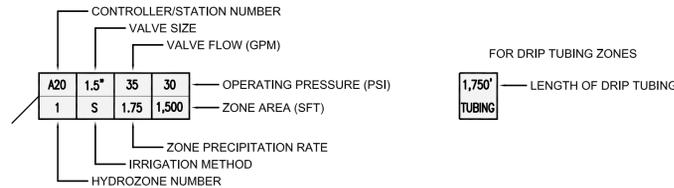


## IRRIGATION NOTES

- ALL LOCAL MUNICIPAL AND STATE LAWS, RULES AND REGULATIONS GOVERNING OR RELATING TO ANY PORTION OF THIS WORK ARE HEREBY INCORPORATED INTO AND MADE A PART OF THESE SPECIFICATIONS AND THEIR PROVISIONS SHALL BE CARRIED OUT BY THE CONTRACTOR.
- THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING UTILITIES, STRUCTURES AND SERVICES BEFORE COMMENCING WORK. THE LOCATIONS OF UTILITIES, STRUCTURES AND SERVICES SHOWN IN THESE PLANS ARE APPROXIMATE ONLY. ANY DISCREPANCIES BETWEEN THESE PLANS AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE OWNER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS REQUIRED TO PERFORM THE WORK INDICATED HEREIN BEFORE BEGINNING WORK.
- THIS DESIGN IS DIAGRAMMATIC. ALL EQUIPMENT SHOWN IN PAVED AREAS IS FOR DESIGN CLARITY ONLY AND IS TO BE INSTALLED WITHIN PLANTING AREAS.
- THE CONTRACTOR SHALL NOT WILLFULLY INSTALL ANY EQUIPMENT AS SHOWN ON THE PLANS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN CONDITIONS EXIST THAT WERE NOT EVIDENT AT THE TIME THESE PLANS WERE PREPARED. ANY SUCH CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE PRIOR TO ANY WORK OR THE IRRIGATION CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR ANY FIELD CHANGES DEEMED NECESSARY BY THE OWNER.
- INSTALL ALL EQUIPMENT AS SHOWN IN THE DETAILS AND SPECIFICATIONS. CONTRACTOR SHALL BE RESPONSIBLE TO COMPLY WITH LOCAL CITY, COUNTY AND STATE REQUIREMENTS FOR BOTH EQUIPMENT AND INSTALLATION.
- ACTUAL LOCATION FOR THE INSTALLATION OF THE AUTOMATIC CONTROLLER IS TO BE DETERMINED IN THE FIELD BY THE OWNER'S AUTHORIZED REPRESENTATIVE.
- CONTRACTOR IS TO PROVIDE AN ADDITIONAL PILOT WIRE FROM CONTROLLER ALONG ENTIRETY OF MAIN LINE TO THE LAST RCV ON EACH AND EVERY LEG OF MAIN LINE. LABEL SPARE WIRES AT BOTH ENDS.
- ALL PIPE UNDER PAVED AREAS TO BE INSTALLED IN SLEEVEING TWICE THE DIAMETER OF THE PIPE CARRIED. SEE LEGEND FOR TYPE. ALL WIRE UNDER PAVED AREAS TO BE INSTALLED IN A SCH. 40 SLEEVE THE SIZE REQUIRED TO EASILY PULL WIRE THROUGH. ALL SLEEVES TO BE INSTALLED WITH A MINIMUM DEPTH AS SHOWN ON THE SLEEVEING DETAILS. SLEEVES TO EXTEND AT LEAST 12" PAST THE EDGE OF THE PAVING.
- ALL QUICK COUPLER AND REMOTE CONTROL VALVES TO BE INSTALLED IN SHRUB OR GROUND COVER AREAS WHERE POSSIBLE. ALL QUICK COUPLER AND REMOTE CONTROL VALVES TO BE INSTALLED AS SHOWN ON THE INSTALLATION DETAILS. INSTALL ALL QUICK COUPLER AND REMOTE CONTROL VALVES WITHIN 18" OF HARDSCAPE.
- ALL HEADS ARE TO BE INSTALLED WITH THE NOZZLE, SCREEN AND ARCS SHOWN ON THE PLANS. ALL HEADS ARE TO BE ADJUSTED TO PREVENT OVERSPRAY ONTO BUILDINGS, WALLS, FENCES AND HARDSCAPE. THIS INCLUDES, BUT NOT LIMITED TO, ADJUSTMENT OF DIFFUSER PIN OR ADJUSTMENT SCREEN, REPLACEMENT OF PRESSURE COMPENSATING SCREENS, REPLACEMENT OF NOZZLES WITH MORE APPROPRIATE RADIUS UNITS AND THE REPLACEMENT OF NOZZLES WITH ADJUSTABLE ARC UNITS.
- CONTRACTOR SHALL INSTALL ADDITIONAL CHECK VALVES TO HEADS AND LATERALS AS REQUIRED TO PREVENT LOW HEAD DRAINAGE.
- THE CONTRACTOR SHALL USE PROPER GROUNDING TECHNIQUES FOR GROUNDING THE CONTROLLER AND RELATED EQUIPMENT PER MANUFACTURERS SPECIFICATIONS. SWEENEY AND ASSOCIATES RECOMMENDS MEASURING FOR PROPER GROUND AT LEAST ONCE ANNUALLY, AND NECESSARY ADJUSTMENTS MADE TO COMPLY WITH MANUFACTURER SPECIFICATIONS.

HYDROZONE	HYDROZONE DESCRIPTION	IRR METHOD	IRRIGATION METHOD DESCRIPTION
1	MIX - SHRUBS IRRIGATED WITH SPRAYS	BUBB	POP-UP BUBBLER HEADS
2	MIX - SHRUBS IRRIGATED WITH BUBBLERS	SPRY	SPRAY HEADS
3	HIGH-TURF IRRIGATED WITH SPRAY HEADS		
4	TREES IRRIGATED WITH BUBBLER HEADS		



### WATER PRESSURE LOSS CALCULATIONS

WATER METER NUMBER	WATER METER SIZE (Inches)
HYDRAULIC GRADE LINE (FT)	WATER METER ELEVATION (FT)
ELEVATION DIFFERENCE (FT)	STATIC PRESSURE (PSI)
87.0	
REMOTE CONTROL VALVE #	2
R.C.V. DEMAND (GPM)	46
HIGHEST HEAD SERVED (FT)	STATIC PRESSURE AT HIGHEST HEAD
1.50	46

SIZE (Inches)	DESCRIPTION	FLOW	#	LOSS
1	SERVICE LINE (50 FT OF TYPE K COPPER)		1	0.00 PSI
1	WATER METER (XXXX TYPE)		2	0.00 PSI
3	BACKFLOW PREVENTER (R/P TYPE)		3	0.00 PSI
4	FILTRATION (WYE FILTER)		4	0.00 PSI
5	PRESSURE REGULATOR (WILKINS 500HLR)		5	0.00 PSI
6	BFD ASSEMBLY PIPING (BRASS W/ 4 ELLS)		6	0.00 PSI
7	MASTER CONTROL VALVE		7	0.00 PSI
8	FLOW SENSOR		8	0.00 PSI
46	ISOLATION VALVES (BALL TYPE)		46	9.50 PSI
46	300 FEET OF MAINLINE: CL 315 PVC		46	10.75 PSI
11	XXXX FEET OF MAINLINE: CL 315 PVC		11	0.00 PSI
12	XXXX FEET OF MAINLINE: CL 315 PVC		12	0.00 PSI
46	5- 90 DEGREE ELBOWS		46	13.21 PSI
46	REMOTE CONTROL VALVE ASSEMBLY		46	14.25 PSI
46	10% LATERAL LINE LOSSES		46	15.30 PSI
N/A	20% FITTING LOSS (IN ADDITION TO ELBOWS SHOWN)		N/A	0.15 PSI
N/A	ELEVATION CHANGE (P.O.C. TO HIGHEST HEAD)		N/A	0.00 PSI
18	TOTAL SYSTEM PRESSURE LOSS (SUM OF #1 THRU #17)		18	7.2 PSI
19	PRESSURE REQUIRED AT HEAD (OPERATING PRESSURE)		19	30.0 PSI
20	TOTAL PRESSURE REQUIRED (SUM OF #18 AND #19)		20	37.2 PSI
21	STATIC WATER PRESSURE (FROM ABOVE)		21	87.0 PSI
22	RESIDUAL PRESSURE (SUBTRACT #20 FROM #21)		22	49.8 PSI
23	SET PRV OR MCV AT (#20 PLUS 10 PSI)		23	47.2 PSI
24	PRESSURE BOOST, IF REQUIRED (SET TO ACHIEVE 20 PSI RESIDUAL)		24	N/A PSI

LANDSCAPE IRRIGATION WATER ANALYSIS			
PROJECT NAME:	ORCHARD GARDENS PARK EXPANSION PROJECT		
PROJECT ADDRESS:	CITY OF SUNNYVALE SANTA CLARA, CA		
POINT OF CONNECTION NUMBER:	1		
CONTROLLER NUMBER OR LETTER:	A		
REFERENCE EVAPOTRANSPIRATION RATE (Eto):	49.4	INCHES / YEAR	
TOTAL OF HYDROZONE AREAS (HA):	13,413	SQUARE FEET	
TOTAL OF SPECIAL LANDSCAPE AREAS (SLA):	0	SQUARE FEET	
TOTAL LANDSCAPE AREAS (LA):	13,413	SQUARE FEET	
MAXIMUM APPLIED WATER ALLOWANCE:			
TOTAL MAWA = (Eto) x (0.62) x [(0.7 x LA) + (0.3 x SLA)] =	287,569	GALLONS / YEAR	
ESTIMATED APPLIED WATER USED:			
TOTAL EAWU = (Eto) x (0.62) x [(PF x HA)/E] + SLA =	273,715	GALLONS / YEAR	THIS PROJECT USES LESS WATER THAN THE MAXIMUM APPLIED WATER ALLOWANCE
HYDROZONE AREA (HA) CALCULATIONS FOR HYDROZONES:			
HYDROZONE DESCRIPTION	AREA (SFT)	PLANT FACTOR (PF)	HYDROZONE AREA (HA) IRRIGATION EFFICIENCY (IE)
HYDROZONE #1: SHRUB AREA WITH SPRAY HEADS	10,127	0.40	4,051 0.625
HYDROZONE #2: SHRUB AREA WITH BUBBLERS	1,876	0.40	750 0.900
HYDROZONE #3: TURF AREA WITH SPRAY HEADS	1,410	0.80	1,128 0.625
TOTAL OF ALL HYDROZONE AREAS (HA) ON THE PROJECT:	13,413		5,929
CALCULATED AVERAGE IRRIGATION EFFICIENCY OF ALL HYDROZONE AREAS:			0.663
SPECIAL LANDSCAPE AREA DESCRIPTION	AREA (SFT)	PLANT FACTOR (PF)	HYDROZONE AREA (HA) IRRIGATION EFFICIENCY (IE)
TOTAL SPECIAL LANDSCAPE AREAS (SLA) ON PROJECT:	0		

## IRRIGATION MATERIAL LEGEND

SYMBOL	Q	T	H	F	MANUFACT.	MODEL NO. / DESCRIPTION	GPM	PSI	RADIUS	PR (TRI.)	DETAIL
◆	◆	◆	◆	◆	RAIN BIRD	1806-SAM-PRS POP-UP TURF HEAD W/ 8Q/8T/8H/8F NOZZLES	.26, .35, .52, 1.05	30	8 FT	1.69 IN./HR.	A
▶	▶	▼	▼	▼	RAIN BIRD	1806-SAM-PRS POP-UP TURF HEAD W/ 10Q/10T/10H/10F NOZZLES	.39, .53, .79, 1.58	30	10 FT	1.77 IN./HR.	A
□	□	□	□	□	RAIN BIRD	1806-SAM-PRS POP-UP TURF HEAD W/ 12Q/12T/12H/12F NOZZLES	.65, .87, 1.30, 2.60	30	12 FT	2.09 IN./HR.	A
■	■	■	■	■	RAIN BIRD	1806-SAM-PRS POP-UP TURF HEAD W/ 15Q/15T/15H/15F NOZZLES	.92, 1.23, 1.85, 3.70	30	15 FT	1.85 IN./HR.	A
○	○	○	○	○	RAIN BIRD	1812-SAM-PRS POP-UP SHRUB HEAD W/ 8Q/8T/8H/8F NOZZLES	.26, .35, .52, 1.05	30	8 FT	1.69 IN./HR.	A
○	○	○	○	○	RAIN BIRD	1812-SAM-PRS POP-UP SHRUB HEAD W/ 10Q/10T/10H/10F NOZZLES	.39, .53, .79, 1.58	30	10 FT	1.77 IN./HR.	A
○	○	○	○	○	RAIN BIRD	1812-SAM-PRS POP-UP SHRUB HEAD W/ 12Q/12T/12H/12F NOZZLES	.65, .87, 1.30, 2.60	30	12 FT	2.09 IN./HR.	A
○	○	○	○	○	RAIN BIRD	1812-SAM-PRS POP-UP SHRUB HEAD W/ 15Q/15T/15H/15F NOZZLES	.92, 1.23, 1.85, 3.70	30	15 FT	1.85 IN./HR.	A
▼					RAIN BIRD	1806-SAM-PRS POP-UP BUBBLER HEAD W/ 5F-B BUBBLER NOZZLE WITH PCS-060 SCREEN. PROVIDE ONE BUBBLER FOR EACH 3 OR 4 SHRUB AS AREQUIRED TO PROVIDE IRRIGATION TO ALL SHRUBS TYPICAL.	0.60	30	N/A	N/A	A
▼					RAIN BIRD	1806-SAM-PRS POP-UP BUBBLER HEAD W/ HUNTER MSB-50H BUBBLE NOZZLE. EACH SYMBOL REPRESENTS TWO BUBBLERS PER TREE, PLACE BUBBLERS AT EDGE OF ROOTBALL ON OPPOSITE SIDES OF TREE TYPICAL.	.50 (1.0)	30	N/A	N/A	A
✂					LASCO	T113 GATE VALVE, LINE SIZE					7F
⊙					RAIN BIRD	44LRC QUICK COUPLER VALVE, INSTALL WITHIN 10" ROUND VALVE BOX					4F
●					GRISWOLD	2230 (1", 1 1/2", 2") SERIES NORMALLY CLOSED PRESSURE REGULATED, BRONZE REMOTE CONTROL VALVE, SIZE AS SHOWN					B
⊠					JDGT	CONTRACTOR SHALL COORDINATE AND PAY FOR THE UPGRADE OF THE EXISTING RAIN MASTER DX2 24 STATION CONTROLLER ASSEMBLY WITH A JOHN DEERE GREEN TECH RAIN MASTER 36 STATION CONTROLLER, MOD. # DX-UPGD24-36					F
⊠					N/A	120 VOLT ELECTRICAL POWER, PROVIDED BY ELECTRICIAN, VERIFY ACTUAL LOCATION IN FIELD					N/A
—					AS APPROVED	PVC PIPE 3/4" - 3" SCH. 40 AS LATERAL LINES 12" BELOW GRADE					C
---					AS APPROVED	PVC PIPE 2-1/2" CL. 315 SOLVENT WELD AS MAINLINES 18" BELOW GRADE					C
---					AS APPROVED	PVC PIPE SCH. 40 AS SLEEVEING, 2 TIMES THE DIAMETER OF PIPE OR WIRE BUNDLE CARRIED PLACE BELOW ALL PAVING, HARDSCAPE ETC. AND AS DIRECTED BY OWNER'S AUTHORIZED REPRESENTATIVE.					D
NO SYMBOL					LASCO	ALL FITTINGS USED WITH SOLVENT WELD MAINLINE PIPE SHALL BE SCH. 80 PVC FITTINGS, GREY IN COLOR, AND SIZED TO MATCH THE MAINLINE PIPE. ALL FITTINGS USED WITH SOLVENT WELD LATERAL LINE PIPE SHALL BE SCH. 40 PVC, WHITE IN COLOR, AND SIZED TO MATCH THE LATERAL LINE PIPE. ALL THREADED PVC NIPPLES SHALL BE SCH. 80 PVC PIPE WITH MOLDED THREADS.					N/A
NO SYMBOL					CHRISTY'S	ALL SOLVENT WELD CONNECTIONS FOR BOTH MAINLINE AND LATERAL LINE SHALL BE MADE USING THE TWO-STEP PROCESS OF PRIMER AND SOLVENT CEMENT. PRIMER SHALL BE LOW VOC "PURPLE PRIMER". MAINLINE SOLVENT CEMENT SHALL BE LOW VOC, "GRAY-HEAVY BODY" CEMENT. LATERAL LINE SOLVENT CEMENT SHALL BE LOW VOC, "RED HOT BLUE GLUE" CEMENT. USE DAUBERS SIZED AT LEAST ONE HALF THE SIZE OF THE LARGEST SIZE PIPE BEING JOINED.					N/A
NO SYMBOL					AS APPROVED	IRRIGATION CONTROL WIRE #14UF AWG DIRECT BURIAL (U.L. APPROVED)					C,D,E
NO SYMBOL					3M	DBR/Y-6 DIRECT BURIAL WATER-PROOF WIRE CONNECTORS FOR USE ON ALL WIRE CONNECTIONS (U.L. APPROVED)					E
NO SYMBOL					K.B.I.	KSC-XXX-S SWING CHECK VALVE, LINE SIZE, 1 DOWNSTREAM OF EACH RCV WHEN RCV IS LOWER THAN THE SPRINKLERS INSTALL WITHIN SPRINKLER/DRIP ZONES AS REQUIRED TO PREVENT LOW HEAD/EMITTER DRAINAGE.					N/A
NO SYMBOL					K.B.I.	KC-XXX-S SPRING CHECK VALVE, LINE SIZE, 1 DOWNSTREAM OF EACH RCV IMMEDIATELY ABOVE FIRST LATERAL LINE TEE WHEN RCV IS HIGHER THAN THE SPRINKLERS, INSTALL WITHIN SPRINKLER/DRIP ZONES AS REQUIRED TO PREVENT LOW HEAD/EMITTER DRAINAGE.					N/A
NO SYMBOL					CARSON	VALVE BOXES, SIZE PER EQUIPMENT LEGEND, WITH T-COVER LIDS AND CAPTIVE BOLT AND LOC-KIT. FOR ROUND FLUSH VALVES AND AIR RELIEF VALVES USE MODEL 708, 10" ROUND SHALL BE MODEL 910, 12" STANDARD RECTANGULAR, SHALL BE MODEL 1419, 12" JUMBO RECT. SHALL BE MODEL 1220, SUPER JUMBO SHALL BE MODEL 1324, AND SUPER JUMBO XL SHALL BE MODEL 1730. VALVE BOXES SHALL HAVE GREEN HDPE BODY AND GREEN LIDS IN TURF, GREEN LIDS IN SHRUB BEDS, AND TAN LIDS IN ROCK MULCH. FOR USE IN NON-VEHICULAR TRAFFIC SITUATIONS ONLY. DO NOT INSTALL IN CONCRETE OR ASPHALT.					N/A

IRRIGATION CONTROLLER RUN TIMES																	
POC or Controller	A	ETo / Month (Inches)											Total / Avg.				
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV		DEC			
		1.50	1.80	3.40	4.20	6.30	7.00	7.10	6.00	5.10	3.70	1.90		1.40	49.40		
ETo / Day (Inches)		0.05	0.06	0.11	0.14	0.20	0.23	0.23	0.19	0.17	0.12	0.06	0.05	0.14			
Irrigation Days / Week:		2	2	3	3	5	5	6	6	5	3	2	2				
Plant / Irrig. Type	AkC	Pr Rate	IE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Min./Day/Zone	Total Min./Day
Turf	0.80	1.74	0.63	7.5	9.9	11.3	14.4	12.6	14.4	11.8	10.0	10.5	12.3	9.8	7.0		
Sprays	Number of Zones:		1	7.5	9.9	11.3	14.4	12.6	14.4	11.8	10.0	10.5	12.3	9.8	7.0		
Shrubs	0.40	2.41	0.90	1.9	2.5	2.8	3.6	3.1	3.6	3.0	2.5	2.6	3.1	2.5	1.7		
Bubblers	Number of Zones:		5	9.4	12.4	14.2	18.1	15.7	18.1	14.8	12.5	13.2	15.4	12.3	8.7		
Shrubs	0.40	1.74	0.63	3.7	5.0	5.6	7.2	6.3	7.2	5.9	5.0	5.3	6.1	4.9	3.5		
Sprays	Number of Zones:		6	22.4	29.8	33.9	43.3	37.7	43.3	35.4	29.9	31.5	36.9	29.4	20.9		
Trees	1.00	3.00	0.90	3.8	5.0	5.7	7.3	6.3	7.3	5.9	5.0	5.3	6.2	4.9	3.5		
Bubblers	Number of Zones:		2	7.5	10.0	11.4	14.5	12.6	14.5	11.9	10.0	10.6	12.4	9.9	7.0		
Total Number of Zones:				14	47	62	71	90	79	90	74	62	66	77	61	44	Total Min./Day
Total Controller Run Time in Hours:				0.78	1.04	1.18	1.50	1.31	1.50	1.23	1.04	1.10	1.28	1.02	0.73		Total Hrs./Day
				JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC		

Note: These schedules are intended only for compliance with local municipal codes and the water efficient landscape ordinance. These calculations represent the MAXIMUM REASONABLE run times and are used to ensure that all irrigation may be completed during the specific watering window allowed. These schedules do not include rainfall, site soil types, specific exposures (shade versus sun), actual irrigation days, or specific slope position. It is solely the responsibility of the irrigation contractor to program the controller as required to apply the correct amount of irrigation water for the landscape. All smart controllers shall be programmed using the specified ET or weather sensing equipment, satellite provided ET data, soil moisture sensors, and rain shut off devices as required. Contractor shall provide a controller schedule inside the controller cabinet prior to final turnover of the project to the owner.



60% SUBMITTAL	12-20-13	
90% SUBMITTAL	02-28-14	
100% SUBMITTAL	04-04-14	
BID SET	07-31-14	
Rev.	Description	Date



Scale	
Designed By:	
Drawn By:	PL/LY
Checked By:	BH
Consultant's Job No.	13.02

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES



## ORCHARD GARDENS PARK EXPANSION PROJECT

## IRRIGATION LEGEND AND NOTES

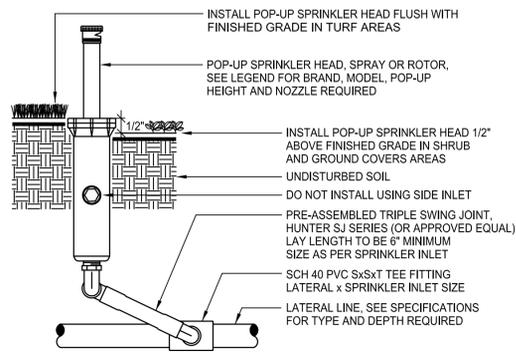


City of Sunnyvale  
Santa Clara County  
California  
  
Department of Public Works  
456 West Olive Avenue  
P.O. Box 3707  
Sunnyvale 94088-3707

City of Sunnyvale  
Project No.  
PR-14/06-14

Drawing No.  
**L6.1**

Sheet \_\_\_\_\_ of \_\_\_\_\_



INSTALL POP-UP SPRINKLER HEAD FLUSH WITH FINISHED GRADE IN TURF AREAS

POP-UP SPRINKLER HEAD, SPRAY OR ROTOR, SEE LEGEND FOR BRAND, MODEL, POP-UP HEIGHT AND NOZZLE REQUIRED

INSTALL POP-UP SPRINKLER HEAD 1/2" ABOVE FINISHED GRADE IN SHRUB AND GROUND COVERS AREAS

UNDISTURBED SOIL

DO NOT INSTALL USING SIDE INLET

PRE-ASSEMBLED TRIPLE SWING JOINT, HUNTER SJ SERIES (OR APPROVED EQUAL) LAY LENGTH TO BE 6" MINIMUM SIZE AS PER SPRINKLER INLET

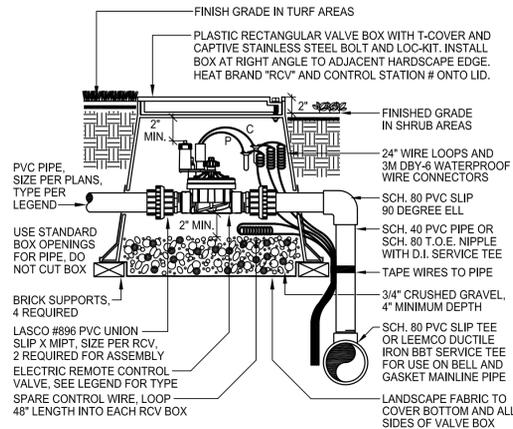
SCH 40 PVC SxSxT TEE FITTING LATERAL x SPRINKLER INLET SIZE

LATERAL LINE, SEE SPECIFICATIONS FOR TYPE AND DEPTH REQUIRED

SECTION VIEW - N.T.S.

NOTE:  
INSTALL SPRINKLER HEADS 6" FROM PAVING EDGE IN SHRUB AND GROUND COVER AREAS.  
INSTALL SPRINKLER HEADS 12" FROM THE FACE OF BUILDING WALLS OR WINDOWS.  
INSTALL SPRINKLER HEADS 4" FROM PAVING EDGE IN TURF AREAS.  
INSTALL SPRINKLER HEADS PLUMB. ADJUST SPRAYS OR NOZZLE STREAM TO COVER LANDSCAPE AREA WITHOUT OVERSPRAY ONTO PAVING, FENCES, WALLS OR BUILDINGS.

(A) POP-UP SPRINKLER



FINISH GRADE IN TURF AREAS

FINISHED GRADE IN SHRUB AREAS

24" WIRE LOOPS AND 3M DBY-6 WATERPROOF WIRE CONNECTORS

SCH. 80 PVC SLIP 90 DEGREE ELL

TAPE WIRES TO PIPE

3/4" CRUSHED GRAVEL, 4" MINIMUM DEPTH

SCH. 80 PVC SLIP TEE OR LEMCO DUCTILE IRON BBT SERVICE TEE FOR USE ON BELL AND GASKET MAINLINE PIPE

LANDSCAPE FABRIC TO COVER BOTTOM AND ALL SIDES OF VALVE BOX

SECTION VIEW - N.T.S.

NOTE:  
FINISH GRADE IN TURF AREAS  
PLASTIC RECTANGULAR VALVE BOX WITH T-COVER AND CAPTIVE STAINLESS STEEL BOLT AND LOC-KIT. INSTALL BOX AT RIGHT ANGLE TO ADJACENT HARDSCAPE EDGE. HEAT BRAND "RCV" AND CONTROL STATION # ONTO LID.

PVC PIPE, SIZE PER PLANS, TYPE PER LEGEND

USE STANDARD BOX OPENINGS FOR PIPE, DO NOT CUT BOX

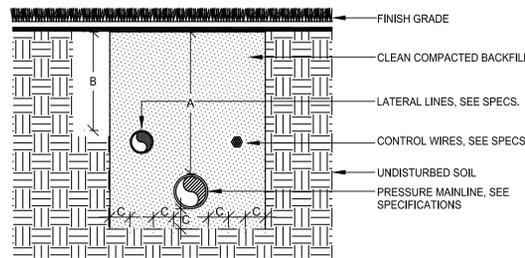
BRICK SUPPORTS, 4 REQUIRED

LASCO #896 PVC UNION SLIP X MIPT, SIZE PER RCV, 2 REQUIRED FOR ASSEMBLY

ELECTRIC REMOTE CONTROL VALVE, SEE LEGEND FOR TYPE

SPARE CONTROL WIRE, LOOP 48" LENGTH INTO EACH RCV BOX

(B) REMOTE CONTROL VALVE

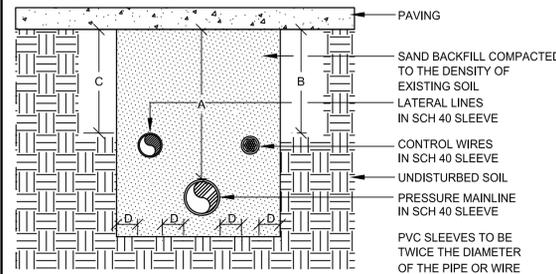


DIMENSION	A	B	C
1/2" TO 2-1/2" IN SIZE	18"	12"	4"
3" TO 6" IN SIZE	24"	4"	4"

SECTION VIEW - N.T.S.

(C) PIPE INSTALLATION

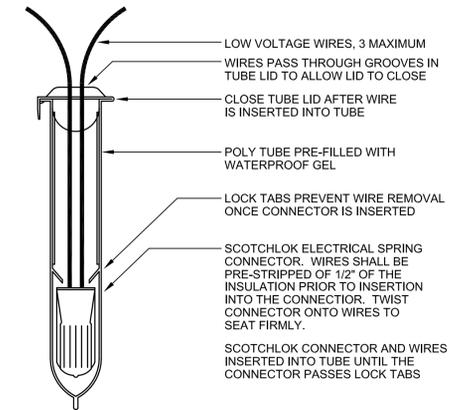
NOTE:  
SLEEVES TO EXTEND AT LEAST 12" PAST THE EDGE OF THE PAVING.



DIMENSION	A	B	C	D
1/2" TO 6" IN SIZE	36"	24"	24"	4"

SECTION VIEW - N.T.S.

(D) SLEEVE INSTALLATION



LOW VOLTAGE WIRES, 3 MAXIMUM

WIRES PASS THROUGH GROOVES IN TUBE LID TO ALLOW LID TO CLOSE

CLOSE TUBE LID AFTER WIRE IS INSERTED INTO TUBE

POLY TUBE PRE-FILLED WITH WATERPROOF GEL

LOCK TABS PREVENT WIRE REMOVAL ONCE CONNECTOR IS INSERTED

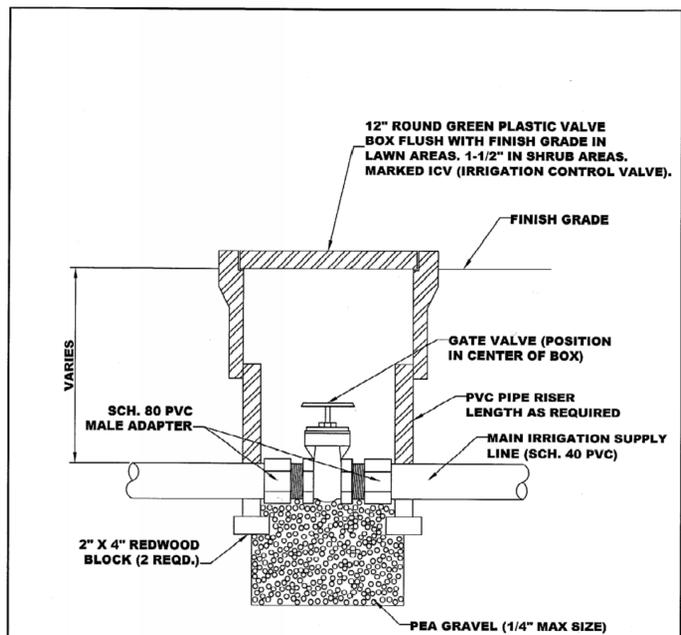
SCOTCHLOK ELECTRICAL SPRING CONNECTOR. WIRES SHALL BE PRE-STRIPPED OF 1/2" OF THE INSULATION PRIOR TO INSERTION INTO THE CONNECTOR. TWIST CONNECTOR ONTO WIRES TO SEAT FIRMLY.

SCOTCHLOK CONNECTOR AND WIRES INSERTED INTO TUBE UNTIL THE CONNECTOR PASSES LOCK TABS

SECTION VIEW - N.T.S.

NOTE:  
WIRE CONNECTOR SHALL BE A 3M DBY-6 DIRECT BURY SPLICE KIT (U.L. APPROVED). KIT SHALL INCLUDE A SCOTCHLOK Y SPRING CONNECTOR, A POLYPROPYLENE TUBE AND A WATERPROOF SEALING GEL. TUBE SHALL BE SUPPLIED PREFILLED WITH GEL.  
DIRECT BURY SPLICE KIT SHALL BE USED TO ELECTRICALLY CONNECT 2 - 3 #14 OR 2 #12 PRE-STRIPPED COPPER WIRES. LARGER WIRES OR GREATER QUANTITIES OF WIRES SHALL REQUIRE A LARGER APPROVED WIRE CONNECTION.

(E) WIRE CONNECTION



12" ROUND GREEN PLASTIC VALVE BOX FLUSH WITH FINISH GRADE IN LAWN AREAS. 1-1/2" IN SHRUB AREAS. MARKED ICV (IRRIGATION CONTROL VALVE).

FINISH GRADE

GATE VALVE (POSITION IN CENTER OF BOX)

PVC PIPE RISER LENGTH AS REQUIRED

MAIN IRRIGATION SUPPLY LINE (SCH. 40 PVC)

SCH. 80 PVC MALE ADAPTER

2" X 4" REDWOOD BLOCK (2 REQD.)

PEA GRAVEL (1/4" MAX SIZE)

VARIABLE

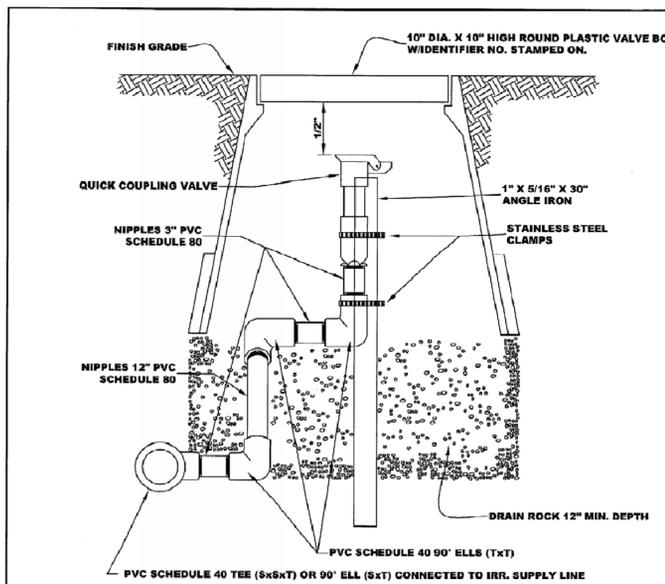
2006 STANDARD DETAILS

GATE VALVE-IRRIGATION SYSTEM

DATE: JUNE 30, 2006

APPROVED BY: [Signature]

7F



10" DIA. X 10" HIGH ROUND PLASTIC VALVE BOX W/IDENTIFIER NO. STAMPED ON.

FINISH GRADE

QUICK COUPLER VALVE

1" X 5/16" X 30" ANGLE IRON

STAINLESS STEEL CLAMPS

NIPPLES 3" PVC SCHEDULE 80

NIPPLES 12" PVC SCHEDULE 80

PVC SCHEDULE 40 90° ELLS (TxT)

PVC SCHEDULE 40 TEE (SxSxT) OR 90° ELL (SxT) CONNECTED TO IRR. SUPPLY LINE

DRAIN ROCK 12" MIN. DEPTH

2006 STANDARD DETAILS

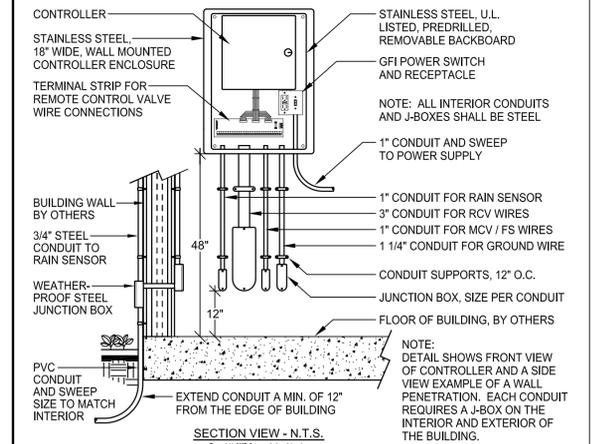
QUICK COUPLER VALVE

DATE: JUNE 30, 2006

APPROVED BY: [Signature]

4F

NOTES:  
1. LOCATE Q.C.V. ADJACENT TO R.C.V. IN GROUND COVER AREAS WHERE POSSIBLE.  
2. LOCATE 12" AWAY FROM ADJACENT BUILDINGS OR FENCES. LOCATE MIN. 6" AWAY FROM ADJACENT SIDEWALKS, CURBS, OR HDRBOARDS.  
3. INSTALL CHECK VALVE AT HEAD LOCATIONS THAT ARE SUBJECT TO LATERAL DRAINAGE.  
4. ALL JOINTS HAND TIGHT TO ALLOW MOVEMENT.  
5. SET TOP OF BOX 1" ABOVE FINISH GRADE IN SHRUB AREAS.



CONTROLLER

STAINLESS STEEL, 18" WIDE, WALL MOUNTED CONTROLLER ENCLOSURE

TERMINAL STRIP FOR REMOTE CONTROL VALVE WIRE CONNECTIONS

STAINLESS STEEL, U.L. LISTED, PREDRILLED, REMOVABLE BACKBOARD

GFI POWER SWITCH AND RECEPTACLE

NOTE: ALL INTERIOR CONDUITS AND J-BOXES SHALL BE STEEL

1" CONDUIT AND SWEEP TO POWER SUPPLY

1" CONDUIT FOR RAIN SENSOR

3" CONDUIT FOR RCV WIRES

1" CONDUIT FOR MCV / FS WIRES

1 1/4" CONDUIT FOR GROUND WIRE

CONDUIT SUPPORTS, 12" O.C.

JUNCTION BOX, SIZE PER CONDUIT

FLOOR OF BUILDING, BY OTHERS

WEATHER-PROOF STEEL JUNCTION BOX

48"

12"

EXTEND CONDUIT A MIN. OF 12" FROM THE EDGE OF BUILDING

PVC CONDUIT AND SWEEP SIZE TO MATCH INTERIOR

NOTE: DETAIL SHOWS FRONT VIEW OF CONTROLLER AND A SIDE VIEW EXAMPLE OF A WALL PENETRATION. EACH CONDUIT REQUIRES A J-BOX ON THE INTERIOR AND EXTERIOR OF THE BUILDING.

SECTION VIEW - N.T.S.

2006 STANDARD DETAILS

(F) WALL MOUNT CONTROLLER

sweeney + associates  
IRRIGATION DESIGN AND CONSULTING  
38730 Sky Canyon Drive, Suite C  
Martinez, CA 94560  
e: info@sweeneyassoc.com t: (925) 461-6850  
w: www.sweeneyassoc.com f: (925) 461-6850

Rev.	Description	Date
	60% SUBMITTAL	12-20-13
	90% SUBMITTAL	02-28-14
	100% SUBMITTAL	04-04-14
	BID SET	07-31-14

HARRIS DESIGN  
Landscape Architecture  
Urban Design  
755 Folger Avenue  
Berkeley, CA 94710  
t: 510.647.3792  
www.hd-la.com



Scale

Designed By:

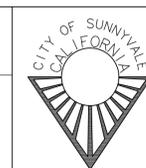
Drawn By: PL/LY

Checked By: BH

Consultant's Job No. 13.02

ORCHARD GARDENS PARK EXPANSION PROJECT

IRRIGATION DETAILS



City of Sunnyvale  
Santa Clara County  
California

Department of Public Works  
P.O. Box 3707  
Sunnyvale 94088-3707

City of Sunnyvale  
Project No.  
PR-14/06-14

Drawing No.  
**L6.2**

Sheet \_\_\_\_\_ of \_\_\_\_\_

FOR REDUCED PLANS  
ORIGINAL SCALE IS IN INCHES

