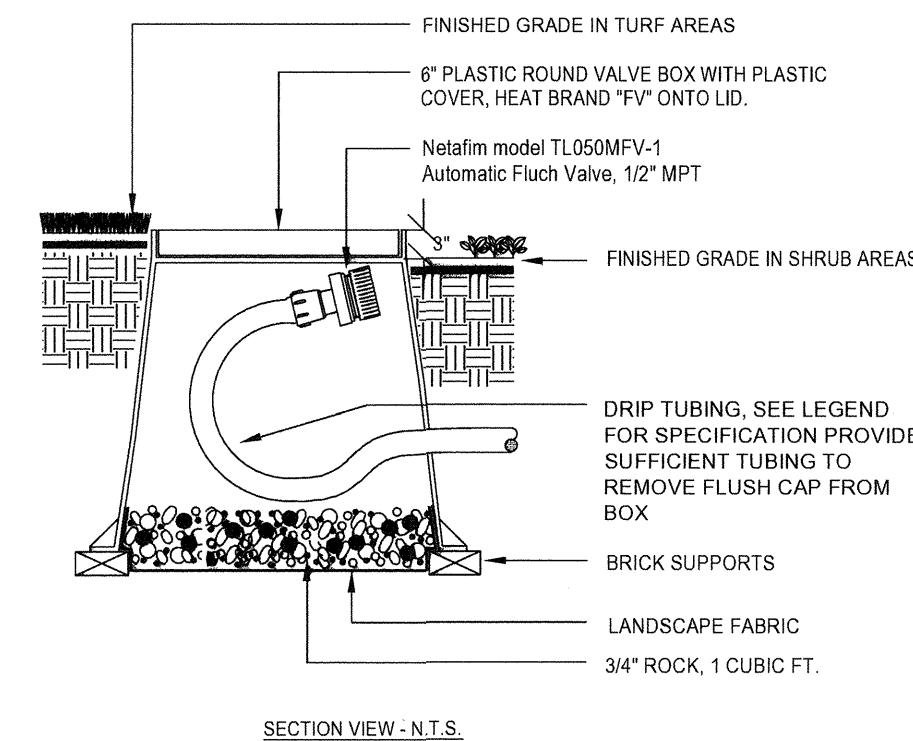


H BALL VALVE
N.T.S.

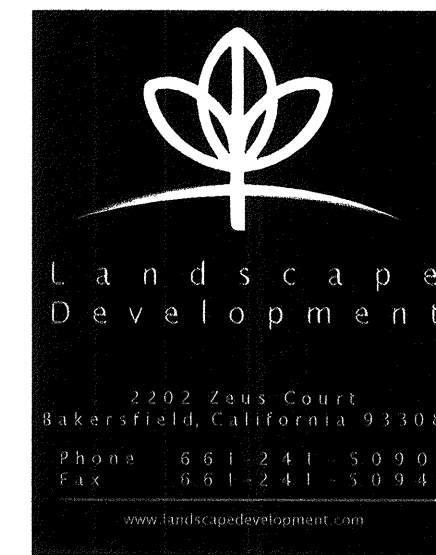
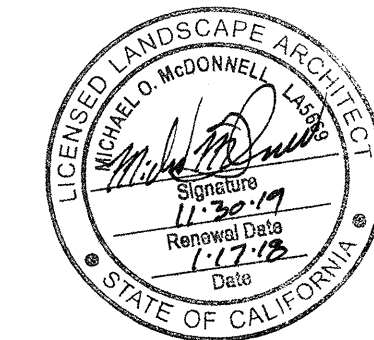


M TECHLINE CV END LAYOUT
N.T.S.

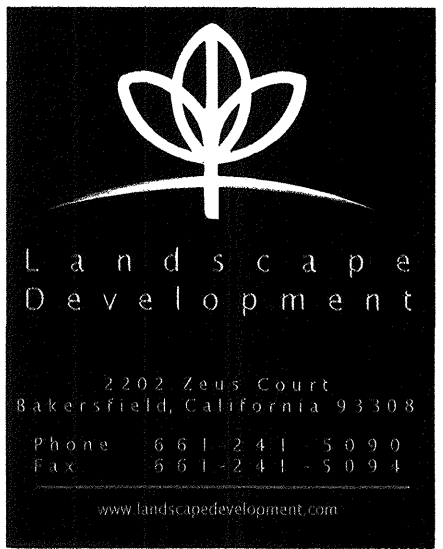
- NOTE:
1. RECOMMENDED MINIMUM FILTRATION: 120 MESH
 2. PRESSURE AT FLUSH VALVE SHALL BE MIN 14.5 PSI
 3. 2 PSI CHECK VALVE (MAX 4 6\"/>



L FLUSH VALVE
N.T.S.



PW FILE NO. PROJ. ID. FUND NO. ORG NO.	CITY OF FRESNO	DEPARTMENT OF PUBLIC WORKS	
		TRACT 6130 - CANYON CREEK LANDSCAPE IMPROVEMENT PLANS A.K. 7-7-19	
REF. & REV.	CONST. ENG. <i>[Signature]</i> CITY ENG. <i>[Signature]</i> DR. BY: C.M.F. CH. BY: R.E.M.M. DATE: 12.4.2017 SCALE: N.A.	APPROVED - OFFICE ENG. _____ SHEET NO. 19 OF 23 SHEETS IPD-2 15-C-171111S	



PW FILE NO. PROJ. ID NO. FUND NO. ORIS NO.		CITY OF FRESNO		DEPARTMENT OF PUBLIC WORKS	
REF. & REV.		TRACT 6130 - CANYON CREEK LANDSCAPE IMPROVEMENT PLANS		<i>2.7.19</i> CONST. ENG. _____ CITY ENG. _____ DR. BY: _____ CH. BY: _____ DATE: 12.4.2017 SCALE: N.A.	
				- APPROVED - OFFICE ENG. _____ SHEET NO. 20 OF 23 SHEETS IPD-3 18-C-17111J	

3. Coordinate installation of sprinkler irrigation materials, including pipe so there shall be no interference with utilities or other construction or difficulty in planting trees, shrubs, and groundcovers.
4. The Contractor shall carefully check all grades to satisfy himself that he may safely proceed before starting work on the sprinkler irrigation system.

3.2 Preparation:

A. Physical Layout:

1. Prior to installation, the Contractor shall stake out all pressure supply lines, routing, and location of sprinkler heads.
2. All layout shall be approved by Landscape Architect prior to installation.

B. Water Supply:

1. Sprinkler irrigation system shall be connected to water supply points of connection as shown on drawings.
2. Connections shall be made at approximate locations as shown on the drawings. Contractor is responsible for minor changes caused by actual site conditions.

C. Electrical Supply:

1. Electrical connections for automatic controller shall be made to electrical points of connection as shown on the drawings.
2. Connections shall be made at approximate locations as shown on the drawings. Contractor is responsible for minor changes caused by actual site conditions.

3.3 Installation:

A. Trenching:

1. Dig trenches straight and support pipe continuously on bottom of trench. Lay pipe to even grade. Trenching excavation shall follow layout indicated on the drawings and as noted.
2. Provide for a minimum cover of 18-inches for all pressure supply lines.
3. Provide for a minimum cover of 12-inches for all non-pressure lines.
4. Provide for a minimum cover of 18-inches for all control wiring.

B. Backfilling:

1. The trenches shall not be backfilled until all required tests are performed. Trenches shall be carefully backfilled with the excavated materials approved for backfilling, consisting of earth, loam, sandy clay, sand or other approved materials, free from large clods of earth or stones. Backfill shall be mechanically compacted in landscaped areas to a dry density equal to adjacent undisturbed soil in planting areas. Backfill will conform to adjacent grades without dips, sunken areas, humps, or other surface irregularities.
2. A fine granular material backfill will be initially placed on all lines. No foreign matter larger than 1/2-inch in size will be permitted in the initial backfill.
3. Flooding of trenches will be permitted only with approval of the Landscape Architect.
4. If settlement occurs and subsequent adjustments in pipe, valves, sprinkler heads, lawn, or planting, or other construction as necessary, the Contractor shall make all required adjustments without cost to the Owner.

C. Trenching and Backfill Under Paving:

1. Trenches located under areas where paving, asphaltic concrete or concrete will be installed shall be backfilled with sand (a layer six-inches below the pipe and 3-inches above the pipe), and compacted in layers to 95% compaction, using manual or mechanical tamping devices. Trenches for piping shall be compacted to equal the compaction of the existing adjacent undisturbed soil and shall be left in a firm unyielding condition. The sprinkler irrigation Contractor shall set in place, cap, and pressure test all piping under paving prior to the paving work.
2. Where any cutting or breaking of sidewalks and/or concrete is necessary it shall be done and replaced by the Contractor as part of the contract cost. Permission to cut or break sidewalks and/or concrete shall be obtained from the Landscape Architect. No hydraulic driving will be permitted under new concrete paving.

D. Assemblies:

1. Routing of sprinkler irrigation lines as indicated on the drawings is diagrammatic. Install lines (and various assemblies) in such a manner as to conform with the details per plans.
2. Install no multiple assemblies on plastic lines. Provide each assembly with its own outlet.
3. Install all assemblies specified herein in accordance with respective detail. In absence of detail drawings or specifications pertaining to specific items required to complete work, perform such work in accordance with the best standard practice with prior approval of the Landscape Architect.
4. PVC pipe and fittings shall be thoroughly cleaned of dirt, dust, and moisture before installation. Installation and solvent-weld methods shall be as recommended by the pipe and fitting manufacturer.
5. On PVC to metal connections, the Contractor shall work the metal connections first. Teflon tape, or approved equal, shall be used on all threaded PVC to PVC, and on all threaded PVC to metal joints. Light wrench pressure is all that is required. Where threaded PVC connections are required, use threaded PVC adapters into which the pipe may be welded.

E. Line Clearance: All lines shall have a minimum clearance of 6 inches from each other and from lines of other trades. Parallel lines shall not be installed directly over one another.

F. Automatic Controller: Install per manufacturer's instructions. Remote control valves shall be connected to controller in numerical sequence as shown on the drawings.

G. High Voltage Wiring for Automatic Controller:

1. 120-volt power connection to the automatic controller shall be provided by the Irrigation Contractor.
2. All electrical work shall conform to local codes, ordinances, and union authorities having jurisdiction.

H. Remote Control Valves: Install where shown on the drawings and per detail. When grouped together, allow at least 12 inches between valve boxes. Install each remote control valve in a separate valve box.

I. Flushing of System:

1. After all new sprinkler pipe lines and risers are in place and connected, all necessary diversion work has been completed, and prior to installation of sprinkler heads, the control valves shall be opened and a full head of water used to flush out the system.
2. Sprinkler heads shall be installed only after flushing of the system has been accomplished to the complete satisfaction of the Landscape Architect.

J. Sprinkler Heads:

1. Install the sprinkler heads as designated on the drawings. Sprinkler heads to be installed in this work shall be equivalent in all respects to those itemized in the irrigation equipment legend.
2. Spacing of sprinkler heads shall not exceed the maximum as indicated on the drawings. In no case shall the spacing exceed the maximum recommended by the manufacturer.
- 3.4 Temporary Repairs: The Owner reserves the right to make temporary repairs to keep the sprinkler system equipment in operating condition. The exercise of this right by the Owner shall not relieve the Contractor of his responsibilities under the terms of the guarantee as herein specified.
- 3.5 Existing Trees: Where it is necessary to excavate adjacent to existing trees, the Contractor shall use all possible care to avoid injury to trees and tree roots. Excavation in areas where 2-inch and larger roots occur shall be done by hand. All roots 2-inches and larger in diameter, except directly in the path of pipe or conduit, shall be tunneled under and shall be heavily wrapped with burlap to prevent scarring or excessive drying. Where a ditching machine is run close to trees having roots smaller than 2 inches in diameter, the wall of the trench adjacent to the tree shall be hand trimmed, making clean cuts through. Roots 1/2 inch and larger in diameter shall be painted with two coats of tree seal, or equal. Trenches adjacent to trees should be closed within 24-hours, and where this is not possible, the side of the trench adjacent to the tree shall be kept shaded with burlap or canvas.

3.6 Field Quality Control:

A. Adjustment of the System:

1. The Contractor shall flush and adjust all sprinkler heads for optimum performance and to prevent overspray onto walks, roadways, and buildings as much as possible.
2. If it is determined that adjustments in the irrigation equipment will provide proper and more adequate coverage, the Contractor may also include changes in nozzle sizes and degrees of arc as required.
3. Lowering raised sprinkler heads by the Contract shall be accomplished within ten days after notification by Owner or Landscape Architect.
4. All sprinkler heads shall be set perpendicular to finished grade unless otherwise designated on the plan or as required for proper coverage (slopes, etc.).

B. Testing of Irrigation System:

1. The Contractor shall request the presence of the Landscape Architect in writing at least 48 hours in advance of any testing.
2. Test all pressure lines under hydrostatic pressure of 150 PSI and prove watertight.

Note: Testing of pressure main line piping shall occur prior to installation of electric control valves or quick coupling valves.

3. All piping under paved areas shall be tested under hydrostatic pressure of 150 psi and proved watertight, prior to paving.
4. Sustain pressure in tested lines for not less than two hours. If leaks develop, replace joints and repeat test until entire system is proven watertight.

5. All hydrostatic tests shall be made only in the presence of the Landscape Architect. No pipe shall be backfilled until it has been observed, tested, and approved in writing.

6. Contractor shall furnish force pump & all other test equipment necessary.

When the sprinkler irrigation system is completed, perform a coverage test in the presence of the Landscape Architect to determine if the water coverage for planting areas is complete and adequate. Furnish all materials and perform all work required to correct any inadequacies of coverage due to the deviation from plans, or where the system has been willfully installed as indicated on the drawing when it is obviously inadequate, without bringing this to the attention of the Landscape Architect. This test shall be accomplished before any groundcover is planted.

8. Upon completion of each phase of work, the entire system shall be tested and adjusted to meet site requirements.

3.7 Maintenance:

- A. The entire sprinkler irrigation system shall be under full automatic operation for a period of seven days prior to any planting and for 90 days after inspection to begin maintenance period.

~~B. The Landscape Architect reserves the right to waive or shorten the operation period.~~ -OMIT-

- 3.8 Clean-up: Clean-up shall be made as each portion of work progresses. Refuse and excess dirt shall be removed from the site. All walks and paving shall be broomed or washed down, and any damage sustained on the work of others shall be repaired to original conditions.

3.9 Final Observation Prior to Acceptance:

- A. The Contractor shall operate each system in its entirety for the Landscape Architect at the time of final inspection. Any items deemed not acceptable by the qualified observer shall be reworked to the complete satisfaction of the Landscape Architect.
- B. The Contractor shall show evidence to the Landscape Architect that the Owner has received all accessories, charts, record drawings and equipment as required before final observation can occur.

3.10 Observation Schedule:

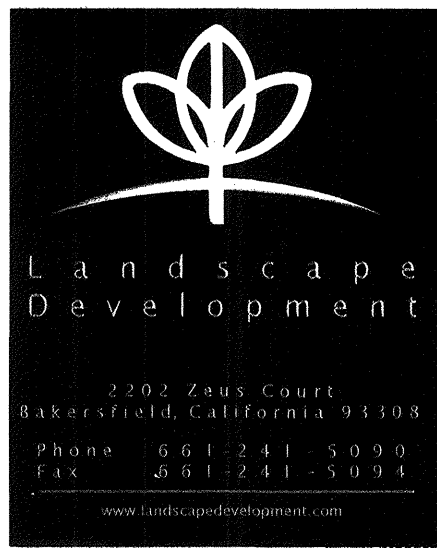
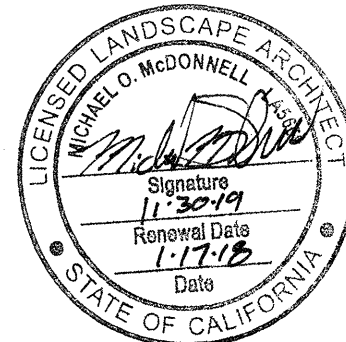
- A. Contractor shall be responsible for notifying the Landscape Architect in advance for the following observations according to the time indicated:

1. Pre-job conference - 7 days.
2. Pressure supply line installation and testing - 48 hours.
3. Automatic controller installation - 48 hours.
4. Control wire installation - 48 hours.
5. Lateral line and sprinkler installation - 48 hours.
6. Coverage test - 48 hours.
7. Observation to begin maintenance period - 7 days.
8. Final Observation - 7 days.

- B. When observations have been conducted by other than the Landscape

- C. No observation will commence without record drawings. In the event the Contractor calls for an observation without record drawings, without completing previously noted corrections, or without preparing the system for observation, he shall be responsible for reimbursing the Landscape Architect at the rate per hour (portal to portal) plus transportation costs, for the inconvenience. No further observations will be scheduled until this charge has been paid.

END



LDI JOB #:

PW FILE NO. PROJ. ID FUND NO. ORG. NO.	CITY OF FRESNO	DEPARTMENT OF PUBLIC WORKS	
REF. & REV.	TRACT 6130 - CANYON CREEK LANDSCAPE IMPROVEMENT PLANS		APPROVED - CONST. ENG. <i>[Signature]</i> OFFICE ENG. _____ DR. BY: C.A.R.F. SHEET NO. 22 CH. BY: F.M.M. OF 23 SHEETS DATE: 12.4.2017 SCALE: NA

LANDSCAPE PLANTING SPECIFICATIONS

PART 1 - GENERAL CONDITIONS

1.1 Description:

A. Work Included:

- The work included in these specifications shall consist of the furnishing of all labor, tools, materials, permits, appliances, taxes and all other costs, foreseeable and unforeseeable at the time of contracting necessary and appropriate for the installation of the accompanying drawings.
- No deviation from these specifications or from the agreement or from the general conditions is authorized and no such deviation shall be made unless the written authorization, therefore signed by the Owner or his duly authorized representative, has been obtained in advance.

1.2 Interpretation of Plans and Specifications:

- A. The Landscape Architect will interpret the meaning of any part of the any plans and specifications about which any misunderstanding may arise, and his decision will be final.
- B. Should there appear to be an error or discrepancy in or between the plans, specifications & planting lists, the Contractor shall refer the matter to the Landscape Architect for adjustment before proceeding with the work. Should the Contractor proceed with the work without so referring the matter, he does so on his liability.

1.3 Quality Assurance:

- A. Quality of work: The Landscape Architect shall be notified at least two days prior to work commencement, by the Contractor and prior to inspection visits by the Landscape Architect. All work shall be done in a good workmanlike manner in accordance with all plans and specifications and best considered practice, shall meet with the approval of the Landscape Architect and Owner and shall be in accordance with the requirements of local building codes and laws. Any defective work will be redone at the Contractor's expense as directed by the Landscape Architect.
- B. Permits: The Contractor will be responsible for obtaining any and all necessary building permits from the city of other governmental authorities.
- C. License requirements: The Contractor shall carry necessary Contractor's California State License or Certificate for type of work listed, such as the Landscape Contractor's License.
- D. Insurance coverage: The contractor shall carry all necessary compensation and liability insurance to cover his workmen and work to protect the Owner from any possible damage suit or lien on the Owner's property in the course of the work by the Contractor and will show the Owner such evidence of above indicated insurance coverage prior to initiating work.

E. Property, etc., Damage responsibility:

- The Contractor is to protect at all times all existing utilities, structures, trees, plants and other features intended to remain on and adjacent to the job site and to repair or replace any damaged items in a neat and good workmanlike manner during and due to his work on the job and he shall assume all damage or injury that may result to all such property and/or to persons where such damage or injury is caused in connection with his work or is due to his negligence or to his leaving open or unprotected portions of streets or other property.
 - Should any part of the work under this contract be damaged by other contractors, the Contractor and party causing such damage shall make adjustments between themselves and not with the Owner relative to the repairs or reconstruction and payment for same.
- F. Knowledge of site: It is assumed that the Contractor has visited the site and familiarized himself as to the site conditions and shall have verified all dimensions as well as ascertaining the means of getting into the site and any other factors affecting the work.

1.4 Costs:

- A. Segregation of costs: At the time of execution of the contract, the Contractor shall furnish to the office of the Owner, for purposes of accounting and scheduling, a segregated cost schedule or breakdown of the contract price, listing the various components in the plans as well as unit prices of each component specified in a form satisfactory to form the Owner. These schedules shall also be used as the basis in formulating the progress payments to be made to the Contractor and these cost breakdowns shall be part of the contract.
- B. Extras or changes: Any extras or changes from the contract on the job shall have the prior approval of the Landscape Architect and must be approved in writing by the Landscape Architect and Owner.
- C. Increased costs: If the extra or change is to be done at increased cost over and above the contract fee, the Owner shall sign the Contractor's written request for such additional funds for extra work prior to actually doing this work.

1.5 Product protection, storage and handling:

- A. Site condition: The Contractor, in the course of his work, is to keep the site in a neat and tidy condition as much as is practical so as not to disturb the normal usage of the surrounding areas by the Owner or by others.
- B. Site clearance: Upon completion of the work, the Contractor shall properly clean and tidy such work and the surrounding areas used by and remove any or all excess materials, dirt, debris from the site or to dispose of same as directed by the Landscape Architect.
- C. Owner's materials: During the course of the work, any materials, equipment and services may be provided by the Owner and used by the Contractor in the job, for such materials, equipment, and services, the Contractor is to give credit to the Owner at the standard current rate for such items. Such credit, if any, will appear in the final billing by the Contractor to the Owner.
- D. Plans and specifications: All landscaping including plants, ground covers, soil additives and other miscellaneous landscape items shall be provided and installed in strict accordance with plans and specifications prepared by Owner.
- E. Changes: The Owner shall have the right to make minor changes in the landscape design and installation to insure practicality of design and for aesthetic reasons at no additional cost.

PART 2 - MATERIALS

- 2.1 Grading: Grade all areas by filling and/or removing surplus soil as needed to ensure proper grades and drainage as indicated on the plans. Unless otherwise noted, finish grade shall be below hardscape as follow: 2" for ground cover areas, 1" for lawn areas.
- 2.2 Moisture content: The soil shall not be worked when moisture content is so great that excessive compaction will occur nor shall it be so dry that dust will occur and form in the air or that clods will not break readily. Water shall be applied, if necessary, to provide ideal moisture content for tilling.
- 2.3 Weed removal: Weeds, plus bermuda grass, etc., shall be dug out from all planting areas by their roots wherever possible and removed from the site. Where necessary to discourage reoccurrence of this material, the Contractor shall apply one or more treatments of a satisfactory chemical per manufacturer's directions in regard to concentration plus allowance of an ample period of time for effective performance prior to cultivation. The site shall be maintained in a weed and litter free condition during the maintenance period. Weeds shall be removed at frequencies adequate to prevent the maturation of weed seeds.

2.4 Plants:

A. Inspection:

Plants shall be subject to inspection and approval or rejection by the Landscape Architect at place of growth and/or the project site at any time before or during progress or work for size, variety, condition, latent defects and injuries. Rejected plants shall be removed from the site immediately. Inspection of plant material for medians and trail shall requested with 24 hour advanced notice. Call Construction Management: 559-621-5600.

B. Conditions:

Plants shall be symmetrical, typical for variety and species, sound, healthy, vigorous, free from plant disease, insect pests or their eggs and shall have healthy normal root systems, well filling their containers, but not to the point of being root bound.

- 2.5 Protection: Protect and maintain all plants from sun, drought, wind, theft, rain and heat at all times before and during planting operation.

2.6 Planting requirements for trees and shrubs:

- A. Plant materials in quantities and sizes specified shall, after grading operations, be spotted approximately as shown on the landscape drawings and are to be approved by the Landscape Architect before being removed from containers and excavating soil for planting.
- B. All backfill materials shall be mixed thoroughly on site before using. See soil analasyst from soil engineers for exact compaction rates.

PART 3 - EXECUTION

3.1 Planting:

- A. Container-grown plants to be planted in plant pits two (2) times wider than plant container and a depth of twice the height of plant container. Plant crown to be slightly higher than its natural growing height after settlement. 24"x10" deep holes to be drilled for trees in Right-of-way's. Settle for 20 days prior to planting.
- B. Pruning of plants will not be tolerated.
- C. All plants shall be watered immediately, before backfilling planting pits.
- D. All areas receiving plants and/or hydroseeding shall be moist to a depth of 6" at time of planting.
- E. Plant all plants 5' minimum from irrigation heads (slopes only).
- F. Scarify the sides of each root ball prior to planting if circular root is evident.
- G. Plant quantities on the plan are for the Contractor's convenience and not guaranteed to be accurate.
- H. Plant symbols take precedence over quantities specified.

- 3.2 All work shall be as directed by Owner's field representative, who shall be appointed prior to the commencement of the work.

- 3.3 Contractor shall submit all material receipts to Landscape Architect.

3.4 Maintenance:

- A. Maintenance period shall not begin until entire installation is accepted by the Owner.

- B. Maintenance period shall be for the following duration: 90 Days.

1. All plants and planting shall be guaranteed for the following durations beginning at the first day of the maintenance period.

Trees and shrubs, 15 gallon and larger.	1 Year
Potted plants & pottery.	1 Year
Shrubs, 5 gallon and smaller.	90 Days
Ground cover.	90 Days
Lawn.	90 Days

2. All dead, damaged or broken plant material, including sodded and seeded lawns and ground cover, shall be replaced at two-week intervals.

- C. Fertilize with 2 lbs. actual nitrogen per 1000 sq. ft. at end of 30 days. Landscape Architect will specify type, depending on season. Perform last fertilizing at end of maintenance period in the presence of the Landscape Architect.

PART 4 - PLANTING NOTES

- 4.1 Landscape Contractor shall repair and/or replace any damaged plant material which is damaged due to his negligence.

- 4.2 Landscape Contractor shall be backcharged for Landscape Architect's time in locating any landscape material as requested by the construction manager.

- 4.3 Landscape Contractor shall submit all amendment quantity receipts to construction manager and/or Landscape Architect for approval.

- 4.4 Contractor shall perform all fertilizing in the presence of the construction manager or Landscape Architect. See Soil Preparation Requirement, sheet LP-1.

- 4.5 Contractor is responsible for maintaining all areas in a weed and debris free condition throughout the maintenance period. (See specifications).

- 4.6 Plant symbols take precedence over plant quantities.

- 4.7 All plants shall be protected against heat, sun, wind and frost during transportation to the site and while being held at the site. Do not store plants in total darkness for more than one day.

- 4.8 Wilted plant material shall not be planted or used on the project.

- 4.9 Do not damage plant root during transportation or planting process.

- 4.10 Plant material may be rejected at any time by the Landscape Architect due to condition, form or damage before or after planting.

- 4.11 Landscape Architect shall approve final placement of all trees, shrubs and vines prior to planting.

- 4.12 All surface rock and debris 1" and larger shall be removed from planting areas and then from the site.

- 4.13 Crown of plant shall be slightly higher, after settling, than adjacent soil.

- 4.14 Prune trees as directed by Landscape Architect after inspection.

~~4.15 Remove water basins from all trees located in lawn areas prior to hydroseeding installation.~~ -OMIT-

- 4.16 Any and all damage in new and existing paving caused by the Contractor shall be the responsibility of the Contractor and be repaired by the Contractor.

- 4.17 Install all trees and shrubs prior to planting of groundcover and/or hydroseeding.

PART 5 - HYDROSEEDING MATERIALS.

5.1 Seed:

- A. Label seed and furnish in sealed standard containers with signed copies of a statement from seed vendor certifying that each container of seed delivered is fully labeled in accordance with California State Agricultural Code and is equal to or better than requirements of this section.

- B. Contractor shall submit all seed labels and certification letter to landscape architect for verification and approval.

- C. Seed which has become wet, moldy or otherwise damaged in transit or storage will be rejected.

5. Fiber Mulch:

- A. Composed of green colored wood cellulose fiber containing no germination or growth inhibiting factors.

- B. Mulch is to be manufactured in such a manner that after the addition of seed, fertilizer, water and additives in a special 1,500 gallon slurry tank, the fibers and above materials will become uniformly mixed to form a homogeneous slurry.

- C. Weight specifications of this material from the suppliers and for all applications, shall refer only to the air dry weight of the fiber materials. Absolute air dry weight is based on the normal standards of the Technical Association of the Pulp Industry for wood cellulose and is considered equivalent to 10% moisture. Each package of the cellulose fiber shall be marked by the namufacturers to show the air dry weight content.

- D. Acceptable Manufacturer: Conwed.

5.1 Seed:

- A. Dry, organic powder hydrocolloid formulation.
- B. Hydrate and disperse in a mixing tank with circulating water from a homogeneous slurry, either alone or in combination with other materials. pH to be stable in presence of fertilizer.
- C. Application of soil and mulch tackifier to be made at a minimum rate of:
- Flat areas-80 pounds per acre.
 - Sloped areas (3:1 or steeper)-120 pounds per acre.
- D. Acceptable Manufacturer: Ecology control-M Binder by Conwed.
- E. Chemical germinating additives shall be " Catalytic Pre-Emerge" or approve equal.
- F. Urea formaldehyde shall be a pelletized commercial fertilizer for hydromulch slurry.

END

PW FILE NO. PROJ. ID. FUND NO. ORG NO.	REF. & REV.	CITY OF FRESNO	DEPARTMENT OF PUBLIC WORKS
		TRACT 6130 - CANYON CREEK LANDSCAPE IMPROVEMENT PLANS	APPROVED - CONST. ENG. <i>RFM</i> CITY ENG. <i>RFM</i> DR. BY: <i>RFM</i> CH. BY: <i>RFM</i> DATE: 12.4.2017 SCALE: N.A.
		21k. 2-7-18	OFFICE ENG. _____ SHEET NO. 23 OF 23 SHEETS LS-3 15-C-171111W

