BRANDON DIPIETRO

RECYCLED WATER PLANS FOR:

OTAY RANCH VILLAGE 2 P-2 PARK,

GROVE PARK

DEH2019-LRWS-001118

RECYCLED WATER NOTES

SAN DIEGO COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE OTAY WATER DISTRICT'S RULES AND REGULATIONS.
2. DRINKING WATER FOUNTAINS AND DESIGNATED OUTDOOR EATING AREAS SHALL BE PROTECTED AGAINST CONTACT WITH RECYCLED WATER SPRAY, MIST, OR RUNOFF.
3. BEST MANAGEMENT PRACTICES SHALL BE USED TO ELIMINATE OR CONTROL TO THE BEST EXTENT POSSIBLE PONDING, RUN-OFF, OVER-SPRAY AND MISTING.
4. HOSE BIBS ARE STRICTLY PROHIBITED.
5. CROSS-CONNECTIONS BETWEEN RECYCLED WATERLINES AND POTABLE WATER LINES ARE STRICTLY PROHIBITED.
6. NO SUBSTITUTIONS OF PIPE MATERIALS WILL BE ALLOWED WITHOUT PRIOR APPROVAL OF THE OTAY WATER DISTRICT.
7. ALL MAINLINE PIPES SHALL HAVE WARNING TAPE PER OTAY WATER DISTRICT'S RULES AND REGULATIONS.
8. HOURS FOR IRRIGATION WITH RECYCLED WATER ARE FROM 9:00P.M. TO 6:00 A.M. THE HOURS FOR IRRIGATION WITH DISINFECTED TERTIARY RECYCLED WATER MAY BE MODIFIED BY THE LOCAL AUTHORITY. IRRIGATION DURING PUBLIC USE PERIODS WITH DISINFECTED TERTIARY RECYCLED WATER SHALL BE UNDER THE SUPERVISION OF THE DESIGNATED USER SUPERVISOR. IRRIGATION WITH WATER OF A LESSER QUALITY THAN DISINFECTED TERTIARY RECYCLED WATER SHALL BE BETWEEN THE HOURS OF 9:00P.M. AND 6:00 A.M.
9. BURIAL OF ALL WIRING AND PIPING SHALL MEET OTAY WATER DISTRICT'S RULES AND REGULATIONS.
10. NON-DESIGNATED USE AREAS SHALL BE PROTECTED FROM CONTACT WITH RECYCLED WATER, WHETHER BY WINDBLOWN SPRAY OR BY DIRECT APPLICATION THROUGH IRRIGATION OR OTHER USE. LACK OF PROTECTION, WHETHER BY DESIGN, CONSTRUCTION PRACTICE OR SYSTEM OPERATION, IS STRICTLY PROHIBITED.
11. IRRIGATION HEADS SHALL BE RELOCATED OR ADJUSTED TO MINIMIZE OR ELIMINATE OVER-SPRAYING ON SIDEWALKS, STREETS AND NON-DESIGNATED USE AREAS.
12. RECYCLED WATER QUICK COUPLING VALVES SHALL BE OF A TYPE DESIGNED FOR THE USE ON RECYCLED WATER DISTRIBUTION SYSTEMS PER OTAY WATER DISTRICT'S RULES AND REGULATIONS.
13. ON RECYCLED WATER SYSTEMS, ALL APPURTENANCES (SPRINKLER HEADS, VALVE BOXES, ETC.) SHALL BE COLOR-CODED PURPLE PER AWWA GUIDELINES AND SECTION 116815 OF THE CALIFORNIA HEALTH AND SAFETY CODE.
14. ALL IRRIGATION PIPES SHALL BE STENCILED WITH THE WARNING, "NON- POTABLE OR RECYCLED WATER," COLOR-CODED (PURPLE) AND LAID WITH WARNING TAPE AND STENCILING ORIENTED TOWARD THE TOP OF THE TRENCH PER OTAY WATER DISTRICT'S RULES AND REGULATIONS.
15. ON NEW ON-SITE SYSTEMS (POST-METER), POTABLE WATER, CONSTANT PRESSURE RECYCLED WATER AND SEWER LINES SHOULD BE PLACED A MINIMUM OF FOUR FEET APART OR AS DIRECTED BY THE PROJECT ENGINEER AND /OR REGULATORY AGENCY. MEASUREMENTS SHALL BE BETWEEN FACING SURFACES, NOT PIPE CENTERLINES.
16. CONSTANT PRESSURE RECYCLED WATERLINES SHALL CROSS AT LEAST TWELVE INCHES BELOW POTABLE WATERLINES AND MAINTAIN AT LEAST TWELVE INCHES CROSSING SEPARATION BETWEEN OTHER UTILITIES.
17. IF A CONSTANT PRESSURE RECYCLED WATER LINE MUST BE INSTALLED ABOVE A POTABLE WATER LINE OR LESS THAN TWELVE INCHES BELOW A POTABLE WATER LINE, THEN THE RECYCLED WATER LINE SHALL BE INSTALLED WITHIN AN APPROVED PROTECTIVE SLEEVE AS PER OTAY WATER DISTRICT'S RULES AND REGULATIONS.
18. DEVELOPER/CONTRACTOR SHALL CONDUCT A CROSS-CONNECTION TEST AND COVERAGE TEST AS DIRECTED BY THE OTAY WATER DISTRICT AND THE SAN DIEGO COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH PRIOR TO ANY USE OF RECYCLED WATER.
19. THE REQUIRED CROSS-CONNECTION INSPECTION SHALL BE DONE BY EITHER THE OTAY WATER DISTRICT AND/OR THE SAN DIEGO COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH. COPIES OF INSPECTION REPORTS WILL BE FORWARDED TO THE NON-INSPECTING PARTY.
20. THE DESIGN AND LOCATIONS PROPOSED FOR RECYCLED WATER "DO NOT DRINK SIGNS SHALL BE CALLED OUT ON THE PLANS.
21. WHEN RECYCLED WATER BECOMES AVAILABLE, AN ON-SITE USER SUPERVISOR SHALL BE DESIGNATED IN WRITING. THIS INDIVIDUAL SHALL BE FAMILIAR WITH PLUMBING SYSTEMS WITHIN THE PROPERTY, WITH THE BASIC CONCEPTS OF BACKFLOW/CROSS-CONNECTION PROTECTION, THE RECYCLED PURVEYOR'S RULES AND REGULATIONS AND THE SPECIFIC REQUIREMENTS OF A RECYCLED WATER SYSTEM, COPIES OF THE DESIGNATION, WITH CONTACT PHONE NUMBERS SHALL BE PROVIDED TO THE OTAY WATER DISTRICT AN D/OR THE SAN DIEGO COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH.

IN CASE OF EMERGENCY CONTACT BRAD SAGER (NAME) AT (619) 204-2441 (PHONE NUMBER)

OR AFTER HOURS CONTACT BRAD SAGER (NAME) AT (619) 204-2441 (PHONE NUMBER) A

22. ALL PUBLIC AND PRIVATE POTABLE WATER MAINS INCLUDING FIRE MAINS AND ANY WATER WELLS AND WATER COURSES WITHIN THE RECYCLED WATER PROJECT SHALL BE SHOWN ON THE PLANS.
23. CALL OUT ON THE PLANS IF THERE ARE OR ARE NOT DRINKING FOUNTAINS AND/OR DESIGNATED OUTDOOR EATING AREAS ON THIS SITE.
24. EDUCATE ALL MAINTENANCE PERSONNEL ON A CONTINUOUS BASIS OF THE PRESENCE OF RECYCLED WATER. PERSONNEL MUST BE INFORM ED THAT RECYCLED WATER IS MEANT FOR IRRIGATION PURPOSES ONLY, AND IS NOT APPROVED FOR DRINKING PURPOSES, HAND WASHING, CLEANING OF TOOLS, ETC. GIVEN THE HIGH TURNOVER RATE OF EMPLOYEES I N THE LANDSCAPE INDUSTRY IT IS IMPORTANT THIS INFORMATION BE DISSEMINATED ON AN ALMOST DAILY BASIS.
25. A PHYSICAL SEPARATION SHALL BE PROVIDED BETWEEN ADJACENT AREAS IRRIGATED WITH RECYCLED WATER AND POTABLE WATER. SEPARATION SHALL BE PROVIDED BY DISTANCE, CONCRETE MOW STRIPS OR OTHER APPROVED METHODS.

OMISSION STATEMENT

THERE ARE NO DECORATIVE FOUNTAINS, OR SWIMMING POOLS, OR WELLS ON THE SITE. A COMFORT STATION, OUTDOOR EATING AREAS, DRINKING FOUNTAINS AND PLAYGROUND EQUIPMENT ARE ON THE SITE.

If one of the listed items does exist, each must be clearly identified on plan. Note shall read, "DRINKING WATER FOUNTAINS, DESIGNATED OUTDOOR EATING AREAS, POOLS, ETC. SHALL BE PROTECTED AGAINST CONTACT WITH RECYCLED WATER SPRAY, MIST, OR RUN-OFF".

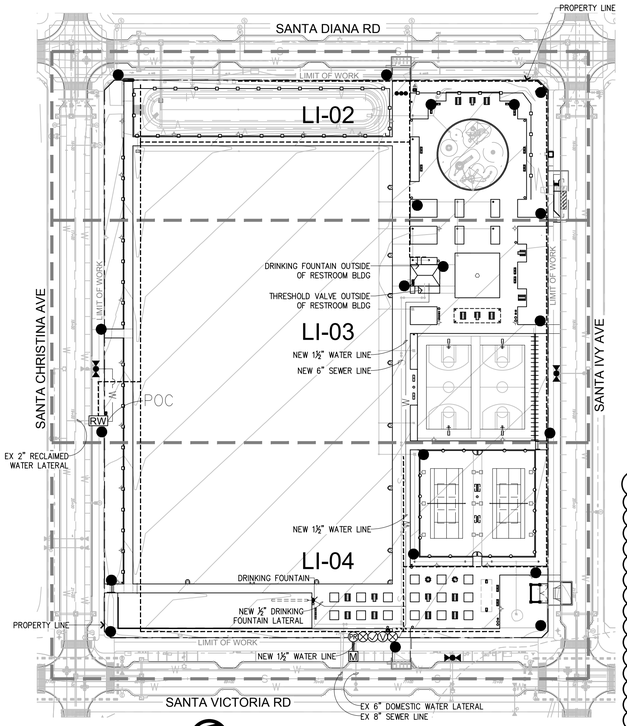
RESPONSIBILITY DISCLAIMER

ALL SCREENED FACILITIES, EXISTING OR PROPOSED, WERE OBTAINED FROM CIVIL PLAN NO. 14031 OWD D0740-090205, PLAN NO. 06033 OWD D0261-010182, PLAN NO. 16022 OWD D0740-060133 AND PLAN NO. 06071 OWD D0099-010211. ACTUAL SIZE AND LOCATION OF FACILITIES SHALL BE VERIFIED. CONTRACTOR SHALL POTHOLE ALL EXISTING UTILITIES TO VERIFY TIE IN LOCATIONS, PIPE SIZE AND TYPE PRIOR TO ANY WORK BEING PERFORMED. TO THE BEST OF OUR KNOWLEDGE THE FACILITIES EXIST OR WILL EXIST AS SHOWN. THE OTAY WATER DISTRICT AND KTUA SHALL NOT BE HELD RESPONSIBLE FOR ACTUAL SIZE OR LOCATION. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OTAY WATER DISTRICT ENGINEER.

INSPECTION NOTE

OTAY WATER DISTRICT INSPECTION SHALL BE NOTIFIED FIVE (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2241. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.

VICINITY MAP
NO SCALE
NORTH



INDEX MAP
SCALE: 1"=80'
NORTH

WATER METER INFORMATION TABLE

POC ID	POC STA.	IRRIGATED AREA (SF)	DEMAND (GPM)	ANNUAL USAGE (ACRE - FT)	LATERAL SIZE (IN)	METER SIZE (IN)
POC 'A'	STA. 19+08	212,817	105	15.02	2"	2"
--	--	--	--	--	--	--
TOTAL		212,817	105	15.02		

OWNER:

CITY OF CHULA VISTA
DEVELOPMENT SERVICES DEPARTMENT
276 FOURTH AVENUE
CHULA VISTA, CA 91910
P: (619) 407-3542
LANDSCAPE ARCHITECT:
MARY RADLEY
MRADLEY@CHULAVISTACA.GOV

DEVELOPER:

BALDWIN & SONS
610 W. ASH STREET, SUITE 1500
SAN DIEGO, CA 92101
P: (619) 234-4050
CONTACT:
TORI MASSIE, PROJECT COORDINATOR
TMASSIE@BALDWINSONS.COM
NICK LEE, VICE PRESIDENT
NLEE@BALDWINSONS.COM

SITE ADDRESS

1325 SANTA VICTORIA ROAD
CHULA VISTA, CA 91913

ASSESSOR'S PARCEL NUMBER

644-311-14-00

TOPOGRAPHY SOURCE

BWE
DECEMBER 04, 2018

REFERENCE DRAWINGS:

GREENBOOK SPECIFICATIONS 2018
CITY OF CHULA VISTA PARK FACILITIES GUIDELINES, FEB. 2004, UPDATED JAN. 2019
OTAY RANCH VILLAGE 2 SOUTH - BACKBONE & INTRACT STREETS PLAN (DWG # 16022)
DEPARTMENT OF WATER AGENCIES' STANDARDS, SECTION 15152

INDEX MAP LEGEND

- POC — IRRIGATION POINT OF CONNECTION
- RW — NEW 2" RECYCLED WATER METER AND BACKFLOW PREVENTERS
- M — NEW 1" DOMESTIC WATER METER
- NEW 1" DOMESTIC BACKFLOW PREVENTER
- NEW 1" DOMESTIC PRESSURE REGULATOR
- RECYCLED WATER "DO NOT DRINK" SIGN
- FIRE HYDRANT (OFF-SITE)
- — W — DOMESTIC WATER LINE
- ----- RECYCLED WATER LINE
- AS NOTED — THRESHOLD VALVE (RESTROOM BLDG)

A

OWD Revision

OWD AS BUILT
Signature and Date
Field Services Mngr. Brandon DiPietro

DECLARATION OF RESPONSIBLE CHARGE

I HEREBY DECLARE THAT I AM THE LANDSCAPE ARCHITECT OF WORK FOR THIS PROJECT THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF CHULA VISTA, THE OTAY WATER DISTRICT AND THE COUNTY OF SAN DIEGO DEPARTMENT OF ENVIRONMENTAL HEALTH IS CONFINED TO A REVIEW ONLY AND DOES NOT RELIEVE ME, AS LANDSCAPE ARCHITECT OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

KTUA 3916 NORMAL STREET, SAN DIEGO, CA 92103
FIRM NAME & ADDRESS

SIGNATURE — 09/14/2021 DATE

REGISTRATION NO. RLA #5175

CONSTRUCTION STORM WATER PROTECTION NOTES:

1. TOTAL SITE DISTURBANCE AREA (ACRES) . . . . . 7.1 ACRES
   HYDROLOGIC UNIT/ WATERSHED . . . . . OTAY RIVER
   HYDROLOGIC SUBAREA NAME & NO. . . . . OTAY VALLEY (910.20)
2. THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THE
   ☐ WPCP
   THE PROJECT IS SUBJECT TO MUNICIPAL STORM WATER PERMIT NO. R9-2013-0001 AS AMENDED BY R9-2015-0001 AND R9-2015-0100
   ☒ SWPPP
3. CONSTRUCTION SITE PRIORITY

ASBS	HIGH	MEDIUM	LOW
☐	☐	☒	☐

WATER POLLUTION CONTROL NOTES:

THE CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS NOTED IN THE "GREENBOOK" (LATEST EDITION) CITY SUPPLEMENT SEC 801 - WATER POLLUTION CONTROL.

WATER FEES:

THE CITY OF CHULA VISTA PROJECT MANAGER AND THE CONSULTANT SHALL COORDINATE THE FOLLOWING: WATER AND SEWER CAPACITY FEES SHALL BE PAID BY THE DEVELOPER; THE CONTRACTOR SHALL PAY ALL OTHER CONSTRUCTION AND MAINTENANCE WATER METER AND SEWER FEES, AND SHALL COORDINATE WITH THE WATER UTILITIES DEPARTMENT FOR INSTALLATION OF SERVICES. ALLOW THREE (3) MONTHS NOTICE TO THE WATER UTILITIES DEPARTMENT. FOR DEVELOPER-BUILD PROJECTS, ALL FEES SHALL BE PAID BY THE DEVELOPER.

COMPLIANCE WITH WATER CONSERVATION ORDINANCE

I AM FAMILIAR WITH AND AGREE TO COMPLY WITH THE REQUIREMENTS FOR LANDSCAPE IMPROVEMENT PLANS AS DESCRIBED IN CHAPTER 20.12 OF THE MUNICIPAL CODE. I HAVE PREPARED THIS PLAN IN COMPLIANCE WITH THOSE REGULATIONS. I CERTIFY THAT THE PLAN IMPLEMENTS THE REGULATIONS TO PROVIDE EFFICIENT LANDSCAPE WATER USE.

SIGNATURE — 09/14/2021 DATE
BROOKE WHALEN (RLA #5175)

SHEET INDEX
(RECYCLED WATER SHEETS ONLY)

SHEET NO.	DISCIPLINE CODE	TITLE
39.	LI-01	RECYCLED WATER TITLE SHEET
40.	LI-02	IRRIGATION PLAN
41.	LI-03	IRRIGATION PLAN
42.	LI-04	IRRIGATION PLAN
43.	LI-05	IRRIGATION SCHEDULE
44.	LI-06	IRRIGATION CALCULATIONS
45.	LI-07	IRRIGATION CALCULATIONS
46.	LI-08	IRRIGATION NOTES
47.	LI-09	IRRIGATION DETAILS
48.	LI-10	IRRIGATION DETAILS
49.	LI-11	IRRIGATION DETAILS
50.	LI-12	IRRIGATION DETAILS
51.	LI-13	IRRIGATION DETAILS
52.	LI-14	IRRIGATION DETAILS
53.	LI-15	IRRIGATION DETAILS AND WATER AGENCIES' STANDARD SPECIFICATIONS SECTION 15152
54.	LI-16	WATER AGENCIES' STANDARD SPECIFICATIONS SECTION 15152

COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH
LAND AND WATER QUALITY DIVISION

Jenna Lepore — Digitally signed by Jenna Lepore Date: 2021.09.21 12:41:09 -07'00'
ENVIRONMENTAL HEALTH SPECIALIST — DATE:

OTAY WATER DISTRICT

PROJECT NO. D0894-060253
PZ 711 RPZ 680

Brandon DiPietro — Digitally signed by Brandon DiPietro DN: cn=Brandon DiPietro, o, ou, email=brandond@otaywater.gov, c=US Date: 2021.09.22 13:49:46 -07'00'
BRANDON DIPIETRO, FIELD SERVICES MANAGER — DATE:

Juan Tamayo — Digitally signed by Juan Tamayo DN: cn=Juan Tamayo, o=Engineering Department, ou=Recycled Water Program Supervisor, email=JuanT@otaywater.gov, c=US Date: 2021.09.22 13:11:14 -07'00'
JUAN TAMAYO, RECYCLED WATER PROGRAM SUPERVISOR — DATE:

Tanya Ayala-Mason — Digitally signed by Tanya Ayala-Mason DN: cn=Tanya Ayala-Mason, o=Otay Water District, ou=Recycled Water Division, email=tanyaa-mason@otaywater.gov, c=US Date: 2021.09.22 13:53:19 -07'00'
REVIEWED BY — DATE:
NOTE: SIGNATURE EXPIRES 1 YEAR AFTER DATE

AS BUILT

_____ DATE _____
SIGNATURE
_____ R.L.A. No. _____
Printed Name
My Registration Expires _____ Discipline_____

UTILITY NOTE

ALL EXISTING UTILITIES SHOWN ON THESE PLANS ARE PLOTTED FROM RECORD DATA AT THEIR APPROXIMATE LOCATIONS. UNDERGROUND FACILITIES MAY EXIST WHICH HAVE NOT BEEN REPORTED OR ARE NOT OF RECORD. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL PERTINENT UTILITIES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION.

LICENSED LANDSCAPE ARCHITECT — BROOKE JP WHALEN — 5175 — 09/30/2024 — STATE OF CALIFORNIA

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd
CONTRACTOR:	MAP # 15350		DELTA A IRRIGATION REVISIONS	08/18/22	
INSPECTOR:					
DATE COMPLETED:	DWG. #'S 16022				

DATUMS
VERTICAL: 446.361 (NAVD 88)
HORIZONTAL: I.E. N78°21'27"E NAD 83

SCALE	Designed By:	Drawn By:	Checked By:
HORIZONTAL	HH	HH	BE
N/A			
VERTICAL			
N/A			

Plans Prepared Under Supervision Of: BROOKE JP. WHALEN — Date: 10/11/2021 — RLA No. 5175

CONSULTANT
ktua
3916 Normal Street
San Diego, CA 92103
619.294.4477
www.ktua.com

Submitted: _____
By: _____
Office: _____

APPROVED BY: _____ DATE: _____
DIRECTOR OF DEVELOPMENT SERVICES OR DESIGNEE

BID DOCUMENTS - OCTOBER 11, 2021

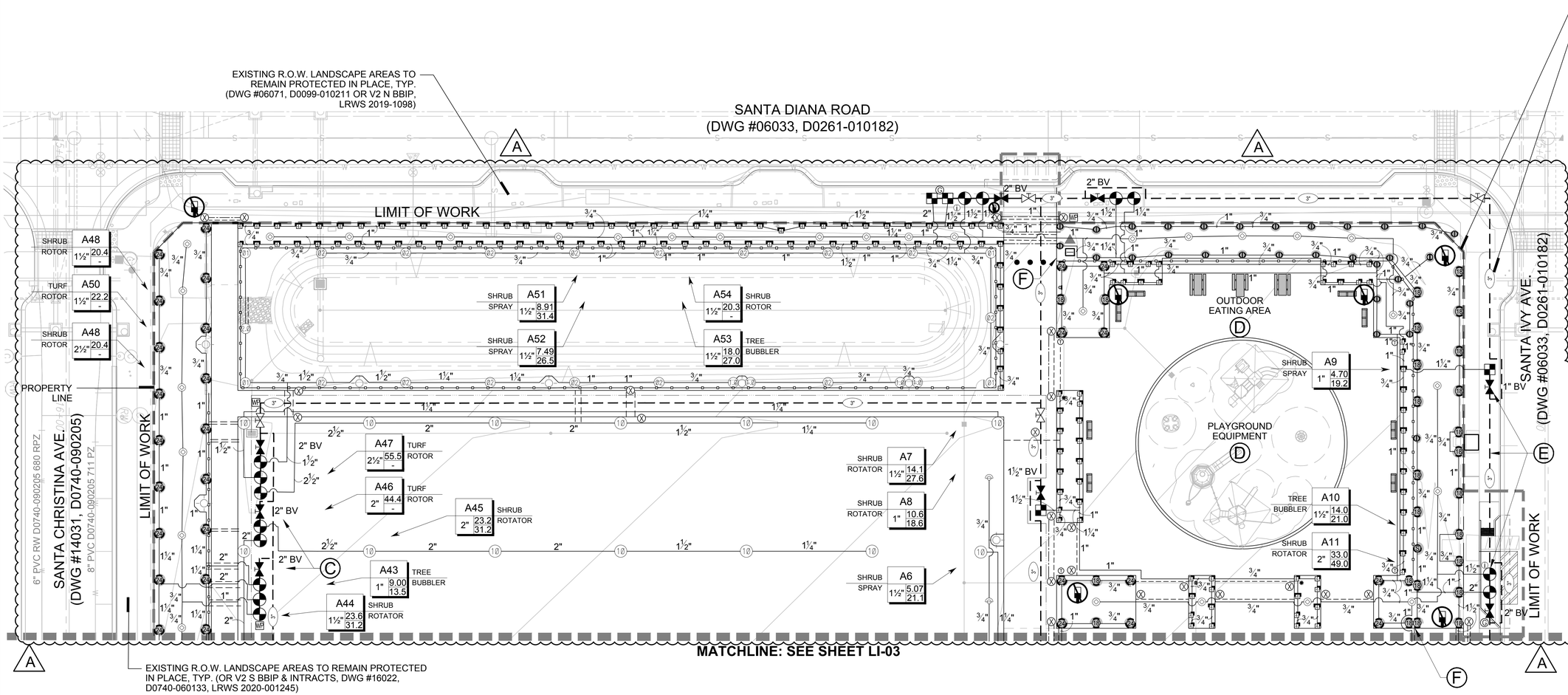
RECYCLED WATER TITLE SHEET

CITY OF CHULA VISTA DEVELOPMENT SERVICES DEPARTMENT
OTAY RANCH VILLAGE 2 P-2 PARK,
GROVE PARK

LANDSCAPE DWG NO.
LI-01
SHEET 1 OF 16
W.O. NO. PRK-0330
DRAWING NO.
19010-39
SHEET 39 OF 100

PERMIT NO. PLR-19-012

OWD# D0894-060253



PROPERTY LINE

EXISTING R.O.W. LANDSCAPE AREAS TO REMAIN PROTECTED IN PLACE, TYP. (OR V2 S BBIP & INTRACTS, DWG #16022, D0740-060133, LRWS 2020-001245)

LATERAL PIPE SIZING GUIDE:
(UNLESS OTHERWISE NOTED ON PLANS)

3/4"	-	0 - 7 GPM
1"	-	8 - 14 GPM
1 1/4"	-	15 - 20 GPM
1 1/2"	-	21 - 30 GPM
2"	-	31 - 50 GPM
2 1/2"	-	51 + GPM

KEY NOTES:

(A) 2" CONSTRUCTION WATER METER, 2" BACKFLOW PREVENTER, AND 2" PVC MAINLINE: TEMPORARY CONSTRUCTION WATER SOURCE AT FIRE HYDRANT. CONTRACTOR TO DETERMINE FINAL LOCATION IN FIELD. TO BE DISCONNECTED ONCE CROSS CONNECTION TEST HAS BEEN APPROVED BY REVIEWING AGENCY.

(B) IRRIGATION CONTROLLER TO BE INSIDE STORAGE ROOM OF RESTROOM FACILITY. (A)

(C) INSTALL REMOTE CONTROL VALVE MANIFOLD, ALL VALVES, IRRIGATION MAINLINE AND WIRE IN PLANTING AREA (WHERE POSSIBLE).

(D) COMFORT STATION, OUTDOOR EATING AREAS, DRINKING WATER FOUNTAINS AND PLAYGROUND EQUIPMENT SHALL BE PROTECTED AGAINST CONTACT WITH RECYCLED WATER SPRAY, MIST, OR RUN-OFF.

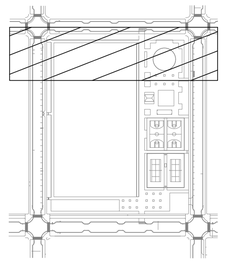
(E) INSTALL REMOTE CONTROL VALVE MANIFOLD, VALVES AND IRRIGATION MAINLINE IN PLANTING AREA (NON-TURF), WITHIN PROJECT BOUNDARY.

(F) SYSTEM SPLIT.

SHEET NOTES

1. SEE SHEET LI-05 FOR IRRIGATION LEGEND
2. SEE SHEETS LI-06 THROUGH LI-07 FOR IRRIGATION WATER USE CALCULATIONS
3. SEE SHEETS LI-08 - LI-15 FOR IRRIGATION NOTES AND DETAILS
4. SEE SHEETS LI-15 THROUGH LI-16 FOR WATER AGENCIES' STANDARD SPECIFICATIONS SECTION 15152
5. WATER METER AND CONTROLLER LOCATED ON SHEET LI-03

KEYMAP



IRRIGATION REFERENCE LEGEND:

6" POP-UP I-25 TURF ROTOR	POC	POINT OF CONNECTION	REMOTE CONTROL VALVE WITH PRESSURE REGULATING FILTER ASSEMBLY
6" POP-UP TURF ROTATOR W/ R-VAN24 NOZZLE (24' R)	RW	RECYCLED WATER METER	
12" POP-UP SHRUB ROTOR W/ LOW ANGLE NOZZLE (29'-32'R)	Y	Y-STRAINER	AUTOMATIC IRRIGATION CONTROLLER
12" POP-UP SHRUB ROTATOR W/ R-VAN14 NOZZLE (14' R)	PR	PRESSURE REGULATOR	IRRIGATION MAINLINE
12" POP-UP SHRUB ROTATOR W/ R-VAN18 NOZZLE (18' R)	BF	BACKFLOW / CHECK VALVE	IRRIGATION LATERAL LINE
12" POP-UP SHRUB ROTATOR W/ R-VAN24 NOZZLE (24' R)	TS	TEST STATION	SLEEVE
12" POP-UP SHRUB ROTATOR W/ R-VAN-SST NOZZLE (SIDE STRIP - 5'x30')	BP	BOOSTER PUMP	WIRE CONDUIT
12" POP-UP SHRUB SPRAY W/ SQUARE NOZZLE (4'x4' & 4'x8')	MV	IRRIGATION MASTER VALVE (NORMALLY CLOSED)	SURGE PROTECTOR AND GROUNDING ROD
TREE BUBBLER SYSTEM (IN SHRUB)	FS	FLOW SENSOR	PULL BOX
TREE BUBBLER SYSTEM (IN TURF)		FLOW SENSOR COMMUNICATION CABLE	WIRE PULL BOX
TREE BUBBLER SYSTEM POP-UP INDICATOR HEAD		BALL VALVE ISOLATION VALVE	POTABLE WATER LINE
RECYCLED WATER SIGN		BALL VALVE (MANIFOLD VALVE)	NEW 1" DOMESTIC WATER METER
		REMOTE CONTROL VALVE	NEW 1" DOMESTIC BACKFLOW PREVENTER
			NEW 1" DOMESTIC PRESSURE REGULATOR

INSPECTION NOTE

OTAY WATER DISTRICT INSPECTION SHALL BE NOTIFIED FIVE (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2241. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.

AS BUILT

_____ DATE _____
SIGNATURE
_____ R.L.A. No. _____
Printed Name
My Registration Expires _____ Discipline_____

UTILITY NOTE

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LICENSED LANDSCAPE ARCHITECT BROOKE JP. WHALEN No. 5175 STATE OF CALIFORNIA

0 10 20 40 60
SCALE: 1"= 20'

NORTH

CONSULTANT

ktua
3916 Normal Street
San Diego, CA 92103
619.294.4477
www.ktua.com

BID DOCUMENTS - OCTOBER 11, 2021

IRRIGATION PLAN

LANDSCAPE DWG NO.
LI-02
SHEET 2 OF 16
W.O. NO. PRK-0330

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd
CONTRACTOR:	MAP # 15350		DELTA A IRRIGATION REVISIONS	08/18/22	
INSPECTOR:					
DATE COMPLETED:	DWG. #'S 16022				

DATUMS
VERTICAL: 446.361 (NAVD 88)
HORIZONTAL: I.E. N78°21'27"E NAD 83

SCALE
HORIZONTAL
1" = 20'
VERTICAL
N/A

Designed By:	Drawn By:	Checked By:
HH	HH	BE

Plans Prepared Under Supervision Of: BROOKE JP. WHALEN RLA No. 5175 Date: 10/11/2021

Submitted: _____
By: _____
Office: _____

APPROVED BY: _____ DATE: _____
DIRECTOR OF DEVELOPMENT SERVICES OR DESIGNEE

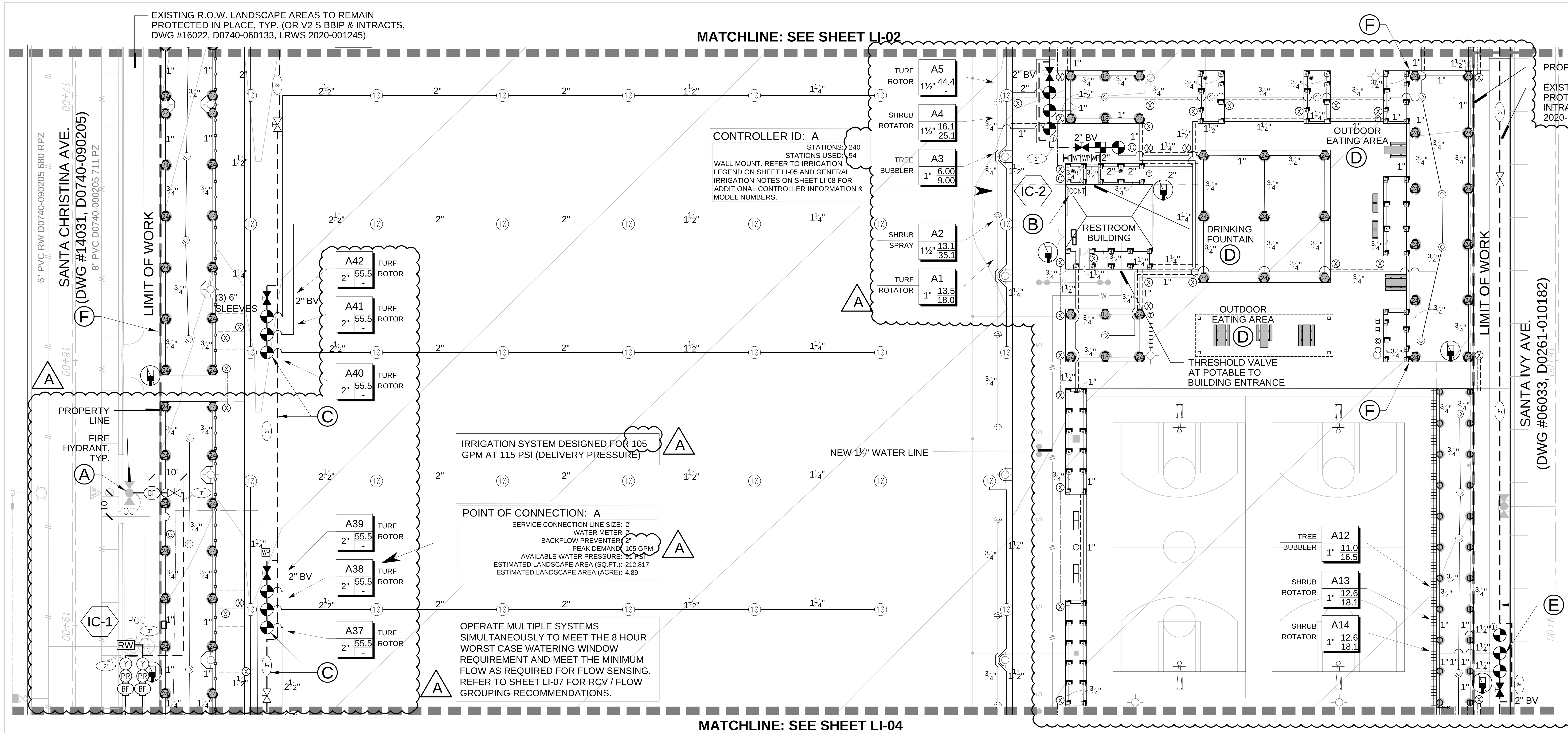
CITY OF CHULA VISTA DEVELOPMENT SERVICES DEPARTMENT
OTAY RANCH VILLAGE 2 P-2 PARK,
GROVE PARK

DRAWING NO.
19010-40
SHEET 40 OF 100

PERMIT NO. PLR-19-012

DEH2019-LRWS-001118

OWD# D0894-060253



LATERAL PIPE SIZING GUIDE:
(UNLESS OTHERWISE NOTED ON PLANS)

3/4"	-	0 - 7 GPM
1"	-	8 - 14 GPM
1 1/4"	-	15 - 20 GPM
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KEY NOTES:

- (A) 2" CONSTRUCTION WATER METER, 2" BACKFLOW PREVENTER, AND 2" PVC MAINLINE: TEMPORARY CONSTRUCTION WATER SOURCE AT FIRE HYDRANT. CONTRACTOR TO DETERMINE FINAL LOCATION IN FIELD. TO BE DISCONNECTED ONCE CROSS CONNECTION TEST HAS BEEN APPROVED BY REVIEWING AGENCY.
- (B) IRRIGATION CONTROLLER TO BE INSIDE STORAGE ROOM OF RESTROOM FACILITY.
- (C) INSTALL REMOTE CONTROL VALVE MANIFOLD, ALL VALVES, IRRIGATION MAINLINE AND WIRE IN PLANTING AREA (WHERE POSSIBLE).
- (D) COMFORT STATION, OUTDOOR EATING AREAS, DRINKING WATER FOUNTAINS AND PLAYGROUND EQUIPMENT SHALL BE PROTECTED AGAINST CONTACT WITH RECYCLED WATER SPRAY, MIST, OR RUN-OFF.
- (E) INSTALL REMOTE CONTROL VALVE MANIFOLD, VALVES AND IRRIGATION MAINLINE IN PLANTING AREA (NON-TURF), WITHIN PROJECT BOUNDARY.
- (F) SYSTEM SPLIT.

SHEET NOTES

1. SEE SHEET LI-05 FOR IRRIGATION LEGEND
2. SEE SHEETS LI-06 THROUGH LI-07 FOR IRRIGATION WATER USE CALCULATIONS
3. SEE SHEETS LI-08 - LI-15 FOR IRRIGATION NOTES AND DETAILS
4. SEE SHEETS LI-15 THROUGH LI-16 FOR WATER AGENCIES' STANDARD SPECIFICATIONS SECTION 15152

IRRIGATION REFERENCE LEGEND:

- 6" POP-UP I-25 TURF ROTOR
- 6" POP-UP TURF ROTATOR W/ R-VAN24 NOZZLE (24' R)
- 12" POP-UP SHRUB ROTOR W/ LOW ANGLE NOZZLE (29'-32'R)
- 12" POP-UP SHRUB ROTATOR W/ R-VAN14 NOZZLE (14' R)
- 12" POP-UP SHRUB ROTATOR W/ R-VAN18 NOZZLE (18' R)
- 12" POP-UP SHRUB ROTATOR W/ R-VAN24 NOZZLE (24' R)
- 12" POP-UP SHRUB ROTATOR W/ R-VAN-SST NOZZLE (SIDE STRIP - 5'x30')
- 12" POP-UP SHRUB SPRAY W/ SQUARE NOZZLE (4'x4' & 4'x8')
- TREE BUBBLER SYSTEM (IN SHRUB)
- TREE BUBBLER SYSTEM (IN TURF)
- TREE BUBBLER SYSTEM POP-UP INDICATOR HEAD
- RECYCLED WATER SIGN
- POC — POINT OF CONNECTION
- RW — RECYCLED WATER METER
- Y — Y-STRAINER
- PR — PRESSURE REGULATOR
- BF — BACKFLOW / CHECK VALVE
- TS — TEST STATION
- BP — BOOSTER PUMP
- MV — IRRIGATION MASTER VALVE (NORMALLY CLOSED)
- FS — FLOW SENSOR
- FLOW SENSOR COMMUNICATION CABLE
- BALL VALVE ISOLATION VALVE
- BALL VALVE (MANIFOLD VALVE)
- REMOTE CONTROL VALVE
- REMOTE CONTROL VALVE WITH PRESSURE REGULATING FILTER ASSEMBLY
- CONT — AUTOMATIC IRRIGATION CONTROLLER
- IRRIGATION MAINLINE
- IRRIGATION LATERAL LINE
- SLEEVE
- WIRE CONDUIT
- SURGE PROTECTOR AND GROUNDING ROD
- PULL BOX
- WP — WIRE PULL BOX
- W — POTABLE WATER LINE
- M — NEW 1" DOMESTIC WATER METER
- NEW 1" DOMESTIC BACKFLOW PREVENTER
- NEW 1" DOMESTIC PRESSURE REGULATOR

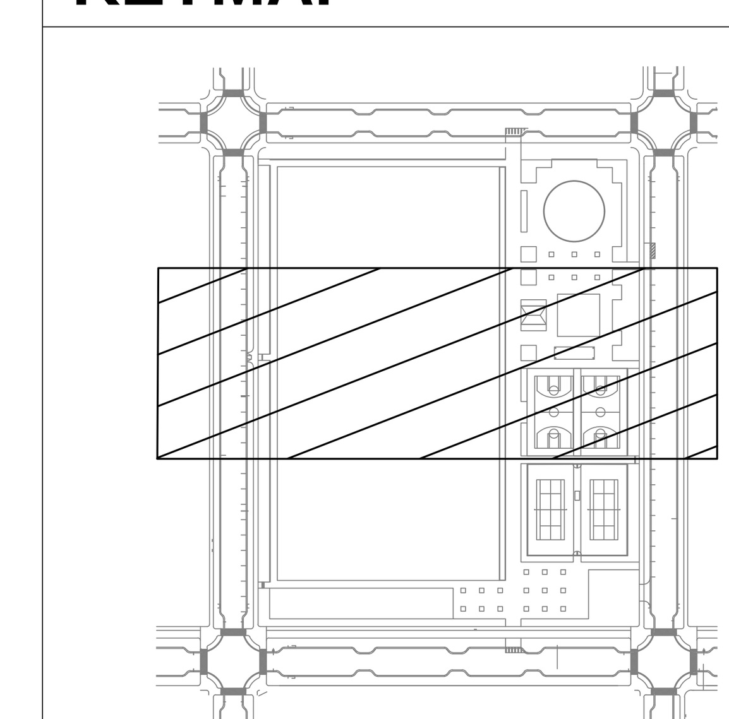
IRRIGATION CONSTRUCTION NOTES

- IC-1: LOCATE POINT OF CONNECTION IN THE VICINITY SHOWN AND CONNECT TO IT. DOWNSTREAM OF THE RECYCLED WATER METER, INSTALL SPECIFIED DUAL BACKFLOW PREVENTERS, Y-STRAINERS, TEST STATIONS, NORMALLY CLOSED MASTER VALVE, FLOW SENSOR , BOOSTER PUMP AND ISOLATION VALVE, AND EXTEND PRESSURE SUPPLY LINE TO THE IRRIGATION SYSTEM, REFER TO DETAIL S, LANDSCAPE DWG NO. LI-14 FOR P.O.C. ENLARGEMENT.
- IC-2: LOCATE AVAILABLE 120 VOLT POWER SOURCE FOR THE CONTROLLER. PRIOR TO ORDERING MATERIALS AND BEGINNING INSTALLATION, THE CONTRACTOR SHALL COORDINATE EXACT LOCATION OF CONTROLLER WITH THE CITY REPRESENTATIVE. ONCE THE FINAL LOCATION IS DETERMINED, INSTALL THE CONTROLLER PER DETAIL AND ANY MANUFACTURER'S SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR EXTENDING, LABELING AND CONNECTING THE PUMP SIGNAL WIRE, AND MASTER VALVE AND FLOW SENSING WIRES TO CONTROLLER.

INSPECTION NOTE

OTAY WATER DISTRICT INSPECTION SHALL BE NOTIFIED FIVE (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2241. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.

KEYMAP



AS BUILT

_______________ DATE _______
SIGNATURE
_______________ R.L.A. No. _______
Printed Name
My Registration Expires ______ Discipline______

UTILITY NOTE

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LICENSED LANDSCAPE ARCHITECT — BROOKE JP WHALEN 5175 — Signature — 09/30/2024 Renewal Date — 8/1/22 Date — STATE OF CALIFORNIA

SCALE: 1"= 20' (0 10 20 40 60) NORTH

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd	DATUMS	SCALE
CONTRACTOR:	MAP # 15350		DELTA A IRRIGATION REVISIONS	08/18/22		VERTICAL: 446.361 (NAVD 88)	HORIZONTAL
INSPECTOR:						HORIZONTAL: I.E. N78"21'27"E NAD 83	1" = 20'
DATE COMPLETED:	DWG. #'S 16022						VERTICAL
							N/A

Designed By: HH | Drawn By: HH | Checked By: BE
Plans Prepared Under Supervision Of: BROOKE JP. WHALEN Date: 10/11/2021 R.L.A No. 5175

CONSULTANT
ktua — 3916 Normal Street, San Diego, CA 92103, 619.294.4477, www.ktua.com

Submitted: ______ By: ______ Office:
APPROVED BY: ______ DATE: ______
DIRECTOR OF DEVELOPMENT SERVICES OR DESIGNEE

BID DOCUMENTS - OCTOBER 11, 2021

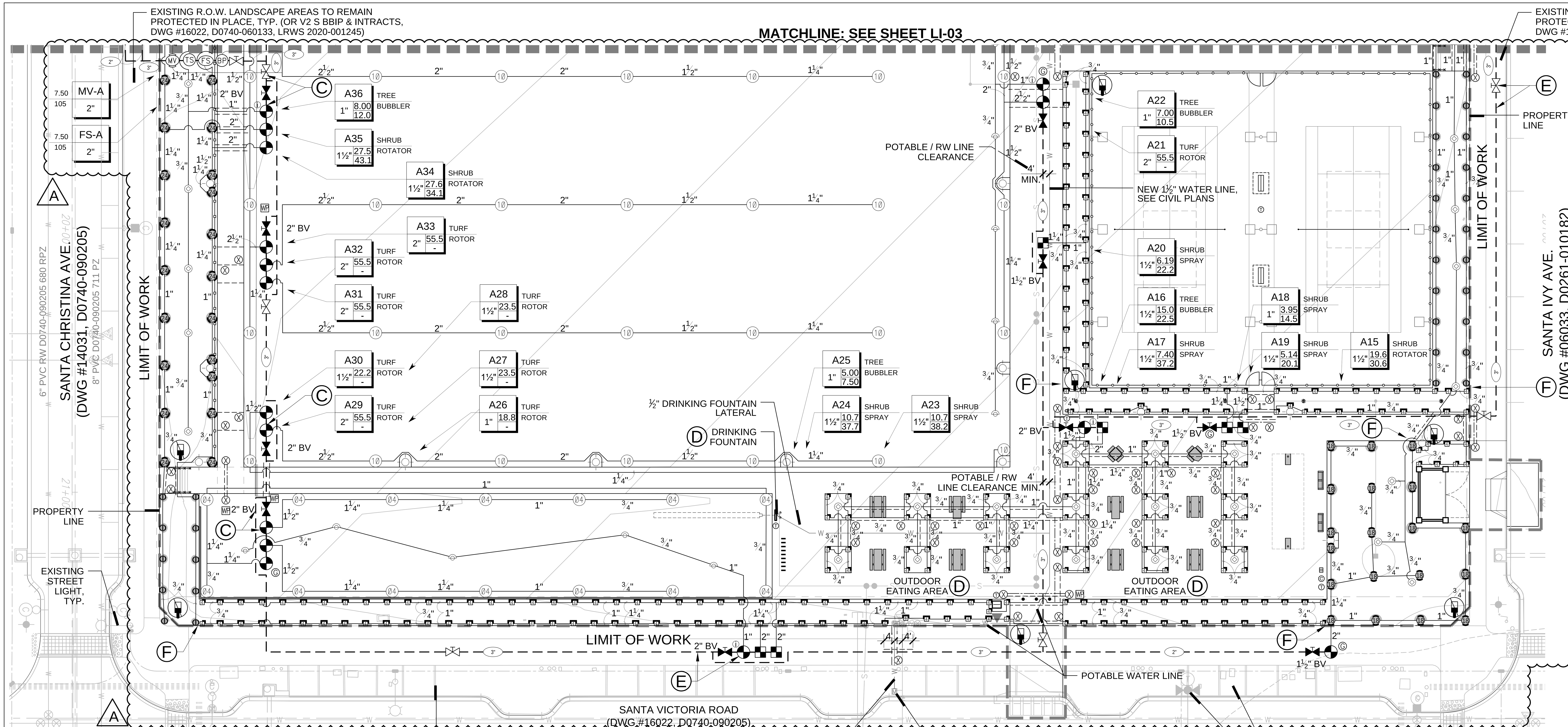
IRRIGATION PLAN

CITY OF CHULA VISTA DEVELOPMENT SERVICES DEPARTMENT
OTAY RANCH VILLAGE 2 P-2 PARK,
GROVE PARK

LANDSCAPE DWG NO. LI-03
SHEET 3 OF 16
W.O. NO. PRK-0330
DRAWING NO. 19010-41
SHEET 41 OF 100

PERMIT NO. PLR-19-012

DEH2019-LRWS-001118
OWD# D0894-060253



LATERAL PIPE SIZING GUIDE:
(UNLESS OTHERWISE NOTED ON PLANS)

3/4"	-	0 - 7 GPM
1"	-	8 - 14 GPM
1 1/4"	-	15 - 20 GPM
1 1/2"	-	21 - 30 GPM
2"	-	31 - 50 GPM
2 1/2"	-	51 + GPM

KEY NOTES:

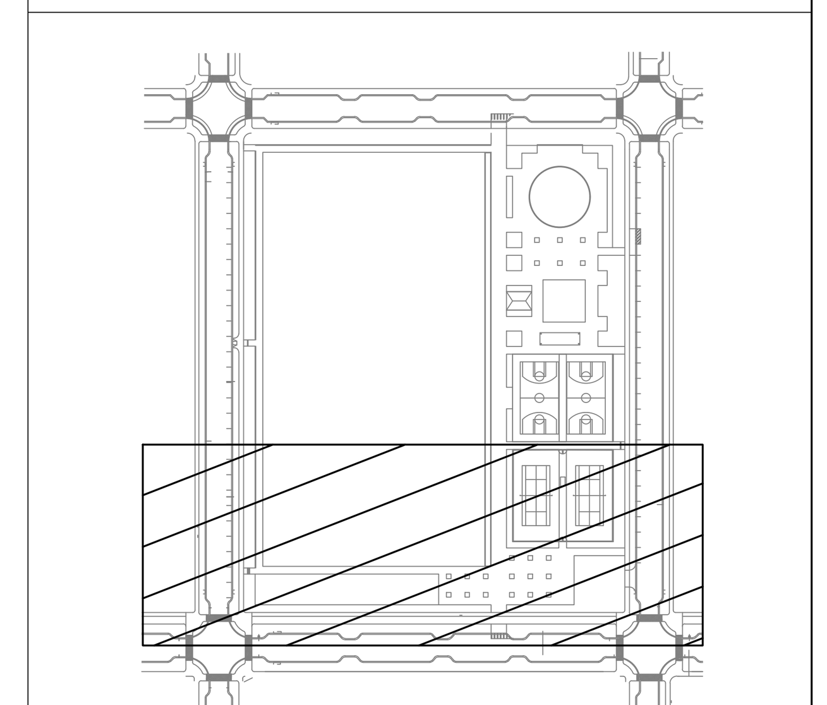
- (A) 2" CONSTRUCTION WATER METER, 2" BACKFLOW PREVENTER, AND 2" PVC MAINLINE: TEMPORARY CONSTRUCTION WATER SOURCE AT FIRE HYDRANT. CONTRACTOR TO DETERMINE FINAL LOCATION IN FIELD. TO BE DISCONNECTED ONCE CROSS CONNECTION TEST HAS BEEN APPROVED BY REVIEWING AGENCY.
- (B) IRRIGATION CONTROLLER TO BE INSIDE STORAGE ROOM OF RESTROOM FACILITY.
- (C) INSTALL REMOTE CONTROL VALVE MANIFOLD, ALL VALVES, IRRIGATION MAINLINE AND WIRE IN PLANTING AREA (WHERE POSSIBLE).
- (D) COMFORT STATION, OUTDOOR EATING AREAS, DRINKING WATER FOUNTAINS AND PLAYGROUND EQUIPMENT SHALL BE PROTECTED AGAINST CONTACT WITH RECYCLED WATER SPRAY, MIST, OR RUN-OFF.
- (E) INSTALL REMOTE CONTROL VALVE MANIFOLD, VALVES AND IRRIGATION MAINLINE IN PLANTING AREA (NON-TURF), WITHIN PROJECT BOUNDARY.
- (F) SYSTEM SPLIT.

DEH2019-LRWS-001118

SHEET NOTES

1. SEE SHEET LI-05 FOR IRRIGATION LEGEND
2. SEE SHEETS LI-06 THROUGH LI-07 FOR IRRIGATION WATER USE CALCULATIONS
3. SEE SHEETS LI-08 - LI-15 FOR IRRIGATION NOTES AND DETAILS
4. SEE SHEETS LI-15 THROUGH LI-16 FOR WATER AGENCIES' STANDARD SPECIFICATIONS SECTION 15152
5. WATER METER AND CONTROLLER LOCATED ON SHEET LI-03

KEYMAP



IRRIGATION REFERENCE LEGEND:

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- 6" POP-UP TURF ROTATOR W/ R-VAN24 NOZZLE (24' R)
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- PR PRESSURE REGULATOR
- BF BACKFLOW / CHECK VALVE
- TS TEST STATION
- BP BOOSTER PUMP
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INSPECTION NOTE

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OWD# D0894-060253

AS BUILT

SIGNATURE ______ DATE ______
Printed Name ______ R.L.A. No. ______
My Registration Expires ______ Discipline ______

UTILITY NOTE

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LICENSED LANDSCAPE ARCHITECT — BROOKE JP WHALEN — STATE OF CALIFORNIA

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd
CONTRACTOR:	MAP # 15350		DELTA A IRRIGATION REVISIONS	08/18/22	
INSPECTOR:					
DATE COMPLETED:	DWG. #'S 16022				

DATUMS: VERTICAL: 446.361 (NAVD 88); HORIZONTAL: I.E. N78°21'27"E NAD 83

SCALE: HORIZONTAL 1" = 20'; VERTICAL N/A

SCALE: 1"= 20' (0 10 20 40 60) NORTH

Designed By: HH | Drawn By: HH | Checked By: BE

Plans Prepared Under Supervision Of: BROOKE JP. WHALEN | Date: 10/11/2021 | RLA No. 5175

CONSULTANT

ktua — 3916 Normal Street, San Diego, CA 92103, 619.294.4477, www.ktua.com

Submitted: ______ By: ______ Office: ______

APPROVED BY: ______ DATE: ______ DIRECTOR OF DEVELOPMENT SERVICES OR DESIGNEE

BID DOCUMENTS - OCTOBER 11, 2021

IRRIGATION PLAN

CITY OF CHULA VISTA DEVELOPMENT SERVICES DEPARTMENT

OTAY RANCH VILLAGE 2 P-2 PARK, GROVE PARK

LANDSCAPE DWG NO. LI-04, SHEET 4 OF 16

W.O. NO. PRK-0330

DRAWING NO. 19010-42

SHEET 42 OF 100

PERMIT NO. PLR-19-012

IRRIGATION SCHEDULE

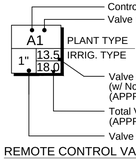
SYMBOL	DESCRIPTION	MANUFACTURER/MODEL NO.	REMARKS	DETAIL
POC	POINT OF CONNECTION	-	APPROX. LOCATION SHOWN, FIELD VERIFY. SEE ALSO CIVIL PLANS.	S
RW	RECYCLED WATER METER	NEW 2" RECYCLED WATER METER	APPROX. LOCATION SHOWN, FIELD VERIFY	WR-08
Y	Y-STRAINER IN BOX	WILKINS SXL (2"), OR APPROVED EQUAL	APPROX. LOCATION SHOWN, FIELD VERIFY	A
PR	PRESSURE REGULATOR	WILKINS 500XL-HR (2"), SET DELIVERY PRESSURE REGULATOR AT 115 PSI / AS REQUIRED	INSTALL UPSTREAM BACKFLOW PREVENTER	WR-08
BF	BACKFLOW REDUCED PRESSURE	WATTS 009 QT-2"	APPROX. LOCATION SHOWN, FIELD VERIFY	WR-02
NO SYMBOL	BACKFLOW REDUCED PRESSURE ENCLOSURE	V.I.T. STRONG BOX SMOOTH TOUCH SBBC-45SS	APPROX. LOCATION SHOWN, FIELD VERIFY	WR-02
TS	TEST STATION	-	APPROX. LOCATION SHOWN, FIELD VERIFY	WR-04/S
BP	BOOSTER PUMP (A)	BARRETT ENGINEERED PUMPS IBPCO-7.5-2-3/VFD-F/PSPIPE 3" WITH BY-PASS AND GAUGES (7.5 HP PUMP ASSEMBLY)	APPROX. LOCATION SHOWN, FIELD VERIFY. PROVIDE SIGNAL WIRE IN CONDUIT BETWEEN CONTROLLER AND PUMP, AND DECODER IN BOX AT PUMP. CONTACT ITS AT (714) 696-7535	B (A)
MV	MASTER VALVE (NORMALLY CLOSED)	RAINBIRD IVM200EFB-NP-HAN2, 2" SIZE	APPROX. LOCATION SHOWN, FIELD VERIFY. PROVIDE 2-WIRE CABLE IN SEPARATE CONDUIT BETWEEN CONTROLLER AND VALVE	C
FS	FLOW SENSOR	UFS-200 SENSOR WITH RAIN BIRD LXIVMSEN MODULE (1-200 GPM)	IMMEDIATELY DOWNSTREAM MASTER VALVE	D
———	FLOW SENSOR COMMUNICATION CABLE	P7072D MAXI WIRE	INSTALL IN CONDUIT BETWEEN FLOW SENSOR AND CONTROLLER WITH NO CABLE SPLICES. PROVIDE 2-WIRE SENSOR MODULE IN BOX AT SENSOR.	M
	BALL VALVE (ISOLATION VALVE)	HAYWARD TB SERIES PVC SCH 80 TRUE UNION WITH EPDM SEALS	MAINLINE SIZE	E
	BALL VALVE (MANIFOLD VALVE)	HAYWARD TB SERIES PVC SCH 80 TRUE UNION WITH EPDM SEALS	APPROX. LOCATION SHOWN, FIELD VERIFY, SIZE PER PLAN	E
	REMOTE CONTROL VALVE (PRESSURE REGULATING)	IVM100EFB-PRS-D-NP-HAN1, IVM150EFB-PRS-D-NP-HAN2, IVM200EFB-PRS-D-NP-HAN2, WITH FACTORY-INSTALLED IVM-SOL	APPROX. LOCATION SHOWN, FIELD VERIFY, SIZE PER PLAN NOTE: PRS-D REGULATOR MUST BE FIELD INSTALLED	G
	REMOTE CONTROL VALVE WITH PRESSURE REGULATING FILTER ASSEMBLY	RAINBIRD IVM100EFB-PRS-D-NP-HAN1 WITH OPTIONS NOTED: PES-B VALVE, PRB-QKCHK-100 PRESSURE-REGULATING FILTER (0.3 - 20 GPM) FOR 1" VALVE ASSEMBLY, IVM150EFB-PRS-D-NP-HAN2, LCRBY150D FILTER AND PSI-H40X-150 PRESSURE REGULATOR (21 - 62 GPM) FOR 1-1/2" VALVE ASSEMBLY WITH FACTORY-INSTALLED IVM-SOL	APPROX. LOCATION SHOWN, FIELD VERIFY, SIZE PER PLAN. NOTE: -PRS-D REGULATOR MUST BE FIELD INSTALLED	U
CONT	AUTOMATIC IRRIGATION CONTROLLER	RAINBIRD ESPLXIVMP: INCLUDES 240 STATIONS CONTROLLER IN PLASTIC WALL-MOUNT CABINET. ADD RS32 COMMUNICATION CARTRIDGE FOR RADIO COMMUNICATION, AND PSR220-IVM PUMP START RELAY	APPROX. LOCATION SHOWN (IN RESTROOM STORAGE SPACE), FIELD VERIFY. WALL MOUNT WITH STAINLESS STEEL CABINET.CITY CONTROL SYSTEM MANAGEMENT: PRIMARY COMMUNICATION (ETHERNET) WILL ORIGINATE AT FIRE STATION 7 USING AN ETHERNET CARTRIDGE AND 900 MHZ RADIO. THIS PARK WILL CONNECT TO IT VIA RADIO CARTRIDGE AS SECONDARY COMMUNICATION. CONTROL SYSTEM INSTALLATION, OPERATION AND DATA SERVICE SHALL BE REVIEWED BY TORO FIELD SERVICE REPRESENTATIVE PRIOR TO OBTAINING FINAL ACCEPTANCE OF SYSTEM BY RAIN BIRD AND OWNER.	H
NO SYMBOL	RAIN SENSOR	RAINBIRD RSD WITH LXIVMSEN	MOUNT THE SENSOR ON BUILDING ROOF IN EXACT LOCATION COORDINATED WITH THE CITY AND PER RAIN BIRD RECOMMENDATIONS.	-
NO SYMBOL	WIRE CONNECTOR	RAIN BIRD WC20	BELOW GRADE WIRE SPLICES. ALL WIRE CONNECTIONS AND SPARE WIRE ENDS SHALL BE PER STANDARD DRAWINGS AND ENCLOSE IN SEALANT FOR WATERTIGHTNESS	I
3"	IRRIGATION MAINLINE (SIZE AS NOTED ON PLAN)	PURPLE RECYCLED WATER PVC CLASS 315 (SDR 13.5) = 2" TO 3" SIZE WITH PVC SCH 80 FITTINGS PURPLE RECYCLED WATER PVC SCH 40 = 1-1/2" SIZE WITH PVC SCH 80 FITTINGS	18" NORMAL DEPTH OF COVER, 30"-36" UNDER HARDSCAPE	F, J, K, WI-01, WI-02 & WI-04
———	IRRIGATION LATERAL LINE (SIZE AS NOTED ON PLAN)	PURPLE RECYCLED WATER PVC SCH 40 WITH PVC SCH 40 FITTINGS	1" SIZE & ABOVE ARE INDICATED ON THE PLAN, WITH ALL OTHERS 3/4" IN SIZE. 15" DEPTH OF COVER	J, K & WI-04
- - - - - - -	SLEEVE	PURPLE RECYCLED WATER PVC SCH 40	MIN. 2" SIZE, TWICE THE DIA. OF PIPE SLEEVED. APPROX. LOCATION SHOWN, FIELD VERIFY. INSTALL AS NOTED AND UNDER PAVING/HARDSCAPE	F, K, WI-01, WI-02 & WI-04
—·—·—	WIRE CONDUIT	GREY PVC SCH 40	MIN. 3/4" SIZE, SIZE TWICE THE DIA. OF WIRE BUNDLE SLEEVED, AND AS NOTED. APPROX. LOCATION SHOWN ONLY FOR COORDINATING CONDUIT INSTALLATION PRIOR TO PAVING CONSTRUCTION. ALL WIRE/ CABLE SHALL BE INSIDE CONDUIT (FLOW SENSOR WIRE AND MASTER VALVE WIRE IN SEPARATE 1" DIA. MIN. ELECTRICAL CONDUIT). INSTALL AS NOTED AND UNDER PAVING/HARDSCAPE	K & S

(A)

SYMBOL FULL	SYMBOL ADJ	DESCRIPTION	MANUFACTURER/MODEL NO./NOZZLE	RADIUS	PSI	GPM	DETAIL
04		6" POP-UP GEAR DRIVEN (IN TURF)	HUNTER I-25-06-SS-R W/ ADJUSTABLE TO FULL CIRCLE NON-STANDARD 4.0 YELLOW NOZZLE	42'	60	4.70	O
10		6" POP-UP GEAR DRIVEN (IN TURF)	HUNTER I-25-06-SS-R W/ ADJUSTABLE TO FULL CIRCLE STANDARD 10.0 LIGHT GREEN NOZZLE	52'	60	11.10	O
	24	6" POP-UP ROTATING STREAM (IN TURF)	RAINBIRD RD06-S-P-45-F-NP W/ R-VAN24 NOZZLE - 90°-270°	23'	45	0.84-2.52	N
24		6" POP-UP ROTATING STREAM (IN TURF)	RAINBIRD RD06-S-P-45-F-NP W/ R-VAN24 NOZZLE - 360°	23'	45	3.48	N
01		12" POP-UP GEAR DRIVEN (IN SHRUB)	RAINBIRD 5012+PCSMRNP W/ ADJUSTABLE TO FULL CIRCLE 1.0 LA, Q NOZZLE	29'	45	1.05	O
02		12" POP-UP GEAR DRIVEN (IN SHRUB)	RAINBIRD 5012+PCSMRNP W/ ADJUSTABLE TO FULL CIRCLE 2.0 LA, H NOZZLE	32'	45	2.02	O
	Q	12" POP-UP SPRAY (IN SHRUB)	RAINBIRD RD12-S-P-30-F-NP W/ SQ-Q NOZZLE	4'x4'	30	0.12	N
	H	12" POP-UP SPRAY (IN SHRUB)	RAINBIRD RD12-S-P-30-F-NP W/ SQ-H NOZZLE	4'x8'	30	0.20	N
	14	12" POP-UP ROTATING STREAM (IN SHRUB)	RAINBIRD RD12-S-P-45-F-NP W/ R-VAN14 NOZZLE - 90°-270°	14'	45	0.32-0.94	N
14		12" POP-UP ROTATING STREAM (IN SHRUB)	RAINBIRD RD12-S-P-45-F-NP W/ R-VAN14 NOZZLE - 360°	14'	45	1.27	N
	18	12" POP-UP ROTATING STREAM (IN SHRUB)	RAINBIRD RD12-S-P-45-F-NP W/ R-VAN18 NOZZLE - 90°-270°	17'	45	0.50-1.51	N
18		12" POP-UP ROTATING STREAM (IN SHRUB)	RAINBIRD RD12-S-P-45-F-NP W/ R-VAN18 NOZZLE - 360°	17'	45	1.85	N
	24	12" POP-UP ROTATING STREAM (IN SHRUB)	RAINBIRD RD12-S-P-45-F-NP W/ R-VAN24 NOZZLE - 90°-270°	23'	45	0.84-2.52	N
S		12" POP-UP ROTATING STREAM (IN SHRUB)	RAINBIRD RD12-S-P-45-F-NP W/ R-VAN-SST NOZZLE	5'x30'	45	0.48	N
		TREE BUBBLER SYSTEM (IN SHRUB) (2 BUBBLERS PER SYMBOL / TREE)	EACH TREE SHALL HAVE: - ONE (1) 4" POP-UP (RAINBIRD RD04-S-P-30-F-NP WITH 5Q-B NOZZLE) WITH FACTORY INSTALLED CHECK VALVE. - ONE (1) FIXED BUBBLER (RAINBIRD 1402 NOZZLE) IN A PERFORATED PIPE. WITH ANTI-DRAIN SPRING CHECK VALVE.	5' FLOOD	30 30	0.50 0.50	P & Q
		TREE BUBBLER SYSTEM (IN TURF) (2 BUBBLERS PER SYMBOL / TREE)	EACH TREE SHALL HAVE: - ONE (1) 4" POP-UP (RAINBIRD RD04-S-P-30-F-NP WITH 5Q-B NOZZLE) WITH FACTORY INSTALLED CHECK VALVE. - ONE (1) FIXED BUBBLER (RAINBIRD 1402 NOZZLE) IN A PERFORATED PIPE. WITH ANTI-DRAIN SPRING CHECK VALVE.	5' FLOOD	30 30	0.50 0.50	P & Q
I		TREE BUBBLER SYSTEM POP-UP INDICATOR HEAD	RAINBIRD RD12-S-P-30-F-NP WITH GPH GDFN-R EACH TREE SYSTEM SHALL REQUIRE ONE (1) POP-UP INDICATOR HEAD NEAR TREE SYSTEM REMOTE CONTROL VALVE.	-	30	-	N (SIMILAR)

SYMBOL	DESCRIPTION	MANUFACTURER/MODEL NO.	REMARKS	DETAIL
NO SYMBOL	2-WIRE VALVE DEVICE CABLE	14/2, PAIGE P7072D MAXI WIRE, OR AS APPROVED BY CONTROLLER MANUFACTURER.	SPLICES, WHEN APPROVED, SHALL USE WATER TIGHT ELECTRICAL WIRE CONNECTOR RAIN BIRD WC20. INSTALL IN 1-1/4" GREY SCH 40 PVC PIPE WITH SWEEPS FROM CONTROLLER TO REMOTE CONTROL VALVES.	V
NO SYMBOL	2-WIRE FLOW SENSOR DEVICE	LXIVMSEN	USE APPROVED RAIN BIRD WC20 WIRE CONNECTOR	-
G	2-WIRE GROUND ROD WITH RAIN BIRD SURGE DEVICE	5/8" DIA. X 8 FT LONG BARE COPPER ROD OR PER MANUFACTURER'S REQUIREMENTS, WITH RAIN BIRD MODEL #LXIVMSD SURGE DEVICE	DO NOT SOLELY INSTALL PER PLAN LOCATIONS. VERIFY AND INSTALL (1) GROUND ROD WITH LXIVMSD SURGE DEVICE EVERY 500 FT, OR FOR EVERY 15 DECODERS ON 2 WIRE CABLE (WHICHEVER IS SMALLER DISTANCE). INSTALL PER MANUFACTURER'S RECOMMENDATIONS.	X (A)
X	PULL BOX	OLDCASTLE / CARSON PRODUCTS	AS NOTED, 6" DIA. VALVE BOX AT ENDS OF EACH SLEEVE CROSSING. LOW VOLT. = LOCKING LID HIGH VOLT. = BOLTDOWN LID INCLUDE AT LOCATIONS WITH 270 DEGREES OF CONDUIT BENDING. INCLUDE SWEEPS. MAX. 200 FEET DISTANCE SPACING ALONG WIRE RUN	L & M
MP	WIRE PULL BOX	OLDCASTLE / CARSON PRODUCTS	APPROX. LOCATION SHOWN, FIELD VERIFY. SPLICE WIRE AND INSTALL WIRE SPLICE BOX ONLY WHERE WIRE RUN EXCEEDS 500', INCLUDE AT LOCATIONS WITH 270 DEGREES OF CONDUIT BENDING. INCLUDE SWEEPS.	L & M
	RECYCLED WATER "DO NOT DRINK" SIGN	SIGN TYPE APPROVED BY OTAY WATER DISTRICT	INSTALL QUANTITY AND LOCATION PER MUNICIPAL WATER DISTRICT AND SAN DIEGO (DEH) RECYCLED WATER REQUIREMENTS	WM-08

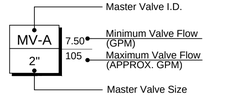
REMOTE CONTROL VALVE CALLOUT



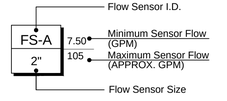
REMOTE CONTROL VALVE

MASTER VALVE AND FLOW SENSOR CALLOUT

NOTE: VALVE FLOW REPRESENTS MULTIPLE VALVE OPERATIONS TO MEET THE 8 HOUR WORST CASE WATERING WINDOW REQUIREMENT AND MEET THE MINIMUM FLOW AS REQUIRED FOR FLOW SENSING.



MASTER VALVE



FLOW SENSOR

(A)

COLOR CODING

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. DECAL ON RISERS WILL NOT BE ACCEPTED.

(A)

INSPECTION NOTE

OTAY WATER DISTRICT INSPECTION SHALL BE NOTIFIED FIVE (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2241. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.

AS BUILT

_____ DATE _____
SIGNATURE
_____ R.L.A. No. _____
Printed Name
My Registration Expires _____ Discipline_____

UTILITY NOTE

ALL EXISTING UTILITIES SHOWN ON THESE PLANS ARE PLOTTED FROM RECORD DATA AT THEIR APPROXIMATE LOCATIONS. UNDERGROUND FACILITIES MAY EXIST WHICH HAVE NOT BEEN REPORTED OR ARE NOT OF RECORD. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL PERTINENT UTILITIES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION.

LICENSED LANDSCAPE ARCHITECT — BROOKE JP. WHALEN — LANDSCAPE ARCHITECT — STATE OF CALIFORNIA

CONSULTANT

ktua
3916 Normal Street
San Diego, CA 92103
619.294.4477
www.ktua.com

BID DOCUMENTS - OCTOBER 11, 2021

IRRIGATION SCHEDULE

LANDSCAPE DWG NO.
LI-05
SHEET 5 OF 16
W.O. NO. PRK-0330

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd
CONTRACTOR:	MAP # 15350		DELTA A IRRIGATION REVISIONS	08/18/22	
INSPECTOR:					
DATE COMPLETED:	DWG. #'S 16022				

DATUMS
VERTICAL: 446.361 (NAVD 88)
HORIZONTAL: I.E. N78°21'27"E NAD 83

SCALE
HORIZONTAL N/A
VERTICAL N/A

Designed By: HH | Drawn By: HH | Checked By: BE

Plans Prepared Under Supervision Of: BROOKE JP. WHALEN, RLA No. 5175 Date: 10/11/2021

Submitted: _____
By: _____
Office: _____

APPROVED BY: _____ DATE: _____
DIRECTOR OF DEVELOPMENT SERVICES OR DESIGNEE

CITY OF CHULA VISTA DEVELOPMENT SERVICES DEPARTMENT
OTAY RANCH VILLAGE 2 P-2 PARK,
GROVE PARK

DRAWING NO.
19010-43
SHEET 43 OF 100

PERMIT NO. PLR-19-012

DEH2019-LRWS-001118

OWD# D0894-060253

HYDRAULIC AND WATER USE CALCULATIONS, AND IRRIGATION WATERING SCHEDULE

A

Project No: 017-057

Date:	12/1/2021
City/Governing Agency:	City of Chula Vista
Landscape Project Type:	Non-residential

Project Name:	Grove Park				
Reference ETo:	51.2		**CIMIS Station #**	147 (Otay Lake)	
LA (Landscape area):	0	sq ft			**sq ft:**
SLA (Special landscape area):	212,817	sq ft	**SLA Description:**	Crop plants	0
Limit of work:	Controller '**A**'			RW irrigation	212,817
Water Source:	Recycled Water			RW feature/s	0
				Active turf	0
				Total:	212,817

MAWA = Maximum Applied Water Allowance (gallons per year)

MAWA (SLA Only) = (ETo) (0.62) (ETAF x SLA)
MAWA (SLA Only) = (51.2) (0.62) (1.00 x 212,817)

- ETo = Reference evapotranspiration (in inches per year)
- 0.62 = Conversion factor (to get gallons per sq ft)
- 0.45 = ET Adjustment Factor (ETAF) (for plant factors and irrigation efficiency) for non-residential areas
- 0.55 = ET Adjustment Factor (ETAF) (for plant factors and irrigation efficiency) for residential areas
- 1.00 = ET Adjustment Factor (ETAF) for SLA only
- LA = Landscape Area **ex**cluding any SLA (in sq ft)
- SLA = Special Landscape Area (in sq ft)(edible crops, recycl. water features, recycl. water, recreational/active turf areas)

MAWA = 6,755,663 gal/year

ETWU = Estimated Total Water use (gal/yr)

ETWU (SLA Only) = ETo x 0.62 x SLA

Calculations:
51.2 x 0.62 x (212,817) = 6,755,663 gal/year

ETWU = 6,755,663 gal/year

- ETo = Reference ET (inches per year)
- 0.62 = Conversion factor (to get gallons per sq ft)
- PF = Plant Factor from WUCOLS* (low: 0.1-0.3, moderate: 0.4-0.7, high water use: 0.8-1.0; art. turf: 0.1-0.2; water features: 0.8; SLA: 1.0)
- HA = Hydrozone Area (very low, low, moderate or high water use, in sq ft)
- IE = Irrigation Efficiency (Bubbler: 0.81; Spray: 0.75; Microspray: 0.75; Rotator: 0.75; Rotor: 0.75; Drip: 0.81)
- SLA = Special Landscape Area (in sq ft)(edible crops, recycl. water features, recycl. water, recreational/active turf areas)
- *WUCOLS = Water Use Classification of Landscape Species

Hydrozone No.	Plant Water Use Type Classification	Plant	Plant Factor (PF)	Hydrozone Area (HA) (sq ft)	PF x HA (sq ft)	IE	PF x HA / IE	
1	Moderate	Turf	0.6	2,500	1,500	0.75	2,000	(Rotator)
2	Moderate	Shrub	0.4	2,171	868	0.75	1,158	(Spray)
3	Moderate	Tree	0.5	96	48	0.81	59	(Bubbler)
4	Moderate	Shrub	0.4	1,673	669	0.75	892	(Rotator)
5	Moderate	Turf	0.6	5,070	3,042	0.75	4,056	(Rotor)
6	Moderate	Shrub	0.4	899	360	0.75	479	(Spray)
7	Moderate	Shrub	0.4	2,397	959	0.75	1,278	(Rotator)
8	Moderate	Shrub	0.4	1,228	491	0.75	655	(Rotator)
9	Moderate	Shrub	0.4	809	324	0.75	431	(Spray)
10	Moderate	Tree	0.5	224	112	0.81	138	(Bubbler)
11	Moderate	Shrub	0.4	5,020	2,008	0.75	2,677	(Rotator)
12	Moderate	Tree	0.5	176	88	0.81	109	(Bubbler)
13	Moderate	Shrub	0.4	1,619	648	0.75	863	(Rotator)
14	Moderate	Shrub	0.4	1,619	648	0.75	863	(Rotator)
15	Moderate	Shrub	0.4	3,102	1,241	0.75	1,654	(Rotator)
16	Moderate	Tree	0.5	240	120	0.81	148	(Bubbler)
17	Low	Shrub	0.2	360	72	0.75	96	(Spray)
18	Low	Shrub	0.2	721	144	0.75	192	(Spray)
19	Low	Shrub	0.2	919	184	0.75	245	(Spray)
20	Low	Shrub	0.2	1,183	237	0.75	315	(Spray)
21	Moderate	Turf	0.6	6,337	3,802	0.75	5,070	(Rotor)
22	Moderate	Tree	0.5	112	56	0.81	69	(Bubbler)
23	Moderate	Shrub	0.4	2,050	820	0.75	1,093	(Spray)
24	Moderate	Shrub	0.4	2,050	820	0.75	1,093	(Spray)
25	Moderate	Tree	0.5	80	40	0.81	49	(Bubbler)
26	Moderate	Turf	0.6	1,492	895	0.75	1,194	(Rotor)
27	Moderate	Turf	0.6	3,522	2,113	0.75	2,818	(Rotor)
28	Moderate	Turf	0.6	3,542	2,125	0.75	2,834	(Rotor)
29	Moderate	Turf	0.6	6,323	3,794	0.75	5,058	(Rotor)
30	Moderate	Turf	0.6	1,385	831	0.75	1,108	(Rotor)
31	Moderate	Turf	0.6	11,541	6,925	0.75	9,233	(Rotor)
32	Moderate	Turf	0.6	11,541	6,925	0.75	9,233	(Rotor)
33	Moderate	Turf	0.6	6,337	3,802	0.75	5,070	(Rotor)
34	Moderate	Shrub	0.4	3,322	1,329	0.75	1,772	(Rotator)
35	Moderate	Shrub	0.4	3,322	1,329	0.75	1,772	(Rotator)
36	Moderate	Tree	0.5	128	64	0.81	79	(Bubbler)
37	Moderate	Turf	0.6	11,541	6,925	0.75	9,233	(Rotor)
38	Moderate	Turf	0.6	11,541	6,925	0.75	9,233	(Rotor)
39	Moderate	Turf	0.6	11,541	6,925	0.75	9,233	(Rotor)
40	Moderate	Turf	0.6	11,541	6,925	0.75	9,233	(Rotor)
41	Moderate	Turf	0.6	11,541	6,925	0.75	9,233	(Rotor)
42	Moderate	Turf	0.6	11,541	6,925	0.75	9,233	(Rotor)
43	Moderate	Tree	0.5	128	64	0.81	79	Bubbler)
44	Moderate	Shrub	0.4	3,111	1,244	0.75	1,659	(Rotator)
45	Moderate	Shrub	0.4	2,984	1,194	0.75	1,591	(Rotator)
46	Moderate	Turf	0.6	5,070	3,042	0.75	4,056	(Rotor)
47	Moderate	Turf	0.6	11,166	6,700	0.75	8,933	(Rotor)
48	Moderate	Shrub (Basin)	0.4	7,841	3,136	0.75	4,182	(Rotor)
49	Moderate	Turf	0.6	6,122	3,673	0.75	4,898	(Rotor)
50	Moderate	Turf	0.6	1,348	809	0.75	1,078	(Rotor)
51	Moderate	Shrub	0.4	1,306	522	0.75	697	(Spray)
52	Moderate	Shrub	0.4	1,468	587	0.75	783	(Spray)
53	Moderate	Tree	0.5	368	184	0.81	227	(Bubbler)
54	Moderate	Shrub (Basin)	0.4	7,549	3,020	0.75	4,026	(Rotor)
			Subtotal:	212,817 HA = SLA	115,154		153,462	

ETWU = 6,755,663 gal/year
MAWA = 6,755,663 gal/year

Notes:
1. MAWA Formula and irrigation efficiency factors per State MWELO revisions.
2. Project will utilize Recycled Water, thus LA (Landscape Area) and HA (Hydrozone Area) are calculated as SLA (Special Landscape Area). No potable water will be used for irrigation system.

Estimated Total Water Use is equal to the Maximum Applied Water Allowance.

ETAF Calculations

Regular Landscape Areas

Total ETAF x Area	0
Total Area	0
Average ETAF	**0**

A

All Landscape Areas

Total ETAF x Area	153,462
Total Area	212,817
Sitewide ETAF	**0.72**

Note:
Sitewide ETAF is calculated with actual Plant Factor (PF) and Irrig. Efficiency (IE) figures shown above to show the amount of water that needs to be applied to the landscape.

CHULA VISTA (51.15)	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Days per Month	31	28	31	30	31	30	31	31	30	31	30	31
ETo Average per Month	2.24	2.72	4.11	4.91	5.37	5.99	6.32	6.05	4.86	3.84	2.74	2.00
ETo Average per Day	0.072	0.097	0.133	0.164	0.173	0.200	0.204	0.195	0.162	0.124	0.091	0.065

CONTROLLER 'A': 4 DAY WATERING SCHEDULE

Data per Plans

Plant Type	Irrig. Method	Sta. #	PR	PF	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Planting Area (Ft²)	Gallons per Min. (GPM)	Irrigation Efficiency (IE)
Turf	Rotator	01	0.52	0.6	12	16	21	26	28	32	33	32	26	20	15	10	2,500	13.50	0.75
Shrub	Spray	02	0.58	0.4	7	9	13	16	17	19	20	19	16	12	9	6	2,171	13.10	0.75
Tree	Bubbler	03	6.02	0.5	1	1	1	2	2	2	2	2	2	1	1	1	96	6.00	0.81
Shrub	Rotator	04	0.93	0.4	4	6	8	10	10	12	12	12	10	7	6	4	1,673	16.10	0.75
Turf	Rotor	05	0.84	0.6	7	10	13	16	17	20	20	19	16	12	9	6	5,070	44.40	0.75
Shrub	Rotator	06	0.54	0.4	7	10	14	17	18	21	21	20	17	13	9	7	899	5.07	0.75
Shrub	Rotator	07	0.57	0.4	7	10	13	16	17	20	20	19	16	12	9	6	2,397	14.10	0.75
Shrub	Rotator	08	0.83	0.4	5	7	9	11	12	13	14	13	11	8	6	4	1,228	10.60	0.75
Shrub	Spray	09	0.56	0.4	7	10	13	16	17	20	20	20	16	12	9	6	809	4.70	0.75
Tree	Bubbler	10	6.02	0.5	1	1	1	2	2	2	2	2	2	1	1	1	224	14.00	0.81
Shrub	Rotator	11	0.63	0.4	6	9	12	14	15	18	18	17	14	11	8	6	5,020	33.00	0.75
Tree	Bubbler	12	6.02	0.5	1	1	1	2	2	2	2	2	2	1	1	1	176	11.00	0.81
Shrub	Rotator	13	0.75	0.4	5	7	10	12	13	15	15	15	12	9	7	5	1,619	12.60	0.75
Shrub	Rotator	14	0.75	0.4	5	7	10	12	13	15	15	15	12	9	7	5	1,619	12.60	0.75
Shrub	Rotator	15	0.61	0.4	7	9	12	15	16	18	19	18	15	11	8	6	3,102	19.60	0.75
Tree	Bubbler	16	6.02	0.5	1	1	1	2	2	2	2	2	2	1	1	1	240	15.00	0.81
Shrub	Spray	17	1.98	0.2	1	1	2	2	2	3	3	3	2	2	1	1	360	7.40	0.75
Shrub	Spray	18	0.53	0.2	4	5	7	9	9	11	11	10	9	7	5	3	721	3.95	0.75
Shrub	Spray	19	0.54	0.2	4	5	7	9	9	10	11	10	8	6	5	3	919	5.14	0.75
Shrub	Spray	20	0.50	0.2	4	5	7	9	10	11	11	11	9	7	5	4	1,183	6.19	0.75
Turf	Rotor	21	0.84	0.6	7	10	13	16	17	20	20	19	16	12	9	6	6,337	55.50	0.75
Tree	Bubbler	22	6.02	0.5	1	1	1	2	2	2	2	2	2	1	1	1	112	7.00	0.81
Shrub	Spray	23	0.50	0.4	8	11	15	18	19	22	23	22	18	14	10	7	2,050	10.70	0.75
Shrub	Spray	24	0.50	0.4	8	11	15	18	19	22	23	22	18	14	10	7	2,050	10.70	0.75
Tree	Bubbler	25	6.02	0.5	1	1	1	2	2	2	2	2	2	1	1	1	80	5.00	0.81
Turf	Rotor	26	1.21	0.6	5	7	9	11	12	14	14	14	11	9	6	4	1,492	18.80	0.75
Turf	Rotor	27	0.64	0.6	9	13	17	21	23	26	27	26	21	16	12	8	3,522	23.50	0.75
Turf	Rotor	28	0.64	0.6	10	13	17	22	23	26	27	26	21	16	12	8	3,542	23.50	0.75
Turf	Rotor	29	0.84	0.6	7	10	13	16	17	20	20	19	16	12	9	6	6,323	55.50	0.75
Turf	Rotor	30	1.54	0.6	4	5	7	9	9	11	11	11	9	7	5	4	1,385	22.20	0.75
Turf	Rotor	31	0.46	0.6	13	18	24	30	31	36	37	35	29	22	17	12	11,541	55.50	0.75
Turf	Rotor	32	0.46	0.6	13	18	24	30	31	36	37	35	29	22	17	12	11,541	55.50	0.75
Turf	Rotor	33	0.84	0.6	7	10	13	16	17	20	20	19	16	12	9	6	6,337	55.50	0.75
Shrub	Rotator	34	0.80	0.4	5	7	9	11	12	14	14	14	11	9	6	5	3,322	27.60	0.75
Shrub	Rotator	35	0.80	0.4	5	7	9	12	12	14	14	14	11	9	6	5	3,322	27.50	0.75
Tree	Bubbler	36	6.77	0.5	1	1	1	2	2	2	2	2	2	1	1	1	128	9.00	0.81
Turf	Rotor	37	0.46	0.6	13	18	24	30	31	36	37	35	29	22	17	12	11,541	55.50	0.75
Turf	Rotor	38	0.46	0.6	13	18	24	30	31	36	37	35	29	22	17	12	11,541	55.50	0.75
Turf	Rotor	39	0.46	0.6	13	18	24	30	31	36	37	35	29	22	17	12	11,541	55.50	0.75
Turf	Rotor	40	0.46	0.6	13	18	24	30	31	36	37	35	29	22	17	12	11,541	55.50	0.75
Turf	Rotor	41	0.46	0.6	13	18	24	30	31	36	37	35	29	22	17	12	11,541	55.50	0.75
Turf	Rotor	42	0.46	0.6	13	18	24	30	31	36	37	35	29	22	17	12	11,541	55.50	0.75
Tree	Bubbler	43	6.02	0.5	1	1	1	2	2	2	2	2	2	1	1	1	128	8.00	0.81
Shrub	Rotator	44	0.73	0.4	6	7	10	13	13	15	16	15	12	10	7	5	3,111	23.60	0.75
Shrub	Rotator	45	0.75	0.4	5	7	10	12	13	15	15	15	12	9	7	5	2,984	23.20	0.75
Turf	Rotor	46	0.84	0.6	7	10	13	16	17	20	20	19	16	12	9	6	5,070	44.40	0.75
Turf	Rotor	47	0.48	0.6	13	17	23	29	30	35	36	34	28	22	16	11	11,166	55.50	0.75
Shrub (Basin)	Rotor	48	0.25	0.4	16	22	30	37	39	45	46	44	36	28	20	14	7,841	20.40	0.75
Turf	Rotor	49	0.87	0.6	7	9	13	16	17	19	20	19	16	12	9	6	6,122	55.50	0.75
Turf	Rotor	50	1.59	0.6	4	5	7	9	9	11	11	10	9	7	5	3	1,348	22.20	0.75
Shrub	Spray	51	0.66	0.4	6	8	11	14	15	17	17	17	14	11	8	6	1,306	8.91	0.75
Shrub	Spray	52	0.49	0.4	8	11	15	19	20	23	23	22	18	14	10	7	1,468	7.49	0.75
Tree	Bubbler	53	6.02	0.5	1	1	1	2	2	2	2	2	2	1	1	1	368	23.00	0.81
Shrub (Basin)	Rotor	54	0.26	0.4	16	21	29	35	37	43	44	42	35	27	20	14	7,549	20.30	0.75
				TOTAL MINUTES PER DAY	**369**	**496**	**677**	**835**	**884**	**1,019**	**1,041**	**996**	**827**	**632**	**466**	**329**			
				TOTAL HOURS PER DAY (Decimal Format)	6.15	8.26	11.28	13.92	14.73	16.98	17.34	16.60	13.78	10.54	7.77	5.49			
				TOTAL HOURS PER DAY (Hours : Minutes)	**6:08**	**8:15**	**11:16**	**13:55**	**14:44**	**16:59**	**17:20**	**16:36**	**13:46**	**10:32**	**7:46**	**5:29**			

OPERATE MULTIPLE SYSTEMS SIMULTANEOUSLY TO MEET THE 8 HOUR WATERING WINDOW REQUIREMENT. REFER TO SHEET LI-07 FOR RECOMMENDATIONS.

ESTIMATED APPLIED WATER USE (EAWU based from Irrigation Watering Schedule)

Plant Type	Irrig. Method	Sta. #	PR	PF	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Turf	Rotator	01	0.52	0.6	2,793	3,391	5,124	6,122	6,695	7,468	7,879	7,543	6,059	4,788	3,416	2,494
Shrub	Spray	02	0.58	0.4	1,617	1,963	2,967	3,544	3,876	4,324	4,562	4,367	3,508	2,772	1,978	1,444
Tree	Bubbler	03	6.02	0.5	83	100	152	181	198	221	233	223	180	142	101	74
Shrub	Rotator	04	0.93	0.4	1,246	1,513	2,286	2,731	2,987	3,332	3,515	3,365	2,703	2,136	1,524	1,112
Turf	Rotor	05	0.84	0.6	5,664	6,877	10,392	12,415	13,578	15,145	15,980	15,297	12,288	9,709	6,928	5,057
Shrub	Rotator	06	0.54	0.4	670	813	1,228	1,468	1,605	1,790	1,889	1,808	1,453	1,148	819	598
Shrub	Rotator	07	0.57	0.4	1,785	2,168	3,275	3,913	4,279	4,774	5,037	4,821	3,873	3,060	2,184	1,594
Shrub	Rotator	08	0.83	0.4	915	1,110	1,678	2,005	2,192	2,446	2,580	2,470	1,984	1,568	1,119	817
Shrub	Spray	09	0.56	0.4	602	732	1,105	1,321	1,444	1,611	1,700	1,627	1,307	1,033	737	538
Tree	Bubbler	10	6.02	0.5	193	234	354	423	463	516	545	521	419	331	236	172
Shrub	Rotator	11	0.63	0.4	3,739	4,540	6,860	8,195	8,962	9,997	10,548	10,097	8,111	6,409	4,573	3,338
Tree	Bubbler	12	6.02	0.5	152	184	278	333	364	406	428	410	329	260	186	135
Shrub	Rotator	13	0.75	0.4	1,206	1,464	2,212	2,643	2,890	3,224	3,402	3,257	2,616	2,067	1,475	1,077
Shrub	Rotator	14	0.75	0.4	1,206	1,464	2,212	2,643	2,890	3,224	3,402	3,257	2,616	2,067	1,475	1,077
Shrub	Rotator	15	0.61	0.4	2,310	2,805	4,239	5,064	5,538	6,178	6,518	6,239	5,012	3,960	2,826	2,063
Tree	Bubbler	16	6.02	0.5	207	251	380	453	496	553	584	559	449	355	253	185
Shrub	Spray	17	1.98	0.2	134	163	246	294	321	358	378	362	291	230	164	120
Shrub	Spray	18	0.53	0.2	268	326	493	588	644	718	757	725	582	460	328	240
Shrub	Spray	19	0.54	0.2	342	416	628	750	820	915	965	924	742	587	419	306
Shrub	Spray	20	0.50	0.2	441	535	808	966	1,056	1,178	1,243	1,190	956	755	539	393
Turf	Rotor	21	0.84	0.6	7,079	8,596	12,989	15,517	16,971	18,930	19,973	19,120	15,359	12,135	8,659	6,321
Tree	Bubbler	22	6.02	0.5	97	117	177	212	231	258	272	261	209	165	118	86
Shrub	Spray	23	0.50	0.4	1,527	1,854	2,801	3,346	3,660	4,083	4,307	4,123	3,312	2,617	1,867	1,363
Shrub	Spray	24	0.50	0.4	1,527	1,854	2,801	3,346	3,660	4,083	4,307	4,123	3,312	2,617	1,867	1,363
Tree	Bubbler	25	6.02	0.5	69	84	127	151	165	184	195	186	150	118	84	62
Turf	Rotor	26	1.21	0.6	1,667	2,024	3,058	3,653	3,996	4,457	4,702	4,502	3,616	2,857	2,039	1,488
Turf	Rotor	27	0.64	0.6	3,934	4,777	7,219	8,624	9,432	10,521	11,101	10,626	8,536	6,745	4,813	3,513
Turf	Rotor	28	0.64	0.6	3,957	4,805	7,260	8,673	9,486	10,581	11,164	10,687	8,585	6,783	4,840	3,533
Turf	Rotor	29	0.84	0.6	7,063	8,577	12,960	15,483	16,933	18,888	19,929	19,077	15,325	12,109	8,640	6,307
Turf	Rotor	30	1.54	0.6	1,547	1,879	2,839	3,391	3,709	4,137	4,365	4,179	3,357	2,652	1,893	1,381
Turf	Rotor	31	0.46	0.6	12,892	15,655	23,655	28,260	30,907	34,476	36,375	34,821	27,972	22,101	15,770	11,511
Turf	Rotor	32	0.46	0.6	12,892	15,655	23,655	28,260	30,907	34,476	36,375	34,821	27,972	22,101	15,770	11,511
Turf	Rotor	33	0.84	0.6	7,079	8,596	12,989	15,517	16,971	18,930	19,973	19,120	15,359	12,135	8,659	6,321
Shrub	Rotator	34	0.80	0.4	2,474	3,004	4,539	5,423	5,931	6,616	6,980	6,682	5,368	4,241	3,026	2,209
Shrub	Rotator	35	0.80	0.4	2,474	3,004	4,539	5,423	5,931	6,616	6,980	6,682	5,368	4,241	3,026	2,209
Tree	Bubbler	36	6.77	0.5	110	134	202	242	264	295	311	298	239	189	135	99
Turf	Rotor	37	0.46	0.6	12,892	15,655	23,655	28,260	30,907	34,476	36,375	34,821	27,972	22,101	15,770	11,511
Turf	Rotor	38	0.46	0.6	12,892	15,655	23,655	28,260	30,907	34,476	36,375	34,821	27,972	22,101	15,770	11,511
Turf	Rotor	39	0.46	0.6	12,892	15,655	23,655	28,260	30,907	34,476	36,375	34,821	27,972	22,101	15,770	11,511
Turf	Rotor	40	0.46	0.6	12,892	15,655	23,655	28,260	30,907	34,476	36,375	34,821	27,972	22,101	15,770	11,511
Turf	Rotor	41	0.46	0.6	12,892	15,655	23,655	28,260	30,907	34,476	36,375	34,821	27,972	22,101	15,770	11,511
Turf	Rotor	42	0.46	0.6	12,892	15,655	23,655	28,260	30,907	34,476	36,375	34,821	27,972	22,101	15,770	11,511
Tree	Bubbler	43	6.02	0.5	110	134	202	242	264	295	311	298	239	189	135	99
Shrub	Rotator	44	0.73	0.4	2,317	2,813	4,251	5,078	5,554	6,195	6,537	6,258	5,027	3,972	2,834	2,069
Shrub	Rotator	45	0.75	0.4	2,222	2,698	4,077	4,871	5,327	5,943	6,270	6,002	4,822	3,810	2,718	1,984
Turf	Rotor	46	0.84	0.6	5,664	6,877	10,392	12,415	13,578	15,145	15,980	15,297	12,288	9,709	6,928	5,057
Turf	Rotor	47	0.48	0.6	12,473	15,146	22,887	27,341	29,903	33,355	35,193	33,689	27,063	21,383	15,258	11,137
Shrub (Basin)	Rotor	48	0.25	0.4	5,839	7,091	10,714	12,800	13,999	15,615	16,475	15,772	12,669	10,010	7,143	5,214
Turf	Rotor	49	0.87	0.6	6,839	8,304	12,548	14,990	16,395	18,288	19,295	18,471	14,838	11,724	8,365	6,106
Turf	Rotor	50	1.59	0.6	1,506	1,829	2,763	3,301	3,610	4,027	4,249	4,067	3,267	2,581	1,842	1,344
Shrub	Spray	51	0.66	0.4	973	1,181	1,785	2,132	2,332	2,601	2,744	2,627	2,110	1,667	1,190	868
Shrub	Spray	52	0.49	0.4	1,093	1,328	2,006	2,396	2,621	2,923	3,085	2,953	2,372	1,874	1,337	976
Tree	Bubbler	53	6.02	0.5	317	385	582	695	760	848	895	857	688	544	388	283
Shrub (Basin)	Rotor	54	0.26	0.4	5,622	6,827	10,315	12,323	13,478	15,034	15,862	15,184	12,198	9,638	6,877	5,020
ESTIMATED APPLIED WATER USE (EAWU gal. / month)					**214,288**	**260,207**	**393,181**	**469,713**	**513,718**	**573,030**	**604,599**	**578,770**	**464,929**	**367,352**	**262,121**	**191,329**

EAWU
4,893,238 gal. / year

A

KTU+A Landscape Architecture & Planning
3916 Normal Street San Diego, CA. 92103
HYDRAULIC WORKSHEET

Client:	Baldwin & Sons				Date:	8/18/2022
Project Name:	Grove Park				Project #:	017-057
Sources:	Recycled water		Chula Vista, CA			
P.O.C.	1	Valve No.: A21	55.5 GPM	Flow Group GPM:	105	

AVAILABLE PRESSURE AT P.O.C.:	RWPZ:680 PWPZ: 711	469' ELEV	81
NET ELEVATION CHANGE (+) POC TO HIGH/LOW POINT OF SYSTEM: (FT.):			-2
PRESSURE RESULTING FROM CHANGE IN ELEVATION:			-0.9
AVAILABLE PRESSURE AT P.O.C.:	PW: 105		**80.1**

FRICTION LOSSES:	Material	Size	Loss/100 ft	Length	Peak GPM	TOTAL LOSS
Service Line	Cu	2"	10.09	45	105	4.5
Water Meter	-	2"	-	-	105	8.7
Backflow Preventer	Watts 009	2"	-	-	105	12.0
Swing Check Valve (Brass)	-	2"	-	-	105	0.2
Wye Strainer / Press Reg	-	2"	-	-	105	7.5
Master Valve (Brass)	Rain B. EFB	2"	-	-	105	4.3
Flow Sensor	RainBird	2"	-	-	105	0.5
Brass Equip Plumbing	-	2"-3"	-	-	105	1.0
Press Supply Line (Leg)	CL 315	3"	1.21	90	105	1.1
Press Supply Line (Loop)	CL 315	3"	0.34	1,125	53	3.8
Press Supply Line (Leg)	CL 315	3"	0.95	210	92	2.0
Remote Control Valve	Rain B. EFB	2"	-	-	56	1.5
Pres. Line Isolat. Ball Valve	Hayward TB	3"	-	-	53	0.6
Manifold Ball Valve	Hayward TB	2"	-	-	56	0.2
Lateral Lines	sch40	varies	-	-	-	2.6
Fittings	sch40	varies	-	-	-	1.4
Other	-		-	-	-	0.0

OPERATION CALCULATIONS		w/ Temp*	R/W
TOTAL SYSTEM PRESSURE LOSS:		51.9	51.9
PRESSURE REQUIRED AT HEAD:	Rotor	60.0	60.0
TOTAL PRESSURE REQUIREMENT:		**111.9**	**111.9**
RESIDUAL PRESSURE:		-6.0	-31.7
BOOST REQUIREMENT:		n/a	35

Prepared by: HH
Reviewed by: BE

Pressure data reference: Existing water pressure data obtained 8/22/18 through Otay Water District (OWD).
Vu Tran, direct line: (619) 670-2289 RW PZ: 680 PW PZ: 711
Existing available water pressure: 91 psi @ 469 ft elev. (2016 data, at Santa Victoria Rd/Santa Ivy Ave)
For purposes of these calculations, due to fluctuations in water pressure, 81 psi was used for supply pressure.

System Design Operating Pressure: 115 psi.
System Design Flow Rate: 7.50 gpm to 105 gpm; varies
"Flow Group" - Remote Control Valves operating simultaneously.
Valve No. 21 is not within the "Flow Grouping" that utilizes System to 105 GPM, for calculation purposes only.
*Temp - is reference for potable temporary fire hydrant water source at 105 psi available

FORMULAE:

Precipitation Rate (PR), Total Area Method
PR (in/hr) = Flow GPM x 96.25 ÷ Hydrozone Planting Area

Irrigation Watering Schedule (T)
T = (60 x ET x PF) ÷ (PR x IE) x 7 ÷ Watering Days

Estimated Applied Water Use (EAWU based from Irrigation Watering Schedule)
EAWU = T x GPM x (Month ÷ 7) x Watering Days

- T = Irrigation Watering Schedule
- PF = Plant Factor from WUCOLS* (low: 0.1-0.3, moderate: 0.4-0.7, high water use: 0.8-1.0; art. turf: 0.1-0.2; water features: 0.8; SLA: 1.0)
- ET = Evapotranspiration rate (see daily chart above)
- PR = Precipitation rate (see formula above)
- IE = Irrigation Efficiency (Bubbler: 0.81; Spray: 0.75; Microspray: 0.75; Rotator: 0.75; Rotor: 0.75; Drip: 0.81)
- Ft² = Hydrozone planting area
- GPM = Gallons per Minute (per plan)

A

INSPECTION NOTE

OTAY WATER DISTRICT INSPECTION SHALL BE NOTIFIED FIVE (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2241. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.

COLOR CODING

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. DECAL ON RISERS WILL NOT BE ACCEPTED.

DEH2019-LRWS-001118

OWD# D0894-060253

AS BUILT

________________ DATE ________
SIGNATURE
________________ R.L.A. No. ________
Printed Name
My Registration Expires ______ Discipline______

UTILITY NOTE

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LICENSED LANDSCAPE ARCHITECT — BROOKE JP WHALEN 5175 — Signature — 09/30/2024 Renewal Date — 8/1/22 Date — STATE OF CALIFORNIA

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd
CONTRACTOR:	MAP # 15350		DELTA A IRRIGATION REVISIONS	08/18/22	
INSPECTOR:					
DATE COMPLETED:	DWG. #'S 16022				

DATUMS
VERTICAL: 446.361 (NAVD 88)
HORIZONTAL: I.E. N78"21'27"E NAD 83

SCALE
HORIZONTAL N/A
VERTICAL N/A

Designed By:	Drawn By:	Checked By:
HH	HH	BE

Plans Prepared Under Supervision Of: Date: 10/11/2021
BROOKE JP. WHALEN R.L.A No. 5175

CONSULTANT
ktua
3916 Normal Street
San Diego, CA 92103
619.294.4477
www.ktua.com

Submitted: ____________
By: ____________
Office:

APPROVED BY: DATE: ________
DIRECTOR OF DEVELOPMENT SERVICES OR DESIGNEE

BID DOCUMENTS - OCTOBER 11, 2021

IRRIGATION CALCULATIONS

CITY OF CHULA VISTA DEVELOPMENT SERVICES DEPARTMENT

OTAY RANCH VILLAGE 2 P-2 PARK,
GROVE PARK

LANDSCAPE DWG NO.
LI-06
SHEET 6 OF 16
W.O. NO. PRK-0330

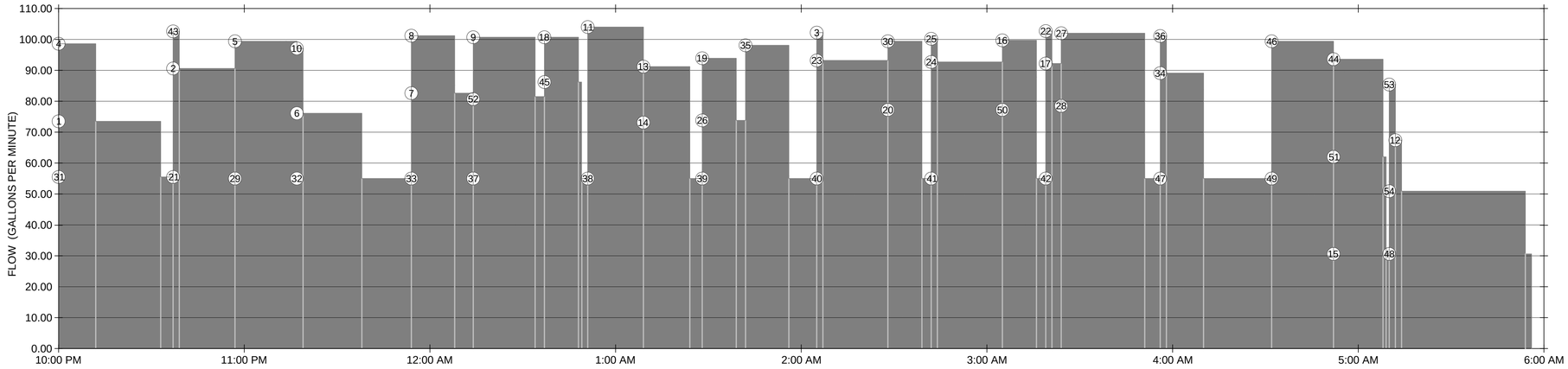
DRAWING NO.
19010-44
SHEET 44 OF 100

PERMIT NO. PLR-19-012

RECOMMENDATION FOR SIMULTANEOUS OPERATION OF MULTIPLE SYSTEMS (MONTH OF JULY):

(WITHIN 8 HOUR WATERING WINDOW)

FLOW CHART



NOTES:
1. IRRIGATION SYSTEM IS DESIGNED TO OPERATE AT 115 PSI DELIVERY WITH 105 GPM PEAK DEMAND FLOW, WITH SIMULTANEOUS OPERATION OF MULTIPLE VALVES DURING THE WARMER MONTHS (FROM APRIL THROUGH SEPTEMBER) OF THE YEAR TO MEET PARK'S WATER WINDOW LIMITS.
2. ABOVE FIGURE IS TAKEN FROM THE MONTH OF JULY, WORST CASE SCENARIO USING SINGLE ZONE OPERATION, WHICH TOTALS 17 HOURS AND 20 MINUTES.
3. (#) - IRRIGATION SYSTEM REMOTE CONTROL VALVE NUMBER

FLOW GROUPING

A	SHRUB A4 12 MINS. 25.1 GPM	TREE A43 2 MINS. 12.0 GPM		TREE A10 2 MINS. 21.0 GPM	SHRUB A8 14 MINS. 18.6 GPM	SHRUB A9 20 MINS. 19.2 GPM	SHRUB A18 11 MINS. 14.5 GPM		SHRUB A13 15 MINS. 18.1 GPM	SHRUB A19 11 MINS. 20.1 GPM		TREE A3 2 MINS. 9.00 GPM	TURF A30 11 MINS. 22.2 GPM	TREE A25 2 MINS. 7.50 GPM	TREE A16 2 MINS. 22.5 GPM	TREE A22 2 MINS. 10.5 GPM	TURF A27 27 MINS. 23.5 GPM	TREE A36 2 MINS. 12.0 GPM		SHRUB A44 16 MINS. 31.6 GPM	TREE A53 2 MINS. 34.5 GPM	TREE A12 2 MINS. 16.5 GPM	
B	TURF A1 33 MINS. 18.0 GPM	SHRUB A2 20 MINS. 35.1 GPM	TURF A5 20 MINS. 44.4 GPM	SHRUB A6 21 MINS. 21.1 GPM	SHRUB A7 20 MINS. 27.6 GPM	SHRUB A52 23 MINS. 26.5 GPM	SHRUB A45 15 MINS. 31.2 GPM	SHRUB A11 18 MINS. 49.0 GPM	SHRUB A14 15 MINS. 18.1 GPM	TURF A26 14 MINS. 18.8 GPM	SHRUB A35 14 MINS. 43.1 GPM	SHRUB A23 23 MINS. 38.2 GPM	SHRUB A20 11 MINS. 22.2 GPM	SHRUB A24 23 MINS. 37.7 GPM	TURF A50 11 MINS. 22.2 GPM	SHRUB A17 3 MINS. 37.2GPM	SHRUB A28 27 MINS. 23.5 GPM	SHRUB A34 14 MINS. 34.1 GPM	TURF A46 20 MINS. 44.4 GPM	SHRUB A51 17 MINS. 31.4 GPM	SHRUB A54 44 MINS. 20.3 GPM	SHRUB	
C	TURF A31 37 MINS. 55.5 GPM	TURF A21 20 MINS. 55.5 GPM	TURF A29 20 MINS. 55.5 GPM	TURF A32 37 MINS. 55.5 GPM	TURF A33 20 MINS. 55.5 GPM	TURF A37 37 MINS. 55.5 GPM	TURF	TURF A38 37 MINS. 55.5 GPM	TURF	TURF A39 37 MINS. 55.5 GPM	TURF	TURF A40 37 MINS. 55.5 GPM	TURF	TURF A41 37 MINS. 55.5 GPM	TURF	TURF A42 37 MINS. 55.5 GPM	TURF	TURF A47 36 MINS. 55.5 GPM	TURF A49 20 MINS. 55.5 GPM	SHRUB A15 18 MINS. 30.6 GPM	SHRUB A48 46 MINS. 20.4 GPM	SHRUB	
D	98.6 GPM	102.6 GPM	99.9 GPM	97.6 GPM	101.7 GPM	101.2 GPM	101.2 GPM	104.5 GPM	91.7 GPM	94.4 GPM	98.6 GPM	102.7 GPM	99.9 GPM	100.7 GPM	100.2 GPM	103.2 GPM	102.5 GPM	101.6 GPM	99.9 GPM	93.6 GPM	75.2 GPM	57.2 GPM	
E	37 MINS.	20 MINS.	20 MINS.	37 MINS.	20 MINS.	37 MINS.		37 MINS.		37 MINS.		37 MINS.		37 MINS.		37 MINS.		36 MINS.	20 MINS.	18 MINS.	46 MINS.		

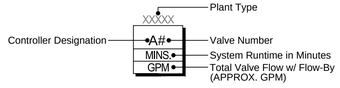
10:00 PM 10:37 PM 10:57 PM 11:17 PM 11:54 PM 12:14 AM 12:51 AM 1:28 AM 2:05 AM 2:42 AM 3:19 AM 3:56 AM 4:32 AM 4:52 AM 5:10 AM 5:56 AM

TOTAL RUNTIME = 155 MIN. (2 HR, 35 MIN.)

TOTAL RUNTIME = 406 MIN. (6 HRS, 46 MIN.)

TOTAL RUNTIME = 476 MIN. (7 HRS, 56 MIN.)

NOTES:
1. PER COUNTY DEH & OWD, THERE IS A 9 HOUR MAXIMUM WATERING WINDOW USING RECYCLED WATER BETWEEN THE HOURS OF 9 P.M. AND 6 A.M. PER CITY PARKS, THERE IS AN 8 HOUR MAXIMUM WATERING WINDOW USING RECYCLED WATER BETWEEN THE HOURS OF 10 P.M. AND 6 A.M.
2. FLOW GROUPING - GROUPING OF SYSTEM VALVES TO OPERATE SIMULTANEOUSLY.
3. ROW "C" - "BASE" VALVES - VALVES THAT HAVE THE MOST FLOW AND HAVE BEEN CALCULATED TO OPERATE WITHIN THE 8 HOUR (480 MINS.) WATERING WINDOW.
4. ROW "A" AND "B" - "FILLER" VALVES - VALVES THAT ARE ADDED UP TO OPERATE SIMULTANEOUSLY WITH THE "BASE" VALVES.
5. ROW "D" - TOTAL GALLONS PER MINUTE FLOW.
6. TOTAL MINUTES OF EACH ROW "A" AND "B" SHALL BE ONLY EQUAL TO, OR LESS THAN TOTAL MINUTES OF ROW "E" (8 HOUR MAXIMUM WATERING WINDOW)
7. ▩ - VALVE SYSTEM OPERATION CONTINUED (WITH COMBINED WORST CASE SCENARIO).



REMOTE CONTROL VALVE IN FLOW GROUPING

INSPECTION NOTE

OTAY WATER DISTRICT INSPECTION SHALL BE NOTIFIED FIVE (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2241. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.

COLOR CODING

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. DECAL ON RISERS WILL NOT BE ACCEPTED.

AS BUILT

_____ DATE _____
SIGNATURE
_____ R.L.A. No. _____
Printed Name
My Registration Expires _____ Discipline_____

UTILITY NOTE

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LICENSED LANDSCAPE ARCHITECT — BROOKE JP WHALEN — 5175 — 10/11/2021 — STATE OF CALIFORNIA

CONSULTANT

ktua
3916 Normal Street
San Diego, CA 92103
619.294.4477
www.ktua.com

BID DOCUMENTS - OCTOBER 11, 2021

IRRIGATION CALCULATIONS

LANDSCAPE DWG NO. LI-07
SHEET 7 OF 16
W.O. NO. PRK-0330

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd
CONTRACTOR:	MAP # 15350		DELTA A IRRIGATION REVISIONS	08/18/22	
INSPECTOR:					
DATE COMPLETED:	DWG. #'S 16022				

DATUMS: VERTICAL: 446.361 (NAVD 88); HORIZONTAL: I.E. N78°21'27"E NAD 83

SCALE: HORIZONTAL N/A; VERTICAL N/A

Designed By: HH | Drawn By: HH | Checked By: BE

Plans Prepared Under Supervision Of: BROOKE JP. WHALEN, R.L.A. No. 5175 Date: 10/11/2021

Submitted: _____
By: _____
Office: _____

APPROVED BY: _____ DATE: _____
DIRECTOR OF DEVELOPMENT SERVICES OR DESIGNEE

CITY OF CHULA VISTA DEVELOPMENT SERVICES DEPARTMENT
OTAY RANCH VILLAGE 2 P-2 PARK,
GROVE PARK

DRAWING NO. 19010-45
SHEET 45 OF 100

PERMIT NO. PLR-19-012

DEH2019-LRWS-001118

OWD# D0894-060253

OTAY WATER DISTRICT RECYCLED WATER NOTES

1. ALL ON-SITE IRRIGATION IMPROVEMENTS SHOWN ON THESE PLANS ARE PART OF A RECYCLED WATER DISTRIBUTION SYSTEM. NO CONSTRUCTION WILL BE ALLOWED UNTIL ALL APPROVALS HAVE BEEN OBTAINED.
2. CROSS CONNECTIONS BETWEEN RECYCLED WATER LINES AND POTABLE WATER LINES ARE STRICTLY PROHIBITED.
3. USE OF RECYCLED WATER SHALL ADHERE TO TITLE 22, DIVISION 4, CHAPTER 3 OF THE CALIFORNIA CODE OF REGULATIONS AND THE CURRENT RULES, REGULATIONS AND SPECIFICATIONS OF THE DISTRICT.
4. OTAY WATER DISTRICT INSPECTION SHALL BE NOTIFIED FIVE (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2241. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.
5. PUBLIC FACILITIES, SUCH AS DRINKING AND DECORATIVE FOUNTAINS, COMFORT STATIONS, PLAYGROUND EQUIPMENT, ETC., DO EXIST ON THIS PROJECT.
6. ALL ON-SITE RECYCLED WATER IRRIGATION PIPING AND ON-SITE POTABLE WATER PIPING INSTALLED UNDER THIS DESIGN SHALL BE IDENTIFIED IN ACCORDANCE WITH THE DISTRICT STANDARD SPECIFICATIONS.
7. ALL ON-SITE RECYCLED WATER PIPING SHALL BE PURPLE COLORED PVC, CONTINUOUSLY STENCILED ON OPPOSITE SIDES OF THE PIPE WITH THE WORDS "CAUTION - RECYCLED WATER". APPROVED MANUFACTURERS OF THIS PIPE CAN BE FOUND IN THE DISTRICTS' "APPROVED MATERIALS LIST".
8. ALL ON-SITE POTABLE WATER LINES SHALL BE WHITE OR BLUE UNLESS OTHERWISE APPROVED BY THE DISTRICT.
9. UNLESS OTHERWISE DIRECTED BY THE DISTRICT, A 10-FOOT HORIZONTAL AND 1- FOOT VERTICAL SEPARATION BETWEEN POTABLE WATER AND CONSTANT PRESSURE RECYCLED WATER LINES SHALL BE MAINTAINED AT ALL TIMES. THE POTABLE LINES SHALL BE INSTALLED ABOVE THE RECYCLED LINES UNLESS OTHERWISE APPROVED BY THE DISTRICT OR DEHQ.
10. WHERE POTABLE LINES AND CONSTANT PRESSURE RECYCLED WATER LINES CROSS, THE RECYCLED WATER LINE SHOULD BE INSTALLED BELOW THE POTABLE WATER LINE IN A SCHEDULE 40 PURPLE COLORED PVC SLEEVE. THE SLEEVE SHALL EXTEND 10- FEET ON EITHER SIDE OF THE POTABLE LINE, FOR A TOTAL OF 20-FEET.
11. A MINIMUM VERTICAL SEPARATION OF 12 INCHES SHALL BE MAINTAINED BETWEEN UTILITIES AT ALL TIMES UNLESS OTHERWISE APPROVED BY THE DISTRICT.
12. HOSE BIBS ARE STRICTLY PROHIBITED ON RECYCLED WATER SYSTEMS.
13. ALL SPRAY HEADS, VALVE BOXES, AND QUICK COUPLER VALVES SHALL BE CLEARLY COLOR CODED (PURPLE) TO INDICATE THE USE OF RECYCLED WATER.
14. RECYCLED WATER LINES SHALL NOT CROSS ROADS, STREETS, OR EASEMENTS UNLESS SPECIFICALLY SHOWN ON THESE PLANS.
15. ALL CONSTANT PRESSURE LINES SHALL BE TESTED WITH HYDROSTATIC PRESSURE AS REQUIRED IN THE DISTRICT STANDARD SPECIFICATIONS. NO LEAKS SHALL BE ALLOWED. CONTRACTOR SHALL PROVIDE ALL EQUIPMENT FOR HYDROSTATIC TESTS. THESE TESTS SHALL BE WITNESSED BY A REPRESENTATIVE OF THE DISTRICT.
16. ALL SIGNAGE SHALL BE APPROVED AND INSTALLED PRIOR TO ENERGIZING THE SYSTEM WITH WATER. A SIGNAGE PLAN INDICATING USE OF RECYCLED WATER SHALL BE SUBMITTED TO THE DISTRICT FOR APPROVAL PRIOR TO INSTALLATION. AS A MINIMUM, SIGNS MUST BE POSTED AND WRITTEN IN ENGLISH AND SPANISH WITH THE INTERNATIONAL SYMBOL (DO NOT DRINK).
17. ALL METER SIZES SHALL BE VERIFIED BY THE DISTRICT. FINAL DETERMINATION OF METER SIZES IS RESERVED BY THE DISTRICT.
18. ALL RECYCLED WATER SERVICES REQUIRE BACKFLOW PREVENTION AS SHOWN IN THE POINT OF CONNECTION (POC) DETAIL. IRRIGATION SYSTEMS BEING SUPPLIED WITH RECYCLED WATER SHALL INSTALL BACKFLOW PREVENTION AND A WYE STRAINER PER DISTRICT STANDARD DRAWING WR-03, WR-04, WR-05, WR-06, AND WR-08.
19. PRIOR TO ENERGIZING THE ON-SITE SYSTEM WITH WATER, ONE (1) COMPLETE SET OF LAMINATED CONTROLLER CHARTS AND ONE (1) ELECTRONIC COPY CREATED FROM THE FINAL APPROVED AS-BUILT SHALL BE PROVIDED TO THE DISTRICT.
20. EACH AUTOMATIC CONTROLLER AND ITS ASSOCIATED EQUIPMENT SHALL BE IDENTIFIED WITH A SIGN BEARING THE WORDS "RECYCLED WATER USED FOR IRRIGATION" IN ENGLISH AND SPANISH, WITH WHITE LETTERS AT LEAST 1 INCH HIGH ON A PURPLE, PANTONE 512, BACKGROUND. THE SIGN SHALL BE PLACED AS TO BE READILY SEEN BY ANY OPERATIONS PERSONNEL UTILIZING THE EQUIPMENT.
21. THE CONTRACTOR SHALL ADJUST ALL SPRINKLER HEADS FOR OPTIMUM PERFORMANCE. THIS SHALL INCLUDE THROTTLING THE FLOW CONTROL AT EACH VALVE TO OBTAIN THE OPTIMUM OPERATING PRESSURE FOR EACH SYSTEM. CONDITIONS THAT CAUSE OVERSPRAYS, PONDING, OR RUNOFF SHALL BE ELIMINATED. ADJUST SYSTEM TO AVOID THESE CONDITIONS.
22. THE IRRIGATION SYSTEM HAS BEEN DESIGNED TO AND SHALL BE OPERATED BETWEEN THE HOURS OF 9:00 P.M. AND 6:00 A.M. UNLESS OTHERWISE APPROVED BY THE DISTRICT.
23. NO SUBSTITUTION OF PIPE MATERIALS WILL BE ALLOWED WITHOUT PRIOR APPROVAL OF THE DISTRICT.
24. AN INITIAL CROSS-CONNECTION INSPECTION WILL BE DONE AT SITES WITH BOTH POTABLE AND RECYCLED WATER SERVICES BY THE DISTRICT AND/OR THE SAN DIEGO COUNTY ENVIRONMENTAL HEALTH (DEHQ). COPIES OF INSPECTION REPORTS WILL BE FORWARDED TO THE NON-INSPECTING PARTY. ANNUAL INSPECTIONS OR CROSS-CONNECTION TESTING WILL BE PERFORMED THEREAFTER.
25. FAILURE TO COMPLY WITH THE DISTRICT'S RULES AND REGULATIONS IS A VIOLATION AND COULD RESULT IN SUSPENSION OF SERVICE UNTIL THE APPROPRIATE CORRECTIVE STEPS HAVE BEEN TAKEN.
26. WHEN RECYCLED WATER BECOMES AVAILABLE, AN ON-SITE CERTIFIED RECYCLED WATER SITE SUPERVISOR SHALL BE DESIGNATED IN WRITING. THIS INDIVIDUAL SHALL BE FAMILIAR WITH PLUMBING SYSTEMS WITHIN THE PROPERTY, WITH THE BASIC CONCEPTS OF BACKFLOW/CROSS CONNECTION PROTECTION, THE RECYCLED PURVEYOR'S RULES AND REGULATIONS, AND THE SPECIFIC REQUIREMENTS OF A RECYCLED WATER SYSTEM. COPIES OF THE DESIGNATION, WITH CONTACT PHONE NUMBERS SHALL BE PROVIDED TO THE OTAY WATER DISTRICT AND SAN DIEGO COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH.

   IN CASE OF EMERGENCY, CONTACT BRAD SAGER (NAME) AT (619) 204-2441 (PHONE NO.).

   OR AFTER HOURS, CONTACT BRAD SAGER (NAME) AT (619) 204-2441 (PHONE NO.).
27. BEST MANAGEMENT PRACTICES SHALL BE USED TO ELIMINATE OR CONTROL TO THE BEST EXTENT POSSIBLE PONDING, RUN-OFF, OVER-SPRAY AND MISTING.
28. AT THE DESCRETION OF OTAY WATER DISTRICT, RECYCLED WATER QUICK COUPLERS MAY BE ALLOWED WITHIN SLOPES AND PARKWAYS.
29. RECYCLED WATER QUICK COUPLING VALVES SHALL BE OF A TYPE DESIGNED FOR USE ON RECYCLED WATER DISTRIBUTION SYSTEMS (SPIKES NOT INTERCHANGEABLE WITH POTABLE WATER QUICK COUPLER SPIKES) PER OTAY WATER DISTRICT'S RULES AND REGULATIONS.
30. ALL BUILDINGS SHALL HAVE INDIVIDUAL POTABLE WATER SHUT-OFF VALVES INSTALLED ON THE EXTERIOR OF EACH BUILDING AND SHALL BE MAINTAINED IN WORKING ORDER FOR THE PURPOSE OF THE CROSS-CONNECTION SHUTDOWN TEST. A DETAIL OF POTABLE WATER SHUT-OFF VALVE INSTALLATION MUST BE INCLUDED ON PLANS FOR DISTRICT APPROVAL.
31. ALL BOX LIDS SHALL BE BRANDED.
32. A 10-FOOT SEPARATION BETWEEN RECYCLED WATER IRRIGATION MAIN LINE TIE IN POINT AND PROJECT POINT OF CONNECTION (POC) IS TO BE MAINTAINED DURING THE CONSTRUCTION PROCESS AND IS TO BE TIED IN AT THE INSPECTIONS DIRECTION, AFTER DEH APPROVALS AND METER(S) SET(S) HAVE TAKEN PLACE.
33. RECYCLED WATER IRRIGATION PROJECTS THAT REQUIRE PHASING OF CONSTRUCTION SHALL REQUIRE A DETAILED PHASING PLAN BE SUBMITTED BY THE PROJECT ARCHITECT TO THE DISTRICT FOR REVIEW. UPON APPROVAL OF THE PHASING PLAN BY THE DISTRICT, A COPY OF THE APPROVED PHASING PLAN SHALL BE INCORPORATED INTO THE APPROVED PLAN SET(S) BY THE PROJECT ARCHITECT.
34. ALL DUAL SOURCED RECYCLED WATER USE SITES SHALL BE DESIGNED AND BUILT TO UTILIZE SAN DIEGO COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH APPROVED TEST METHOD 1, UTILIZING PRESSURE RECORDERS FOR THE RECYCLED AND POTABLE CROSS-CONNECTION TESTING. PROPOSED ALTERNATIVE TEST METHODS MUST BE APPROVED BY THE OTAY WATER DISTRICT AND SAN DIEGO COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH.

A

GENERAL IRRIGATION NOTES

1. THE IRRIGATION SYSTEM DESIGN IS BASED ON AN AVAILABLE CITY WATER PRESSURE OF 91 +/-10 PSI. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING WATER PRESSURE PRIOR TO ORDERING MATERIALS OR BEGINNING CONSTRUCTION AND SHALL PROMPTLY REPORT ANY DIFFERENCES TO THE CITY LANDSCAPE INSPECTOR.
2. THIS SYSTEM IS DESIGNED FOR USE OF RECYCLED WATER AT 8 GPM TO 90 GPM AT 91 PSI. PRIOR TO PERMANENT CONNECTION TO RECYCLED WATER MAIN, ALL NEW IRRIGATION SHALL BE CONNECTED TO A TEMPORARY POTABLE WATER SOURCE UNTIL CROSS CONNECTION TEST CAN BE COMPLETED AND APPROVED. DO NOT CONNECT TO THE RECYCLED WATER IRRIGATION SYSTEM UNTIL APPROVED.
3. THE IRRIGATION SYSTEM IS SHOWN DIAGRAMMATICALLY FOR CLARITY PURPOSES. LOCATE ALL PIPING, VALVES AND OTHER IRRIGATION EQUIPMENT WITHIN LANDSCAPE AREAS, AND IN ACCORDANCE WITH THE CRITERIA AND STANDARDS OF THE COUNTY ENVIRONMENTAL HEALTH DEPARTMENT, OTAY WATER DISTRICT, CITY OF CHULA VISTA'S PARK AND FACILITIES GUIDELINES, THE CITY OF CHULA VISTA'S LANDSCAPE MANUAL AND ANY WATER RESTRICTIONS IN EFFECT. REFER ALSO TO SPECIFIC NOTES ON PLANS AND DETAILS.
4. PRIOR TO ANY EXCAVATION OR TRENCHING, LOCATE AND VERIFY ALL CABLES, CONDUITS, AND UNDERGROUND UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING AN UNDERGROUND UTILITY LOCATING SERVICE TO LOCATE AND MARK ALL UTILITIES. THE CONTRACTOR WILL TAKE PROPER PRECAUTIONS NOT TO DAMAGE OR DISTURB SUCH UNDERGROUND UTILITIES. NOTIFY THE CITY LANDSCAPE INSPECTOR IMMEDIATELY IF A CONFLICT EXISTS BETWEEN SUCH OBSTACLES AND THE PROPOSED WORK. PROCEED IN SAME MANNER IF ROCK LAYERS OR ANY OTHER CONFLICTING CONDITIONS ARE ENCOUNTERED UNDERGROUND.
5. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT OBSTRUCTIONS, GRADE DIFFERENCES OR DIFFERENCES IN THE AREA DIMENSIONS EXIST. SUCH OBSTRUCTIONS OR DIFFERENCES SHALL BE BROUGHT PROMPTLY TO THE ATTENTION OF THE LANDSCAPE ARCHITECT AND CITY LANDSCAPE INSPECTOR. SHOULD THE CONTRACTOR FAIL TO NOTIFY THE CITY LANDSCAPE INSPECTOR OF ANY DISCREPANCIES, THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY REVISIONS NECESSARY AT NO ADDITIONAL COST TO THE CITY.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH GENERAL CONTRACTOR AND VERIFYING THE AVAILABLE POWER SOURCE FOR THE CONTROLLER IN THE AREA SHOWN ON THE PLANS. SHOULD A POWER SOURCE NOT BE AVAILABLE IN THE LOCATION SHOWN, THEN THE CONTRACTOR SHALL PROMPTLY NOTIFY THE LANDSCAPE ARCHITECT AND CITY LANDSCAPE INSPECTOR PRIOR TO PROCEEDING WITH INSTALLATION.
7. THE CONTROLLER FOR THIS SYSTEM SHALL BE A PRE-ASSEMBLED UNIT AS SPECIFIED. AT LEAST TWO WEEKS PRIOR TO THE FINAL WALK THROUGH, THE CONTRACTOR SHALL CONTACT THE PRE-ASSEMBLER AND ARRANGE FOR THEIR REPRESENTATIVE TO APPROVE THE INSTALLATION AND PROVIDE IN WRITING THAT THE INSTALLATION HAS MET THEIR SPECIFICATIONS. THE WRITTEN STATEMENT SHALL BE AVAILABLE PRIOR TO, OR AT THE FINAL WALK THROUGH.
8. THE BOOSTER PUMP SHALL BE A PRE-ASSEMBLED UNIT AS SPECIFIED. WHEN ORDERING, CONTACT PUMP SUPPLIER AT LEAST FOUR WEEKS PRIOR TO INSTALLATION. AT AN APPOINTED TIME FOLLOWING PUMP INSTALLATION, CONTACT PUMP SUPPLIER'S FIELD TECHNICIAN FOR START-UP APPOINTMENT.
9. ALL CONTROL VALVES SHALL BE MANIFOLDED AND GROUPED IN GENERAL AREAS SHOWN AND AS NOTED ON PLANS. WHEREVER POSSIBLE, LOCATE IN ACCESSIBLE AREAS WITHIN PLANTING AREA AND NOT IN TURF AREA.
10. VALVES SHALL BE LOCATED IN PLANTING AREAS (WHERE POSSIBLE) A AND IMMEDIATELY ADJACENT TO WALKS, CURBS, OR PAVING AREAS ~~AND SET AT RIGHT~~ ANGLES TO EDGES UNLESS OTHERWISE DIRECTED BY THE LANDSCAPE ARCHITECT. MANIFOLD PIPE AND BALL VALVE SIZES SHALL BE AS NOTED. ALL VALVE BOXES AND IRRIGATION LINES SHALL BE SPACED WITH A 12" TYPICAL CLEAR DISTANCE BETWEEN VALVE BOXES AND 12" MAXIMUM FROM EDGE OF PAVEMENT.
11. DO NOT INSTALL POTABLE WATER LINE AND RECYCLED WATER LINE IN SAME TRENCH.
12. IRRIGATION LINES SHALL INSTALLED IN LANDSCAPE AREAS WHEREVER POSSIBLE AND WITHIN 12" OF LANDSCAPE AREA EDGES UNLESS INDICATED OTHERWISE.
13. EVEN IF NOT SHOWN, ALL IRRIGATION LINES UNDER PAVING SHALL BE SLEEVED WITH PVC SCH 40 PIPE. SLEEVE SHALL BE A MINIMUM 2 TIMES THE DIAMETER OF PIPE TO BE SLEEVED (2" MIN. DIA.). SLEEVES SHALL EXTEND 12" BACK UNDER HARDSCAPE.
14. EVEN IF NOT SHOWN, ALL WIRES UNDER PAVING SHALL BE SLEEVED WITH PVC SCH 40 GRAY CONDUIT. SLEEVE SHALL BE A MINIMUM 2 TIMES THE DIAMETER OF WIRE BUNDLE TO BE SLEEVED (2" MIN. DIA.). SLEEVES SHALL EXTEND 12" BACK UNDER HARDSCAPE.
15. WIRE COLOR SHALL BE AS FOLLOWS:
    - A. CONTROLLER 'A' CONTROL VALVES: ORANGE.
    - B. MASTER VALVE: BLACK
    - C. FLOW SENSOR: RED

    SPARE WIRES: ORANGE
14. SPARE CONTROL WIRE SHALL BE RUN ALONG EACH MAINLINE TO BRANCH TO THE FURTHEST VALVE MANIFOLD. BUNDLE AND TAPE 10 FEET OF ADDITIONAL WIRE AND INSTALL IN A PULL BOX ADJACENT TO THE VALVE MANIFOLD.
15. CONTROL WIRE RUNS UNDER PAVING SHALL BE INSTALLED IN A SCHEDULE 40 PVC SLEEVE.
16. ALL CONTROL WIRES SHALL BE TAGGED INSIDE CONDUIT - GRAY SCHEDULE 40 ELECTRICAL CONDUIT.
17. NO SPLICES WILL BE ALLOWED ON RUNS OF LESS THAN 500 FEET. ON RUNS GREATER THAN 500 FEET, SPLICES ARE TO MADE WITH AN APPROVED SPLICE UNIT AND TO BE INSTALLED IN A CONCRETE PULL BOX. IDENTIFY WHERE SPLICES ARE MADE AND PULL BOX LOCATIONS ON PLANS. CONNECTION SHALL BE MADE WITH APPROVED DBY6 CONNECTORS.
18. ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO THE FINISH GRADE OF THE AREA TO BE IRRIGATED UNLESS OTHERWISE DESIGNED ON THE PLANS.
19. ALL SPRINKLER HEADS SHALL BE INSTALLED AND ADJUSTED TO KEEP WATER AND SPRAY OFF ALL PAVING, WALKS, WALLS, OBSTRUCTIONS, AND AREAS NOT UNDER THE CONTROL OF THE OWNER AT ALL TIMES. UTILIZE ADDITIONAL HEADS AT OBSTACLES AS NECESSARY AND ADJUST ALL HEADS TO MINIMIZE BACKSPLASH AND DEFLECTION FROM PLANTS OR ANY OTHER OBSTACLES. INSTALL BUBBLERS WITHIN SMALL PLANTERS WITH SHRUBS SUCH THAT BUBBLERS ARE BETWEEN PLANTS AND NOT ADJACENT TO PAVEMENT.
20. ALL SPRINKLER HEADS SHALL BE ADJUSTED AS REQUIRED, AS TO HEIGHT, COVERAGE PATTERN, OR SPRINKLER HEAD ORIENTATION, SO AS NOT TO ALLOW RESTRICTION OF SPRAY PATTERN BY PLANT MATERIAL THAT MAY IN TURN CAUSE PLANT DECLINE OR DEMISE.
21. INSTALL FIXED ARC NOZZLES WHENEVER POSSIBLE. VARIABLE ARC NOZZLES SHALL ONLY BE USED IN AREAS WHERE FIXED ARC NOZZLES CANNOT ACHIEVE EFFECTIVE COVERAGE OR WOULD CAUSE EXCESSIVE OVERSPRAY. DURING THE FINAL CLOSEOUT PROCEDURES, NOZZLE CHANGES MAY BE REQUESTED AT NO ADDITIONAL EXPENSE TO THE CITY.
22. SHOULD THE CONTRACTOR MAKE NOZZLE CHANGES OR ADD HEADS AS A RESULT OF SITE OBSTACLES OR CONSTRUCTION CHANGES, THEN THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALCULATION AND ADJUSTMENTS IN PIPE SIZES. IN NO CASE SHALL FLOW VELOCITIES EXCEED 5 FEET PER SECOND.
23. REFER TO THE DETAILS AND SPECIFICATIONS FOR FURTHER INFORMATION.
24. ALL PLANTINGS SHALL BE FULLY WATERED IN UPON PLANTING. DO NOT RELY SOLELY UPON THE AUTOMATIC IRRIGATION SYSTEM. UTILIZE SUPPLEMENTAL HOSE WATERING AS REQUIRED, INITIALLY AND DURING THE PLANT ESTABLISHMENT PERIOD, AND AS DIRECTED ON PLANS TO ENSURE ALL PLANTINGS RECEIVE ADEQUATE WATER TO THE ENTIRE ROOT ZONE.
25. NO LOW HEAD DRAINAGE IS PERMITTED. ALL LOW HEAD DRAINAGE SHALL BE CORRECTED BY THE CONTRACTOR. SPRING CHECK AND / OR SWING CHECK VALVES SHALL BE INSTALLED WHERE NEEDED AT NO ADDITIONAL COST TO THE CITY.
26. THE WORK INCLUDES ALL SERVICES NECESSARY TO PERFORM THE IRRIGATION WORK AS SHOWN AND / OR NOTED ON THE DRAWINGS AND / OR AS SPECIFIED WITHOUT ADDITIONAL COST TO THE CITY. NO CHANGES FROM THE CONSTRUCTION DOCUMENTS ARE ALLOWED UNLESS PREVIOUSLY AUTHORIZED IN WRITING BY THE CITY LANDSCAPE INSPECTOR.
27. UPON COMPLETION OF THE PROJECT, A POST-PROJECT WALK-THROUGH SHALL BE SCHEDULED WITH THE CITY LANDSCAPE INSPECTOR TO CONFIRM ALL IRRIGATION WORK HAS BEEN MAINTAINED IN A FUNCTIONAL MANNER AND IS IN A CONDITION ACCEPTABLE TO THE CITY LANDSCAPE INSPECTOR.
28. INSTALLATION AND MATERIALS FOR RECYCLED WATER IRRIGATION SYSTEM SHALL CONFORM AND SPECIFICATIONS, SECTION 15152 RECYCLED WATER FACILITIES.
29. PROVIDE MEGOHM TESTING OF ALL WIRES PRIOR TO CONNECTIONS BEING MADE AND BACKFILLING TO VERIFY PERFORMANCE WITHIN THE CONTROLLER MANUFACTURER'S REQUIREMENTS. NO CIRCUIT CHECKING LOWER THAN 1 MEGOHM WILL BE ACCEPTABLE. REPAIR/REPLACE SUBSTANDARD PERFORMING WIRE.

INSPECTION NOTE

OTAY WATER DISTRICT INSPECTION SHALL BE NOTIFIED FIVE (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2241. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.

COLOR CODING

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. DECAL ON RISERS WILL NOT BE ACCEPTED.

DEH2019-LRWS-001118

OWD# D0894-060253

AS BUILT

______ DATE ______
SIGNATURE

______ R.L.A. No. ______
Printed Name
My Registration Expires ______ Discipline______

UTILITY NOTE

ALL EXISTING UTILITIES SHOWN ON THESE PLANS ARE PLOTTED FROM RECORD DATA AT THEIR APPROXIMATE LOCATIONS. UNDERGROUND FACILITIES MAY EXIST WHICH HAVE NOT BEEN REPORTED OR ARE NOT OF RECORD. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL PERTINENT UTILITIES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION.

LICENSED LANDSCAPE ARCHITECT — BROOKE JP WHALEN 5175 — Signature — 09/30/2024 Renewal Date — 8/1/22 Date — STATE OF CALIFORNIA

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd	DATUMS	SCALE	Designed By:	Drawn By:	Checked By:
CONTRACTOR:	MAP # 15350		DELTA A IRRIGATION REVISIONS	08/18/22		VERTICAL: 446.361 (NAVD 88)	HORIZONTAL	HH	HH	BE
INSPECTOR:						HORIZONTAL: I.E. N78"21'27"E NAD 83	N/A	Plans Prepared Under Supervision Of:		Date: 10/11/2021
DATE COMPLETED:	DWG. #'S 16022						VERTICAL	BROOKE JP. WHALEN		R.L.A No. 5175
							N/A			

CONSULTANT

ktua
3916 Normal Street
San Diego, CA 92103
619.294.4477
www.ktua.com

Submitted: ______
By: ______
Office:

APPROVED BY: ______ DATE: ______
DIRECTOR OF DEVELOPMENT SERVICES OR DESIGNEE

BID DOCUMENTS - OCTOBER 11, 2021

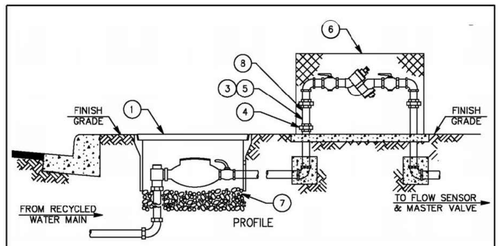
IRRIGATION NOTES

CITY OF CHULA VISTA DEVELOPMENT SERVICES DEPARTMENT

OTAY RANCH VILLAGE 2 P-2 PARK,
GROVE PARK

LANDSCAPE DWG NO.
LI-08
SHEET 8 OF 16
W.O. NO. PRK-0330
DRAWING NO.
19010-46
SHEET 46 OF 100

PERMIT NO. PLR-19-012



METER	Y-STRAINER	PRESSURE REGULATOR	REDUCED PRESSURE BACKFLOW	TEST STATION	MASTER VALVE	FLOW SENSOR

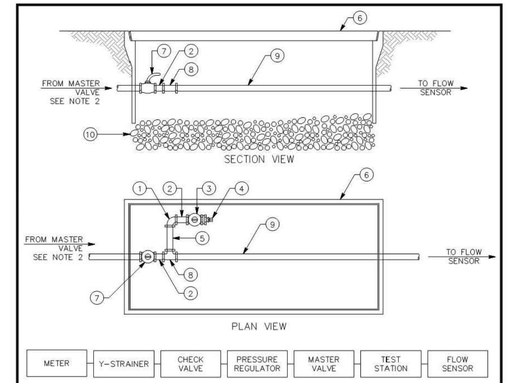
POC SEQUENCE

NOTES:
1) REFER TO SECTIONS 15151 AND 15152 OF THE SPECIFICATIONS
2) SET TOP OF METER BOX FLUSH WITH SIDEWALK, CURB OR FINISH GRADE
3) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
4) WATER LATERALS INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
5) INSTALL WYE STRAINER HORIZONTAL TO SERVICE LATERAL
6) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	METER ASSEMBLY PER WS-01 & WS-02	6	REDUCED PRESSURE BACKFLOW DEVICE AND OPTIONAL ENCLOSURE
2	BRASS OR COPPER PIPE	7	10mm (3/8") ROCK, 100mm TO 150mm (4" TO 6") DEEP
3	--		
4	SCREWED BRASS UNION	8	PRESSURE REGULATOR
5	13mm (1/2") BRASS BALL VALVE		

25mm AND 50mm (1"AND 2") RECYCLED WATER IRRIGATION REDUCED PRESSURE BACKFLOW DEVICE INSTALLATION

WATER AGENCIES' STANDARDS
COMMITTEE APPROVAL: 08/03/2018
DRAWING NUMBER: WR-08



METER	Y-STRAINER	CHECK VALVE	PRESSURE REGULATOR	MASTER VALVE	TEST STATION	FLOW SENSOR

POC SEQUENCE

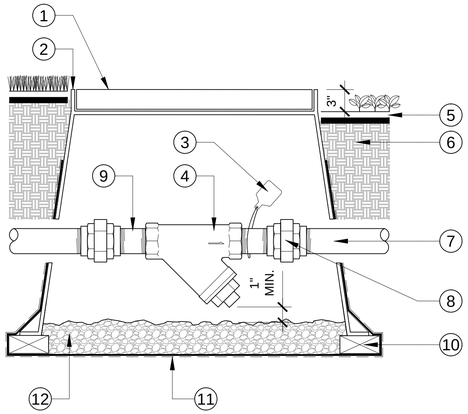
NOTES:
1) REFER TO SECTION 15151 AND 15152 OF THE SPECIFICATIONS
2) INSTALL ONE TEST STATION LOCATED DIRECTLY DOWNSTREAM OF MASTER VALVE AND PRESSURE REGULATOR VALVE PER WR-03. TEST STATION MAY BE SUBSTITUTED WITH A QUICK COUPLER AT THE DISCRETION OF THE PURVEYOR
3) SECOND CROSS CONNECTION TEST STATION INSTALLED AT FAR END OF ON-SITE MAIN LINE
4) BRAND "TS" ON PLASTIC TEST STATION LIDS
5) FITTINGS SHALL BE ALL BRASS

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	19mm (3/4") SCH 80 BRASS 90 ELL	6	JUMBO BOX WITH PURPLE COLORED LID
2	19mm (3/4") SCH 80 BRASS CLOSE NIPPLE	7	LINE SIZE BRASS BALL VALVE W/BRASS HANDLE
3	19mm (3/4") BRASS LOCKABLE BALL VALVE, FIP x METER SWIVEL	8	LINE SIZE x 19mm (3/4") SCH 80 BRASS TEE
4	19mm x 6mm (3/4" x 1/4") BRASS THREADED BUSHING WITH 6.3mm (1/4") NPT x 6.3mm (1/4") FLARED FITTING	9	TYPE "K" COPPER OR BRASS PIPE ONLY
5	19mm (3/4") SCH 80 BRASS NIPPLE	10	150mm (6") BASE OF 10mm (3/8") ROCK

25mm (1") AND 50mm (2") RECYCLED WATER IRRIGATION CROSS CONNECTION TEST STATION

WATER AGENCIES' STANDARDS
COMMITTEE APPROVAL: 01/26/2022
DRAWING NUMBER: WR-04

A



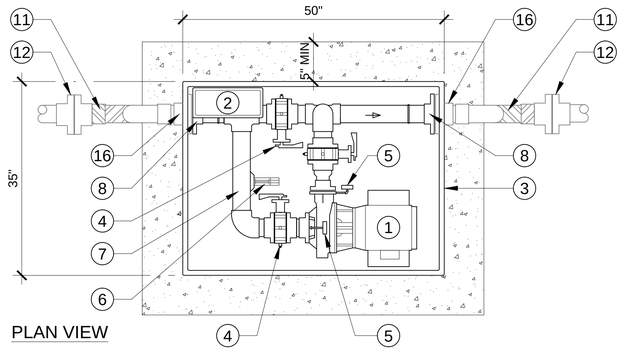
LEGEND

1. PURPLE PLASTIC RECT. VALVE BOX WITH BOLT DOWN PURPLE LID, USE STAINLESS STEEL BOLT, NUT AND WASHER, BOX TO BE PLACED AT RIGHT ANGLE TO HARDSCAPE EDGE. HEAT BRAND "YR" ONTO LID
2. FINISH GRADE IN TURF AREAS
3. RECYCLED WATER VALVE I.D. TAG. (THREAD NYLON TIE THROUGH HOLE IN TAG)
4. WYE STRAINER. REFER TO DETAIL NOTES AND LEGEND
5. FINISH GRADE IN SHRUB AREAS
6. UNDISTURBED / COMPACTED SUBGRADE
7. PRESSURE SUPPLY. BRASS MAINLINE
8. BRASS UNION
9. BRASS NIPPLE, TYP.
10. BRICK SUPPORTS, END TO END UNDER BOX BOTTOM
11. FILTER FABRIC (MIRAFI #140N). WRAP 1 LAYER AROUND BOX COVERING HOLES WITH 3/4" GALV. WIRE MESH, OR DURA DRY BOX WITH SNAP-ON BOTTOM FEATURE
12. 3/8" ROCK, 2 CUBIC FEET, TYP.

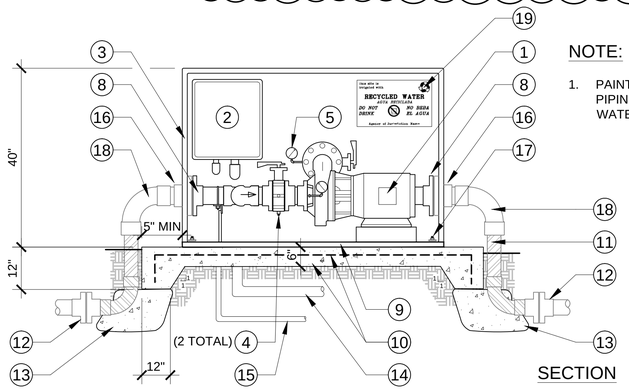
NOTES:

1. USE TEFLON TAPE ON ALL THREADED CONNECTIONS.
2. ORIENT Y-STRAINER FOR EASE OF MAINTENANCE ACCESS
3. INSTALL WYE STRAINER HORIZONTAL TO SERVICE LATERAL. REPLACE THREADED PLUG WITH 1/2" BRONZE BENT NOSE HOSE BIB (FOR FLUSHING)

A Y-STRAINER IN BOX
SECTION — NOT TO SCALE



PLAN VIEW



LEGEND

1. CLOSE-COUPLED END SUCTION CENTRIFUGAL PUMP, CAST IRON BRONZE FITTED, BACK PULLOUT DESIGN, MECHANICAL SEAL, ODP MOTOR
2. NEMA 4 ENCLOSED CONTROL PANEL, WITH CIRCUIT BREAKER, MAGNETIC STARTER, HOA SWITCH, AND COMPONENTS FOR AUTOMATIC BOOSTER PUMP CONTROL
3. MARINE GRADE ALUMINUM ENCLOSURE, TOP HINGED DESIGN WITH VENTING. AFFIX ADHESIVE BACKED RECYCLED WATER WARNING DECAL (8.25"L x 2.5"W) (CHRISTY PROD., INC. #ID-4200) TO FRONT SIDE OF ENCLOSURE
4. CAST IRON ELASTOMER LINED FULL LUG WAFER STYLE BUTTERFLY VALVE ON PUMP BYPASS PIPING
5. PRESSURE GAUGE, 2½" DIAL, LIQUID FILLED, STAINLESS CASE, 0-200 PSI
6. FLOW SWITCH, THERMAL DISPERSION, 150 PSI RATED
7. 3" INCH TYPE 304 STAINLESS STEEL WITH POWDER COAT PANTONE 522 PURPLE PAINT ON ALL PUMP ASSEMBLY PIPING. AFFIX PURPLE RECLAIMED WATER ID TAG WITH NYLON ZIP TIE TO EACH PIPE IN EACH DIRECTION
8. 150# ANSI RATED STAINLESS STEEL OUTPUT FLANGE
9. FABRICATED STRUCTURAL ALUMINUM BASE PLATE
10. 6" THICK CONCRETE PAD SET 2" ABOVE FINISH GRADE. USE #5 BAR AT 18" O.C. BOTH WAYS AT MID-DEPTH. CONCRETE MIX PER STRUCTURAL REQUIREMENTS
11. DOUBLE WRAP PIPING AND FITTINGS WITH 20 MIL PIPE WRAP TAPE
12. COMPANION FLANGE CONNECTION
13. THRUST BLOCK OR JOINT RESTRAINT
14. MAIN POWER CONDUIT
15. IRRIGATION CONTROLLER SIGNAL CONDUIT
16. CONTRACTOR'S RESPONSIBILITY TO PROVIDE ALL INLET AND OUTLET PIPING, BRASS OR CAST IRON. SPRAY PAINT 3 COATS OF PANTONE 522 PURPLE PAINT ON ALL EXPOSED PIPING AND FITTINGS
17. (4) ½" DIA. KB-TZ SS 304, 2" MIN EMBEDMENT. INSTALL PER ICC-ESR 1917 TYP. EACH CORNER
18. AFFIX PURPLE RECLAIMED WATER WARNING TAG WITH NYLON ZIP TIE TO EACH PIPE IN EACH DIRECTION
19. WM-08 DECAL REQUIRED ON EXTERIOR

B BOOSTER PUMP ASSEMBLY
PLAN / SECTION — NOT TO SCALE

NOTE:

1. PAINT ALL EXTERIOR AND INTERIOR PIPING WITH APPROVED OTAY WATER DISTRICT PURPLE COLOR.

INSPECTION NOTE

OTAY WATER DISTRICT INSPECTION SHALL BE NOTIFIED FIVE (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2241. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.

COLOR CODING

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. DECAL ON RISERS WILL NOT BE ACCEPTED.

AS BUILT

_____ DATE _____
SIGNATURE
_____ R.L.A. No. _____
Printed Name
My Registration Expires _____ Discipline_____

UTILITY NOTE

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LICENSED LANDSCAPE ARCHITECT — BROOKE JP WHALEN — 5175 — 10/11/2021 — STATE OF CALIFORNIA

CONSULTANT

ktua
3916 Normal Street
San Diego, CA 92103
619.294.4477
www.ktua.com

BID DOCUMENTS - OCTOBER 11, 2021

IRRIGATION DETAILS

LANDSCAPE DWG NO. LI-09
SHEET 9 OF 16
W.O. NO. PRK-0330

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd
CONTRACTOR:	MAP # 15350		DELTA A IRRIGATION REVISIONS	08/18/22	
INSPECTOR:					
DATE COMPLETED:	DWG. #'S 16022				

DATUMS
VERTICAL: 446.361 (NAVD 88)
HORIZONTAL: I.E. N78°21'27"E NAD 83

SCALE	Designed By:	Drawn By:	Checked By:
HORIZONTAL N/A	HH	HH	BE
VERTICAL N/A	Plans Prepared Under Supervision Of: BROOKE JP. WHALEN	Date: 10/11/2021 RLA No. 5175	

Submitted: _____
By: _____
Office: _____

APPROVED BY: _____ DATE: _____
DIRECTOR OF DEVELOPMENT SERVICES OR DESIGNEE

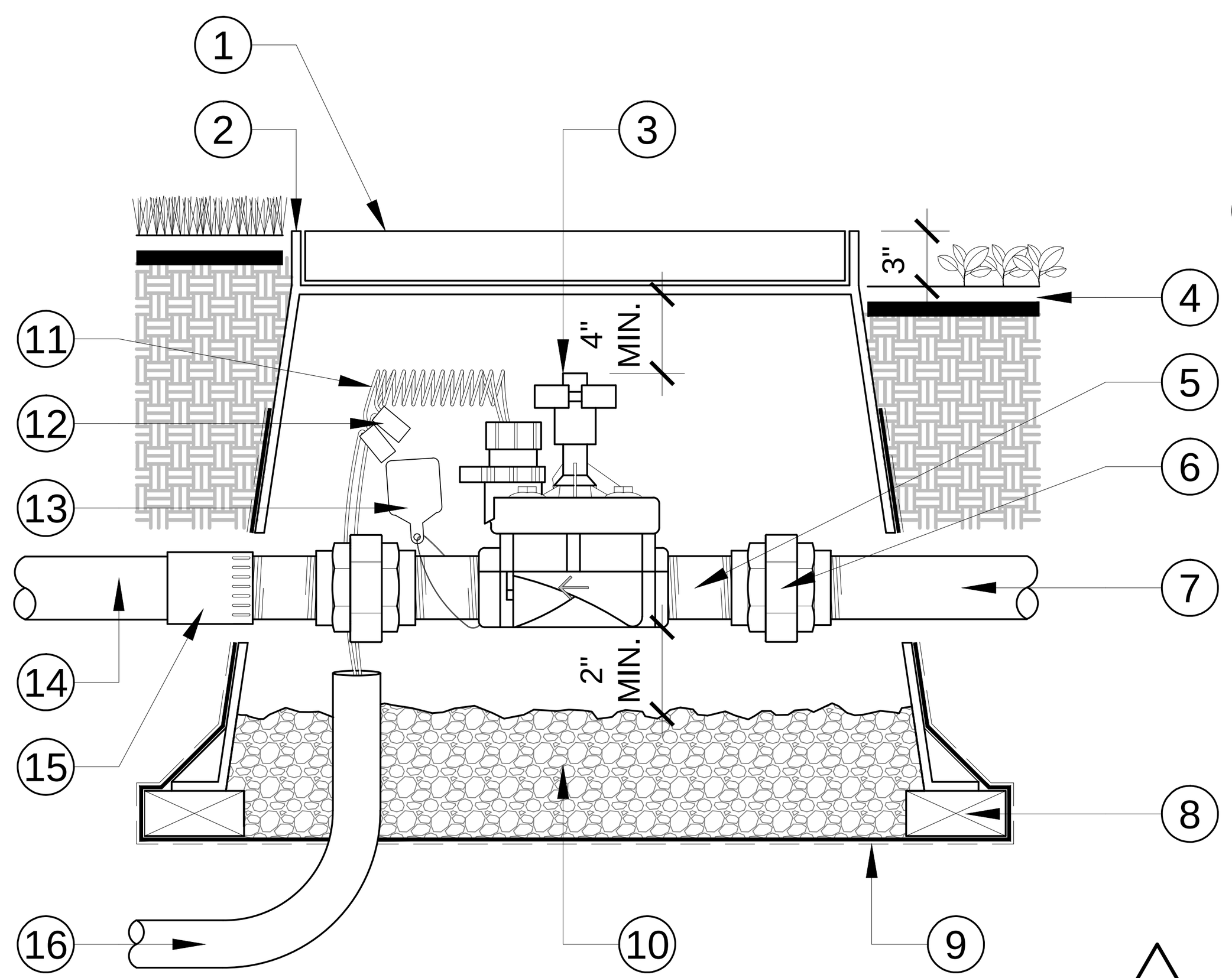
CITY OF CHULA VISTA DEVELOPMENT SERVICES DEPARTMENT
OTAY RANCH VILLAGE 2 P-2 PARK,
GROVE PARK

DRAWING NO. 19010-47
SHEET 47 OF 100

PERMIT NO. PLR-19-012

DEH2019-LRWS-001118

OWD# D0894-060253



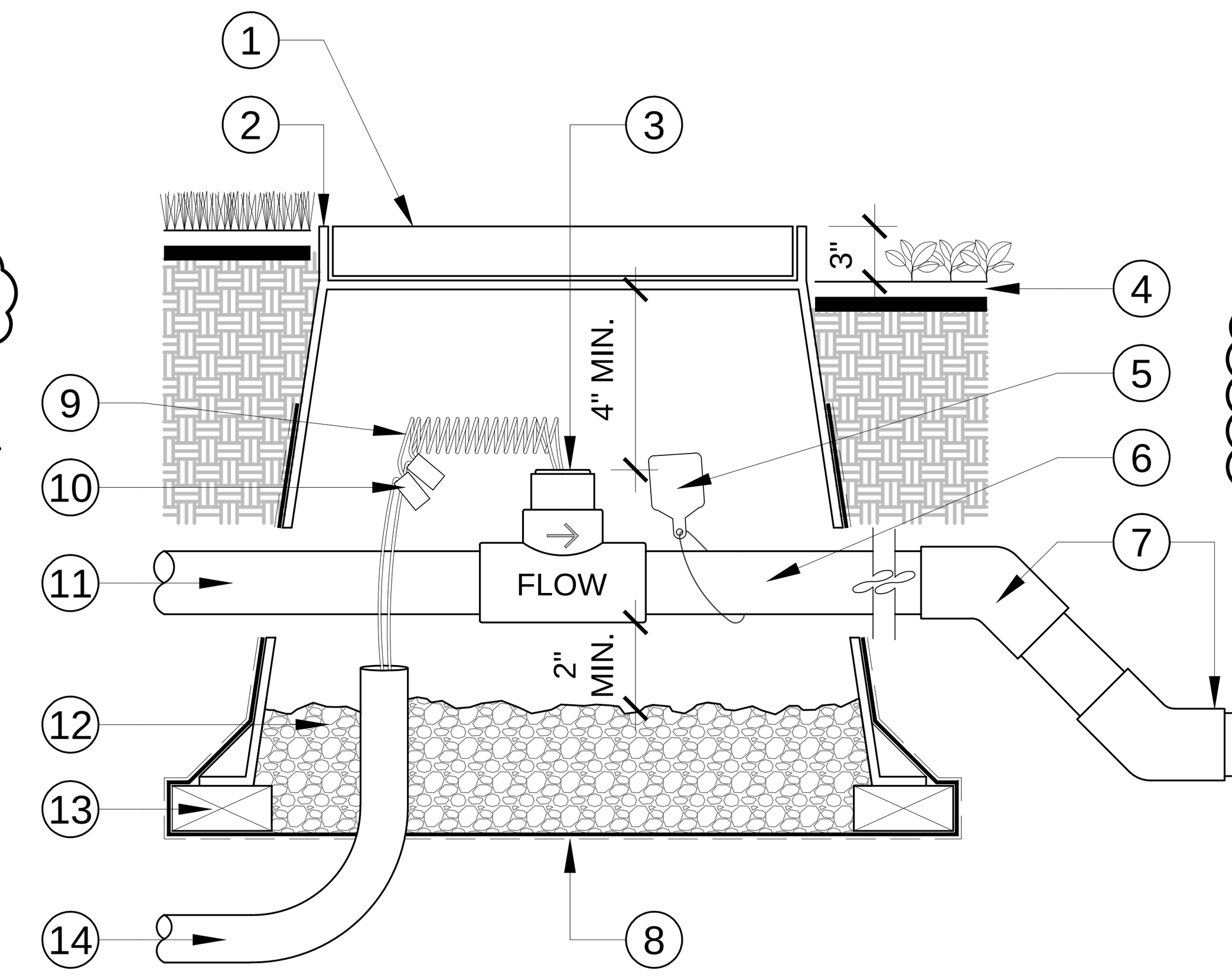
LEGEND

1. PURPLE PLASTIC RECT. VALVE BOX WITH BOLT DOWN PURPLE LID, USE STAINLESS STEEL BOLT, NUT AND WASHER, BOX TO BE PLACED AT RIGHT ANGLE TO HARDSCAPE EDGE. HEAT BRAND "MV" ONTO LID
2. FINISH GRADE IN TURF AREAS
3. MASTER CONTROL VALVE WITH WITH INTEGRATED VALVE MODULE. SEE LEGEND FOR SPECIFICATION
4. FINISH GRADE IN SHRUB AREAS
5. BRASS NIPPLE, TYP.
6. BRASS UNION
7. BRASS MAINLINE TO MASTER VALVE PER SPECIFICATIONS
8. (4) BRICK SUPPORTS
9. FILTER FABRIC (MIRAFI #140N). WRAP 1 LAYER AROUND BOX COVERING HOLES WITH $\frac{1}{4}$" GALV. WIRE MESH, OR DURA DRY BOX WITH SNAP-ON BOTTOM FEATURE
10. $\frac{3}{8}$" ROCK, 2 CUBIC FEET, TYP.
11. 36" WIRE / CABLE LOOP
12. RAINBIRD WC20 OR APPROVED CONNECTOR PER CONTROLLER MANUFACTURER SPECIFICATIONS
13. RECYCLED WATER VALVE I.D. TAG. (THREAD NYLON TIE THROUGH HOLE IN TAG)
14. BRASS MAINLINE TO FLOW SENSOR PER SPECIFICATIONS
15. BRASS FEMALE ADAPTER
16. 1" DIA. MIN. ELECTRICAL CONDUIT TO FLOW SENSOR

NOTES:

1. ALL THREADED CONNECTIONS TO HAVE TEFLON TAPE OR PASTE.
2. ALL SYMBOLS ARE TYPICAL.
3. PAINT MASTER VALVE AND FITTINGS WITH APPROVED OTAY WATER DISTRICT PURPLE COLOR.

C MASTER VALVE
SECTION — NOT TO SCALE



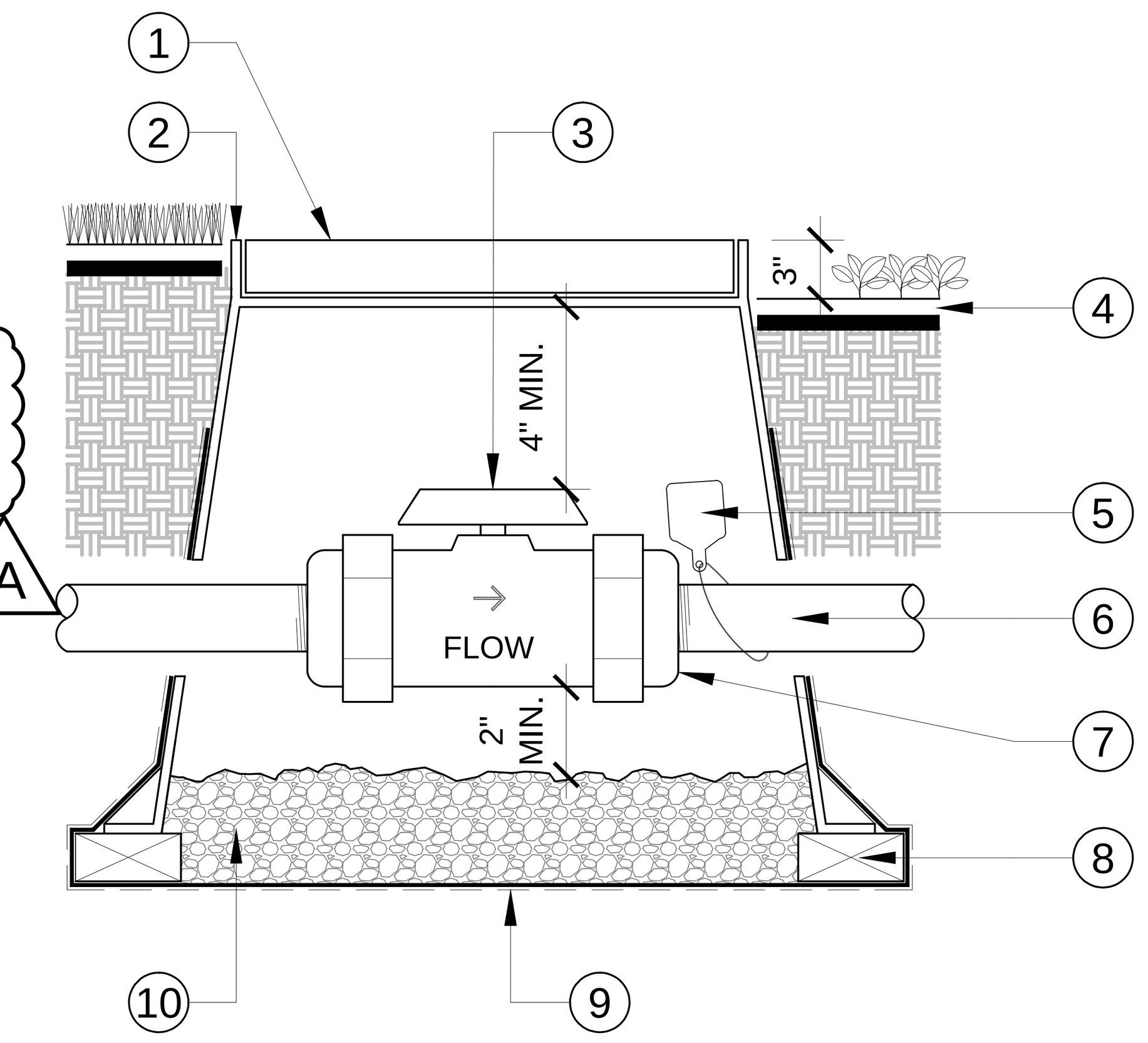
NOTES:

1. NO FITTINGS 10x PIPE O.D. UPSTREAM OF SENSOR, NO FITTINGS 6x PIPE O.D. DOWNSTREAM OF FLOW SENSOR.
2. INSTALL FLOW SENSOR PER MANUFACTURER'S RECOMMENDATIONS, ROUTE WIRES THROUGH CONDUIT TO IRRIGATION CONTROLLER.
3. USE 45 DEGREE ELLS TO ACHIEVE MAINLINE DEPTH ON THE DOWNSTREAM SIDE OF THE FLOW SENSOR.
4. ALL SYMBOLS ARE TYPICAL.
5. PAINT FLOW SENSOR AND FITTINGS WITH APPROVED OTAY WATER DISTRICT PURPLE COLOR.

LEGEND

1. PURPLE PLASTIC RECT. VALVE BOX WITH BOLT DOWN PURPLE LID, USE STAINLESS STEEL BOLT, NUT AND WASHER, BOX TO BE PLACED AT RIGHT ANGLE TO HARDSCAPE EDGE. HEAT BRAND "FS" ONTO LID
2. FINISH GRADE IN TURF AREAS
3. FLOW SENSOR WITH FLOW SENSOR DEVICE MODULE. SEE LEGEND FOR SPECIFICATION
4. FINISH GRADE IN SHRUB AREAS
5. RECYCLED WATER VALVE I.D. TAG. (THREAD NYLON TIE THROUGH HOLE IN TAG)
6. PURPLE PVC MAINLINE TO SYSTEM, PIPE PER SPECIFICATIONS
7. PVC SCH 80 FITTINGS
8. FILTER FABRIC (MIRAFI #140N). WRAP 1 LAYER AROUND BOX COVERING HOLES WITH $\frac{1}{4}$" GALV. WIRE MESH, OR DURA DRY BOX WITH SNAP-ON BOTTOM FEATURE
9. SHIELDED CABLE
10. RAINBIRD WC20 OR APPROVED CONNECTOR PER CONTROLLER MANUFACTURER SPECIFICATIONS
11. BRASS MAINLINE FROM MASTER VALVE
12. $\frac{3}{8}$" ROCK, 2 CUBIC FEET, TYP.
13. (4) BRICK SUPPORTS
14. 1" DIA. MIN. ELECTRICAL CONDUIT TO CONTROLLER

D FLOW SENSOR
SECTION — NOT TO SCALE



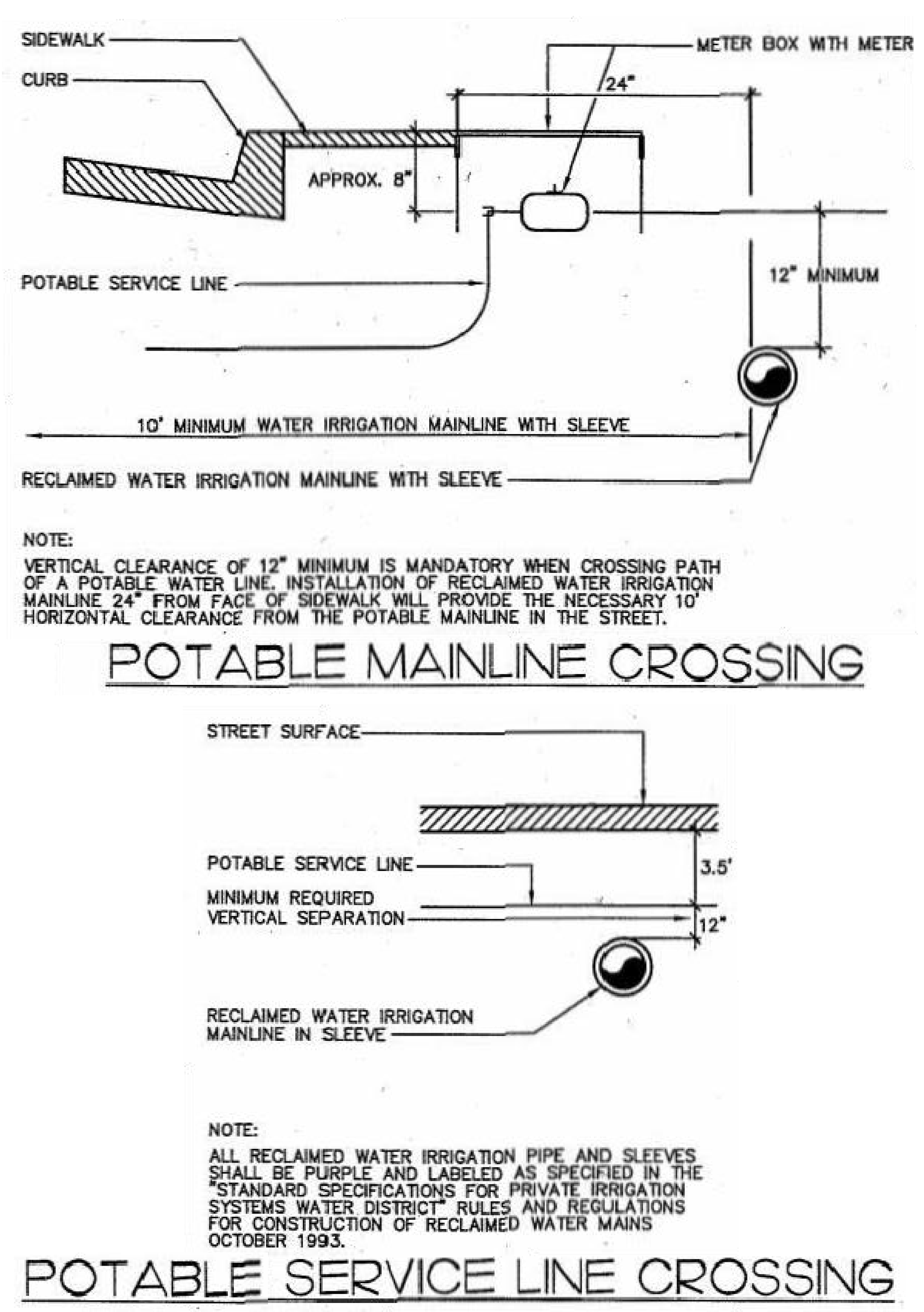
NOTES:

1. BOX TO BE INSTALLED TO ALLOW FOR PROPER OPERATION OF BALL VALVE HANDLE. INSTALL AT RIGHT ANGLE TO HARDSCAPE EDGE.
2. USE 45 DEGREE FITTINGS AS REQUIRED TO ACHIEVE PROPER VALVE INSTALLATION AT MAINLINE DEPTH.
3. ALL THREADED CONNECTIONS SHALL HAVE TEFLON TAPE OR PASTE.
4. BALL VALVE SHALL BE HAYWARD TB SERIES WITH INTEGRAL UNIONS (AVAILABLE IN $\frac{1}{2}$" TO 6" SIZE RANGE).
5. PAINT BALL VALVE AND FITTINGS WITH APPROVED OTAY WATER DISTRICT PURPLE COLOR.

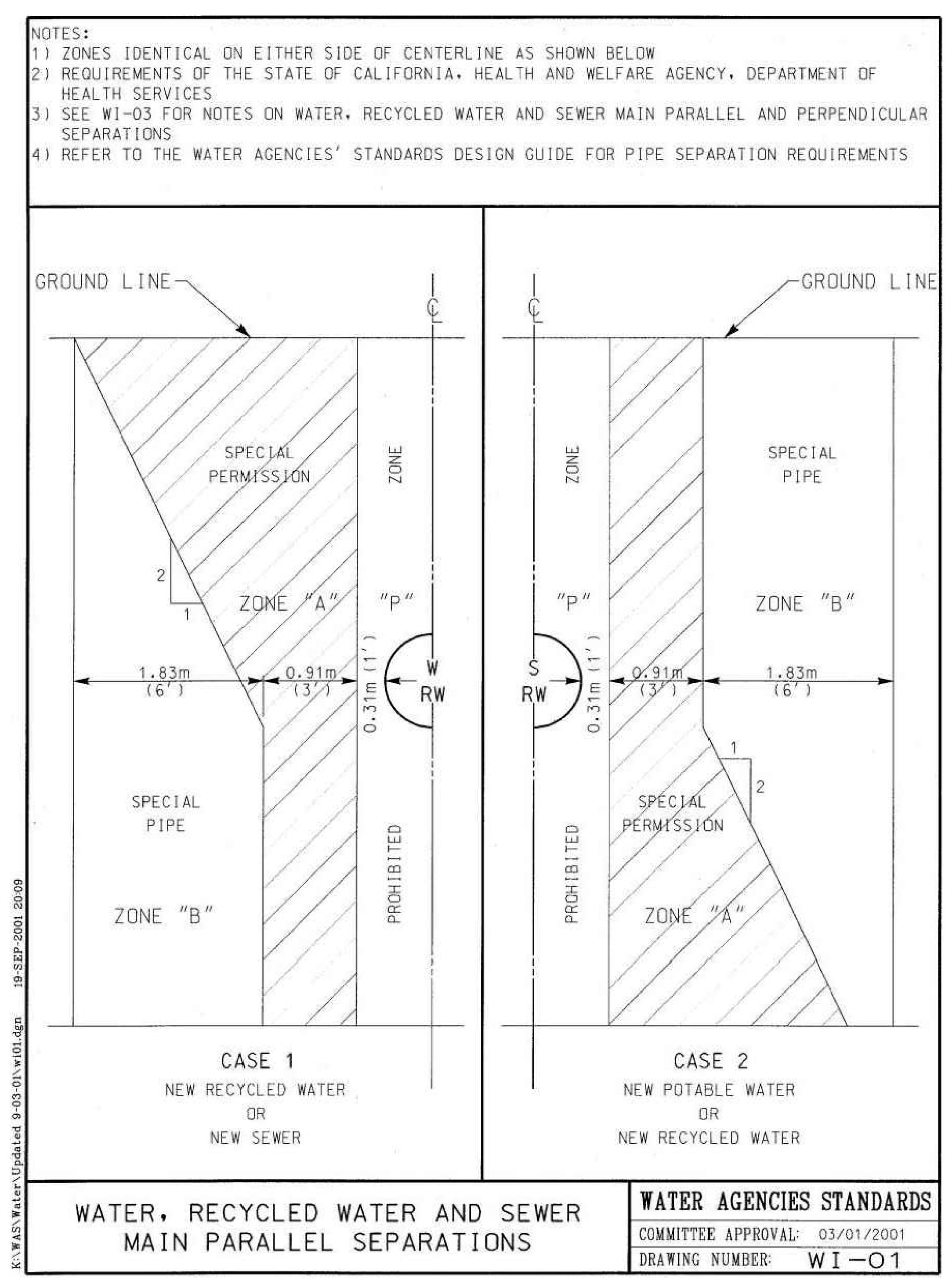
LEGEND

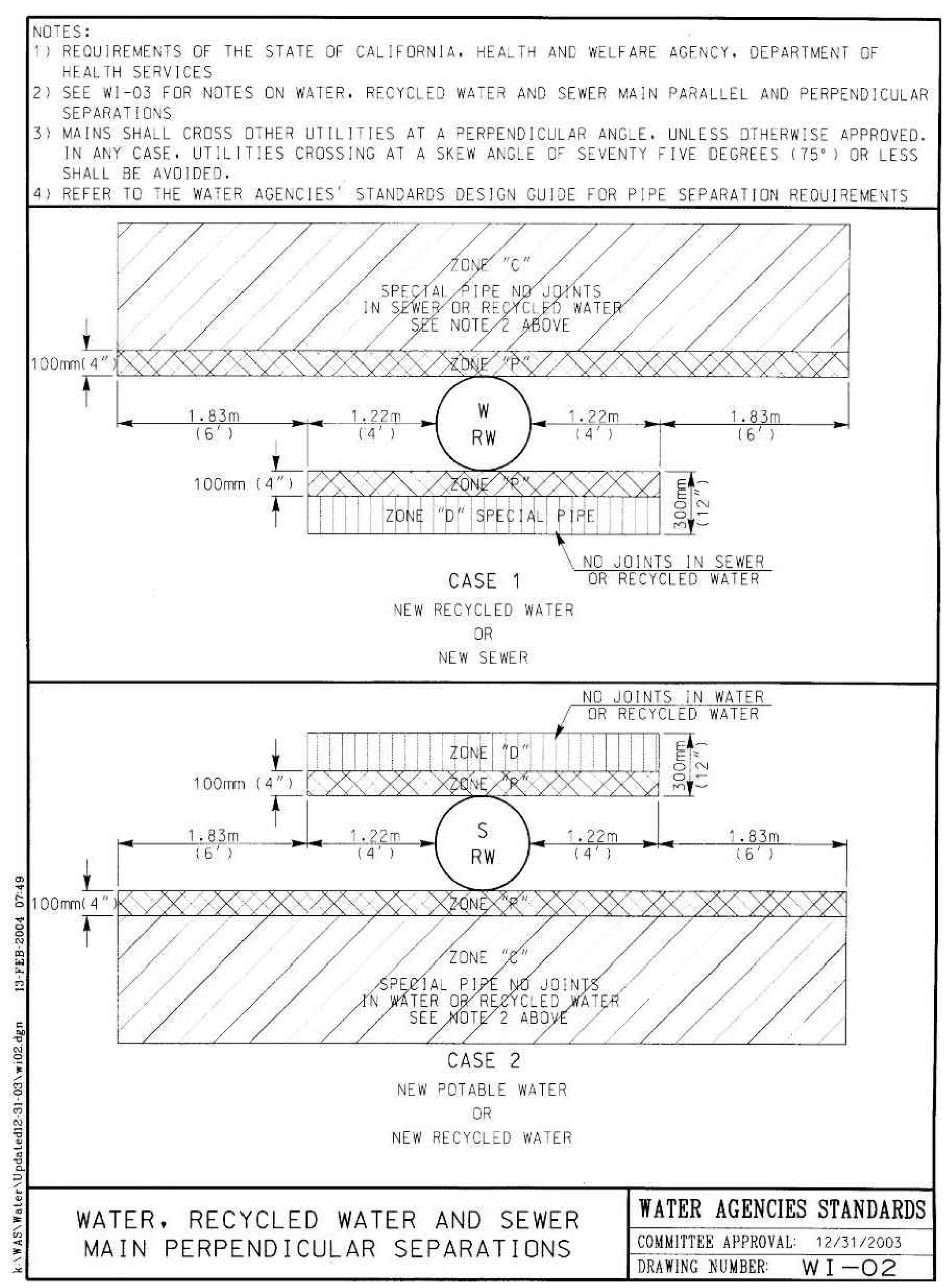
1. PURPLE PLASTIC RECT. VALVE BOX WITH BOLT DOWN PURPLE LID, USE STAINLESS STEEL BOLT, NUT AND WASHER, BOX TO BE PLACED AT RIGHT ANGLE TO HARDSCAPE EDGE. HEAT BRAND "BV" ONTO LID
2. FINISH GRADE IN TURF AREAS
3. PVC SCH 80 BALL VALVE. SEE LEGEND FOR SPECIFICATION
4. FINISH GRADE IN SHRUB AREAS
5. RECYCLED WATER VALVE I.D. TAG. (THREAD NYLON TIE THROUGH HOLE IN TAG)
6. PURPLE MAINLINE, DEPTH AS PER SPECIFICATIONS. ANY MAINLINE FITTINGS SHALL BE SCH 80 PVC
7. USE DUAL UNION CONNECTIONS AS PART OF BALL VALVE, AS SPECIFIED IN LEGEND.
8. (4) BRICK SUPPORTS
9. FILTER FABRIC (MIRAFI #140N). WRAP 1 LAYER AROUND BOX COVERING HOLES WITH $\frac{1}{4}$" GALV. WIRE MESH, OR DURA DRY BOX WITH SNAP-ON BOTTOM FEATURE
10. $\frac{3}{8}$" ROCK, 2 CUBIC FEET, TYP.

E ISOLATION BALL VALVE
SECTION — NOT TO SCALE



F TYPICAL LINE CROSSINGS
SECTION — NOT TO SCALE





INSPECTION NOTE

OTAY WATER DISTRICT INSPECTION SHALL BE NOTIFIED FIVE (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2241. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.

COLOR CODING

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. DECAL ON RISERS WILL NOT BE ACCEPTED.

DEH2019-LRWS-001118

OWD# D0894-060253

AS BUILT	UTILITY NOTE
______ DATE ______ SIGNATURE; ______ R.L.A. No. ______ Printed Name; My Registration Expires ______ Discipline______	ALL EXISTING UTILITIES SHOWN ON THESE PLANS ARE PLOTTED FROM RECORD DATA AT THEIR APPROXIMATE LOCATIONS. UNDERGROUND FACILITIES MAY EXIST WHICH HAVE NOT BEEN REPORTED OR ARE NOT OF RECORD. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL PERTINENT UTILITIES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION.

LICENSED LANDSCAPE ARCHITECT — BROOKE JP WHALEN 5175 — Signature — 09/30/2024 Renewal Date — 8/1/22 Date — STATE OF CALIFORNIA

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd	DATUMS	SCALE
CONTRACTOR:	MAP # 15350		DELTA A IRRIGATION REVISIONS	08/18/22		VERTICAL: 446.361 (NAVD 88)	HORIZONTAL
INSPECTOR:						HORIZONTAL: I.E. N78"21'27"E NAD 83	N/A
DATE COMPLETED:	DWG. #'S 16022						VERTICAL
							N/A

Designed By:	Drawn By:	Checked By:
HH	HH	BE

Plans Prepared Under Supervision Of: BROOKE JP. WHALEN — Date: 10/11/2021 — R.L.A No. 5175

CONSULTANT

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3916 Normal Street
San Diego, CA 92103
619.294.4477
www.ktua.com

Submitted: ______ By: ______ Office: ______

APPROVED BY: ______ DATE: ______
DIRECTOR OF DEVELOPMENT SERVICES OR DESIGNEE

BID DOCUMENTS - OCTOBER 11, 2021

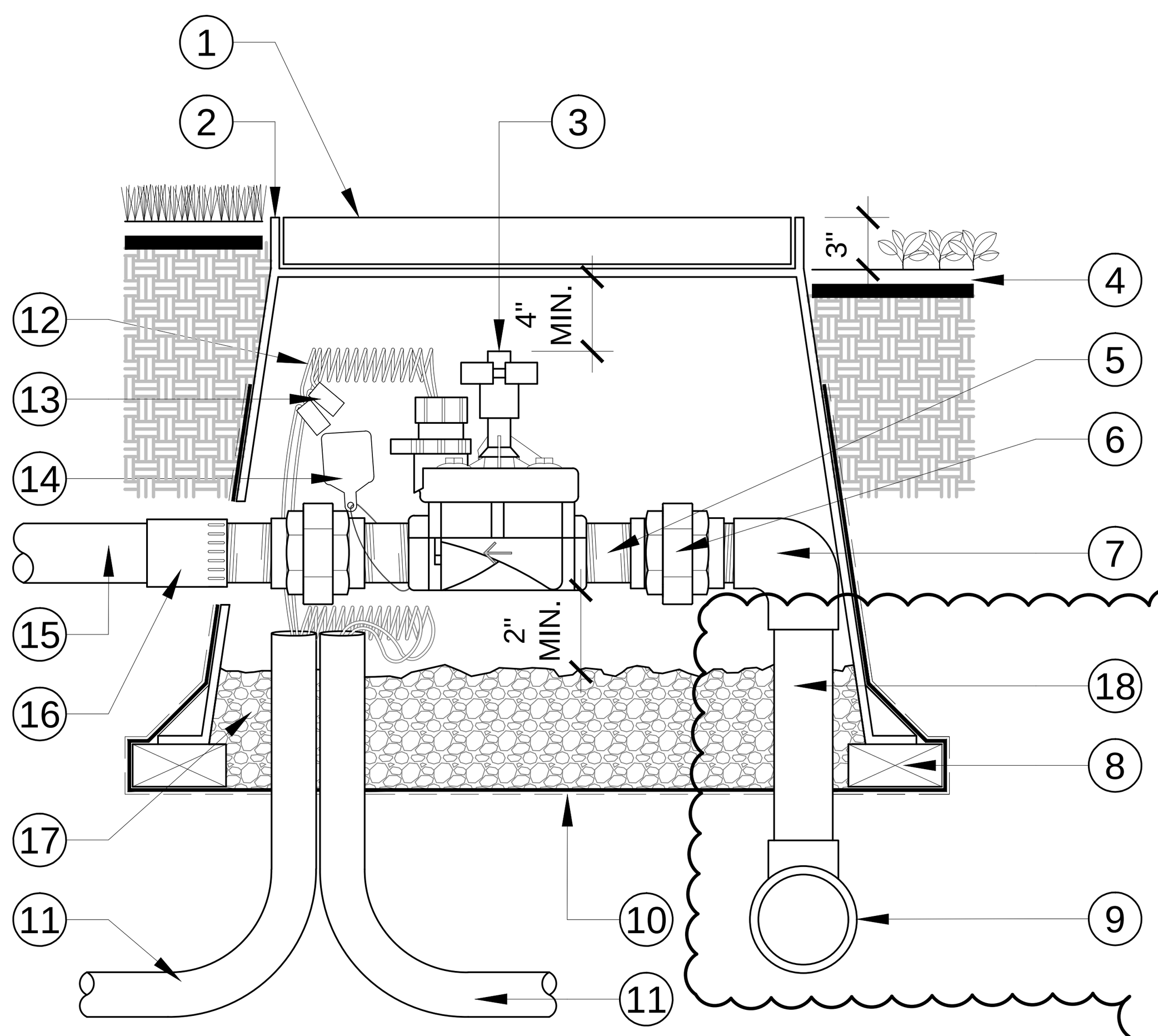
IRRIGATION DETAILS

CITY OF CHULA VISTA DEVELOPMENT SERVICES DEPARTMENT

OTAY RANCH VILLAGE 2 P-2 PARK, GROVE PARK

LANDSCAPE DWG NO. LI-10
SHEET 10 OF 16
W.O. NO. PRK-0330
DRAWING NO. 19010-48
SHEET 48 OF 100

PERMIT NO. PLR-19-012



LEGEND

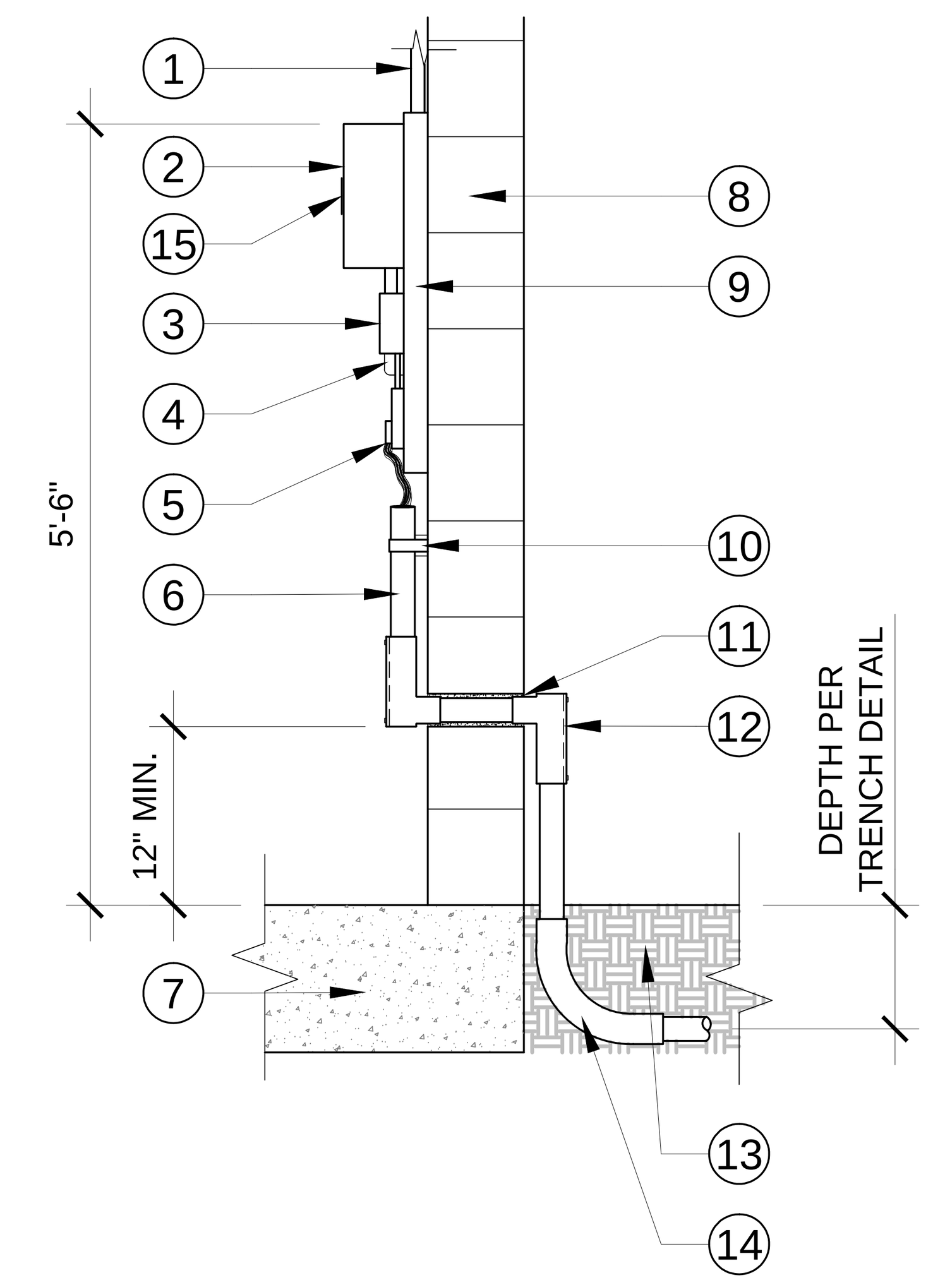
1. PURPLE PLASTIC RECT. VALVE BOX WITH BOLT DOWN PURPLE LID, USE S.S. BOLT, NUT AND WASHER, BOX TO BE PLACED AT RIGHT ANGLE TO HARDSCAPE EDGE. HEAT BRAND "RCV" & CONT. STA. # ONTO LID
2. FINISH GRADE IN TURF AREAS
3. IRRIGATION CONTROL VALVE WITH INTEGRATED VALVE MODULE. SEE LEGEND FOR SPECIFICATION
4. FINISH GRADE IN SHRUB AREAS
5. PVC SCH 80 NIPPLES (TYP.) LENGTH AS REQUIRED
6. PVC SCH 80 UNION (TWO)
7. PVC SCH 80 ELL (S X T)
8. (4) BRICK SUPPORTS
9. PVC SCH 80 TEE OR ELL (SLIP)
10. FILTER FABRIC (MIRAFI #140N). WRAP 1 LAYER AROUND BOX COVERING HOLES WITH 1/4" GALV. WIRE MESH, OR DURA DRY BOX WITH SNAP-ON BOTTOM FEATURE
11. WIRE / CABLE IN 3/4" DIA. CONDUIT
12. 36" WIRE / CABLE LOOP
13. RAINBIRD WC20 OR APPROVED CONNECTOR PER CONTROLLER MANUFACTURER SPECIFICATIONS
14. RECYCLED WATER VALVE I.D. TAG. (THREAD NYLON TIE THROUGH HOLE IN TAG)
15. PURPLE LATERAL LINE
16. PVC SCH 80 FEMALE ADAPTER
17. 3/8" ROCK, 2 CUBIC FEET, TYP.
18. PVC SCH 80 PIPE

NOTES:

1. ALL THREADED CONNECTIONS TO HAVE TEFLON TAPE OR PASTE.
2. ALL FITTINGS SHALL BE PVC SCH 80, TYPICAL.
3. ALL SYMBOLS ARE TYPICAL.
4. PAINT REMOTE CONTROL VALVE AND FITTINGS WITH APPROVED OTAY WATER DISTRICT PURPLE COLOR.

A

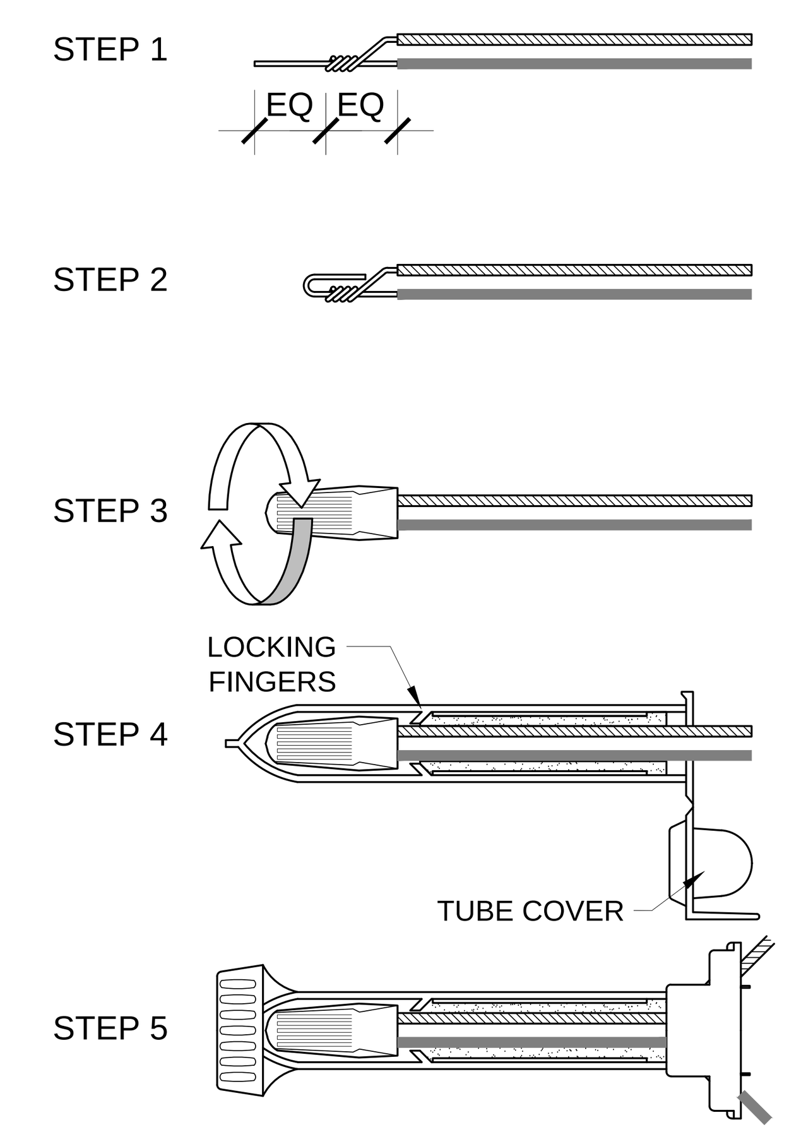
G REMOTE CONTROL VALVE ASSY.
SECTION — NOT TO SCALE



LEGEND

1. CONDUIT FOR RAIN SENSOR
2. CONTROLLER (WALL MOUNTED)
3. POWER SOURCE JUNCTION BOX WITH SWITCH AND OUTLET (ELECTRICAL CONTRACTOR)
4. ELL-BOX AND CONDUIT FROM POWER SOURCE
5. TERMINAL STRIP
6. ONE 1-1/4" CONDUIT FOR TWO-WIRE CABLE
7. BUILDING FLOOR
8. BUILDING WALL
9. PRE-ASSEMBLED BACKBOARD. ANCHORED TO WALL PER MANUFACTURER'S SPECIFICATIONS
10. CONDUIT STRAPS, 1 EVERY 18"
11. WATERPROOF SEALANT
12. ELL-BOX FOR WIRE CONDUIT (8) REQUIRED INSIDE AND (8) REQUIRED OUTSIDE
13. EXTERIOR SURFACE
14. CONDUITS AND SWEEPS. (8) REQUIRED (1 FOR MASTER VALVE, 1 FOR FLOW SENSOR, 1 FOR RAIN SENSOR - IF #1 IS NOT INSTALLED, 1 FOR CONTROL WIRES, 1 FOR INTERNET CABLE, 1 FOR REMOTE CABLE, 1 FOR GROUND WIRE AND 1 FOR PUMP SIGNAL WIRES)
15. "DO NOT DRINK" DECAL ON IRRIGATION CONTROLLER (MOUNT ON ENCLOSURE DOOR) PER WM-08

H AUTOMATIC IRRIGATION CONTROLLER (WALL MOUNT, INTERIOR)
SECTION — NOT TO SCALE

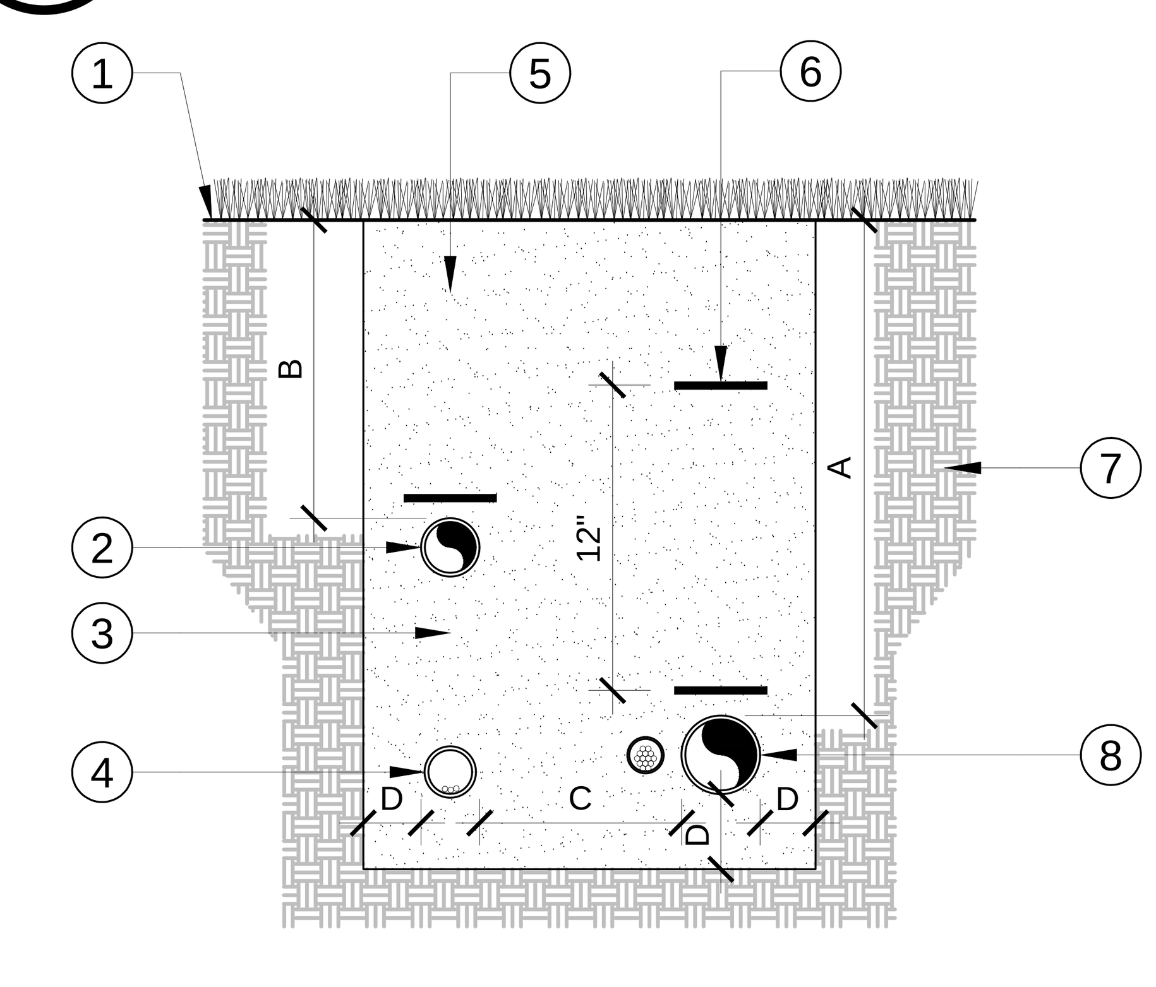


INSTALLATION STEPS

1. STRIP BOTH WIRES. TWIST STRAND AROUND RIGID STRAND OVER HALF THE LENGTH OF STRIPPED WIRES.
2. FOLD THE OTHER HALF OF THE RIGID STRAND OVER TWISTED STRAND AS SHOWN.
3. INSERT THE TWISTED SPLICE INTO THE "Y" ELECTRICAL SPRING CONNECTION AND TWIST OVER WIRE STRANDS IN A CLOCKWISE DIRECTION.
4. INSERT THE CONNECTOR INTO THE GEL-FILLED DIRECT BURY SPLICE KIT. PUSH PAST THE LOCKING FINGERS TO SECURE CONNECTOR INSIDE TUBE.
5. POSITION ALL THE WIRES THROUGH THE DEDICATED INSULATOR CHANNELS AND SNAP INSULATOR TUBE COVER CLOSED.

I WIRE CONNECTOR (RAIN BIRD WC20)
ISOMETRIC — NOT TO SCALE

A



LEGEND

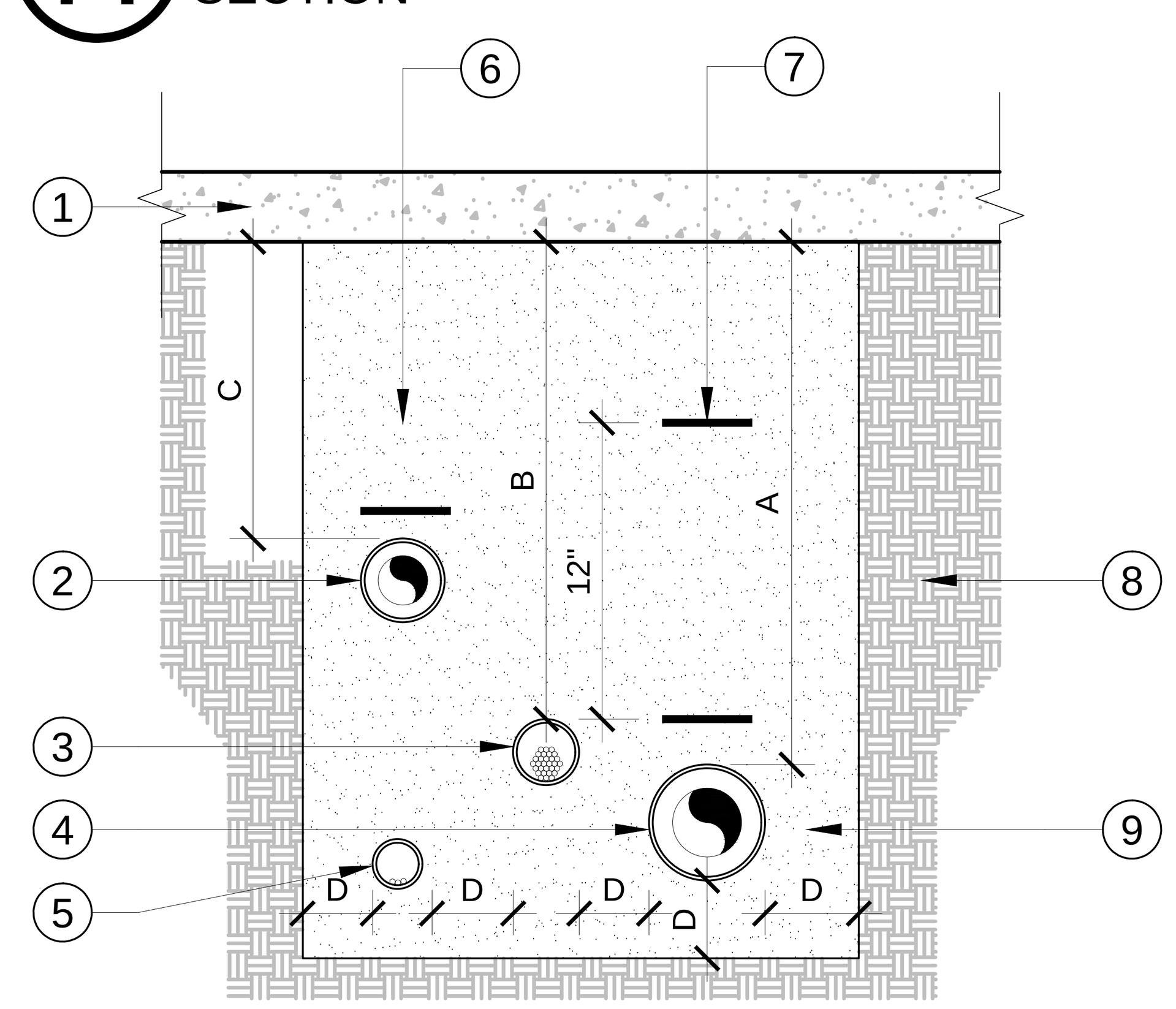
1. FINISH GRADE
2. PURPLE LATERAL LINES, PER SPECIFICATIONS
3. 6" BEDDING DEPTH BELOW MAINLINE WITH 6" COVER, SAND BACKFILL (S.E. 30 OR BETTER) COMPACTED TO THE DENSITY OF EXISTING SOIL
4. 120V WIRING IN GRAY PVC SCH 40 CONDUIT, MIN. 12" AWAY FROM OTHER PIPING. NOTE: ONLY APPLICABLE WHEN 120V LINE CAN BE INSTALLED IN THE IRRIGATION TRENCH
5. CLEAN COMPACTED BACKFILL OVER SAND BEDDING
6. (2) DETECTABLE WARNING TAPES
7. UNDISTURBED SOIL
8. PURPLE MAINLINE AND CONTROL WIRES IN CONDUIT, PER SPECIFICATIONS. MIN. 6" FROM OTHER PIPING

NOTES:

1. DETECTABLE WARNING TAPE SHALL BE PROVIDED FOR ALL PURPLE PRESSURE MAINLINES. STANDARD THICKNESS, 3" WIDTH WITH ALUMINUM CORE. PERMANENTLY PRINTED AND A.P.W.A. UNIFORM COLOR CODE.
2. MAINTAIN 6" BETWEEN PARALLEL PURPLE LATERAL LINES.
3. AS-BUILT IRRIGATION PLANS TO SHOW THE INSTALLED LOCATION OF THE 120 VAC ELECTRICAL LINE FROM THE ELECTRICAL METER PEDESTAL TO THE IRRIGATION CONTROLLER.
4. WHERE FLOW SENSOR WIRE AND MASTER VALVE WIRE CONDUITS ARE IN THE SAME TRENCH, INSTALL SEPARATE WIRE CONDUITS FOR EACH ON OPPOSITE SIDES OF THE TRENCH.

DIMENSION - PEDESTRIAN	A	B	C	D
1/2" TO 2-1/2" SIZE	18"	12"	6"	12"
3" IN SIZE	24"		6"	12"
4" AND LARGER	36"		6"	12"

J TRENCH IN LANDSCAPE
SECTION — NOT TO SCALE



DIMENSION - PEDESTRIAN	A	B	C	D
2" TO 12" SIZE	30"	24"	24"	6"
DIMENSION - VEHICLE	A	B	C	D
4" TO 12" SIZE	36"	30"	30"	6"

LEGEND

1. PAVING
2. PURPLE LATERAL LINE SLEEVE, PER SPECIFICATIONS
3. CONTROL WIRE IN CONDUIT, PER SPECIFICATIONS. MIN. 6" FROM OTHER PIPING. PULL BOX SHALL BE AT EVERY 200 FEET, OR 270 DEGREES CONDUIT BENDS
4. PURPLE MAINLINE SLEEVE, PER SPECIFICATIONS
5. 120V WIRING IN GRAY PVC SCH 40 CONDUIT, MIN. 12" AWAY FROM OTHER PIPING. NOTE: ONLY APPLICABLE WHEN 120V LINE CAN BE INSTALLED IN THE IRRIGATION TRENCH
6. CLEAN COMPACTED FILL OVER SAND BEDDING
7. (2) DETECTABLE WARNING TAPES
8. UNDISTURBED SOIL
9. 6" SAND BEDDING DEPTH WITH 6" COVER SAND BACKFILL (S.E. 30 OR BETTER) COMPACTED TO THE DENSITY OF EXISTING SOIL

NOTES:

1. PURPLE SLEEVES SHALL BE TWICE THE DIAMETER OF THE PIPE OR WIRE BUNDLE CARRIED.
2. DETECTABLE WARNING TAPE SHALL BE PROVIDED FOR ALL PURPLE PRESSURE MAINLINES, STANDARD 5MIL THICKNESS, 3" WIDTH WITH ALUMINUM CORE. PERMANENTLY PRINTED AND A.P.W.A. UNIFORM COLOR CODE.
3. ALL SAND BEDDING AT WALKS AND STREETS SAND BED SHALL BE COMPACTED TO THE DENSITY OF THE EXISTING SOIL REQUIRED PER OWD.
4. SLEEVES AT CURB OR EDGE OF HARDSCAPE SHALL EXTEND 12" BACK UNDER HARDSCAPE.
5. MAINTAIN A SEPARATION OF 6" BETWEEN PARALLEL PURPLE LATERAL LINES.
6. AS-BUILT IRRIGATION PLANS TO SHOW THE INSTALLED LOCATION OF THE 120 VAC ELECTRICAL LINE FROM THE ELECTRICAL METER PEDESTAL TO THE IRRIGATION CONTROLLER.
7. WHERE FLOW SENSOR WIRE AND MASTER VALVE WIRE CONDUITS ARE IN THE SAME TRENCH, INSTALL SEPARATE WIRE CONDUITS FOR EACH ON OPPOSITE SIDES OF THE TRENCH.

INSPECTION NOTE

OTAY WATER DISTRICT INSPECTION SHALL BE NOTIFIED FIVE (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2241. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.

COLOR CODING

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. DECAL ON RISERS WILL NOT BE ACCEPTED.

K TRENCH IN HARDSCAPE
SECTION — NOT TO SCALE

DEH2019-LRWS-001118

OWD# D0894-060253

AS BUILT: SIGNATURE ______ DATE ______ / Printed Name ______ R.C.E. No. ______ / My Registration Expires ______ Discipline ______

UTILITY NOTE: ALL EXISTING UTILITIES SHOWN ON THESE PLANS ARE PLOTTED FROM RECORD DATA AT THEIR APPROXIMATE LOCATIONS. UNDERGROUND FACILITIES MAY EXIST WHICH HAVE NOT BEEN REPORTED OR ARE NOT OF RECORD. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL PERTINENT UTILITIES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION.

LICENSED LANDSCAPE ARCHITECT — BROOKE JP WHALEN — STATE OF CALIFORNIA

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd	DATUMS	SCALE	Designed By:	Drawn By:	Checked By:
CONTRACTOR:	MAP # 15350		DELTA A IRRIGATION REVISIONS	08/18/22		VERTICAL: 446.361 (NAVD 88)	HORIZONTAL N/A	HH	HH	BE
INSPECTOR:								Plans Prepared Under Supervision Of:		Date: 10/11/2021
DATE COMPLETED:	DWG. #'S 16022					HORIZONTAL: I.E. N78°21'27"E NAD 83	VERTICAL N/A	BROOKE JP. WHALEN		R.L.A. No. 5175

CONSULTANT: ktua, 3916 Normal Street, San Diego, CA 92103, 619.294.4477, www.ktua.com

Submitted: ______ By: ______ Office: ______ APPROVED BY: ______ DATE: ______ DIRECTOR OF DEVELOPMENT SERVICES OR DESIGNEE

BID DOCUMENTS - OCTOBER 11, 2021

IRRIGATION DETAILS

CITY OF CHULA VISTA DEVELOPMENT SERVICES DEPARTMENT

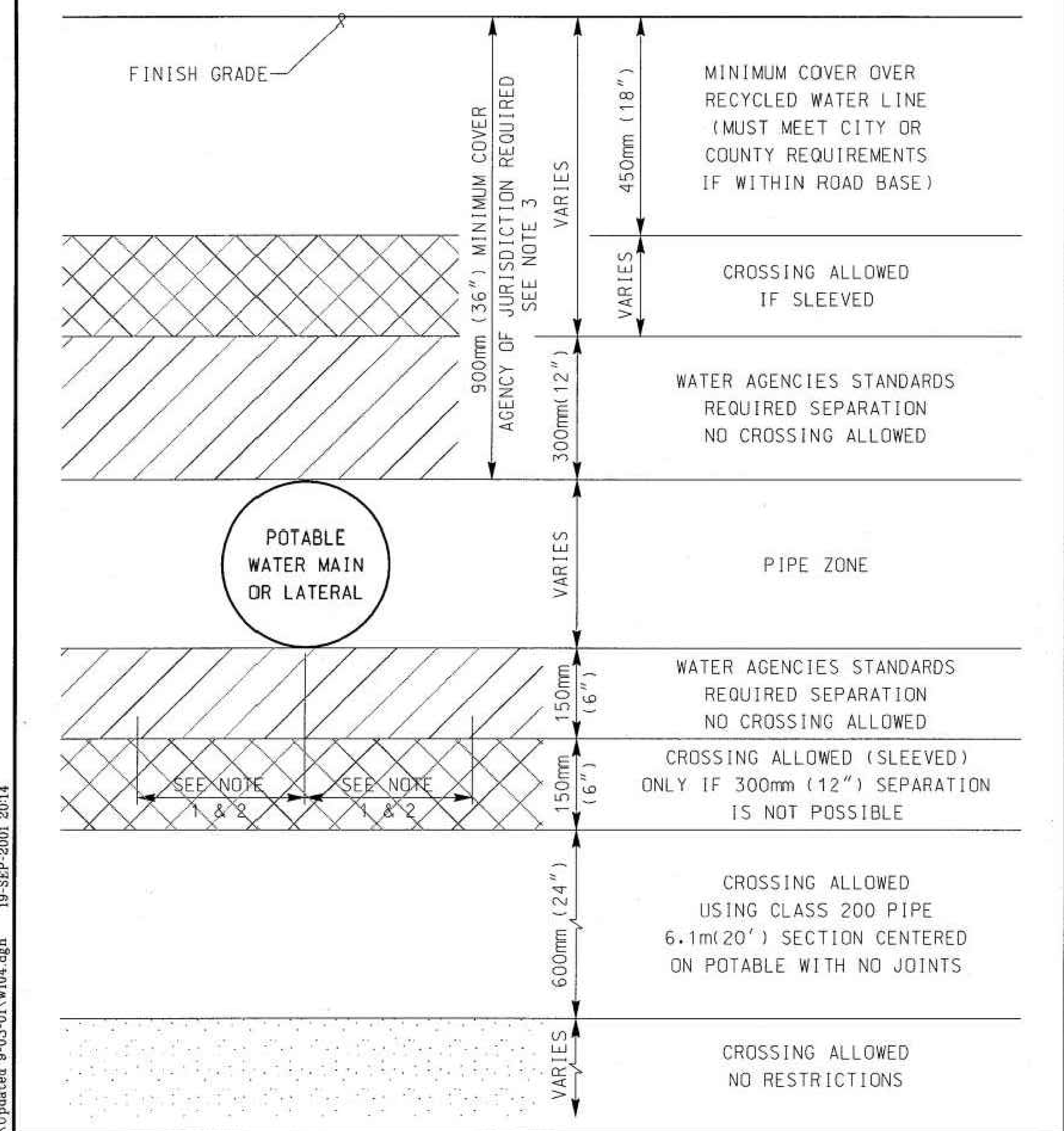
OTAY RANCH VILLAGE 2 P-2 PARK, GROVE PARK

LANDSCAPE DWG NO. LI-11 — SHEET 11 OF 16 — W.O. NO. PRK-0330

DRAWING NO. 19010-49 — SHEET 49 OF 100

PERMIT NO. PLR-19-012

NOTES:
1) EXTEND SLEEVE 1.52m (5') ON EITHER SIDE OF POTABLE WATER LAT'S 75mm (3") DIA OR SMALLER
2) EXTEND SLEEVE 3.05m (10') ON EITHER SIDE OF POTABLE WATER LATERALS 100mm (4") DIAMETER OR LARGER (NO JOINTS IN SLEEVE OR PIPE)
3) IF POTABLE WATER LINE HAS LESS THAN 900mm (36") COVER, RECYCLED WATER LINE MUST CROSS BELOW POTABLE WATER LINE
4) REFER TO THE WATER AGENCIES' STANDARDS DESIGN GUIDE FOR PIPE SEPARATION REQUIREMENTS



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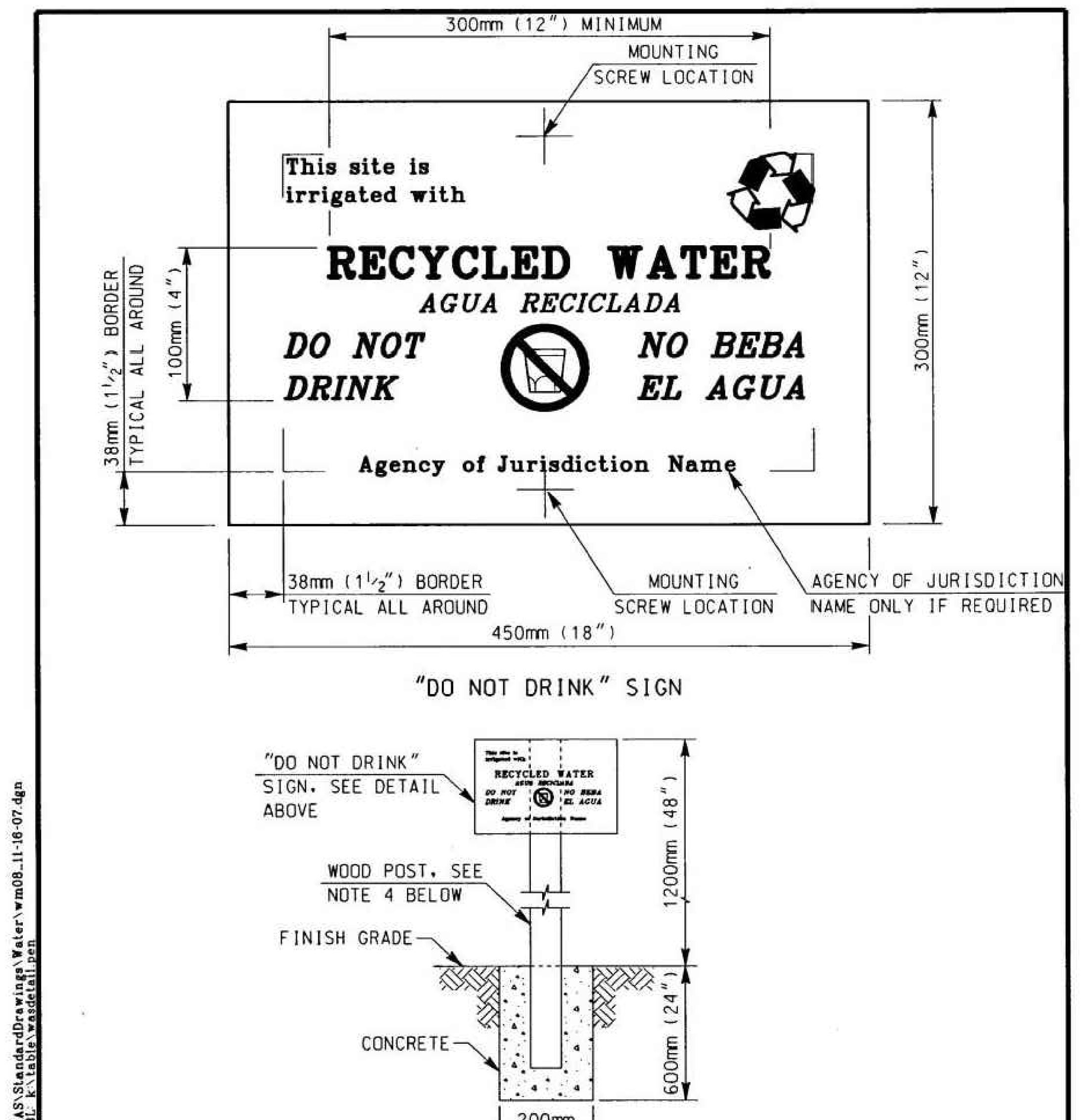
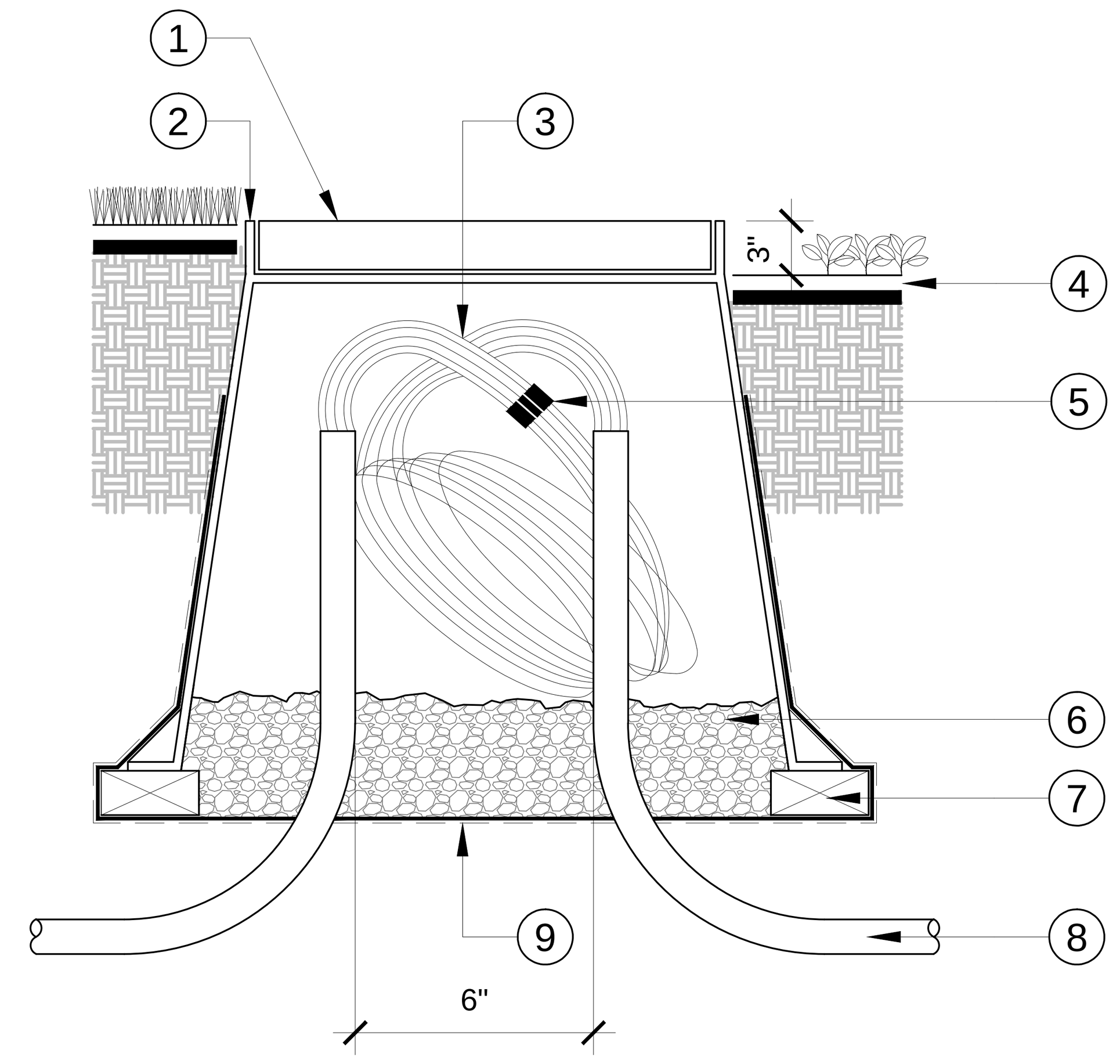
POST METER CONSTANT PRESSURE RECYCLED WATER LINE 75mm (3") DIAMETER OR LESS CROSSING POTABLE WATER MAIN OR LATERAL WITHIN PUBLIC RIGHT OF WAY	WATER AGENCIES STANDARDS
	COMMITTEE APPROVAL: 03/01/2001
	DRAWING NUMBER: WI-04



NOTES:
1) REFER TO SECTION 15151 OF THE SPECIFICATIONS
2) SIGNS SHALL BE MANUFACTURED OF ALUMINUM SHEET. THICKNESS 1.6mm (0.063" OR 18 GAGE)
3) THE SIGN SHALL INCORPORATE A PURPLE BACKGROUND WITH WHITE LETTERS AND SYMBOLS
4) SIGNS SHALL BE MOUNTED ON A 100mm x 100mm (4" x 4") PRESSURE TREATED WOOD POST SET IN CONCRETE. ATTACH THE SIGN TO THE POST USING 6.4mm x 38mm (¼" x 2½") ANODIZED LAG SCREWS AND WASHERS (2 EACH)

h:\WAS&WASDG\2007\WAS&WASDG11-16-07\WAS\StandardDrawings\Water\wm08_11-16-07.dgn 16-NOV-2007 10:21 keng PEN TBL: k:\table\wasdetail.pen

RECYCLED WATER "DO NOT DRINK" SIGN	WATER AGENCIES STANDARDS
	COMMITTEE APPROVAL: 11/16/2007
	DRAWING NUMBER: WM-08



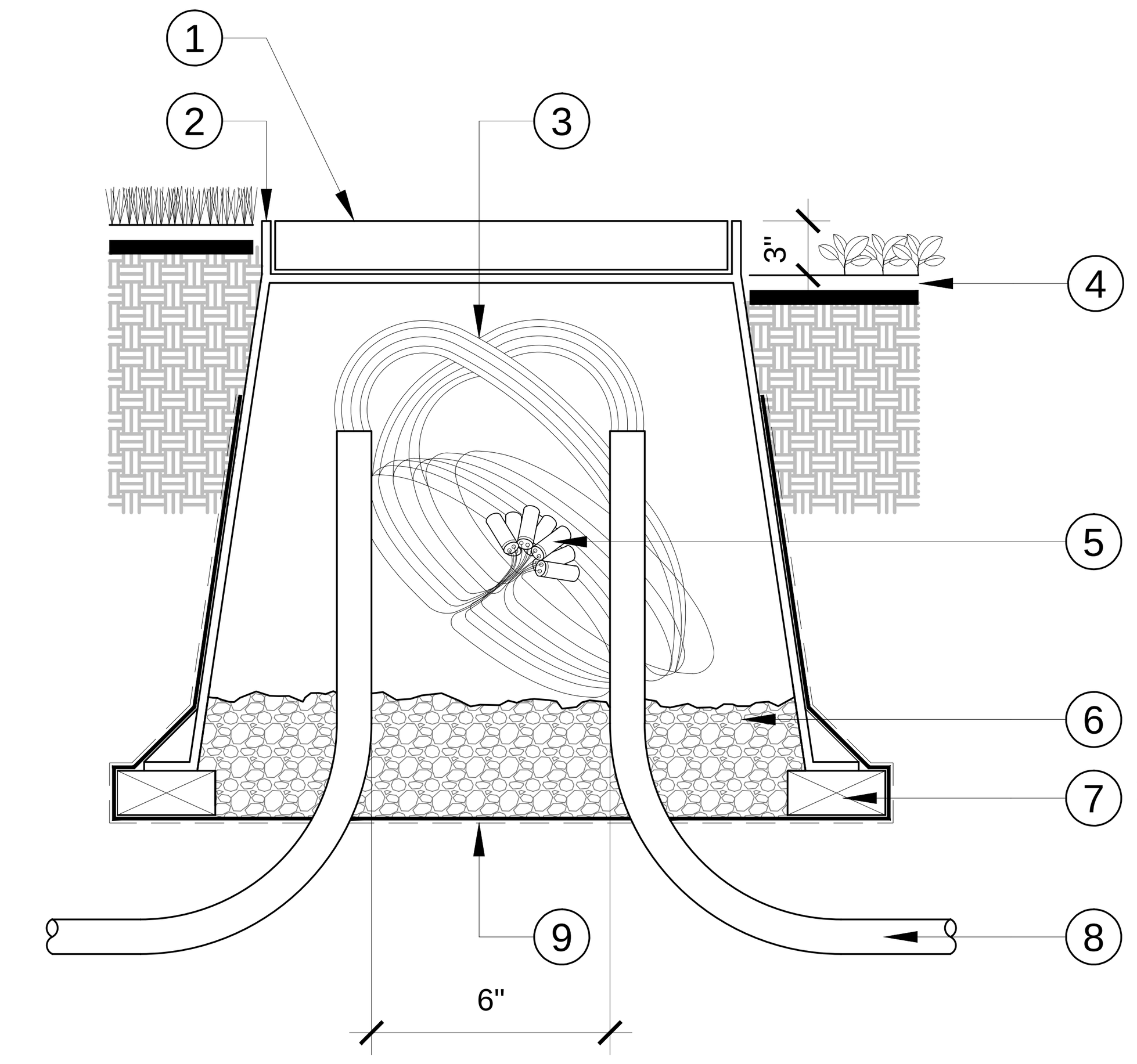
LEGEND

1. PURPLE 6" ROUND PLASTIC VALVE BOX WITH BOLT DOWN PURPLE LID, USE STAINLESS STEEL BOLT, NUT AND WASHER. HEAT BRAND "PB" ONTO LID
2. FINISH GRADE IN TURF AREAS
3. 36" WIRE / CABLE EXPANSION LOOP (TYP.)
4. FINISH GRADE IN SHRUB AREAS
5. PVC ADHESIVE TAPE
6. 3/8" ROCK, 2 CUBIC FEET, TYP.
7. (4) BRICK SUPPORTS
8. PVC ELECTRICAL SWEEP - 3/4" TO 1-1/4" DIA. (WIRING IN CONDUIT). REFER TO DETAIL 'S'
9. FILTER FABRIC (MIRAFI #140N). WRAP 1 LAYER AROUND BOX COVERING HOLES WITH 1/4" GALV. WIRE MESH, OR DURA DRY BOX WITH SNAP-ON BOTTOM FEATURE

NOTES:

1. SWEEPS AND PULL BOXES SHALL BE NO MORE THAN 200 FEET MAX.
2. NO CONDUIT BENDS GREATER THAN 270 DEGREES.

(L) ROUND PULL BOX
SECTION — NOT TO SCALE



LEGEND

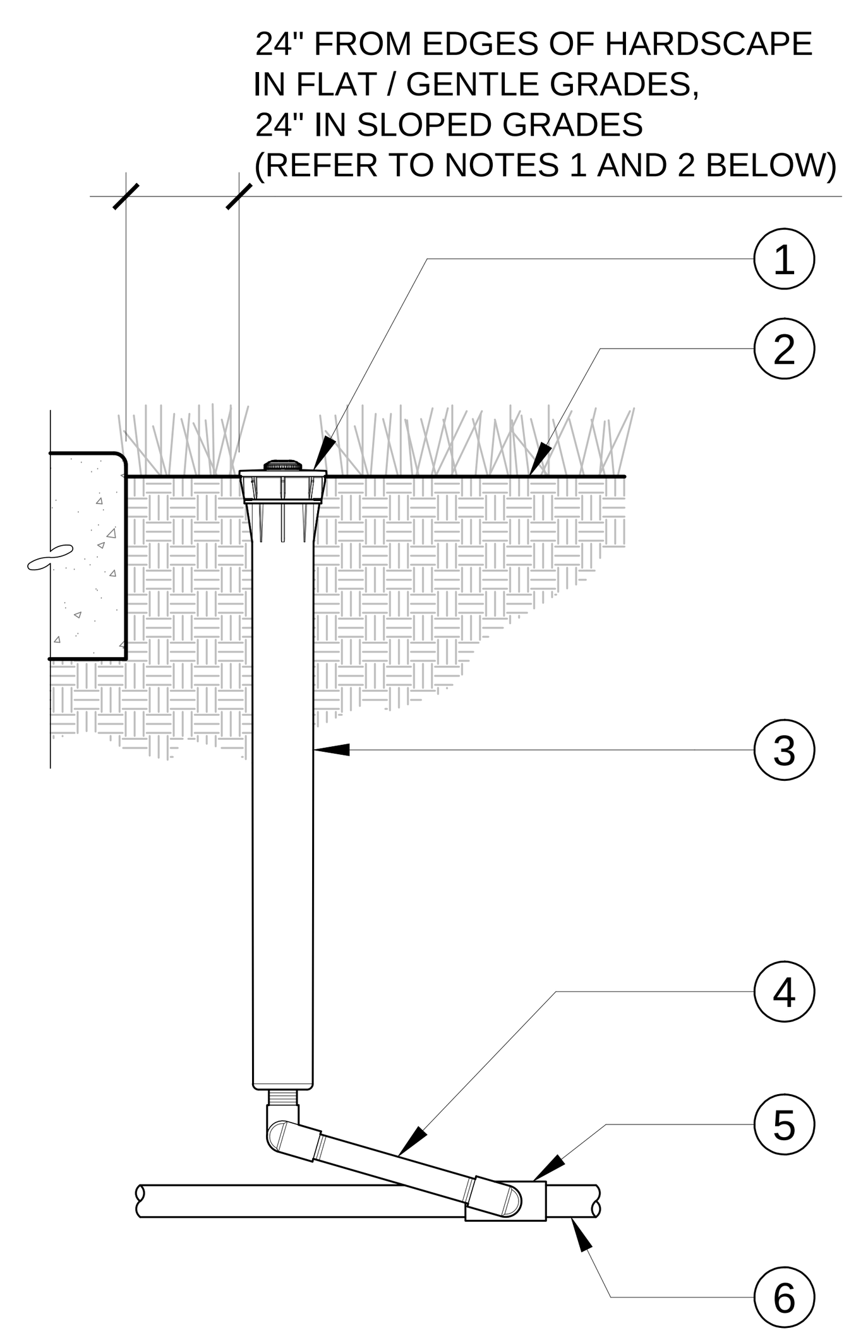
1. PURPLE 10" ROUND PLASTIC VALVE BOX WITH BOLT DOWN PURPLE LID, USE STAINLESS STEEL BOLT, NUT AND WASHER. HEAT BRAND "PB" ONTO LID
2. FINISH GRADE IN TURF AREAS
3. PROVIDE 18" MIN. WIRE LEAD FROM EACH SWEEP
4. FINISH GRADE IN SHRUB AREAS
5. RAINBIRD WC20 OR APPROVED CONNECTOR PER CONTROLLER MANUFACTURER SPECIFICATIONS.
6. 3/8" ROCK, 2 CUBIC FEET, TYP.
7. (4) BRICK SUPPORTS
8. PVC ELECTRICAL SWEEP - 3/4" TO 1-1/4" DIA. (WIRING IN CONDUIT).
9. FILTER FABRIC (MIRAFI #140N). WRAP 1 LAYER AROUND BOX COVERING HOLES WITH 1/4" GALV. WIRE MESH, OR DURA DRY BOX WITH SNAP-ON BOTTOM FEATURE

A

NOTES:

1. WIRE SPLICE BOXES SHALL BE NO LESS THAN 500 FEET APART.
2. NO CONDUIT BENDS GREATER THAN 270 DEGREES.

(M) WIRE SPLICE BOX
SECTION — NOT TO SCALE



LEGEND

1. INSTALL 2" ABOVE FINISH GRADE IN SHRUB AREAS / FLUSH WITH FINISH GRADE IN TURF AREAS
2. FINISH GRADE
3. POP-UP BODY WITH SPRAY / ROTATOR NOZZLE. REFER TO LEGEND
4. SWING JOINT ASSEMBLY, (3) PVC SCH 40 STREET ELLS WITH (1) PVC SCH 80 NIPPLE
5. LINE SIZE PVC SCH 40 SLIP X SLIP X 1/2" FIPT TEE OR LINE SIZE SLIP X 1/2" FIPT ELL AT TERMINAL ENDS
6. PVC NON-PRESSURE LATERAL LINE. REFER TO PLAN FOR SIZE. 12" MIN. SOIL COVER FOR ALL 6" POP-UP HEADS, 18" MIN. SOIL COVER FOR ALL 12" POP-UP HEADS

NOTES:

1. REFER TO PLANS FOR SPECIFIC DIMENSIONS AND IRRIGATION NOTES FOR SPRINKLER PLACEMENT.
2. DISTANCES MAY NEED ADJUSTMENT ACCORDING TO SPECIFIC LOCATION, TYPE AND HEAD ETC. SEE CITY OF CHULA VISTA LANDSCAPE WATER CONSERVATION ORDINANCE, CHAPTER 20.12 OF THE MUNICIPAL CODE. WHERE LOW VOLUME IRRIGATION IS IN USE OR ADJACENT PAVING DRAINS ENTIRELY INTO PLANTED AREA, THE DISTANCE BETWEEN EDGE OF HARDSCAPE AND POP-UP BODY TO BE 3"
3. USE TEFLON TAPE ON ALL THREADED CONNECTIONS.
4. POP-UP INDICATOR HEAD FOR TREE BUBBLER ZONES SHALL BE LOCATED ON THE LATERAL LINE NEAR THE REMOTE CONTROL VALVE THAT CONTROLS ZONE.

(N) 6" / 12" POP-UP SPRAY / ROTATOR HEAD
SECTION — NOT TO SCALE

INSPECTION NOTE

OTAY WATER DISTRICT INSPECTION SHALL BE NOTIFIED FIVE (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2241. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.

COLOR CODING

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. DECAL ON RISERS WILL NOT BE ACCEPTED.

DEH2019-LRWS-001118

OWD# D0894-060253

AS BUILT

____________________ DATE ________
SIGNATURE
____________________ R.L.A. No. ______
Printed Name
My Registration Expires ______ Discipline______

UTILITY NOTE

ALL EXISTING UTILITIES SHOWN ON THESE PLANS ARE PLOTTED FROM RECORD DATA AT THEIR APPROXIMATE LOCATIONS. UNDERGROUND FACILITIES MAY EXIST WHICH HAVE NOT BEEN REPORTED OR ARE NOT OF RECORD. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL PERTINENT UTILITIES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION.

LICENSED LANDSCAPE ARCHITECT BROOKE JP WHALEN 5175 Signature 09/30/2024 Renewal Date 8/1/22 Date STATE OF CALIFORNIA

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd	DATUMS	SCALE
CONTRACTOR:	MAP # 15350		DELTA A IRRIGATION REVISIONS	08/18/22		VERTICAL: 446.361 (NAVD 88)	HORIZONTAL
INSPECTOR:						HORIZONTAL: I.E. N78"21'27"E NAD 83	N/A
DATE COMPLETED:	DWG. #'S 16022						VERTICAL
							N/A

Designed By:	Drawn By:	Checked By:
HH	HH	BE

Plans Prepared Under Supervision Of: Date: 10/11/2021
BROOKE JP. WHALEN R.L.A No. 5175

CONSULTANT

ktua
3916 Normal Street
San Diego, CA 92103
619.294.4477
www.ktua.com

Submitted: ________
By: ________
Office:

APPROVED BY: DATE: ______
DIRECTOR OF DEVELOPMENT SERVICES OR DESIGNEE

BID DOCUMENTS - OCTOBER 11, 2021

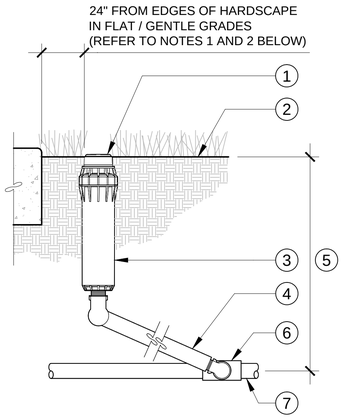
IRRIGATION DETAILS

CITY OF CHULA VISTA DEVELOPMENT SERVICES DEPARTMENT

OTAY RANCH VILLAGE 2 P-2 PARK,
GROVE PARK

LANDSCAPE DWG NO.
LI-12
SHEET 12 OF 16
W.O. NO. PRK-0330
DRAWING NO.
19010-50
SHEET 50 OF 100

PERMIT NO. PLR-19-012



LEGEND

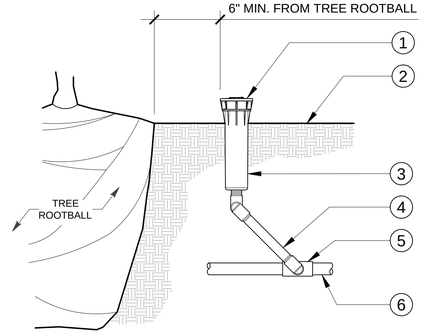
1. INSTALL FLUSH WITH FINISH GRADE IN TURF AREAS
2. FINISH GRADE
3. POP-UP BODY. REFER TO LEGEND
4. SWING JOINT ASSEMBLY, (3) PVC SCH 40 STREET ELLS WITH (1) PVC SCH 80 NIPPLE, ¾" PARTS ASSEMBLY
5. SEE SPECIFICATIONS FOR DEPTH
6. PVC SCH 40 TEE (SST) OR ELL (ST)
7. PVC NON-PRESSURE LATERAL LINE. REFER TO PLAN FOR SIZE

NOTES:

1. REFER TO PLANS FOR SPECIFIC DIMENSIONS AND IRRIGATION NOTES FOR SPRINKLER PLACEMENT.
2. DISTANCES MAY NEED ADJUSTMENT ACCORDING TO SPECIFIC LOCATION, TYPE AND HEAD ETC. SEE CITY OF CHULA VISTA LANDSCAPE WATER CONSERVATION ORDINANCE, CHAPTER 20.12 OF THE MUNICIPAL CODE.
   WHERE LOW VOLUME IRRIGATION IS IN USE OR WHERE ADJACENT PAVING DRAINS ENTIRELY INTO PLANTED AREA, THE DISTANCE BETWEEN EDGE OF HARDSCAPE AND POP-UP BODY TO BE 3"
3. USE TEFLON TAPE ON ALL THREADED CONNECTIONS.

O 6" / 12" POP-UP GEAR DRIVEN ROTOR

SECTION — NOT TO SCALE



LEGEND

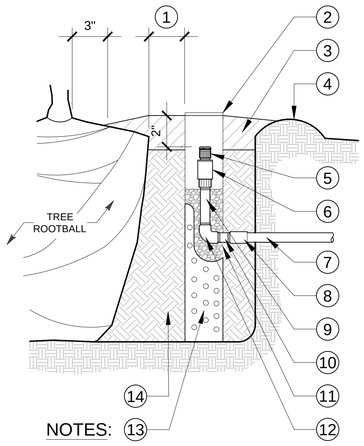
1. INSTALL 2" ABOVE FINISH GRADE IN SHRUB AREAS / FLUSH WITH FINISH GRADE IN TURF AREAS
2. FINISH GRADE
3. POP-UP BODY WITH BUBBLER NOZZLE. REFER TO LEGEND
4. SWING JOINT ASSEMBLY, (3) PVC SCH 40 STREET ELLS WITH (1) PVC SCH 80 NIPPLE
5. LINE SIZE PVC SCH 40 SLIP X SLIP X ½" FIPT TEE OR LINE SIZE SLIP X ½" FIPT ELL AT TERMINAL ENDS
6. PVC NON-PRESSURE LATERAL LINE. REFER TO PLAN FOR SIZE. 12" MIN. SOIL COVER FOR ALL 6" POP-UP HEADS, 18" MIN. SOIL COVER FOR ALL 12" POP-UP HEADS

NOTES:

1. SEE CITY OF CHULA VISTA LANDSCAPE WATER CONSERVATION ORDINANCE, CHAPTER 20.12 OF THE MUNICIPAL CODE.
2. USE TEFLON TAPE ON ALL THREADED CONNECTIONS.
3. REFER TO PLANTING PLAN FOR TREE LOCATIONS, SIZE, AND TYPE. VERIFY ON SITE THAT ALL POP-UP BUBBLERS ARE AT CORRECT TREE LOCATIONS AND HAVE THE CORRECT NUMBER OF POP-UP BUBBLERS INSTALLED FOR THEIR SIZE AND TYPE. COORDINATE ON SITE WITH LANDSCAPE ARCHITECT FOR TREE LOCATIONS.
4. INSTALL BUBBLERS EQUIDISTANT FROM EACH OTHER AROUND TREES. TYP.
5. ON SLOPES, INSTALL BUBBLERS ON UPHILL SIDE OF TREE.

P 4" POP-UP BUBBLER HEAD

SECTION — NOT TO SCALE



LEGEND

1. BUBBLER MIN. 6" FROM EDGE OF ROOTBALL
2. BUBBLER TUBE WITH PURPLE FLAT DRAIN GRATE, FLUSH WITH TOP OF MULCH
3. MULCH
4. WATERING BERM
5. BUBBLER NOZZLE. SEE IRRIGATION LEGEND
6. ANTI-DRAIN VALVE
7. LATERAL LINE, SEE SPECIFICATIONS FOR DEPTH
8. COUPLING FIPT X LINE SIZE SLIP
9. ½" RISER, LENGTH AS REQUIRED
10. ½" NIPPLE, LENGTH AS REQUIRED
11. DRILL HOLE IN PERFORATED PIPE TWICE THE DIAMETER OF LATERAL PIPE
12. FIPT X FIPT ½" ELBOW
13. 4" PERFORATED PIPE RESTING ON BOTTOM OF PLANT PIT. FILL PIPE FROM BOTTOM OF PIPE TO BOTTOM OF ANTI-DRAIN VALVE WITH ⅜" PEA GRAVEL. WRAP ENTIRE PERFORATED PIPE WITH ONE LAYER OF FILTER FABRIC.
14. APPROVED BACKFILL MATERIAL

NOTES:

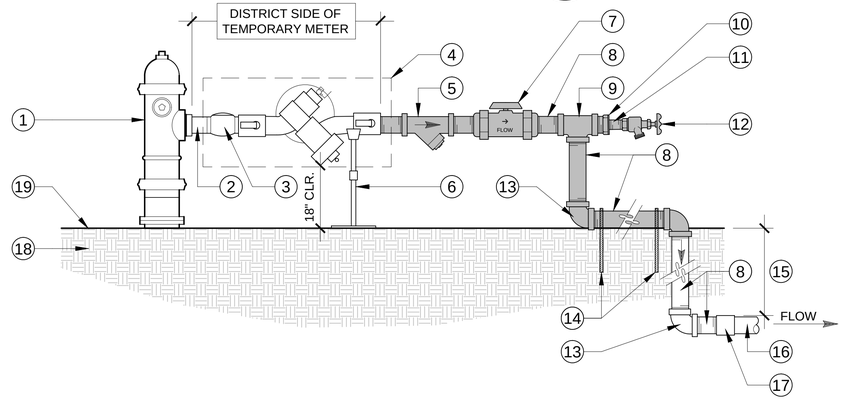
1. PLACE BUBBLER ON UPHILL SIDE OF TREE, OPPOSITE TREE DRAIN. INSTALL BUBBLER INSIDE PLANTING HOLE ADJACENT TO ROOTBALL.
2. USE TEFLON TAPE ON ALL THREADED CONNECTIONS.

Q FIXED BUBBLER IN PERFORATED PIPE

SECTION — NOT TO SCALE

NOTES:

1. ALL THREADED CONNECTIONS TO HAVE TEFLON TAPE OR PASTE.
2. PAINT ALL ABOVE GRADE EQUIPMENT / PIPING AND FITTINGS ON DOWNSTREAM SIDE OF OTAY WATER DISTRICT INSTALLED BACKFLOW PREVENTER ASSEMBLY WITH APPROVED OTAY WATER DISTRICT PURPLE COLOR.



LEGEND

1. FIRE HYDRANT
2. BRASS FIRE HYDRANT COUPLER
3. TEMPORARY 2" CONSTRUCTION WATER METER
4. TEMPORARY 2" CONSTRUCTION WATER METER AND BACKFLOW TO BE INSTALLED BY OTAY WATER DISTRICT
5. Y-STRAINER (SAME SIZE AS BACKFLOW PREVENTER) (WILKINS 500XL-YSBR-HR) (SET PRESSURE REGULATOR AT 95 PSI, FIELD TEST)
6. PIPE SUPPORT
7. BALL VALVE
8. BRASS NIPPLE (LENGTH AS REQUIRED). ALL EXPOSED PIPE SHALL BE THREADED BRASS
9. BRASS TEE
10. BRASS BUSHING REDUCER
11. BRASS NIPPLE (LENGTH AS REQUIRED) TO HOSE BIB
12. HOSE BIB (BENT HOSE, LOOSE KEY TYPE)
13. BRASS ELBOW
14. 'U' HOOK REBAR, LENGTH AS REQUIRED. DRIVE INTO SOIL A MIN. 18" DEEP
15. SEE SPECIFICATIONS FOR DEPTH
16. PVC PRESSURE PIPE (SEE SPECIFICATIONS) TEMPORARY POINT OF CONNECTION
17. THREADED BRASS COUPLING WITH PVC SCH 80 MALE ADAPTER
18. UNDISTURBED / COMPACTED SUBGRADE
19. FINISH GRADE

R WATER SOURCE AT FIRE HYDRANT (TEMPORARY CONSTRUCTION)

SECTION — NOT TO SCALE

INSPECTION NOTE

OTAY WATER DISTRICT INSPECTION SHALL BE NOTIFIED FIVE (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2241. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.

COLOR CODING

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. DECAL ON RISERS WILL NOT BE ACCEPTED.

AS BUILT

_____ DATE _____
SIGNATURE
_____ R.L.A. No. _____
Printed Name
My Registration Expires _____ Discipline_____

UTILITY NOTE

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LICENSED LANDSCAPE ARCHITECT — BROOKE JP WHALEN — 5175 — 8/31/2024 — STATE OF CALIFORNIA

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd
CONTRACTOR:	MAP # 15350		DELTA A IRRIGATION REVISIONS	08/18/22	
INSPECTOR:					
DATE COMPLETED:	DWG. #'S 16022				

DATUMS	SCALE	Designed By:	Drawn By:	Checked By:
VERTICAL: 446.361 (NAVD 88)	HORIZONTAL	HH	HH	BE
HORIZONTAL: I.E. N78°21'27"E NAD 83	N/A	Plans Prepared Under Supervision Of:		Date: 10/11/2021
	VERTICAL	BROOKE JP. WHALEN		R.L.A. No. 5175
	N/A			

CONSULTANT

ktua
3916 Normal Street
San Diego, CA 92103
619.294.4477
www.ktua.com

Submitted: _____
By: _____
Office: _____

APPROVED BY: _____ DATE: _____
DIRECTOR OF DEVELOPMENT SERVICES OR DESIGNEE

BID DOCUMENTS - OCTOBER 11, 2021

IRRIGATION DETAILS

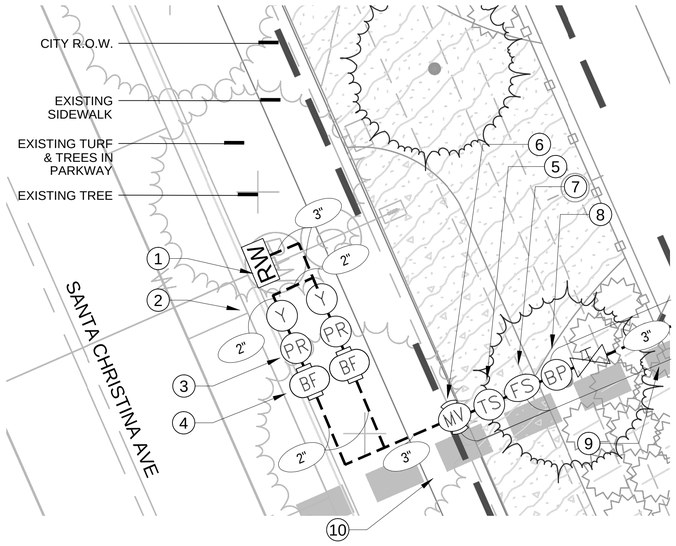
CITY OF CHULA VISTA DEVELOPMENT SERVICES DEPARTMENT
OTAY RANCH VILLAGE 2 P-2 PARK,
GROVE PARK

LANDSCAPE DWG NO.
LI-13
SHEET 13 OF 16
W.O. NO. PRK-0330
DRAWING NO.
19010-51
SHEET 51 OF 100

PERMIT NO. PLR-19-012

DEH2019-LRWS-001118

OWD# D0894-060253



LEGEND

1. 2" RECYCLED WATER METER
2. 2" Y-STRAINER (QUANTITY: 2)
3. 2" PRESSURE REGULATOR (QUANTITY: 2)
4. 2" BACKFLOW PREVENTER IN ENCLOSURE (QUANTITY: 2)
5. RECYCLED WATER TEST STATION
6. 2" MASTER VALVE
7. 2" FLOW SENSOR
8. BOOSTER PUMP
9. TO IRRIGATION SYSTEM
10. REMOVE & REPLACE EXISTING CONCRETE SIDEWALK PANEL FOR NEW IRRIGATION MAINLINE

S P.O.C. ENLARGEMENT
SECTION — NOT TO SCALE

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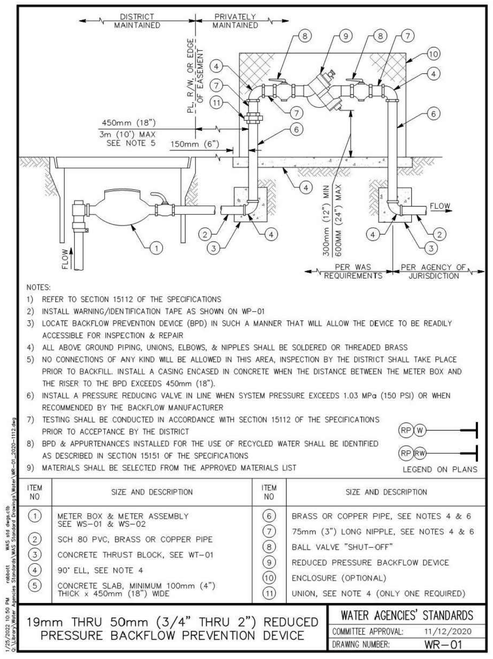


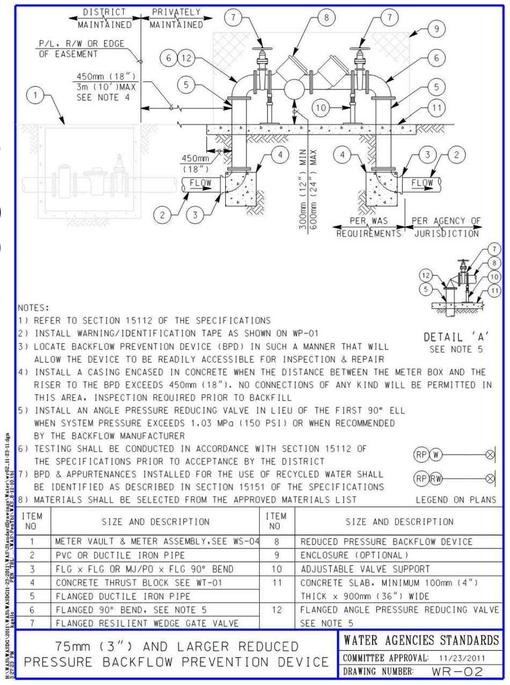
NOTES:
1) REFER TO SECTION 15112 OF THE SPECIFICATIONS
2) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
3) LOCATE BACKFLOW PREVENTION DEVICE (BPD) IN SUCH A MANNER THAT WILL ALLOW THE DEVICE TO BE READILY ACCESSIBLE FOR INSPECTION & REPAIR
4) ALL ABOVE GROUND PIPING, UNIONS, ELBOWS, & NIPPLES SHALL BE SOLDERED OR THREADED BRASS
5) NO CONNECTIONS OF ANY KIND WILL BE ALLOWED IN THIS AREA, INSPECTION BY THE DISTRICT SHALL TAKE PLACE PRIOR TO BACKFILL. INSTALL A CASING ENCASED IN CONCRETE WHEN THE DISTANCE BETWEEN THE METER BOX AND THE RISER TO THE BPD EXCEEDS 450mm (18").
6) INSTALL A PRESSURE REDUCING VALVE IN LINE WHEN SYSTEM PRESSURE EXCEEDS 1.03 MPa (150 PSI) OR WHEN RECOMMENDED BY THE BACKFLOW MANUFACTURER
7) TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH SECTION 15112 OF THE SPECIFICATIONS PRIOR TO ACCEPTANCE BY THE DISTRICT
8) BPD & APPURTENANCES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
9) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

RP(W) RP(RW) — LEGEND ON PLANS

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	METER BOX & METER ASSEMBLY SEE WS-01 & WS-02	6	BRASS OR COPPER PIPE, SEE NOTES 4 & 6
2	SCH 80 PVC, BRASS OR COPPER PIPE	7	75mm (3") LONG NIPPLE, SEE NOTES 4 & 6
3	CONCRETE THRUST BLOCK, SEE WT-01	8	BALL VALVE "SHUT-OFF"
4	90° ELL, SEE NOTE 4	9	REDUCED PRESSURE BACKFLOW DEVICE
5	CONCRETE SLAB, MINIMUM 100mm (4") THICK x 450mm (18") WIDE	10	ENCLOSURE (OPTIONAL)
		11	UNION, SEE NOTE 4 (ONLY ONE REQUIRED)

19mm THRU 50mm (3/4" THRU 2") REDUCED PRESSURE BACKFLOW PREVENTION DEVICE

WATER AGENCIES' STANDARDS
COMMITTEE APPROVAL: 11/12/2020
DRAWING NUMBER: WR-01



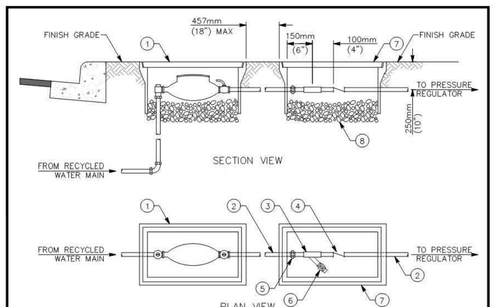
NOTES:
1) REFER TO SECTION 15112 OF THE SPECIFICATIONS
2) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
3) LOCATE BACKFLOW PREVENTION DEVICE (BPD) IN SUCH A MANNER THAT WILL ALLOW THE DEVICE TO BE READILY ACCESSIBLE FOR INSPECTION & REPAIR
4) INSTALL A CASING ENCASED IN CONCRETE WHEN THE DISTANCE BETWEEN THE METER BOX AND THE RISER TO THE BPD EXCEEDS 450mm (18"). NO CONNECTIONS OF ANY KIND WILL BE PERMITTED IN THIS AREA. INSPECTION REQUIRED PRIOR TO BACKFILL
5) INSTALL AN ANGLE PRESSURE REDUCING VALVE IN LIEU OF THE FIRST 90° ELL WHEN SYSTEM PRESSURE EXCEEDS 1.03 MPa (150 PSI) OR WHEN RECOMMENDED BY THE BACKFLOW MANUFACTURER
6) TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH SECTION 15112 OF THE SPECIFICATIONS PRIOR TO ACCEPTANCE BY THE DISTRICT
7) BPD & APPURTENANCES INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

RP(W) RP(RW) — LEGEND ON PLANS

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	METER VAULT & METER ASSEMBLY, SEE WS-04	8	REDUCED PRESSURE BACKFLOW DEVICE
2	PVC OR DUCTILE IRON PIPE	9	ENCLOSURE (OPTIONAL)
3	FLG x FLG OR MJ/PO x FLG 90° BEND	10	ADJUSTABLE VALVE SUPPORT
4	CONCRETE THRUST BLOCK SEE WT-01	11	CONCRETE SLAB, MINIMUM 100mm (4") THICK x 900mm (36") WIDE
5	FLANGED DUCTILE IRON PIPE		
6	FLANGED 90° BEND, SEE NOTE 5	12	FLANGED ANGLE PRESSURE REDUCING VALVE SEE NOTE 5
7	FLANGED RESILIENT WEDGE GATE VALVE		

75mm (3") AND LARGER REDUCED PRESSURE BACKFLOW PREVENTION DEVICE

WATER AGENCIES STANDARDS
COMMITTEE APPROVAL: 11/23/2011
DRAWING NUMBER: WR-02



METER	Y-STRAINER	CHECK VALVE	PRESSURE REGULATOR	MASTER VALVE	TEST STATION	FLOW SENSOR

POC SEQUENCE

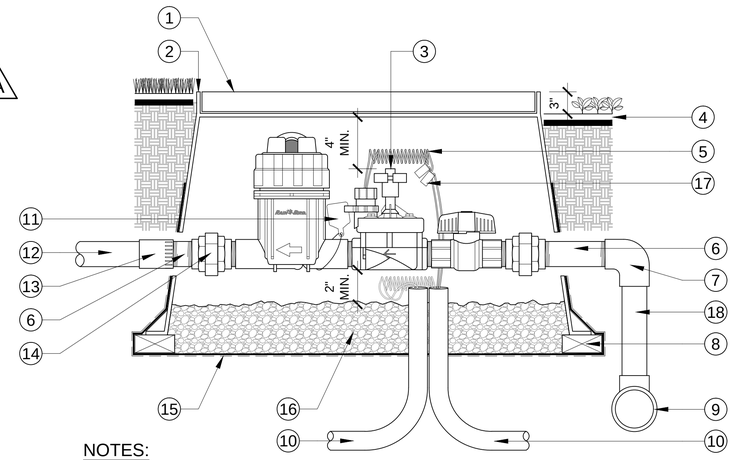
NOTES:
1) REFER TO SECTION 15151 AND 15152 OF THE SPECIFICATIONS
2) SET TOP OF METER BOX FLUSH WITH SIDEWALK, CURB, OR FINISH GRADE
3) INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
4) WATER LATERALS INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
5) INSTALL WYE STRAINER HORIZONTAL TO SERVICE LATERAL
6) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST
7) A MORE PRESCRIPTIVE METHOD OF BACKFLOW PREVENTION MAY BE REQUIRED AS SHOWN ON THE APPROVED PLANS
8) WHEN THE POC SEQUENCE IS MORE THAN 2 FEET, INSTALL A SLEEVE AND ENCASE THE LINE IN SLURRY

ITEM NO	SIZE AND DESCRIPTION	ITEM NO	SIZE AND DESCRIPTION
1	METER ASSEMBLY PER WS-01 & WS-02	6	13mm (1/2") BRASS BALL VALVE W/BRASS HANDLE
2	BRASS OR COPPER PIPE	7	METER BOX WITH LID 250mm x 500mm (10"x20") OR 425mm x 750mm (17"x30")
3	WYE STRAINER, SEE NOTE 5	8	10mm (3/8") ROCK, 100mm TO 150mm (4" TO 6") DEEP
4	BRASS CHECK VALVE		
5	SCREWED BRASS UNION		

25mm (1") AND 50mm (2") RECYCLED WATER IRRIGATION CHECK VALVE INSTALLATION

WATER AGENCIES' STANDARDS
COMMITTEE APPROVAL: 01/26/2022
DRAWING NUMBER: WR-03

A



NOTES:
1. ALL THREADED CONNECTIONS TO HAVE TEFLON TAPE OR PASTE.
2. ALL FITTINGS SHALL BE PVC SCH 80, TYPICAL.
3. ALL SYMBOLS ARE TYPICAL.
4. PAINT REMOTE CONTROL VALVE AND FITTINGS WITH APPROVED OTAY WATER DISTRICT PURPLE COLOR.

U REMOTE CONTROL VALVE WITH PRESSURE REGULATING FILTER ASSEMBLY
SECTION — NOT TO SCALE

LEGEND

1. PURPLE PLASTIC RECT. VALVE BOX WITH BOLT DOWN PURPLE LID, USE S.S. BOLT, NUT AND WASHER, BOX TO BE PLACED AT RIGHT ANGLE TO HARDSCAPE EDGE. HEAT BRAND "RCV" & CONT. STA. # ONTO LID
2. FINISH GRADE IN TURF AREAS
3. IRRIGATION CONTROL VALVE ASSEMBLY (BALL VALVE, RCV REMOTE CONTROL VALVE WITH INTEGRATED VALVE MODULE, AND PRESSURE REGULATING 40 PSI FILTER). SEE LEGEND FOR SPECIFICATION
4. FINISH GRADE IN SHRUB AREAS
5. 36" WIRE / CABLE LOOP
6. PVC SCH 80 NIPPLES (TYP.) LENGTH AS REQUIRED
7. PVC SCH 80 (S X T)
8. (4) BRICK SUPPORTS
9. PVC SCH 80 TEE OR ELL (SLIP)
10. WIRE / CABLE IN 3/4" DIA. CONDUIT
11. RECYCLED WATER VALVE I.D. TAG. (THREAD NYLON TIE THROUGH HOLE IN TAG)
12. PURPLE LATERAL LINE
13. PVC SCH 80 FEMALE ADAPTER
14. PVC SCH 80 UNION (TWO)
15. FILTER FABRIC (MIRAFI #140N). WRAP 1 LAYER AROUND BOX COVERING HOLES WITH 1/4" GALV. WIRE MESH, OR DURA DRY BOX WITH SNAP-ON BOTTOM FEATURE
16. 3/8" ROCK, 2 CUBIC FEET, TYP.
17. RAINBIRD WC20 OR APPROVED CONNECTOR PER CONTROLLER MANUFACTURER SPECIFICATIONS.
18. PVC SCH 80 PIPE

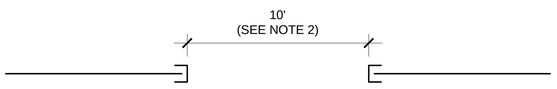
A

INSPECTION NOTE

OTAY WATER DISTRICT INSPECTION SHALL BE NOTIFIED FIVE (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2241. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.

COLOR CODING

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. DECAL ON RISERS WILL NOT BE ACCEPTED.



NOTES:

1. STUBOUTS SHALL BE VISIBLE AT ALL TIMES (12" MIN. ABOVE EXISTING GRADE)
2. MAINTAIN 10-FOOT MIN. SEPARATION BETWEEN EXISTING AND PROPOSED IRRIGATION SYSTEM AT ALL TIMES DURING CONSTRUCTION.
3. CONTRACTOR SHALL SATISFY ALL THE REQUIREMENTS OF THE SD WAS STANDARD SPECIFICATIONS, AND DRAWINGS PRIOR TO SCHEDULING THE FINAL CONNECTION WITH OTAY WATER DISTRICT.
4. CONTRACTOR SHALL PERFORM FINAL CONNECTION WITH DISTRICT REPRESENTATIVE(S) PRESENT AT TIME OF FINAL CONNECTION BETWEEN EXISTING AND PROPOSED IRRIGATION SYSTEMS.

T OWD 10-FOOT SEPARATION DETAIL
SECTION — NOT TO SCALE

AS BUILT

_____ DATE _____
SIGNATURE
_____ R.L.A. No. _____
Printed Name
My Registration Expires _____ Discipline_____

UTILITY NOTE

ALL EXISTING UTILITIES SHOWN ON THESE PLANS ARE PLOTTED FROM RECORD DATA AT THEIR APPROXIMATE LOCATIONS. UNDERGROUND FACILITIES MAY EXIST WHICH HAVE NOT BEEN REPORTED OR ARE NOT OF RECORD. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL PERTINENT UTILITIES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION.

LICENSED LANDSCAPE ARCHITECT — BROOKE JP WHALEN — No. 5175 — 10/11/2021 — STATE OF CALIFORNIA

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd	DATUMS
CONTRACTOR:	MAP # 15350		DELTA A IRRIGATION REVISIONS	08/18/22		VERTICAL: 446.361 (NAVD 88)
INSPECTOR:						HORIZONTAL: I.E. N78°21'27"E NAD 83
DATE COMPLETED:	DWG. #'S 16022					

SCALE	Designed By:	Drawn By:	Checked By:
HORIZONTAL	HH	HH	BE
N/A			
VERTICAL	Plans Prepared Under Supervision Of:		Date: 10/11/2021
N/A	BROOKE JP. WHALEN	RLA No. 5175	

Submitted: _____
By: _____
Office: _____

APPROVED BY: _____ DATE: _____
DIRECTOR OF DEVELOPMENT SERVICES OR DESIGNEE

CONSULTANT
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San Diego, CA 92103
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BID DOCUMENTS - OCTOBER 11, 2021

IRRIGATION DETAILS

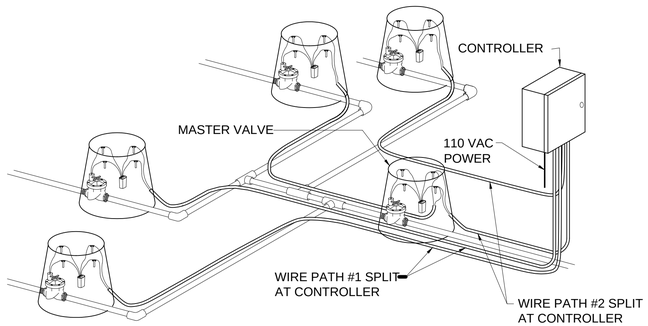
CITY OF CHULA VISTA DEVELOPMENT SERVICES DEPARTMENT
OTAY RANCH VILLAGE 2 P-2 PARK,
GROVE PARK

LANDSCAPE DWG NO. LI-14
SHEET 14 OF 16
W.O. NO. PRK-0330
DRAWING NO. 19010-52
SHEET 52 OF 100

PERMIT NO. PLR-19-012

DEH2019-LRWS-001118

OWD# D0894-060253

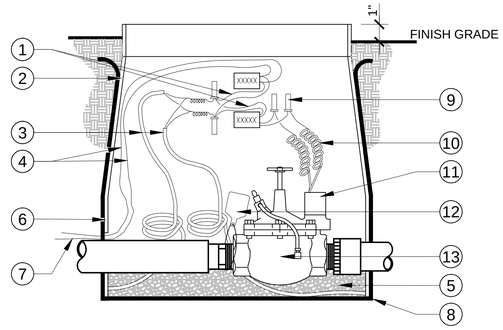


NOTES:

1. ALL WIRE CONNECTIONS SHALL BE MADE WITH APPROVED CONNECTORS (RAINBIRD WC20 OR APPROVED CONNECTOR PER CONTROLLER MANUFACTURER SPECIFICATIONS).
2. MAKE ALL WIRE SPLICES IN VALVE BOXES.
3. LEAVE A MINIMUM OF 12" EXTRA WIRE AT ALL SPLICE POINTS.
4. REFER TO CONTROLLER MANUFACTURER FOR SPECIFIC DIRECTIONS.

A

U TWO WIRE PATH DIAGRAM
SECTION — NOT TO SCALE



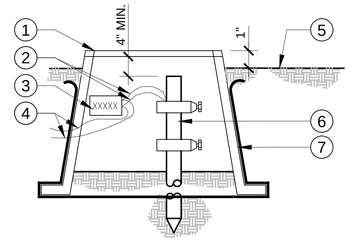
LEGEND

1. BLUE WIRES TO TWO WIRE COMUNICATION PATH
2. PURPLE VALVE BOX AND PURPLE LID
3. TWO WIRE COMMUNICATION PATH. REFER TO NOTES BELOW FOR WIRE LENGTH
4. #6AWG SOLID GROUND WIRE CONNECTED TO GROUND ROD USING BRASS CLAMP, WHERE REQUIRED, WHERE REQUIRED
5. 3/8" GRAVEL
6. BOX EXTENSION (LENGTH AS REQUIRED)
7. GROUND WIRE TO CONNECT TO GROUNDING ROD
8. FILTER FABRIC (MIRAFI #140N, OR APPROVED EQUAL). WRAP 1 LAYER AROUND BOX COVERING HOLES
9. WIRE CONNECTORS. RAINBIRD WC20
10. EXPANSION COILS
11. SOLENOID WITH INTEGRATED VALVE MODULE
12. RECYCLED WATER VALVE I.D. TAG. (THREAD NYLON TIE THROUGH HOLE IN TAG)
13. ELECTRIC VALVE WITH DECODER AS REQUIRED

NOTES:

1. WIRE COIL 36" LENGTH (ITEM #3)
2. ALL CABLE / WIRE SHALL BE INSTALLED IN CONDUIT / SWEEPS INTO VALVE BOX.
3. DETAIL MAY NOT REFLECT ALL COMPONENTS FOR VALVE BOX INSTALLATION. PROVIDE BRICK FOR BASE OF BOX.

V RCV WITH DECODER AND SURGE PROTECTOR
SECTION — NOT TO SCALE



LEGEND

1. 10" PURPLE ROUND VALVE BOX AND PURPLE LID
2. #6 AWG SOLID GROUND WIRE CONNECTED TO GROUND ROD USING BRASS CLAMP
3. SURGE DEVICE
4. TWO WIRE PATH
5. FINISH GRADE
6. 5/8-INCH X 8 FT. COPPER CLAD GROUNDING ROD OR GROUNDING PLATE. INSTALL RODS IN SOIL IN A TRIANGULAR PATTERN SPACED A MINIMUM OF 16 FT. APART FROM EACH OTHER. GROUNDING GRID TO HAVE MAXIMUM RESISTANCE REQUIRED BY CONTROL SYSTEM MANFACTURER'S SPECIFICATIONS
7. FILTER FABRIC (MIRAFI #140N, OR APPROVED EQUAL). WRAP 1 LAYER AROUND BOX COVERING HOLES

NOTES:

1. REFER TO MANUFACTURER'S SPECIFICATIONS FOR GROUND ROD INSTALLATION.
2. ALL CABLE / WIRE SHALL BE INSTALLED IN CONDUIT / SWEEPS INTO VALVE BOX.
3. DETAIL MAY NOT REFLECT ALL COMPONENTS FOR VALVE BOX INSTALLATION. PROVIDE BRICK FOR BASE OF BOX.
4. PRIOR TO ACCEPTANCE OF THE 2-WIRE SYSTEM, THE RESISTANCE OF THE 2-WIRE PATH MUST BE TESTED IN THE PRESENCE OF A CITY INSPECTOR. TEST MUST INDICATE A READING OF 10 OHMS OR LESS OR SYSTEM WILL NOT BE ACCEPTED.

W GROUNDING ROD AND SURGE DEVICE
SECTION — NOT TO SCALE

A

WATER AGENCIES' STANDARDS STANDARD SPECIFICATIONS (DATE: 08/03/2018)

SECTION 15152 RECYCLED WATER FACILITIES (ONSITE)

PART 1 GENERAL

1.01 DESCRIPTION

This section includes special provisions, materials, and identification of onsite (post meter, private) recycled water irrigation or plumbing systems. The purpose of this section is to provide Rules and Regulations and establish procedures and specifications for the development and operation of recycled water systems in the District's service area.

1.02 REFERENCE STANDARDS

The publications listed below form part of this specification to the extent referenced and are referred to in the text by the basic designation only. Reference shall be made to the latest edition of said standards unless otherwise called for

AWWA - American Waterworks Association Guidelines for Distribution of Non- potable Water

CCR - California Code of Regulations Title 22 and Title 17.

DOHS - Department of Health Services Recycled Water Plan Check and Inspection Manual, County of San Diego, Department of Environmental Health

1.03 RELATED WORK SPECIFIED ELSEWHERE

WAS Standard Drawings

WAS Standard Specification 01000

1.04 OFFSITE AND ONSITE CRITERIA

Recycled water facilities are separated into two categories:

A. "Offsite" (pre-meter, public) recycled water facilities consist of those facilities which are on the upstream side of the meter. These facilities are, or will be, owned, operated and maintained by the District. Specification Section 15151 details the requirements for construction of Offsite Recycled Water Facilities

B. "Onsite" (post-meter, private) recycled water facilities consist of those facilities which are on the downstream side of the water meter. These are facilities which will be owned, operated and maintained by the customer. This specification will detail the requirements for the design, installation and testing of onsite recycled irrigation and plumbing systems.

1.05 POLICY

The District operates and maintains a recycled water distribution system within its service area enabling it to provide disinfected tertiary treated recycled water for a variety of beneficial uses. Recycled Water usage as an alternate will conserve an equal amount of potable water for domestic use.

The beneficial use of recycled water is regulated by the California State Water Resources Control Board (CWRCB). California Water Code Section 13551 establishes a State policy to encourage the use of recycled water. Permission to use recycled water is based on the ability to adequately treat wastewater to the point that the recycled water (effluent) meets or exceeds the requirements of existing Title 22, Chapter 3, regulations of the California Code of Regulations. Title 22 was promulgated by the State of California Department of Health Services (DOHS) to ensure proper health protection and specify the treatment degree to match the intended applications.

In accordance with waste discharge requirements for water reclamation projects, the Regional Water Quality Control Board, San Diego Region, (RWQCB) requires that Rules and Regulations for facilities using recycled water be established.

1.06 APPROVED USE

These Rules and Regulations pertain to recycled water service to lands and/or improvements lying within the legal boundaries of the District unless otherwise stated. It is the intent of the District to provide recycled water service in accordance with these Rules and Regulations to all areas identified in the District's Water Reclamation Master Plan, including all subsequent revisions for the use of recycled water. Recycled water service shall be provided to the service area when related transmission distribution facilities are completed and service becomes available.

In accordance with the goals of the District, the uses of recycled water include only those uses approved by the State of California Department of Health Services (DOHS), the County of San Diego Department of Environmental Health (DEH) and for which Title 22 of the California Code of Regulations provides treatment requirements. All potential applications of recycled water shall be reviewed and approved by the District prior to installation of facilities. Prior to approval and at its discretion, the District may set forth specific requirements as conditions for providing service and/or require specific prior approval from the appropriate regulatory agencies.

The facilities shall be constructed in accordance with the procedures and requirements of the District. No recycled water mains or connections to the recycled water mains shall be installed unless shown on the Approved Plans.

1.07 CONDITIONS OF SERVICE

Recycled water service shall be provided by the District only if such service is obtained in the manner provided in these Rules and Regulations. Recycled water service shall be available, provided, and used in accordance with other codes, rules, and regulations referenced in this specification.

If any of the following conditions of service are not satisfied at all times recycled water service may be revoked by the District.

A. Financial: Conditions relating to service rates, fees and billing shall be established by the Board of Directors.

B. Operational:

1. Liability: The District shall not be liable for any water-related damage resulting from, but not limited to:
   a. defective plumbing
   b. broken or faulty services
   c. onsite facilities failures
   d. high or low pressure conditions
   e. interruptions of service
   f. unauthorized connections
2. Service: All recycled water will be provided to the user as specified in the Application/Permit For Recycled Water Service. Recycled water use will be subject to the same restrictions as stated in these specifications and the regulatory requirements of DOHS and DEH.

C. Regulatory: Recycled water service may be suspended whenever the quality of the recycled water does not comply with the requirements of the regulatory agencies or at any time these Rules and Regulations For Recycled Water Service are violated.

1.08 DESIGN CRITERIA - ONSITE RECYCLED SYSTEMS

A. The design of onsite recycled water facilities, including the preparation of plans and specifications, shall be under the responsibility of a licensed Landscape Architect or Civil Engineer registered with the State of California. A Declaration of Responsible Charge shall appear on the title sheet of the plans.

B. The design of onsite recycled facilities shall conform to the most current provisions set forth herein and to any other conditions, standards, and requirements set forth by the District.

C. In those areas where recycled water is not immediately available, and the District has determined that recycled water will be supplied in the future, the onsite facilities shall be designed to use recycled water. Provisions shall be made, as directed by the District, to allow for connection to the recycled distribution main when it becomes available. In the interim, potable water shall be supplied through a temporary potable water connection using a master reduced pressure principal backflow device installed per these Standard Specifications. When recycled water becomes available, the Owner shall remove the backflow prevention device in the presence of, and as directed by, the District Engineer. The onsite system will be connected to the recycled water distribution main per the requirements of the Standard Specifications at the time the connection is made.

D. Onsite recycled water systems shall be designed to include backflow prevention per the requirements of the Standard Specifications. In some cases, more stringent backflow protection may be required.

E. The recycled water system shall be separate and independent of any potable water system. Cross connections between potable water facilities and recycled water facilities are prohibited.

F. Hose bibs on recycled water facilities are prohibited.

G. Fire hydrants, wharf heads, or other appurtenances shall only be included in the design when these appurtenances are expressly approved by the District and DOHS.

H. Drinking fountains shall be protected from the spray of recycled water. There shall be no direct contact of recycled water with a drinking fountain. Protection of drinking fountains can be accomplished either by maintaining a horizontal separation of at least 9m (30') between the drinking fountain and the nearest spray type emitter, spray head modification, or by the use of a covered fountain. The manner used to protect drinking fountains from the spray of recycled water shall be approved by the District and DOHS.

I. Potable and recycled lines shall not to be installed in the same trench. Recycled lines shall be designed to be installed below the potable lines where the two pipelines run parallel to each other. Where this is not possible, the recycled line shall be installed in a casing. Details of this installation shall be clearly drawn on the plans.

J. Onsite recycled water irrigation systems shall be designed to meet the peak moisture demand of the plant material to be irrigated. The use of moisture sensors is encouraged, but not mandatory.

K. Onsite recycled water irrigation systems shall be designed to apply irrigation water in a manner compatible with the infiltration rates of the soil types within the approved use area. Evidence that infiltration rates have been assessed shall be included with the design. Where varying soil types are present, the system design shall be compatible with the lowest infiltration rate present.

L. Onsite recycled water systems shall be designed to prevent discharge onto areas not under control of the Owner. Appropriate sprinklers, bubblers, emitters, rotors, etc., shall be employed in the design to confine the discharge to the approved use area. The design shall avoid spray patterns which discharge onto obstructions that tend to concentrate water which results in ponding and/or runoff.

CONTINUED - SEE NEXT LANDSCAPE DWG NO. L1-16 / SHEET 54

INSPECTION NOTE

OTAY WATER DISTRICT INSPECTION SHALL BE NOTIFIED FIVE (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2241. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.

COLOR CODING

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. DECAL ON RISERS WILL NOT BE ACCEPTED.

AS BUILT

_____ DATE _____
SIGNATURE

_____ R.L.A. No. _____
Printed Name
My Registration Expires _____ Discipline_____

UTILITY NOTE

ALL EXISTING UTILITIES SHOWN ON THESE PLANS ARE PLOTTED FROM RECORD DATA AT THEIR APPROXIMATE LOCATIONS. UNDERGROUND FACILITIES MAY EXIST WHICH HAVE NOT BEEN REPORTED OR ARE NOT OF RECORD. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL PERTINENT UTILITIES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION.

LICENSED LANDSCAPE ARCHITECT — BROOKE JP. WHALEN — 5175 — 8/31/2024 — STATE OF CALIFORNIA

CONSULTANT

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San Diego, CA 92103
619.294.4477
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BID DOCUMENTS - OCTOBER 11, 2021

IRRIGATION DETAILS AND WATER AGENCIES' STD SPECS SECTION 15152

LANDSCAPE DWG NO.
LI-15
SHEET 15 OF 16
W.O. NO. PRK-0330

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd
CONTRACTOR:	MAP # 15350		DELTA A IRRIGATION REVISIONS	08/18/22	
INSPECTOR:					
DATE COMPLETED:	DWG. #'S 16022				

DATUMS
VERTICAL: 446.361 (NAVD 88)
HORIZONTAL: I.E. N78°21'27"E NAD 83

SCALE	Designed By:	Drawn By:	Checked By:
HORIZONTAL N/A	HH	HH	BE
VERTICAL N/A	Plans Prepared Under Supervision Of: BROOKE JP. WHALEN	Date: 10/11/2021	R.L.A. No. 5175

Submitted: _____
By: _____
Office: _____

APPROVED BY: _____ DATE: _____
DIRECTOR OF DEVELOPMENT SERVICES OR DESIGNEE

CITY OF CHULA VISTA DEVELOPMENT SERVICES DEPARTMENT

OTAY RANCH VILLAGE 2 P-2 PARK,
GROVE PARK

DRAWING NO.
19010-53
SHEET 53 OF 100

PERMIT NO. PLR-19-012

DEH2019-LRWS-001118

OWD# D0894-060253

CONTINUED FROM PREVIOUS - LANDSCAPE DWG NO. L1-15 / SHEET 53

M. Onsite recycled irrigation systems shall be designed to provide a physical separation between adjacent areas irrigated with potable water. The means of separation shall be provided by either a distance of 3m (10'), concrete mow strips, approved fence or other approved means. Where concrete mow strips or other means are used, they shall be shown on the plans.

N. Onsite recycled water systems shall be designed to operate during periods of minimal public use of the area. The total time required to irrigate the design area shall not exceed nine (9) hours in any twenty four (24) hour period. The system shall be designed to operate between the hours of 9 PM and 6 AM.

O. Onsite recycled water system designs shall include automatic system control devices which can be easily adjusted to minimize ponding and runoff.

P. Onsite recycled water system design plans shall contain the following information for each meter requested:
1. Meter location and size
2. Gross and net irrigation area served by each meter (sq ft or acres)
3. Peak flow through the meter in liters/minute (gpm)
4. Estimate of the yearly demand (acre-feet)
5. Design operating pressure at the meter in Kpa (psi)

Q. Onsite recycled water system design plans shall contain a legend showing the pertinent data for the materials to be used in the system construction. Included shall be a pipe schedule (listing pipe sizes and materials of construction), valve types (including quick- coupling type valves), and the following information for each type of sprinkler device:
1. Manufacturer and model number
2. Sprinkler radius in meters (feet)
3. Operating pressure in Kpa (psi)
4. Flow in liters/minute (gpm)
5. Sprinkler pattern

R. Onsite recycled water design plans shall contain the following detailed information:
1. Points of connection
2. Routing of all pipes
3. Gate valves
4. Control valves
5. Quick-coupling valves
6. Routing of control wires
7. Control stations
8. The area controlled by each control station
9. Signage plan and sign detail
10. Cross connection test station locations and detail
11. Location of mow strips, fences, walls, or other barriers
12. Adjacent parcels, lots or home sites irrigated with potable water

S. Onsite recycled water design plans shall clearly detail backflow prevention devices, all potable water lines, buildings, walls, exterior drinking, and decorative fountains, swimming pools, playgrounds, or any other permanent facilities in the design area. If none of the items listed in this paragraph are present in the design area, it shall be specifically stated on the plans that none exist.

T. Onsite recycled water design plans shall clearly indicate the following minimum top of pipe depth requirements:
1. Intermittent pressure lines 50mm (2”) in diameter and smaller: 300mm (12”) deep.
2. Constant pressure lines less than 150mm (6”) in diameter: 450mm (18”) deep.
3. Constant pressure lines 150mm (6”) in diameter and larger: 750mm (30”) deep.

U. The District's Recycled Water Use Notes are to be included on all onsite recycled water system design plans. These notes, as appended, may be expanded or otherwise modified as directed by the District.

V. The name(s) and 24-hour contact telephone number for the party responsible for operation and maintenance of the system shall appear on the cover sheet of the design plans.

W. An Inspection Note shall be shown on each page of the design plans. The note shall be as follows: The District Inspection Division shall be notified 48 hours (2 working days) prior to the start of construction. All work performed without benefit of inspection shall be subject to rejection and removal.

1.09 WARNING/IDENTIFICATION TAPE

All irrigation pipe, both potable and recycled, shall include the installation of Warning/Identification Tape.

PART 2 MATERIALS

2.01 ONSITE RECYCLED WATER FACILITIES

A. Pipe shall be solid purple-colored PVC material conforming to the following:
1. 75mm (3”) or smaller pipe shall conform to ASTM-D1784, Type 1, Grade 1, PVC- 1120 for schedule 40 or 80, or ASTM-D2241, Type 1, Grade 1, PVC-1120 for SDR rated pipe. Ends shall be solvent welded joints conforming to ASTM- D2672.
2. 100mm (4”) and larger pipe shall conform to either AWWA C900 or C905 with elastomeric ring bell-type pipe ends, conforming to ASTM-D3139. Where purple pipe is unavailable, 0.203mm (0.008” or 8 mils) purple plastic sleeve material maybe used in accordance with Section 15151.
3. Identification markings shall be continuous on two sides of the pipe. Markings shall include the nominal pipe size, PVC type, ASTM or AWWA designation, pressure rating and the words "CAUTION-RECYCLED WATER".

B. Fittings for PVC pipe shall conform to the following:
1. 75mm (3”) and smaller pipe shall use solvent weld joint type fittings, minimum Schedule 40, with a working pressure rating no lower than that of the pipe. Schedule 40 fittings shall conform to ASTM-D2466 and Schedule 80 fittings to ASTM-D2464 and D-2467. PVC solvent cement shall conform to ASTM-D2564.
2. 100mm (4”) and larger pipe shall use either mechanical joint ductile-iron Class 350 fittings conforming to AWWA C153; or grip tite fittings conforming to AWWA C110 and C111.

C. Warning tape shall be an inert plastic film formulated for prolonged underground conditions. The minimum thickness shall be 0.102mm (0.004” or 4 mils) and the overall width shall be a minimum of 75mm (3”). The tape shall have purple printing on a silver background or black printing on a purple background with the words "CAUTION: RECYCLED WATERLINE BELOW".

D. Quick-coupling valves shall be acme thread type for operation with a special coupler key. They shall be constructed of brass with a solid purple-colored locking rubber or vinyl cover. The locking cover shall have the warning "NON-POTABLE-DO NOT DRINK" in English and Spanish, and the International "DO NOT DRINK" symbol. The warnings shall be permanently molded into the cover.

E. Sprinklers, rotor heads and other types of dispersion heads shall have the exposed surface colored purple. The exposed surface shall be colored through the use of integrally molded purple plastic or permanently attached purple plastic ring or disc.

F. Valve boxes shall be per industry standards with solid purple-colored lids as a minimum. The entire box may be molded from purple-colored PVC. The lids shall have the warning "NON-POTABLE- DO NOT DRINK" in English and Spanish and the International "DO NOT Drink" symbol. The warnings shall be permanently molded into the lid.

G. Valves shall have their exterior surface painted purple and be tagged with identification tags. The purple paint shall be as listed on the Approved Materials List. Identification tags shall be 75mm x 100mm (3” x 4”) weatherproof purple plastic. The plastic tags shall be imprinted in black permanent markings with the words “Caution: Recycled Water- Do Not Drink” on one side and “Peligro: Agua Impura- No Beber” on the opposite side.

H. Warning labels and signs shall be required and installed per the approved signage plans. Labels and signs shall be submitted to the District Engineer for approval prior to installation. The labels and signs shall notify that the system contains recycled water that is unsafe to drink. They shall be in English and Spanish with the international “Do Not Drink” symbol. As a minimum, signs shall be installed at impoundments, ingress and egress points, and on the exterior front panel of irrigation controllers.

I. Strainers shall be the same nominal size as the service meter and shall have a ball valve on the strainer leg for flushing. 50mm (2”) and smaller wye pattern strainers shall be bronze body, in-line type with stainless steel screens. Strainers shall have a 13mm (1/2”) bronze ball valve installed on the strainer's wye leg. 75mm (3”) and larger wye pattern strainers shall be cast-or ductile-iron and have the size ball valve recommended by the manufacturer installed on the strainer's wye leg

J. Check valves shall be in-line, spring-loaded, bronze-body construction. Check valves shall be globe, wafer, or dual check type valves with stainless steel springs. Check valves shall be the same size as the service meter.

K. A more stringent method of backflow prevention may be required when a fertilizer or pesticide injection system is shown on the Approved Plans.

2.02 ONSITE POTABLE WATER FACILITIES

A. Pipe shall be white-or blue-colored PVC material conforming to this specification.

B. Quick-coupling valves shall not be acme thread type. They shall have a cover made of brass, yellow rubber or vinyl.

C. Onsite systems distributing potable water shall not have purple markings.

2.03 WARNING/IDENTIFICATION TAPE

Warning/Identification Tape materials shall conform to Section 15000.

PART 3 EXECUTION

3.01 ONSITE RECYCLED WATER FACILITIES

A. Onsite recycled water facilities shall not be installed until the plans have been approved by the District Engineer and the San Diego County, Department of Environmental Health Services (DOHS), and a pre-construction meeting has been held with the District Inspection Division. If any portion of the onsite recycled system is installed prior to plan approval and/or inspection, all or any portion of the system shall be exposed and corrected as directed by the District Engineer.

B. Onsite recycled water facilities shall be installed as shown on the approved plans. Deviations from these plans by the installer shall not be permitted until the revised plans have been submitted to, and approved by, the governing regulatory agencies.

C. Installation of onsite recycled water facilities shall conform to the following:
1. The recycled water system shall be separate and independent of any potable water system. Cross connections between potable water facilities and onsite recycled water facilities are prohibited.
2. Hose bibs on recycled water facilities are prohibited.
3. Drinking fountains shall be protected from the spray of recycled water in a manner approved by the governing regulatory agencies and as directed by the District Engineer.
4. Conditions that cause overspray, ponding and runoff shall be limited or prevented.

D. Onsite recycled water and potable water facilities shall be installed in accordance with the following criteria:
1. The horizontal separation between onsite recycled and potable lines shall be a minimum of 1200mm (48”), measured between outside diameters.
2. In general, onsite recycled water lines shall be installed below potable water lines, with a minimum vertical separation of 300mm (12”), measured between outside diameters. Exceptions to this general requirement are as follows:
   a. Recycled water lines may be installed above potable water lines where the recycled lines (laterals) are intermittently pressurized. No special construction requirements are necessary, provided the 300mm (12”) vertical separation is maintained.
   b. Constantly pressurized recycled water lines may be installed above potable water lines providing the recycled pressured line has an automatic flow control/shut-off device installed, or the recycled line is sleeved. An automatic flow control/shut-off device shall terminate all flow to a lateral automatically should the flow exceed a preset maximum Kpa (gpm). Sleeving shall extend 1.5m (5') each side from the center-line of the potable line, for a total length of 3m (10'). The sleeve shall be purple PVC. In all cases, the 300mm (12”) vertical separation shall be maintained.

E. Onsite recycled water systems shall be installed to prevent discharge onto areas not under control of the Owner. Appropriate irrigation components shall be employed in the installation to confine the discharge to the approved use area. The installation shall avoid spray patterns which discharge onto obstructions that tend to concentrate water to produce ponding and/or runoff.

F. Onsite recycled water systems shall be installed to operate during periods of minimal public use of the area. The total time required to irrigate the design area shall not exceed nine (9) hours in any 24-hour period. The system shall be installed to operate between the hours of 9 PM and 6 AM.

G. Onsite recycled water systems shall be installed to the following minimum top of pipe depth requirements:
1. Intermittent pressure lines 50mm (2”) and smaller - 300mm (12”).
2. Constant pressure lines smaller than 150mm (6”) - 450mm (18”).
3. Constant pressure lines 150mm (6”) and larger - 750mm (30”).

H. Warning/Identification Tape shall be installed on all onsite potable and recycled lines as called for in Section 15000.

I. Hydrotesting shall be performed on all constant pressure lines in the presence of the District Engineer. The test pressure shall be a minimum of 345 Kpa (50 psi) above the rating of the pipe. The two hour pressure test will consist of a one hour pump up period and a one hour hold period. No leakage (drop in pressure) shall be allowed. If leakage exceeds this rate, the leak points shall be located and repaired, and the hydrotest repeated until there is zero leakage.

J. Only potable water shall be used for hydrotesting, flushing, the operational test and the cross connection test (if required). Potable water shall be supplied through a separate temporary water meter obtained from the District and located at a District-approved potable water source. A reduced pressure principal backflow device shall be installed at ground level immediately downstream of the temporary potable water meter. A temporary high line shall be installed to supply the proposed recycled irrigation system during the construction and testing period.

K. A wye strainer and check valve shall be installed in accordance with Standard Drawing WR-03 selected from the Approved Materials List.
1. For meter sizes 19mm (¾”) through 50mm (2”), the strainer and check valve shall be installed in a separate 25mm (1”) meter box abutted to the service meter box.
2. For meter sizes larger than 50mm (2”), the strainer and check valve shall be installed in a separate vault adjacent to meter vault. The vault shall be of sufficient size to provide adequate room for maintenance and removal of the strainer and check valve.
3. The strainer and check valve shall be installed and inspected prior to service being established.

L. Cross connection test stations shall be installed at the locations shown on the Approved Plans and detailed on the Standard Drawings. In general, one test station shall be installed directly downstream of each point of connection, downstream of any pressure reducing valves. Additional cross connection station(s) may be required as indicated on the Approved Plans.

M. A controller recycled irrigation map shall be prepared and submitted to the District prior to commencing service. The map shall be prepared as follows:
1. Provide one map for each automatic controller showing the area covered. The map shall be 275mm x 425mm (11” x 17”) in size.
2. The map is to be a reduced drawing of the actual system. The line weights and lettering on the original controller map drawing shall be so drawn that, when reduced, it is clearly legible.
3. The map shall be a blackline print with a different color used to show area of coverage for each station and subsystem.

N. The owner or owner's representative shall contact the District's Inspection Division and arrange for a coverage test inspection. The owner or owner's representative must be in attendance along with persons capable of making system adjustments. If modifications to the system are required, other than minor adjustments, the owner will be notified in writing of the changes required. To avoid suspension of service, the modifications must be made in a timely manner. All modifications to the system are the responsibility of the owner, applicant, or customer and said owner, applicant or customer shall pay all costs associated with such modifications.

O. Either prior to or at the time of the coverage test, a Final Inspection shall also be performed. The following items must be completed to the satisfaction of the District Engineer before permanent service will be established:
1. Application for recycled service has been made to the District.
2. Warning signs and labels are installed.
3. Quick coupling valves, valve boxes, controllers and other system components are clearly identified with the proper markings indicating distribution of either recycled water or potable water.
4. Windblown spray, runoff and ponding have been limited or prevented.
5. Controller clocks are set to operate during approved hours.
6. Controller maps have been submitted to the District.
7. Site supervisor and twenty four (24) hour contact phone number identified.

P. In those areas where recycled water is not immediately available, but the District has determined that recycled water will be supplied in the future, the onsite facilities shall be installed to use recycled water. Provisions shall be made, as directed by the District, to allow for connection to the recycled distribution main when it becomes available. In the interim, potable water shall be supplied through a temporary potable water connection installed in accordance with the District's Standard Specifications. When recycled water becomes available, the Owner shall remove the backflow prevention device in the presence of and as directed by the District Engineer, and shall connect the onsite system to the recycled water service lateral.

3.02 OPERATION AND MAINTENANCE

A. General:
1. The operation, surveillance, maintenance, and repair of all onsite recycled water facilities are the responsibility of the customer. The customer's designated "On- Site Recycled Water Supervisor" shall bear the responsibility for the distribution of recycled water in accordance with the District Rules and Regulations. The District shall receive the following information regarding the individual designated as "On-Site Supervisor": their name, address and telephone number of their location during normal working hours, and a telephone number at which they can be reached during off hours.
2. The District must be notified in writing of any change in the information in Section 15152.3.02.A.1 within ten (10) working days.

B. The customer shall have the following responsibilities pertaining to operation of onsite facilities:
1. To ensure that all operations and maintenance personnel are trained and familiarized with the use of recycled water.
2. To ensure precautionary measures be taken to minimize direct contact with recycled water. For work involving more than a casual contact with recycled water, employees must be provided with proper protective equipment. Adequate first aid supplies should be available on the premises. All cuts and abrasions should be promptly treated to prevent infection.
3. To furnish their operations and maintenance personnel with maintenance instructions, irrigation schedules, controller charts, and as-built plans to ensure proper operation in accordance with these Rules and Regulations.
4. To ensure all recycled water facilities are operated and maintained in accordance with these Rules and Regulations and other documents governing recycled water systems within the District.

C. The customer shall be responsible for any and all subsequent uses of the recycled water. Operation, maintenance and control measures to be utilized in this regard, where appropriate, shall include but are not limited to the following:
1. Operation of onsite recycled water facilities shall be operated to prevent or minimize discharge onto areas not under control of the customer so as to minimize public contact.
2. Operation of the onsite recycled water facilities shall be during periods of minimal human use of the service area. Consideration shall be given to allow a maximum dry-out time before the irrigated area will be used by the public.
3. Utilization of automatic controller systems to minimize ponding and runoff of recycled water. Total sprinkler run times shall not be greater than the time needed to supply the landscape's water requirement. If runoff occurs before the landscape's water requirements are met, the automatic controllers shall be reprogrammed with a greater number of water cycles of shorter duration to meet the requirements. This method of operation is intended to minimize ponding and runoff.
4. The customer reporting to the District any and all failures in the recycled water system that cause an unauthorized discharge of recycled water.
5. Protection of all drinking fountains located within the approved use area from contact with windblown recycled water spray, direct application through irrigation or other approved uses by location and/or a protecting structure. Protection shall be by design, construction practice and system operation.
6. Protection of facilities that may be used by the public. They include but are not limited to, eating surfaces and playground equipment located within the approved use areas. These shall be protected by siting and/or shelter from contact with recycled water to the maximum extent possible. Windblown spray, direct contact through wash down or by irrigation application, or other approved uses are considered sources of recycled water. Protection shall be by design, construction practice and system operation.
7. Notification of the District of all updates and proposed changes. Approval by the District and DOHS shall be obtained prior to construction in accordance with District procedures. All updates and proposed changes shall comply with these Rules and Regulations and the governing documents of all other regulatory agencies.

D. The customer shall enforce the following prohibitions:
1. Cross-connections: Cross-connections, as defined by the California Code of Regulations, Title 17, resulting from the use of recycled water or from the physical presence of a recycled water service, whether by design, construction practice or system operation, are strictly prohibited.
2. Hose Bibs: Use or installation of permanent hose bibs on any customer water system that presently operates or is designed to operate with recycled water, regardless of the hose bib construction or identification, is prohibited.
3. Runoff: Conditions that directly or indirectly cause runoff of recycled water either within or outside of the approved use area, whether by design, construction practice or system operation, are prohibited.
4. Ponding: Conditions that directly or indirectly cause recycled water to pond either within or outside of the approved use area, whether by design, construction practice, or system operation, are prohibited.
5. Windblown Spray: Conditions that directly or indirectly permit windblown spray to pass outside of the approved use area, whether by design, construction practice, or system operation, are prohibited.
6. Disposal in Unapproved Areas: Disposal of recycled water for any purposes, including approved uses, in areas other than those specifically approved by the District and without the prior knowledge and approval of the governing regulatory agencies, is prohibited.
7. Unapproved Uses: Use of recycled water for any purposes other than those specifically approved by the District, is prohibited.

3.03 MONITORING AND INSPECTION

The District shall monitor and inspect the entire recycled distribution facility, including both offsite and onsite facilities. The District shall conduct monitoring programs, maintain records as deemed necessary, inspect onsite facilities for compliance with these Rules and Regulations, and provide reports as requested by other regulating agencies. For these purposes, the District shall have the right to enter upon the customer's premises during reasonable hours to inspect onsite recycled water facilities and approved use areas. Reasonable hours shall include hours when irrigation is occurring. The District, Regional Water Quality Control Board, DOHS and DEH shall have the right to enter upon the customer's premises during reasonable hours, from time to time, to verify that the customer's irrigation practices conform with these Rules and Regulations. Where necessary, keys and/or lock combinations shall be issued upon request to the District to provide such access.

3.04 VIOLATION AND NOTIFICATION

A. The District reserves the right to determine whether a violation of the Rules and Regulations has resulted from any action or occurrence that is the responsibility of a customer. Insofar as the violation of these Standards Specifications constitutes a violation of any regulatory agency requirement, the District shall make its determination with consultation on behalf of the concerned agency.

B. Specific violations shall include those that directly cause noncompliance with any one of the specific prohibitions as listed in these Rules and Regulations. However, by definition, noncompliance with any condition or conditions of these Rules and Regulations, whether willfully or by accident, shall constitute a violation.

C. It is the responsibility of the customer to notify the District of any and all failures in the onsite recycled water system whether or not in the customer's opinion the failures resulted in violations. Failures may occur as a result of the customer's action, an action by unauthorized personnel or any non-designated use of the recycled water service. If there are any doubts regarding whether a violation has occurred, the customer should notify the District so that a determination can be made.

D. Notification of failures and violations should be made by telephone, as soon as possible, to the District. If the failure occurs after normal business hours, notification should be made no later than 9:00 a.m. on the next regular business day following the occurrence.

3.05 CORRECTIVE ACTION

A. If the District's investigation results in the determination that a violation has occurred, then it shall be the responsibility of the customer to initiate corrective action. Pertinent violations will be documented and a copy of this notice will be hand-delivered or mailed to the customer.

B. A timetable for completing the corrective action should be negotiated with the District by the customer. Such corrections can involve human factors, such as additional training or procedures modifications, as well as physical alterations to the system. Corrections not made in accordance with the timetable shall result in the termination of service by shutting off and locking the meter.

C. If, in the opinion of the District, the violation constitutes an immediate danger to the public health, then service shall be terminated immediately by shutting off the meter or service and locking it. Service shall be resumed only after the violation has been corrected to the satisfaction of the District.

D. The customer is to maintain a written log of all system failures and violations, including corrective action taken. The log will be reviewed by the District regularly.

3.06 ADMINISTRATIVE REVIEW

A mandatory administrative review will be conducted to examine customer's irrigation practice if three written violations are issued within a 30-day period. The District and customer or agent is required to present reasons for non-compliance with these Rules and Regulations. The customer shall present a plan for corrective action acceptable to the District and the regulatory agencies. The accepted plan and implementation schedule shall be adhered to or service may be suspended.

END OF SECTION

INSPECTION NOTE

OTAY WATER DISTRICT INSPECTION SHALL BE NOTIFIED FIVE (5) WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2241. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.

COLOR CODING

SPRINKLERS, ROTOR HEADS AND OTHER TYPES OF DISPERSION HEADS SHALL HAVE THE EXPOSED SURFACE COLORED PURPLE. THE EXPOSED SURFACE SHALL BE COLORED THROUGH THE USE OF INTEGRALLY MOLDED PURPLE PLASTIC OR PERMANENTLY ATTACHED PURPLE PLASTIC RING OR DISC. ALL SHRUB HEADS SHALL HAVE PURPLE CAPS. DECAL ON RISERS WILL NOT BE ACCEPTED.

AS BUILT

_______________ DATE _______
SIGNATURE
_______________ R.L.A. No. _______
Printed Name
My Registration Expires ______ Discipline______

UTILITY NOTE

ALL EXISTING UTILITIES SHOWN ON THESE PLANS ARE PLOTTED FROM RECORD DATA AT THEIR APPROXIMATE LOCATIONS. UNDERGROUND FACILITIES MAY EXIST WHICH HAVE NOT BEEN REPORTED OR ARE NOT OF RECORD. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL PERTINENT UTILITIES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION.

LICENSED LANDSCAPE ARCHITECT · BROOKE JP WHALEN · STATE OF CALIFORNIA

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd	DATUMS	SCALE	Designed By:	Drawn By:	Checked By:
CONTRACTOR:	MAP # 15350		DELTA A IRRIGATION REVISIONS	08/18/22		VERTICAL: 446.361 (NAVD 88)	HORIZONTAL	HH	HH	BE
INSPECTOR:						HORIZONTAL: I.E. N78°21'27"E NAD 83	N/A	Plans Prepared Under Supervision Of:		Date: 10/11/2021
DATE COMPLETED:	DWG. #'S 16022						VERTICAL	BROOKE JP. WHALEN		R.L.A No. 5175
							N/A			

CONSULTANT

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Submitted: ________
By: ________
Office:

APPROVED BY: ________ DATE: ________
DIRECTOR OF DEVELOPMENT SERVICES OR DESIGNEE

BID DOCUMENTS - OCTOBER 11, 2021

WATER AGENCIES' STANDARD SPECIFICATIONS SECTION 15152

CITY OF CHULA VISTA DEVELOPMENT SERVICES DEPARTMENT

OTAY RANCH VILLAGE 2 P-2 PARK,
GROVE PARK

LANDSCAPE DWG NO.
LI-16
SHEET 16 OF 16
W.O. NO. PRK-0330
DRAWING NO.
19010-54
SHEET 54 OF 100

PERMIT NO. PLR-19-012

DEH2019-LRWS-001118

OWD# D0894-060253