

CITY OF CHULA VISTA TRACT NO. 09-04 PH. 2

PHASE 2 SLOPE AND EROSION CONTROL LANDSCAPE AND IRRIGATION PLANS FOR

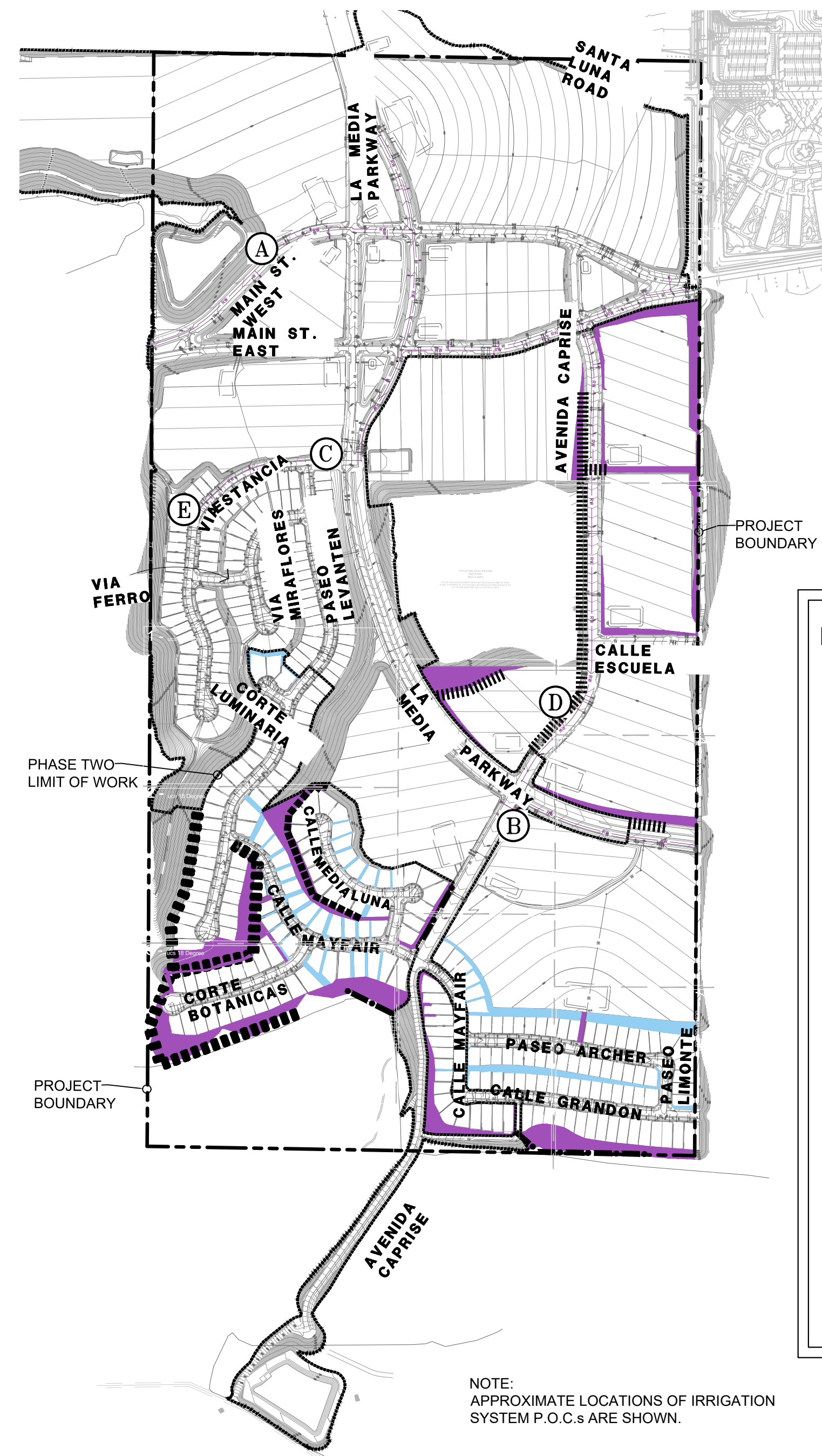
OTAY RANCH VILLAGE 8 WEST

CITY OF CHULA VISTA, CALIFORNIA

GENERAL NOTES

- EFFECTIVE PLANTING SHALL BE INSTALLED, FULLY GERMINATED, AND ESTABLISHED AT THE REQUIRED AREAS PRIOR TO FINAL APPROVAL. THE PLANTING MIX SHALL BE APPROVED BY THE CITY LANDSCAPE DEPARTMENT PRIOR TO INSTALLATION. IRRIGATION SYSTEMS ARE REQUIRED ON ALL SLOPES THREE FEET OR HIGHER.
- LANDSCAPE IMPROVEMENTS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF CHULA VISTA LANDSCAPE MANUAL, LANDSCAPE CHECKLIST AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREEN BOOK"-CURRENT EDITION). WHENEVER SPECIAL REQUIREMENTS CONFLICT ON ANY MATTER, THE DIRECTOR OF DEVELOPMENT SERVICES OR DESIGNEE SHALL DETERMINE WHICH SPECIAL CONDITION OR CODE SHALL GOVERN.
NOTE: "LANDSCAPE" REFERS TO ALL IMPROVEMENTS WITHIN THIS SET OF DOCUMENTS THAT HAVE BEEN DESIGNED BY THIS OFFICE.
- THE CONTRACTOR SHALL NOT BEGIN ANY WORK ON THIS PROJECT UNTIL A PRE-CONSTRUCTION CONFERENCE IS HELD WITH THE LANDSCAPE ARCHITECT, THE ENGINEER OF WORK, THE SOILS ENGINEER, ENGINEER GEOLOGIST, A QUALIFIED PALEONTOLOGIST MONITOR, A BOTANIST, THE DEVELOPER, THE CITY LANDSCAPE INSPECTOR, AND THE OTAY WATER DISTRICT.
- THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITY PIPES AND STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED FROM AVAILABLE RECORDS. THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT ANY EXISTING UTILITIES OR STRUCTURES LOCATED AT THE WORK SITE. THE CONTRACTOR IS REQUIRED TO CONTACT DIG ALERT AT 1-800-227-2600 48 HOURS IN ADVANCE OF ANY EXCAVATION FOR THE MARK-OUT OF UTILITIES LOCATION, AND NOTIFICATION OF COMMENCEMENT OF WORK:

WATER - OTAY WATER DISTRICT
WATER - CITY OF CHULA VISTA
WATER - SAN DIEGO COUNTY WATER AUTHORITY
SEWERS - CITY OF CHULA VISTA
GAS & ELECTRIC - S.D.G. & E
TELEPHONE - AT&T, TIME WARNER, COX
STREET LIGHT OR SIGNAL CONDUCT - CITY OF CHULA VISTA
CABLE T.V. - AT&T, TIME WARNER, COX
- THE CONTRACTOR SHALL NOTIFY OTAY LAND COMPANY (760.602.3774), THE CITY OF CHULA VISTA (619.397.8018) & CITY LANDSCAPE INSPECTOR (619.409.5432) NO LESS THAN 48 HOURS PRIOR TO BEGINNING ANY WORK ON THIS PROJECT.
- ALL WORK PERFORMED WITHOUT BENEFIT OF OBSERVATION BY OTAY LAND COMPANY REPRESENTATIVE WILL BE SUBJECT TO REJECTION AND REMOVAL. PHONE: (619) 918-8200 LEON HAYDEN
- SEPARATION BETWEEN RECYCLED & POTABLE SYSTEMS IS ACHIEVED WITH SOLID WALLS, FENCES, MOW CURBS, DISTANCE, & WALKS.
- THE OTAY WATER DISTRICT SHALL BE NOTIFIED 5 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2441. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.
- CIVIL ENGINEER IS HALE (858-715-1420 X 127).
- CATCH BASINS SHALL BE PROTECTED FROM RECYCLED WATER, OVER-SPRAY, MIST, OR RUNOFF.
- CONTRACTOR SHALL VERIFY WITH OWNER'S REPRESENTATIVE THAT PLANS ARE CURRENT AND APPROVED.
- THESE PLANS ARE BASED ON IMPROVEMENTS BY HALE ENGINEERING CO. DATED 10/14 (DWG.#14011).
- THE CONTRACTOR SHALL COMPLY WITH THE ENGINEERING SOILS REPORT RECOMMENDATIONS AS THEY RELATE TO THIS WORK.
- THE CONTRACTOR SHALL OBTAIN ALL NECESSARY AND/OR REQUIRED PERMITS AND PAY ALL RELATED FEES AND/OR TAXES REQUIRED TO INSTALL THE WORK ON THESE PLANS.
- THE CONTRACTOR SHALL BE APPROPRIATELY LICENSED AS REQUIRED BY THE STATE OF CALIFORNIA.
- DETERMINATION OF "EQUAL" SUBSTITUTIONS SHALL BE MADE ONLY BY THE LANDSCAPE ARCHITECT OF RECORD IN CONJUNCTION WITH A CITY REPRESENTATIVE.
- LANDSCAPE ARCHITECT OF RECORD AND CITY REPRESENTATIVES SHALL BE NOTIFIED NO LESS THAN 48 HOURS IN ADVANCE OF THE START OF CONSTRUCTION, ANY SITE OBSERVATIONS, OR MEETINGS.
- SITE OBSERVATIONS BY LANDSCAPE ARCHITECT OF RECORD AND CITY REPRESENTATIVE SHALL INCLUDE, BUT NOT LIMITED TO:
MAINLINES
A. TRENCHES COMPLETE
B. HYDROSTATIC PRESSURE TEST
C. BACKFILL AND COMPACTION
CONTROL LINES
A. TRENCHES COMPLETE
B. WIRES, CONNECTIONS AND PULL BOXES IN
C. BACKFILL AND COMPACTION TEST
LATERAL LINES
A. TRENCHES AND SLEEVES
B. PIPE, FITTINGS, SWING JOINTS - SPOT CHECKS
C. BACKFILL AND COMPACTION
- SITE OBSERVATIONS BY LANDSCAPE ARCHITECT OF RECORD AND CITY REPRESENTATIVE SHALL INCLUDE, BUT NOT BE LIMITED TO:
A. PRE-CONSTRUCTION MEETING
B. LANDSCAPE GRADING AND SOIL AMENDING
C. LANDSCAPE CONSTRUCTION
D. SPOTTING OF TREES AND SPECIMEN PLANTS
E. IRRIGATION MAINLINE PRESSURE, COVERAGE, AND WIRE TESTS
F. PLANTING AND/OR HYDROSEEDING
G. PRE-MAINTENANCE (SUBSTANTIAL CONFORMANCE WALK THROUGH)
H. POST-MAINTENANCE (FINAL WALK THROUGH)
NOTE: "LANDSCAPE" REFERS TO ALL IMPROVEMENTS WITHIN THIS SET OF DOCUMENTS THAT HAVE BEEN DESIGNED BY THIS OFFICE.
- SITE OBSERVATIONS BY THE LANDSCAPE ARCHITECT DURING ANY PHASES OF THIS PROJECT DOES NOT RELIEVE THE CONTRACTOR OF HIS/HER PRIMARY RESPONSIBILITY TO PERFORM ALL WORK IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS, AND GOVERNING CODES.
- CONTRACTOR IS RESPONSIBLE TO CAP AND STUB EXISTING IRRIGATION LINES AND PROVIDE ALL NECESSARY TRENCHING, SLEEVING, WIRING AND EQUIPMENT AS REQUIRED TO PROVIDE A FULLY FUNCTIONING IRRIGATION SYSTEM AS SHOWN ON THESE PLANS.
- THE CONTRACTOR SHALL NOTIFY LANDSCAPE ARCHITECT OF RECORD AND CITY REPRESENTATIVE IMMEDIATELY OF ANY ERRORS, OMISSIONS OR DISCREPANCIES IN EXISTING CONDITIONS OR WITH THE PLANS PRIOR TO BEGINNING THE WORK.
- UNIT PRICES FOR ALL IMPROVEMENTS SHALL BE ESTABLISHED AS PART OF THE CONTRACT WITH THE PROJECT OWNER, PRIOR TO BEGINNING WORK, TO ACCOMMODATE ADDITIONS AND/OR DELETIONS OF MATERIAL AND/OR LABOR.
- CONTRACTOR TO VERIFY SERVICE LINE, STATIC PRESSURE, METER SIZE, & LOCATION PRIOR TO BEGINNING WORK. ANY DISCREPANCIES SHALL BE IMMEDIATELY REPORTED TO OWNER'S REP.
- PRIOR TO THE COMMENCEMENT OF THE LANDSCAPE AND IRRIGATION IMPROVEMENTS, CONTRACTOR SHALL CONTRACT THE CITY OF CHULA VISTA SENIOR LANDSCAPE INSPECTOR, DAVE DEFACCI (DDEFACCI@CHULAVISTACA.GOV OR 619-409-5432) FOR A LANDSCAPE INSPECTION PACKET, LANDSCAPE AND IRRIGATION BOND EXONERATION WORKSHEET, AND TO SCHEDULE AN INSPECTION OF THE IMPROVEMENTS.
- THE CONTRACTOR SHALL PROVIDE FULL MAINTENANCE OF ALL LANDSCAPE AREAS FOR A MINIMUM OF 90 DAYS.



METER INFORMATION TABLE (PHASE 2)

POC ID	POC STA.	IRRIGATION AREA (SF)	DEMAND (GPM)	ANNUAL USAGE (ACRE-FT)	LATERAL SIZE (IN)	METER SIZE (IN)
'B'	170+75 LA MEDIA PKWY.	146,850	70	3.3	2"	1 1/2"
'C'	26+64 VIA ESTANCIA	56,700	100	1.3	2"	2"
'D'	29+92 AVE. CAPRISE	88,700	70	2.0	2"	1 1/2"
'E'	19+49 VIA ESTANCIA	156,750	70	3.5	2"	1 1/2"
TOTAL		449,000		10.1		

METER INFORMATION TABLE (PHASE 1 & 2 BUILD-OUT)

POC ID	POC STA.	IRRIGATION AREA (SF)	DEMAND (GPM)	ANNUAL USAGE (ACRE-FT)	LATERAL SIZE (IN)	METER SIZE (IN)
'A'	17+76 MAIN ST. WEST	194,000	70	4.4	2"	1 1/2"
'B'	170+75 LA MEDIA PKWY.	305,050	70	6.9	2"	1 1/2"
'C'	26+64 VIA ESTANCIA	255,200	100	5.8	2"	2"
'D'	29+92 AVE. CAPRISE	88,700	70	2.0	2"	1 1/2"
'E'	19+49 VIA ESTANCIA	227,950	70	5.1	2"	1 1/2"
TOTAL		1,070,900		24.2		

COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH
AND WATER QUALITY DIVISION
ENVIRONMENTAL HEALTH SPECIALIST _____ DATE: _____

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

RICK ENGINEERING COMPANY
5620 FRIARS ROAD,
SAN DIEGO, CA 92110

Patricia Trauth 1/10/22
SIGNATURE - PATRICIA TRAUTH DATE
3247 11/30/23
REGISTRATION NO. EXP. DATE

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.

RICK ENGINEERING COMPANY
5620 FRIARS ROAD,
SAN DIEGO, CA 92110

Patricia Trauth 1/10/22
SIGNATURE - PATRICIA TRAUTH DATE
3247 11/30/23
REGISTRATION NO. EXP. DATE

OWNER/DEVELOPER

HOMEFED CORPORATION
1903 WRIGHT PLACE, #220
CARLSBAD, CA 92008
PH: (760) 434-1765
CONTACT: CURT SMITH

GOVERNING MUNICIPALITY

THE CITY OF CHULA VISTA
276 FOURTH AVENUE
CHULA VISTA, CA 92010
PH: (619) 409-3826
CONTACT: LANDSCAPE DIVISION

LANDSCAPE ARCHITECT

RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
PH: (619) 291-0707
CONTACT: PATRICIA TRAUTH

GOVERNING WATER AGENCY

OTAY WATER DISTRICT
2554 SWEETWATER SPRINGS BOULEVARD
SPRING VALLEY, CA 91977
PH: (619) 470-2241
CONTACT: PUBLIC SERVICES

CIVIL ENGINEER

HALE ENGINEERING
7910 CONVOY COURT
SAN DIEGO, CA 92111
PH: (858) 715-1420
CONTACT: JILL GRAVELLY

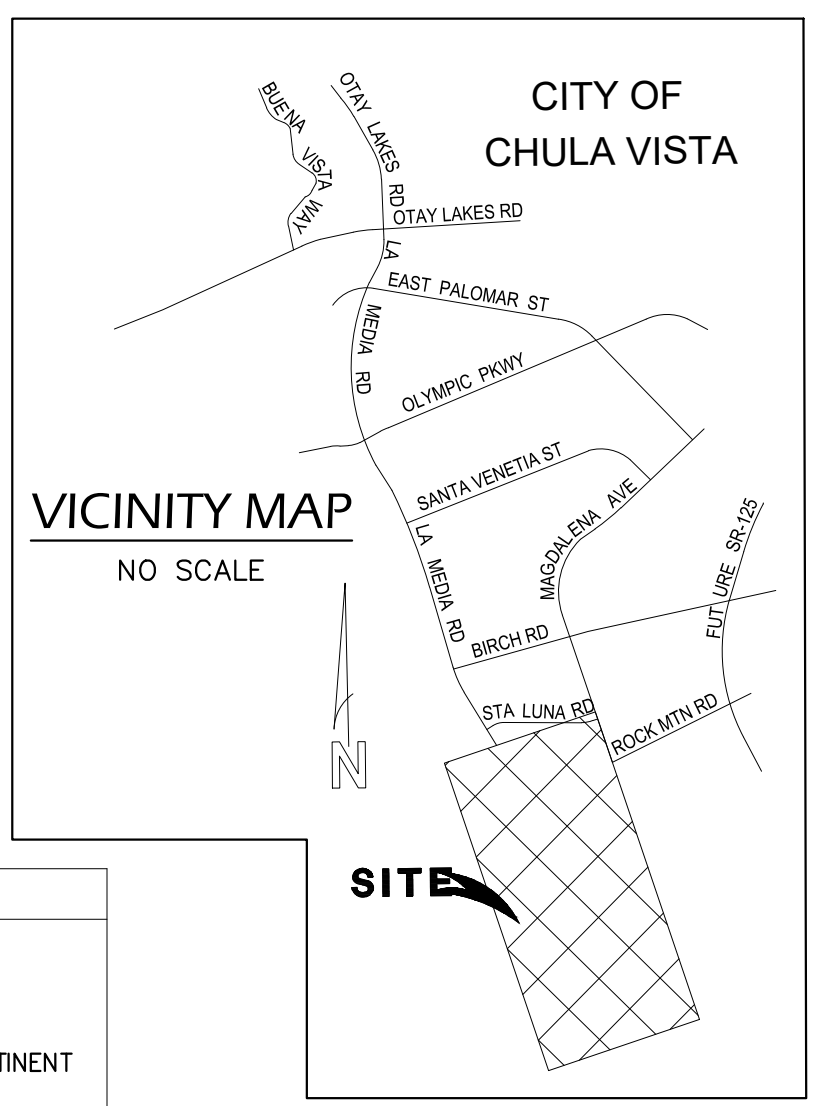
GOVERNING HEALTH AGENCY

COUNTY OF SAN DIEGO
DEPARTMENT OF ENVIRONMENTAL HEALTH
5500 OVERLAND AVENUE, SUITE 170
SAN DIEGO, CA 92123
PH: (858) 505-6700
CONTACT: RECYCLED WATER DIVISION

APN

APN 644-070-12, 14
APN 644-070-13
(CITY OF SAN DIEGO RESERVOIR, NOT A PART)

RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
rickengineering.com
Riverside - Orange - Sacramento - San Luis Obispo - Phoenix - Tucson - Denver



KEYMAP

NOTE: APPROXIMATE LOCATIONS OF IRRIGATION SYSTEM P.O.C.s ARE SHOWN.

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

OMISSION STATEMENT:
THERE ARE NO DRINKING FOUNTAINS, DECORATIVE FOUNTAINS, COMFORT STATIONS, OUTDOOR EATING AREAS, SWIMMING POOLS, PLAYGROUND EQUIPMENT, OR WELLS ON THE SITE.

RECYCLED WATER NOTES:
THERE ARE NO DECORATIVE FOUNTAINS, DRINKING FOUNTAINS, PLAYGROUNDS, SWIMMING POOLS, OUTDOOR EATING FACILITIES OR WELLS ASSOCIATED WITH THIS PROJECT. BARRIERS SHALL BE INSTALLED BETWEEN AREAS IRRIGATED WITH POTABLE AND RECYCLED WATER AREAS. THESE BARRIERS MAY CONSIST OF SIDEWALKS, MOW CURBS, WALLS, FENCES, ETC. CONTRACTOR TO REFER TO VILLAGE 8 WEST TM AND PHASE 1 GRADING BY HALE ENGINEERING FOR CONTOURS.

RESPONSIBILITY DISCLAIMER:

ALL SCREENED FACILITIES, EXISTING OR PROPOSED, WERE OBTAINED FROM THE CIVIL PLAN DWG NO.'S 14011, 18016, 1402 (OWD # D1044-090379), 14014 (OWD # D1044-090380), 18024 (OWD # D1044-090381), 18025 (OWD # D1044-090382) AND 19036 (OWD # D1044-090382). FOR THIS PROJECT (OWD # D1044-060273) 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 RICK ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ACTUAL SIZE OR LOCATION. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWD ENGINEER.

MAINTENANCE RESPONSIBILITY: ALL REQUIRED LANDSCAPE AREAS WITHIN PROPERTY LINE SHALL BE MAINTAINED BY PROPERTY OWNER, EXCEPT EXTERIOR SLOPE WHICH ARE MAINTAINED BY MASTER HOA. THE LANDSCAPE AREAS SHALL BE MAINTAINED FREE OF DEBRIS AND LITTER, AND ALL PLANTER MATERIAL SHALL BE MAINTAINED IN A HEALTHY GROWING CONDITION. DISEASED OR DEAD PLANT MATERIAL SHALL BE SATISFACTORILY TREATED OR REPLACE PER THE CONDITIONS OF THE PERMIT.

OWD AS BUILT	OWD REVISION
	CONSTRUCTION CHANGE #1 - REMOVED MAINLINE ON NON-IRRIGATED SLOPES and ADDED VALVES TO SYSTEM B. 03/27/23
Signature and Date Field Services Mngr. Brandon DiPietro	
ANNUAL ANTICIPATED WATER DEMAND SUMMARY 449,000 SQ. FT. PLANTING AREA 10.30 ACRES	
MAXIMUM APPLIED WATER ALLOWANCE 6,388,821 GAL./YR. 19.6 ACRE FEET	
ESTIMATED TOTAL WATER USE PER YEAR 5,678,953 GAL./YR. 17.42 ACRE FEET	
REFER TO SHEET LP-14 FOR FULL CALCULATIONS	

AS BUILT	UTILITY NOTE
SIGNATURE _____ DATE _____ Printed Name _____ R.L.A. No. _____ 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.

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd
CONTRACTOR: INSPECTOR: DATE COMPLETED:	HALE ENGINEERING GRADING PLANS: 14011				

DATUMS
CITY OF CHULA VISTA BENCH MARK NO. 95072 ELEVATION 448.361 NAVD 88 DESCRIPTION: 3" BRASS DISK (LS4324) WELL MGN @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841

SCALE	Designed By:	Drawn By:	Checked By:	Submitted:
HORIZONTAL 1" = 500' VERTICAL N/A	LE	LE / RR	PT	By: _____
	Plans Prepared Under Supervision Of:	Date:	2/10/2022	Office: _____
	PATRICIA TRAUTH	R.L.A. No.	3247	

APPROVED BY:	DATE:
_____ DIRECTOR OF DEVELOPMENT SERVICES, TIFFANY ALLEN OR DESIGNEE	_____

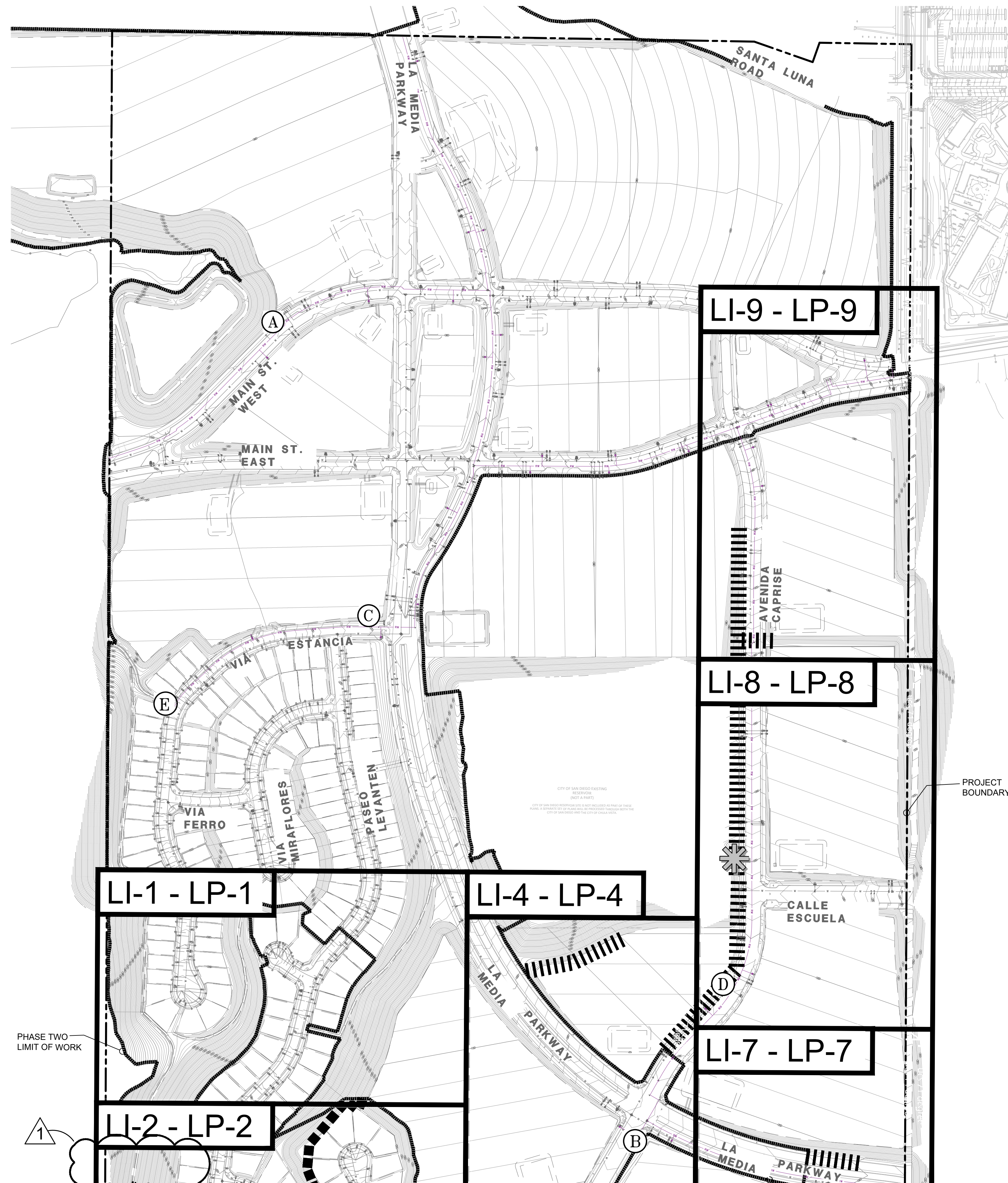
CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT	DRAWING NO.
TITLE SHEET FOR: CHULA VISTA TRACT NO. 09-04 PH.2 OTAY RANCH, VILLAGE 8 WEST	T-1 19015 - 061
W.O. NO. OR652G	

DEH2020-LRWS-001277

OWD # D1044-060274

WATER UTILITY LEGEND

SYMBOL	DESCRIPTION
— W —	POTABLE WATER LINE (PER CIVIL)
⊕	POTABLE WATER METER (PER CIVIL)
— RW —	RECYCLED WATER LINE (PER CIVIL)
⊕ _{RW}	RECYCLED WATER METER (PER CIVIL)
⊕	FIRE HYDRANT (PER CIVIL)
⊕	SEWER LINE (PER CIVIL)
⊕	RECYCLE WATER SIGN



- (A)** ●●●●●● P.O.C. 'A' (PART OF PHASE 1) DWG# 14015
 IRRIGATION MAINTAINED BY: MHOA
 'A' STA. 17+76.51 MAIN STREET WEST
 2" - RECYCLED SERVICE LINE (BY OTHERS)
 1 1/2" - RECYCLED METER (BY OTHERS)
 1 1/2" - "WYE" STRAINER
 1 1/2" - CHECK VALVE
 1 1/2" - MASTER CONTROL VALVE
 1 1/2" - FLOW SENSOR
 HGL 680 FT ELEVATION: 449 FT
 STATIC PRESSURE: 100 PSI
 BOOST: 25 PSI
 MAX FLOW: 70 GPM
 225 STATION CONTROLLER
 HUNTER 2-WIRE
 ACC2-225D
 SEE SHEET: LI-3
- (B)** ●●●●●● P.O.C. 'B' (PART OF PHASE 1) DWG# 14015
 IRRIGATION MAINTAINED BY: MHOA
 'B' STA. 170+75.00 LA MEDIA PARKWAY
 2" - RECYCLED SERVICE LINE (BY OTHERS)
 1 1/2" - RECYCLED METER (BY OTHERS)
 1 1/2" - "WYE" STRAINER
 1 1/2" - CHECK VALVE
 1 1/2" - MASTER CONTROL VALVE
 1 1/2" - FLOW SENSOR
 HGL 680 FT ELEVATION: 406 FT
 STATIC PRESSURE: 116 PSI
 BOOST: 50 PSI
 MAX FLOW: 70 GPM
 225 STATION CONTROLLER
 HUNTER 2-WIRE
 ACC2-225D
- (C)** ■■■■■■ P.O.C. 'C' (PART OF PHASE 1) DWG# 14015
 IRRIGATION MAINTAINED BY: MHOA
 'C' STA. 26+63.79 VIA ESTANCIA
 2" - RECYCLED SERVICE LINE (BY OTHERS)
 2" - RECYCLED METER (BY OTHERS)
 2" - "WYE" STRAINER
 2" - CHECK VALVE
 2" - MASTER CONTROL VALVE
 2" - FLOW SENSOR
 HGL 680 FT ELEVATION: 470 FT
 STATIC PRESSURE: 90 PSI
 BOOST: 40 PSI
 MAX FLOW: 100 GPM
 225 STATION CONTROLLER
 HUNTER 2-WIRE
 ACC2-225D
 SEE SHEET: LI-6
- (D)** ||||| P.O.C. 'D'
 IRRIGATION MAINTAINED BY: MHOA
 'D' STA. 29+92.69 AVE. CAPRISE
 2" - RECYCLED SERVICE LINE (BY OTHERS)
 1 1/2" - RECYCLED METER (BY OTHERS)
 1 1/2" - "WYE" STRAINER
 1 1/2" - CHECK VALVE
 1 1/2" - MASTER CONTROL VALVE
 1 1/2" - FLOW SENSOR
 HGL 680 FT ELEVATION: 414 FT
 STATIC PRESSURE: 114 PSI
 BOOST: 35 PSI
 MAX FLOW: 70 GPM
 225 STATION CONTROLLER
 HUNTER 2-WIRE
 ACC2-225D
- (E)** ○ P.O.C. 'E' (PART OF PHASE 1) DWG# 14015
 IRRIGATION MAINTAINED BY: MHOA
 'E' STA. 19+49.32 VIA ESTANCIA
 2" - RECYCLED SERVICE LINE (BY OTHERS)
 1 1/2" - RECYCLED METER (BY OTHERS)
 1 1/2" - "WYE" STRAINER
 1 1/2" - CHECK VALVE
 1 1/2" - MASTER CONTROL VALVE
 1 1/2" - FLOW SENSOR
 HGL 680 FT ELEVATION: 470 FT
 STATIC PRESSURE: 90 PSI
 BOOST: 90 PSI
 MAX FLOW: 70 GPM
 225 STATION CONTROLLER
 HUNTER 2-WIRE
 ACC2-225D
 SEE SHEET: LI-14

NOTE:
 APPROXIMATE LOCATIONS OF IRRIGATION SYSTEM P.O.C.s ARE SHOWN. P.O.C.s "A", "B", "C" & "E" ARE PART OF PHASE 1 SLOPE & EROSION CONTROL IRRIGATION PLANS (DWG# 14015 / OWD # D1044-060273 / DEH2020-LRWS-001277); P.O.C. "D" IS PART OF PHASE 2.

SITE MAP
 SCALE 1"=200'

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

AS BUILT		UTILITY NOTE	
SIGNATURE _____	DATE _____	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.	
Printed Name _____	R.L.A. No. _____		
My Registration Expires _____	Discipline _____		

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd
CONTRACTOR: _____	HALE ENGINEERING GRADING PLANS: 14011				
INSPECTOR: _____					
DATE COMPLETED: _____					

DATUMS		SCALE	Designed By:	Drawn By:	Checked By:
CITY OF CHULA VISTA BENCH MARK NO. 95072 ELEVATION 448.361 NAVD 88 DESCRIPTION: 3" BRASS DISK (LS4324) WELL MON @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841		HORIZONTAL 1" = 400' VERTICAL N/A	LE	LE / RR	PT

Plans Prepared Under Supervision Of:	Date:	Submitted:	APPROVED BY:	DATE:
PATRICIA TRAUH	4/20/2023	By: _____	DIRECTOR OF DEVELOPMENT SERVICES, TIFFANY ALLEN OR DESIGNEE	_____

Office:	Submitted:	APPROVED BY:	DATE:
_____	_____	_____	_____

CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT			DRAWING NO.
IRRIGATION P.O.C. LEGEND FOR: CHULA VISTA TRACT NO. 09-04 PH.2 T-2 OTAY RANCH, VILLAGE 8 WEST			19015-2
			W.O. NO. OR652G

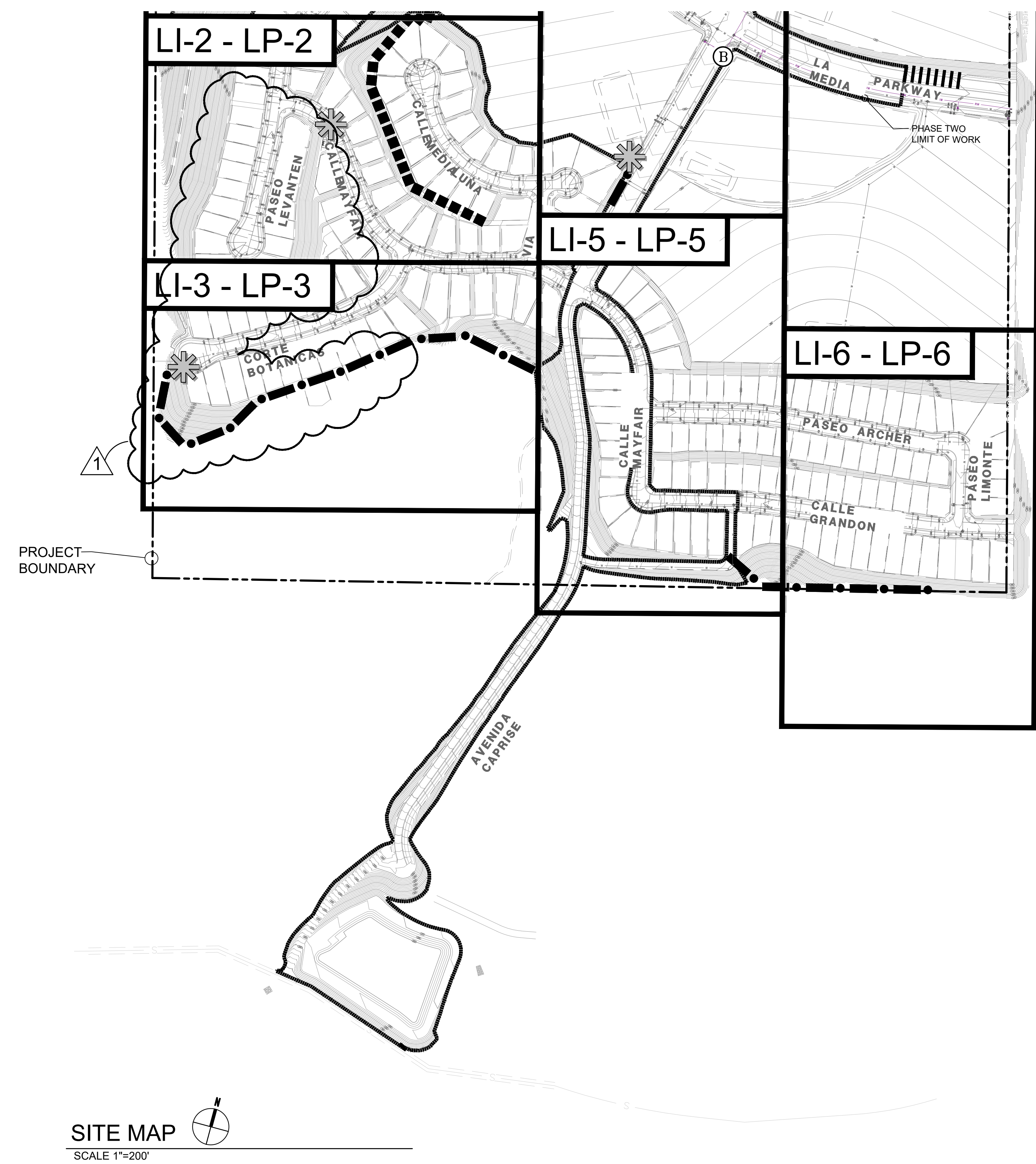
RICK ENGINEERING COMPANY
 5620 FRIARS ROAD
 SAN DIEGO, CA 92110
 619-291-0707
 (FAX) 619-291-4165
 rickengineering.com



OWD # D1044-060274

WATER UTILITY LEGEND

SYMBOL	DESCRIPTION
W	POTABLE WATER LINE (PER CIVIL)
W	POTABLE WATER METER (PER CIVIL)
RW	RECYCLED WATER LINE (PER CIVIL)
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FD	FIRE HYDRANT (PER CIVIL)
S	SEWER LINE (PER CIVIL)
Star	RECYCLE WATER SIGN



- B** P.O.C. 'B' (PART OF PHASE 1) DWG# 14015
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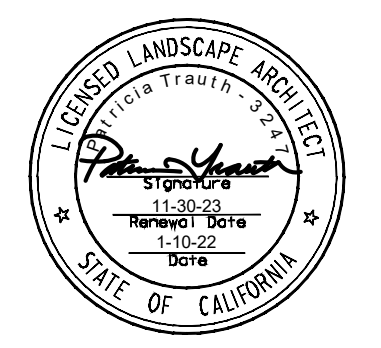
AS BUILT	UTILITY NOTE
SIGNATURE _____ DATE _____ Printed Name _____ R.L.A. No. _____ My Registration Expires _____ Discipline _____	ALL EXISTING UTILITIES SHOWN ON THESE PLANS ARE PLOTTED FROM RECORD DATA AT THEIR APPROXIMATE LOCATIONS. UNDERGROUND FACILITIES MAY EXIST WHICH HAVE NOT BEEN REPORTED OR ARE NOT OF RECORD. CONTRACTOR SHALL VERIFY THE LOCATION OF ALL PERTINENT UTILITIES IN THE FIELD PRIOR TO THE START OF CONSTRUCTION.

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd	DATUMS	SCALE	Designed By:	Drawn By:	Checked By:	Submitted:	APPROVED BY:	DATE:	
CONTRACTOR: _____ INSPECTOR: _____ DATE COMPLETED: _____	HALE ENGINEERING GRADING PLANS: 14011					CITY OF CHULA VISTA BENCH MARK NO. 95072 ELEVATION 448.361 NAVD 88 DESCRIPTION: 3" BRASS DISK (LS4324) WELL MON @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841	HORIZONTAL 1" = 400' VERTICAL N/A	LE	LE / RR	PT	4/20/2023	By: _____ Office: _____	DIRECTOR OF DEVELOPMENT SERVICES, TIFFANY ALLEN OR DESIGNEE	

RICK ENGINEERING COMPANY
 5620 FRIARS ROAD
 SAN DIEGO, CA 92110
 619-291-0707
 (FAX) 619-291-4165
 rickengineering.com

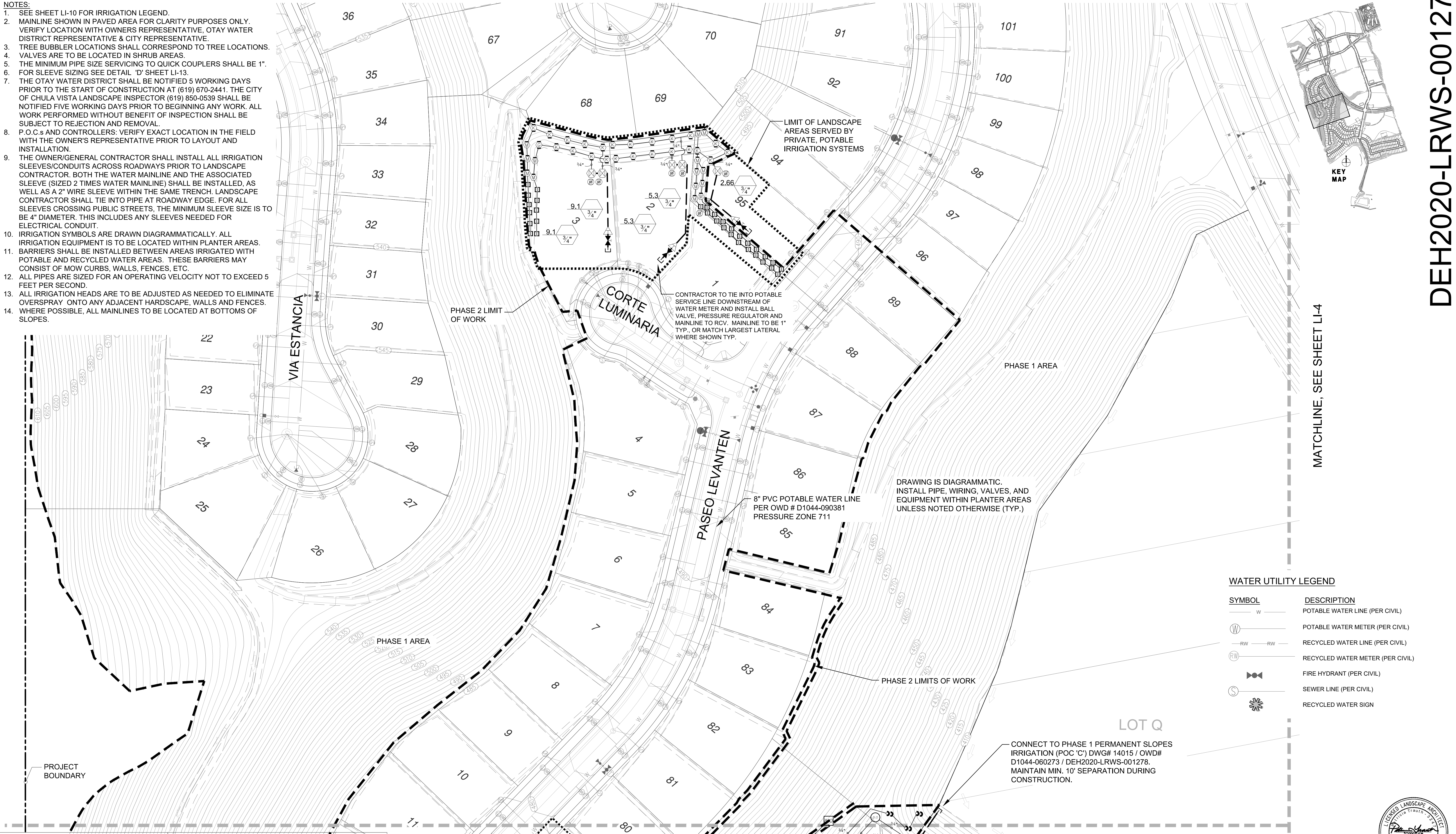
CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT
 IRRIGATION P.O.C. LEGEND FOR:
CHULA VISTA TRACT NO. 09-04 PH.2 T-3
 OTAY RANCH, VILLAGE 8 WEST

DRAWING NO. 19015-3
 W.O. NO. OR652G
 GRADING PERMIT No. GR13-005 PLR-20-018 OWD SHEET 3 OF 27



OWD # D1044-060274

- NOTES:**
- SEE SHEET LI-10 FOR IRRIGATION LEGEND.
 - MAINLINE SHOWN IN PAVED AREA FOR CLARITY PURPOSES ONLY. VERIFY LOCATION WITH OWNERS REPRESENTATIVE, OTAY WATER DISTRICT REPRESENTATIVE & CITY REPRESENTATIVE.
 - TREE BUBBLER LOCATIONS SHALL CORRESPOND TO TREE LOCATIONS.
 - VALVES ARE TO BE LOCATED IN SHRUB AREAS.
 - THE MINIMUM PIPE SIZE SERVICING TO QUICK COUPLERS SHALL BE 1".
 - FOR SLEEVE SIZING SEE DETAIL 'D' SHEET LI-13.
 - THE OTAY WATER DISTRICT SHALL BE NOTIFIED 5 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2441. THE CITY OF CHULA VISTA LANDSCAPE INSPECTOR (619) 850-0539 SHALL BE NOTIFIED FIVE WORKING DAYS PRIOR TO BEGINNING ANY WORK. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.
 - P.O.C.s AND CONTROLLERS: VERIFY EXACT LOCATION IN THE FIELD WITH THE OWNER'S REPRESENTATIVE PRIOR TO LAYOUT AND INSTALLATION.
 - THE OWNER/GENERAL CONTRACTOR SHALL INSTALL ALL IRRIGATION SLEEVES/CONDUITS ACROSS ROADWAYS PRIOR TO LANDSCAPE CONTRACTOR. BOTH THE WATER MAINLINE AND THE ASSOCIATED SLEEVE (SIZED 2 TIMES WATER MAINLINE) SHALL BE INSTALLED, AS WELL AS A 2" WIRE SLEEVE WITHIN THE SAME TRENCH. LANDSCAPE CONTRACTOR SHALL TIE INTO PIPE AT ROADWAY EDGE. FOR ALL SLEEVES CROSSING PUBLIC STREETS, THE MINIMUM SLEEVE SIZE IS TO BE 4" DIAMETER. THIS INCLUDES ANY SLEEVES NEEDED FOR ELECTRICAL CONDUIT.
 - IRRIGATION SYMBOLS ARE DRAWN DIAGRAMMATICALLY. ALL IRRIGATION EQUIPMENT IS TO BE LOCATED WITHIN PLANTER AREAS.
 - BARRIERS SHALL BE INSTALLED BETWEEN AREAS IRRIGATED WITH POTABLE AND RECYCLED WATER AREAS. THESE BARRIERS MAY CONSIST OF MOW CURBS, WALLS, FENCES, ETC.
 - ALL PIPES ARE SIZED FOR AN OPERATING VELOCITY NOT TO EXCEED 5 FEET PER SECOND.
 - ALL IRRIGATION HEADS ARE TO BE ADJUSTED AS NEEDED TO ELIMINATE OVERSPRAY ONTO ANY ADJACENT HARDSCAPE, WALLS AND FENCES.
 - WHERE POSSIBLE, ALL MAINLINES TO BE LOCATED AT BOTTOMS OF SLOPES.



MATCHLINE, SEE SHEET LI-4

WATER UTILITY LEGEND

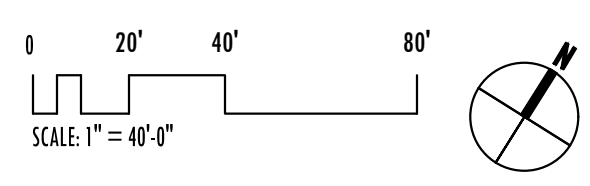
SYMBOL	DESCRIPTION
— W —	POTABLE WATER LINE (PER CIVIL)
⊙	POTABLE WATER METER (PER CIVIL)
— RW —	RECYCLED WATER LINE (PER CIVIL)
⊙	RECYCLED WATER METER (PER CIVIL)
⊕	FIRE HYDRANT (PER CIVIL)
⊙	SEWER LINE (PER CIVIL)
⊙	RECYCLED WATER SIGN

DRAWING IS DIAGRAMMATIC. INSTALL PIPE, WIRING, VALVES, AND EQUIPMENT WITHIN PLANTER AREAS UNLESS NOTED OTHERWISE (TYP.)

8" PVC POTABLE WATER LINE PER OWD # D1044-090381 PRESSURE ZONE 711

CONTRACTOR TO TIE INTO POTABLE SERVICE LINE DOWNSTREAM OF WATER METER AND INSTALL BALL VALVE, PRESSURE REGULATOR AND MAINLINE TO RCY. MAINLINE TO BE 1" TYP., OR MATCH LARGEST LATERAL WHERE SHOWN TYP.

CONNECT TO PHASE 1 PERMANENT SLOPES IRRIGATION (POC 'C') DWG# 14015 / OWD# D1044-060273 / DEH2020-LRWS-001278. MAINTAIN MIN. 10' SEPARATION DURING CONSTRUCTION.

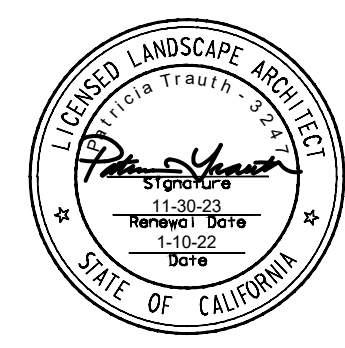


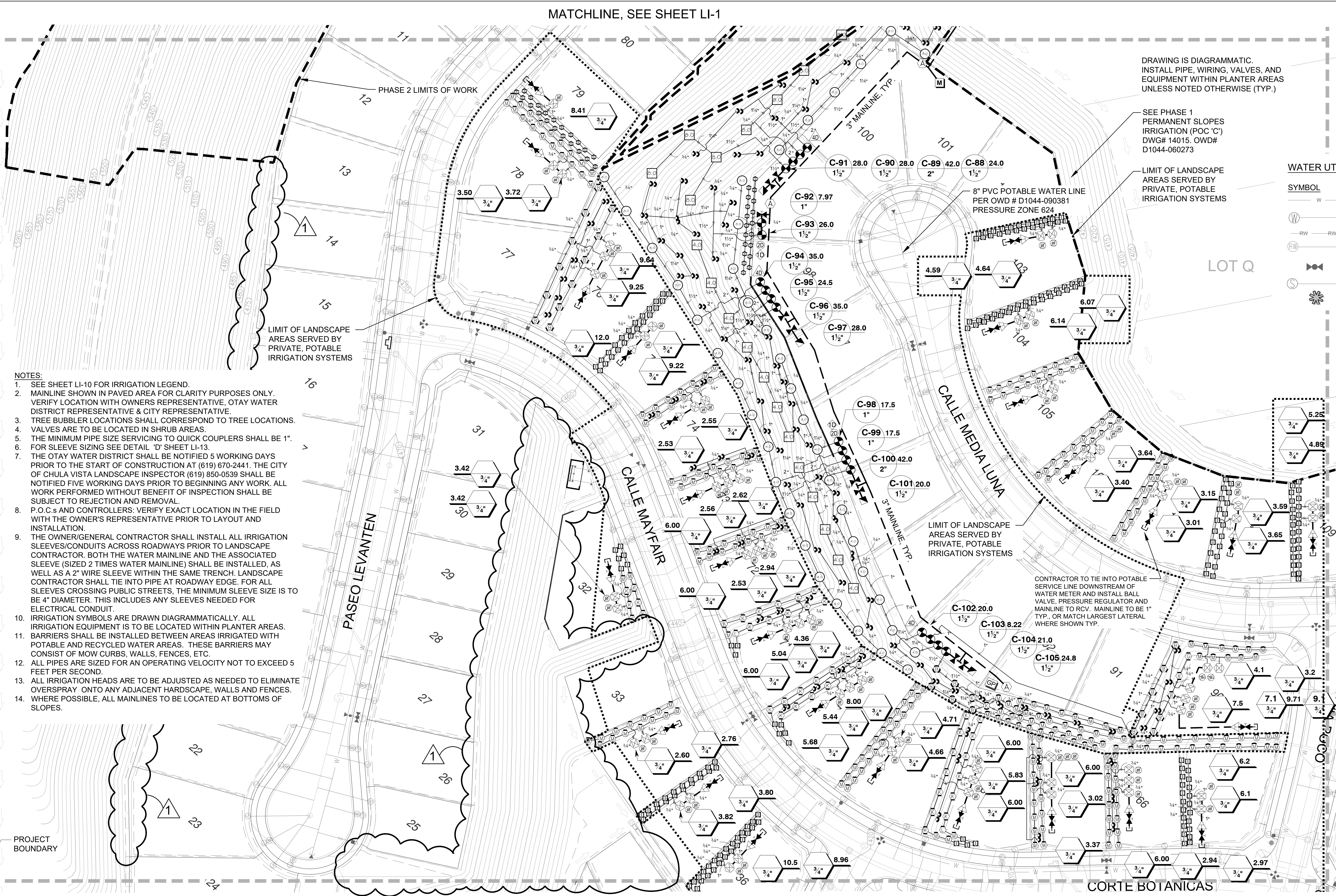
UTILITY NOTE

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

<p>CONSTRUCTION RECORD</p> <p>CONTRACTOR: HALE ENGINEERING GRADING PLANS: 14011</p> <p>INSPECTOR:</p> <p>DATE COMPLETED:</p>		<p>REFERENCES</p> <p>By: REVISIONS</p>		<p>DATUMS</p> <p>CITY OF CHULA VISTA BENCH MARK NO. 95072 ELEVATION 448.361 NAVD 88 DESCRIPTION: 3" BRASS DISK (LS4324) WELL MON @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841</p>		<p>SCALE</p> <p>HORIZONTAL 1" = 40'-0"</p> <p>VERTICAL N/A</p>		<p>Designed By: LE</p> <p>Drawn By: LE / RR</p> <p>Checked By: PT</p> <p>Plans Prepared Under Supervision Of: PATRICIA TRAUH</p> <p>Date: 2/10/2022</p> <p>R.L.A. No. 3247</p>		<p>Submitted: _____</p> <p>By: _____</p> <p>Office: _____</p>		<p>APPROVED BY: _____</p> <p>DIRECTOR OF DEVELOPMENT SERVICES, TIFFANY ALLEN OR DESIGNEE</p>		<p>DATE: _____</p>		<p>CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT</p> <p>IRRIGATION PLAN (PERMANENT SLOPES): CHULA VISTA TRACT NO. 09-04 PH.2 OTAY RANCH, VILLAGE 8 WEST</p>		<p>DRAWING NO. 19015-4</p> <p>W.O. NO. OR652G</p>	
<p>GRADING PERMIT No. GR13-005 PLR-20-018 OWD SHEET 4 OF 27</p>																			





DRAWING IS DIAGRAMMATIC. INSTALL PIPE, WIRING, VALVES, AND EQUIPMENT WITHIN PLANTER AREAS UNLESS NOTED OTHERWISE (TYP.)

SEE PHASE 1 PERMANENT SLOPES IRRIGATION (POC 'C') DWG# 14015. OWD# D1044-060273

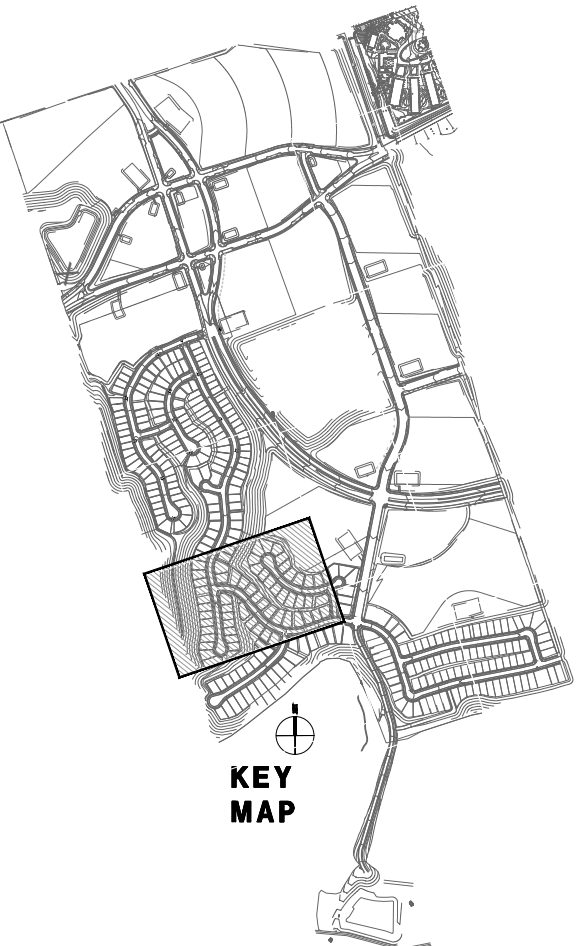
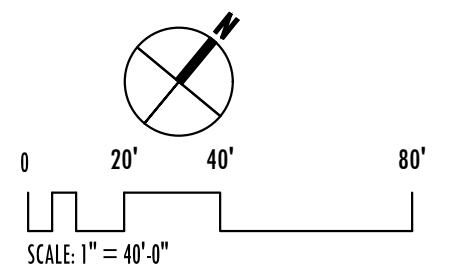
LIMIT OF LANDSCAPE AREAS SERVED BY PRIVATE, POTABLE IRRIGATION SYSTEMS

WATER UTILITY LEGEND

SYMBOL	DESCRIPTION
W	POTABLE WATER LINE (PER CIVIL)
W	POTABLE WATER METER (PER CIVIL)
RW	RECYCLED WATER LINE (PER CIVIL)
RW	RECYCLED WATER METER (PER CIVIL)
FD	FIRE HYDRANT (PER CIVIL)
S	SEWER LINE (PER CIVIL)
SW	RECYCLED WATER SIGN

- NOTES:**
- SEE SHEET LI-10 FOR IRRIGATION LEGEND.
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 - WHERE POSSIBLE, ALL MAINLINES TO BE LOCATED AT BOTTOMS OF SLOPES.

INSPECTION NOTE:
OTAY WATER DISTRICT SHALL BE NOTIFIED 5 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2441. ALL WORK PERFORMED WITHOUT THE BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.



AS BUILT		UTILITY NOTE	
SIGNATURE _____	DATE _____	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.	
Printed Name _____	R.L.A. No. _____		
My Registration Expires _____	Discipline _____		

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd
CONTRACTOR: _____	HALE ENGINEERING GRADING PLANS: 14011				
INSPECTOR: _____					
DATE COMPLETED: _____					

DATUMS		SCALE	Designed By:	Drawn By:	Checked By:
CITY OF CHULA VISTA BENCH MARK NO. 95072 ELEVATION 448.361 NAVD 88		HORIZONTAL 1" = 40'-0"	LE	LE / RR	PT
DESCRIPTION: 3" BRASS DISK (LS4324) WELL MON @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841		VERTICAL N/A	Plans Prepared Under Supervision Of:	Date: 4/20/2023	
			PATRICIA TRAUH	R.L.A. No. 3247	

Submitted:	APPROVED BY:	DATE:
By: _____	DIRECTOR OF DEVELOPMENT SERVICES, TIFFANY ALLEN OR DESIGNEE	_____
Office: _____		

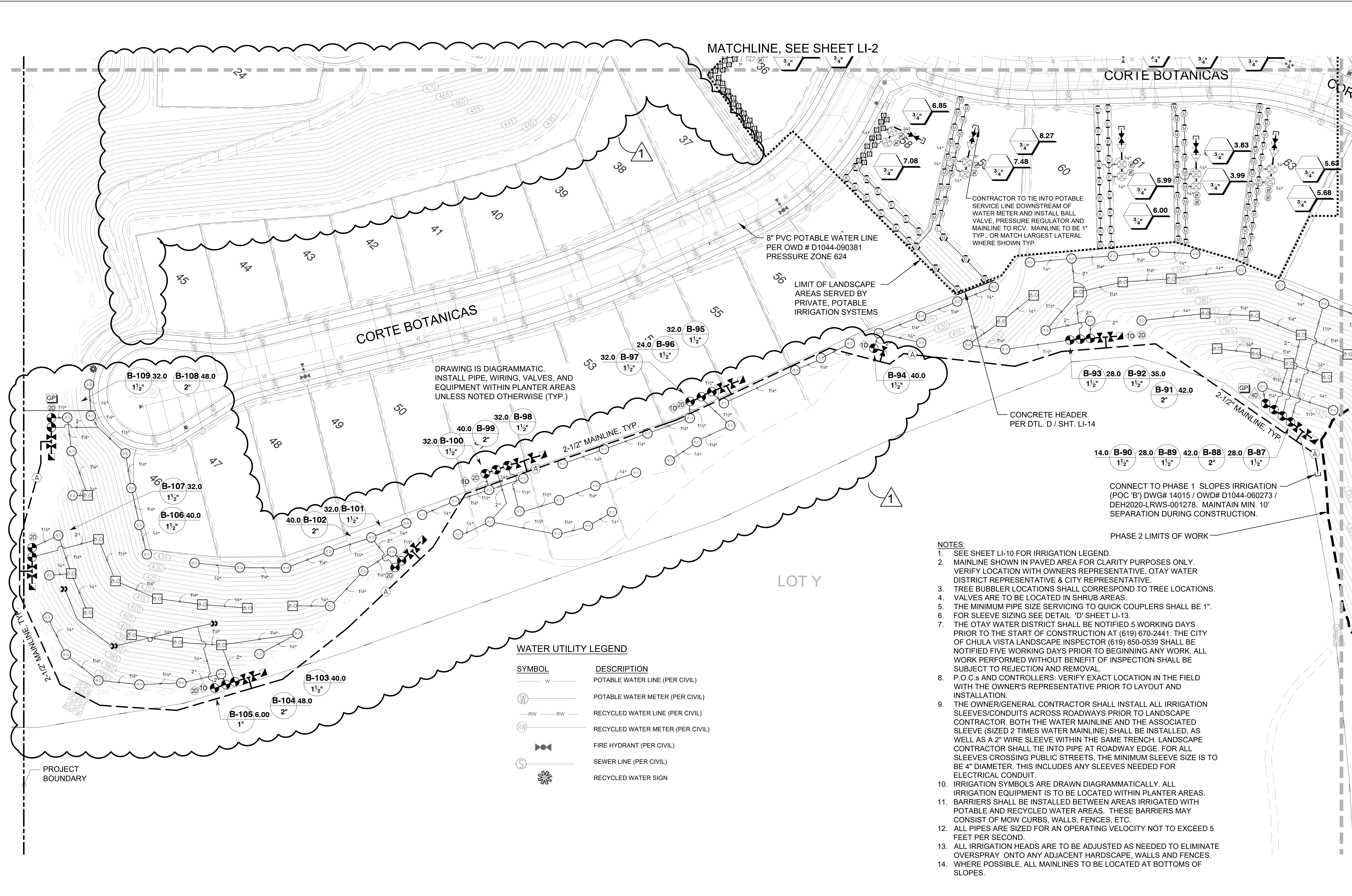
CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT		DRAWING NO.
IRRIGATION PLAN (PERMANENT SLOPES): CHULA VISTA TRACT NO. 09-04 PH.2 LI-2		19015-5
OTAY RANCH, VILLAGE 8 WEST		W.O. NO. OR652G

RICK ENGINEERING COMPANY
San Diego

5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165

rickengineering.com
Riverside - Orange - Sacramento - San Luis Obispo - Phoenix - Tucson - Denver

LICENSED LANDSCAPE ARCHITECT
STATE OF CALIFORNIA



DRAWING IS DIAGRAMMATIC. INSTALL PIPE, WIRING, VALVES, AND EQUIPMENT WITHIN PLANTER AREAS UNLESS NOTED OTHERWISE (TYP.)

CONTRACTOR TO TIE INTO POTABLE SERVICE LINE DOWNSTREAM OF WATER METER AND INSTALL BALL VALVE, PRESSURE REGULATOR AND MAINLINE TO RCV. MAINLINE TO BE 1" TYP. OR MATCH LARGEST LATERAL WHERE SHOWN TYP.

8" PVC POTABLE WATER LINE PER OWD # D1044-090381 PRESSURE ZONE 624

CONCRETE HEADER PER DTL. D / SHT. LI-14

CONNECT TO PHASE 1 SLOPES IRRIGATION (POC 'B') DWG# 14015 / OWD# D1044-060273 / DEH2020-LRWS-001278. MAINTAIN MIN. 10' SEPARATION DURING CONSTRUCTION.

PHASE 2 LIMITS OF WORK

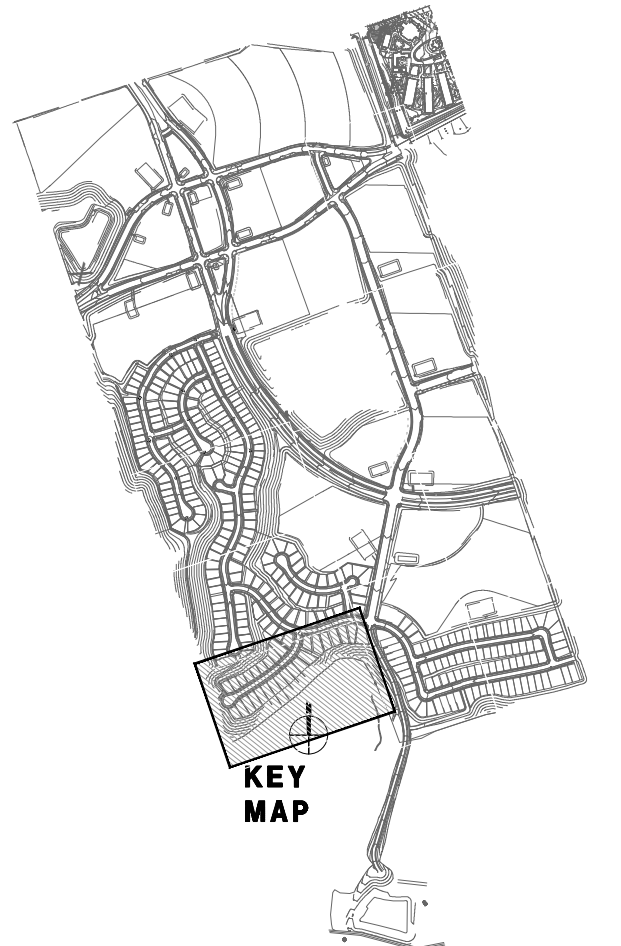
WATER UTILITY LEGEND

SYMBOL	DESCRIPTION
W	POTABLE WATER LINE (PER CIVIL)
W	POTABLE WATER METER (PER CIVIL)
RW	RECYCLED WATER LINE (PER CIVIL)
RW	RECYCLED WATER METER (PER CIVIL)
FD	FIRE HYDRANT (PER CIVIL)
S	SEWER LINE (PER CIVIL)
SW	RECYCLED WATER SIGN

NOTES:

- SEE SHEET LI-10 FOR IRRIGATION LEGEND.
- MAINLINE SHOWN IN PAVED AREA FOR CLARITY PURPOSES ONLY. VERIFY LOCATION WITH OWNERS REPRESENTATIVE, OTAY WATER DISTRICT REPRESENTATIVE & CITY REPRESENTATIVE.
- TREE BUBBLER LOCATIONS SHALL CORRESPOND TO TREE LOCATIONS. VALVES ARE TO BE LOCATED IN SHRUB AREAS.
- THE MINIMUM PIPE SIZE SERVICING TO QUICK COUPLERS SHALL BE 1". FOR SLEEVE SIZING SEE DETAIL 'D' SHEET LI-13.
- THE OTAY WATER DISTRICT SHALL BE NOTIFIED 5 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2441. THE CITY OF CHULA VISTA LANDSCAPE INSPECTOR (619) 850-0539 SHALL BE NOTIFIED FIVE WORKING DAYS PRIOR TO BEGINNING ANY WORK. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.
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- ALL IRRIGATION HEADS ARE TO BE ADJUSTED AS NEEDED TO ELIMINATE OVERSPRAY ONTO ANY ADJACENT HARDSCAPE, WALLS AND FENCES.
- WHERE POSSIBLE, ALL MAINLINES TO BE LOCATED AT BOTTOMS OF SLOPES.

MATCHLINE, SEE SHEET LI-5



PROJECT BOUNDARY

AS BUILT	UTILITY NOTE
SIGNATURE _____ DATE _____ Printed Name _____ R.L.A. No. _____ 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.

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

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd
CONTRACTOR: _____ INSPECTOR: _____ DATE COMPLETED: _____	HALE ENGINEERING GRADING PLANS: 14011				

DATUMS	SCALE	Designed By:	Drawn By:	Checked By:	Submitted:	APPROVED BY:	DATE:
CITY OF CHULA VISTA BENCH MARK NO. 95072 ELEVATION 448.391 NAVD 88 DESCRIPTION: 3" BRASS DISK (LS4324) WELL MON @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841	HORIZONTAL 1" = 40'-0" VERTICAL N/A	LE	LE / RR	PT	By: _____ Office: _____	DIRECTOR OF DEVELOPMENT SERVICES, TIFFANY ALLEN OR DESIGNEE	

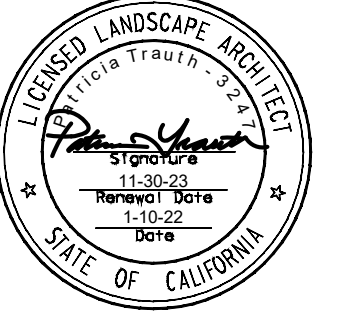
Plans Prepared Under Supervision Of:	Date:
PATRICIA TRAUTH	4/20/2023

Submitted:	By:	Office:
_____	_____	_____

CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT
IRRIGATION PLAN (PERMANENT SLOPES):
CHULA VISTA TRACT NO. 09-04 PH.2 LI-3
OTAY RANCH, VILLAGE 8 WEST

DRAWING NO.	W.O. NO.
19015-0652	OR652G

RICK ENGINEERING COMPANY
San Diego
5620 FRIARS ROAD
SAN DIEGO, CA 92118
619-291-0707
(FAX) 619-291-4165
rickenengineering.com
Riverside - Orange - Sacramento - San Luis Obispo - Phoenix - Tucson - Denver



MATCHLINE, SEE SHEET LI-8

MATCHLINE, SEE SHEET LI-7

WATER UTILITY LEGEND

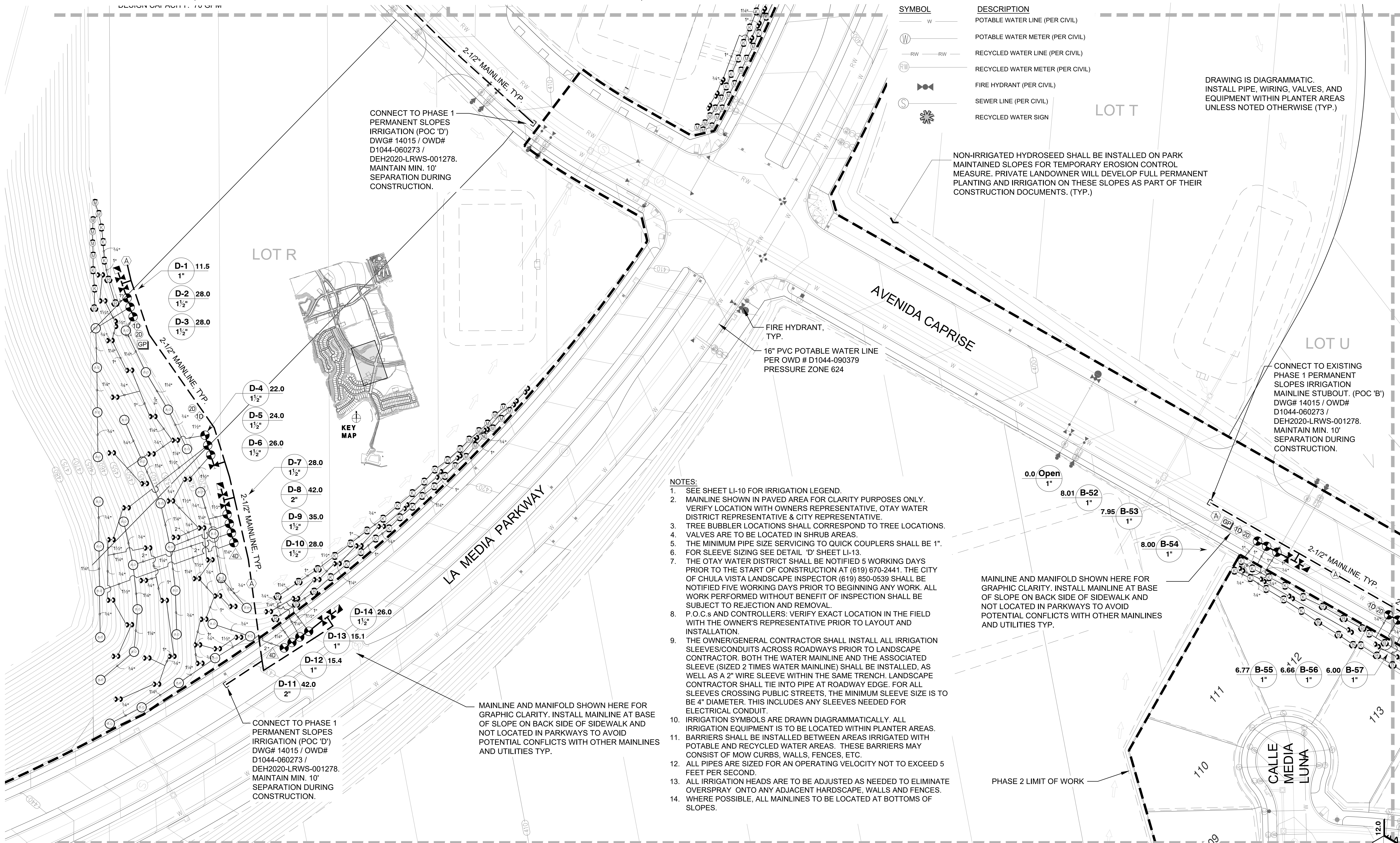
SYMBOL	DESCRIPTION
W	POTABLE WATER LINE (PER CIVIL)
⊕	POTABLE WATER METER (PER CIVIL)
RW	RECYCLED WATER LINE (PER CIVIL)
⊕	RECYCLED WATER METER (PER CIVIL)
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⊕	SEWER LINE (PER CIVIL)
⊕	RECYCLED WATER SIGN

DRAWING IS DIAGRAMMATIC. INSTALL PIPE, WIRING, VALVES, AND EQUIPMENT WITHIN PLANTER AREAS UNLESS NOTED OTHERWISE (TYP.)

NON-IRRIGATED HYDROSEED SHALL BE INSTALLED ON PARK MAINTAINED SLOPES FOR TEMPORARY EROSION CONTROL MEASURE. PRIVATE LANDOWNER WILL DEVELOP FULL PERMANENT PLANTING AND IRRIGATION ON THESE SLOPES AS PART OF THEIR CONSTRUCTION DOCUMENTS. (TYP.)

CONNECT TO PHASE 1 PERMANENT SLOPES IRRIGATION (POC 'D') DWG# 14015 / OWD# D1044-060273 / DEH2020-LRWS-001278. MAINTAIN MIN. 10' SEPARATION DURING CONSTRUCTION.

CONNECT TO EXISTING PHASE 1 PERMANENT SLOPES IRRIGATION MAINLINE STUBOUT. (POC 'B') DWG# 14015 / OWD# D1044-060273 / DEH2020-LRWS-001278. MAINTAIN MIN. 10' SEPARATION DURING CONSTRUCTION.



NOTES:

- SEE SHEET LI-10 FOR IRRIGATION LEGEND.
- MAINLINE SHOWN IN PAVED AREA FOR CLARITY PURPOSES ONLY. VERIFY LOCATION WITH OWNERS REPRESENTATIVE, OTAY WATER DISTRICT REPRESENTATIVE & CITY REPRESENTATIVE.
- TREE BUBBLER LOCATIONS SHALL CORRESPOND TO TREE LOCATIONS.
- VALVES ARE TO BE LOCATED IN SHRUB AREAS.
- THE MINIMUM PIPE SIZE SERVICING TO QUICK COUPLERS SHALL BE 1". FOR SLEEVE SIZING SEE DETAIL 'D' SHEET LI-13.
- THE OTAY WATER DISTRICT SHALL BE NOTIFIED 5 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2441. THE CITY OF CHULA VISTA LANDSCAPE INSPECTOR (619) 850-0539 SHALL BE NOTIFIED FIVE WORKING DAYS PRIOR TO BEGINNING ANY WORK. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.
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- WHERE POSSIBLE, ALL MAINLINES TO BE LOCATED AT BOTTOMS OF SLOPES.

MAINLINE AND MANIFOLD SHOWN HERE FOR GRAPHIC CLARITY. INSTALL MAINLINE AT BASE OF SLOPE ON BACK SIDE OF SIDEWALK AND NOT LOCATED IN PARKWAYS TO AVOID POTENTIAL CONFLICTS WITH OTHER MAINLINES AND UTILITIES TYP.

MAINLINE AND MANIFOLD SHOWN HERE FOR GRAPHIC CLARITY. INSTALL MAINLINE AT BASE OF SLOPE ON BACK SIDE OF SIDEWALK AND NOT LOCATED IN PARKWAYS TO AVOID POTENTIAL CONFLICTS WITH OTHER MAINLINES AND UTILITIES TYP.

CONNECT TO PHASE 1 PERMANENT SLOPES IRRIGATION (POC 'D') DWG# 14015 / OWD# D1044-060273 / DEH2020-LRWS-001278. MAINTAIN MIN. 10' SEPARATION DURING CONSTRUCTION.

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

MATCHLINE, SEE SHEET LI-2

MATCHLINE, SEE SHEET LI-4

AS BUILT

UTILITY NOTE

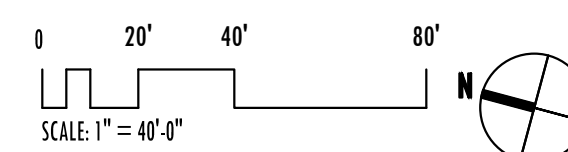
SIGNATURE _____ DATE _____
 Printed Name _____ R.L.A. No. _____
 My Registration Expires _____ Discipline _____

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CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd
CONTRACTOR: _____ INSPECTOR: _____ DATE COMPLETED: _____	HALE ENGINEERING GRADING PLANS: 14011				

DATUMS	SCALE	Designed By:	Drawn By:	Checked By:
CITY OF CHULA VISTA BENCH MARK NO. 95072 ELEVATION 448.361 NAVD 88 DESCRIPTION: 3" BRASS DISK (LS4324) WELL MON @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841	HORIZONTAL 1" = 40'-0" VERTICAL N/A	LE	LE / RR	PT
		Plans Prepared Under Supervision Of:	Date:	2/10/2022
		PATRICIA TRAUTH	R.L.A. No.	3247

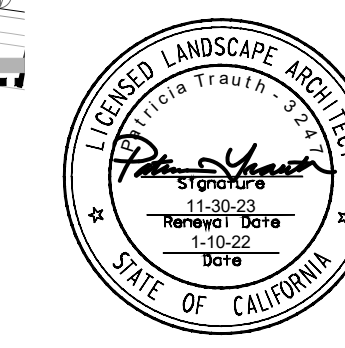
Submitted:	APPROVED BY:	DATE:
By: _____	DIRECTOR OF DEVELOPMENT SERVICES, TIFFANY ALLEN OR DESIGNEE	_____
Office: _____		



5620 FRIARS ROAD
 SAN DIEGO, CA 92110
 619-291-0707
 (FAX) 619-291-4165
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CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT
 IRRIGATION PLAN (PERMANENT SLOPES):
 CHULA VISTA TRACT NO. 09-04 PH.2 LI-4
 OTAY RANCH, VILLAGE 8 WEST

DRAWING NO.
 19015-7
 W.O. NO. OR652G
 GRADING PERMIT No. GR13-005 PLR-20-018 OWD SHEET 7 OF 27



DEH2020-LRWS-001277

MATCHLINE, SEE SHEET LI-5

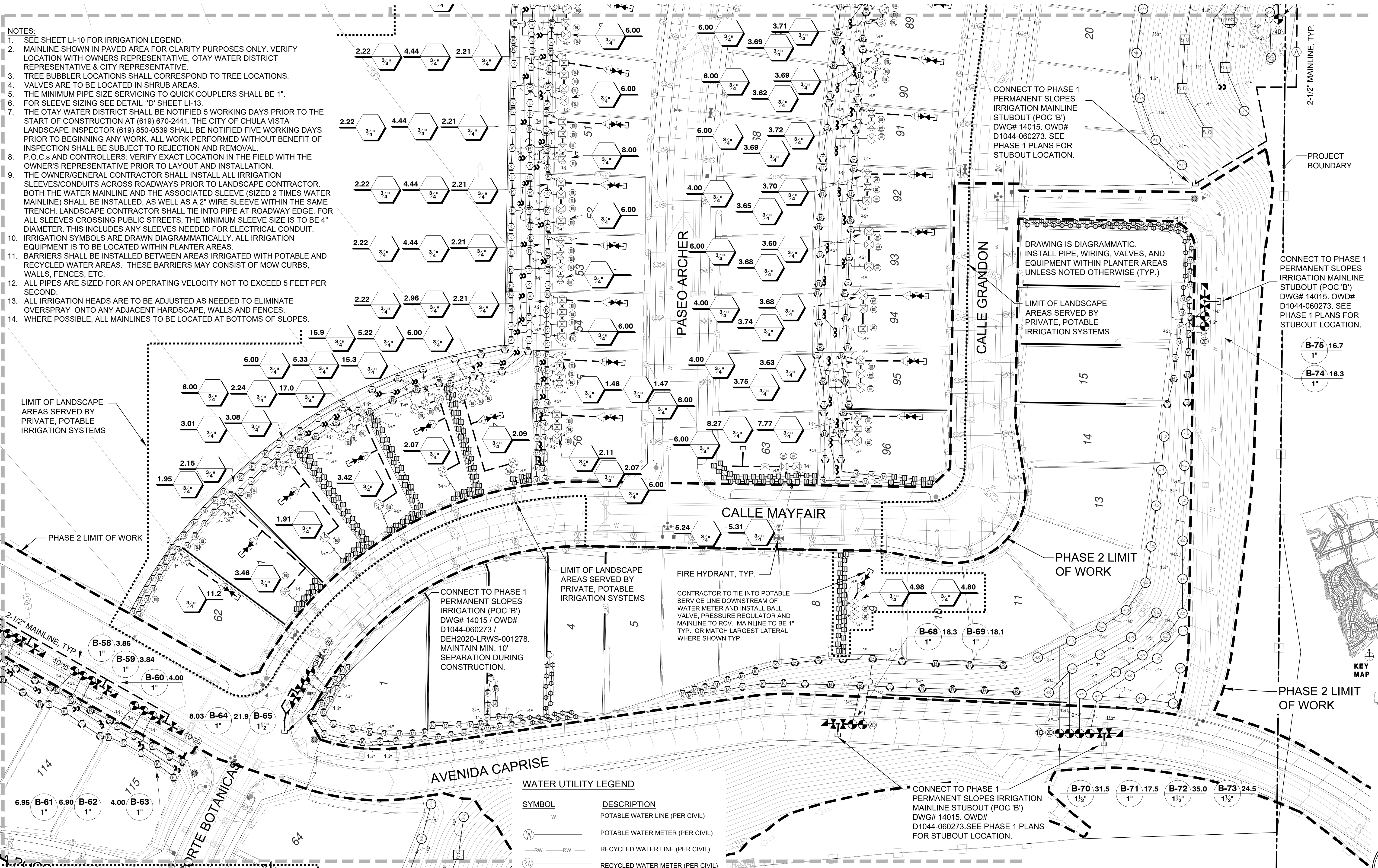
OWD # D1044-060274

MATCHLINE, SEE SHEET LI-7

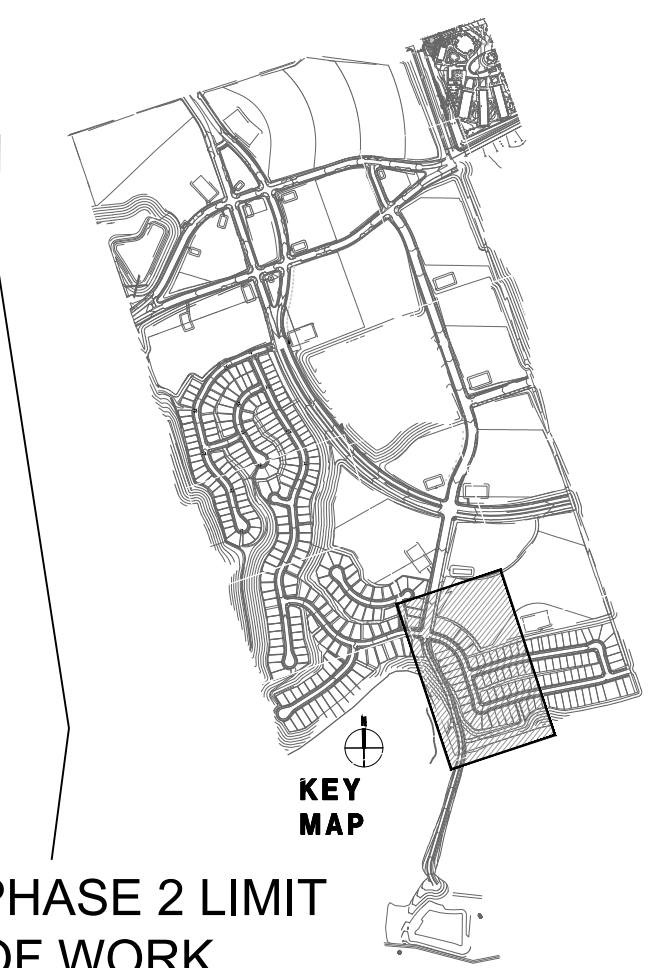
MATCHLINE, SEE SHEET LI-6

NOTES:

- SEE SHEET LI-10 FOR IRRIGATION LEGEND.
- MAINLINE SHOWN IN PAVED AREA FOR CLARITY PURPOSES ONLY. VERIFY LOCATION WITH OWNERS REPRESENTATIVE, OTAY WATER DISTRICT REPRESENTATIVE & CITY REPRESENTATIVE.
- TREE BUBBLER LOCATIONS SHALL CORRESPOND TO TREE LOCATIONS.
- VALVES ARE TO BE LOCATED IN SHRUB AREAS.
- THE MINIMUM PIPE SIZE SERVICING TO QUICK COUPLERS SHALL BE 1". FOR SLEEVE SIZING SEE DETAIL 'D' SHEET LI-13.
- THE OTAY WATER DISTRICT SHALL BE NOTIFIED 5 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2441. THE CITY OF CHULA VISTA LANDSCAPE INSPECTOR (619) 850-0539 SHALL BE NOTIFIED FIVE WORKING DAYS PRIOR TO BEGINNING ANY WORK. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.
- P.O.C.s AND CONTROLLERS: VERIFY EXACT LOCATION IN THE FIELD WITH THE OWNER'S REPRESENTATIVE PRIOR TO LAYOUT AND INSTALLATION.
- THE OWNER/GENERAL CONTRACTOR SHALL INSTALL ALL IRRIGATION SLEEVES/CONDUITS ACROSS ROADWAYS PRIOR TO LANDSCAPE CONTRACTOR. BOTH THE WATER MAINLINE AND THE ASSOCIATED SLEEVE (SIZED 2 TIMES WATER MAINLINE) SHALL BE INSTALLED, AS WELL AS A 2" WIRE SLEEVE WITHIN THE SAME TRENCH. LANDSCAPE CONTRACTOR SHALL TIE INTO PIPE AT ROADWAY EDGE. FOR ALL SLEEVES CROSSING PUBLIC STREETS, THE MINIMUM SLEEVE SIZE IS TO BE 4" DIAMETER. THIS INCLUDES ANY SLEEVES NEEDED FOR ELECTRICAL CONDUIT.
- IRRIGATION SYMBOLS ARE DRAWN DIAGRAMMATICALLY. ALL IRRIGATION EQUIPMENT IS TO BE LOCATED WITHIN PLANTER AREAS.
- BARRIERS SHALL BE INSTALLED BETWEEN AREAS IRRIGATED WITH POTABLE AND RECYCLED WATER AREAS. THESE BARRIERS MAY CONSIST OF MOW CURBS, WALLS, FENCES, ETC.
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MATCHLINE, SEE SHEET LI-4

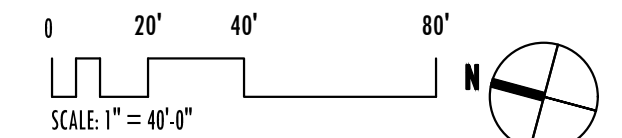


WATER UTILITY LEGEND

SYMBOL	DESCRIPTION
W	POTABLE WATER LINE (PER CIVIL)
WM	POTABLE WATER METER (PER CIVIL)
RW	RECYCLED WATER LINE (PER CIVIL)
RWM	RECYCLED WATER METER (PER CIVIL)
⊕	FIRE HYDRANT (PER CIVIL)
⊖	SEWER LINE (PER CIVIL)
⊗	RECYCLED WATER SIGN

MATCHLINE, SEE SHEET LI-3

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



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 619-291-0707
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AS BUILT		UTILITY NOTE	
SIGNATURE _____	DATE _____	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.	
Printed Name _____	R.L.A. No. _____		
My Registration Expires _____	Discipline _____		
CONSTRUCTION RECORD	REFERENCES	By	REVISIONS
CONTRACTOR: _____	HALE ENGINEERING GRADING PLANS: 14011		
INSPECTOR: _____			
DATE COMPLETED: _____			

DATUMS	
CITY OF CHULA VISTA BENCH MARK NO. 95072 ELEVATION 448.361 NAVD 88	
DESCRIPTION: 3" BRASS DISK (LS4324) WELL MON @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841	

SCALE	Designed By:	Drawn By:	Checked By:
HORIZONTAL 1" = 40'-0"	LE	LE / RR	PT
VERTICAL N/A	Plans Prepared Under Supervision Of:	Date:	2/10/2022
	PATRICIA TRAUH	R.L.A. No.	3247

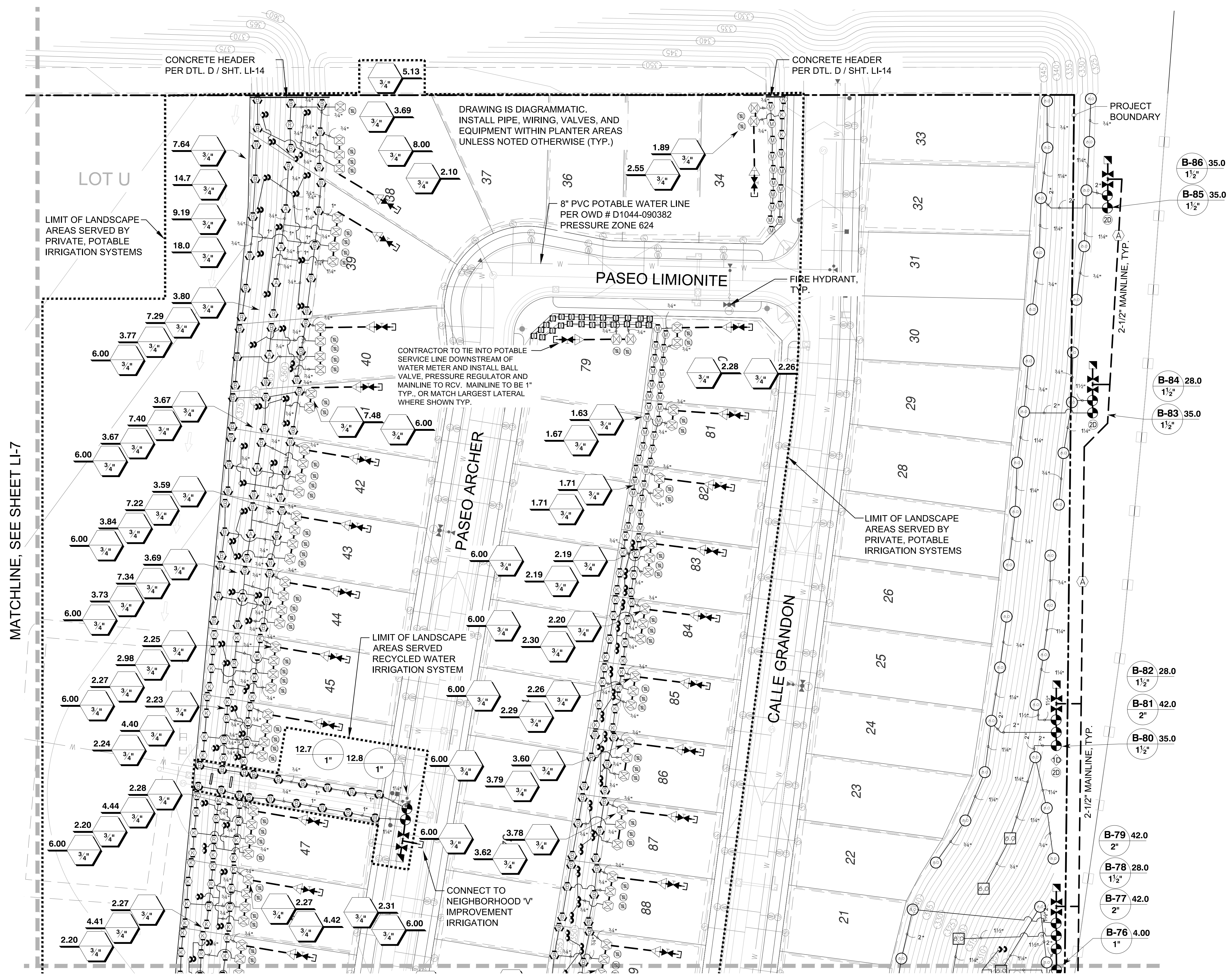
Submitted:	APPROVED BY:	DATE:
By: _____	DIRECTOR OF DEVELOPMENT SERVICES, TIFFANY ALLEN OR DESIGNEE	_____
Office:		

CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT		DRAWING NO.
IRRIGATION PLAN (PERMANENT SLOPES): CHULA VISTA TRACT NO. 09-04 PH.2		19015-8
OTAY RANCH, VILLAGE 8 WEST		W.O. NO. OR652G

LI-5	19015-8	W.O. NO. OR652G
GRADING PERMIT No. GR13-005 PLR-20-018 OWD SHEET 8 OF 27		

DEH2020-LRWS-001277

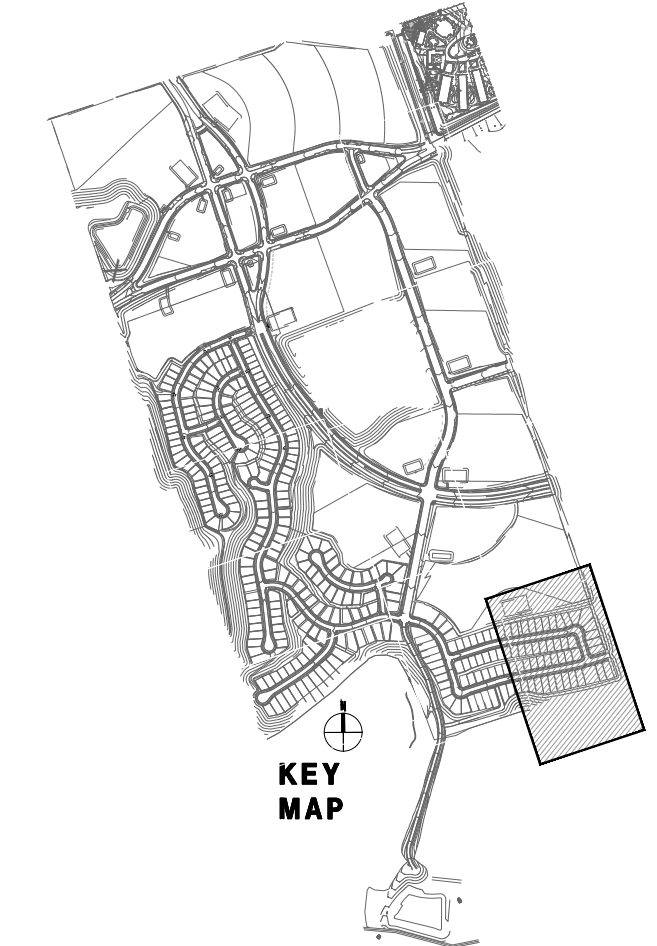
OWD # D1044-060274



WATER UTILITY LEGEND

SYMBOL	DESCRIPTION
W	POTABLE WATER LINE (PER CIVIL)
W with circle	POTABLE WATER METER (PER CIVIL)
RW	RECYCLED WATER LINE (PER CIVIL)
RW with circle	RECYCLED WATER METER (PER CIVIL)
Fire hydrant symbol	FIRE HYDRANT (PER CIVIL)
S	SEWER LINE (PER CIVIL)
Flower symbol	RECYCLED WATER SIGN

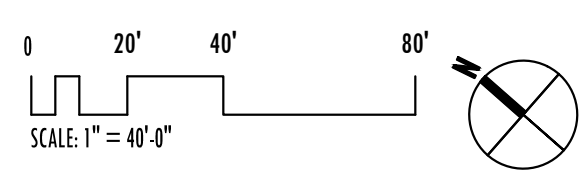
- NOTES:**
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MATCHLINE, SEE SHEET LI-7

MATCHLINE, SEE SHEET LI-5

<p>AS BUILT</p> <p>SIGNATURE _____ DATE _____</p> <p>Printed Name _____ R.L.A. No. _____</p> <p>My Registration Expires _____ Discipline _____</p>		<p>UTILITY NOTE</p> <p>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.</p>		<p>INSPECTION NOTE:</p> <p>OTAY WATER DISTRICT SHALL BE NOTIFIED 5 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2241. ALL WORK PERFORMED WITHOUT THE BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.</p>		<p>DATUMS</p> <p>CITY OF CHULA VISTA BENCH MARK NO. 95072 ELEVATION 448.361 NAVD 88 DESCRIPTION: 3" BRASS DISK (LS4324) WELL MON @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841</p>		<p>SCALE</p> <p>HORIZONTAL 1" = 40'-0"</p> <p>VERTICAL N/A</p>		<p>Designed By: LE</p> <p>Drawn By: LE / RR</p> <p>Checked By: PT</p> <p>Submitted: _____</p> <p>By: _____</p> <p>Date: 2/10/2022</p> <p>Office: _____</p>		<p>APPROVED BY: _____</p> <p>DATE: _____</p>		<p>CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT</p> <p>IRRIGATION PLAN (PERMANENT SLOPES):</p> <p>CHULA VISTA TRACT NO. 09-04 PH.2 LI-6</p> <p>OTAY RANCH, VILLAGE 8 WEST</p>		<p>DRAWING NO. 19015-9</p> <p>W.O. NO. OR652G</p>	
<p>CONSTRUCTION RECORD</p> <p>CONTRACTOR: HALE ENGINEERING GRADING PLANS: 14011</p> <p>INSPECTOR: _____</p> <p>DATE COMPLETED: _____</p>		<p>REFERENCES</p> <p>By _____</p> <p>REVISIONS</p> <p>Date _____ App'd _____</p>		<p>SCALE</p> <p>HORIZONTAL 1" = 40'-0"</p> <p>VERTICAL N/A</p>		<p>Plans Prepared Under Supervision Of: PATRICIA TRAUH</p> <p>R.L.A. No. 3247</p>		<p>APPROVED BY: _____</p> <p>DIRECTOR OF DEVELOPMENT SERVICES, TIFFANY ALLEN OR DESIGNEE</p>		<p>CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT</p> <p>IRRIGATION PLAN (PERMANENT SLOPES):</p> <p>CHULA VISTA TRACT NO. 09-04 PH.2 LI-6</p> <p>OTAY RANCH, VILLAGE 8 WEST</p>		<p>DRAWING NO. 19015-9</p> <p>W.O. NO. OR652G</p>					

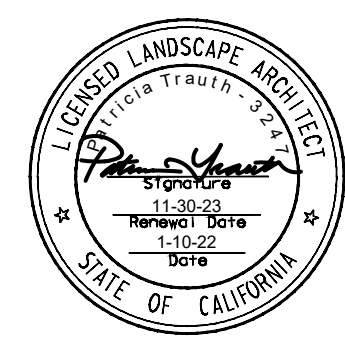


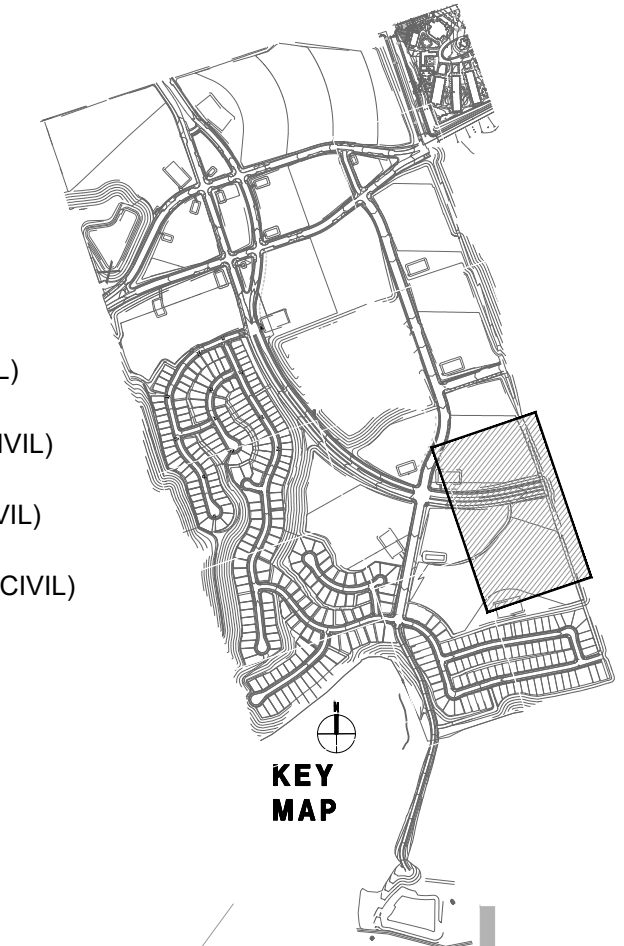
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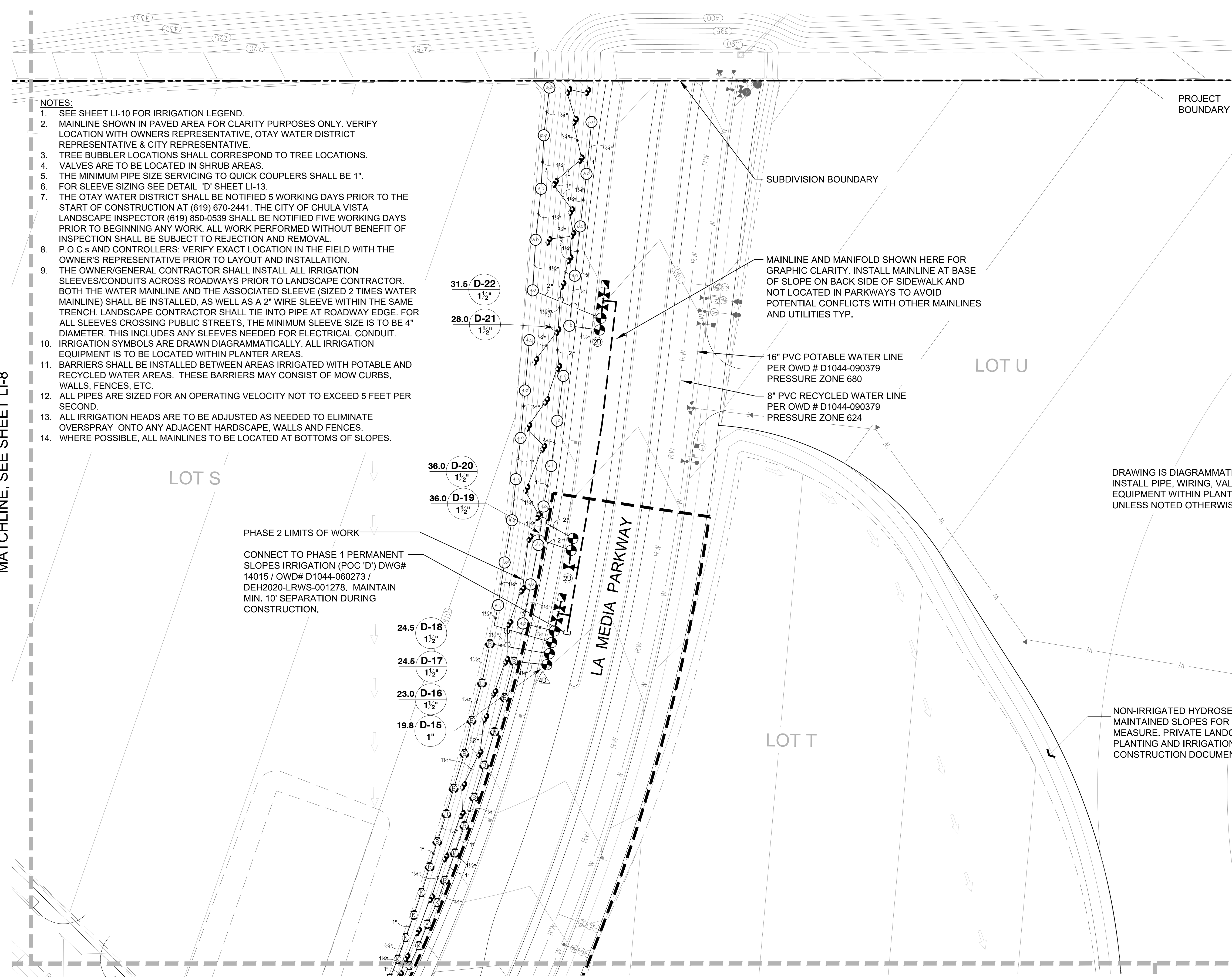
WATER UTILITY LEGEND

SYMBOL	DESCRIPTION
W	POTABLE WATER LINE (PER CIVIL)
W with meter symbol	POTABLE WATER METER (PER CIVIL)
RW	RECYCLED WATER LINE (PER CIVIL)
RW with meter symbol	RECYCLED WATER METER (PER CIVIL)
FD	FIRE HYDRANT (PER CIVIL)
S	SEWER LINE (PER CIVIL)
Star symbol	RECYCLED WATER SIGN

- NOTES:**
- SEE SHEET LI-10 FOR IRRIGATION LEGEND.
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MATCHLINE, SEE SHEET LI-8

MATCHLINE, SEE SHEET LI-6



AS BUILT

SIGNATURE _____ DATE _____

Printed Name _____ R.L.A. No. _____

My Registration Expires _____ Discipline _____

UTILITY NOTE

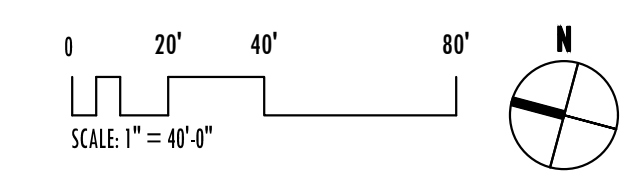
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INSPECTION NOTE:

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MATCHLINE, SEE SHEET LI-4

MATCHLINE, SEE SHEET LI-5



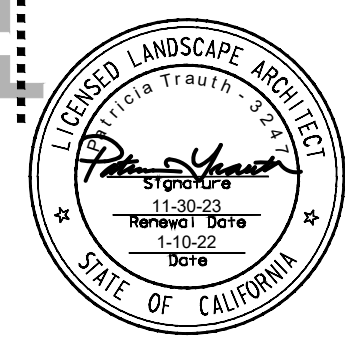
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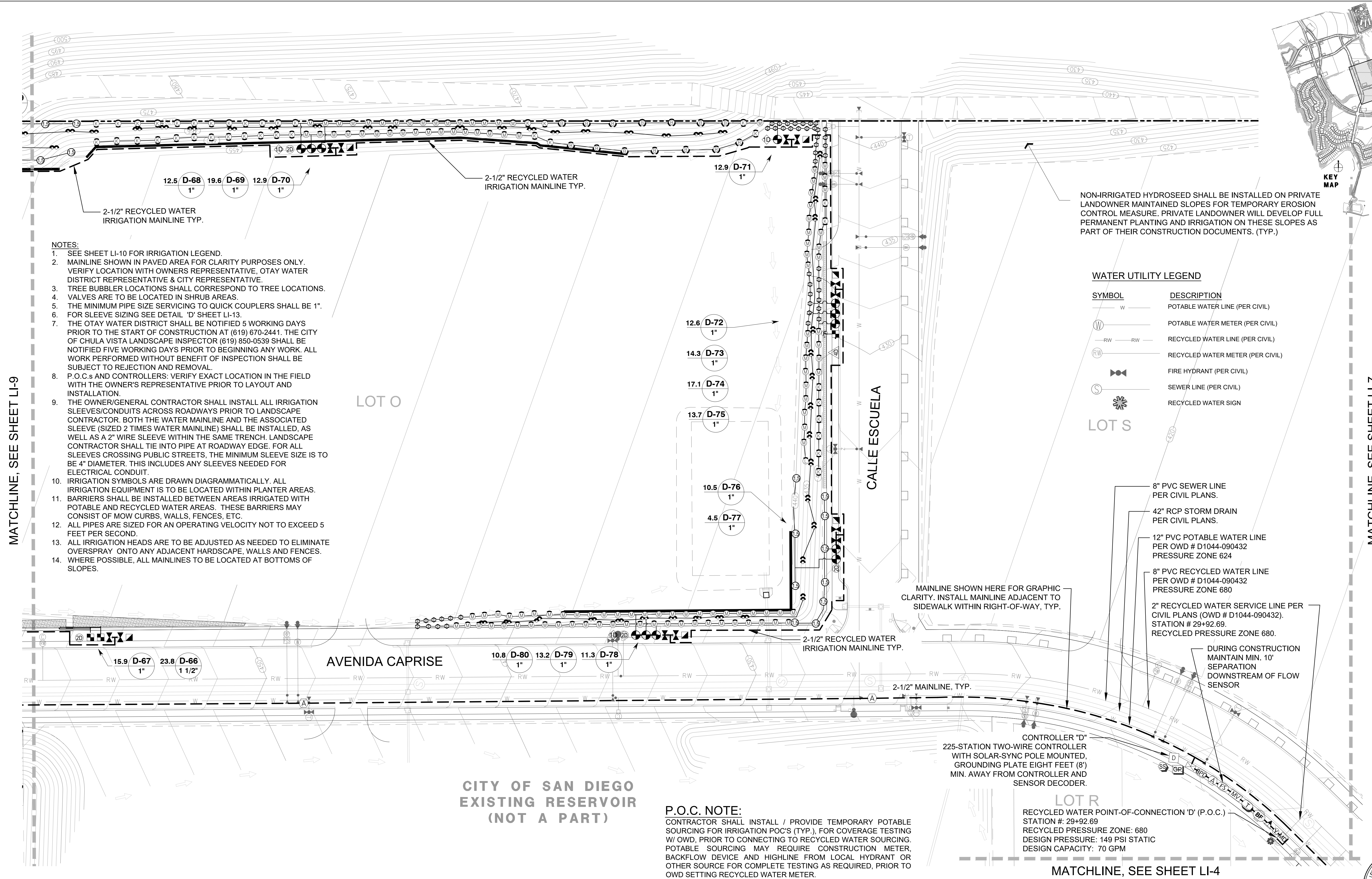
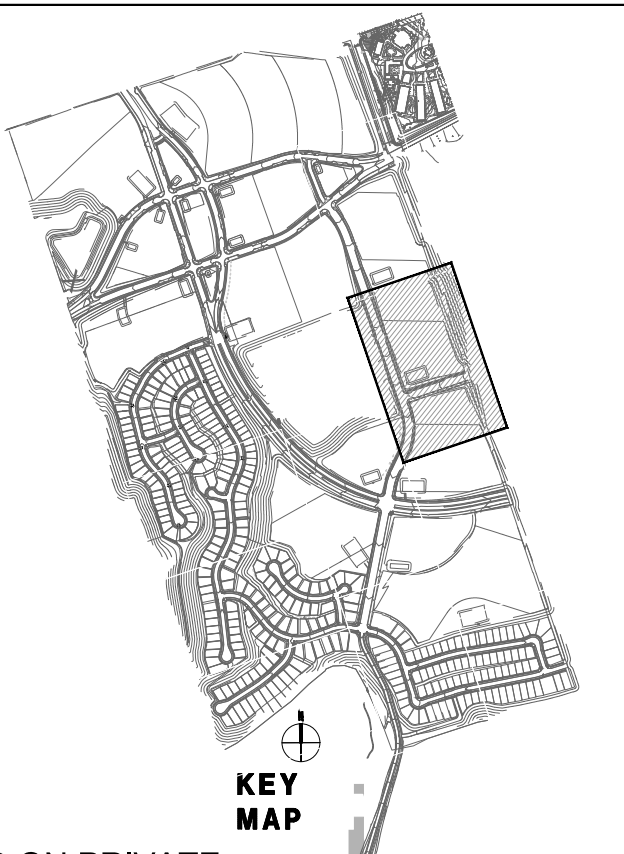
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CONSTRUCTION RECORD		REFERENCES	By	REVISIONS	Date	App'd	DATUMS	SCALE	Designed By:	Drawn By:	Checked By:	Submitted:	APPROVED BY:	DATE:	CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT	DRAWING NO.	
CONTRACTOR: HALE ENGINEERING GRADING PLANS: 14011							CITY OF CHULA VISTA BENCHMARK NO. 95072 ELEVATION 448.369 NAVD 88 DESCRIPTION: 3" BRASS DISK (LS4324) WELL MON @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841	HORIZONTAL 1" = 40'-0" VERTICAL N/A	LE	LE / RR	PT	By: _____	By: _____	DIRECTOR OF DEVELOPMENT SERVICES, TIFFANY ALLEN OR DESIGNEE		IRRIGATION PLAN (PERMANENT SLOPES): CHULA VISTA TRACT NO. 09-04 PH.2 LI-7 OTAY RANCH, VILLAGE 8 WEST	19015-10
INSPECTOR:									Plans Prepared Under Supervision Of:	Date: 2/10/2022		Office:				W.O. NO. OR652G	
DATE COMPLETED:									PATRICIA TRAUTH							OWD SHEET 10 OF 27	





- NOTES:**
- SEE SHEET LI-10 FOR IRRIGATION LEGEND.
 - MAINLINE SHOWN IN PAVED AREA FOR CLARITY PURPOSES ONLY. VERIFY LOCATION WITH OWNERS REPRESENTATIVE, OTAY WATER DISTRICT REPRESENTATIVE & CITY REPRESENTATIVE.
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NON-IRRIGATED HYDROSEED SHALL BE INSTALLED ON PRIVATE LANDOWNER MAINTAINED SLOPES FOR TEMPORARY EROSION CONTROL MEASURE. PRIVATE LANDOWNER WILL DEVELOP FULL PERMANENT PLANTING AND IRRIGATION ON THESE SLOPES AS PART OF THEIR CONSTRUCTION DOCUMENTS. (TYP.)

WATER UTILITY LEGEND

SYMBOL	DESCRIPTION
W	POTABLE WATER LINE (PER CIVIL)
W	POTABLE WATER METER (PER CIVIL)
RW	RECYCLED WATER LINE (PER CIVIL)
RW	RECYCLED WATER METER (PER CIVIL)
FD	FIRE HYDRANT (PER CIVIL)
S	SEWER LINE (PER CIVIL)
SW	RECYCLED WATER SIGN

- 8" PVC SEWER LINE PER CIVIL PLANS.
- 42" RCP STORM DRAIN PER CIVIL PLANS.
- 12" PVC POTABLE WATER LINE PER OWD # D1044-090432 PRESSURE ZONE 624
- 8" PVC RECYCLED WATER LINE PER OWD # D1044-090432 PRESSURE ZONE 680
- 2" RECYCLED WATER SERVICE LINE PER CIVIL PLANS (OWD # D1044-090432). STATION # 29+92.69. RECYCLED PRESSURE ZONE 680.

MAINLINE SHOWN HERE FOR GRAPHIC CLARITY. INSTALL MAINLINE ADJACENT TO SIDEWALK WITHIN RIGHT-OF-WAY, TYP.

CONTROLLER "D"
225-STATION TWO-WIRE CONTROLLER WITH SOLAR-SYNC POLE MOUNTED, GROUNDING PLATE EIGHT FEET (8') MIN. AWAY FROM CONTROLLER AND SENSOR DECODER.

LOT R
RECYCLED WATER POINT-OF-CONNECTION "D" (P.O.C.)
STATION #: 29+92.69
RECYCLED PRESSURE ZONE: 680
DESIGN PRESSURE: 149 PSI STATIC
DESIGN CAPACITY: 70 GPM

P.O.C. NOTE:
CONTRACTOR SHALL INSTALL / PROVIDE TEMPORARY POTABLE SOURCING FOR IRRIGATION POC'S (TYP.), FOR COVERAGE TESTING W/ OWD, PRIOR TO CONNECTING TO RECYCLED WATER SOURCING. POTABLE SOURCING MAY REQUIRE CONSTRUCTION METER, BACKFLOW DEVICE AND HIGHLINE FROM LOCAL HYDRANT OR OTHER SOURCE FOR COMPLETE TESTING AS REQUIRED, PRIOR TO OWD SETTING RECYCLED WATER METER.

MATCHLINE, SEE SHEET LI-9

MATCHLINE, SEE SHEET LI-7

MATCHLINE, SEE SHEET LI-4

<p>AS BUILT</p> <p>_____ SIGNATURE</p> <p>_____ DATE</p>		<p>UTILITY NOTE</p> <p>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.</p>		<p>INSPECTION NOTE:</p> <p>OTAY WATER DISTRICT SHALL BE NOTIFIED 5 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2241. ALL WORK PERFORMED WITHOUT THE BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.</p>		<p>DATUMS</p> <p>CITY OF CHULA VISTA BENCH MARK NO. 95072 ELEVATION 448.361 NAVD 88 DESCRIPTION: 3" BRASS DISK (LS4324) WELL MON @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841</p>		<p>SCALE</p> <p>HORIZONTAL 1" = 40'-0"</p> <p>VERTICAL N/A</p>		<p>Designed By: LE</p> <p>Drawn By: LE / RR</p> <p>Checked By: PT</p> <p>Submitted: _____</p> <p>By: _____</p> <p>Office: _____</p>		<p>APPROVED BY: _____</p> <p>DATE: _____</p>		<p>CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT</p> <p>IRRIGATION PLAN: CHULA VISTA TRACT NO. 09-04 PH.2 LI-8 OTAY RANCH, VILLAGE 8 WEST</p>		<p>DRAWING NO. 19015-11</p> <p>W.O. NO. OR652G</p>	
<p>CONSTRUCTION RECORD</p> <p>CONTRACTOR: _____</p> <p>INSPECTOR: _____</p> <p>DATE COMPLETED: _____</p>		<p>REFERENCES</p> <p>HALE ENGINEERING GRADING PLANS: 14011</p>		<p>REVISIONS</p>		<p>DATE</p>		<p>APPROVED BY: _____</p>		<p>DATE: _____</p>		<p>GRADING PERMIT No. GR13-005 PLR-20-018</p>		<p>OWD SHEET 11 OF 27</p>			



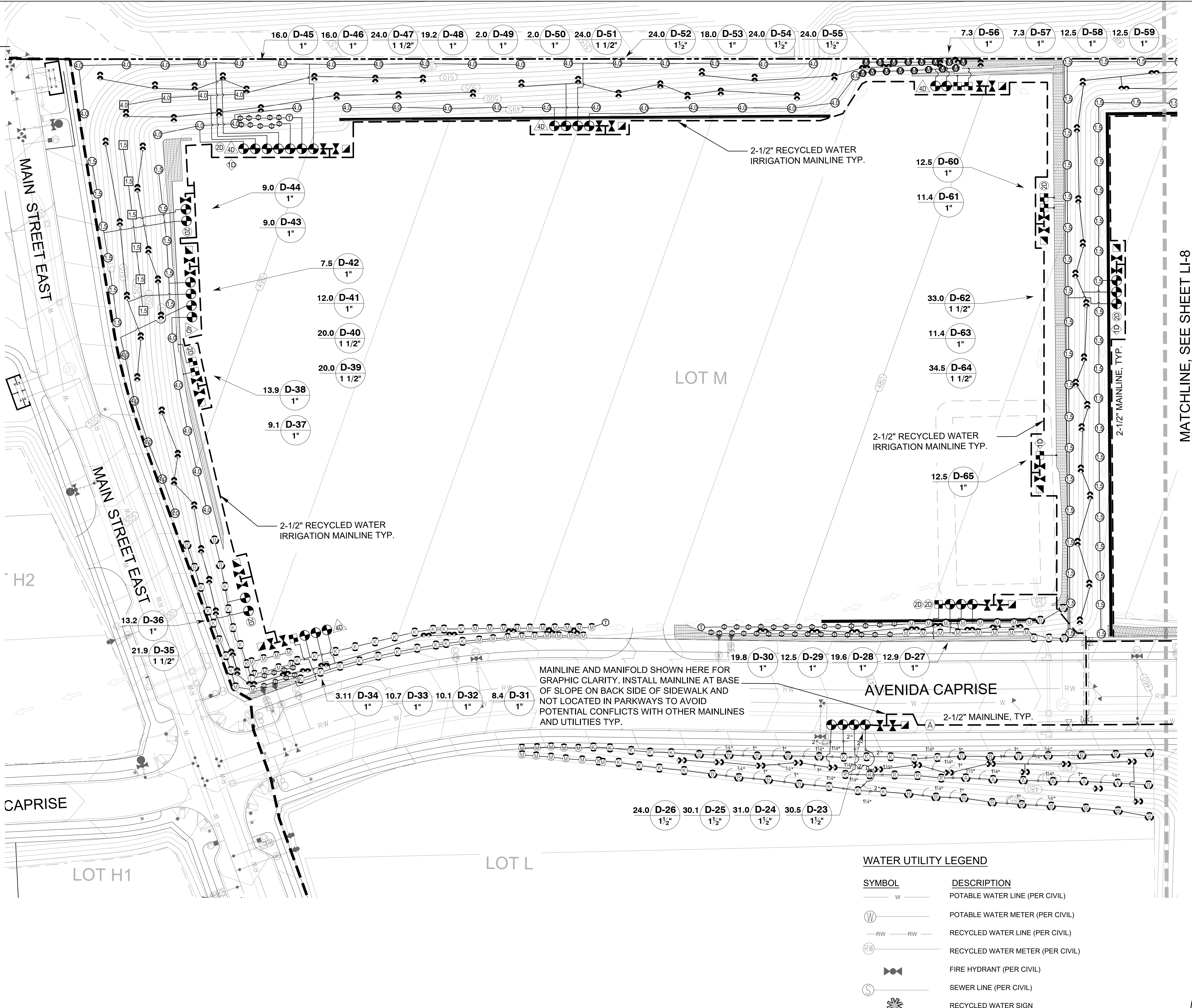
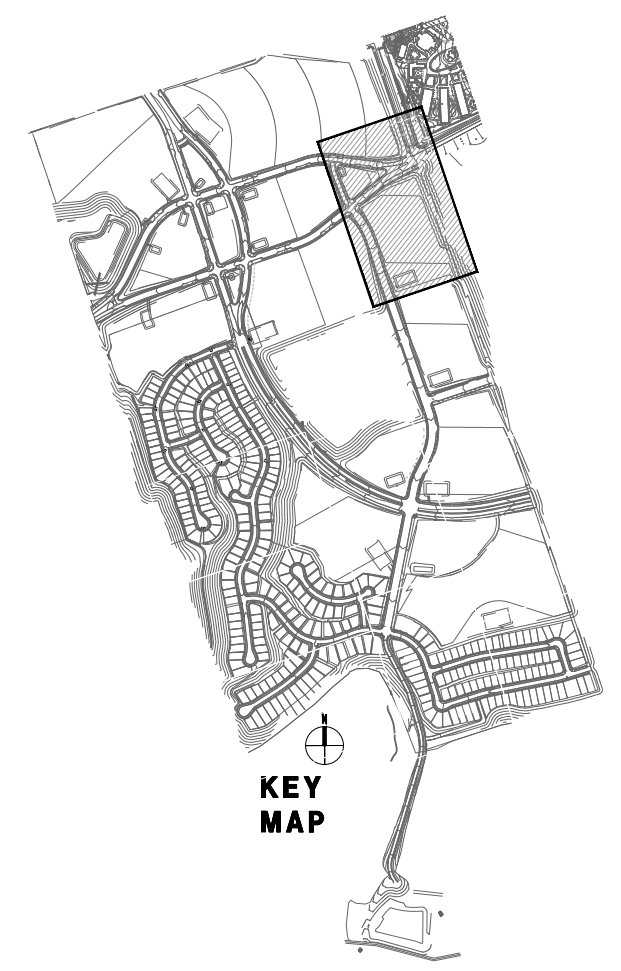
RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165

SPECIAL IRRIGATION NOTES:

(OWD NOTES SHALL SUPERSEDE)

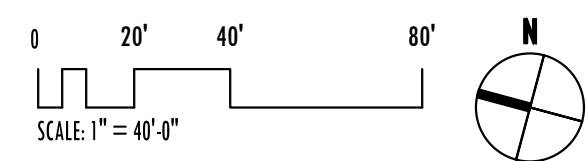
- THE SPRINKLER SYSTEM DESIGN IS BASED ON THE MINIMUM STATIC PRESSURE OF 125 PSI FOR (POC A), 166 PSI FOR POC B, 130 PSI FOR POC C, 149 PSI FOR POC D, 180 PSI FOR POC E, AND THE MAXIMUM FLOW DEMAND OF 70 GPM FOR POC A, POC B, POC C AND POC E, AND 100 GPM FOR POC C AT THE WATER POINT OF CONNECTION (P.O.C.). THE IRRIGATION CONTRACTOR SHALL VERIFY WATER PRESSURE PRIOR TO CONSTRUCTION AND SHALL REPORT ANY DIFFERENCES BETWEEN THE DESIGN WATER PRESSURE AND THE ACTUAL WORKING PRESSURE READINGS AT THE IRRIGATION P.O.C. TO OWNER'S REPRESENTATIVE. ALL PIPES ARE SIZED FOR OPERATING VELOCITY NOT TO EXCEED 5 FEET PER SECOND.
- THIS DESIGN IS DIAGRAMMATIC. THESE DRAWINGS ARE INTENDED TO BE A SCHEMATIC REPRESENTATION OF THE FINISHED IRRIGATION SYSTEM. ALL PIPING, VALVES, ETC. SHOWN WITHIN PAVED AREAS ARE FOR DESIGN CLARIFICATION ONLY AND SHALL BE INSTALLED IN PLANTING AREAS WHERE POSSIBLE SEE DETAIL E ON SHEET LI-15. AVOID ANY CONFLICTS BETWEEN THE IRRIGATION SYSTEM, PLANTING, AND ARCHITECTURAL FEATURES.
- CONTRACTOR SHALL MAKE ALL NECESSARY FIELD ADJUSTMENTS TO ACCOMMODATE ACTUAL SITE CONDITIONS. CONTRACTOR TO VERIFY ALL CONDITIONS AND DIMENSIONS SHOWN ON THESE PLANS AT THE SITE PRIOR TO COMMENCEMENT OF WORK.
- CONTRACTOR SHALL NOT WILLFULLY INSTALL THE IRRIGATION SYSTEM AS SHOWN ON THESE DRAWINGS WHEN IT IS OBVIOUS THAT FIELD OBSTRUCTIONS AND/OR DIFFERENCES IN THE AREA DIMENSIONS EXIST THAT MAY NOT HAVE BEEN CONSIDERED IN THE SYSTEM ENGINEERING. SUCH OBSTRUCTIONS OR DIFFERENCES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE OWNER'S REPRESENTATIVE. IN THE EVENT THAT THIS NOTIFICATION IS NOT GIVEN, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY.
- CONTRACTOR TO COORDINATE SLEEVING UNDER ALL PAVING WITH OTHER TRADES AS NECESSARY. NO TEES OR ELLS SHALL BE INSTALLED UNDER PAVING. ALL SLEEVES SHALL EXTEND A MINIMUM OF EIGHTEEN INCHES (18") BEYOND EDGE OF PAVING. ALL SLEEVING LOCATED UNDER PAVING SHALL BE FOUR-INCH (4") MINIMUM DIAMETER. CONTRACTOR TO INSTALL METALLIC BACKED TAPE ALONG THE ENTIRE LENGTH OF THE SLEEVE, TWELVE INCHES (12") DIRECTLY ABOVE THE SLEEVE. TAPE SHALL BE MARKED "IRRIGATION" IN TWO INCH (2") CAPITAL LETTERS EVERY THREE FEET ALONG THE TAPE.
- REMOTE CONTROL VALVES SHALL BE INSTALLED ADJACENT TO WALKWAYS UNLESS OTHERWISE NOTED. CONCRETE THRUST BLOCKS SHALL BE USED ON ALL IRRIGATION MAINLINES WHERE CHANGES OF DIRECTION OF FORTY-FIVE (45) DEGREES OR MORE SHOULD OCCUR. THRUST BLOCKS ONLY USED ON PVC WHEN 4" OR LARGER.
- WHERE TREES, LIGHT STANDARDS, ETC., ARE AN OBSTRUCTION TO IRRIGATION COVERAGE, THEN PIPING AND SPRINKLER HEADS SHALL BE ADJUSTED AND/OR RELOCATED AS NECESSARY TO OBTAIN FULL COVERAGE AND MINIMUM OVERSPRAY. DO NOT EXCEED SPACING AS PER MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR SHALL FLUSH ALL MAIN LINES PRIOR TO INSTALLATION OF THE VALVES, AND SHALL FLUSH ALL LATERAL LINES PRIOR TO INSTALLATION OF THE SPRINKLER HEADS.
- CONTRACTOR SHALL FINE-TUNE AND ADJUST ALL SPRINKLER SYSTEMS TO ACHIEVE OPTIMUM PERFORMANCE AND COMPLETE COVERAGE, WITH MINIMUM OVERSPRAY ONTO HARDSCAPE AREAS. THIS INCLUDES ADJUSTMENT OF THE FLOW CONTROL STEM AT EACH REMOTE CONTROL VALVE TO OBTAIN THE OPTIMUM OPERATING FLOW / PRESSURE FOR THAT SYSTEM, AND ADJUSTMENT OF ALL SPRINKLER NOZZLES.
- COORDINATE IRRIGATION WORK WITH PLANTING PLANS TO AVOID CONFLICTING LOCATIONS BETWEEN PIPING AND PLANT PITS. SPECIMEN TREE LOCATIONS TAKE PRECEDENCE OVER IRRIGATION PIPING. LOCATE SPECIMEN TREES PRIOR TO TRENCHING FOR IRRIGATION PIPING.
- ALL LATERAL END RUNS ARE AS PER CONTRACT DOCUMENTS.
- TRENCH MARKER: ALL DIRECT BURIAL WIRES SHALL BE MARKED WITH A CONTINUOUS RED COLORED TRENCH MARKER TAPE PLACED NINE INCHES (9") BELOW FINISH GRADE DIRECTLY ABOVE THE BURIED WIRES. MARKER TAPE SHALL BE EQUAL TO "ALAMA TAPE" AS MANUFACTURED BY PAUL POTTER WARNING TAPE INC. TAPE SHALL BE FOUR INCHES (4") WIDE.
- IRRIGATION SYSTEMS ARE TO BE INSTALLED AS DESIGNED AND IN ACCORDANCE WITH THE CRITERIA AND APPLICABLE STANDARDS AS OF THE APPROVED DATE OF THESE PLANS. ALL IRRIGATION SYSTEM COMPONENTS SHALL BE INSTALLED PER LOCAL CODE. CONTRACTORS SHALL SECURE ALL NECESSARY PERMITS.
- FOR REMOTE CONTROL VALVE MANIFOLDS, BALL VALVE SIZE SHALL EQUAL THE SIZE OF THE LARGEST REMOTE CONTROL VALVE IN THE MANIFOLD.
- PROVIDE PULL BOXES FOR CONTROL WIRING AT ALL CHANGES IN DIRECTION GREATER THAN FORTY-FIVE (45) DEGREES AND WHERE WIRE RUNS EXCEED THREE HUNDRED FEET (300') IN LENGTH. IN-LINE WIRE SPLICES SHALL BE MADE ONLY IN PULL BOXES, WITH WATERPROOF CONNECTORS.
- TWO WIRE SYSTEMS SHALL UTILIZE A TWISTED PAIR OF #14 AWG DECODER CABLES IN CONDUIT. THE COMMUNICATION CABLE SHALL BE MANUFACTURED BY PAIGE ELECTRIC MODEL #P7350D, OR EQUAL. DECODERS SHALL HAVE 'INTEGRATED SURGE PROTECTION' (CDEC-ISP-1). DECODERS SEND DC SIGNALS TO DC-LATCHING SOLENOIDS THROUGH #14 WIRE DTS CABLES (MODEL #P7351D). ALL SPLICES SHALL BE MADE IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE® ARTICLES 300.5 (UNDERGROUND INSTALLATIONS) AND 110.14 (ELECTRICAL CONNECTIONS) USING 3M DBY-6 OR DBR-6 CONNECTORS, WHICH ARE UL LISTED UNDER "UL 486D-DIRECT BURIAL". FOR WET OR DAMP LOCATIONS, 600 VOLTS. THE DECODERS SHALL HAVE 'INTEGRATED SURGE PROTECTION' RATED TO 20 KV (20,000 VOLTS) SECONDARY SURGE.
- BACKFILL MATERIAL SHALL BE CLEAN AND FREE OF DEBRIS, ROCKS LARGER THAN ONE INCH (1"), AND OBJECTS WITH SHARP EDGES.
- CONTRACTOR SHALL INSTALL IN-LINE ANTI-DRAIN VALVES AS WARRANTED BY SITE CONDITIONS TO ALLEVIATE LOW-HEAD DRAINAGE.
- ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO THE FINISH GRADE OF THE AREA TO BE IRRIGATED, UNLESS OTHERWISE DESIGNATED ON THE PLANS. ADJUST THE ANGLE OF RISERS FOR SPRINKLER HEADS ON SLOPES TO ACHIEVE OPTIMUM COVERAGE AND MINIMUM OVERSPRAY.

- NOTES:**
- SEE SHEET LI-10 FOR IRRIGATION LEGEND.
 - MAINLINE SHOWN IN PAVED AREA FOR CLARITY PURPOSES ONLY. VERIFY LOCATION WITH OWNERS REPRESENTATIVE, OTAY WATER DISTRICT REPRESENTATIVE & CITY REPRESENTATIVE.
 - TREE BUBBLER LOCATIONS SHALL CORRESPOND TO TREE LOCATIONS.
 - VALVES ARE TO BE LOCATED IN SHRUB AREAS.
 - THE MINIMUM PIPE SIZE SERVING TO QUICK COUPLERS SHALL BE 1".
 - FOR SLEEVE SIZING SEE DETAIL 'D' SHEET LI-13.
 - THE OTAY WATER DISTRICT SHALL BE NOTIFIED 5 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2441. THE CITY OF CHULA VISTA LANDSCAPE INSPECTOR (619) 850-0539 SHALL BE NOTIFIED FIVE WORKING DAYS PRIOR TO BEGINNING ANY WORK. ALL WORK PERFORMED WITHOUT BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.
 - P.O.C.s AND CONTROLLERS: VERIFY EXACT LOCATION IN THE FIELD WITH THE OWNER'S REPRESENTATIVE PRIOR TO LAYOUT AND INSTALLATION.
 - THE OWNER/GENERAL CONTRACTOR SHALL INSTALL ALL IRRIGATION SLEEVES/CONDUITS ACROSS ROADWAYS PRIOR TO LANDSCAPE CONTRACTOR. BOTH THE WATER MAINLINE AND THE ASSOCIATED SLEEVE (SIZED 2 TIMES WATER MAINLINE) SHALL BE INSTALLED, AS WELL AS A 2" WIRE SLEEVE WITHIN THE SAME TRENCH. LANDSCAPE CONTRACTOR SHALL TIE INTO PIPE AT ROADWAY EDGE. FOR ALL SLEEVES CROSSING PUBLIC STREETS, THE MINIMUM SLEEVE SIZE IS TO BE 4" DIAMETER. THIS INCLUDES ANY SLEEVES NEEDED FOR ELECTRICAL CONDUIT.
 - IRRIGATION SYMBOLS ARE DRAWN DIAGRAMMATICALLY. ALL IRRIGATION EQUIPMENT IS TO BE LOCATED WITHIN PLANTER AREAS.
 - BARRIERS SHALL BE INSTALLED BETWEEN AREAS IRRIGATED WITH POTABLE AND RECYCLED WATER AREAS. THESE BARRIERS MAY CONSIST OF MOW CURBS, WALLS, FENCES, ETC.
 - ALL PIPES ARE SIZED FOR AN OPERATING VELOCITY NOT TO EXCEED 5 FEET PER SECOND.
 - ALL IRRIGATION HEADS ARE TO BE ADJUSTED AS NEEDED TO ELIMINATE OVERSPRAY ONTO ANY ADJACENT HARDSCAPE, WALLS AND FENCES.
 - WHERE POSSIBLE, ALL MAINLINES TO BE LOCATED AT BOTTOMS OF SLOPES.



WATER UTILITY LEGEND

SYMBOL	DESCRIPTION
— W —	POTABLE WATER LINE (PER CIVIL)
⊕	POTABLE WATER METER (PER CIVIL)
— RW —	RECYCLED WATER LINE (PER CIVIL)
⊕	RECYCLED WATER METER (PER CIVIL)
⊕	FIRE HYDRANT (PER CIVIL)
— S —	SEWER LINE (PER CIVIL)
⊕	RECYCLED WATER SIGN



AS BUILT		UTILITY NOTE	
SIGNATURE _____	DATE _____	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.	
Printed Name _____	R.L.A. No. _____		
My Registration Expires _____	Discipline _____		

INSPECTION NOTE:
 OTAY WATER DISTRICT SHALL BE NOTIFIED 5 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2441. ALL WORK PERFORMED WITHOUT THE BENEFIT OF INSPECTION SHALL BE SUBJECT TO REJECTION AND REMOVAL.

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS
CONTRACTOR: _____	HALE ENGINEERING GRADING PLANS: 14011		
INSPECTOR: _____			
DATE COMPLETED: _____			

Date	App'd	DATUMS	SCALE	Designed By:	Drawn By:	Checked By:	Submitted:	APPROVED BY:	DATE:
		CITY OF CHULA VISTA BENCH MARK NO. 95072 ELEVATION 448.361 MVD 88 DESCRIPTION: 3" BRASS DISK (LS4324) WELL MON @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841	HORIZONTAL 1" = 40'-0" VERTICAL N/A	LE	LE / RR	PT	_____	_____	_____
				Plans Prepared Under Supervision Of:		Date: 2/10/2022			
				PATRICIA TRAUH		R.L.A. No. 3247			

Submitted:	By:	Office:	APPROVED BY:	DATE:
_____	_____	_____	_____	_____
DIRECTOR OF DEVELOPMENT SERVICES, TIFFANY ALLEN OR DESIGNEE				

CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT			DRAWING NO.
IRRIGATION PLAN & SPECIAL IRR. NOTES			19015-12
CHULA VISTA TRACT NO. 09-04 PH.2 LI-9			W.O. NO. 0R652G
OTAY RANCH, VILLAGE 8 WEST			

RICK ENGINEERING COMPANY
 5620 FRIARS ROAD
 SAN DIEGO, CA 92110
 619-291-0707
 (FAX) 619-291-4165
 rickengineering.com

REGISTERED LANDSCAPE ARCHITECT
 State of California
 License No. 11022
 Expires 1-10-22

MATCHLINE, SEE SHEET LI-8

DEH2020-LRWS-001277

OWD # D1044-060274

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	PSI	RADIUS	DETAIL
	HUNTER MP1000 PROS-12-PRS40-CV SHRUB ROTATOR, 12" (15.24 CM) POP-UP WITH CHECK VALVE, PRESSURE REGULATED TO 40 PSI (2.76 BAR), MP ROTATOR NOZZLE ON PRS40 BODY. M=MAROON ADJ ARC 90 TO 210, L=LIGHT BLUE 210 TO 270 ARC, O=OLIVE 360 ARC. T = CORNER 45 POTABLE WATER HEADS FOR PRIVATE LOTS ONLY.	40	14'	A / LI-12, C / LI-15
	HUNTER MP2000 PROS-12-PRS40-CV SHRUB ROTATOR, 12" (15.24 CM) POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 40 PSI (2.76 BAR), MP ROTATOR NOZZLE ON PRS40 BODY. K=BLACK ADJ ARC 90-210, G=GREEN ADJ ARC 210-270, R=RED 360 ARC. POTABLE WATER HEADS FOR PRIVATE LOTS ONLY.	40	19'	A / LI-12, C / LI-15
	HUNTER MP3000 PROS-12-PRS40-CV SHRUB ROTATOR, 12" (15.24 CM) POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 40 PSI (2.76 BAR), MP ROTATOR NOZZLE ON PRS40 BODY. B=BLUE ADJ ARC 90-210, Y=YELLOW ADJ ARC 210-270, A=GRAY 360 ARC. POTABLE WATER HEADS FOR PRIVATE LOTS ONLY.	40	30'	A / LI-12, C / LI-15
	HUNTER MP800 PROS-12-PRS40-CV-R SHRUB ROTATOR, 12" POP-UP WITH FACTORY INSTALLED CHECK VALVE, RECLAIMED BODY CAP, PRESSURE REGULATED TO 40 PSI (2.76 BAR), MP ROTATOR NOZZLE ON PRS40 BODY. RESIDENTIAL LOT NOZZLE SHALL NOT BE PURPLE CAP.	40		A / LI-12, C / LI-15
	HUNTER MP1000 PROS-00-PRS40-CV (2) SHRUB ROTATOR, ON RISER (10.16 CM) WITH CHECK VALVE, PRESSURE REGULATED TO 40 PSI (2.76 BAR), MP ROTATOR NOZZLE ON PRS40 BODY. M=MAROON ADJ ARC 90 TO 210, L=LIGHT BLUE 210 TO 270 ARC, O=OLIVE 360 ARC. POTABLE WATER HEADS FOR PRIVATE LOTS ONLY.	40	14'	E / LI-12, D / LI-15
	HUNTER MP2000 PROS-00-PRS40-CV (2) SHRUB ROTATOR, ON RISER (10.16 CM) WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 40 PSI (2.76 BAR), MP ROTATOR NOZZLE ON PRS40 BODY. K=BLACK ADJ ARC 90-210, G=GREEN ADJ ARC 210-270, R=RED 360 ARC. POTABLE WATER HEADS FOR PRIVATE LOTS ONLY.	40	19'	E / LI-12, D / LI-15
	HUNTER MP3000 PROS-00-PRS40-CV (2) SHRUB ROTATOR, ON RISER (10.16 CM) WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 40 PSI (2.76 BAR), MP ROTATOR NOZZLE ON PRS40 BODY. B=BLUE ADJ ARC 90-210, Y=YELLOW ADJ ARC 210-270, A=GRAY 360 ARC. POTABLE WATER HEADS FOR PRIVATE LOTS ONLY.	40	30'	E / LI-12, D / LI-15
	HUNTER MP1000 PROS-12-CV-R SHRUB ROTATOR, 12" (30.48 CM) POP-UP WITH CHECK VALVE, PURPLE CAP, PRESSURE REGULATED TO 40 PSI (2.76 BAR), MP ROTATOR NOZZLE. M=MAROON ADJ ARC 90 TO 210, L=LIGHT BLUE 210 TO 270 ARC, O=OLIVE 360 ARC ON PRS40 BODY. T = CORNER 45	40	14'	A / LI-12, C / LI-15
	HUNTER MP2000 PROS-12-CV-R SHRUB ROTATOR, 12" (30.48 CM) POP-UP WITH FACTORY INSTALLED CHECK VALVE, RECLAIMED BODY CAP, PRESSURE REGULATED TO 40 PSI (2.76 BAR), MP ROTATOR NOZZLE. K=BLACK ADJ ARC 90-210, G=GREEN ADJ ARC 210-270, R=RED 360 ARC ON PRS40 BODY.	40	19'	A / LI-12, C / LI-15
	HUNTER MP3000 PROS-12-CV-R SHRUB ROTATOR, 12" (30.48 CM) POP-UP WITH FACTORY INSTALLED CHECK VALVE, RECLAIMED BODY CAP, PRESSURE REGULATED TO 40 PSI (2.76 BAR), MP ROTATOR NOZZLE. B=BLUE ADJ ARC 90-210, Y=YELLOW ADJ ARC 210-270, A=GRAY 360 ARC ON PRS40 BODY.	40	30'	A / LI-12, C / LI-15
	HUNTER MP2000 PROS-00-PRS40-CV-R ON RISER SHRUB ROTATOR, FIXED-RISER, PRESCLOSURE REGULATED TO 40 PSI (2.76 BAR), MP ROTATOR NOZZLE. K=BLACK ADJ ARC 90-210, G=GREEN ADJ ARC 210-270, R=RED 360 ARC ON PRS40 BODY. PURPLE CAP. WITH CHECK VALVE.	40	19'	A / LI-12, D / LI-15
	HUNTER MP3000 PROS-00-PRS40-CV-R ON RISER SHRUB ROTATOR, FIXED-RISER, PRESSURE REGULATED TO 40 PSI (2.76 BAR), MP ROTATOR NOZZLE. B=BLUE ADJ ARC 90-210, Y=YELLOW ADJ ARC 210-270, A=GRAY 360 ARC ON PRS40 BODY. PURPLE CAP. WITH CHECK VALVE.	40	30'	E / LI-12, D / LI-15
	RAIN BIRD 1806-SAM-PRS-5SERIES STREAM W/PCS 40-SCR STREAM BUBBLER 6.0" POPUP WITH CHECK VALVE AND PRESSURE REGULATOR. WITH 5H-B NOZZLE AND PCS-040 SCREEN. (TWO BUBBLERS PER TREE)	30	5'	B / LI-15

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	PSI	GPM	RADIUS	DETAIL
	HUNTER I-20-12-R SHRUB ROTOR, 12.0" POP-UP. ADJUSTABLE AND FULL CIRCLE. PLASTIC RISER. DRAIN CHECK VALVE. STANDARD NOZZLE. WITH PURPLE COVER FOR RECLAIMED WATER.	45	1.50	31'	B / LI-12
	HUNTER I-20-12-R SHRUB ROTOR, 12.0" POP-UP. ADJUSTABLE AND FULL CIRCLE. PLASTIC RISER. DRAIN CHECK VALVE. STANDARD NOZZLE. WITH PURPLE COVER FOR RECLAIMED WATER.	45	4.00	40'	B / LI-12
	HUNTER I-20-12-R SHRUB ROTOR, 12.0" POP-UP. ADJUSTABLE AND FULL CIRCLE. PLASTIC RISER. DRAIN CHECK VALVE. STANDARD NOZZLE. WITH PURPLE COVER FOR RECLAIMED WATER.	45	8.00	44'	B / LI-12
	HUNTER I-20-00-R ON RISER SHRUB ROTOR, FIXED RISER. ADJUSTABLE AND FULL CIRCLE. PLASTIC RISER. DRAIN CHECK VALVE. STANDARD NOZZLE. WITH PURPLE RECLAIMED WATER COVER.	45	1.50	31'	D / LI-12
	HUNTER I-20-00-R ON RISER SHRUB ROTOR, FIXED RISER. ADJUSTABLE AND FULL CIRCLE. PLASTIC RISER. DRAIN CHECK VALVE. STANDARD NOZZLE. WITH PURPLE RECLAIMED WATER COVER.	45	4.00	40'	D / LI-12
	HUNTER I-20-00-R ON RISER SHRUB ROTOR, FIXED RISER. ADJUSTABLE AND FULL CIRCLE. PLASTIC RISER. DRAIN CHECK VALVE. STANDARD NOZZLE. WITH PURPLE RECLAIMED WATER COVER.	45	8.00	44'	D / LI-12

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	DETAIL
	HUNTER ICV-G-FS-R-AS40 REMOTE CONTROL VALVE 1", 1-1/2", 2", AND 3" PLASTIC ELECTRIC REMOTE CONTROL VALVES. GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE. WITH FILTER SENTRY FACTORY INSTALLED OPTION, AND RECLAIMED WATER ID, PURPLE HANDLE.	F / LI-12
	HUNTER PGV-ASV-3/4" AND 1" RED BRASS ANTI-SIPHON V 3/4" AND 1" RED BRASS ANTI-SIPHON VALVE.	A / LI-14
	HUNTER HQ-44LRC-AW-R QUICK COUPLER QUICK COUPLER VALVE, PURPLE RUBBER LOCKING COVER FOR RECLAIMED WATER USE. RED BRASS AND STAINLESS STEEL, WITH 1" NPT INLET, 2-PIECE BODY. ACME THREADED ONLY. ACME KEY WITH ANTI-ROTATION WINGS.	G / LI-12
	HAYWARD TB-PVC BALL VALVE. PURPLE HANDLE. 2" AND SMALLER	H&I / LI-12
	NIBCO 2" T-FP-600A SHUT OFF VALVE. PURPLE HANDLE. 2-1/2" TO 4".	H&I / LI-12
	BUCKNER-SUPERIOR 3200 1 1/2" NORMALLY CLOSED BRASS MASTER VALVE. DIRTY WATER PROTECTION & NO MIN. FLOW	J / LI-12
	NETAFIM 1 1/2" NYLON COMBO AIR VENT/VACUUM GUARD	C / LI-14
	WATT'S 25 AUB-HP PRESSURE REGULATOR SPRING RANGE OF 75-125 PSI, SEE PLAN FOR SETTING PSI	L / LI-14
	HUNTER ACC2-225D-PED-SS 2-WIRE DECODER CONTROLLER 2-WIRE DECODER CONTROLLER WITH 225 STATION CAPACITY, METAL CABINET, STAINLESS STEEL PEDESTAL, P2P CELLULAR COMMUNICATION	K / LI-12
	HUNTER ICD-100 SINGLE STATION DECODER W/SURGE SUPPRESSION AND GROUND WIRE	E,I,J / LI-13
	HUNTER ICD-200 2-STATION DECODER WITH SURGE SUPPRESSION AND GROUND WIRE	E,I,J / LI-13
	HUNTER ICD-400 4-STATION DECODER WITH SURGE SUPPRESSION AND GROUND WIRE	E,I,J / LI-13
	HUNTER ICD-SEN 2-INPUT SENSOR DECODER WITH SURGE SUPPRESSION AND GROUND WIRE.	E,I,J / LI-13
	HUNTER SOLAR-SYNC SOLAR, RAIN FREEZE SENSOR WITH OUTDOOR INTERFACE, WIRED. CONTRACTOR SHALL INSTALL ON EIGHT FOOT (8') HEIGHT STAINLESS STEEL POST.	M / LI-12
	1 1/2" FLOW SENSOR HUNTER FLOW-CLIK-158.	A / LI-15
	BOOSTER PUMP 'D' BARRETT PUMPS, VFD, 35 PSI BOOST	A / LI-15
	CAP FOR FUTURE USE	K,L / LI-13
	COPPER GROUNDING PLATE	WR-08 / LI-14
	APOLLO YB-LF WYE STRAINER	WR-08 / LI-14
	FEBCO 825YA 1 1/2" - BACKFLOW PREVENTER WITH BACKFLOW PREVENTER CAGE, AMERICAN BACKFLOW PRODUCTS COMPANY MODEL GC-3 LIFT-OFF 12" WIDE X 24" TALL X 42" LONG.	WR-08 / LI-14

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	DETAIL
	NIBCO LINE SIZE T-FP-660-A-LL BALL VALVE AT MAINLINE AND NIBCO 3/4" T-580 A TEST PORT BALL VALVE	WR-04 / LI-14
	CHAMPION AVB #262 (RED BRASS)	B / LI-14
	1 1/2" RECYCLED WATER METER 'A' (SEE CIVIL)	
	IRRIGATION LATERAL LINE: PVC SCHEDULE 40, MHOA AREA SHALL BE PURPLE COLOR. PRIVATE LOT PIPE SHALL BE WHITE.	A,B,C,D / LI-13 E / LI-15
	IRRIGATION MAINLINE: FOR MHOA AREAS, PVC SCHEDULE 40 - 3/4" TO 1-1/2", PVC CLASS 315 SDR 13.5 FOR PIPES 2" - 3-1/2", PVC CLASS 315 FOR 4" OR LARGER. MHOA AREA PIPE SHALL BE PURPLE. PRIVATE LOT PIPE SHALL BE WHITE.	A,B,C,D / LI-13 E / LI-15
	PIPE SLEEVE: PVC SCHEDULE 40 TYPICAL PURPLE PIPE SLEEVE FOR IRRIGATION PIPE. PIPE SLEEVE SHALL BE DOUBLE THE DIAMETER OF THE PIPE CONTAINED WITHIN. EXTEND SLEEVES 18 INCHES BEYOND EDGES OF PAVING OR CONSTRUCTION IN SOFT WORKABLE LANDSCAPE AREA.	A,B / LI-13
	RAIN BIRD XCZ-100-PRB-QKCHK-R WIDE FLOW DRIP CONTROL KIT FOR COMMERCIAL APPLICATIONS. 1" PESBR VALVE AND 1" PRESSURE REGULATING 30PSI BASKET FILTER. 200 MESH SS SCREEN W/ CLEAN/DIRTY INDICATOR. 0.3GPM TO 20GPM. PURPLE CAP.	B / LI-17
	RAIN BIRD XCZ-150-PRB-COM-R HIGH FLOW CONTROL ZONE KIT, FOR LARGE COMMERCIAL DRIP ZONES. 1-1/2" PESB VALVE WITH TWO 1" PRESSURE REGULATING (30PSI) QUICK-CHECK BASKET FILTERS. FLOW RANGE: 15-40GPM. PURPLE CAP.	A / LI-17
	RAIN BIRD XCZ-100-PRB-QKCHK-R WIDE FLOW DRIP CONTROL KIT FOR COMMERCIAL APPLICATIONS. 1" PESBR VALVE AND 1" PRESSURE REGULATING 30PSI BASKET FILTER. 200 MESH SS SCREEN W/ CLEAN/DIRTY INDICATOR. 0.3GPM TO 20GPM. PURPLE CAP.	A / LI-17
	RAIN BIRD MDCFCAP DRIPLINE FLUSH VALVE CAP IN COMPRESSION FITTING COUPLER. PURPLE CAP.	C / LI-17
	RAIN BIRD OPERIND DRIP SYSTEM OPERATION INDICATOR, STEM RISES 6" FOR CLEAR VISIBILITY WHEN DRIP SYSTEM IS CHARGED TO A MINIMUM OF 20PSI. INCLUDES 16" OF 1/4" DISTRIBUTION TUBING WITH CONNECTION FITTING PRE-INSTALLED. PURPLE CAP	B / LI-16
	AREA TO RECEIVE DRIPLINE RAIN BIRD XFS-CV-09-12-NP XFS-CV NON POTABLE SUB-SURFACE LANDSCAPE DRIPLINE WITH A HEAVY-DUTY 4.3 PSI CHECK VALVE. 0.9 GPH EMITTERS AT 12" O.C. DRIPLINE LATERALS SPACED AT 12" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN.	A,C,D / LI-16
	AREA TO RECEIVE DRIPLINE RAIN BIRD XFS-CV-09-12-NP XFS-CV NON POTABLE SUB-SURFACE LANDSCAPE DRIPLINE WITH A HEAVY-DUTY 4.3 PSI CHECK VALVE. 0.9 GPH EMITTERS AT 12" O.C. DRIPLINE LATERALS SPACED AT 12" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN.	A,C,D / LI-16

- IRRIGATION NOTES:**
- CONTRACTOR TO PSI TEST ALL LATERALS UNDER PAVEMENT TO DESIGN PRESSURE FOR FOUR HOURS MINIMUM WITH ZERO LEAKS.
 - ALL MAINLINE FITTINGS TO BE SCHEDULE 80.
 - PROVIDE PULL BOXES EVERY 200 FEET ON MAINLINES.
 - ALL VALVE BOXES SHALL BE PRUPLE, LOCKABLE, DURA DRY (OR EQUAL) AND JUMBO IF NECESSARY.
- TWO-WIRE IRRIGATION REQUIREMENTS:**
- PROVIDE 12 AWG SOLID CORE TWISTED PAIR 'TWO-WIRE' MODEL ID2PUR COMMUNICATION FROM THE REMOTE CONTROL VALVES TO THE CONTROLLER.
 - ALL TWO-WIRE TO BE IN PVC SCH 40 CONDUIT
 - PROVIDE AT LEAST ONE GROUNDING PLATE CONNECTION FOR EVERY 12 REMOTE CONTROL VALVES MINIMUM. GROUNDING PLATE SHALL BE EIGHT FEET LONG AND INSTALLED AT RIGHT ANGLES EIGHT FEET AWAY FROM THE DECODER.
 - ALL WIRE CONNECTIONS SHALL BE MADE WITH HUNTER DBRY-6 WATERPROOF CONNECTORS.
 - DECODERS SHALL BE INSTALLED WITH WIRES DOWN, W/ SS SCREWS WITHIN THE REMOTE CONTROL VALVE BOX.

INSPECTION NOTE:
OTAY WATER DISTRICT SHALL BE NOTIFIED 5 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2241. ALL WORK PERFORMED WITHOUT THE 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.

NOTE:

ALL FACILITIES SHALL BE INSTALLED PER SDWAS STANDARD SPECIFICATIONS 15152

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LI-10-2022-0016
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3016

STATE OF CALIFORNIA

Valve Callout
Valve Number
Valve Flow
Valve Size

CST Q H F

AS BUILT	UTILITY NOTE
SIGNATURE _____ DATE _____ Printed Name _____ R.L.A. No. _____ 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.

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd	DATUMS	SCALE	Designed By:	Drawn By:	Checked By:	Submitted:	APPROVED BY:	DATE:	CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT	DRAWING NO.	
CONTRACTOR: INSPECTOR: DATE COMPLETED:	HALE ENGINEERING GRADING PLANS: 14011					CITY OF CHULA VISTA BENCH MARK NO. 95072 ELEVATION 448.361 NAVD 88 DESCRIPTION: 3" BRASS DISK (LS4324) WELL MON @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841	HORIZONTAL VERTICAL N/A	LE	LE / RR	PT	2/10/2022			TIFFANY ALLEN OR DESIGNEE	IRRIGATION LEGEND & NOTES FOR: CHULA VISTA TRACT NO. 09-04 PH.2 LI-10 OTAY RANCH, VILLAGE 8 WEST	19015-13 W.O. NO. OR652G

OWD # D1044-060274

OTAY WATER DISTRICT RECYCLED WATER NOTES:

- 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.
- CROSS CONNECTIONS BETWEEN RECYCLED WATER LINES AND POTABLE WATER LINES ARE STRICTLY PROHIBITED.
- 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.
- 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.
- PUBLIC FACILITIES, SUCH AS DRINKING AND DECORATIVE FOUNTAINS, COMFORT STATIONS, PLAYGROUND EQUIPMENT, ETC., DO NOT EXIST ON THIS PROJECT.
- 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.
- 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".
- ALL ON-SITE POTABLE WATER LINES SHALL BE WHITE OR BLUE UNLESS OTHERWISE APPROVED BY THE DISTRICT.
- 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.
- 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.
- A MINIMUM VERTICAL SEPARATION OF 12 INCHES SHALL BE MAINTAINED BETWEEN UTILITIES AT ALL TIMES UNLESS OTHERWISE APPROVED BY THE DISTRICT.
- HOSE BIBS ARE STRICTLY PROHIBITED ON RECYCLED WATER SYSTEMS.
- ALL SPRAY HEADS, VALVE BOXES, AND QUICK COUPLER VALVES SHALL BE CLEARLY COLOR CODED (PURPLE) TO INDICATE THE USE OF RECYCLED WATER.
- RECYCLED WATER LINES SHALL NOT CROSS ROADS, STREETS, OR EASEMENTS UNLESS SPECIFICALLY SHOWN ON THESE PLANS.
- 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.
- 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).
- ALL METER SIZES SHALL BE VERIFIED BY THE DISTRICT. FINAL DETERMINATION OF METER SIZES IS RESERVED BY THE DISTRICT.
- 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.
- 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.
- 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.
- 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.
- 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.
- NO SUBSTITUTION OF PIPE MATERIALS WILL BE ALLOWED WITHOUT PRIOR APPROVAL OF THE DISTRICT.
- 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.
- 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.
- 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 LANCE LEININGER AT 619.520.9562
NAME PHONE NO.

OR AFTER HOURS, CONTACT LANCE LEININGER AT 619.520.9562
NAME PHONE NO.

- BEST MANAGEMENT PRACTICES SHALL BE USED TO ELIMINATE OR CONTROL TO THE BEST EXTENT POSSIBLE PONDING, RUN-OFF, OVER-SPRAY AND MISTING.
- AT THE DESCRETION OF OTAY WATER DISTRICT, RECYCLED WATER QUICK COUPLERS MAY BE ALLOWED WITHIN SLOPES AND PARKWAYS.
- 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.
- 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.
- ALL BOX LIDS SHALL BE BRANDED.
- 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.
- 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.
- 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.

SAN DIEGO COUNTY D.E.H. RECYCLED WATER NOTES:

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE OTAY WATER DISTRICT'S RULES AND REGULATIONS.
- DRINKING WATER FOUNTAINS AND DESIGNATED OUTDOOR EATING AREAS SHALL BE PROTECTED AGAINST CONTACT WITH RECYCLED WATER SPRAY, MIST, OR RUNOFF.
- BEST MANAGEMENT PRACTICES SHALL BE USED TO ELIMINATE OR CONTROL TO THE BEST EXTENT POSSIBLE PONDING, RUN-OFF, OVER-SPRAY AND MISTING.
- HOSE BIBS ARE STRICTLY PROHIBITED.
- CROSS-CONNECTIONS BETWEEN RECYCLED WATER LINES AND POTABLE WATER LINES ARE STRICTLY PROHIBITED.
- NO SUBSTITUTIONS OF PIPE MATERIALS WILL BE ALLOWED WITHOUT PRIOR APPROVAL OF THE OTAY WATER DISTRICT.
- ALL MAINLINE PIPES SHALL HAVE WARNING TAPE PER OTAY WATER DISTRICT'S RULES AND REGULATIONS.
- HOURS FOR IRRIGATION WITH RECYCLED WATER ARE FROM 9:00 PM TO 6:00 AM. 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 9:00 PM AND 6:00 AM.
- BURIAL OF ALL WIRING AND PIPING SHALL MEET OTAY WATER DISTRICT'S RULES AND REGULATIONS.
- 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 PRACTICES, OR SYSTEM OPERATION, IS STRICTLY PROHIBITED.
- IRRIGATION HEADS SHALL BE RELOCATED OR ADJUSTED TO MINIMIZE OR ELIMINATE OVER-SPRAYING ON SIDEWALKS, STREETS AND NON-DESIGNATED USE AREAS.
- 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.
- 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.
- 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 THE OTAY WATER DISTRICT'S RULES AND REGULATIONS.
- ON NEW ON-SITE SYSTEMS (POST-METER), POTABLE WATER, CONSTANT PRESSURE RECYCLED WATER, AND SEWER LINES SHALL BE PLACED A MINIMUM OF FOUR (4) FEET APART OR AS DIRECTED BY THE PROJECT ENGINEER AND/OR REGULATORY AGENCY. MEASUREMENTS SHALL BE BETWEEN FACING SURFACES, NOT PIPE CENTERLINES.
- CONSTANT PRESSURE RECYCLED WATER LINES SHALL CROSS AT LEAST TWELVE (12) INCHES BELOW POTABLE WATER LINES AND MAINTAIN AT LEAST TWELVE (12) INCHES CROSSING SEPARATION BETWEEN OTHER UTILITIES.
- IF A CONSTANT PRESSURE RECYCLED WATER LINE MUST BE INSTALLED ABOVE A POTABLE WATER LINE OR LESS THAN TWELVE (12) 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.
- DEVELOPER/CONTRACTOR SHALL CONDUCT A CROSS-CONNECTION TEST AND COVERAGE TEST AS DIRECTED BY OTAY WATER DISTRICT AND THE SAN DIEGO COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH PRIOR TO ANY USE OF RECYCLED WATER.
- 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.
- THE DESIGN AND LOCATIONS PROPOSED FOR RECYCLED WATER "DO NOT DRINK" SIGNS SHALL BE CALLED OUT ON THE PLANS.

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.

IN CASE OF EMERGENCY, CONTACT JEFF O'CONNOR AT 760-918-8200

OR AFTER HOURS CONTACT JEFF O'CONNOR AT 760-918-8200

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.

CALL OUT ON THE PLANS IF THERE ARE OR ARE NOT DRINKING FOUNTAINS AND / OR DESIGNATED OUTDOOR EATING AREAS ON THIS SITE.

EDUCATE ALL MAINTENANCE PERSONNEL ON A CONTINUOUS BASIS OF THE PRESENCE OF RECYCLED WATER. PERSONNEL MUST BE INFORMED 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 IN THE LANDSCAPE INDUSTRY IT IS IMPORTANT THE INFORMATION BE DISSEMINATED ON AN ALMOST DAILY BASIS.

A PHYSICAL SEPARATION SHALL BE PROVIDED BETWEEN ADJACENT AREAS IRRIGATED WITH RECYCLED WATER AND POTABLE WATER. SEPARATION SHALL BE PROVIDED BY DISTANCE, CONCRETE NOW STRIPS, OR OTHER APPROVED METHODS.

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.

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

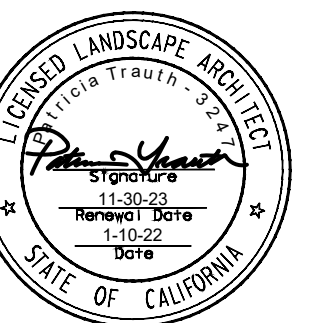
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SIGNATURE _____ DATE _____	R.I.A. No. _____	ALL EXISTING UTILITIES SHOWN ON THESE PLANS ARE PLOTTED FROM RECORD DATA AT THEIR APPROXIMATE LOCATIONS. UNDERGROUND FACILITIES MAY EXIST WHICH HAVE NOT BEEN REPORTED OR ARE NOT OF RECORD. CONTRACTOR SHALL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

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd	DATUMS	SCALE	Designed By:	Drawn By:	Checked By:	Submitted:	APPROVED BY:	DATE:	CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT	DRAWING NO.
CONTRACTOR: HALE ENGINEERING GRADING PLANS: 14011						CITY OF CHULA VISTA BENCH MARK NO. 95072 ELEVATION 448.361 NAVD 88 DESCRIPTION: 3" BRASS DISK (LS4324) WELL MON @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841	HORIZONTAL	LE	LE / RR	PT				IRRIGATION SCHEDULE & NOTES FOR: CHULA VISTA TRACT NO. 09-04 PH.2 LI-11 OTAY RANCH, VILLAGE 8 WEST	19015-14
INSPECTOR:							VERTICAL	Plans Prepared Under Supervision Of:	Date: 2/10/2022		By: _____	DIRECTOR OF DEVELOPMENT SERVICES, TIFFANY ALLEN OR DESIGNEE			W.O. NO. OR652G
DATE COMPLETED:							N/A	PATRICIA TRAUH	RLA No. 3247		Office: _____				OWD SHEET 14 OF 27

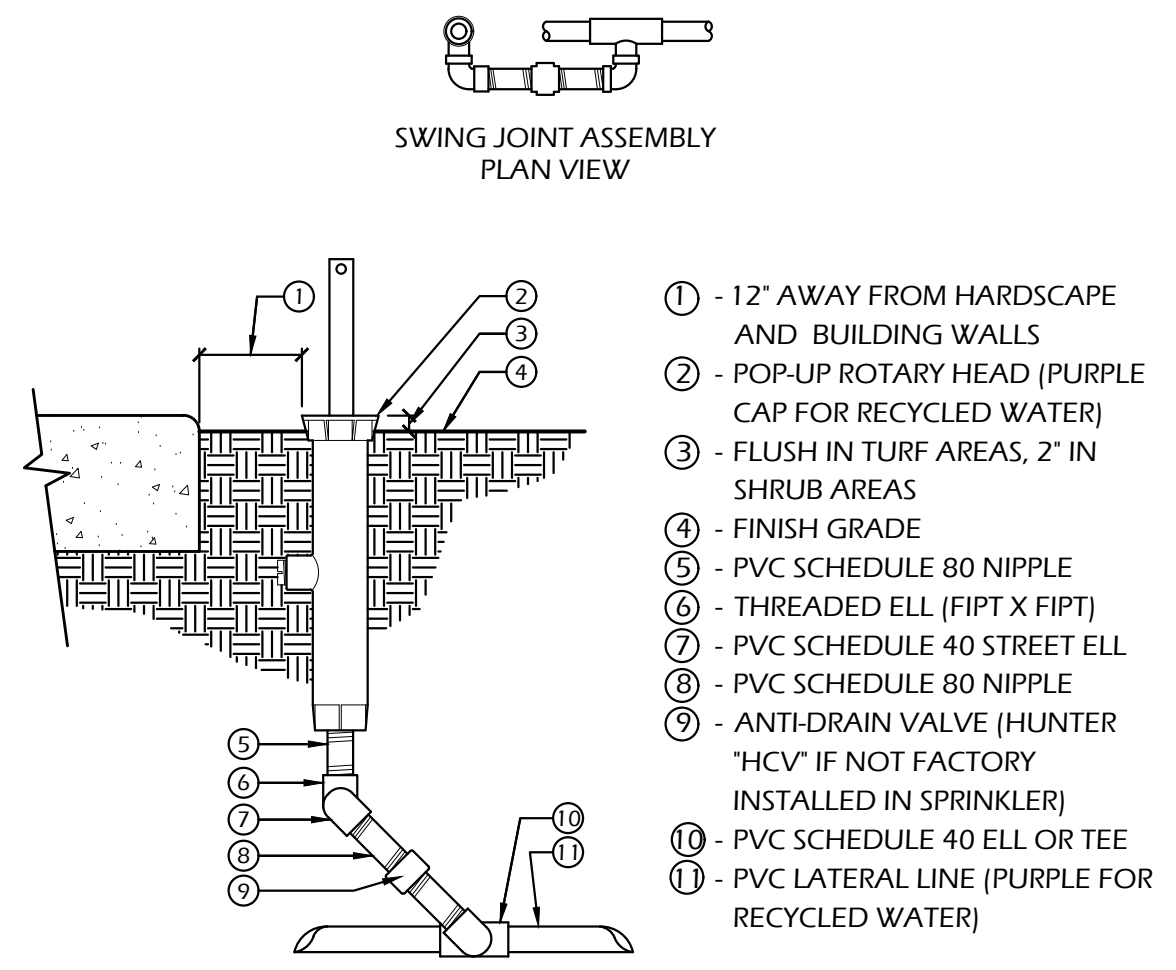
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ENGINEERING COMPANY
San Diego

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SAN DIEGO, CA 92110
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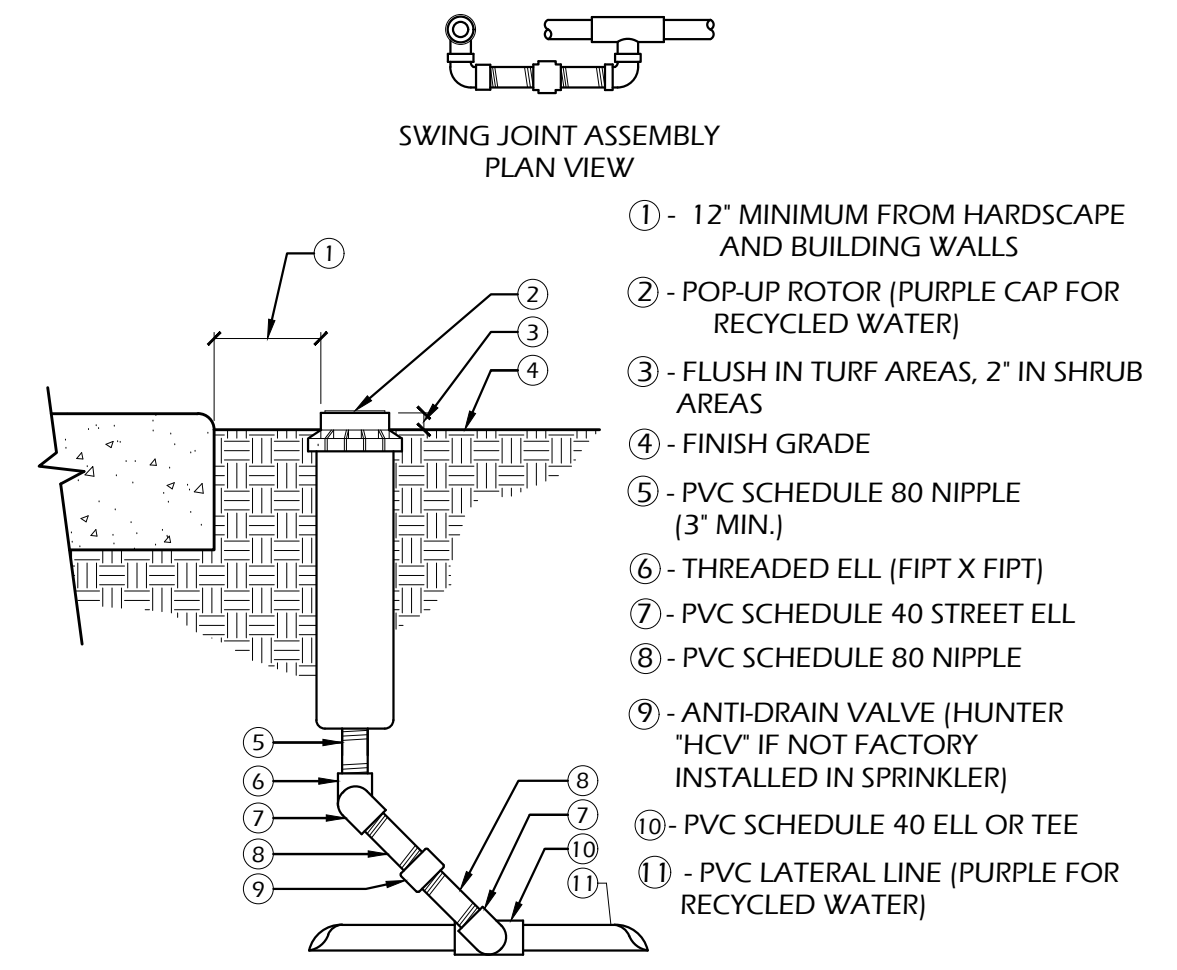
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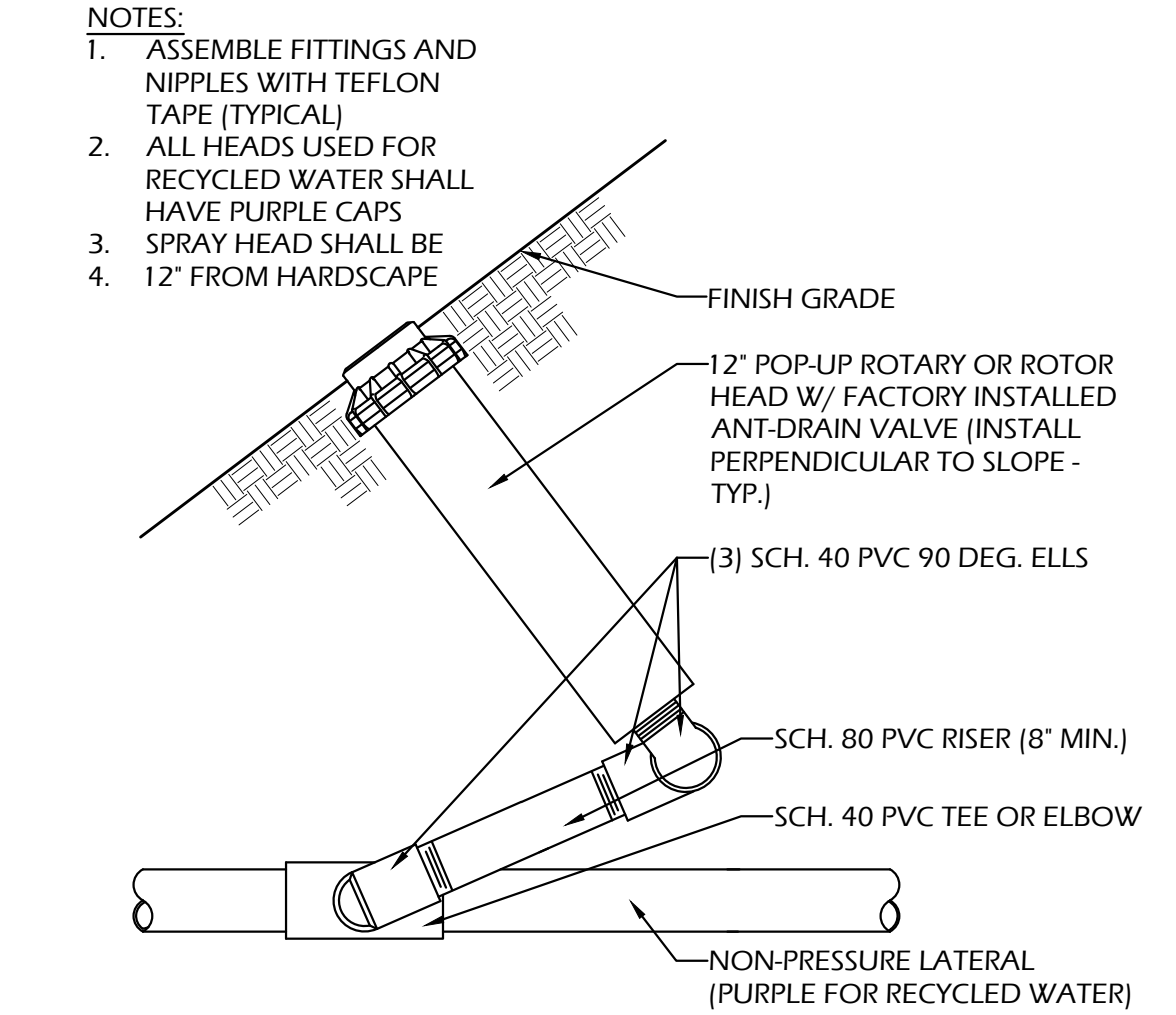
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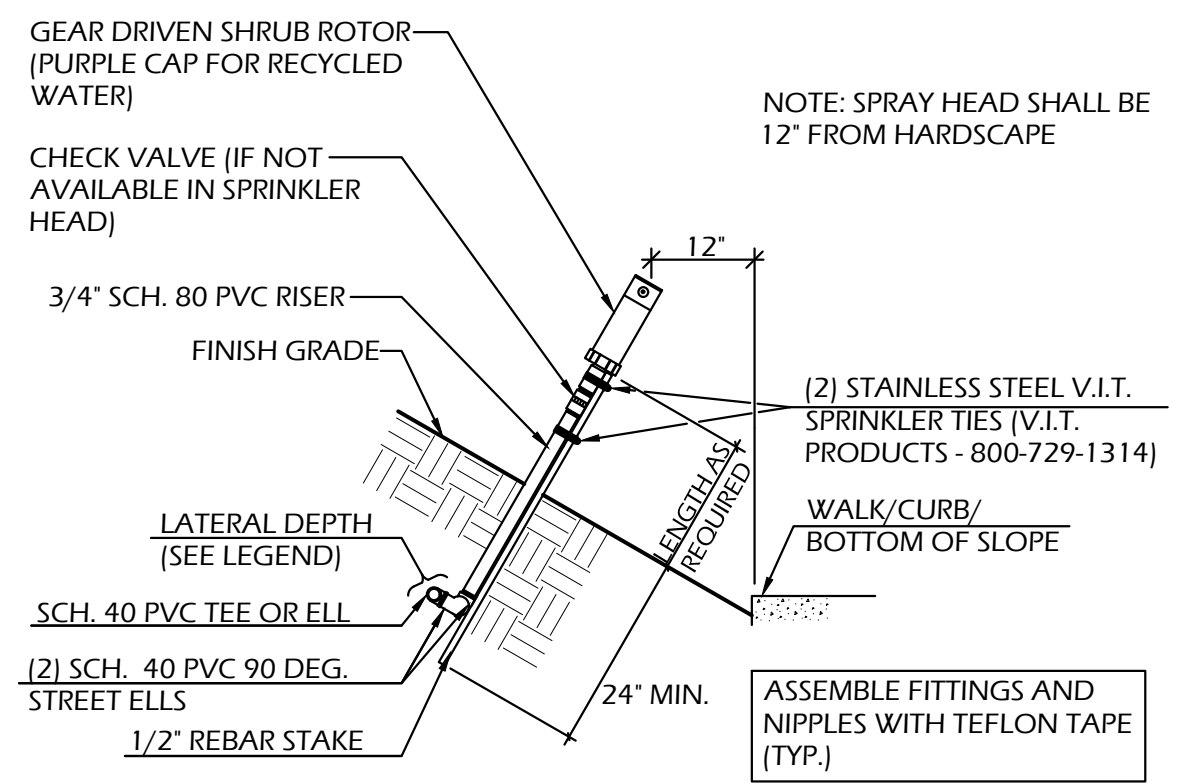
A POP-UP ROTARY HEAD N.T.S. SECTION
RECYCLED WATER



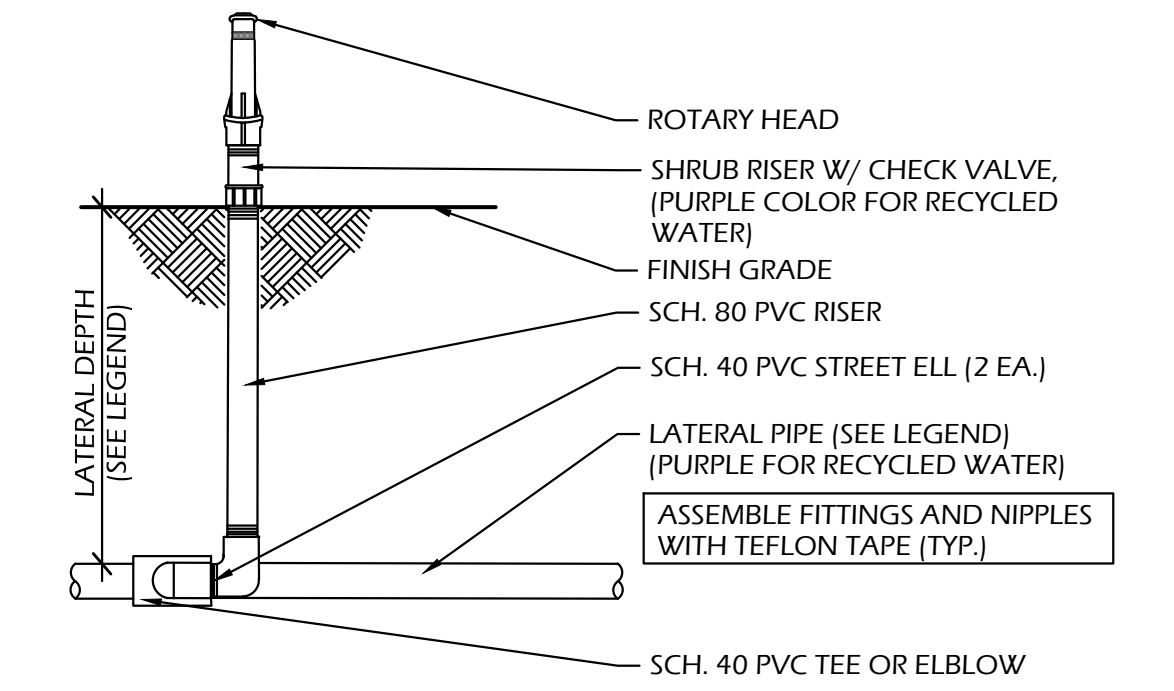
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RECYCLED WATER



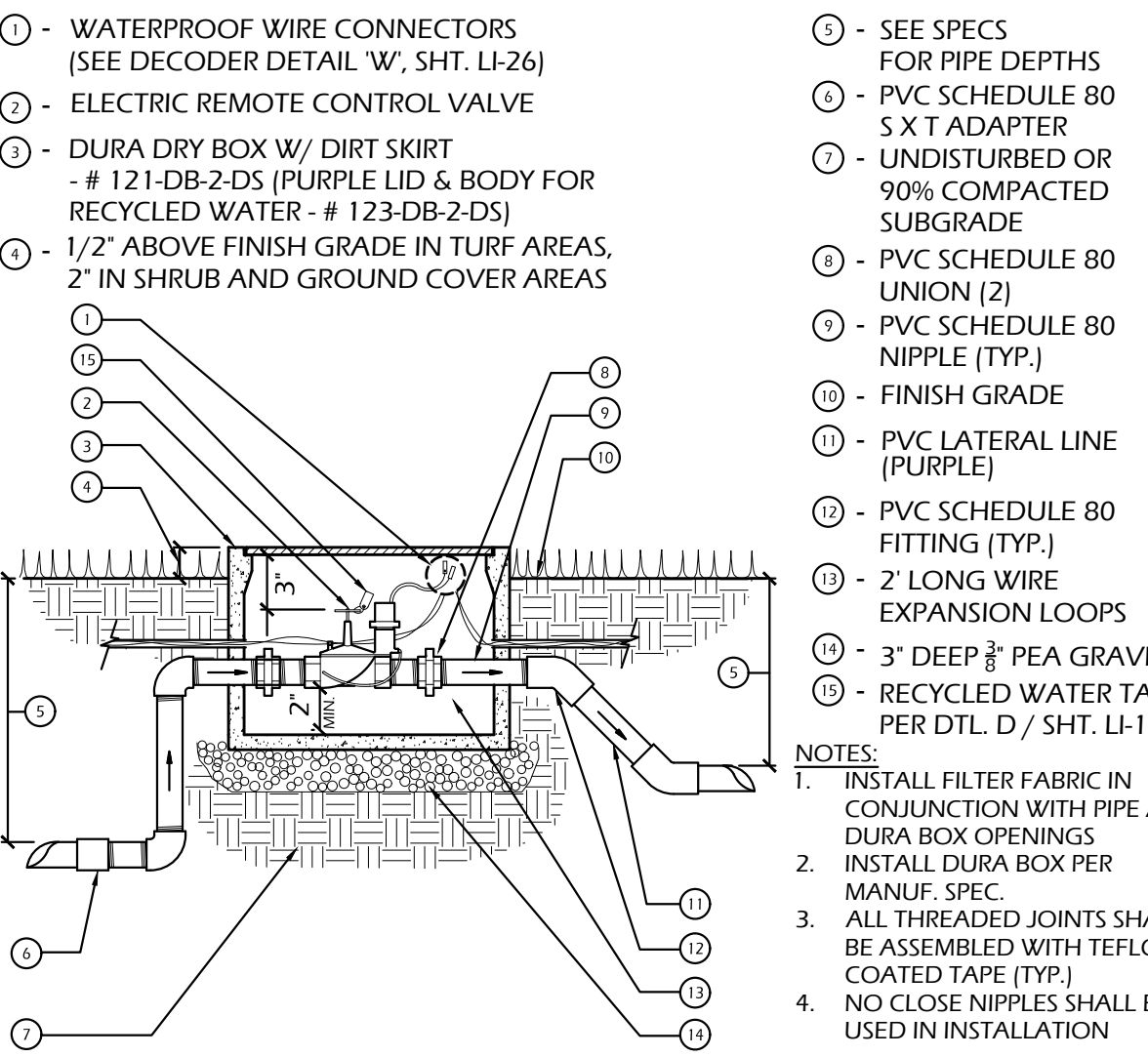
C POP-UP ROTOR ON SLOPE N.T.S. SECTION
RECYCLED WATER



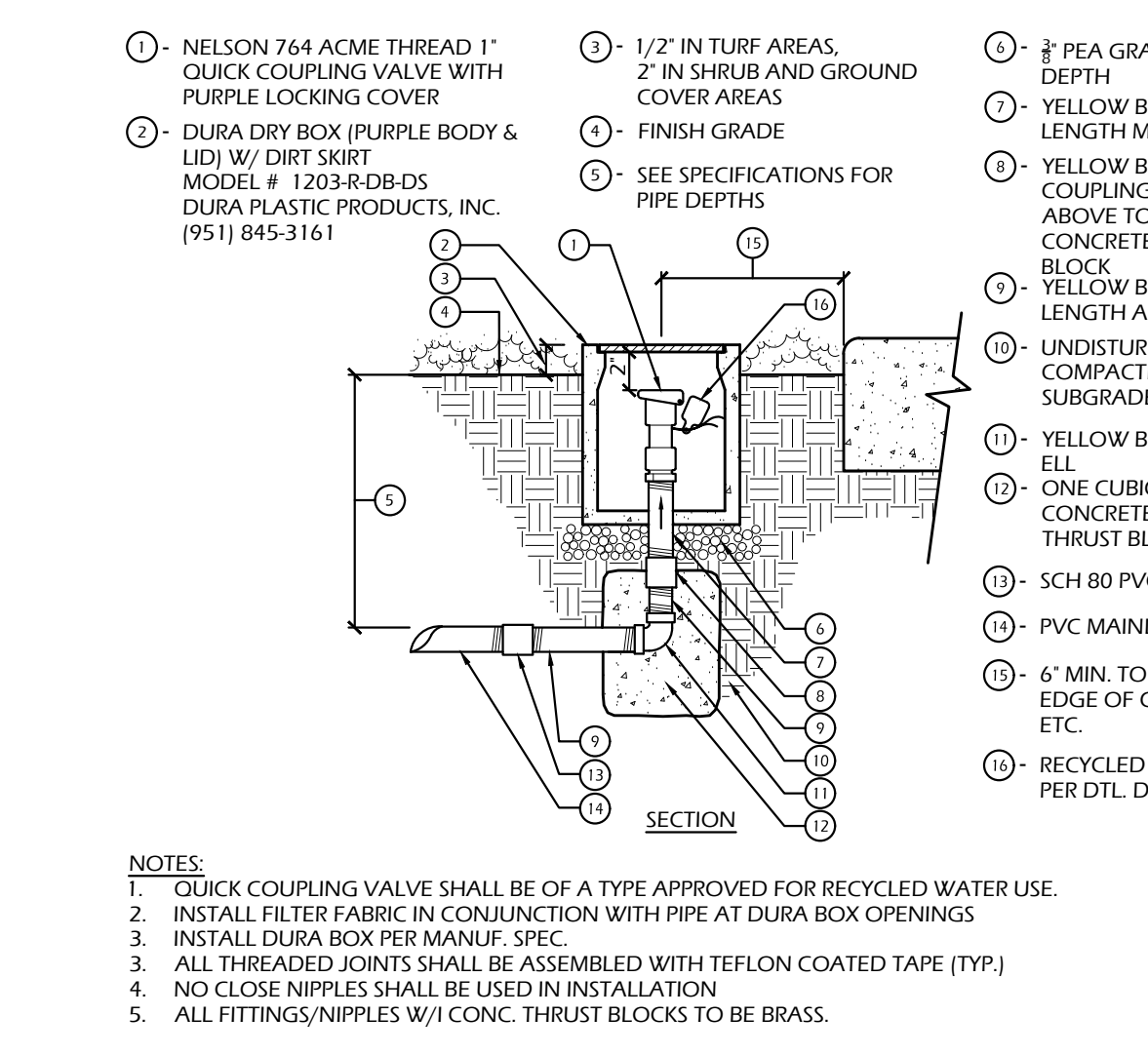
D ROTOR ON RISER ON SLOPE N.T.S. SECTION
RECYCLED WATER



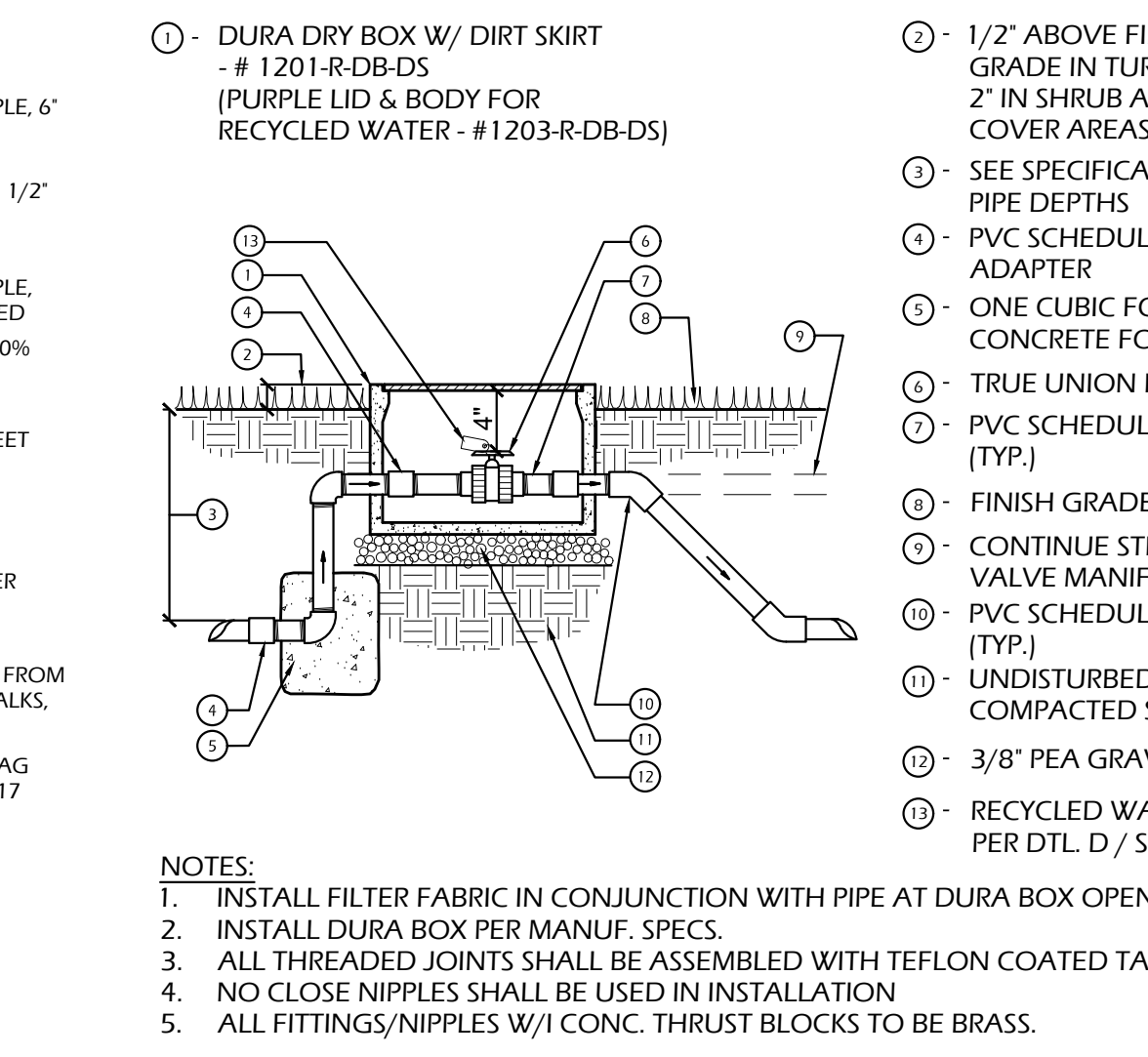
E ROTARY HEAD ON RISER N.T.S. SECTION
RECYCLED WATER



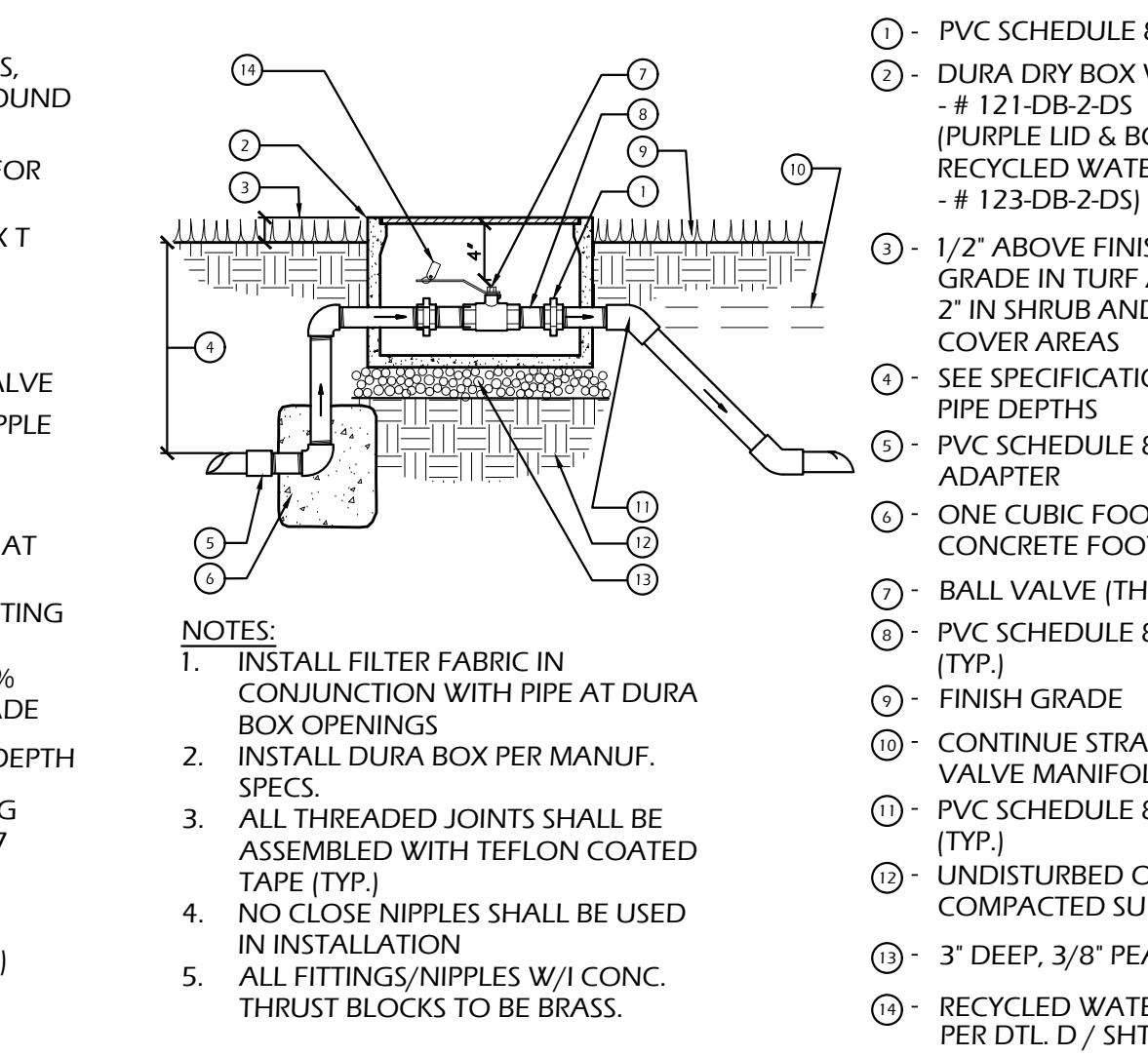
F REMOTE CONTROL VALVE N.T.S. SECTION
RECYCLED WATER



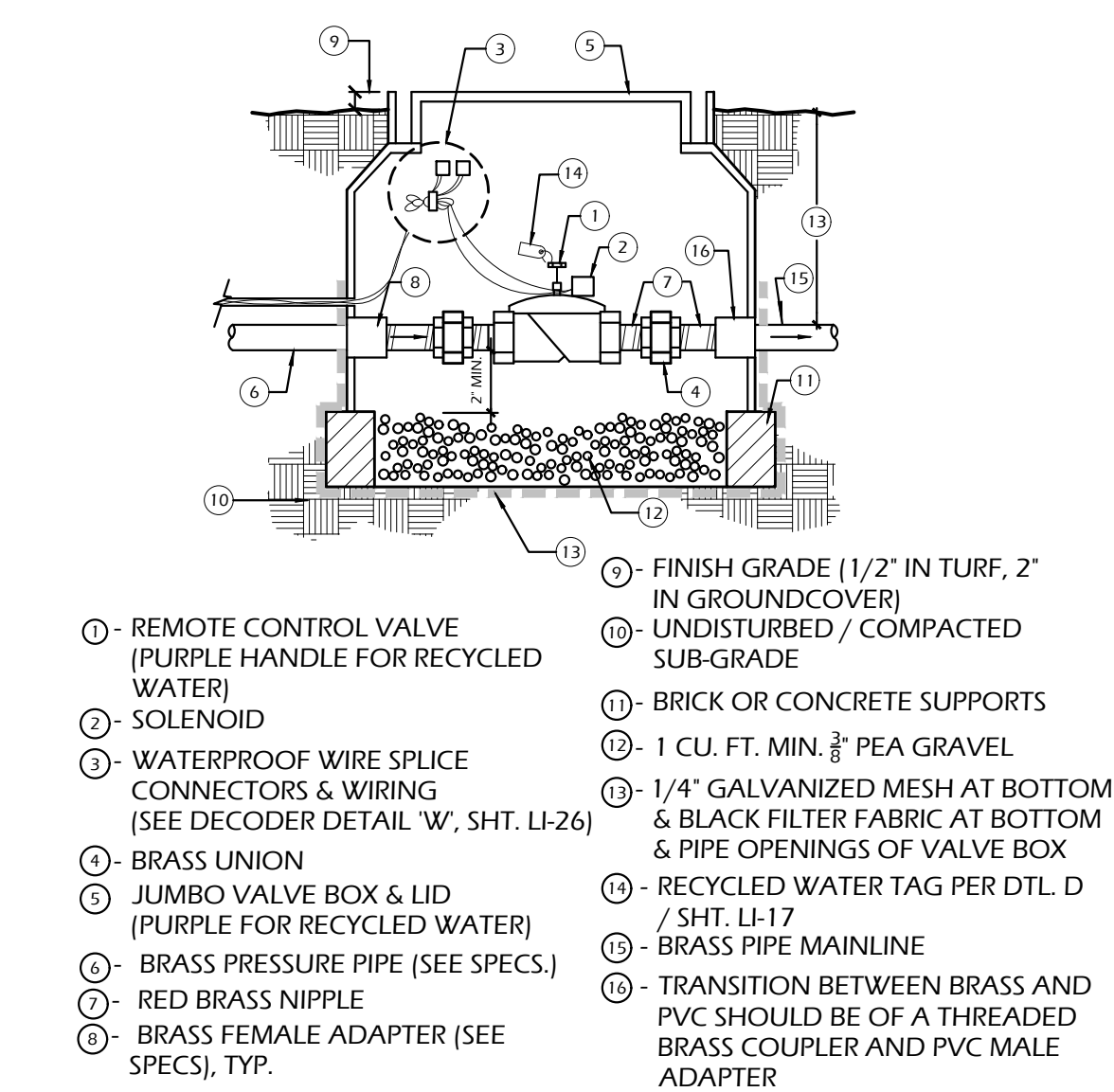
G QUICK COUPLING VALVE N.T.S. SECTION
RECYCLED WATER



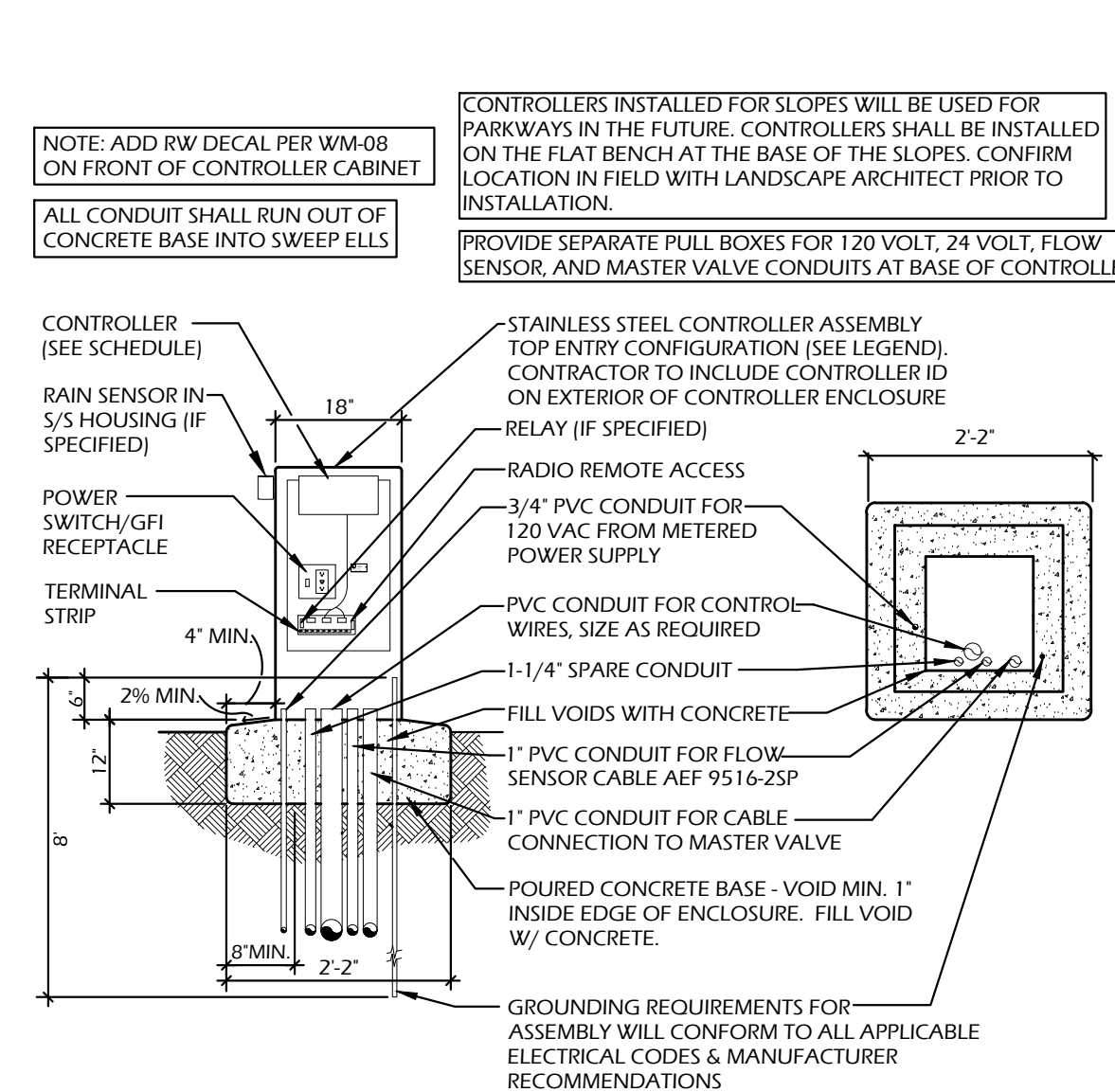
H BALL VALVE 2\"/>



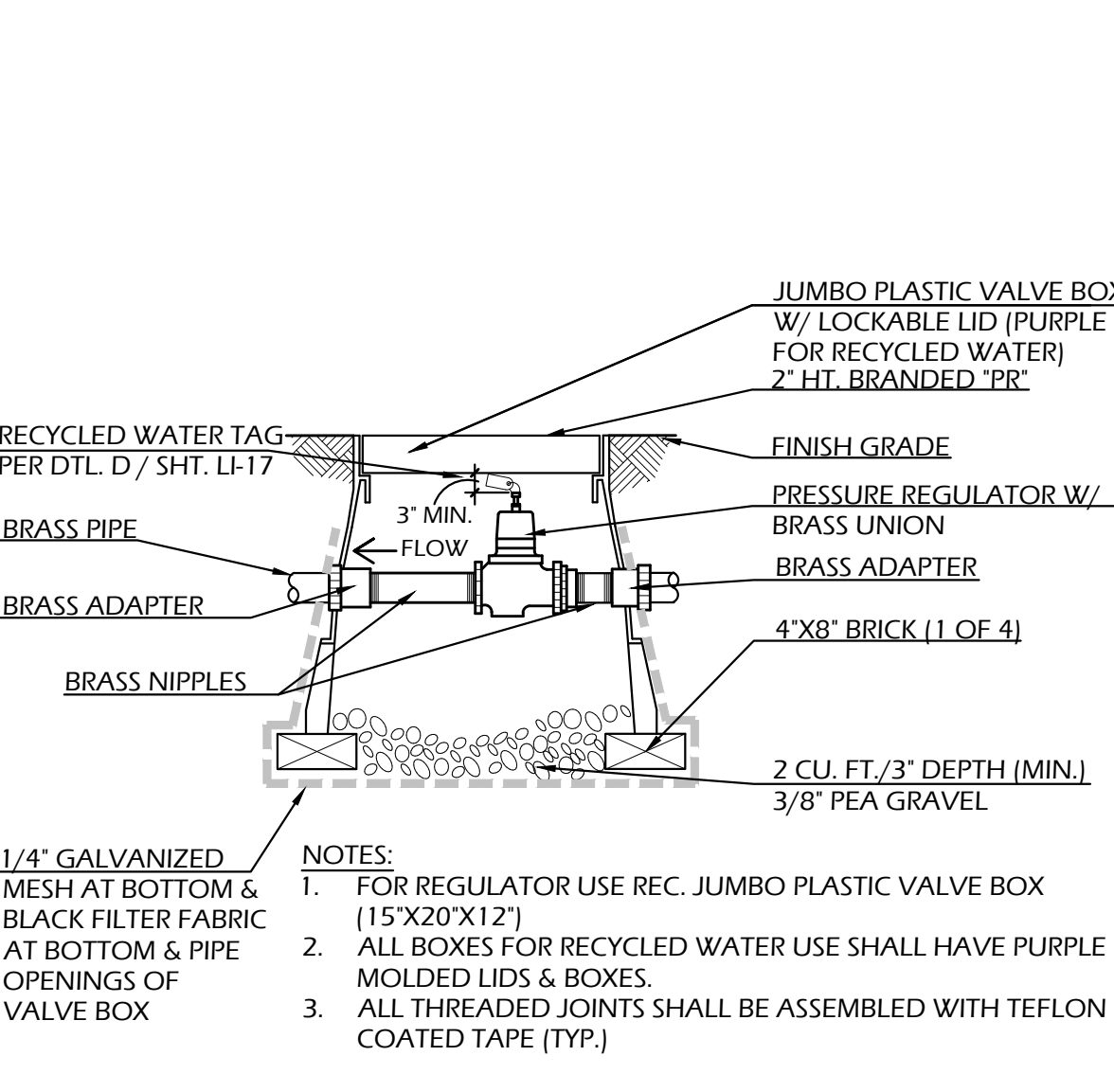
I BALL VALVE 2.5\"/>



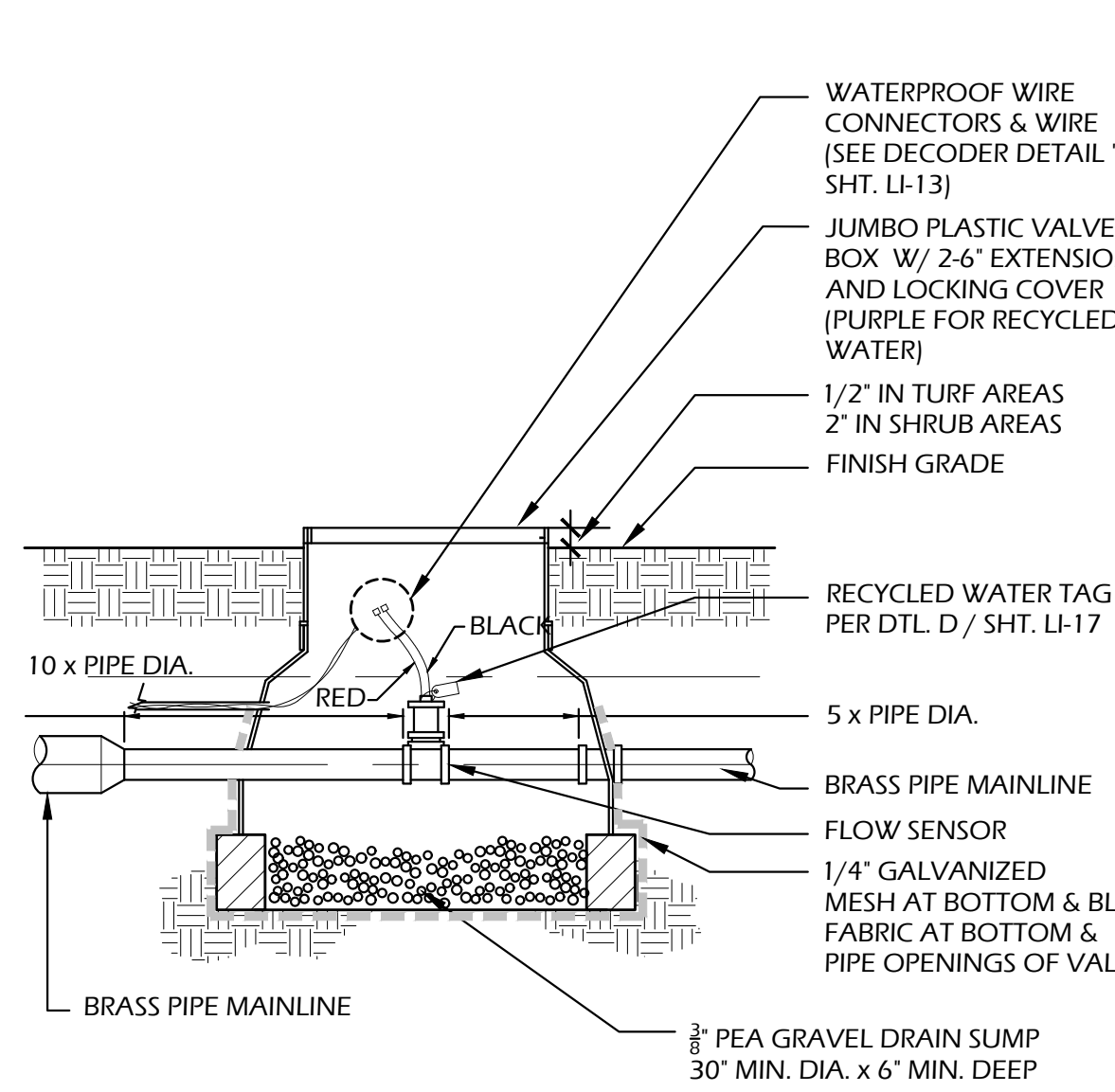
J MASTER CONTROL VALVE N.T.S. SECTION
RECYCLED WATER



K CONTROLLER ASSEMBLY N.T.S. SECTION & PARTIAL PLAN
RECYCLED WATER



L PRESSURE REGULATOR N.T.S. SECTION
RECYCLED WATER



M FLOW SENSOR INSTALLATION N.T.S. SECTION
RECYCLED WATER

AS BUILT
SIGNATURE _____ DATE _____
Printed Name _____ R.L.A. 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.

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.

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

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd
CONTRACTOR: HALE ENGINEERING GRADING PLANS: 14011					
INSPECTOR:					
DATE COMPLETED:					

DATUMS	SCALE
CITY OF CHULA VISTA BENCH MARK NO. 95072 ELEVATION 448.361 NAVD 88 DESCRIPTION: 3" BRASS DISK (LS4324) WELL MON @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841	HORIZONTAL VERTICAL N/A

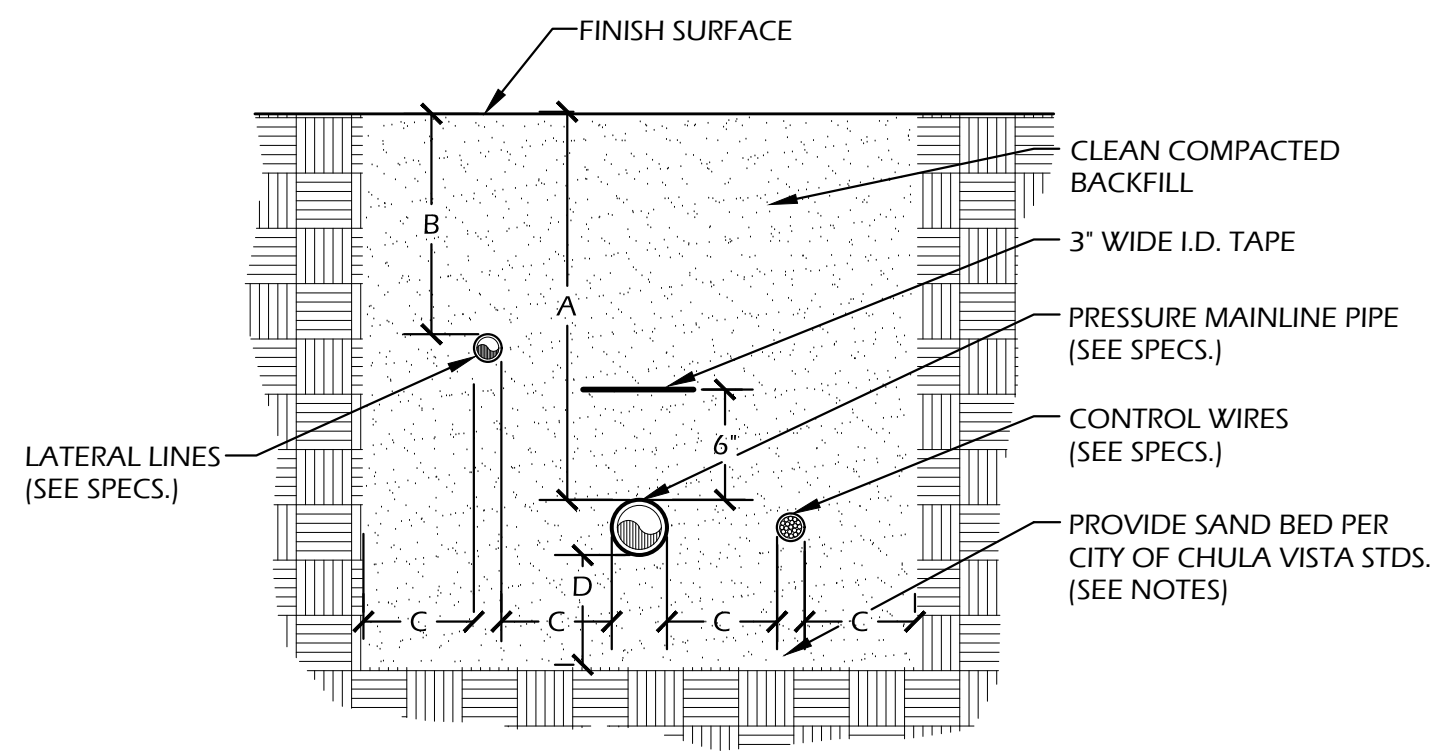
Designed By: LE	Drawn By: LE / RR	Checked By: PT	Submitted: _____	APPROVED BY: _____	DATE: _____
Plans Prepared Under Supervision Of: PATRICIA TRAUTH		Date: 2/10/2022	By: _____	DIRECTOR OF DEVELOPMENT SERVICES, TIFFANY ALLEN OR DESIGNEE	
R.L.A. No. 3247		Office: _____			

CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT		DRAWING NO.
IRRIGATION DETAILS FOR: CHULA VISTA TRACT NO. 09-04 PH.2 LI-12		19015-15
OTAY RANCH, VILLAGE 8 WEST		W.O. NO. 0R652G

RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165
Riverside - Orange - Sacramento - San Luis Obispo - Phoenix - Tucson - Denver
rickengineering.com



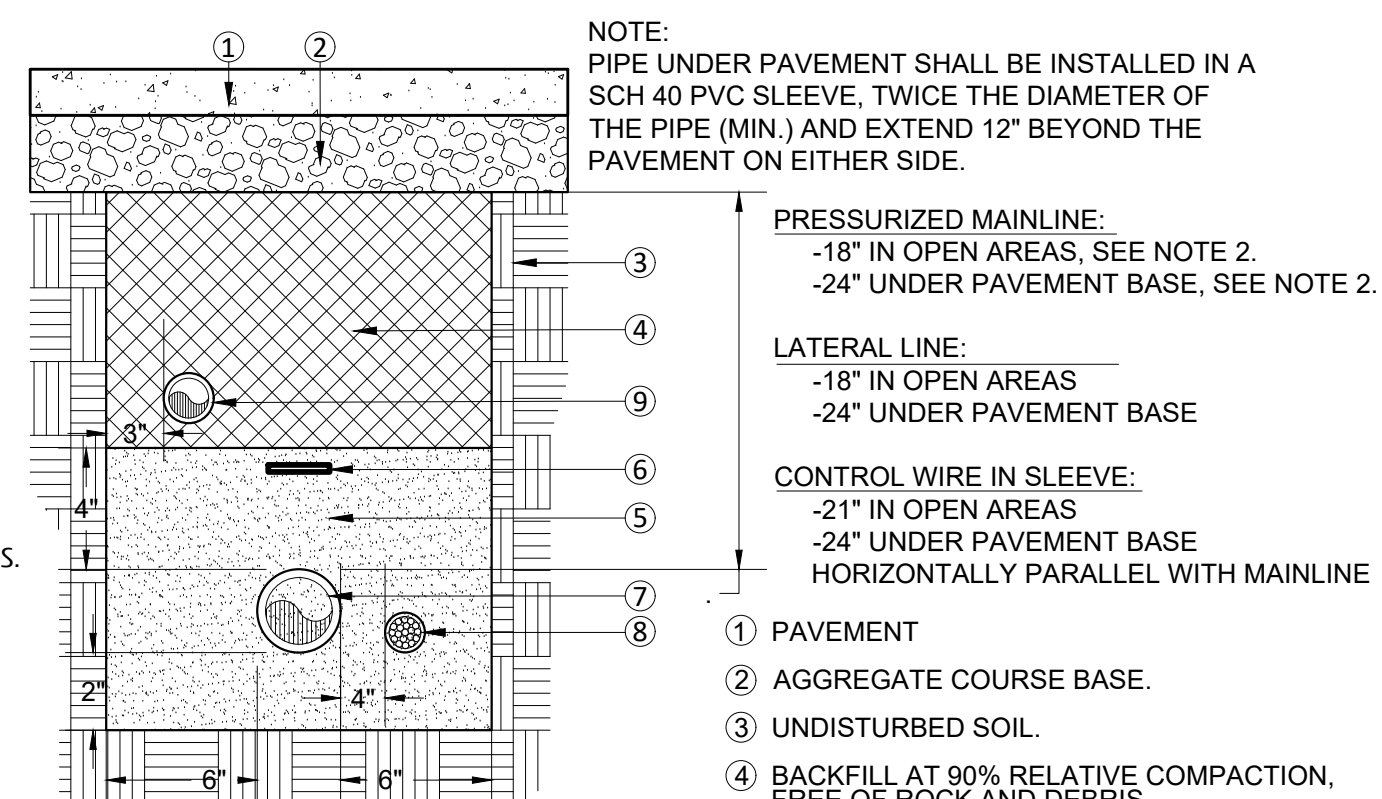
OWD # D1044-060274



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

- NOTES:
- FOR PVC SLEEVE SIZE, SEE TO SLEEVE CHART.
 - PRESSURE MAINLINE SHALL BE INSTALLED ON 4" MIN. SAND BED AND SURROUNDED ON REMAINING SIDES BY 6" OF SAND BACKFILL.

A PIPE TRENCHING RECYCLED WATER SECTION N.T.S.



- NOTES:
- ALL SLEEVES SHALL BE SCH 40 PURPLE COLOR.
 - WHERE RECYCLED AND POTABLE WATERMANS CROSS UNDER STREETS, DEPTH OF THE RECYCLED MAINLINE AND RECYCLED WATER LATERAL SHALL BE 18"-24".

- NOTE: PIPE UNDER PAVEMENT SHALL BE INSTALLED IN A SCH 40 PVC SLEEVE, TWICE THE DIAMETER OF THE PIPE (MIN.) AND EXTEND 12" BEYOND THE PAVEMENT ON EITHER SIDE.
- PRESSURIZED MAINLINE:
-18" IN OPEN AREAS, SEE NOTE 2.
-24" UNDER PAVEMENT BASE, SEE NOTE 2.
- LATERAL LINE:
-18" IN OPEN AREAS
-24" UNDER PAVEMENT BASE
- CONTROL WIRE IN SLEEVE:
-21" IN OPEN AREAS
-24" UNDER PAVEMENT BASE
HORIZONTALLY PARALLEL WITH MAINLINE
- PAVEMENT
 - AGGREGATE COURSE BASE.
 - UNDISTURBED SOIL.
 - BACKFILL AT 90% RELATIVE COMPACTION, FREE OF ROCK AND DEBRIS.
 - CLEAN SE50 PLASTER OR MORTAR SAND.
 - 3" WIDE TRENCH MARKER TAPE.
 - PVC MAIN PIPE, SLEEVED
 - CONTROL WIRE IN SCH. 40 SLEEVE.
 - PVC LATERAL PIPE, SLEEVED.

B PIPE SLEEVING RECYCLED WATER SECTION N.T.S.

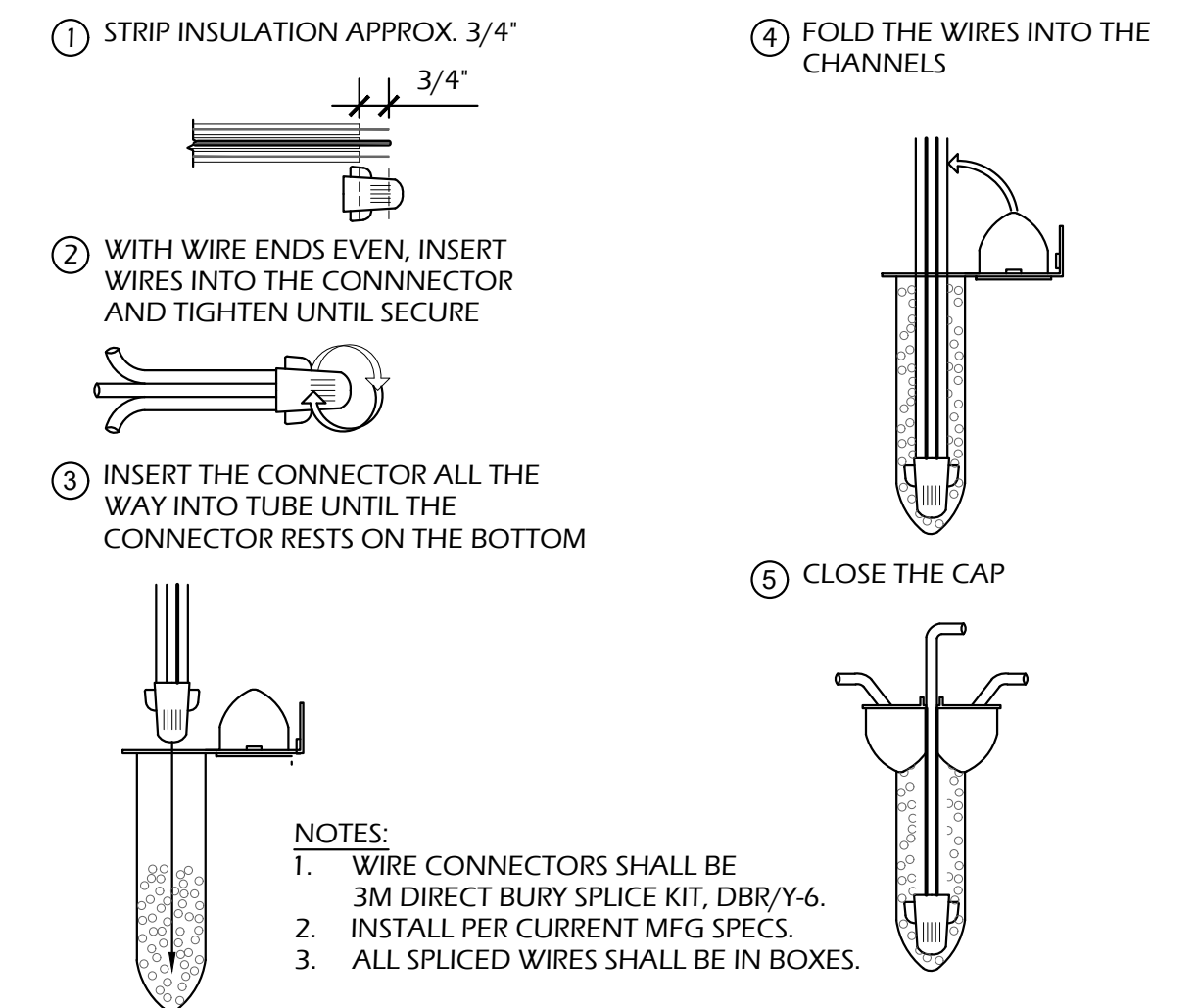
C RESERVED RECYCLED WATER SECTION N.T.S.

IRRIGATION SLEEVE SIZING CHART

PIPE SIZE	3/4"	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"
SLEEVE SIZE	2"	3"	3"	4"	4"	6"	6"	8"

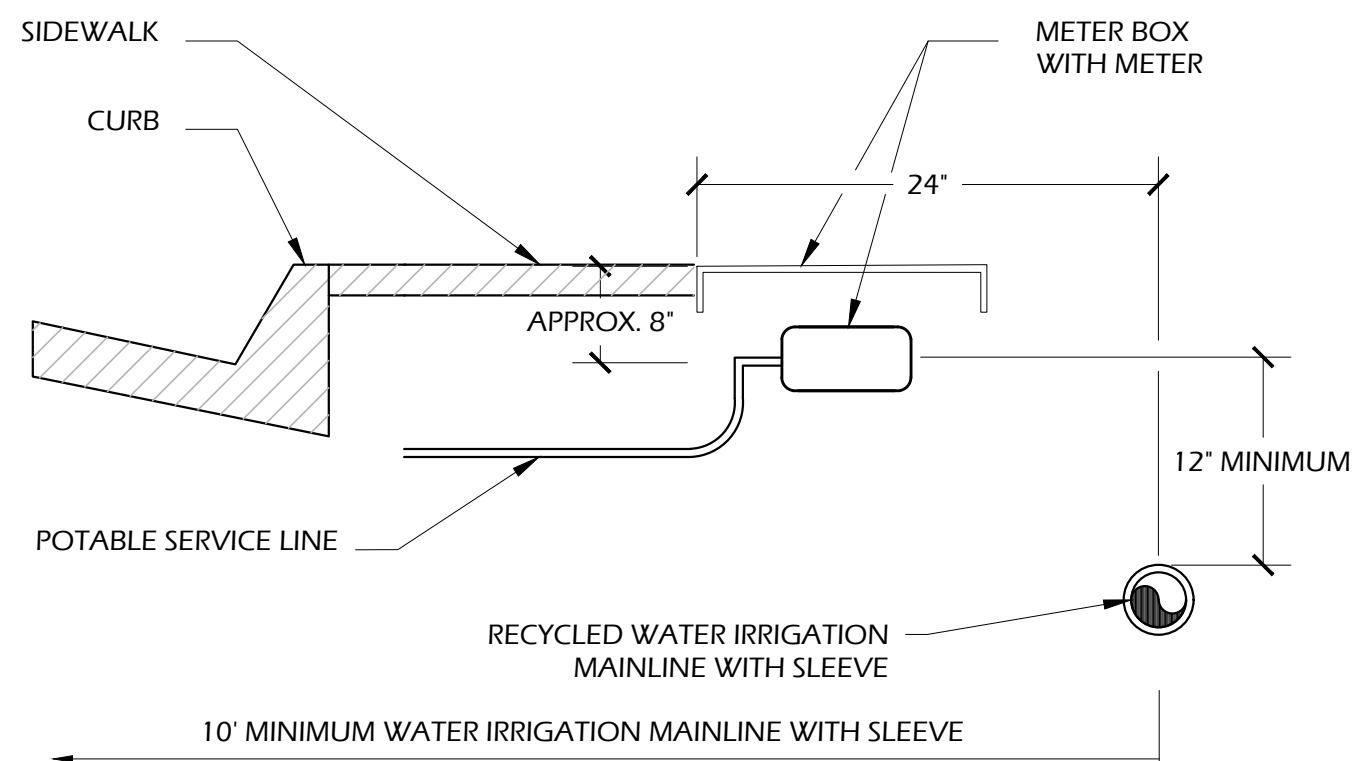
- NOTES:
- SLEEVE CHART IS FOR THE CONVENIENCE OF THE CONTRACTOR
 - CONTRACTOR SHALL PROVIDE ADEQUATE PIPE SLEEVE SIZE TO ALLOW ENCASED WIRES OR IRRIGATION PIPE (AND ITS RELATED COUPLINGS) TO EASILY SLIDE THROUGH SLEEVING MATERIAL.
 - SEPARATE SLEEVES TO BE USED FOR PIPES AND WIRES.
 - SEPARATE SLEEVES TO BE USED FOR EACH PIPE. DO NOT BUNDLE PIPES WITHIN SLEEVES.
 - ALL SLEEVES UNDER VEHICULAR CONDITIONS SHALL BE FOUR INCH (4") MIN., INCLUDING WIRE CONDUIT.
 - ALL 2-WIRE CONTROL WIRING SHALL BE IN ONE AND ONE-HALF INCH (1 1/2") CONDUIT, EXCEPT UNDER VEHICULAR CONDITIONS (4").

D SLEEVE CHART RECYCLED WATER SCALE: N.T.S.



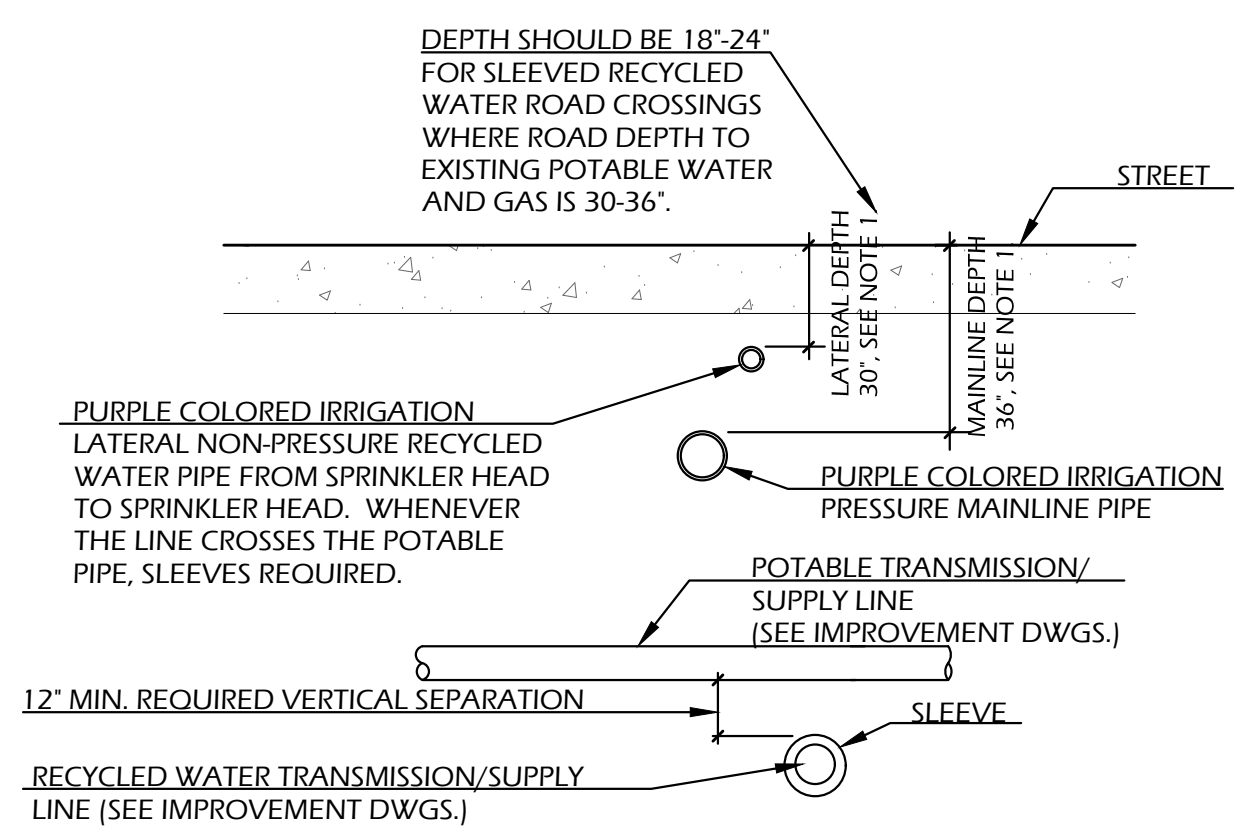
- NOTES:
- WIRE CONNECTORS SHALL BE 3M DIRECT BURY SPLICE KIT, DBR/Y-6.
 - INSTALL PER CURRENT MFG SPECS.
 - ALL SPLICED WIRES SHALL BE IN BOXES.

E WIRE CONNECTOR RECYCLED WATER SECTION N.T.S.



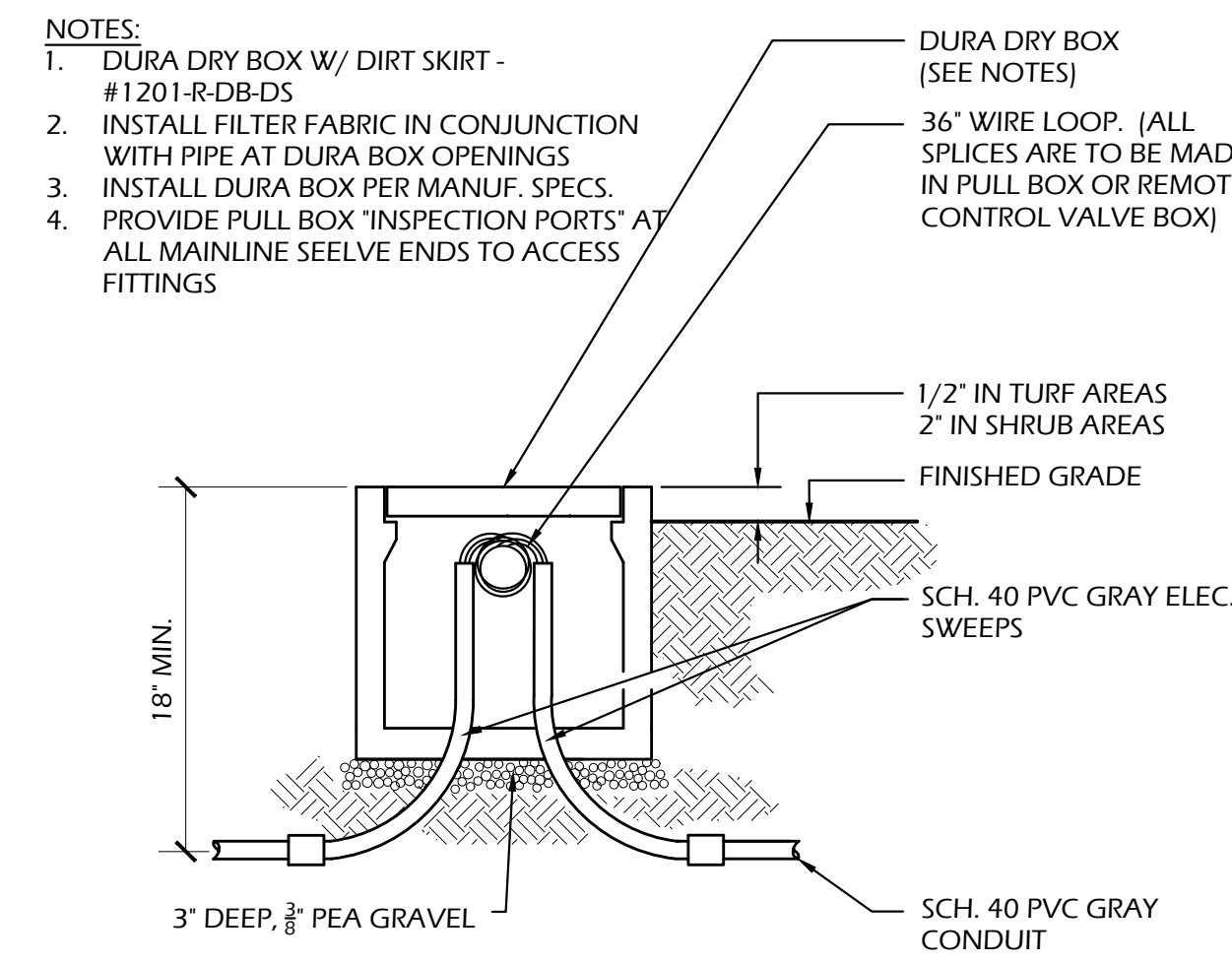
- NOTE: VERTICAL CLEARANCE OF 12" MINIMUM IS MANDATORY WHEN CROSSING PATH OF A POTABLE WATER LINE. INSTALLATION OF RECYCLED WATER IRRIGATION MAINLINE 24" FROM FACE OF SIDEWALK WILL PROVIDE THE NECESSARY 10" HORIZONTAL CLEARANCE FROM THE POTABLE MAINLINE IN THE STREET.

F POTABLE SERVICE LINE CROSSING RECYCLED WATER SECTION N.T.S.



- NOTE: 1. WHERE RECYCLED AND POTABLE WATERMANS CROSS UNDER STREETS, DEPTH OF THE RECYCLED MAINLINE AND RECYCLED WATER LATERAL SHALL BE 18"-24".
2. WHERE POTABLE LINES AND CONSTANT PRESSURE RECYCLED WATER LINES CROSS, THE RECYCLED LINES SHALL BE INSTALLED IN CLASS 200 PURPLE COLORED PVC SLEEVE. THE SLEEVE SHALL EXTEND 10 FEET ON EITHER SIDE OF THE POTABLE LINE FOR A TOTAL OF 20 FEET.

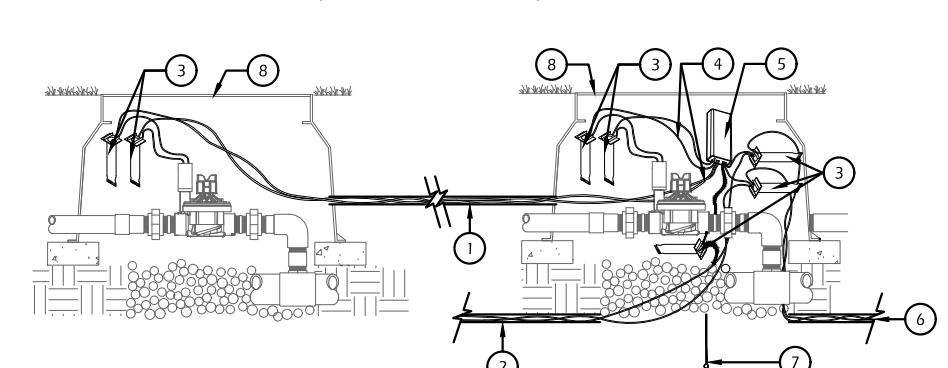
G RECYCLED & POTABLE WATER PIPE CROSSING RECYCLED WATER SECTION - N.T.S.



- NOTES:
- DURA DRY BOX W/ DIRT SKIRT - #1201-R-DB-DS
 - INSTALL FILTER FABRIC IN CONJUNCTION WITH PIPE AT DURA BOX OPENINGS
 - INSTALL DURA BOX PER MANUF. SPECS.
 - PROVIDE PULL BOX 'INSPECTION PORTS' AT ALL MAINLINE SEELVE ENDS TO ACCESS FITTINGS

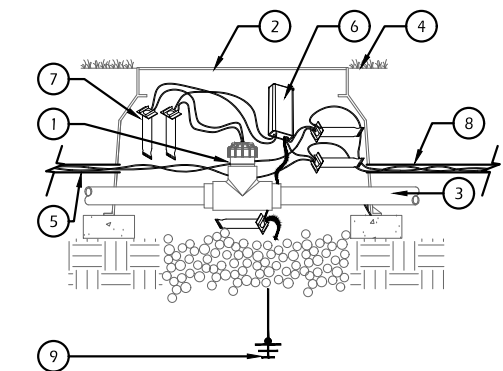
H PULL BOX RECYCLED WATER SECTION N.T.S.

- DECODER TO SOLENOID, MAX RUN 150' (IN 1 1/2" SCH. 40 CONDUIT)
- ID WIRE PATH FROM CONTROLLER ALLOW 5' SLACK PER DECODER 1/2 ON EITHER SIDE OF DECODER (IN 1 1/2" SCH. 40 CONDUIT)
- ID WIRE PATH TWISTED TO NEXT DECODER (IN 1 1/2" SCH. 40 CONDUIT)
- TO EARTH GROUND. INSTALL PER ASIC GUIDELINES EVERY 500' (SEE NOTE 2) SEE DETAIL 'J', SHT. LI-25
- 3M DIRECT BURY SPLICE KIT, MODEL #DBR/Y-6
- VALVE BOX
- COLOR CODED VALVE WIRES (SEE NOTES)
- VALVE BOX W/ SS SCREWS TYP.



- NOTES:
- All DECODERS SHALL HAVE THE FOLLOWING ADDRESS AND CORRESPONDING COLOR:
ADDRESS 1 = Black, ADDRESS 2 = Yellow, ADDRESS 3 = Green, ADDRESS 4 = White, ADDRESS 5 = Orange, ADDRESS 6 = Purple
IN ROCKY CONDITIONS CONSULT LANDSCAPE ARCHITECT FOR ALTERNATE GROUNDING METHODS.

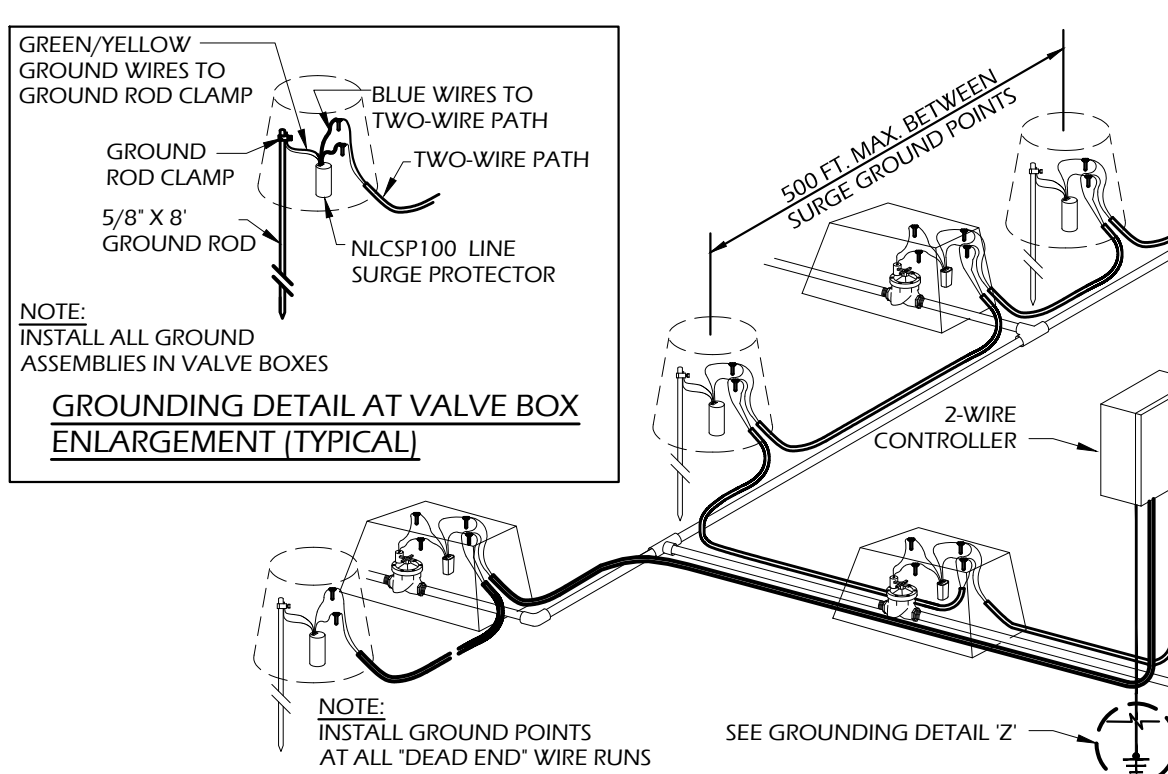
I DECODER DETAIL RECYCLED WATER SECTION N.T.S.



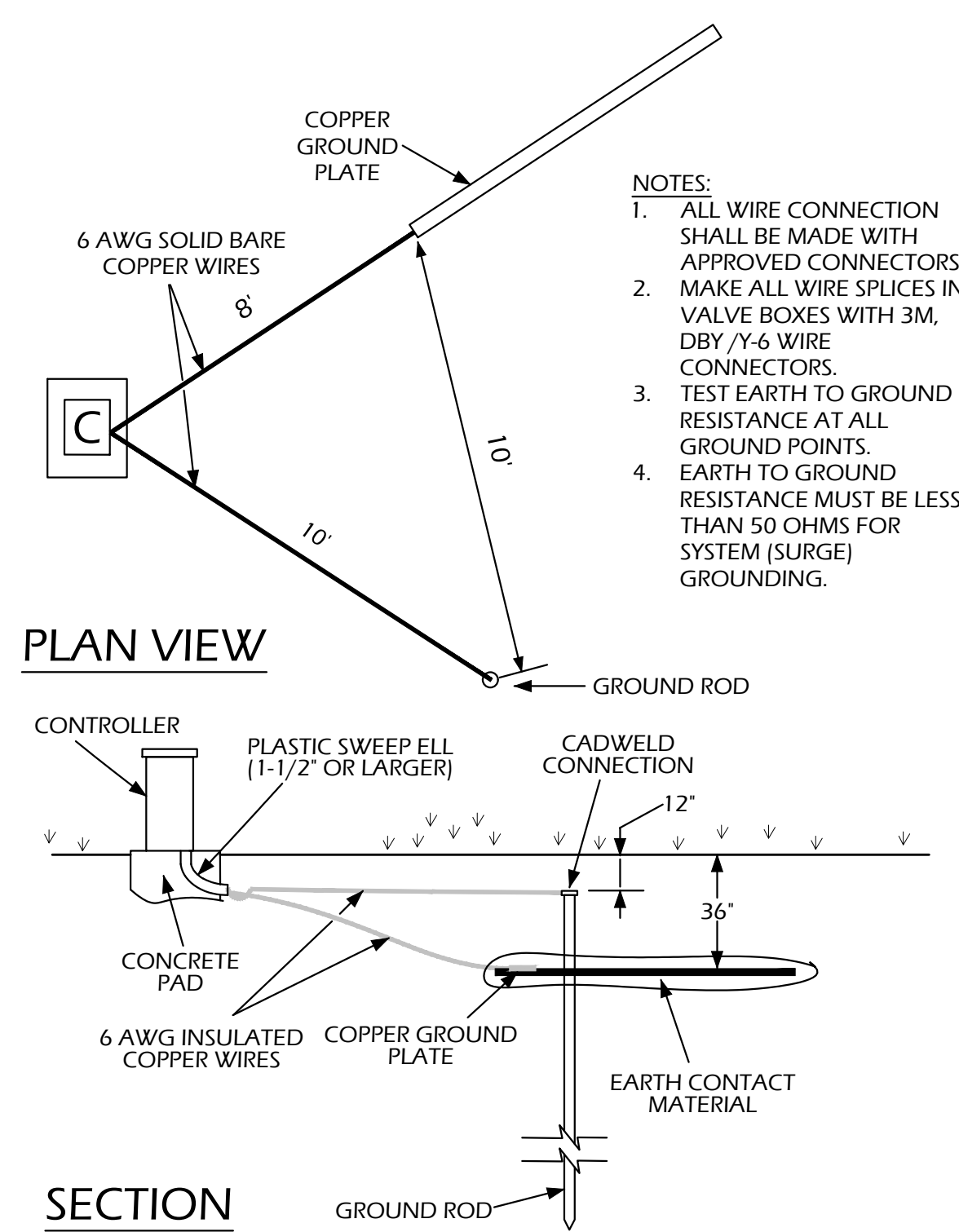
- NOTES:
- SEE DETAIL 'N', SHT. LI-25 FLOW SENSOR DETAIL.
 - ALL WIRE SHALL BE 12 OR 14 AWG TWISTED ID-WIRE.
 - IN ROCKY CONDITIONS CONSULT LANDSCAPE ARCHITECT FOR ALTERNATE GROUNDING METHODS.

J FLOW SENSOR DETAIL RECYCLED WATER SECTION N.T.S.

- NOTES:
- ALL WIRE CONNECTION SHALL BE MADE WITH APPROVED CONNECTORS.
 - MAKE ALL WIRE SPLICES IN VALVE BOXES WITH 3M, DBY /Y-6 WIRE CONNECTORS.
 - LEAVE A MINIMUM OF 18" EXTRA WIRE AT ALL SPLICE POINTS ABOVE VALVE BOX.
 - TEST EARTH TO GROUND RESISTANCE AT ALL GROUND POINTS.
 - EARTH TO GROUND RESISTANCE MUST BE LESS THAN 50 OHMS FOR SYSTEM (SURGE) GROUNDING.



K SYSTEM GROUNDING DETAIL RECYCLED WATER PLAN & SECTION N.T.S.



L 2-WIRE CONTROLLER GROUNDING RECYCLED WATER PLAN & SECTION N.T.S.

AS BUILT		UTILITY NOTE	
SIGNATURE _____ DATE _____	R.L.A. No. _____	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.	
CONTRACTOR: _____	INSPECTOR: _____	DATE COMPLETED: _____	

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

DATUMS	SCALE	DESIGNED BY	DRAWN BY	CHECKED BY
CITY OF CHULA VISTA BEYOND MARK NO. 95072 ELEVATION 446.361 NAVD 88	HORIZONTAL	LE	LE / RR	PT
DESCRIPTION: 3" BRASS DISK (LS4324) WELL MON @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841	VERTICAL	Plans Prepared Under Supervision Of: PATRICIA TRAUTH		Date: 2/10/2022
	N/A		R.L.A. No. 3247	

CONSTRUCTION RECORD	REFERENCES	REVISIONS	DATE	APPROVED BY	DATE
CONTRACTOR: _____	HALE ENGINEERING GRADING PLANS: 14011				

RICK ENGINEERING COMPANY
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165

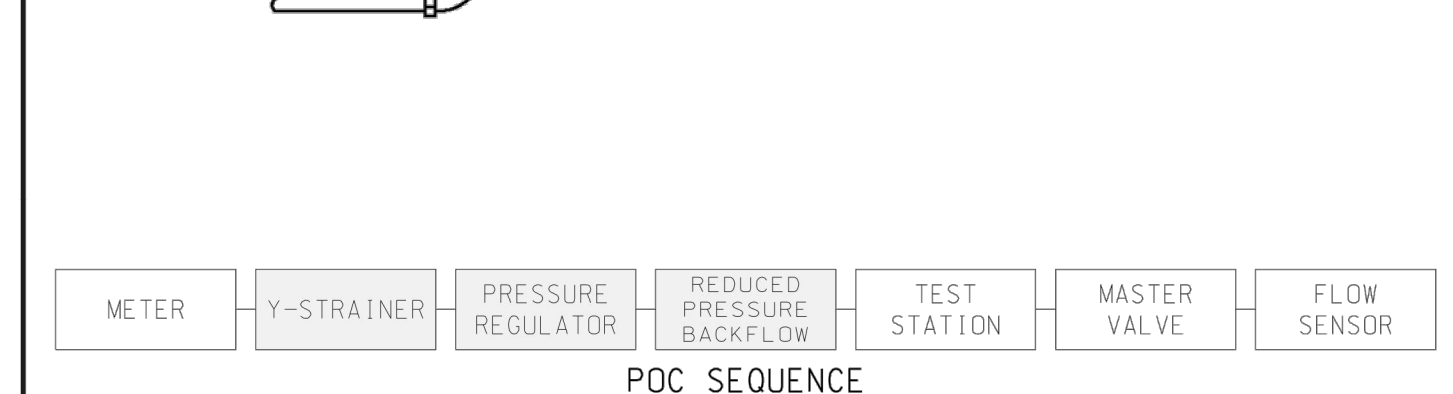
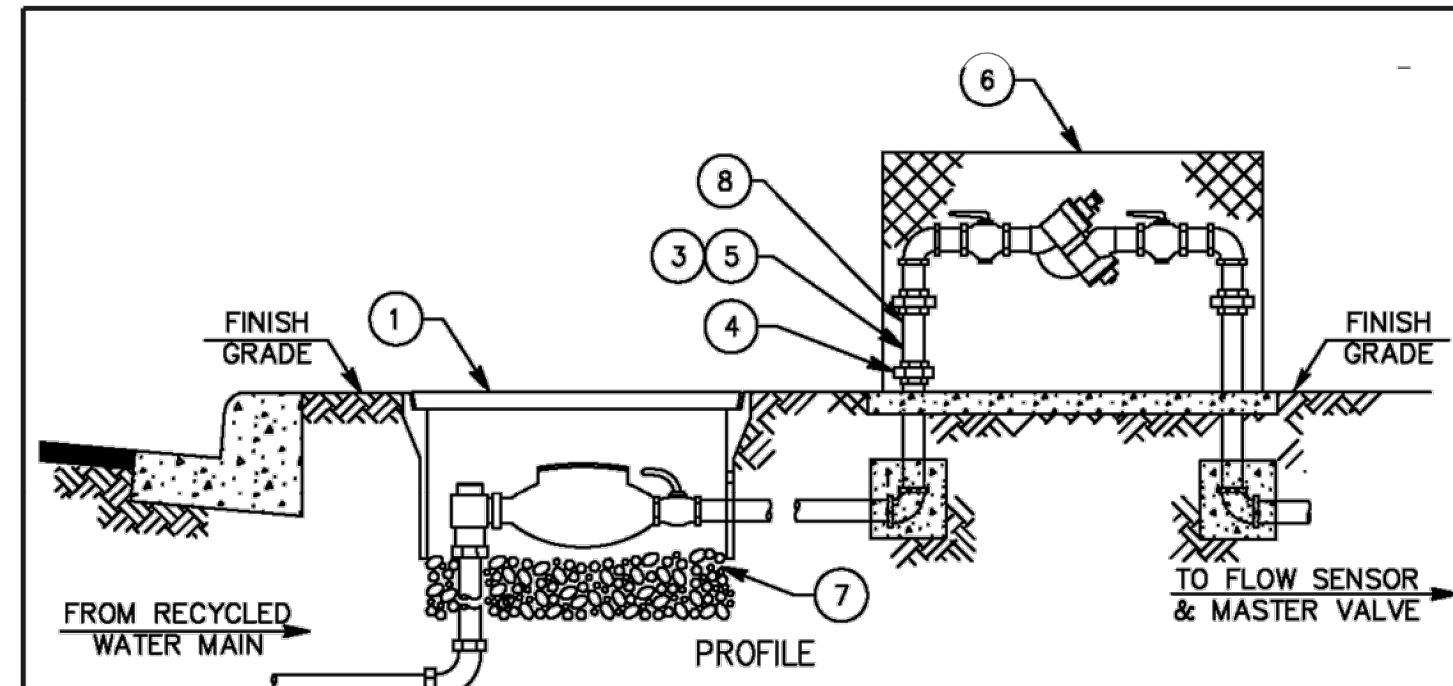
CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT
IRRIGATION DETAILS FOR:
CHULA VISTA TRACT NO. 09-04 PH.2 LI-13
OTAY RANCH, VILLAGE 8 WEST

DRAWING NO. **19015-16**
W.O. NO. 0R652G

GRADING PERMIT No. GR13-005 PLR-20-018 OWD SHEET 16 OF 27



OWD # D1044-060274



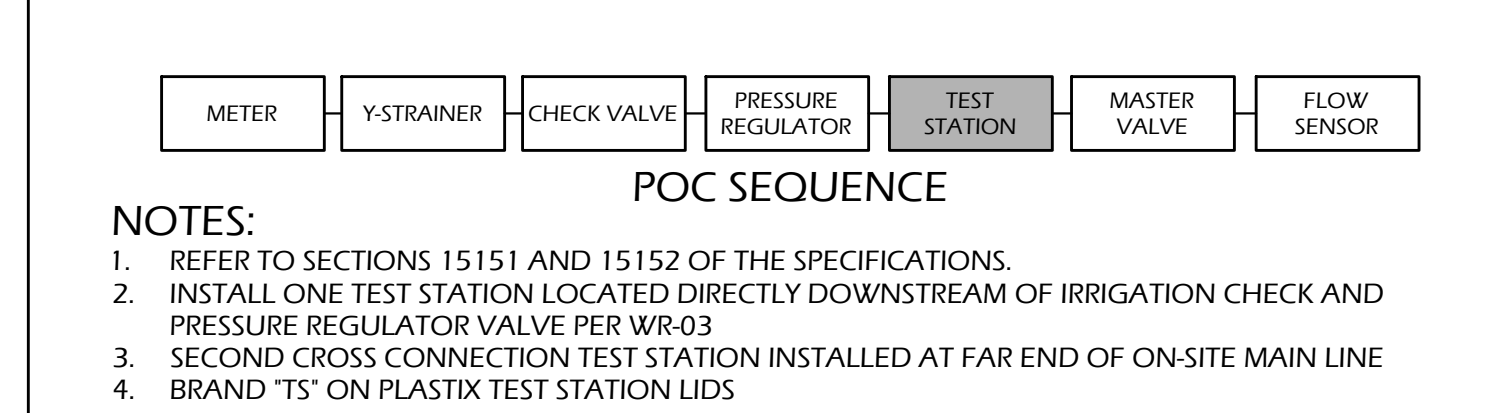
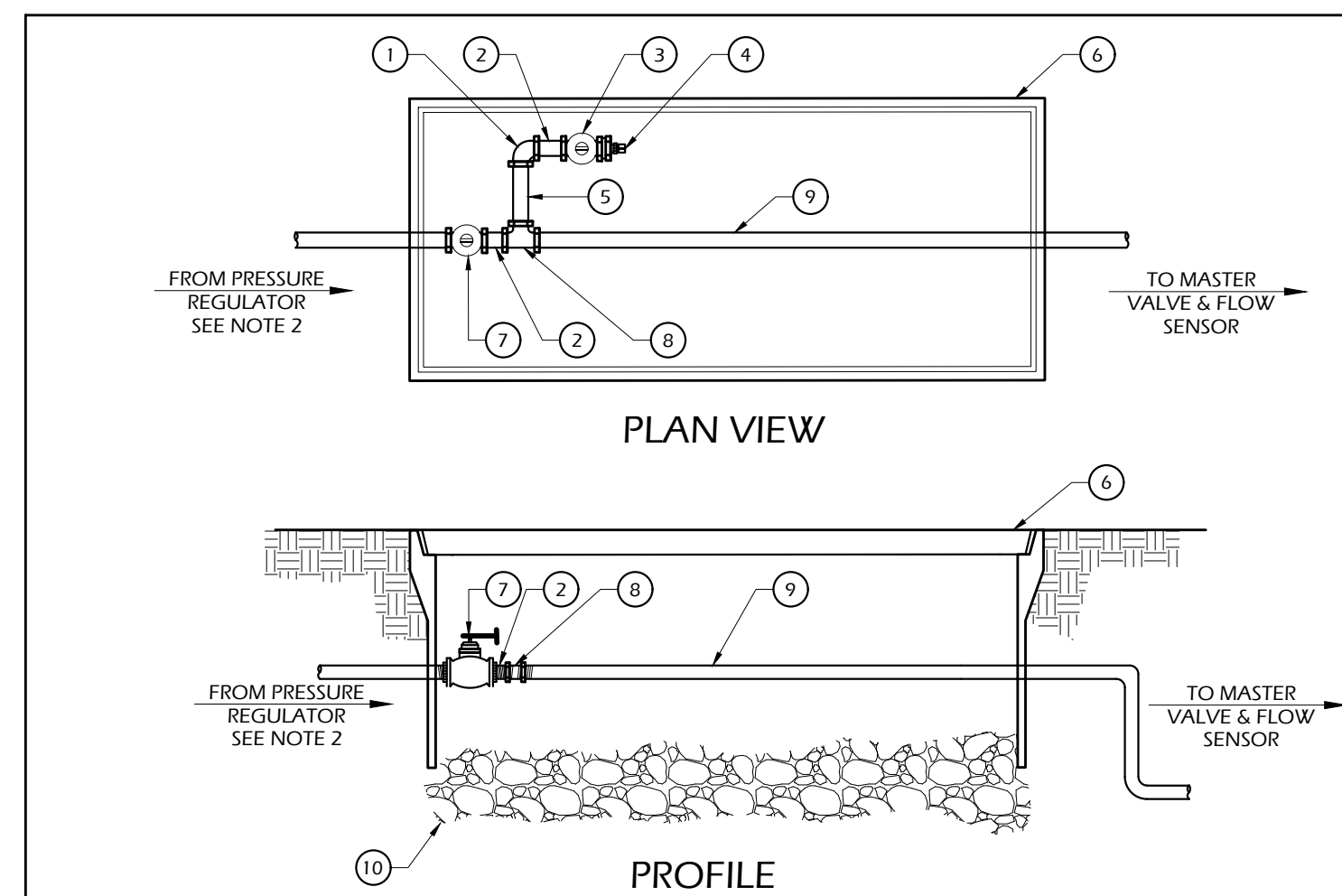
NOTES:

- REFER TO SECTIONS 15151 AND 15152 OF THE SPECIFICATIONS
- SET TOP OF METER BOX FLUSH WITH SIDEWALK, CURB OR FINISH GRADE
- INSTALL WARNING/IDENTIFICATION TAPE AS SHOWN ON WP-01
- WATER LATERALS INSTALLED FOR THE USE OF RECYCLED WATER SHALL BE IDENTIFIED AS DESCRIBED IN SECTION 15151 OF THE SPECIFICATIONS
- INSTALL WYE STRAINER HORIZONTAL TO SERVICE LATERAL
- 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	WYE STRAINER, SEE NOTE 5	8	PRESSURE REGULATOR
4	SCREWED BRASS UNION		
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



NOTES:

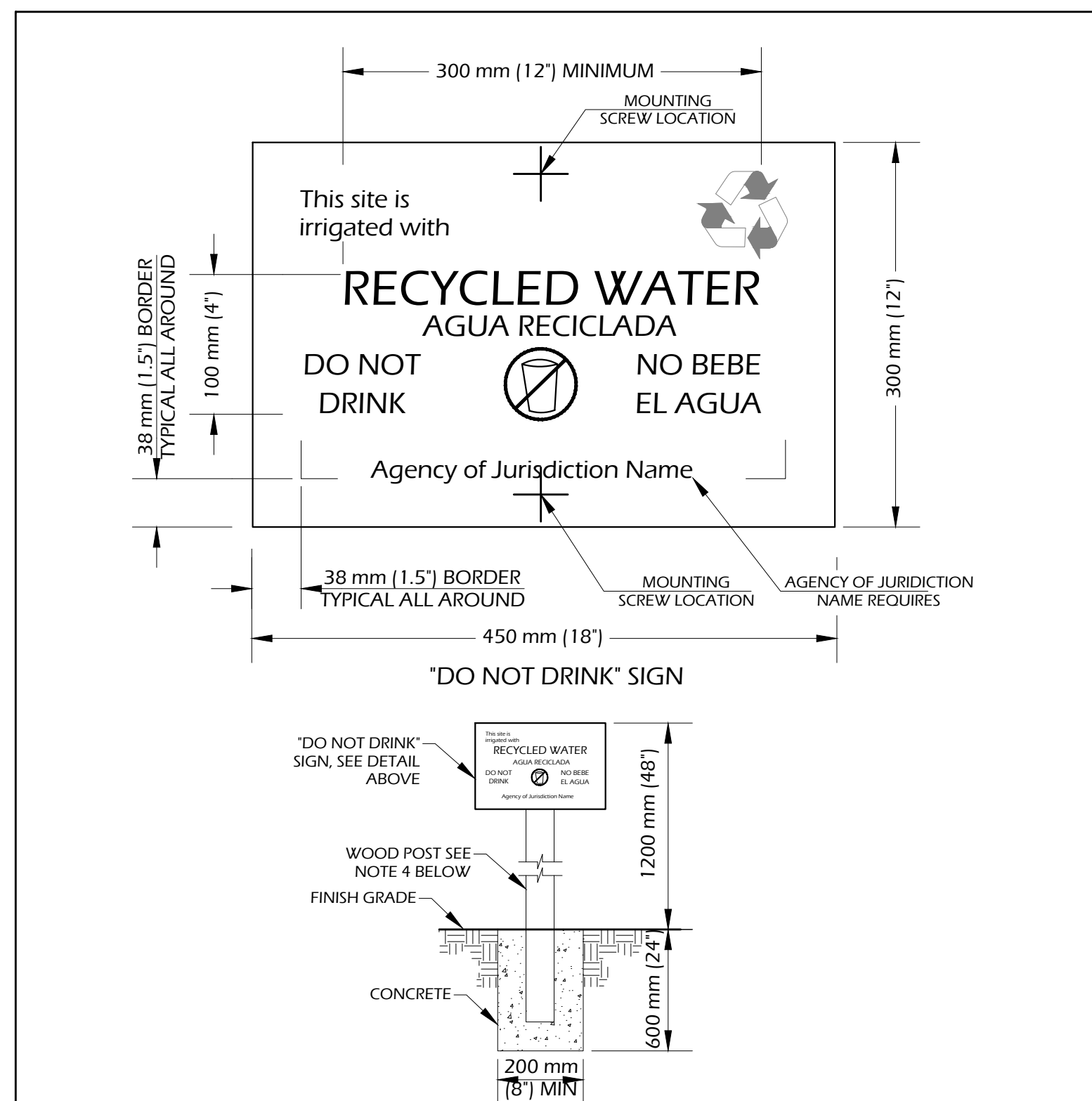
- REFER TO SECTIONS 15151 AND 15152 OF THE SPECIFICATIONS.
- INSTALL ONE TEST STATION LOCATED DIRECTLY DOWNSTREAM OF IRRIGATION CHECK AND PRESSURE REGULATOR VALVE PER WR-03
- SECOND CROSS CONNECTION TEST STATION INSTALLED AT FAR END OF ON-SITE MAIN LINE
- BRAND 'TS' ON PLASTIX TEST STATION LIDS

ITEM No.	SIZE AND DESCRIPTION	ITEM No.	SIZE AND DESCRIPTION
1	19mm (3/4") BRASS 90° ELL	5	19mm (3/4") SCHEDULE 80 BRASS NIPPLE
2	19mm (3/4") SCH 80 BRASS CLOSE NIPPLE	6	METER BOX WITH PURPLE COLORED LID
3	19mm (3/4") BRASS LOCKABLE BALL VALVE FIP x METER SWIVEL	7	LINE SIZE BRASS BALL VALVE
		8	LINE SIZE x 19mm (3/4") BRASS
4	19mm x 6 mm (3/4" x 1/2") BRASS THREADED BUSHING WITH 6.3mm (1/4") CAPPED OUTLET	9	TYPE 'K' COPPER OR BRASS PIPE ONLY
		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: 11/03/2006
DRAWING NUMBER: WR-04

NOTES:
FLARED MIP TO REPLACE CAPPED OUTLET IN ITEM #4. JUMBO BOX TO REPLACE ITEM #6. ALL FITTINGS TO BE BRASS OR TYPE K COPPER.

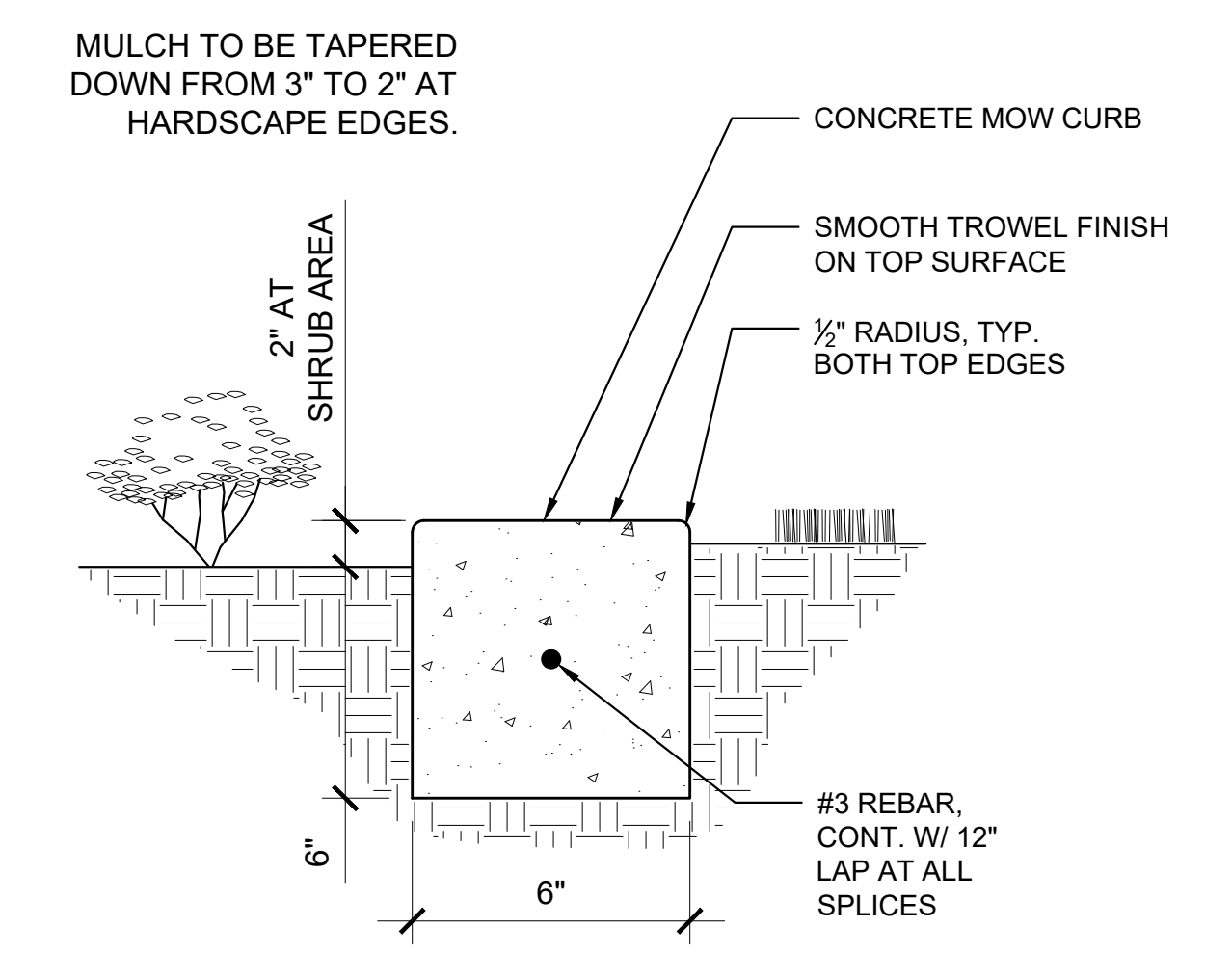


NOTES:

- REFER TO SECTION 15151 OF THE SPECIFICATIONS
- SIGNS SHALL BE MANUFACTURED OF ALUMINUM SHEET, THICKNESS SHALL BE 0.08" (NOT 0.063")
- THE SIGN SHALL INCORPORATE A PURPLE BACKGROUND WITH WHITE LETTERS AND SYMBOLS
- SIGNS SHALL BE MOUNTED ON A GALVANIZED SCH. 40 2" POST SET IN CONCRETE. ATTACH THE SIGN TO THE POST USING GALVANIZED FASTENERS.

RECYCLED WATER "DO NOT DRINK" SIGN

WATER AGENCIES' STANDARDS
COMMITTEE APPROVAL: 11/16/2007
DRAWING NUMBER: WM-08

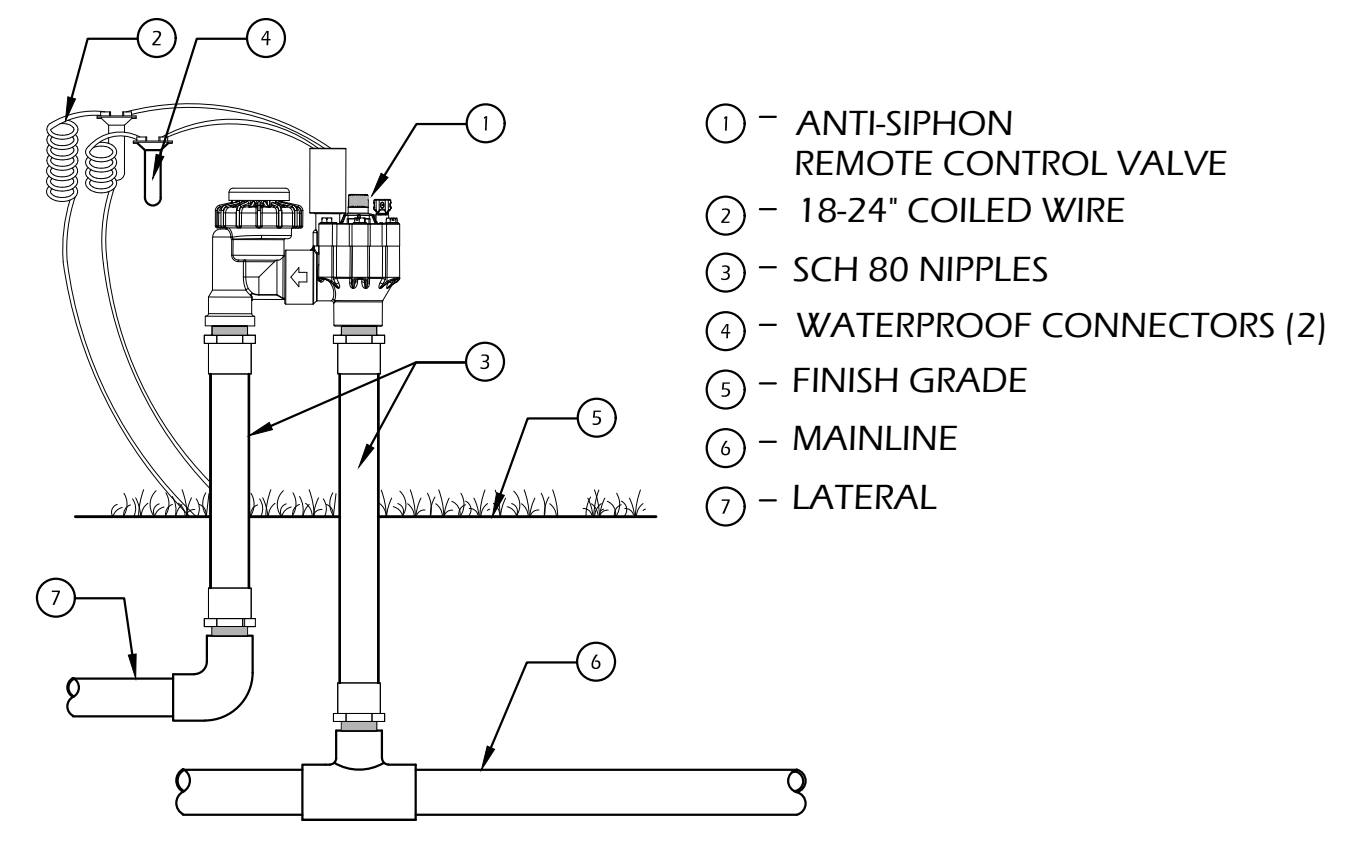


NOTES:

- INSTALL 3/8" BITUMINOUS FELT EXPANSION JOINTS AT 24'-0" O.C. MIN.
- INSTALL TOOLED CONTROL JOINTS AT 8'-0" O.C. MIN.

CONCRETE HEADER

N.T.S. SECTION

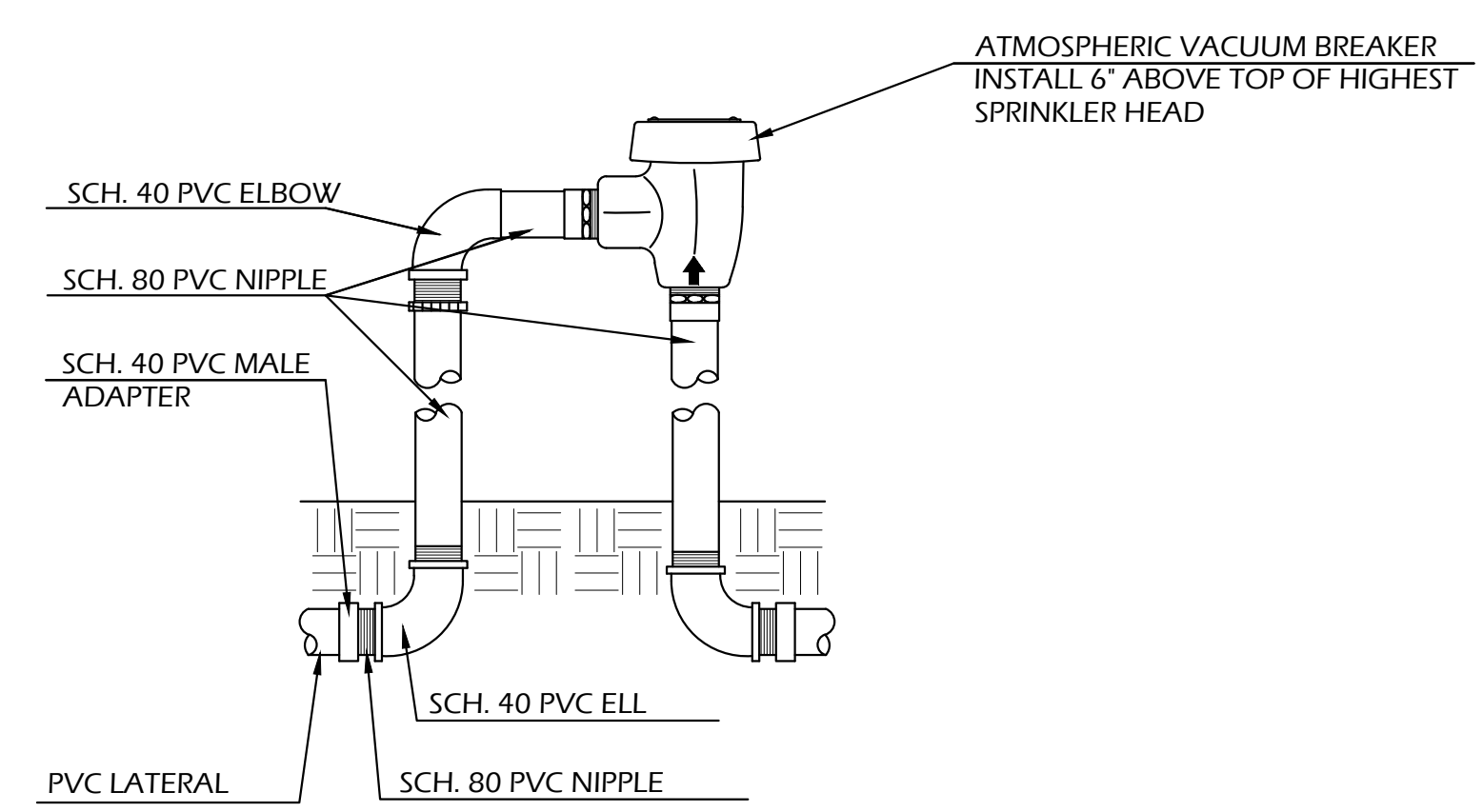


NOTE:
ANTI-SIPHON VALVES SHALL BE INSTALLED 6-12" ABOVE THE HIGHEST SPRINKLER HEAD, OR AN AVB PER DETAIL 'Y' SHALL BE INSTALLED TO PREVENT BACKFLOW OF WATER.

A ANTI-SIPHON VALVE

POTABLE WATER

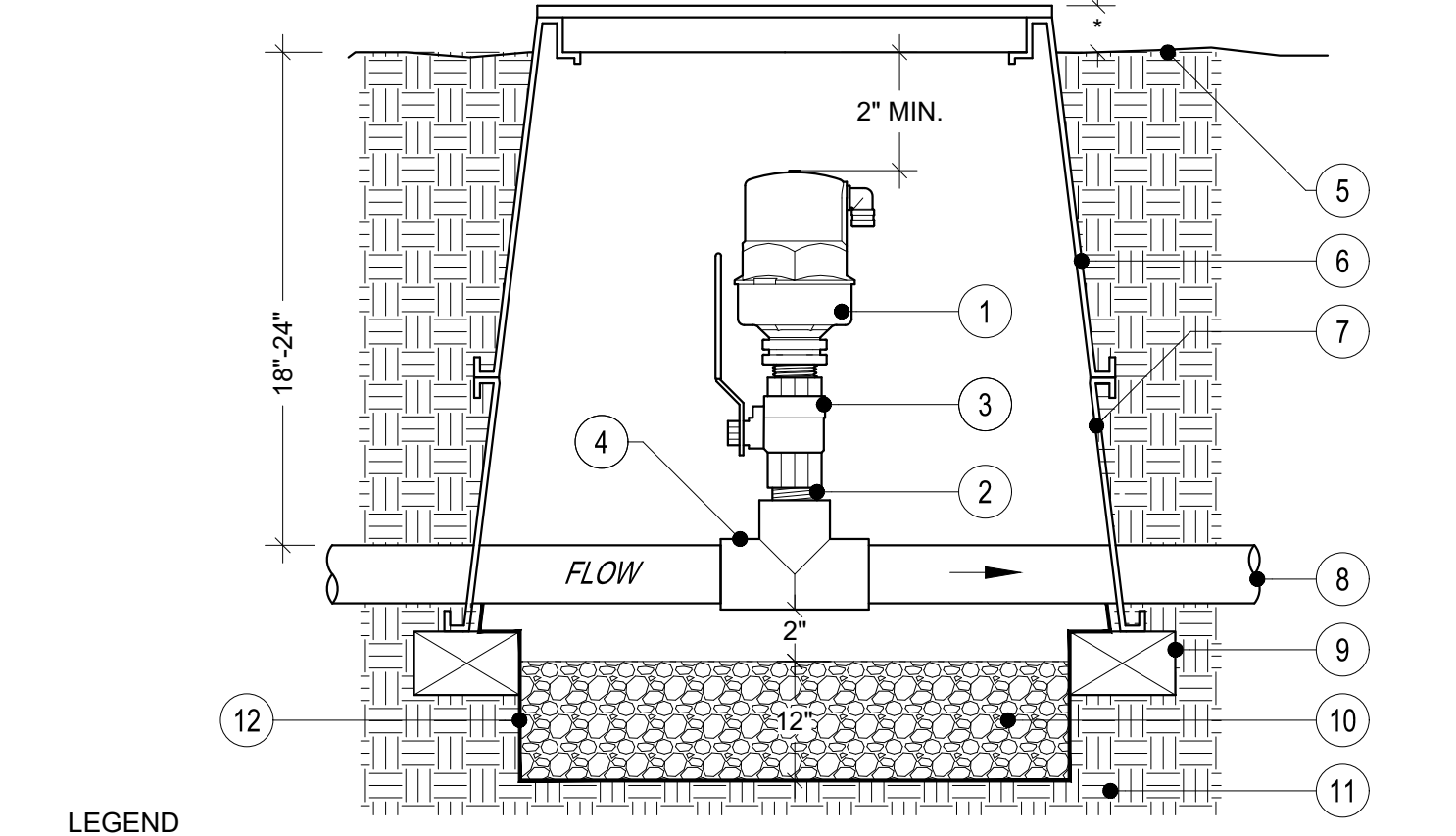
N.T.S. SECTION



B ATMOSPHERIC VACUUM BREAKER

POTABLE WATER

N.T.S. SECTION



LEGEND

- NETAFIM AIR/VACUUM CONTINUOUS ACTING AIR VENT
- SCH 80 PVC NIPPLE LENGTH AS NEEDED
- BRASS BALL VALVE
- SCH 80 PVC MAINLINE TEE WITH SXSXT
- FINISH GRADE
- RECTANGULAR PLASTIC VALVE BOX WITH LOCKING LID. HEAT BRAND "ARV" ON LID IN 2" HIGH BLOCK LETTERS. PURPLE COLOR.
- RECTANGULAR PLASTIC VALVE BOX EXTENSIONS
- MAINLINE
- COMMON BRICK SUPPORTS (4 REQUIRED)
- COMMON BRICK SUPPORTS (4 REQUIRED)
- FILL BASE OF BOX WITH 3/8" PEA GRAVEL
- COMPACTED NATIVE SOIL
- FILTER FABRIC - COVER ALL BOX HOLES

C AIR/VACUUM VENT

W/BALL VALVE TO PVC

N.T.S. SECTION

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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	UTILITY NOTE
SIGNATURE _____ DATE _____	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.
Printed Name _____ R.L.A. No. _____	
My Registration Expires _____ Discipline _____	

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd
CONTRACTOR: _____	HALE ENGINEERING GRADING PLANS: 14011				
INSPECTOR: _____					
DATE COMPLETED: _____					

DATUMS	SCALE	Designed By:	Drawn By:	Checked By:
CITY OF CHULA VISTA BENCH MARK NO. 95072 ELEVATION 448.361 NAVD 88 DESCRIPTION: 3" BRASS DISK (LS4324) WELL MGN @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841	HORIZONTAL	LE	LE / RR	PT
	VERTICAL			
	N/A			

Submitted:	APPROVED BY:	DATE:
By: _____	DIRECTOR OF DEVELOPMENT SERVICES, TIFFANY ALLEN OR DESIGNEE	_____
Office: _____		

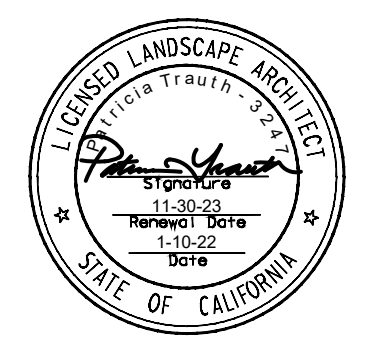
CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT	DRAWING NO.
IRRIGATION DETAILS FOR: CHULA VISTA TRACT NO. 09-04 PH.2 LI-14 OTAY RANCH, VILLAGE 8 WEST	19015-17
	W.O. NO. OR652G

RICK
ENGINEERING COMPANY
San Diego

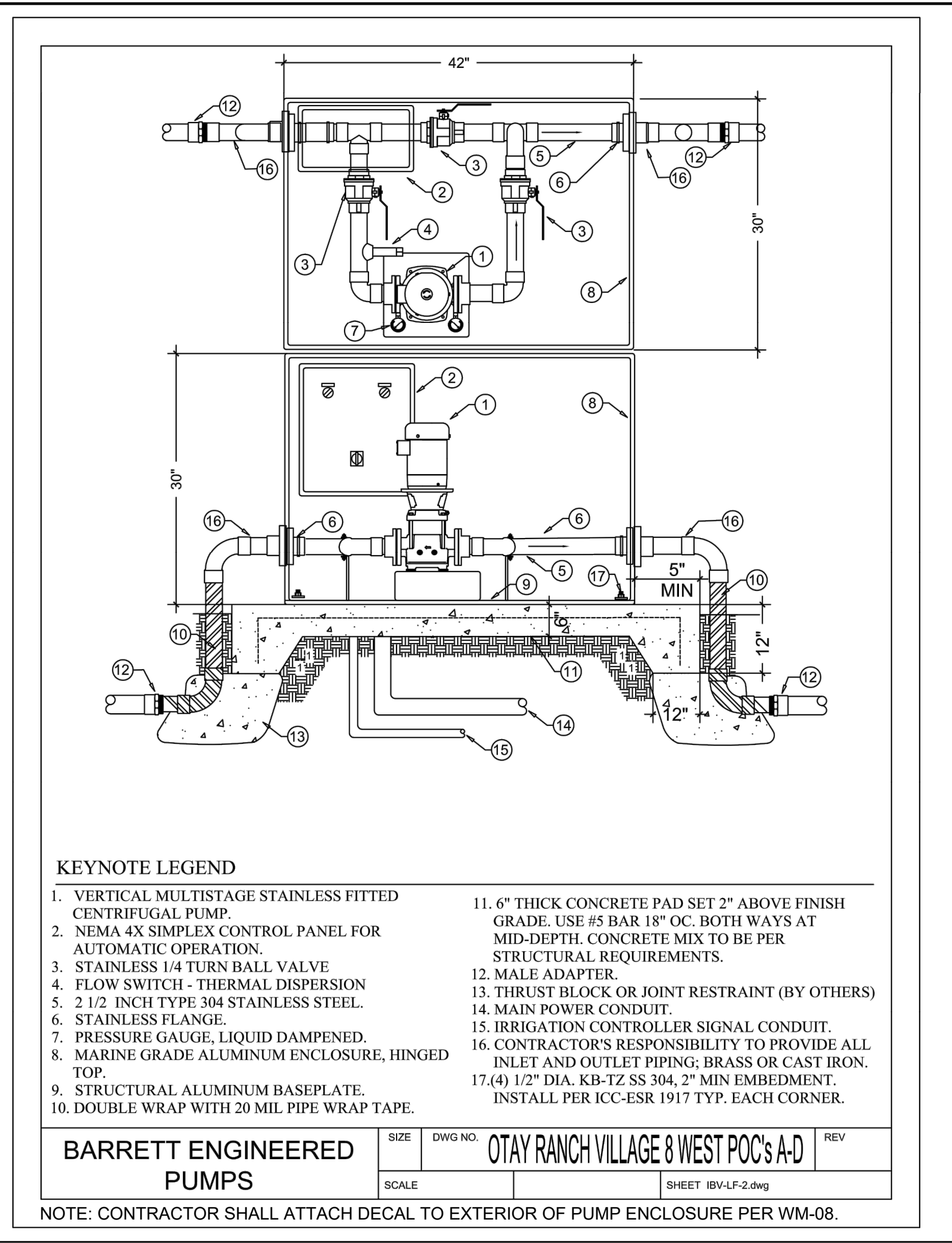
5620 FRIARS ROAD
SAN DIEGO, CA 92110
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rickengineering.com

Riverside - Orange - Sacramento - San Luis Obispo - Phoenix - Tucson - Denver

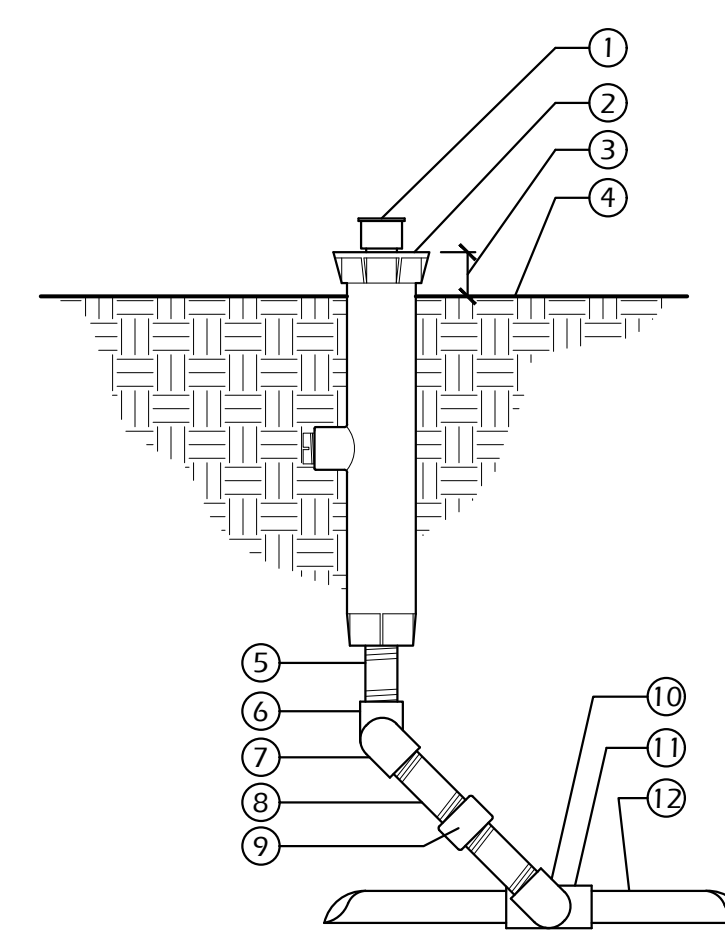
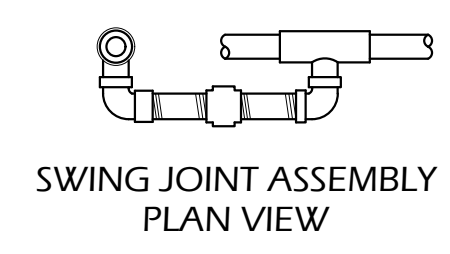


OWD # D1044-060274

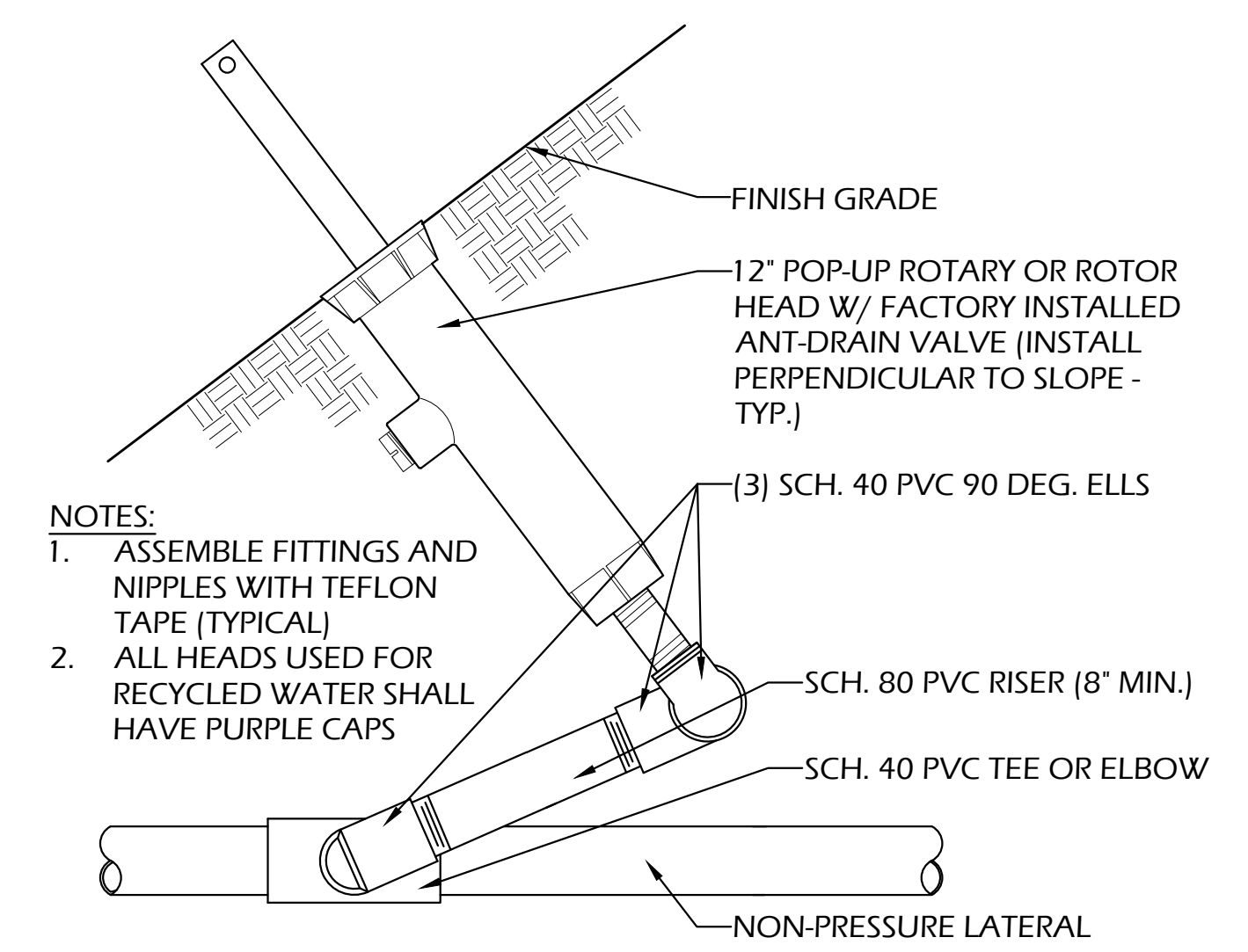


POC 'D' BOOSTER PUMP INFO

IBPCO-5-2-2.5/VFD-F System Model Number	70 GPM System Design Flow Rate	149 PSI System Design Pressure	2 1/2 INCH System Pipe Size
114 PSI Minimum Station Pressure	208/230 or 460 VAC System Electrical Voltage	1 or 3 PHASE 60 HZ System Electrical Power and Frequency	
PACO 1070-7 Pump Model Number	70 GPM Pump Capacity @PM	90 FEET Pump Total Head (Feet)	
3 HP Pump Horsepower	3500 RPM Pump RPM	Undetermined V Voltage System Full Load Amperage	



- 1 - POP-UP BUBBLER HEAD
- 2 - PURPLE IDENTIFICATION CAP
- 3 - 2" IN SHRUB AREAS
- 4 - FINISH GRADE
- 5 - PVC SCHEDULE 80 NIPPLE
- 6 - THREADED ELL (FIPT X FIPT)
- 7 - PVC SCHEDULE 40 STREET ELL
- 8 - PVC SCHEDULE 80 NIPPLE
- 9 - ANTI-DRAIN VALVE (HUNTER "HCV" IF NOT FACTORY INSTALLED IN SPRINKLER)
- 10 - PVC SCHEDULE 40 STREET ELL
- 11 - PVC SCHEDULE 40 THREADED ELL OR THREADED TEE (SLIP X FIPT)
- 12 - PVC LATERAL LINE (PURPLE, SEE SPECIFICATIONS FOR PIPE DEPTH)



A BOOSTER PUMPS N.T.S. SECTION

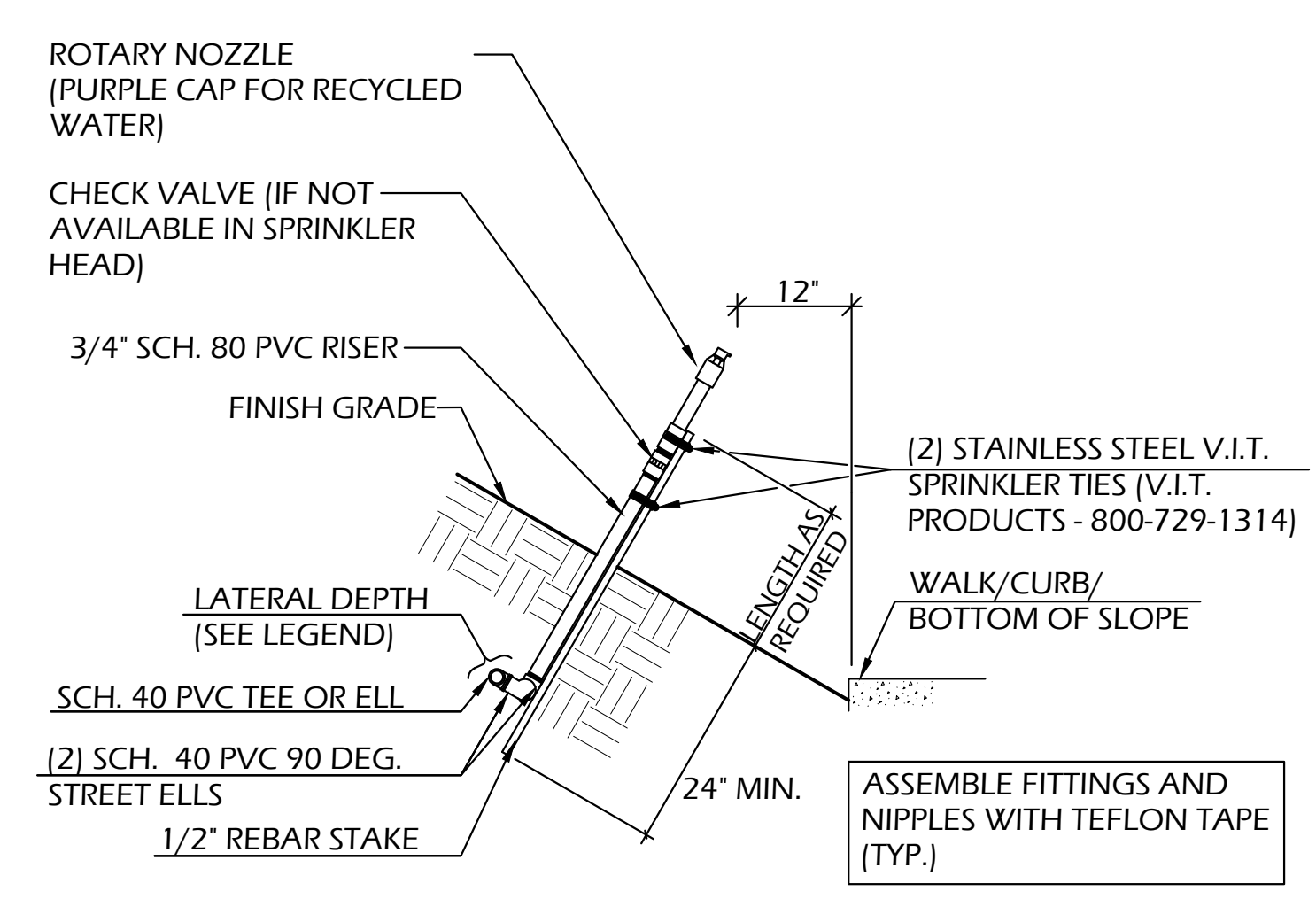
RECYCLED WATER

B POP-UP BUBBLER HEAD N.T.S. SECTION

RECYCLED WATER

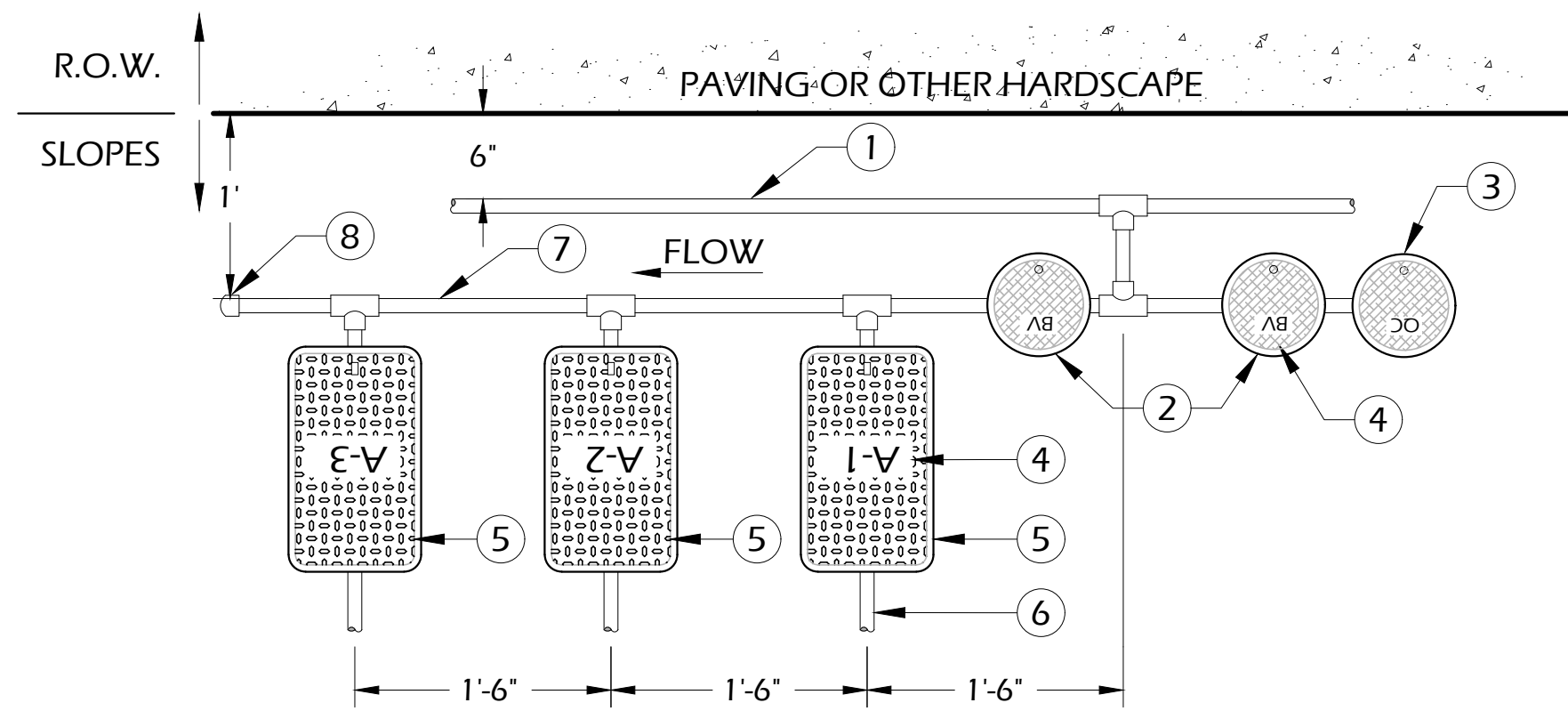
C 12" POP-UP HEAD ON SLOPE N.T.S. SECTION

RECYCLED WATER



D ROTARY ON RISER ON SLOPE N.T.S. SECTION

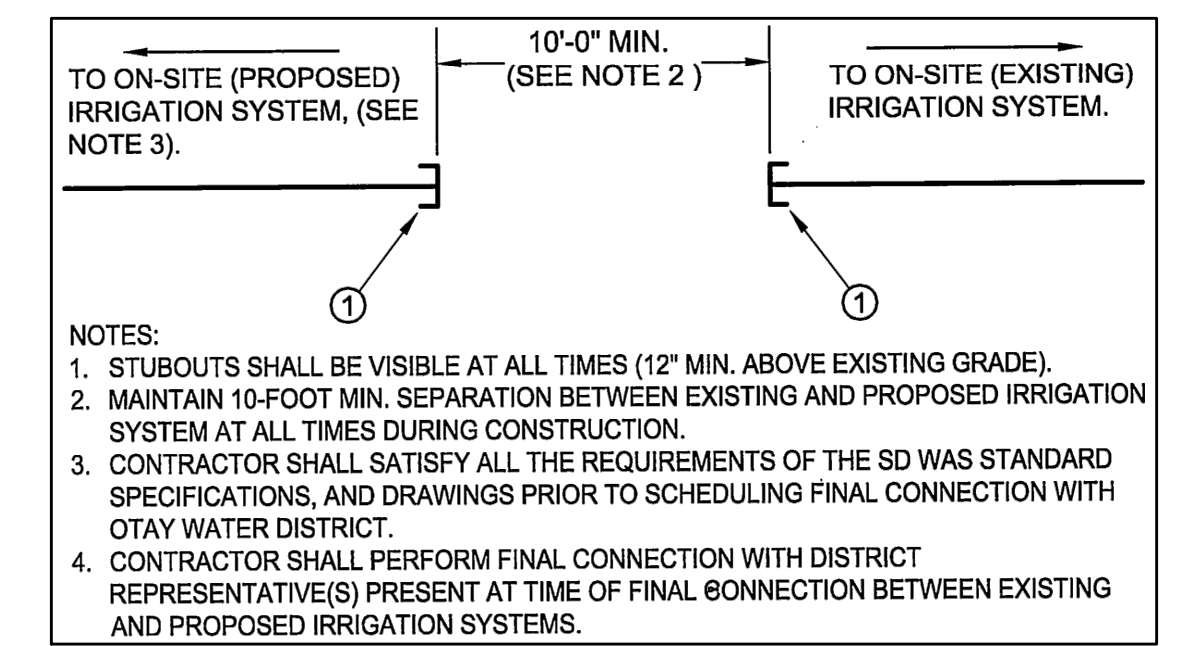
RECYCLED WATER



- KEYNOTES LEGEND:**
- PRESSURE SUPPLY LINE.
 - BALL VALVE.
 - QUICK COUPLER.
 - HEAT BRAND ALL VALVES.
 - REMOTE CONTROL VALVES.
 - LATERAL PIPE (TYP.).
 - MANIFOLD PIPE.
 - INSTALL CAP BEYOND LAST TEE FOR POTENTIAL FUTURE CONNECTION.
- GENERAL NOTES:**
- ALL MANIFOLD AND ISOLATION VALVE PIPING TO BE SAME SIZE AS THE LARGEST SIZE LATERAL LINE ON ANY REMOTE CONTROL VALVE IN THE MANIFOLD.
 - EACH MANIFOLD SHALL HAVE A MINIMUM OF 15 FEET SEPARATION.
 - ALL MANIFOLDS ARE TO BE INSTALLED IN PLANTER AREAS, UNLESS NOTED OTHERWISE.

E MANIFOLD CONFIGURATION N.T.S. PLAN

RECYCLED WATER



F SEPARATION DETAIL N.T.S. PLAN

RECYCLED WATER

INSPECTION NOTE:

OTAY WATER DISTRICT SHALL BE NOTIFIED 5 WORKING DAYS PRIOR TO THE START OF CONSTRUCTION AT (619) 670-2241. ALL WORK PERFORMED WITHOUT THE 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		UTILITY NOTE	
SIGNATURE _____	DATE _____	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.	
Printed Name _____	R.L.A. No. _____		
My Registration Expires _____	Discipline _____		

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd
CONTRACTOR: _____	HALE ENGINEERING GRADING PLANS: 14011				
INSPECTOR: _____					
DATE COMPLETED: _____					

DATUMS	
CITY OF CHULA VISTA BENCH MARK NO. 95072 ELEVATION 448.361 NAVD 88	SCALE: HORIZONTAL
DESCRIPTION: 3" BRASS DISK (LS4324) WELL MGN @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841	VERTICAL: N/A

Designed By:	Drawn By:	Checked By:
LE	LE / RR	PT
Plans Prepared Under Supervision Of:		Date: 2/10/2022
PATRICIA TRAUH		R.L.A. No. 3247

Submitted:	APPROVED BY:	DATE:
By: _____	DIRECTOR OF DEVELOPMENT SERVICES, TIFFANY ALLEN OR DESIGNEE	_____
Office: _____		

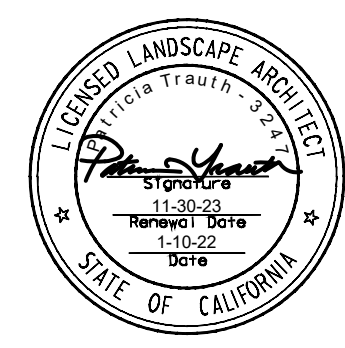
CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT		DRAWING NO.
IRRIGATION DETAILS FOR: CHULA VISTA TRACT NO. 09-04 PH.2 LI-15 OTAY RANCH, VILLAGE 8 WEST		19015-18
		W.O. NO. OR652G

RICK ENGINEERING COMPANY

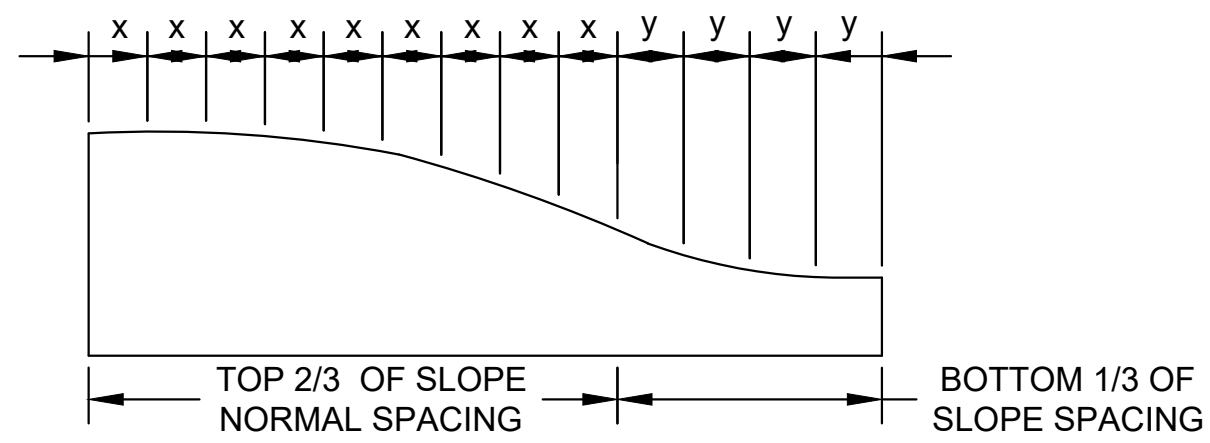
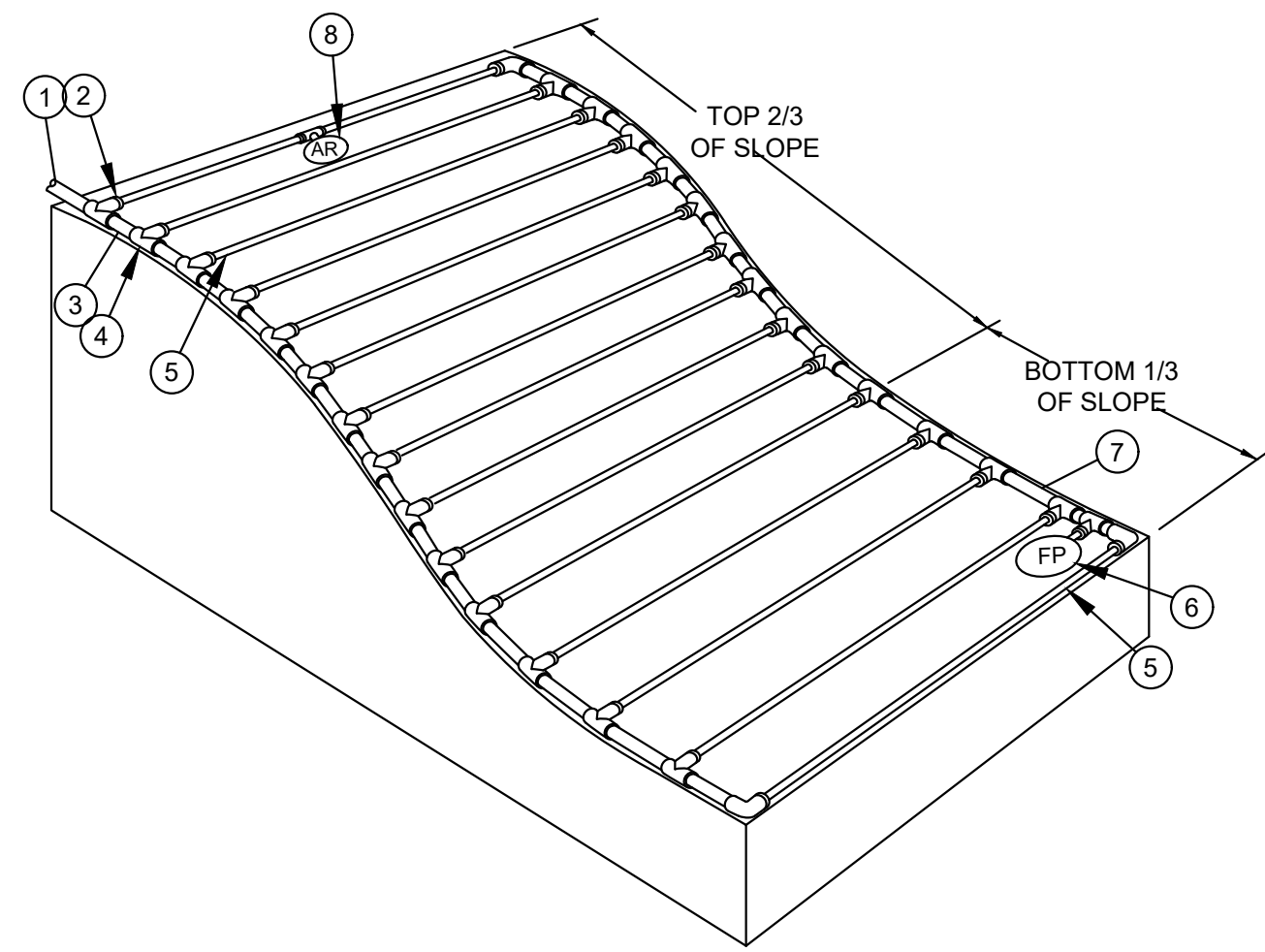
5620 FRIARS ROAD
SAN DIEGO, CA 92110
619-291-0707
(FAX) 619-291-4165

rickengineering.com

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OWD # D1044-060274

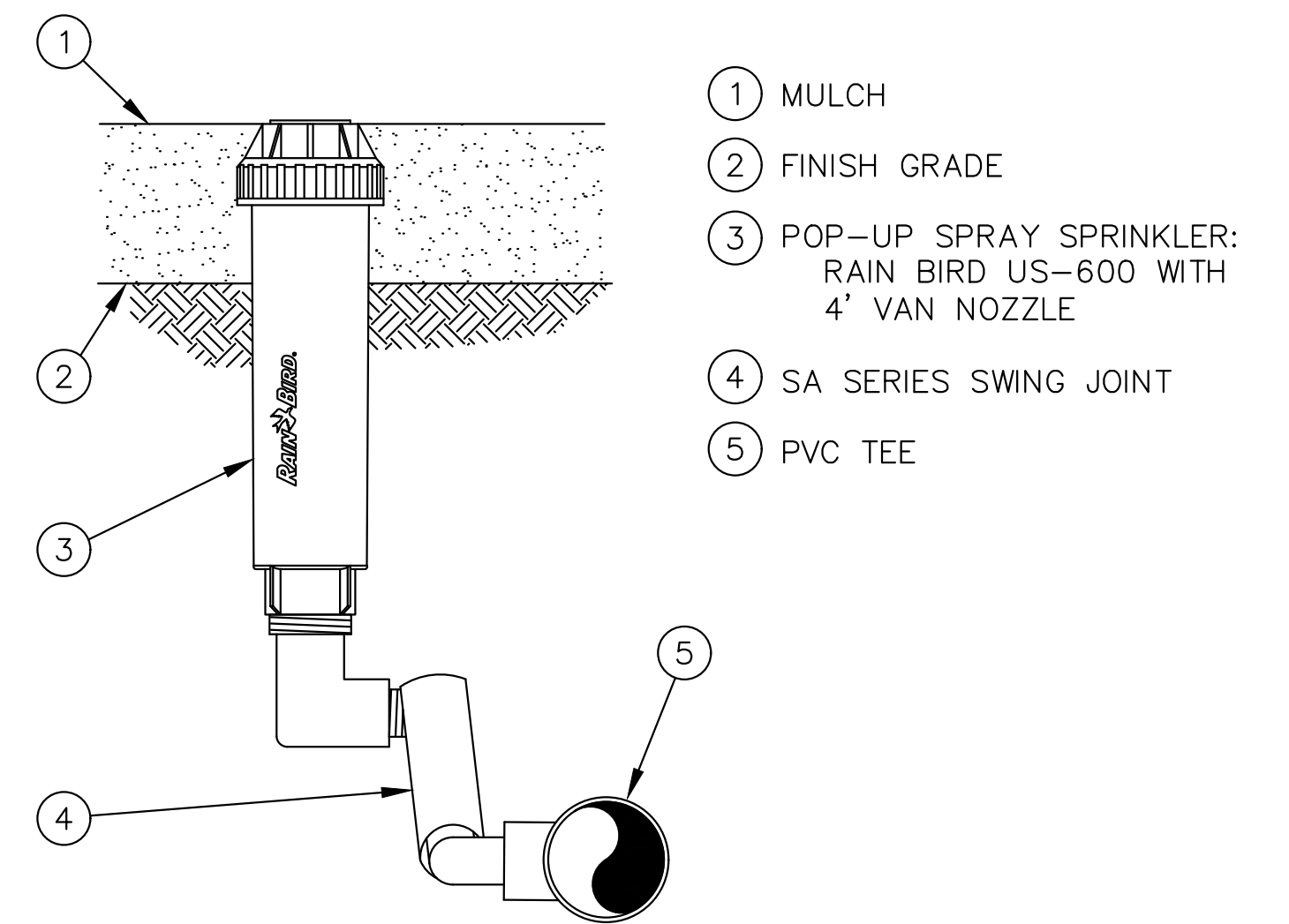


x = DISTANCE BETWEEN ROWS OF DRIP LATERALS AS DETERMINED BY PLANT AND SOIL TYPE. SEE NOTE 1.
 y = INCREASED DISTANCE BETWEEN ROWS OF DRIP LATERALS AS DETERMINED BY PLANT AND SOIL TYPE. SEE NOTE 1.

XFS Dripline Maximum Lateral Lengths (Feet)		
Inlet Pressure psi	12" Spacing	
	Nominal Flow (gph)	
	0.6	0.9
15	273	155
20	318	169
30	360	230
40	395	255
50	417	285
60	460	290

- PVC DRIP MANIFOLD FROM RAIN BIRD CONTROL ZONE VALVE KIT (SIZED TO MEET LATERAL FLOW DEMAND)
- BARB X MALE FITTING: RAIN BIRD XFF-MA FITTING (TYPICAL)
- PVC SUPPLY HEADER
- PVC SCH 40 TEE OR EL (TYPICAL)
- SUB-SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE (TYPICAL)
POTABLE: XFS DRIPLINE
NON-POTABLE: XFSP DRIPLINE
- FLUSH POINT: SEE RAIN BIRD XFS DETAILS FOR FLUSH POINT INSTALLATION
- PVC FLUSH HEADER
- 1/2" AIR RELIEF VALVE: RAIN BIRD MODEL: ARV050
SEE RAIN BIRD XFS DETAILS FOR AIR RELIEF INSTALLATION

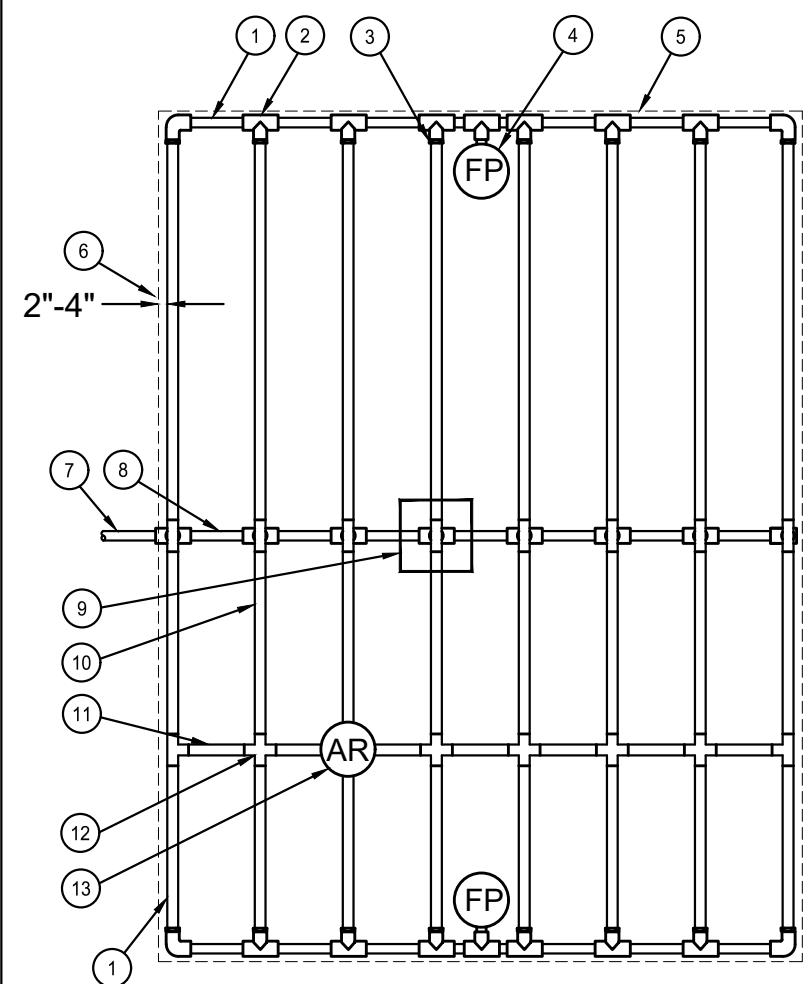
NOTES:
 1. DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. DISTANCE BETWEEN LATERAL ROWS FOR BOTTOM 1/3 OF SLOPE TO BE SPACED GREATER THAN OPTIMAL ROW DISTANCE. SEE RAIN BIRD XFD DRIPLINE INSTALLATION GUIDE FOR SUGGESTED SPACING.
 2. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM LENGTH SHOWN IN THE ACCOMPANYING TABLE.
 3. WHEN ELEVATION CHANGE EXCEEDS 8 FEET IT IS RECOMMENDED THAT A NEW DRIPLINE ZONE BE CREATED.
 4. INSTALL AIR RELIEF VALVE AT HIGH POINTS IN DRIP LATERAL.
 5. WHEN USING 17MM INSERT FITTINGS WITH DESIGN PRESSURE OVER 50PSI, IT IS RECOMMENDED THAT STAINLESS STEEL CLAMPS BE INSTALLED ON EACH FITTING.



NOTE:
 1. VAN NOZZLE MAY BE SET TO CLOSED, OR IF IT IS DESIRED TO SEE SPRAY FROM THE NOZZLE, SET THE ARC TO 1/4 PATTERN. THE FLOW FROM THE NOZZLE, 0.3 GPM, SHOULD BE ACCOUNTED FOR IN THE SYSTEM DESIGN.

A DRIP SLOPE LAYOUT
 XFS-CV RECYCLED WATER SECTION SCALE:N.T.S.

B OPERATION INDICATOR
 RECYCLED WATER SECTION SCALE:N.T.S.

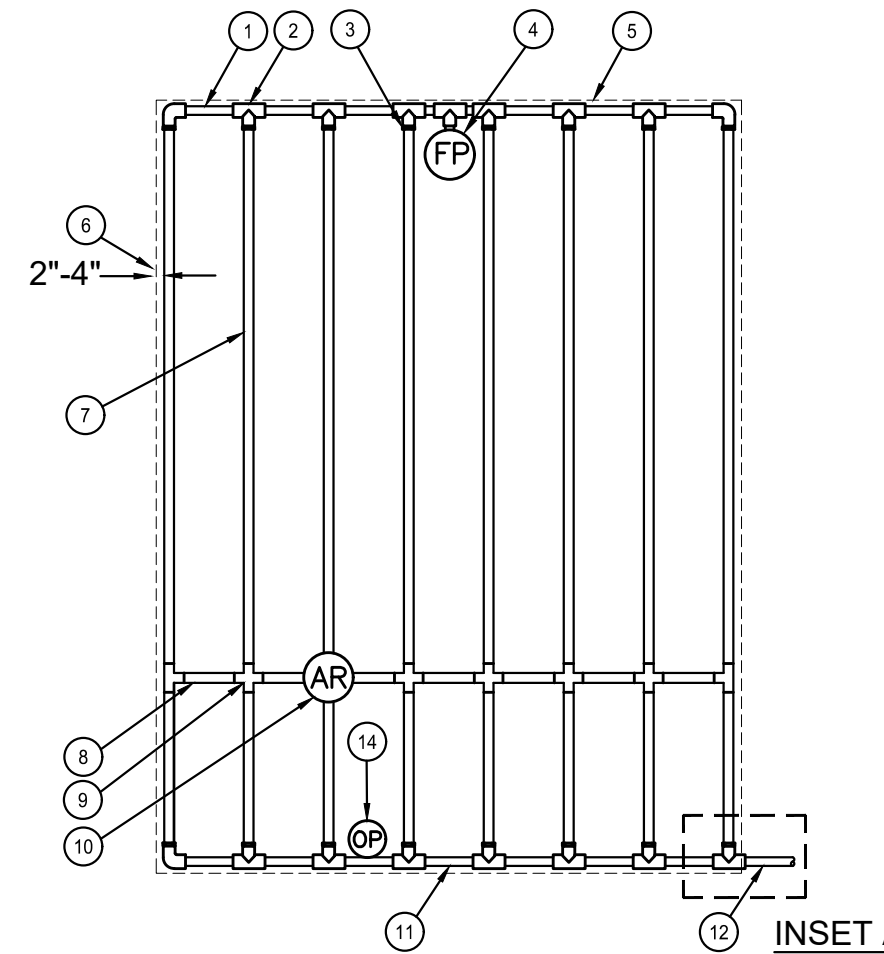


- PVC EXHAUST HEADER
- PVC SCH 40 TEE OR EL (TYPICAL)
- BARB X MALE FITTING: RAIN BIRD XFD-MA FITTING (TYPICAL)
- FLUSH POINT (TYPICAL) SEE RAIN BIRD DETAIL "XFS FLUSH POINT" OR "XFS FLUSH POINT WITH BALL VALVE"
- PERIMETER OF AREA
- PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PERIMETER OF AREA
- PVC SUPPLY PIPE FROM RAIN BIRD CONTROL ZONE KIT (SIZED TO MEET LATERAL FLOW DEMAND) WITH 12' DEPTH COVER TYP.
- PVC SUPPLY MANIFOLD
- CONNECTION FROM SUPPLY MANIFOLD TO DRIPLINE (TYPICAL)- SEE INSET A
- SUB-SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE (TYPICAL)
POTABLE: XFS DRIPLINE
NON-POTABLE: XFSP DRIPLINE
- 1/2" POLYETHYLENE BLANK TUBING: RAIN BIRD XF SERIES BLANK TUBING
- BARB X BARB INSERT TEE OR CROSS: RAIN BIRD XFD-TEE OR RAIN BIRD XFD-CROSS (TYPICAL)
- AIR RELIEF VALVE: RAIN BIRD AR VALVE KIT SEE RAIN BIRD DETAIL "XFS AIR RELIEF VALVE KIT" OR "XFS AIR RELIEF VALVE KIT IN PVC HEADER"
- BARB X FEMALE FITTING: RAIN BIRD XFD-TFA-075 FITTING
- 3/4" PVC NIPPLE, LENGTH AS NECESSARY

XFS Dripline Maximum Lateral Lengths (Feet)						
Inlet Pressure psi	12" Spacing		18" Spacing		24" Spacing	
	Nominal Flow (GPH)		Nominal Flow (GPH)		Nominal Flow (GPH)	
	0.6	0.9	0.6	0.9	0.6	0.9
15	255	194	357	273	448	343
20	291	220	408	313	514	394
30	350	266	494	378	622	478
40	396	302	560	428	705	541
50	434	333	614	470	775	594

NOTES:
 1. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM LENGTH SHOWN IN THE ACCOMPANYING TABLE.
 2. AIR RELIEF VALVE TO BE INSTALLED AT HIGH POINT OF AREA.

C CENTER FEED LAYOUT
 XFS-CV RECYCLED WATER SECTION SCALE:N.T.S.



NOTES:
 1. DISTANCE BETWEEN LATERAL ROWS AND EMITTER SPACING TO BE BASED ON SOIL TYPE, PLANT MATERIALS AND CHANGES IN ELEVATION. SEE RAIN BIRD XFS DRIPLINE INSTALLATION GUIDE FOR SUGGESTED SPACINGS.
 2. LENGTH OF LONGEST DRIPLINE LATERAL SHOULD NOT EXCEED THE MAXIMUM LENGTH SHOWN IN THE ACCOMPANYING TABLE.
 3. AIR RELIEF VALVE TO BE INSTALLED AT HIGH POINT OF AREA.

D END FEED LAYOUT
 XFS-CV RECYCLED WATER SECTION SCALE:N.T.S.

- PVC EXHAUST HEADER
- PVC SCH 40 TEE OR EL (TYPICAL)
- BARB X MALE FITTING: RAIN BIRD XFD-MA FITTING (TYPICAL)
- FLUSH POINT (TYPICAL) SEE RAIN BIRD DETAIL "XFS FLUSH POINT" OR "XFS FLUSH POINT WITH BALL VALVE"
- PERIMETER OF AREA
- PERIMETER DRIPLINE PIPE TO BE INSTALLED 2"-4" FROM PERIMETER OF AREA
- SUB-SURFACE DRIPLINE: RAIN BIRD XF SERIES DRIPLINE (TYPICAL)
POTABLE: XFS DRIPLINE
NON-POTABLE: XFSP DRIPLINE
- 1/2" POLYETHYLENE BLANK TUBING: RAIN BIRD XF SERIES BLANK TUBING
- BARB X BARB INSERT TEE OR CROSS: RAIN BIRD XFD-TEE OR RAIN BIRD XFD-CROSS (TYPICAL)
- AIR RELIEF VALVE: RAIN BIRD AR VALVE KIT SEE RAIN BIRD DETAIL "AIR RELIEF VALVE KIT"
- PVC HEADER/MANIFOLD (SHALL HAVE 4"-6" MIN. COVER TYP.)
- PVC SUPPLY LATERAL FROM RCV.
- PVC SCH 40 RISER PIPE.
- DRIPLINE OPERATION INDICATOR, ATTACHED TO PVC HEADER W/ SWING JOINT TYP.

XFS Dripline Maximum Lateral Lengths (Feet)						
Inlet Pressure psi	12" Spacing		18" Spacing		24" Spacing	
	Nominal Flow (GPH)		Nominal Flow (GPH)		Nominal Flow (GPH)	
	0.6	0.9	0.6	0.9	0.6	0.9
15	255	194	357	273	448	343
20	291	220	408	313	514	394
30	350	266	494	378	622	478
40	396	302	560	428	705	541
50	434	333	614	470	775	594

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 RISER WILL NOT BE ACCEPTED.

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

AS BUILT		UTILITY NOTE	
SIGNATURE _____ DATE _____	R.L.A. No. _____	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.	
CONTRACTOR: _____	REFERENCES: _____	By: _____	REVISIONS: _____
INSPECTOR: _____	DATE COMPLETED: _____	Date: _____	App'd: _____

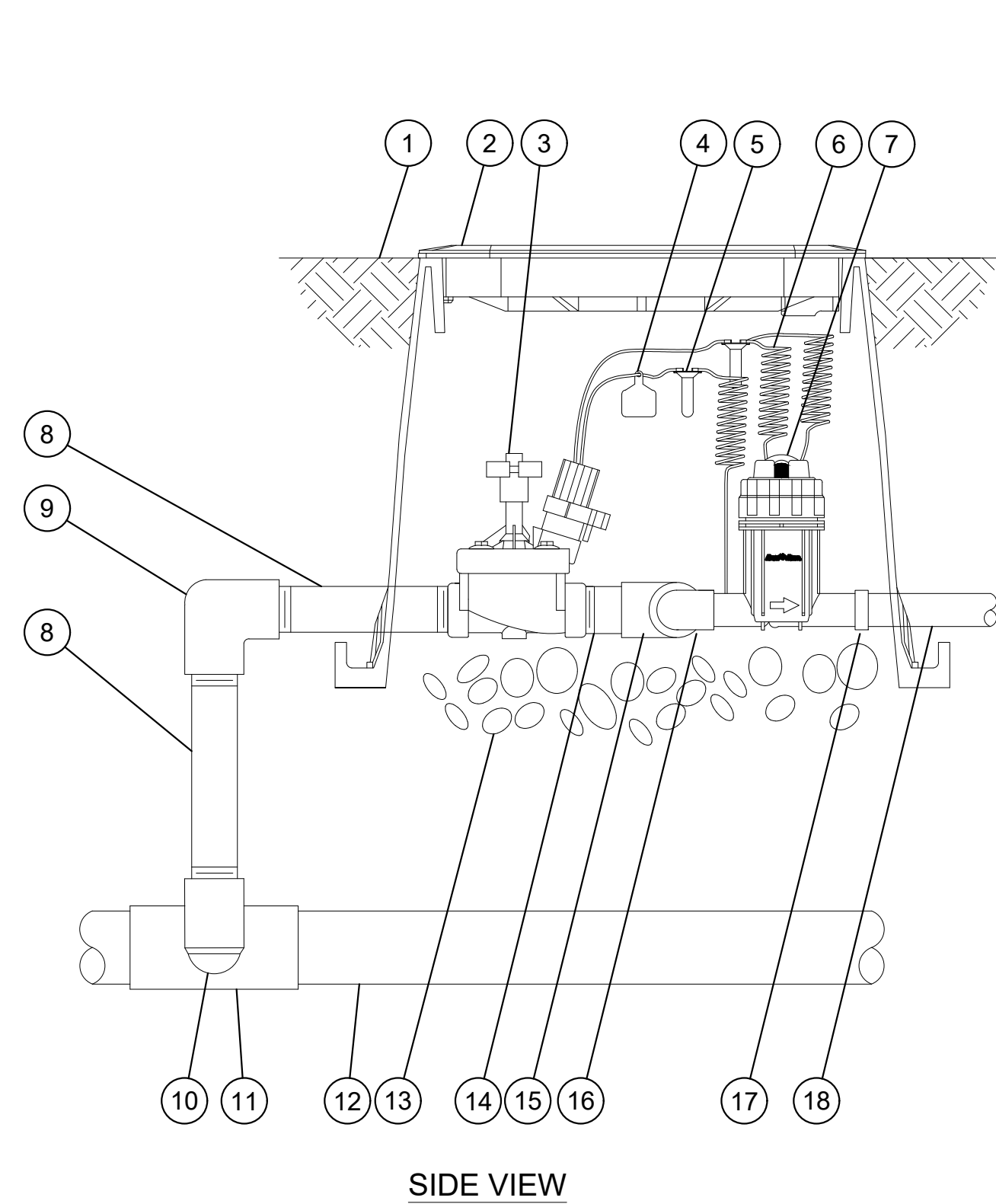
DATUMS		SCALE		Designed By:		Drawn By:		Checked By:		Submitted:		APPROVED BY:		DATE:	
CITY OF CHULA VISTA BEYOND MARK NO. 95072 ELEVATION 448.361 NAVD 88		HORIZONTAL		LE		LE / RR		PT		By: _____		DIRECTOR OF DEVELOPMENT SERVICES, TIFFANY ALLEN OR DESIGNEE		DATE: _____	
DESCRIPTION: 3" BRASS DISK (LS4324) WELL MGN @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841		VERTICAL		Plans Prepared Under Supervision Of:		Date: 2/10/2022		Office: _____		Office: _____		Office: _____		Office: _____	
		N/A		PATRICIA TRAUH		R.L.A. No. 3247									

CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT			DRAWING NO.		
IRRIGATION DETAILS FOR:			19015-19		
CHULA VISTA TRACT NO. 09-04 PH.2 LI-16			W.O. NO. OR652G		
OTAY RANCH, VILLAGE 8 WEST			GRADING PERMIT No. GR13-005 PLR-20-018 OWD SHEET 19 OF 27		

RICK ENGINEERING COMPANY
 5620 FRIARS ROAD
 SAN DIEGO, CA 92110
 619-291-0707
 (FAX) 619-291-4165
 rickengineering.com



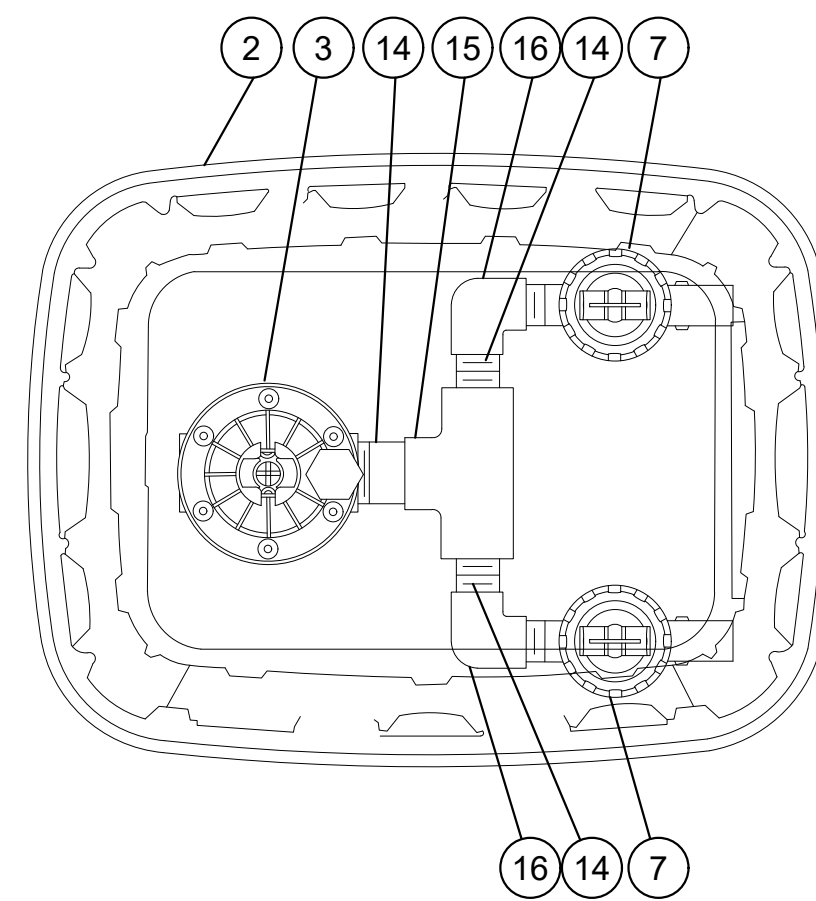
OWD # D1044-060274



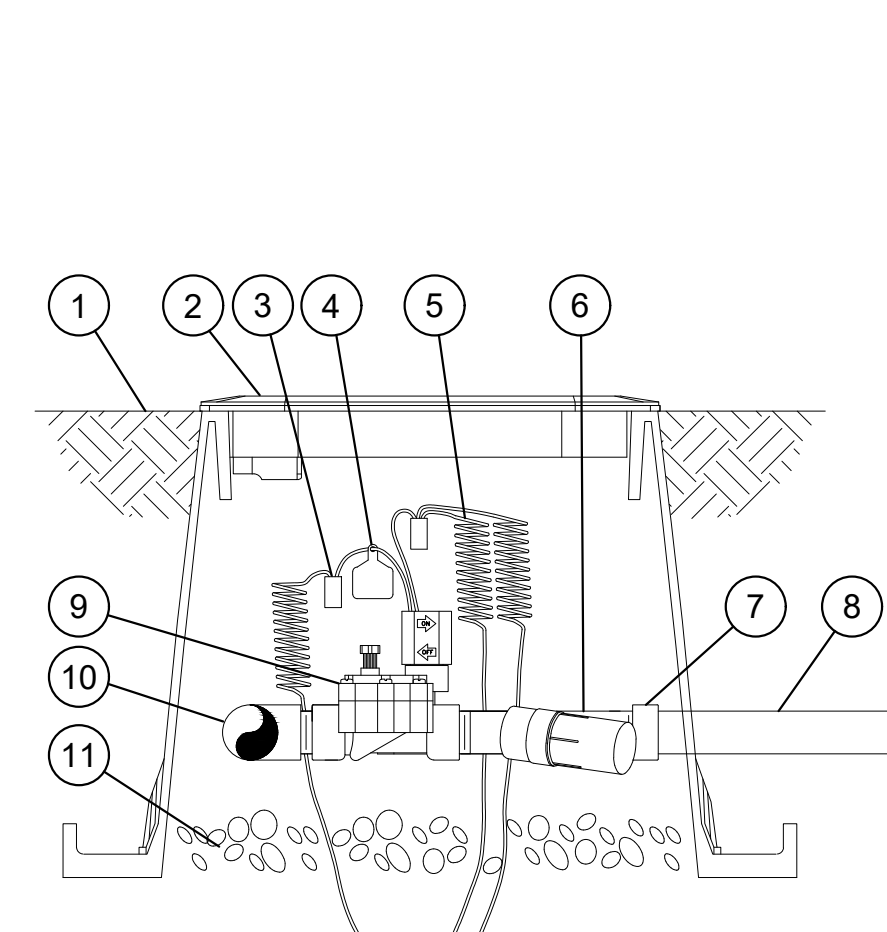
- ① -FINISH GRADE/TOP OF MULCH
- ② -VALVE BOX WITH COVER:
RAIN BIRD VB-STD
- ③ -REMOTE CONTROL VALVE:
RAIN BIRD 150-PESB (INCLUDED IN XCZ-PRB-150-COM KIT)
- ④ -ID TAG
- ⑤ -WATERPROOF CONNECTION:
RAIN BIRD DB SERIES
- ⑥ -30-INCH LINEAR LENGTH OF WIRE, COILED
- ⑦ -PRESSURE REGULATING QUICK CHECK BASKET FILTER:
RAIN BIRD PRB-QKCHK-100 (INCLUDED IN XCZ-PRB-150-COM KIT)
- ⑧ -PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
- ⑨ -PVC SCH 40 ELL
- ⑩ -PVC SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND PVC SCH 40 ELL
- ⑪ -PVC SCH 40 TEE OR ELL
- ⑫ -MAINLINE PIPE
- ⑬ -3-INCH MINIMUM DEPTH OF 3/8-INCH WASHED GRAVEL
- ⑭ -PVC SCH 80 NIPPLE, CLOSE (INCLUDED IN XCZ-PRB-150-COM KIT)
- ⑮ -PVC SCH 40 TEE (INCLUDED IN XCZ-PRB-150-COM KIT)
- ⑯ -PVC SCH 40 ELL (INCLUDED IN XCZ-PRB-150-COM KIT)
- ⑰ -PVC SCH 40 FEMALE ADAPTOR
- ⑱ -LATERAL PIPE

SIDE VIEW

A XCZ-150-PRB-COM CONTROL RECYCLED WATER SECTION SCALE: N.T.S.



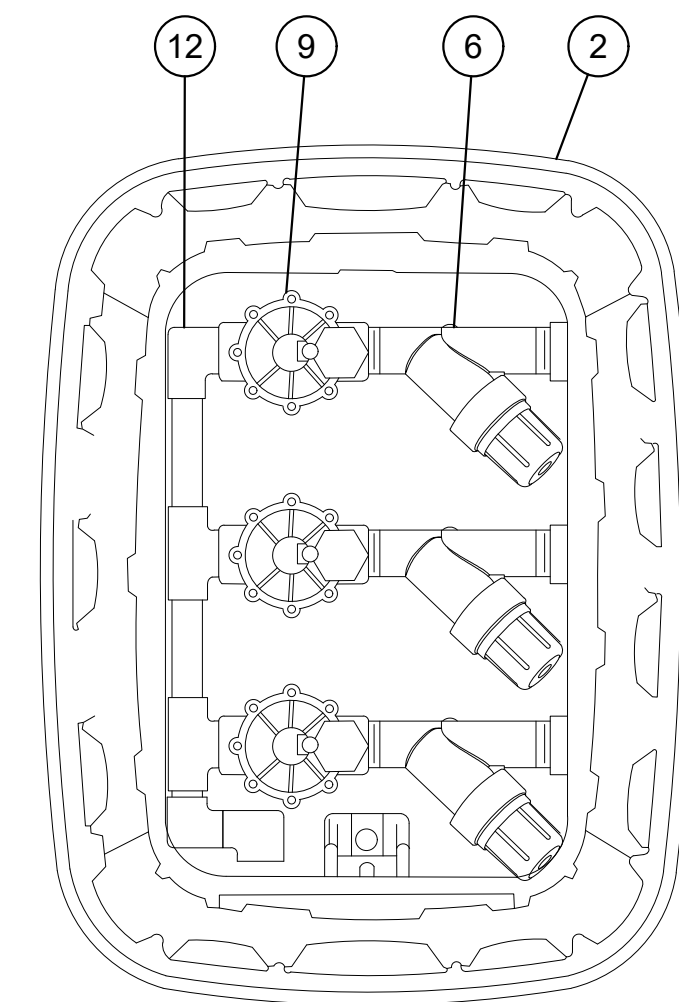
TOP VIEW



- ① -FINISH GRADE
- ② -STANDARD VALVE BOX WITH COVER:RAIN BIRD VB-STD
- ③ -WATERPROOF CONNECTION:
RAIN BIRD DB SERIES
- ④ -VALVE ID TAG
- ⑤ -30-INCH LINEAR LENGTH OF WIRE, COILED
- ⑥ PRESSURE REGULATING FILTER:
RAIN BIRD PRF-100-RBY (INCLUDED IN XCZ-100-PRF KIT)
- ⑦ -PVC SCH 40 FEMALE ADAPTOR
- ⑧ -LATERAL PIPE
- ⑨ -REMOTE CONTROL VALVE:
RAIN BIRD 100-DV (INCLUDED IN XCZ-100-PRF KIT)
- ⑩ -PVC SCH 40 TEE OR ELL TO MANIFOLD
- ⑪ -3-INCH MINIMUM DEPTH OF 3/8-INCH WASHED GRAVEL
- ⑫ -MANIFOLD PIPE AND FITTINGS

SIDE VIEW

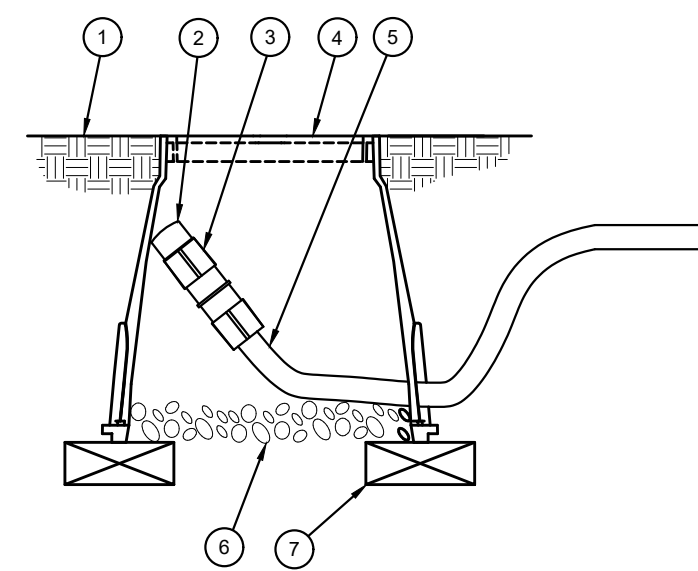
B XCZ-100-PRF 1" CONTROL RECYCLED WATER SECTION SCALE: N.T.S.



TOP VIEW

COLOR CODING :

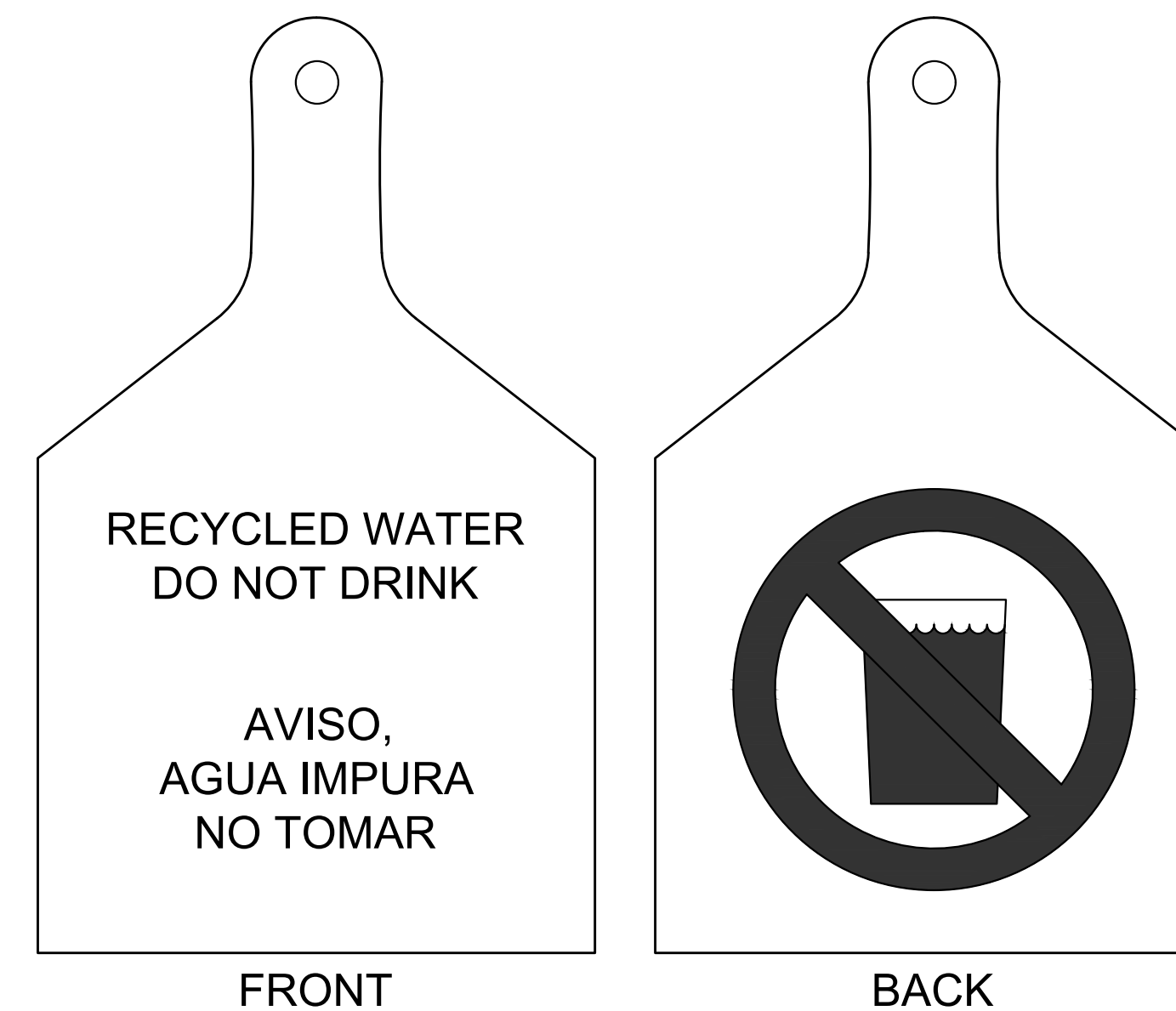
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- ① - FINISH GRADE
- ② - FLUSH CAP FOR EASY FIT COMPRESSION FITTINGS:
POTABLE:RAIN BIRD MDCFCAP
NON-POTABLE: RAIN BIRD MDCFPCAP
- ③ - EASY FIT COUPLING:
RAIN BIRD MDCFCOUP
- ④ - SUBTERRANEAN EMITTER BOX:
RAIN BIRD SEB 7XB W/ LOCKING LID
- ⑤ - SUB-SURFACE DRIPLINE:
POTABLE: XFS DRIPLINE
NON-POTABLE: XFSP DRIPLINE
- ⑥ - 3-INCH MINIMUM DEPTH OF 3/8-INCH WASHED GRAVEL
- ⑦ - BRICK (1 OF 2)

NOTE:
1. ALLOW A MINIMUM OF 6-INCHES OF DRIPLINE TUBING IN VALVE BOX IN ORDER TO DIRECT FLUSHED WATER OUTSIDE VALVE BOX.

C DRIPLINE FLUSH POINT XFS SUBGRADE RECYCLED WATER SECTION N.T.S.



D RECYCLED WATER TAG RECYCLED WATER SECTION N.T.S.

AS BUILT		UTILITY NOTE	
SIGNATURE _____	DATE _____	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.	
Printed Name _____	R.L.A. No. _____		
My Registration Expires _____	Discipline _____		

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

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd	DATUMS	SCALE	Designed By:	Drawn By:	Checked By:	Submitted:	APPROVED BY:	DATE:	CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT	DRAWING NO.
CONTRACTOR: INSPECTOR: DATE COMPLETED:	HALE ENGINEERING GRADING PLANS: 14011					CITY OF CHULA VISTA BENCH MARK NO. 95072 ELEVATION 448.361 NVD88 DESCRIPTION: 3" BRASS DISK (LS4324) WELL MON @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841	HORIZONTAL VERTICAL N/A	LE	LE / RR	PT	By: _____ Date: 2/10/2022	By: _____ Office: _____	Director of Development Services, TIFFANY ALLEN OR DESIGNEE	CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT IRRIGATION DETAILS FOR: CHULA VISTA TRACT NO. 09-04 PH.2 LI-17 OTAY RANCH, VILLAGE 8 WEST	19015-20 W.O. NO. 0R652G

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(FAX) 619-291-4165
rickengineering.com
Riverside - Orange - Sacramento - San Luis Obispo - Phoenix - Tucson - Denver



OWD # D1044-060274

P.O.C. 'B' MHOA
 PROJECT: OR VIL. 8 WEST SLOPES
 PROJECT JOB NUMBER: 19194
 LANDSCAPE ARCHITECT: RICK

T= IRRIGATION TIME IN MINUTES
 PF= CROP COEFFICIENT (.3 FOR NATIVE SHRUB AND TREES)
 ET= EVAPOTRANSPIRATION RATE(SEE DAILY CHART BELOW)
 PR= PRECIPITATION RATE
 EA= APPLICATION EFFICIENCY (.75)

FORMULA: T = 60 X ET X PF ÷ PR X EA

CHULA VISTA	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
ETo AVERAGE INCHES PER MONTH	1.99	2.60	3.72	4.74	5.46	6.12	6.89	6.32	5.25	3.72	2.50	1.69
ETo AVERAGE INCHES PER DAY	0.064	0.093	0.120	0.158	0.176	0.204	0.222	0.204	0.175	0.120	0.083	0.055

CONTROLLER 'B'
 5-DAY WATERING SCHEDULE

Valve	Spray Type	GPM	PR	PF	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
B-51 (Open)	SHRUB ROTARY	17	0.45	0.3	5	7	9	12	13	15	17	15	13	9	6	4
B-52	SHRUB ROTARY	8.01	0.45	0.3	5	7	9	12	13	15	17	15	13	9	6	4
B-53	SHRUB ROTARY	7.95	0.45	0.3	5	7	9	12	13	15	17	15	13	9	6	4
B-54	BUBBLER	8	2.71	0.3	1	1	1	2	2	3	3	3	2	1	1	1
B-55	SHRUB ROTARY	6.77	0.45	0.3	5	7	9	12	13	15	17	15	13	9	6	4
B-56	SHRUB ROTARY	6.66	0.45	0.3	5	7	9	12	13	15	17	15	13	9	6	4
B-57	BUBBLER	6	2.71	0.3	1	1	1	2	2	3	3	3	2	1	1	1
B-58	SHRUB ROTARY	3.86	0.45	0.3	5	7	9	12	13	15	17	15	13	9	6	4
B-59	SHRUB ROTARY	3.84	0.45	0.3	5	7	9	12	13	15	17	15	13	9	6	4
B-60	BUBBLER	4	2.71	0.3	1	1	1	2	2	3	3	3	2	1	1	1
B-61	SHRUB ROTARY	6.95	0.45	0.3	5	7	9	12	13	15	17	15	13	9	6	4
B-62	SHRUB ROTARY	6.9	0.45	0.3	5	7	9	12	13	15	17	15	13	9	6	4
B-63	BUBBLER	4	2.71	0.3	1	1	1	2	2	3	3	3	2	1	1	1
B-64	SHRUB ROTARY	8.03	0.45	0.3	5	7	9	12	13	15	17	15	13	9	6	4
B-65	SHRUB ROTARY	21.9	0.45	0.3	5	7	9	12	13	15	17	15	13	9	6	4
B-66 (Open)	SHRUB ROTARY	6.55	0.45	0.3	5	7	9	12	13	15	17	15	13	9	6	4
B-67 (Open)	SHRUB ROTARY	6.35	0.45	0.3	5	7	9	12	13	15	17	15	13	9	6	4
B-68	SHRUB ROTARY	18.3	0.45	0.3	5	7	9	12	13	15	17	15	13	9	6	4
B-69	SHRUB ROTARY	18.1	0.45	0.3	5	7	9	12	13	15	17	15	13	9	6	4
B-70	SHRUB ROTARY	31.5	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-71	SHRUB ROTARY	17.5	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-72	SHRUB ROTARY	35	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-73	SHRUB ROTARY	24.5	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-74	SHRUB ROTARY	16.3	0.45	0.3	5	7	9	12	13	15	17	15	13	9	6	4
B-75	SHRUB ROTARY	16.7	0.45	0.3	5	7	9	12	13	15	17	15	13	9	6	4
B-76	BUBBLER	4	2.71	0.3	1	1	1	2	2	3	3	3	2	1	1	1
B-77	SHRUB ROTARY	42	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-78	SHRUB ROTARY	28	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-79	SHRUB ROTARY	42	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-80	SHRUB ROTARY	35	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-81	SHRUB ROTARY	42	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-82	SHRUB ROTARY	28	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-83	SHRUB ROTARY	35	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-84	SHRUB ROTARY	28	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-85	SHRUB ROTARY	35	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-86	SHRUB ROTARY	35	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-87	SHRUB ROTARY	28	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-88	SHRUB ROTARY	42	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-89	SHRUB ROTARY	28	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-90	SHRUB ROTARY	14	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-91	SHRUB ROTARY	42	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-92	SHRUB ROTARY	35	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-93	SHRUB ROTARY	28	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-94	SHRUB ROTARY	35	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-95	SHRUB ROTARY	32	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-96	SHRUB ROTARY	24	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-97	SHRUB ROTARY	32	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-98	SHRUB ROTARY	32	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-99	SHRUB ROTARY	40	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-100	SHRUB ROTARY	32	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-101	SHRUB ROTARY	32	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-102	SHRUB ROTARY	40	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-103	SHRUB ROTARY	40	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-104	SHRUB ROTARY	48	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-105	BUBBLER	6	2.71	0.3	1	1	1	2	2	3	3	3	2	1	1	1
B-106	SHRUB ROTARY	40	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-107	SHRUB ROTARY	32	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-108	SHRUB ROTARY	32	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
B-109	SHRUB ROTARY	48	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5

TOTAL MINUTES PER DAY (3 VALVES A TIME)	93	135	175	230	256	297	323	297	255	175	121	80
TOTAL HOURS PER DAY (3 VALVES A TIME)	1.6	2.3	2.9	3.8	4.3	5.0	5.4	5.0	4.2	2.9	2.0	1.3

P.O.C. 'C' MHOA
 PROJECT: OR VIL. 8 WEST SLOPES
 PROJECT JOB NUMBER: 19194
 LANDSCAPE ARCHITECT: RICK

T= IRRIGATION TIME IN MINUTES
 PF= CROP COEFFICIENT (.3 FOR NATIVE SHRUB AND TREES)
 ET= EVAPOTRANSPIRATION RATE(SEE DAILY CHART BELOW)
 PR= PRECIPITATION RATE
 EA= APPLICATION EFFICIENCY (.75)

FORMULA: T = 60 X ET X PF ÷ PR X EA

CHULA VISTA	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
ETo AVERAGE INCHES PER MONTH	1.99	2.60	3.72	4.74	5.46	6.12	6.89	6.32	5.25	3.72	2.50	1.69
ETo AVERAGE INCHES PER DAY	0.064	0.093	0.120	0.158	0.176	0.204	0.222	0.204	0.175	0.120	0.083	0.055

CONTROLLER 'C'
 5-DAY WATERING SCHEDULE

Valve	Spray Type	GPM	PR	PF	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.
C-88	BUBBLER	24	2.71	0.3	1	1	1	2	2	3	3	3	2	1	1	1
C-89	SHRUB ROTOR	42	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
C-90	SHRUB ROTOR	28	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
C-91	SHRUB ROTOR	28	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
C-92	SHRUB ROTARY	7.97	0.45	0.3	5	7	9	12	13	15	17	15	13	9	6	4
C-93	BUBBLER	26	2.71	0.3	1	1	1	2	2	3	3	3	2	1	1	1
C-94	SHRUB ROTOR	35	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
C-95	SHRUB ROTOR	24.5	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
C-96	SHRUB ROTOR	35	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
C-97	BUBBLER	28	2.71	0.3	1	1	1	2	2	3	3	3	2	1	1	1
C-98	SHRUB ROTOR	17.5	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
C-99	SHRUB ROTOR	17.5	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
C-100	SHRUB ROTOR	42	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
C-101	BUBBLER	20	2.71	0.3	1	1	1	2	2	3	3	3	2	1	1	1
C-102	BUBBLER	20	2.71	0.3	1	1	1	2	2	3	3	3	2	1	1	1
C-103	SHRUB ROTARY	8.22	0.45	0.3	5	7	9	12	13	15	17	15	13	9	6	4
C-104	SHRUB ROTARY	21	0.4	0.3	5	8	10	13	15	17	19	17	15	10	7	5
C-105	SHRUB ROTARY	24.8	0.45	0.3	5	7	9	12	13	15	17	15	13	9	6	4

TOTAL MINUTES PER DAY (3 VALVES A TIME)	24	35	45	59	66	77	83	77	66	45	31	21
TOTAL HOURS PER DAY (3 VALVES A TIME)	0.4	0.6	0.8	1.0	1.1	1.3	1.4	1.3	1.1	0.8	0.5	0.3

P.O.C. 'D' MHOA
 DATE: 10/09/2020
 PROJECT: OR VIL. 8 WEST SLOPES
 PROJECT JOB NUMBER: 13-008.02
 LANDSCAPE ARCHITECT: WYAC

T= IRRIGATION TIME IN MINUTES
 PF= CROP COEFFICIENT (.3 FOR NATIVE SHRUB AND TREES)
 ET= EVAPOTRANSPIRATION RATE(SEE DAILY CHART BELOW)
 PR= PRECIPITATION RATE
 EA= APPLICATION EFFICIENCY (.75)

FORMULA: T = 60 X ET X PF ÷ PR X EA

CHULA VISTA	JAN.
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P.O.C. 'B' / MHOA

POC 'B' PRESSURE LOSS CHART FOR CONV. SYSTEMS_MAX FLOW 70 GPM					
PROJECT	OR, VILLAGE 8 SLOPES PH2	DATE	JOB #	19194	
VALVE #	B-94		B-86		
1. LENGTH OF MAINLINE	1,660	3,000			
2. GALLONS PER MINUTE	40	35			
3. EXISTING STATIC WATER PRESSURE PSI AT P.O.C.	166	166			
	50 PSI BOOST	50 PSI BOOST			
4. ELEVATION:					
AT METER (A)	406	406			
AT R.C.V. (B)	427	437			
AT HIGHEST HEAD @	427	474			
5. FIND FRICTION LOSS					
	SIZE	LOSS	SIZE	LOSS	
WATER METER	1-1/2"	9.8	1-1/2"	9.8	
WYE' STRAINER	1-1/2"	2	1-1/2"	2	
BACKFLOW PREVENTER	1-1/2"	13.0	1-1/2"	13.0	
PRESSURE REGULATOR (POC)	N/A		N/A		
AIR VENT	1-1/2"	1.0	1-1/2"	1	
FLOW SENSOR	1-1/2"	0.5	1-1/2"	0.5	
MASTER VALVE	1-1/2"	5.1	1-1/2"	5.1	
BALL VALVE	1-1/2"	1	1-1/2"	1	
MAINLINE	2-1/2"	25	2-1/2"	45	
LATERAL (5 PSI MAX)		5.00		5.00	
PRCV (5 PSI TYPICAL)		5		5	
CHECK VALVE (IN-LINE)	N/A				
CHECK VALVE (IN-HEAD)		3		3	
OPERATING PSI OF IRRIGATION HEAD		45.0		45.0	
SUBTOTAL		115.4	125.6		
6. ELEVATION LOSS					
(Gain is minus Loss is plus)					
(B) - (A) X 0.433 (MAIN)		9.1		13.4	
(C) - (B) X 0.433 (LATERAL)		0.0		16.0	
SUBTOTAL		9.1	29.5		
TOTAL		124.5	155.1		
7. RESIDUAL PRESSURE (#3) - (TOTAL) = (Y)		41.5		10.9	
8. PRESSURE DIFFERENTIAL (Y) - 10 PSI = (Z)		31.5		0.9	
IF (Y) < 10 PSI, RESIZE EQUIPMENT AND/OR INSTALL BOOSTER PUMP. IF (Z) > 20, USE A PRESSURE REGULATING REMOTE CONTROL VALVE. (< = LESS THAN, > = GREATER THAN)					

P.O.C. 'C' / MHOA

POC 'C' PRESSURE LOSS CHART FOR CONV. SYSTEMS_MAX FLOW 100 GPM					
PROJECT	OR, VILLAGE 8 SLOPES	DATE	JOB #	19194	
VALVE #	C-42		C-63		
1. LENGTH OF MAINLINE	1,500	1,660			
2. GALLONS PER MINUTE	10	35			
3. EXISTING STATIC WATER PRESSURE PSI AT P.O.C.	130	130			
	40 PSI BOOST	40 PSI BOOST			
4. ELEVATION:					
AT METER (A)	470	470			
AT R.C.V. (B)	491	408			
AT HIGHEST HEAD @	498	480			
5. FIND FRICTION LOSS					
	SIZE	LOSS	SIZE	LOSS	
WATER METER	2"	7.8	2"	7.8	
WYE' STRAINER	2"	2	2"	2	
BACKFLOW PREVENTER	2"	13.0	2"	13.0	
PRESSURE REGULATOR (POC)	N/A		N/A		
AIR VENT	1-1/2"	1.0	1-1/2"	1	
FLOW SENSOR	1-1/2"	0.5	1-1/2"	0.5	
MASTER VALVE	1-1/2"	5.1	1-1/2"	5.1	
BALL VALVE	1-1/2"	1	1-1/2"	1	
MAINLINE	3"	16.7	3"	18.4	
LATERAL (5 PSI MAX)		5.00		5.00	
PRCV (5 PSI TYPICAL)		5		5	
CHECK VALVE (IN-LINE)	N/A		N/A		
CHECK VALVE (IN-HEAD)		3		3	
OPERATING PSI OF IRRIGATION HEAD		45.0		45.0	
SUBTOTAL		105.1	106.8		
6. ELEVATION LOSS					
(Gain is minus Loss is plus)					
(B) - (A) X 0.433 (MAIN)		9.1		-26.9	
(C) - (B) X 0.433 (LATERAL)		3.0		31.2	
SUBTOTAL		12.1	4.3		
TOTAL		117.2	111.1		
7. RESIDUAL PRESSURE (#3) - (TOTAL) = (Y)		12.8		18.9	
8. PRESSURE DIFFERENTIAL (Y) - 10 PSI = (Z)		2.8		8.9	
IF (Y) < 10 PSI, RESIZE EQUIPMENT AND/OR INSTALL BOOSTER PUMP. IF (Z) > 20, USE A PRESSURE REGULATING REMOTE CONTROL VALVE. (< = LESS THAN, > = GREATER THAN)					

P.O.C. 'D' / MHOA

POC 'D' PRESSURE LOSS CHART FOR CONV. SYSTEMS_MAX FLOW 70 GPM					
PROJECT	OR, VILLAGE 8 SLOPES PH2	DATE	JOB #	19194	
VALVE #	D-10		D-42		
1. LENGTH OF MAINLINE	1,140	2,288			
2. GALLONS PER MINUTE	28	25.5			
3. EXISTING STATIC WATER PRESSURE PSI AT P.O.C.	149	149			
	35 PSI BOOST	35 PSI BOOST			
4. ELEVATION:					
AT METER (A)	414	422			
AT R.C.V. (B)	420	490			
AT HIGHEST HEAD @	480	520			
5. FIND FRICTION LOSS					
	SIZE	LOSS	SIZE	LOSS	
WATER METER	1-1/2"	9.8	1-1/2"	9.8	
WYE' STRAINER	1-1/2"	2	1-1/2"	2	
BACKFLOW PREVENTER	1-1/2"	13.0	1-1/2"	1.8	
PRESSURE REGULATOR (POC)	N/A		N/A		
AIR VENT	1-1/2"	1.0	1-1/2"	1.0	
FLOW SENSOR	1-1/2"	0.5	1-1/2"	0.5	
MASTER VALVE	1-1/2"	5.1	1-1/2"	5.1	
BALL VALVE	1-1/2"	1	1-1/2"	1	
MAINLINE	2-1/2"	17.1	2-1/2"	18	
LATERAL (5 PSI MAX)		5.00		4.00	
PRCV (5 PSI TYPICAL)		5		5	
CHECK VALVE (IN-LINE)	N/A		N/A		
CHECK VALVE (IN-HEAD)		3		3	
OPERATING PSI OF IRRIGATION HEAD		45.0		45.0	
SUBTOTAL		107.5	96.2		
6. ELEVATION LOSS					
(Gain is minus Loss is plus)					
(B) - (A) X 0.433 (MAIN)		2.6		29.5	
(C) - (B) X 0.433 (LATERAL)		26.0		13.0	
SUBTOTAL		28.6	42.5		
TOTAL		136.1	138.7		
7. RESIDUAL PRESSURE (#3) - (TOTAL) = (Y)		12.9		10.3	(Y) :
8. PRESSURE DIFFERENTIAL (Y) - 10 PSI = (Z)		2.9		0.3	(Z) :
IF (Y) < 10 PSI, RESIZE EQUIPMENT AND/OR INSTALL BOOSTER PUMP. IF (Z) > 20, USE A PRESSURE REGULATING REMOTE CONTROL VALVE. (< = LESS THAN, > = GREATER THAN)					

P.O.C. 'E' / MHOA

POC 'E' PRESSURE LOSS CHART FOR CONV. SYSTEMS_MAX FLOW 70 GPM					
PROJECT	OR, VILLAGE 8 SLOPES	DATE	JOB #	19194	
VALVE #	E-2		E-19		
1. LENGTH OF MAINLINE	3,200	2,700			
2. GALLONS PER MINUTE	20	34.2			
3. EXISTING STATIC WATER PRESSURE PSI AT P.O.C.	100 PSI BOOST	100 PSI BOOST			
4. ELEVATION:					
AT METER (A)	470	470			
AT R.C.V. (B)	500	485			
AT HIGHEST HEAD @	540	546			
5. FIND FRICTION LOSS					
	SIZE	LOSS	SIZE	LOSS	
WATER METER	1-1/2"	9.8	1-1/2"	9.8	
WYE' STRAINER	1-1/2"	2	1-1/2"	2	
BACKFLOW PREVENTER	1-1/2"	13.0	1-1/2"	13.0	
PRESSURE REGULATOR (POC)	N/A		N/A		
AIR VENT	1-1/2"	1.0	1-1/2"	1	
FLOW SENSOR	1-1/2"	0.5	1-1/2"	0.5	
MASTER VALVE	1-1/2"	5.1	1-1/2"	5.1	
BALL VALVE	1-1/2"	1	1-1/2"	1	
MAINLINE	2-1/2"	45.5	2-1/2"	38.1	
LATERAL (5 PSI MAX)		5.00		5.00	
PRCV (5 PSI TYPICAL)		5		5	
CHECK VALVE (IN-LINE)	N/A		N/A		
CHECK VALVE (IN-HEAD)		3		3	
OPERATING PSI OF IRRIGATION HEAD		45.0		45.0	
SUBTOTAL		135.6	128.5		
6. ELEVATION LOSS					
(Gain is minus Loss is plus)					
(B) - (A) X 0.433 (MAIN)		13.0		0.6	
(C) - (B) X 0.433 (LATERAL)		17.3		27.1	
SUBTOTAL		30.3	34.2		
TOTAL		165.9	162.7		
7. RESIDUAL PRESSURE (#3) - (TOTAL) = (Y)		14.1		17.3	(Y) :
8. PRESSURE DIFFERENTIAL (Y) - 10 PSI = (Z)		4.1		7.3	(Z) :
IF (Y) < 10 PSI, RESIZE EQUIPMENT AND/OR INSTALL BOOSTER PUMP. IF (Z) > 20, USE A PRESSURE REGULATING REMOTE CONTROL VALVE. (< = LESS THAN, > = GREATER THAN)					

DELETED

AS BUILT		UTILITY NOTE	
SIGNATURE _____ DATE _____	R.I.A. No. _____	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.	
CONSTRUCTION RECORD	REFERENCES	By	REVISIONS
CONTRACTOR:	HALE ENGINEERING GRADING PLANS: 14011		
INSPECTOR:			
DATE COMPLETED:			

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

Date	App'd	DATUMS	SCALE	Designed By:	Drawn By:	Checked By:
		CITY OF CHULA VISTA BENCH MARK NO. 95072 ELEVATION 446.361 NAVD 88 DESCRIPTION: 3" BRASS DISK (LS4324) WELL MON @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841	HORIZONTAL	LE	LE / RR	PT
			VERTICAL	Plans Prepared Under Supervision Of: Date: 4/20/2023		
			N/A	PATRICIA TRAUTH	RLA No. 3247	

Submitted: _____	APPROVED BY: _____	DATE: _____
By: _____	DIRECTOR OF DEVELOPMENT SERVICES, TIFFANY ALLEN OR DESIGNEE	
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CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT			DRAWING NO.
WATER USE CALCULATIONS FOR: CHULA VISTA TRACT NO. 09-04 PH.2 LI-19			19015-22
OTAY RANCH, VILLAGE 8 WEST			W.O. NO. OR652G
GRADING PERMIT No. GR13-005 PLR-20-018			OWD SHEET 22 OF 27



OWD # D1044-060274

SECTION 02810

IRRIGATION SYSTEM

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

DRAWINGS AND GENERAL PROVISIONS OF CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION I SPECIFICATIONS, APPLY TO WORK OF THIS SECTION.

1.2 SCOPE OF WORK

THE WORK INCLUDES ALL LABOR, MATERIALS, APPLIANCES, TOOLS, EQUIPMENT, FACILITIES, TRANSPORTATION AND SERVICES NECESSARY FOR AND INCIDENTAL TO PERFORMING ALL OPERATIONS IN CONNECTION WITH FURNISHING, DELIVERY, AND INSTALLATION OF A COMPLETE FUNCTIONING "IRRIGATION SYSTEM," COMPLETE AS SHOWN ON THE DRAWINGS AND AS SPECIFIED HEREIN.

1.3 QUALITY ASSURANCE

A. IT IS THE INTENTION OF THIS SPECIFICATION TO ACCOMPLISH THE WORK OF INSTALLING AN AUTOMATIC IRRIGATION SYSTEM, WHICH WILL OPERATE IN AN EFFICIENT AND SATISFACTORY MANNER ACCORDING TO THE WORKMANLIKE STANDARDS ESTABLISHED FOR LANDSCAPE INSTALLATION AND SPRINKLER IRRIGATION OPERATION AS SET FORTH BY THE CALIFORNIA LANDSCAPE CONTRACTORS ASSOCIATION (CLCA). THE SPECIFICATION CAN ONLY INDICATE THE INTENT OF THE WORK TO BE PERFORMED RATHER THAN A DETAILED DESCRIPTION OF THE PERFORMANCE OF THE WORK. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL SAID MATERIALS AND EQUIPMENT IN SUCH A MANNER THAT THEY SHALL OPERATE EFFICIENTLY AND EVENLY AND SUPPORT OPTIMUM PLANT GROWTH AND HEALTH.

B. THE LANDSCAPE ARCHITECT AND/OR HIS OR HER CONSULTANT SHALL BE THE SOLE JUDGE OF THE TRUE INTENT OF THE DRAWINGS AND SPECIFICATIONS AND OF THE QUALITY OF ALL MATERIALS FURNISHED IN PERFORMANCE OF THE CONTRACT.

C. IN THE EVENT OF ANY DISCREPANCIES BETWEEN THE PLANS AND THE SPECIFICATIONS, THE FINAL DECISION AS TO WHICH SHALL BE FOLLOWED SHALL BE MADE BY THE LANDSCAPE ARCHITECT AND/OR HIS OR HER CONSULTANT. THE CONTRACTOR SHALL BE COMPELLED TO ACT ON THIS DECISION AS DIRECTED. IN THE EVENT THE INSTALLATION IS CONTRADICTORY TO THE DIRECTION OF THE LANDSCAPE ARCHITECT, THE INSTALLATION SHALL BE RECTIFIED BY THE CONTRACTOR AT NO ADDITIONAL COST. THE CONTRACTOR SHALL IMMEDIATELY BRING ANY SUCH DISCREPANCIES TO THE ATTENTION OF THE LANDSCAPE ARCHITECT.

D. IT SHALL BE DISTINCTLY UNDERSTOOD THAT NO ORAL STATEMENT OF ANY PERSON SHALL BE ALLOWED IN ANY MANNER TO MODIFY ANY OF THE CONTRACT PROVISIONS. CHANGES SHALL BE MADE ONLY ON WRITTEN AUTHORIZATION OF THE LANDSCAPE ARCHITECT EXCEPT IN AN EMERGENCY ENDANGERING LIFE OR PROPERTY.

E. MAKE USE OF ALL DATA IN ALL OF THE CONTRACT DOCUMENTS INCLUDING MANUFACTURER'S CATALOGS AND VERIFY THE INFORMATION ON SITE PRIOR TO BIDDING ON THIS WORK AND ALSO AT THE TIME OF INSTALLATION.

1.4 INTENT OF CONSTRUCTION DRAWINGS

A. IRRIGATION PIPING AND RELATED EQUIPMENT ARE DRAWN DIAGRAMMATICALLY. SCALED DIMENSIONS ARE APPROXIMATE ONLY. BEFORE PROCEEDING WITH WORK, CAREFULLY CHECK AND VERIFY DIMENSIONS AND IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE AND THE LANDSCAPE ARCHITECT OF DISCREPANCIES BETWEEN THE DRAWINGS OR SPECIFICATIONS AND THE ACTUAL CONDITIONS. ALTHOUGH SIZES AND LOCATIONS OF PLANTS AND OF IRRIGATION EQUIPMENT ARE DRAWN TO SCALE WHEREVER POSSIBLE, IT IS NOT WITHIN THE SCOPE OF THE DRAWINGS TO SHOW ALL NECESSARY OFFSETS, OBSTRUCTIONS, OR SITE CONDITIONS. THE CONTRACTOR SHALL BE RESPONSIBLE TO INSTALL HIS OR HER WORK IN SUCH A MANNER THAT IT WILL BE IN CONFORMANCE TO SITE CONDITIONS, COMPLETE, AND IN GOOD WORKING ORDER.

B. PIPING AND EQUIPMENT IS TO BE LOCATED WITHIN THE DESIGNATED PLANTING AREAS WHEREVER POSSIBLE UNLESS SPECIFICALLY DEFINED OR DIMENSIONED OTHERWISE.

1.5 SUBMITTALS AND SUBSTITUTIONS

A. PRIOR TO INSTALLATION OF ANY IRRIGATION WORK, THE CONTRACTOR SHALL SUBMIT FOR APPROVAL BY THE LANDSCAPE ARCHITECT, A LIST OF ALL MATERIALS AND EQUIPMENT PROPOSED FOR USE. SUBMIT AS A MINIMUM THE FOLLOWING CATALOG CUT SHEETS TO THE LANDSCAPE ARCHITECT FOR APPROVAL:

- 1. FLOW METER
2. AUTOMATIC CONTROLLER ASSEMBLY (INCLUDING CONTROLLER, CONTROLLER CABINET, ELECTRICAL, GFCL, ETC.)
3. RAIN-SENSING DEVICE
4. BACKFLOW PREVENTER ASSEMBLY (INCLUDING "Y" STRAINER, PRESSURE REGULATOR, & ENCLOSURE CAGE)
5. MASTER CONTROL VALVE
6. FLOW SENSOR AND DATA INTERFACE
7. MAIN LINE PIPE, LATERAL LINE PIPE, PIPE SLEEVES
8. SOLVENT CEMENT
9. ISOLATION VALVES (GATE VALVES, BALL VALVES, ETC)
10. REMOTE CONTROL VALVE
11. QUICK COUPLER VALVE
12. VALVE BOXES
13. CONTROL WIRE
14. ANTI-DRAIN VALVES
15. WATERPROOF WIRE CONNECTORS
16. SPRINKLER HEADS (FOR EACH TYPE)
17. PAINT PRODUCTS
18. BOOSTER PUMPS

B. UPON FIFTEEN (15) DAYS AFTER THE CONTRACTOR HAS RECEIVED THE OWNER'S NOTICE TO PROCEED, THE CONTRACTOR SHALL SUBMIT TO THE LANDSCAPE ARCHITECT THREE (3) TYPEWRITTEN LISTS OF ALL MATERIALS PROPOSED, ALONG WITH THE MANUFACTURER, MODEL NUMBER, CUT SHEETS, AND SOURCE.

C. NO SUBSTITUTIONS OF MATERIAL OR PROCEDURES SHALL BE MADE CONCERNING THESE DOCUMENTS WITHOUT THE WRITTEN CONSENT OF AN ACCEPTED EQUIVALENT BY THE LANDSCAPE ARCHITECT.

D. EQUIPMENT OR MATERIALS INSTALLED OR FURNISHED WITHOUT PRIOR APPROVAL OF THE LANDSCAPE ARCHITECT, MAY BE REJECTED BY THE LANDSCAPE ARCHITECT OR THE OWNER'S REPRESENTATIVE AND THE CONTRACTOR SHALL BE REQUIRED TO REMOVE SUCH MATERIALS FROM THE SITE AT HIS OR HER OWN EXPENSE.

E. APPROVAL OF SUBSTITUTION OF MATERIAL AND/OR PRODUCTS, OTHER THAN THOSE SPECIFIED, SHALL NOT RELIEVE THE CONTRACTOR FROM COMPLYING WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS AND SPECIFICATIONS. THE CONTRACTOR

SHALL BE RESPONSIBLE AT HIS OR HER OWN EXPENSE FOR ALL CHANGES BY APPROVED SUBSTITUTIONS, WHICH AFFECT OTHER ITEMS OF HIS OR HER OWN WORK AND/OR THE WORK OF OTHER CONTRACTORS.

F. SAMPLES OF THE EQUIPMENT MAY BE REQUIRED AT THE REQUEST OF THE LANDSCAPE ARCHITECT IF THE EQUIPMENT IS OTHER THAN THAT SPECIFIED.

1.6 GUARANTEE

A. CONTRACTOR GUARANTEES ALL EQUIPMENT, MATERIALS, AND LABOR FURNISHED OR PERFORMED UNDER THE CONTRACT (UNLESS FURNISHED BY THE OWNER) AGAINST DEFECTS IN DESIGN, MATERIALS, AND WORKMANSHIP FOR A PERIOD OF ONE (1) YEAR, UNLESS OTHERWISE SPECIFIED, FROM THE DATE OF FINAL ACCEPTANCE OF WORK.

B. NEITHER THE FINAL CERTIFICATE FOR PAYMENT NOR ANY PROVISION IN THE CONTRACT DOCUMENTS SHALL RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR FAULTY MATERIALS OR WORKMANSHIP, AND HE OR SHE SHALL REMEDY ANY DEFECTS DUE THERETO AND PAY FOR ANY DAMAGE TO OTHER WORK RESULTING THERE WHICH MAY APPEAR WITHIN A PERIOD OF ONE (1) YEAR FROM THE DATE OF FINAL ACCEPTANCE OF WORK.

1.7 EXAMINATION OF SITE

THE CONTRACTOR SHALL BE HELD TO HAVE EXAMINED THE PROJECT SITE AND TO HAVE COMPARED IT WITH THE DRAWINGS AND SPECIFICATIONS, TO HAVE CAREFULLY EXAMINED ALL OF THE CONTRACT DOCUMENTS AND TO HAVE SATISFIED HIMSELF OR HERSELF AS TO THE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED BEFORE ENTERING INTO HIS OR HER CONTRACT FOR THIS WORK. NO ALLOWANCE SHALL SUBSEQUENTLY BE MADE ON BEHALF OF THE CONTRACTOR ON ACCOUNT OF AN ERROR ON HIS OR HER PART OR HIS OR HER NEGLIGENCE OR FAILURE TO ACQUAINT HIMSELF OR HERSELF WITH THE CONDITIONS OF THE SITE, EXISTING UTILITY LOCATIONS AND EASEMENTS, OR OF THE STREETS OR ROADS APPROACHING THE SITE. SUBMIT ANY QUESTIONS IN WRITING PRIOR TO COMMENCEMENT OF JOB.

1.8 PROTECTION OF WORK AND PROPERTY

A. ALL MATERIALS AND EQUIPMENT SHALL BE STORED PROPERLY AND PROTECTED AS REQUIRED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE ENTIRELY RESPONSIBLE FOR DAMAGES OR LOSS BY WEATHER OR OTHER CAUSE TO WORK UNDER THE CONTRACT. MATERIALS SHALL BE FURNISHED IN AMPLE QUANTITIES AND AT SUCH TIMES AS TO ENSURE UNINTERRUPTED PROGRESS OF THE WORK.

B. THE CONTRACTOR SHALL CONTINUOUSLY MAINTAIN ADEQUATE PROTECTION OF ALL HIS OR HER WORK FROM DAMAGE, DESTRUCTION, OR LOSS, AND SHALL PROTECT THE OWNER'S PROPERTY FROM DAMAGE ARISING IN CONNECTION WITH THIS CONTRACT. CONTRACTOR SHALL MAKE GOOD ANY SUCH DAMAGE, DESTRUCTION, LOSS OR INJURY. CONTRACTOR SHALL ADEQUATELY PROTECT ADJACENT PROPERTY AS PROVIDED BY LAW AND THE CONTRACT DOCUMENTS.

C. PRIOR TO EXCAVATION FOR IRRIGATION PIPING OR EQUIPMENT, CONTRACTOR SHALL LOCATE UNDERGROUND UTILITIES AND RELATED SYSTEMS, AND TAKE PROPER PRECAUTIONS TO AVOID DAMAGE TO SUCH IMPROVEMENTS. IN THE EVENT OF A CONFLICT BETWEEN SUCH UTILITIES, RELATED SYSTEMS, LINES, IRRIGATION PIPING, AND/OR EQUIPMENT LOCATIONS, CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE AND ARRANGEMENTS WILL BE MADE FOR RELOCATION AS NECESSARY. THE CONTRACTOR ASSUMES RESPONSIBILITY FOR MAKING REPAIRS FOR DAMAGES RESULTING FROM WORK AS HEREIN SPECIFIED.

D. THE CONTRACTOR SHALL MAINTAIN SUFFICIENT SAFEGUARDS, SUCH AS RAILINGS, TEMPORARY WALKS, LIGHTS, ETC., AGAINST THE OCCURRENCE OF ACCIDENTS, INJURIES OR DAMAGE TO ANY PERSON OR PROPERTY RESULTING FROM HIS OR HER WORK, AND SHALL ALONE BE RESPONSIBLE FOR THE SAME IF SUCH OCCURS.

1.9 PROTECTION OF EXISTING PLANT MATERIAL

A. ALL EXISTING PLANT MATERIAL TO REMAIN WHICH ARE WITHIN THE PROJECT LIMITS SHALL BE TAGGED AND IDENTIFIED BY THE CONTRACTOR PRIOR TO START OF WORK. CONTRACTOR SHALL PROVIDE THE REQUIRED MAINTENANCE TO MAINTAIN THE VEGETATION IN A HEALTHY AND GROWING CONDITION, INCLUDING SUPPLEMENTAL IRRIGATION IF NEEDED.

B. ALL EXISTING PLANT MATERIAL SHALL BE PROTECTED AT ALL TIMES FROM DAMAGE BY PERSONNEL AND EQUIPMENT. ALL DAMAGES TO EXISTING PLANT MATERIALS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

C. DAMAGE TO A TREE OR SHRUB, WHICH RESULTS IN DEATH OR PERMANENT DISFIGURATION, SHALL RESULT IN THE CONTRACTOR'S COMPLETE REMOVAL OF SAID TREE OR SHRUB, INCLUDING ROOTS, FROM THE SITE. THE CONTRACTOR SHALL REPLACE THE PLANT MATERIAL AS ESTABLISHED BY THE LANDSCAPE ARCHITECT WITH ONE OF EQUAL VALUE AT HIS OR HER OWN EXPENSE OR SHALL REIMBURSE TO THE OWNER THE COST OF SAID REPLACEMENT. THE LANDSCAPE ARCHITECT SHALL BE THE SOLE JUDGE OF THE REPLACEMENT OF ANY PLANT MATERIAL.

1.10 POINTS OF CONNECTION

A. THE CONTRACTOR SHALL VERIFY WITH THE CITY'S REPRESENTATIVE THE MOST APPROPRIATE LOCATION AND SOURCE FOR THE WATER AND ELECTRICAL POINTS OF CONNECTION.

B. THE ELECTRICAL POINT OF CONNECTION SHALL BE MADE BY AN APPROPRIATELY LICENSED ELECTRICAL CONTRACTOR PER GOVERNING CODES.

1.11 TEMPORARY UTILITIES

A. ALL TEMPORARY PIPING, WIRING, METERS, PANELS AND OTHER RELATED APPURTENANCES REQUIRED BETWEEN SOURCE OF SUPPLY AND POINT OF USE SHALL BE PROVIDED BY THE CONTRACTOR AND COORDINATED WITH THE OWNER'S REPRESENTATIVE. EXISTING UTILITIES MAY BE USED WITH THE WRITTEN PERMISSION OF THE OWNER'S REPRESENTATIVE.

B. THE CONTRACTOR SHALL METER AND PAY FOR THE FURNISHING OF ALL ELECTRICITY AND WATER FOR HIS OR HER USE UNLESS OTHERWISE STATED. ALL WATER USED FOR CONSTRUCTION PURPOSES SHALL BE SEPARATED FROM THE POTABLE DOMESTIC WATER SUPPLY BY A REDUCED PRESSURE PRINCIPLE DEVICE (RP) BACKFLOW PREVENTER APPROVED BY THE LANDSCAPE ARCHITECT.

1.12 CUTTING, PATCHING, TRENCHING, AND DIGGINGS

A. ALL TRENCHING BACKFILL SHALL BE PER THE CITY OF CHULA VISTA DEPARTMENT OF WATER ENGINEERING CONSTRUCTION STANDARDS.

B. THE CONTRACTOR SHALL DO ALL CUTTING, FITTING, TRENCHING OR PATCHING OF HIS OR HER WORK THAT MAY BE REQUIRED TO MAKE ITS SEVERAL PARTS COME TOGETHER PROPERLY AND FIT THEM TO RECEIVE OR BE RECEIVED BY WORK OF OTHER CONTRACTORS SHOWN UPON, OR REASONABLY IMPLIED BY, THE DRAWINGS AND SPECIFICATIONS FOR THE COMPLETED PROJECT. CONTRACTOR SHALL DO ALL THAT IS NECESSARY TO ACCOMPLISH THE JOINING OF SAID SEVERAL PARTS IN A NEAT AND WORKMAN-LIKE MANNER TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.

C. TRENCHING SHALL BE PERFORMED ONLY DURING THE PERIOD WHEN BENEFICIAL AND OPTIMUM RESULTS MAY BE OBTAINED. IF THE MOISTURE CONTENT OF THE SOIL SHOULD REACH A LEVEL THAT WORKING IT WOULD DESTROY THE SOIL STRUCTURE, DIGGING AND TRENCHING OPERATIONS SHALL BE

SUSPENDED UNTIL THE MOISTURE LEVEL IS INCREASED OR REDUCED TO ACCEPTABLE LEVELS AND THE DESIRED RESULTS ARE LIKELY TO BE OBTAINED.

D. THE CONTRACTOR SHALL NOT ENDANGER ANY WORK BY CUTTING, DIGGING OR OTHERWISE, AND SHALL NOT CUT OR ALTER THE WORK OF ANY OTHER CONTRACTOR WITHOUT THE CONSENT OF THE OWNER'S REPRESENTATIVE.

1.13 SPECIMEN TREES

ALL SPECIMEN TREES TWENTY-FOUR-INCH (24") BOX AND LARGER SHALL BE INSTALLED PRIOR TO THE LOCATION OF THE IRRIGATION SYSTEM. THE LAYOUT OF THE IRRIGATION SYSTEM SHALL BE ADJUSTED TO ACCOMMODATE ALL SPECIMEN TREES WITH THE APPROVAL OF THE OWNER'S REPRESENTATIVE.

1.14 USE OF PREMISES

THE CONTRACTOR SHALL CONFINE HIS OR HER APPARATUS, THE STORAGE OF MATERIALS AND THE OPERATIONS OF HIS OR HER PERSONNEL TO LIMITS INDICATED BY THE LAW, ORDINANCES, OR PERMITS AND SHALL NOT UNREASONABLY ENCUMBER THE PREMISES WITH HIS OR HER MATERIALS.

1.15 PERMITS AND REGULATIONS

THE CONTRACTOR SHALL GIVE ALL NOTICES AND PAY ALL FEES NECESSARY FOR COMPLETION OF WORK UNDER THIS CONTRACT, AND SHALL OBTAIN AND PAY FOR ALL PERMITS, CERTIFICATIONS, AND LICENSES (EXCEPT PERMANENT EASEMENTS) OVER ALL OR ANY PART OF THE WORK AS DRAWN AND SPECIFIED.

1.16 APPLICABLE CODES AND STANDARDS

A. WHEREVER REFERENCES ARE MADE IN THE CONTRACT TO STANDARDS OR CODES IN ACCORDANCE WITH WHICH WORK IS TO BE PERFORMED OR TESTED, THE EDITION OR REVISION OF THE STANDARDS AND CODES CURRENT ON THE EFFECTIVE DATE OF THIS CONTRACT SHALL APPLY.

UNLESS OTHERWISE EXPRESSLY SET FORTH, UNLESS OTHERWISE SPECIFIED, REFERENCE TO SUCH STANDARDS OR CODES IS SOLELY FOR IMPLEMENTATION OF THE TECHNICAL PORTIONS OF SUCH STANDARDS AND CODES.

B. IN CASE OF CONFLICT AMONG ANY REFERENCED STANDARDS OR CODES OR BETWEEN ANY REFERENCED STANDARDS AND CODES AND THE SPECIFICATIONS, THE LANDSCAPE ARCHITECT SHALL DETERMINE WHICH SHALL GOVERN.

1.17 DRAWINGS AND SPECIFICATIONS AT THE WORK SITE

THE CONTRACTOR SHALL KEEP ONE COPY OF ALL DRAWINGS AND SPECIFICATIONS ON THE WORK SITE, IN GOOD ORDER, AVAILABLE TO THE LANDSCAPE ARCHITECT AND TO HIS OR HER REPRESENTATIVES AT THE PROJECT SITE.

1.18 AS-BUILT RECORD DRAWINGS

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETION OF "AS_BUILT" RECORD DRAWINGS, AND THE FOLLOWING PROCEDURE SHALL BE ADHERED TO:

- 1. CONTRACTOR SHALL MAINTAIN A REDLINE "AS_BUILT" RECORD DRAWING ON-SITE AT ALL TIMES DURING CONSTRUCTION, AND SHALL UPDATE DRAWING ON FRIDAY OF EVERY WEEK.
2. THE CONTRACTOR SHALL NOT REQUEST INSPECTION OF ANY WORK INSTALLED CONTRARY TO THE DRAWINGS UNTIL NOTED ON THE RED LINE RECORD DRAWINGS.
3. BEFORE THE FINAL REQUEST FOR PAYMENT IS MADE AND FINAL APPROVAL OBTAINED, PRE_AS_BUILT DRAWINGS SHALL BE COMPLETED. ONE COPY SET OF THE DRAWINGS SHALL BE DELIVERED TO THE LANDSCAPE ARCHITECT WITH ALL AS_BUILT INDICATIONS AND CHANGES NOTED, MARKING OUT ALL ITEMS WHICH ARE NOT AS_BUILT CONDITIONS. THE DRAWINGS SHALL REPRESENT THE FINAL AS_BUILT INFORMATION CLEARLY. EQUIPMENT SUCH AS VALVES AND BACKFLOW PREVENTERS SHALL BE REFERENCED AND DIMENSIONED FROM TWO FIXED POINTS ON THE SITE, TO TRIANGULATE THEIR LOCATION.
4. AFTER PRE_AS_BUILT DRAWINGS HAVE BEEN APPROVED BY THE LANDSCAPE ARCHITECT, THE CONTRACTOR SHALL OBTAIN, AT HIS OR HER OWN EXPENSE, MYLAR TRANSPARENCIES OF THE ORIGINAL DRAWINGS AND TRANSFER THE AS_BUILT INFORMATION ONTO THEM. DRAFTING SHALL BE OF EQUAL QUALITY TO THE WORKING DRAWINGS. ALL AS_BUILT INDICATIONS SHALL BE MADE ON THE TRANSPARENCIES BY AN EXPERIENCED DRAFTSPERSON. ALL AS_BUILT CHANGES SHALL BE DRAFTED IN BLACK INDIA INK. ALL ITEMS, WHICH HAVE CHANGED AND ARE NOT AS-BUILT SHALL BE BUBBLE/CLOUD ENCIRCLED AND CLEARLY LABELED.
5. THE CONTRACTOR SHALL SIGN AND CERTIFY ON THE ORIGINAL DRAWINGS AS TO THE ACCURACY OF THE COMPLETED AS_BUILT DRAWINGS. ALL DAMAGES DUE TO INACCURATE AS_BUILT DRAWINGS SHALL BE REPAIRED WITHIN TWENTY (24) HOURS AFTER NOTIFICATION TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AND AT NO COST TO THE OWNER.

1.19 CONTROLLER CHARTS

A. PROVIDE ONE CONTROLLER CHART FOR EACH AUTOMATIC CONTROLLER INSTALLED. CONTROLLER CHART SHALL BE BLACKLINE PRINT OF ACTUAL "AS_BUILT DRAWING" SHOWING THE AREA COVERED BY THAT CONTROLLER AND REDUCED TO FIT IN THE CONTROLLER CABINET. KEEP REDUCTION TO MAXIMUM SIZE POSSIBLE TO RETAIN FULL LEGIBILITY.

B. IDENTIFY THE AREA OF COVERAGE OF EACH REMOTE CONTROL VALVE, USING A DISTINCTLY DIFFERENT PASTEL COLOR, DRAWN OVER THE ENTIRE PIPING SYSTEM OF THE AREA OF COVERAGE.

C. FOLLOWING APPROVAL OF CHARTS BY THE LANDSCAPE ARCHITECT, HERMETICALLY SEAL CHART BETWEEN TWO LAYERS OF 20 MIL. THICK PLASTIC SHEETING.

D. CHARTS MUST BE COMPLETED AND APPROVED PRIOR TO FINAL WALK_THROUGH OF IRRIGATION SYSTEM.

E. THE CHARTS SHALL BE AFFIXED TO THE INSIDE OF THE CONTROLLER CABINET DOORS USING AN APPROVED MASTIC OR FASTENING SYSTEM AND ALSO IN THE MAINTENANCE ROOM AREA, IF APPLICABLE.

1.20 SITE OBSERVATIONS

A. SITE OBSERVATIONS HEREIN SPECIFIED SHALL BE MADE BY THE LANDSCAPE ARCHITECT DURING OFFICE WORKING HOURS ON EACH OF THE STEPS OR CONDITIONS LISTED BELOW. THE

CONTRACTOR OR HIS OR HER AUTHORIZED REPRESENTATIVE SHALL BE ON THE SITE AT THE TIME OF EACH OBSERVATION. THE CONTRACTOR WILL NOT BE PERMITTED TO INITIATE THE SUCCEEDING STEP OF WORK UNTIL HE OR SHE HAS RECEIVED APPROVAL TO PROCEED BY THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT OF A

REQUESTED SITE OBSERVATION AT LEAST THREE (3) BUSINESS DAYS IN ADVANCE OF AN OBSERVATION.

B. ALL CHANGES AND DEVIATIONS TO THE PLANS AND SPECIFICATIONS BY THE LANDSCAPE ARCHITECT TO THE CONTRACTOR SHALL BE CONFIRMED IN WRITING.

C. THE CONTRACTOR SHALL HAVE SUFFICIENT WORK PERSONNEL AVAILABLE DURING NORMAL WORKING HOURS TO CORRECT DEFICIENCIES IMMEDIATELY UPON REQUEST OF THE LANDSCAPE ARCHITECT. SUCH REPAIR OR RE_WORK SERVICES ARE TO BE PERFORMED WITHOUT INTERFERENCE OF REGULAR PROJECT SCHEDULE.

D. SITE OBSERVATIONS WILL BE REQUIRED FOR THE FOLLOWING PARTS OF THE WORK:

- 1. PRE_CONSTRUCTION MEETING: IMMEDIATELY PRIOR TO THE COMMENCEMENT OF WORK OF THIS SECTION, THE OWNER'S REPRESENTATIVE, LANDSCAPE ARCHITECT, AND THE CONTRACTOR SHALL MEET FOR APPROVAL OF THE MATERIALS SPECIFIED, EQUIPMENT, SCHEDULE OF WORK AND THE METHOD OF INSTALLATION.
2. TRENCHING AND SLEEVING REVIEW: COMPLETION AND INSTALLATION OF ALL TRENCHING AND SLEEVING.
3. PRESSURE MAIN LINE TEST: COMPLETION OF INSTALLATION AND TESTING, PRIOR TO BACKFILLING.
4. LATERAL LINE TEST: COMPLETION AND TESTING, PRIOR TO BACKFILLING.
5. ADJUSTMENT AND COVERAGE TEST: ADJUST AND TEST THE OPERATING PERFORMANCE OF ALL INSTALLED IRRIGATION SYSTEMS PRIOR TO COMMENCEMENT OF PLANTING OPERATIONS WITH THE EXCEPTION OF SPECIMEN TREE PLANTING.
6. PRE_MAINTENANCE OBSERVATION: ENTIRE IRRIGATION SYSTEM SHALL BE COMPLETELY INSTALLED AND OPERATIONAL. ALL DISCHARGE ENDS OF DRIP EMITTERS SHALL BE EXPOSED UNDER OPERATION FOR OBSERVATION TO DEMONSTRATE THAT ALL EMITTERS ARE PERFORMING AND INSTALLED AS DESIGNED, PRIOR TO PLACING BARK MULCH OVER EMITTER DISCHARGE ENDS. THIS OBSERVATION SHALL BE COORDINATED WITH THE PRE_MAINTENANCE OBSERVATION OF THE PLANTING INSTALLATION. A WRITTEN "PUNCH LIST" INDICATING ALL ITEMS TO BE CORRECTED AND THE BEGINNING DATE OF THE MAINTENANCE PERIOD WILL BE SENT TO THE CONTRACTOR. THIS IS NOT FINAL ACCEPTANCE AND DOES NOT RELIEVE THE CONTRACTOR FROM ANY OF THE RESPONSIBILITIES IN THE CONTRACT DOCUMENTS.
7. FINAL SITE OBSERVATION AND ACCEPTANCE: AT THE CONCLUSION OF THE MAINTENANCE PERIOD, A FINAL SITE OBSERVATION WILL BE MADE. THE CONTRACTOR SHALL SHOW EVIDENCE THAT THE OWNER'S REPRESENTATIVE HAS RECEIVED ALL CHARTS, RECORDS, DRAWINGS, AND EXTRA EQUIPMENT AS REQUIRED BEFORE FINAL ACCEPTANCE. THE CONTRACTOR SHALL SHOW ALL CORRECTIONS MADE FROM THE WRITTEN "PUNCH LIST" PREVIOUSLY GENERATED BY THE LANDSCAPE ARCHITECT. ANY ITEMS DEEMED NOT ACCEPTABLE SHALL BE REWORKED AND THE MAINTENANCE PERIOD WILL BE EXTENDED.
8. THE CONTRACTOR WILL BE NOTIFIED IN WRITING THAT THE CONTRACT WORK AND MAINTENANCE PERIOD HAS BEEN ACCEPTED OR THAT THE MAINTENANCE PERIOD HAS BEEN EXTENDED TO CORRECT ANY DEFICIENCIES REMAINING. FINAL ACCEPTANCE SHALL ESTABLISH THE BEGINNING DATE FOR THE GUARANTEE PERIOD.

E. SITE OBSERVATION OF THE WORK SHALL NOT RELIEVE THE CONTRACTOR OF THE OBLIGATION TO FULFILL ALL CONDITIONS OF THE CONTRACT.

PART 2 - PRODUCTS

2.1 MATERIALS

A. ALL MATERIALS SHALL BE OF STANDARD, APPROVED, AND FIRST GRADE QUALITY AND SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND ACCEPTED.

B. THE USE OF A MANUFACTURER'S NAME AND MODEL OR CATALOG NUMBER IS FOR THE PURPOSE OF ESTABLISHING THE STANDARD OF QUALITY AND CONFIGURATION DESIRED ONLY. OTHER MANUFACTURER'S EQUIPMENT MAY BE SUBMITTED FOR APPROVAL WITH WRITTEN APPROVAL BY THE LANDSCAPE ARCHITECT. ONLY UPON SUBMITTAL AND SUBSEQUENT WRITTEN APPROVAL OF THE MATERIAL LIST SHALL THESE ITEMS BE PERMITTED. CHANGES TO HYDRAULICS BROUGHT ABOUT BY THE USE OF OTHER EQUIPMENT THAN THAT SPECIFIED SHALL BE RECALCULATED BY THE CONTRACTOR AND SUBMITTED TO THE LANDSCAPE ARCHITECT FOR WRITTEN APPROVAL. SUCH WORK SHALL NOT BE INSTALLED PRIOR TO RECEIPT BY THE CONTRACTOR OF THE WRITTEN APPROVAL.

C. WHENEVER SUCH TERMS AS "IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS" IS USED, IT SHALL MEAN IN STRICT ACCORDANCE WITH THE MANUFACTURER'S PRINTED DIRECTIONS. IF THOSE DIRECTIONS CONFLICT WITH THIS SPECIFICATION, THE MATTER SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR CLARIFICATION PRIOR TO PROCEEDING WITH WORK.

D. APPROVAL OF ANY ITEMS OR SUBSTITUTIONS INDICATES ONLY THAT THE PRODUCT(S) APPARENTLY MEET THE REQUIREMENTS OF THE DRAWINGS AND SPECIFICATIONS ON THE BASIS OF THE

INFORMATION OR SAMPLES SUBMITTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PERFORMANCE OF SUBSTITUTED ITEMS. IF THE SUBSTITUTION PROVES TO BE UNSATISFACTORY, THE CONTRACTOR SHALL REPLACE SAID ITEMS WITH THE ORIGINALLY SPECIFIED ITEMS, INCLUDING ALL NECESSARY WORK AND MODIFICATIONS TO REPLACE THE ITEMS, AT NO COST TO THE OWNER.

2.2 PIPING MATERIAL

A. INDIVIDUAL TYPES OF PIPE AND FITTINGS SUPPLIED ARE TO BE OF COMPATIBLE MANUFACTURER UNLESS OTHERWISE APPROVED. PIPE SIZES SHOWN ARE NOMINAL INSIDE DIAMETER UNLESS OTHERWISE NOTED.

B. BRASS PIPE AND FITTINGS: BRASS PIPE SHALL BE 85% RED BRASS, AMERICAN NATIONAL STANDARD INSTITUTE (ANSI), SCHEDULE 40-SCREWED PIPE.

1. FITTINGS SHALL BE MEDIUM BRASS, SCREWED 125-POUND CLASS.

C. HARD COPPER TUBE AND FITTINGS: COPPER TUBE (PIPE) SHALL BE ASTM B 88, TYPE L, WATER TUBE, DRAWN TEMPER.

- 1. FITTINGS SHALL BE ASME B16.18, CAST-COPPER-ALLOY OR ASME B16.22, WROUGHT-COPPER, SOLDER-JOINT FITTINGS FOR 2, 1/2 INCH SIZE AND SMALLER PIPE.
2. CAST BRASS FITTINGS SHALL BE USED FOR PIPE OVER 2, 1/2 INCH SIZE.
3. BRONZE FLANGES: ASME B 16.24, CLASS 150, WITH SOLDER-JOINT END.
4. COPPER UNIONS: MSS SP-123, CAST-COPPER-ALLOY, HEXAGONAL-STOCK BODY, WITH BALL-AND-SOCKET, METAL-TO-METAL SEATING SURFACES AND SOLDER-JOINT OR TREADED ENDS.

NOTE:

ALL FACILITIES SHALL BE INSTALLED PER SDWS STANDARD SPECIFICATIONS 15152. THESE SHALL TAKE PRESEDENCE OVER THESE SPECS WHERE THERE IS CONFLICT.

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

Table with columns: AS BUILT, UTILITY NOTE, CONSTRUCTION RECORD, REFERENCES, By, REVISIONS, Date, App'd, DATUMS, SCALE, Designed By, Drawn By, Checked By, Submitted, APPROVED BY, DATE, CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT, IRRIGATION SPECIFICATIONS FOR: CHULA VISTA TRACT NO. 09-04 PH.2 OTAY RANCH, VILLAGE 8 WEST, DRAWING NO., 19015-OR23, W.O. NO. OR652G, GRADING PERMIT No. GR13-005 PLR-20-018, OWD SHEET 23 OF 27



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OWD # D1044-060274

D. PLASTIC PIPE AND FITTINGS:

1. ALL PIPES SHALL BE FREE OF BLISTERS, INTERNAL STRIATIONS, CRACKS, OR ANY OTHER DEFECTS OR IMPERFECTIONS. THE PIPE SHALL BE CONTINUOUSLY AND PERMANENTLY MARKED WITH THE FOLLOWING INFORMATION: MANUFACTURER'S NAME OR TRADE MARK, SIZE, CLASS AND TYPE OF PIPE, PRESSURE RATING, QUALITY CONTROL IDENTIFICATIONS, AND DATE OF EXTRUSION.

2. PRESSURE MAINLINE FOR PIPING UPSTREAM OF REMOTE CONTROL VALVES AND QUICK COUPLING VALVES:

a. 4" DIAMETER PIPE: SHALL BE MANUFACTURED RIGID VIRGIN POLYVINYL CHLORIDE PCV CLASS 200, CONFORMING TO ASTM D 2241. PIPE SHALL HAVE AN INTEGRAL BELL END WITH A LOCKED-IN FACTORY INSTALLED GASKET. BELL SHALL MEET REQUIREMENTS OF ASTM D 2672. GASKET SHALL MEET REQUIREMENTS OF ASTM D 3139, AND GASKET MATERIAL SHALL MEET REQUIREMENTS OF ASTM F 477. PIPE SIZES SHALL BE INSTALLED AS SHOWN ON PLANS. PIPE SHALL BE PURPLE IN COLOR.

b. 2" -3" DIAMETER PIPE: PLASTIC PIPE FOR USE WITH SOLVENT WELD OR THREADED FITTINGS. SHALL BE MANUFACTURED RIGID VIRGIN POLYVINYL CHLORIDE PVC 1120, ASTM D 1784, CONFORMING TO ASTM D 2241, CLASS 315, SDR 13.5. PIPE SHALL BE PURPLE IN COLOR FOR RECYCLED WATER.

c. 3/4" TO 1-1/2" DIAMETER PIPE: PLASTIC PIPE FOR USE WITH SOLVENT WELD AND/OR THREADED FITTINGS. SHALL BE MANUFACTURED RIGID VIRGIN POLYVINYL CHLORIDE PVC 1120, ASTM D 1784, CONFORMING TO ASTM D 1784, DESIGNATED AS SCHEDULE 40. PIPE SHALL BE PURPLE IN COLOR FOR RECYCLED WATER.

3. NON PRESSURE LATERAL LINE FOR PIPING DOWNSTREAM OF REMOTE CONTROL VALVES SHALL BE PLASTIC PIPE FOR USE WITH SOLVENT WELD OR THREADED FITTINGS. SHALL BE MANUFACTURED RIGID VIRGIN POLYVINYL CHLORIDE (PVC) 1220 (TYPE 1, GRADE 2) CONFORMING TO ASTM D 1785, DESIGNATED AS CLASS 200, THREE-QUARTER-INCH (3/4) MINIMUM SIZE. PIPE SHALL BE PURPLE IN COLOR.

4. IDENTIFICATION: FURNISH PLASTIC PIPE CONTINUOUSLY AND PERMANENTLY MARKED WITH FOLLOWING INFORMATION: MANUFACTURER'S NAME OR TRADE MARK, SIZE, CLASS AND TYPE OF PIPE, WORKING PRESSURE AT 73.4 F AND NATIONAL SANITATION FOUNDATION (NSF) RATING. PIPE SHALL BE PURPLE IN COLOR.

5. POLYETHYLENE TUBING FOR DRIP SYSTEMS SHALL BE CONSTRUCTED OF LINEAR, LOW DENSITY, POLYETHYLENE RESIN MANUFACTURED UNDER ASTM STANDARDS.

6. FITTINGS AND CONNECTIONS:

ADJUSTABLE FROM 2 TO 60 MINUTES AND THE PROGRAMMING SHALL BE CAPABLE OF AT LEAST TWO (2) INDEPENDENT PROGRAMS WITH AT LEAST THREE STARTS PER DAY. CONTROLLER SHALL HAVE A MASTER SWITCH, WHICH SHALL BE POSSIBLE TO OPERATE EACH VALVE MANUALLY, INDEPENDENT OF THE CLOCK, OR ANY OTHER VALVE.

C. CONTROLLER SHALL BE HOUSED IN A STURDY, LOCKING, WEATHER RESISTANT, VANDAL-RESISTANT STAINLESS STEEL ENCLOSURE, FURNISHED FOR MAXIMUM EXTERIOR PROTECTION.

D. AUTOMATIC CONTROLLER ASSEMBLY SHALL HAVE A STAINLESS STEEL PRE-DRILLED REMOVABLE BACKBOARD.

E. A PRE-LABELED, PRE-WIRED, TERMINAL INTERFACE BOARD SHALL CLEARLY INDICATE THE PROPER POINTS OF CONNECTION FOR ALL APPROPRIATE WIRING (INCLUDING STATION VALVES, COMMONS, MASTER VALVES, FLOW SENSORS, PUMP START, OTHER SENSORS, ETC).

F. AN ELECTRICAL JUNCTION BOX SHALL BE PROVIDED WITHIN THE ASSEMBLY WITH AN ON/OFF SWITCH, AND A DUPLEX RECEPTACLE EQUIPPED WITH A GROUND FAULT CIRCUIT INTERRUPTER (GFCI).

G. AUTOMATIC CONTROLLER ASSEMBLY SHALL HAVE A GROUND ROD WITH CLAMP.

H. AUTOMATIC CONTROLLER ASSEMBLY SHALL INCLUDE A FLOW SENSOR DEVICE WITH ALL ASSOCIATED DATA INTERFACE COMPONENTS TO ALLOW IT TO FUNCTION PROPERLY WITH THE MASTER CONTROL VALVE AND THE AUTOMATIC CONTROLLER.

I. CONTROLLER SHALL BE EQUIPPED WITH RAIN SHUT-OFF SWITCH, MOUNTED EXTERNALLY IN ITS OWN VANDAL-RESISTANT STAINLESS STEEL ENCLOSURE. SEE IRRIGATION LEGEND FOR MANUFACTURER, AND MODEL TYPE.

J. ALL POWER WITHIN THE AUTOMATIC CONTROLLER ASSEMBLY HOUSING SHALL BE PROPERLY PHASED.

K. THE ENTIRE AUTOMATIC CONTROLLER ASSEMBLY SHALL BE UNDERWRITERS LABORATORY INC. (UL) LISTED.

L. THE ENTIRE AUTOMATIC CONTROLLER ASSEMBLY SHALL HAVE A LIMITED FIVE (5) YEAR WARRANTY.

LEGEND FOR MANUFACTURER AND MODEL TYPE.

2.12 VALVE BOXES AND MATERIALS

A. VALVE BOXES: VALVE BOXES SHALL BE CONSTRUCTED OF ABS (ACRYLONITRILE BUTADIENE STYRENE) PLASTIC, PURPLE IN COLOR, WITH RIGID BASE AND SIDES AND SHALL BE SUPPLIED WITH BOLT LOCK COVER SECURED WITH STAINLESS STEEL BOLTS. COVER SHALL BE IDENTIFIED AS SHOWN ON PLANS, PURPLE IN COLOR. PROVIDE BOX EXTENSIONS AS REQUIRED.

B. FOR GATE VALVES, DRIPLINE, FLUSH VALVES, EMITTERS AND WIRE STUB BOXES USE TEN-AND-ONE-HALF-INCH (10.5") DIAMETER BOX, PURPLE IN COLOR. FOR REMOTE CONTROL VALVES THREE-QUARTER-INCH TO TWO-INCH (3/4" - 2"), USE CARSON #1419 _ 13B BOX, PURPLE IN COLOR. FOR DRIP ASSEMBLIES USE #1419 _ 13B, PURPLE IN COLOR.

C. INSTALL IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS.

2.13 SPRINKLERS

A. ALL SPRINKLERS SHALL BE AS INDICATED ON THE IRRIGATION LEGEND ON THE DRAWINGS, WITH PURPLE CAPS.

B. RISER NIPPLES FOR ALL SPRINKLER HEADS SHALL BE THE SAME SIZE AS THE RISER OPENING IN THE SPRINKLER BODY AND FABRICATED IN ACCORDANCE WITH THE DETAILS SHOWN ON THE PLANS.

2.14 ELECTRICAL CONTROL WIRING

A. LOW VOLTAGE

1. THE ELECTRICAL CONTROL WIRE SHALL BE DIRECT BURIAL TYPE UF, NO. 12 AWG, SOLID, SINGLE CONDUCTOR, COPPER WIRE, U.L. APPROVED. WIRE SHALL BE LARGER SIZE GAUGE, IF REQUIRED TO OPERATE SYSTEM AS DESIGNED.
2. COLOR CODE WIRES TO EACH VALVE: COMMON WIRE SHALL BE WHITE. ALL MASTER CONTROL VALVE OR FILL VALVE WIRES TO BE BLUE. ALL SPARE WIRES TO BE SOLID RED.
3. IF MULTIPLE CONTROLLERS ARE BEING UTILIZED, AND WIRE PATHS OF DIFFERENT CONTROLLERS CROSS EACH OTHER, BOTH COMMON AND CONTROL WIRES FROM EACH CONTROLLER TO BE OF DIFFERENT COLORS.
4. CONTROL WIRE CONNECTIONS AND SPLICES SHALL BE MADE WITH DRY SPLICE METHOD. CONTROL WIRE SPLICES ALLOWED ONLY ON RUNS OF MORE THAN THREE-HUNDRED FEET (300). PROVIDE PULL BOXES FOR CONTROL WIRING WHERE WIRE RUNS EXCEED THREE-HUNDRED FEET (300) IN LENGTH, AND AT ALL CHANGES IN DIRECTION GREATER THAN FORTY-FIVE (45) DEGREES. IN-LINE WIRE SPLICES SHALL BE MADE ONLY IN PULL-BOXES, WITH WATERPROOF CONNECTORS.

B. HIGH VOLTAGE:

1. SHALL BE OF TYPE AS REQUIRED BY LOCAL CODES AND ORDINANCES.
2. SHALL BE OF PROPER SIZE TO ACCOMMODATE NEEDS OF EQUIPMENT IT IS TO SERVE.

WIRE MARKERS: WHITE, SELF LAMINATING, VINYL IMPREGNATED CLOTH WITH PRINTED LETTERS AND NUMERALS. LEGEND COLOR SHALL BE BLACK, BACKGROUND COLOR SHALL BE WHITE. MINIMUM DIMENSION OF COMPLETE MARKER: 3/4" BY 1, 1/2". MARKERS SHALL BE INSTA-CODE PCM SERIES.

C. TRACER WIRES: SHALL BE DIRECT BURIAL TYPE UF, NO. 12 AWG, SOLID, SINGLE CONDUCTOR, PLASTIC COATED COPPER WIRE, U.L. APPROVED.

2.15 TRENCH MARKER TAPE

A. MARKER TAPE FOR PRESSURE PIPE SHALL BE AN INERT PLASTIC FILM WITH METALLIC BACKING SPECIFICALLY FORMULATED FOR PROLONGED UNDERGROUND USE. MINIMUM THICKNESS SHALL BE 4 MILS, MINIMUM WIDTH SHALL BE THREE-INCHES (3). MARKER TAPE SHALL BE BLUE IN COLOR AND SHALL HAVE TWO-INCH (2) BLACK LETTERING WITH THE INSCRIPTION "CAUTION: WATER LINE BURIED BELOW". MARKER TAPE SHALL BE ALARM TAPE.

B. MARKER TAPE FOR DIRECT BURIAL CONTROL WIRE SHALL BE AN INERT PLASTIC FILM SPECIFICALLY FORMULATED FOR PROLONGED UNDERGROUND USE. MINIMUM THICKNESS SHALL BE 4 MILS, MINIMUM WIDTH SHALL BE THREE-INCHES (3). MARKER TAPE SHALL BE RED IN COLOR AND SHALL HAVE TWO-INCH (2) BLACK LETTERING WITH THE INSCRIPTION "CAUTION: ELECTRICAL LINE BELOW". MARKER TAPE SHALL BE AS MANUFACTURED BY ALLEN MARKING TAPE, OR APPROVED EQUAL.

2.16 CONCRETE THRUST BLOCKS

SIZE FOR AVERAGE SAFE SOIL BEARING LOAD OF 700-LBS/SQUARE FEET.

2.17 EQUIPMENT TO BE FURNISHED TO OWNER

A. AS A PART OF THE CONTRACT, THE CONTRACTOR SHALL SUPPLY THE FOLLOWING EXTRA EQUIPMENT TO THE OWNER'S REPRESENTATIVE AT THE CONCLUSION OF THE MAINTENANCE PERIOD. A SIGNED RECEIPT OF THE FOLLOWING ITEMS BY THE OWNER'S REPRESENTATIVE WILL BE REQUIRED AT THE TIME OF FINAL ACCEPTANCE.

1. AN APPROPRIATE PADLOCK AND TWO (2) SETS OF KEYS FOR EACH AUTOMATIC CONTROLLER ASSEMBLY.
2. TWO (2) SETS OF KEYS FOR EACH CONTROLLER UNIT WITHIN THE AUTOMATIC CONTROLLER ASSEMBLY.
3. AN APPROPRIATE PADLOCK AND TWO (2) SETS OF KEYS FOR EACH IRRIGATION BOOSTER PUMP ASSEMBLY.
4. AN APPROPRIATE PADLOCK AND TWO (2) SETS OF KEYS FOR EACH BACKFLOW PREVENTION ASSEMBLY ENCLOSURE.
5. TWO (2) FORTY-EIGHT-INCH (48") TEE WRENCHES APPROPRIATELY-SIZED, FOR OPERATING ANY BELOW-GRADE GATE VALVES.
6. THREE (3) SETS OF SPECIAL TOOLS REQUIRED FOR REMOVING, DISASSEMBLING AND ADJUSTING EACH TYPE OF SPRINKLER AND VALVE SUPPLIED ON THIS PROJECT.
7. FOUR (4) QUICK COUPLER KEYS TO MATCH MANUFACTURER TYPE OF QUICK COUPLER.
8. FOUR (4) SPRINKLERS AND NOZZLES OF EACH TYPE USED.

2.18 INCIDENTAL MATERIALS AND EQUIPMENT

FURNISH ALL MATERIALS AND EQUIPMENT NOT SPECIFIED ABOVE WHICH ARE NECESSARY FOR COMPLETION OF THE WORK AS INTENDED.

2.19 MAINLINE BEDDING SAND

SAND SHALL CONSIST OF NATURAL OR MANUFACTURED GRANULAR MATERIAL SE30 OR BETTER, FREE OF ORGANIC MATERIAL, MICA, LOAM, CLAY OR OTHER SUBSTANCES NOT SUITABLE FOR THE INTENDED PURPOSE.

MANNER, INCLUDING ALL REQUIRED IRRIGATION UTILITY CONNECTIONS WITH OTHER PROJECT TRADES.

C. CONTRACTOR SHALL OBTAIN ALL INFORMATION PERTAINING TO LOCATIONS OF ALL EXISTING AND PROPOSED UTILITIES, LINES, AND APPURTENANCES PRIOR TO ANY IRRIGATION INSTALLATION.

D. STATE OF CALIFORNIA LAW: SECTION 4216/4217 OF THE GOVERNMENT CODE REQUIRES A DIG-ALERT IDENTIFICATION NUMBER BE ISSUED BEFORE A "PERMIT TO EXCAVATE" WILL BE VALID. FOR A DIG-ALERT IDENTIFICATION NUMBER, CALL UNDERGROUND SERVICE ALERT TOLL FREE AT (800) 227-2600, TWO WORKING DAYS BEFORE YOU DIG.

3.2 LAYOUT AND VERIFICATION

A. LOCATIONS AND DRAWINGS ARE DIAGRAMMATIC AND APPROXIMATE ONLY. ACTUAL WORK SHALL BE CHANGED AND ADJUSTED AS NECESSARY AND AS DIRECTED TO MEET EXISTING CONDITIONS AND OBTAIN COMPLETE WATER COVERAGE.

B. CONTRACTOR SHALL STAKE OUT LOCATIONS OF ALL PIPE, VALVES, EQUIPMENT, AND IRRIGATION HEADS AND EMITTERS USING AN APPROVED STAKING METHOD AND MAINTAIN THE STAKING OF THE APPROVED LAYOUT IN ACCORDANCE WITH THE DRAWINGS. VERIFY ALL HORIZONTAL AND VERTICAL SITE DIMENSIONS PRIOR TO STAKING OF HEADS. DO NOT EXCEED SPACING SHOWN ON DRAWINGS FOR ANY GIVEN AREA. IF SUCH MODIFIED SPACING DEMAND ADDITIONAL OR LESS MATERIAL THAN SHOWN ON THE DRAWINGS, NOTIFY THE LANDSCAPE ARCHITECT BEFORE BEGINNING ANY WORK IN THE ADJACENT AREA.

C. MINOR CHANGES IN LOCATIONS OF THE ABOVE FROM LOCATIONS SHOWN SHALL BE MADE AS NECESSARY TO AVOID EXISTING SPECIMEN TREE PLANTING OR PROPOSED PIPING, UTILITIES, STRUCTURES, ETC. AT THE CONTRACTOR'S EXPENSE OR WHEN DIRECTED BY THE LANDSCAPE ARCHITECT.

D. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR RELOCATION OF ANY ITEMS WITHOUT FIRST OBTAINING THE LANDSCAPE ARCHITECT'S APPROVAL. THE CONTRACTOR SHALL REMOVE AND RELOCATE SUCH ITEMS AT HIS OR HER EXPENSE IF SO DIRECTED BY THE LANDSCAPE ARCHITECT.

E. BEFORE STARTING WORK ON IRRIGATION SYSTEM, CAREFULLY CHECK ALL GRADES TO DETERMINE THAT WORK MAY SAFELY PROCEED, KEEPING WITHIN THE SPECIFIED MATERIAL DEPTHS. THE CONTRACTOR SHALL BE AWARE OF THE FACT THAT THE DRAWINGS ARE BASED ON HORIZONTAL DIMENSIONS. ACTUAL MEASUREMENTS TAKEN ALONG THE SLOPE OF A BANK WILL DIFFER FROM THOSE SHOWN ON THE DRAWINGS. MOW CURBS AND SPECIMEN TREES SHALL BE INSTALLED AND IN-PLACE BEFORE INSTALLATION OF IRRIGATION SYSTEM.

F. NO FITTINGS SHALL BE INSTALLED ON PIPE UNDERNEATH PAVEMENT OR WALLS. IF SUCH A NEED SHOULD OCCUR, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT BEFORE BEGINNING ANY WORK.

G. ALL CHANGES SHALL BE RECORDED ON THE REDLINE "AS_BUILT DRAWING" ON FRIDAY OF EVERY WEEK.

2.3 PIPE CONNECTION MATERIALS

A. THREADED CONNECTIONS: TEFLON TAPE OR APPROVED EQUIVALENT, UL LISTED.

B. GASKETED FITTINGS: LUBRICANT PER MANUFACTURER'S RECOMMENDATIONS.

C. SOLVENT WELD CONNECTIONS PRIMER AND ADHESIVE SOLVENT SHALL BE TYPE AS RECOMMENDED BY MANUFACTURER OF PIPE AND FITTINGS:

1. ALL CANS OF SOLVENTS AND PRIMERS SHALL HAVE LABELS INTACT AND SHALL BE STAMPED WITH THE DATE AND MANUFACTURER. NO CANS DATED OVER TWO (2) YEARS OLD WILL BE PERMITTED.
2. NO THINNING OF SOLVENT OR PRIMER IN ANY MANNER WILL BE PERMITTED.

D. NIPPLES AND RISERS:

1. METALLIC: RED BRASS, STANDARD PIPE SIZE, SCHEDULE 40, ASTM B43. COMPOSITION: NOMINAL COPPER CONTENT TO BE 85 PERCENT (MIN. 83%, MAX. 86%), NOMINAL ZINC CONTENT TO BE 15 PERCENT. MAXIMUM ALLOWABLE LEAD AND IRON CONTENT TO BE 0.05 PERCENT EACH.
2. PLASTIC: PLASTIC NIPPLES AND RISERS SHALL BE MANUFACTURED RIGID VIRGIN POLYVINYL CHLORIDE PVC, (TYPE 1, GRADE 1), CONFORMING TO ASTM D 1784 OR D 2464, DESIGNATED AS SCHEDULE 80 WITH MOLDED THREADS.

2.4 BACKFLOW PREVENTION DEVICE / BACKFLOW PREVENTION ASSEMBLY

A. ALL SPRINKLER IRRIGATION SYSTEMS THAT ARE USING WATER FROM POTABLE WATER SYSTEMS SHALL REQUIRE BACKFLOW PREVENTION. ALL BACKFLOW PREVENTION DEVICES SHALL BE INSTALLED IN ACCORDANCE WITH REQUIREMENTS SET FORTH BY ALL REGIONAL CODES, LOCAL CODES, AND THE LOCAL HEALTH DEPARTMENT.

B. BACKFLOW PREVENTION DEVICE SHALL BE REDUCED PRESSURE PRINCIPLE DEVICE (RP) CONSTRUCTED OF BRASS OR BRONZE, WITH ALL BRONZE OR STAINLESS STEEL TRIM AND ALL MOVING PARTS OF NON CORROSIVE MATERIALS. ALL PARTS SHALL BE REMOVABLE OR REPLACEABLE WITHOUT REMOVAL OF THE UNIT FROM THE LINE.

C. BACKFLOW PREVENTION ASSEMBLY SHALL BE INTEGRALLY FITTED WITH A BRASS OR BRONZE ISOLATION VALVE AT BOTH THE INLET AND OUTLET POINTS.

D. SEE IRRIGATION LEGEND ON THE DRAWINGS FOR MANUFACTURER AND MODEL TYPE.

E. BACKFLOW PREVENTION ASSEMBLY IS TO BE HOUSED WITHIN EXPANDED METAL BACKFLOW PREVENTION ASSEMBLY ENCLOSURE, CONSTRUCTED OF #9 EXPANDED STAINLESS STEEL WITH STAINLESS STEEL FRAME. SIZE AS REQUIRED TO COMPLETELY ENCLOSE ENTIRE BACKFLOW PREVENTER ASSEMBLY. LEMEUR, RAINMAN, STRONG BOX, OR APPROVED EQUAL.

F. PRESSURE REGULATOR ON BACKFLOW PREVENTION ASSEMBLY: PRESSURE REGULATOR SHALL CONSIST OF A BRONZE BODY AND BELL HOUSING, A SEPARATE ACCESS COVER FOR THE PLUNGER, AND A BOLT TO ADJUST THE DOWNSTREAM PRESSURE. THE BRONZE BELL HOUSING AND ACCESS CAP SHALL BE THREADED TO THE BODY AND SHALL NOT REQUIRE THE USE OF FERROUS SCREWS. THE ASSEMBLY SHALL BE OF THE BALANCED PISTON DESIGN AND SHALL REDUCE PRESSURE IN BOTH FLOW AND NO-FLOW CONDITIONS. THE ASSEMBLY SHALL BE ACCESSIBLE FOR MAINTENANCE WITHOUT HAVING TO REMOVE THE BODY FROM THE LINE. SEE IRRIGATION LEGEND FOR MANUFACTURER AND MODEL TYPE.

G. "Y" TYPE STRAINER ON BACKFLOW PREVENTION ASSEMBLY: THE MAIN BODY AND COVER OF THE "Y" TYPE STRAINER SHALL BE CAST BRASS OR BRONZE. THE STRAINER SCREEN SHALL BE 20-MESH, 300 SERIES STAINLESS STEEL, AND SHALL BE ACCESSIBLE FOR MAINTENANCE WITHOUT REMOVING THE DEVICE FROM THE LINE. SEE IRRIGATION LEGEND FOR MANUFACTURER AND MODEL TYPE.

2.5 AUTOMATIC CONTROLLER ASSEMBLY

A. THE AUTOMATIC CONTROLLER ASSEMBLY SHALL BE A COMPLETE PRE-PACKAGED UNIT CONSISTING OF AN AUTOMATIC CONTROLLER, A STAINLESS STEEL ENCLOSURE, A STAINLESS STEEL PRE-DRILLED REMOVABLE BACKBOARD, A TERMINAL INTERFACE BOARD, AN ELECTRICAL JUNCTION BOX WITH A GROUND FAULT CIRCUIT INTERRUPTER (GFCI), A GROUND ROD, A FLOW SENSOR DEVICE WITH ALL ASSOCIATED DATA INTERFACE COMPONENTS, AND A RAIN SHUT-OFF SWITCH.

B. AUTOMATIC CONTROLLER SHALL BE ELECTRIC, SELF CONTAINED OUTDOOR TYPE, WALL OR PEDESTAL MOUNTED, 120 VOLT, 60 CYCLE. CONTROLLER SHALL BE COMPLETELY AUTOMATIC, AND ALSO BE ABLE TO OPERATE MANUALLY. INDEPENDENT STATIONS SHALL BE

2.6 MASTER CONTROL VALVE

A. SHALL BE NORMALLY CLOSED, SIZED SAME AS BACKFLOW PREVENTION ASSEMBLY OR LARGER, BRASS OR BRONZE BODY.

B. SEE IRRIGATION LEGEND FOR MANUFACTURER AND MODEL TYPE.

THE MASTER CONTROL VALVE WIRE SHALL BE A TWO-CONDUCTOR OF ICEA CLASS B, 16 AWG, 3-STRAND, CONFORMING TO ASTM B-3 AND B-8. ALUMINUM SHIELDED WITH DRAIN WIRE, AND SHALL HAVE A JACKET OF 0.50 SUNLIGHT AND MOISTURE RESISTANT PVC.

2.7 FLOW SENSOR AND FLOW SENSOR DATA INTERFACE

A. FLOW SENSOR, FLOW SENSOR CABLE, COMMUNICATION CABLE, AND DECODERS SHALL BE PROVIDED WITH AUTOMATIC CONTROLLER ASSEMBLY UNIT.

THE FLOW SENSOR WIRE SHALL BE A TWO-CONDUCTOR OF ICEA CLASS B, 16 AWG, 3-STRAND, CONFORMING TO ASTM B-3 AND B-8. ALUMINUM SHIELDED WITH DRAIN WIRE, AND SHALL HAVE A JACKET OF 0.50 SUNLIGHT AND MOISTURE RESISTANT PVC.

2.8 ISOLATION VALVES (GATE VALVES / BALL VALVES / GLOBE VALVES, ETC)

A. ISOLATION VALVES FOR THREE-QUARTER-INCH (3/4") THROUGH TWO-AND-ONE-HALF-INCH (2, 1/2") SIZE SHALL BE VALVES OF BRONZE AND BRASS CONSTRUCTION.

B. ISOLATION VALVES FOR THREE-INCH (3") AND LARGER SIZE SHALL BE TRUE UNION PVC 2000, AND SHALL HAVE A CLEAR WATERWAY EQUAL TO THE FULL NOMINAL DIAMETER OF THE VALVE, AND SHALL BE RUBBER GASKET, FLANGED OR MECHANICAL JOINT ONLY, AND SHALL BE ABLE TO WITHSTAND A CONTINUOUS WORKING PRESSURE OF 150 PSI. VALVE SHALL BE EQUIPPED WITH A SQUARE-OPERATING NUT.

C. ALL ISOLATION VALVES LOCATED IN A REMOTE CONTROL VALVE MANIFOLD SHALL BE THE SAME SIZE AS THE LARGEST REMOTE CONTROL VALVE IN THE MANIFOLD, ONE-AND-ONE-HALF-INCH (1-1/2") SIZE MINIMUM. PROVIDE PIPE-REDUCING ADAPTERS DOWNSTREAM OF VALVES, AS REQUIRED.

D. ALL IN-LINE ISOLATION VALVES SHALL BE THE SAME SIZE AS THE MAINLINE PIPE.

E. SEE IRRIGATION LEGEND FOR MANUFACTURER AND MODEL TYPE.

2.9 CHECK VALVES

A. SWING CHECK VALVES 2" AND SMALLER SHALL BE 200 LBS., W.O.G., BRONZE CONSTRUCTION WITH REPLACEABLE COMPOSITION, NEOPRENE OR RUBBER DISC AND SHALL MEET OR EXCEED FEDERAL SPECIFICATION WW-V_5LD, CLASS A, TYPE IV.

B. ANTI-DRAIN VALVES SHALL BE OF HEAVY-DUTY VIRGIN PVC CONSTRUCTION, WITH SOFT COMPOSITION NEOPRENE DISC AND STAINLESS STEEL INTERNAL PARTS. ANTI DRAIN VALVES SHALL BE FIELD ADJUSTABLE TO COMPENSATE FOR ELEVATION CHANGES UP TO 32 FEET.

2.10 REMOTE CONTROL VALVES

A. REMOTE CONTROL VALVES SHALL BE ELECTRICALLY OPERATED, SINGLE SEAT, NORMALLY CLOSED CONFIGURATION, EQUIPPED WITH FLOW CONTROL ADJUSTMENT AND CAPABILITY FOR MANUAL OPERATION.

B. VALVES SHALL BE ACTUATED BY A NORMALLY CLOSED LOW WATTAGE SOLENOID USING 24 VOLTS, 50/60 CYCLE SOLENOID POWER REQUIREMENT. SOLENOID SHALL BE EPOXY ENCASED, A UNION SHALL BE INSTALLED ON THE DISCHARGE END.

C. VALVES SHALL BE WIRED TO CONTROLLER IN SAME NUMERICAL SEQUENCE AS INDICATED ON PLANS.

D. REMOTE CONTROL VALVES SHALL HAVE A RECYCLED WATER IDENTIFICATION TAG INSTALLED ON THE TOP PORTION OF EACH ASSEMBLY.

E. SEE IRRIGATION LEGEND FOR MANUFACTURER AND MODEL TYPE.

2.11 QUICK COUPLING VALVES

A. QUICK COUPLING VALVES SHALL BE A TWO-PIECE UNIT CONSISTING OF A COUPLER SEAL VALVE ASSEMBLY AND A REMOVABLE QUICK CONNECTING COUPLER KEY. A POSITIVE, WATERTIGHT CONNECTION SHALL BE MADE BETWEEN THE COUPLER KEY AND THE VALVE UNIT.

B. QUICK COUPLING VALVE SHALL BE DOUBLE-LUGGED TYPE, ONE-INCH (1) SIZE, DESIGNED TO WITHSTAND A WORKING PRESSURE OF 150 PSI, HEAVY-DUTY RED BRASS CONSTRUCTION WITH BUILT IN FLOW CONTROL AND A SELF-CLOSING VALVE.

C. QUICK COUPLING VALVE SHALL BE EQUIPPED WITH A LOCKABLE, HINGED COVER WITH SPRINGS FOR POSITIVE CLOSURE UPON KEY REMOVAL. COVERS SHALL BE RED BRASS WITH A PERMANENTLY BONDED RUBBER-LIKE VINYL COVER, PURPLE IN COLOR.

D. QUICK COUPLER KEY SHALL BE BRASS OR BRONZE WITH AN ATTACHED HOSE BIB ASSEMBLY. KEY SIZE SHALL BE COMPATIBLE WITH QUICK COUPLER AND OF SAME MANUFACTURER. SEE IRRIGATION

2.16 CONCRETE THRUST BLOCKS

SIZE FOR AVERAGE SAFE SOIL BEARING LOAD OF 700-LBS/SQUARE FEET.

2.17 EQUIPMENT TO BE FURNISHED TO OWNER

A. AS A PART OF THE CONTRACT, THE CONTRACTOR SHALL SUPPLY THE FOLLOWING EXTRA EQUIPMENT TO THE OWNER'S REPRESENTATIVE AT THE CONCLUSION OF THE MAINTENANCE PERIOD. A SIGNED RECEIPT OF THE FOLLOWING ITEMS BY THE OWNER'S REPRESENTATIVE WILL BE REQUIRED AT THE TIME OF FINAL ACCEPTANCE.

1. AN APPROPRIATE PADLOCK AND TWO (2) SETS OF KEYS FOR EACH AUTOMATIC CONTROLLER ASSEMBLY.
2. TWO (2) SETS OF KEYS FOR EACH CONTROLLER UNIT WITHIN THE AUTOMATIC CONTROLLER ASSEMBLY.
3. AN APPROPRIATE PADLOCK AND TWO (2) SETS OF KEYS FOR EACH IRRIGATION BOOSTER PUMP ASSEMBLY.
4. AN APPROPRIATE PADLOCK AND TWO (2) SETS OF KEYS FOR EACH BACKFLOW PREVENTION ASSEMBLY ENCLOSURE.
5. TWO (2) FORTY-EIGHT-INCH (48") TEE WRENCHES APPROPRIATELY-SIZED, FOR OPERATING ANY BELOW-GRADE GATE VALVES.
6. THREE (3) SETS OF SPECIAL TOOLS REQUIRED FOR REMOVING, DISASSEMBLING AND ADJUSTING EACH TYPE OF SPRINKLER AND VALVE SUPPLIED ON THIS PROJECT.
7. FOUR (4) QUICK COUPLER KEYS TO MATCH MANUFACTURER TYPE OF QUICK COUPLER.
8. FOUR (4) SPRINKLERS AND NOZZLES OF EACH TYPE USED.

2.18 INCIDENTAL MATERIALS AND EQUIPMENT

FURNISH ALL MATERIALS AND EQUIPMENT NOT SPECIFIED ABOVE WHICH ARE NECESSARY FOR COMPLETION OF THE WORK AS INTENDED.

2.19 MAINLINE BEDDING SAND

SAND SHALL CONSIST OF NATURAL OR MANUFACTURED GRANULAR MATERIAL SE30 OR BETTER, FREE OF ORGANIC MATERIAL, MICA, LOAM, CLAY OR OTHER SUBSTANCES NOT SUITABLE FOR THE INTENDED PURPOSE.

2.16 CONCRETE THRUST BLOCKS

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1. AN APPROPRIATE PADLOCK AND TWO (2) SETS OF KEYS FOR EACH AUTOMATIC CONTROLLER ASSEMBLY.
2. TWO (2) SETS OF KEYS FOR EACH CONTROLLER UNIT WITHIN THE AUTOMATIC CONTROLLER ASSEMBLY.
3. AN APPROPRIATE PADLOCK AND TWO (2) SETS OF KEYS FOR EACH IRRIGATION BOOSTER PUMP ASSEMBLY.
4. AN APPROPRIATE PADLOCK AND TWO (2) SETS OF KEYS FOR EACH BACKFLOW PREVENTION ASSEMBLY ENCLOSURE.
5. TWO (2) FORTY-EIGHT-INCH (48") TEE WRENCHES APPROPRIATELY-SIZED, FOR OPERATING ANY BELOW-GRADE GATE VALVES.
6. THREE (3) SETS OF SPECIAL TOOLS REQUIRED FOR REMOVING, DISASSEMBLING AND ADJUSTING EACH TYPE OF SPRINKLER AND VALVE SUPPLIED ON THIS PROJECT.
7. FOUR (4) QUICK COUPLER KEYS TO MATCH MANUFACTURER TYPE OF QUICK COUPLER.
8. FOUR (4) SPRINKLERS AND NOZZLES OF EACH TYPE USED.

2.18 INCIDENTAL MATERIALS AND EQUIPMENT

FURNISH ALL MATERIALS AND EQUIPMENT NOT SPECIFIED ABOVE WHICH ARE NECESSARY FOR COMPLETION OF THE WORK AS INTENDED.

2.19 MAINLINE BEDDING SAND

SAND SHALL CONSIST OF NATURAL OR MANUFACTURED GRANULAR MATERIAL SE30 OR BETTER, FREE OF ORGANIC MATERIAL, MICA, LOAM, CLAY OR OTHER SUBSTANCES NOT SUITABLE FOR THE INTENDED PURPOSE.

PART 3 - EXECUTION

3.1 PREPARATION AND SITE REVIEW

A. CONTRACTOR SHALL CONSULT ALL OTHER RELEVANT SPECIFICATION SECTIONS TO DETERMINE THE EXTENT AND CHARACTER OF WORK SPECIFIED ELSEWHERE BUT RELATED TO THE IRRIGATION SYSTEM.

B. CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING AND COORDINATING TO FACILITATE THE MOST EXPEDITIOUS COMPLETION OF THE PROJECT IN A PROFESSIONAL AND WORKMANLIKE

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

AS BUILT		UTILITY NOTE	
SIGNATURE _____	DATE _____	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.	
Printed Name _____	R.L.A. No. _____		
My Registration Expires _____	Discipline _____		

CONSTRUCTION RECORD	REFERENCES	By	REVISIONS	Date	App'd
CONTRACTOR:	HALE ENGINEERING GRADING PLANS: 14011				
INSPECTOR:					
DATE COMPLETED:					

DATUMS	SCALE	Designed By:	Drawn By:	Checked By:
CITY OF CHULA VISTA BENCH MARK NO. 95072 ELEVATION 446.361 NAVD 88 DESCRIPTION: 3" BRASS DISK (LS4324) WELL MON @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841	HORIZONTAL	LE	LE / RR	PT
	VERTICAL	Plans Prepared Under Supervision Of:		
	N/A	PATRICIA TRAUH	R.L.A. No. 3247	Date: 2/10/2022

RICK
ENGINEERING COMPANY
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5620 FRIARS ROAD
SAN DIEGO, CA 92110
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(FAX) 619-291-4165

rkckengineering.com

Riverside - Orange - Sacramento - San Luis Obispo - Phoenix - Tucson - Denver



APPROVED BY: _____	DATE: _____	CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT	DRAWING NO. _____
By: _____		IRRIGATION SPECIFICATIONS FOR: CHULA VISTA TRACT NO. 09-04 PH.2 LI-21	19015-24
Office: _____		OTAY RANCH, VILLAGE 8 WEST	W.O. NO. OR652G
DIRECTOR OF DEVELOPMENT SERVICES, TIFFANY ALLEN OR DESIGNEE			GRADING PERMIT No. GR13-005 PLR-20-018

3.3 TRENCHING

- A. PERFORM ALL TRENCHING AND EXCAVATIONS AS REQUIRED FOR THE INSTALLATION OF THE WORK INCLUDED UNDER THIS SECTION, INCLUDING SHORING OF EARTH BANKS TO PREVENT CAVE-INS.
- B. MAKE TRENCHES FOR MAINS, LATERALS AND CONTROL WIRING STRAIGHT AND TRUE TO GRADE AND FREE OF PROTRUDING STONES, ROOTS OR OTHER MATERIAL THAT WOULD PREVENT PROPER BEDDING OF PIPE OR WIRE.
- C. EXCAVATE TRENCHES WIDE ENOUGH TO ALLOW A MINIMUM OF FOUR-INCHES (4) BETWEEN PARALLEL PIPE LINES AND EIGHT-INCHES (8) FROM LINES OF OTHER TRADES. DO NOT INSTALL IRRIGATION LINES DIRECTLY PARALLEL OR VERTICALLY OVER ONE ANOTHER. MAINTAIN THREE-INCHES (3) VERTICAL CLEARANCE BETWEEN IRRIGATION LINES. MINIMUM TRANSVERSE ANGLE IS FORTY-FIVE (45) DEGREES. ALL PIPES SHALL BE SERVICED OR REPLACED WITHOUT DISTURBING THE OTHER PIPES.
- D. TRENCHES FOR PIPELINES SHALL BE MADE OF SUFFICIENT DEPTH TO PROVIDE THE MINIMUM COVER FROM FINISHED GRADE AS FOLLOWS:
 1. PRESSURIZED MAINLINES: EIGHTEEN-INCHES (18) BELOW FINISH GRADE TO TOP OF PIPE, THIRTY-INCHES (30) BELOW NON-VEHICULAR PAVED AREAS TO TOP OF PIPE, AND THIRTY SIX-INCHES (36) BELOW VEHICULAR PAVED AREA TO TOP OF PIPE, IN SCHEDULE 40 PVC SLEEVES.
 2. NON-PRESSURIZED LATERAL LINES: TWELVE-INCHES (12) BELOW FINISH GRADE TO TOP OF PIPE, TWENTY FOUR-INCHES (24) BELOW NON-VEHICULAR PAVED AREAS TO TOP OF PIPE, AND THIRTY-INCHES (30) BELOW VEHICULAR PAVED AREAS TO TOP OF PIPE, IN SCHEDULE 40 PVC SLEEVES.
 3. CONTROL WIRING: TO THE SIDE OF THE PRESSURIZED MAINLINE, AND THIRTY-INCHES (30) BELOW PAVED AREAS IN SCHEDULE 40 PVC SLEEVES.
- E. TRENCHING WITHIN "DRIP LINE" OF EXISTING TREES SHALL ONLY BE BY WRITTEN APPROVAL OF THE LANDSCAPE ARCHITECT PRIOR TO START OF TRENCHING OPERATIONS.
- F. WHEN TRENCHING THROUGH AREAS WHERE IMPORTED SOIL HAS BEEN SPREAD, DEPOSIT IMPORTED SOILS ON ONE SIDE OF TRENCH AND SUBSOIL ON OPPOSITE SIDE. REPLACE IMPORTED SOIL AS THE TOP COVER WHEN BACKFILLING TRENCH.
- G. TRENCHES THROUGH PAVED AREAS SHALL BE RESURFACED WITH SAME MATERIAL OF SAME QUALITY AS EXISTING MATERIAL AS PART OF CONTRACT.

3.4 PIPING ASSEMBLY

- A. GENERAL:
 1. INSTALL ASSEMBLIES AND PIPE TO CONFORM TO RESPECTIVE DETAILS AND WHERE SHOWN DIAGRAMMATICALLY ON DRAWINGS, USING FIRST CLASS WORKMANSHIP AND BEST STANDARD PRACTICES AS APPROVED. ALL FITTINGS THAT ARE NECESSARY FOR PROPER CONNECTIONS SUCH AS SWING JOINTS, OFFSETS, AND REDUCING BUSHINGS THAT ARE NOT SHOWN ON DETAILS SHALL BE INSTALLED AS NECESSARY AND DIRECTED AS PART OF THE WORK.
 2. DO NOT INSTALL MULTIPLE ASSEMBLIES ON PLASTIC LINES. PROVIDE EACH ASSEMBLY WITH ITS OWN OUTLET.
 3. DIELECTRIC BUSHINGS SHALL BE USED IN ANY CONNECTIONS OF DISSIMILAR METALS.
- B. PLASTIC PIPE:
 1. GASKETED PLASTIC PIPE: PIPE-TO-PIPE JOINTS OR PIPE TO FITTINGS SHALL BE MADE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
 2. SOLVENT WELD OR THERMOPLASTIC PIPE:
 - a. INSTALLATION OF ALL PIPE AND FITTINGS SHALL BE IN STRICT ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
 - b. BECAUSE OF THE NATURE OF PLASTIC PIPE AND FITTINGS, EXERCISE CAUTION IN HANDLING, LOADING AND STORING, TO AVOID DAMAGE. ALL PIPE AND FITTINGS SHALL BE STORED UNDER COVER UNTIL USED. ANY PIPE THAT HAS BEEN DENTED OR DAMAGED SHALL BE DISCARDED UNTIL DAMAGED SECTION IS CUT OUT AND REJOINED WITH COUPLING.
 - c. PIPE SHALL BE CUT USING APPROVED PVC PIPE CUTTERS ONLY. SAWED JOINTS ARE DISALLOWED. ALL FIELD CUTS SHALL BE BEVELED TO REMOVE BURRS AND EXCESS BEFORE GLUING.
 - d. PIPE ENDS AND FITTINGS SHALL BE WIPED WITH MEK OR EQUAL, BEFORE WELDING SOLVENT IS APPLIED. WELDED JOINTS SHALL BE GIVEN A MINIMUM OF 15 MINUTES TO SET BEFORE MOVING OR HANDLING. EXCESS SOLVENT ON THE EXTERIOR OF THE JOINT SHALL BE WIPED CLEAN IMMEDIATELY AFTER ASSEMBLY.
 - e. PLASTIC TO METAL CONNECTIONS SHALL BE MADE WITH PLASTIC ADAPTERS AND IF NECESSARY, SHORT (NOT CLOSE) BRASS THREADED, NIPPLES. CONNECTION SHALL BE MADE WITH TWO (2) WRAPS OF TEFLON TAPE AND HAND TIGHTENED, PLUS ONE TURN WITH A STRAP WRENCH.
 - f. PIPE SHALL BE ASSEMBLED AND WELDED ON THE SURFACE. CURE ALL JOINTS ACCORDING TO MANUFACTURER'S SPECIFICATIONS BEFORE PLACING INTO TRENCH. ALL JOINTS MUST CURE AT LEAST TWENTY-FOUR (24) HOURS BEFORE PERMITTING WATER THROUGH PIPE.
 - g. SNAKE PIPE HORIZONTALLY IN TRENCH TO ALLOW ONE-FOOT (1) OF EXPANSION AND CONTRACTION PER ONE-HUNDRED FEET (100) FEET OF STRAIGHT RUN.
 - h. THREADED PIPE JOINTS SHALL BE MADE USING TEFLON TAPE. SOLVENT SHALL NOT BE USED WITH THREADED JOINTS. PIPE SHALL BE PROTECTED FROM TOOL AND EQUIPMENT DAMAGE DURING ASSEMBLY. ALL DAMAGED PIPE SHALL BE REMOVED AND REPLACED IMMEDIATELY. TAKE UP THREADED JOINTS WITH LIGHT WRENCH PRESSURE.
 - i. NO CLOSE NIPPLES OR RISERS ARE ALLOWED. CROSS CONNECTIONS IN PIPING IS NOT ALLOWED.
 - j. CENTER LOAD PIPE WITH SMALL AMOUNT OF BACKFILL TO PREVENT ARCHING AND SLIPPING UNDER PRESSURE. OTHER THAN THIS PRELIMINARY BACKFILL, ALL PIPE JOINTS, FITTINGS AND CONNECTIONS ARE TO REMAIN UNCOVERED UNTIL SUCCESSFUL COMPLETION OF HYDROSTATIC TESTING AND WRITTEN APPROVAL IS ACHIEVED.
 - k. CONCRETE THRUST BLOCKS SHALL BE CONSTRUCTED BEHIND ALL PIPE FOUR-INCHES (4) DIAMETER AND LARGER WITH SUFFICIENT BEARING TO RESIST THE THRUST OF WATER AT ALL CHANGES OF DIRECTION OF FORTY-FIVE (45) DEGREES OR MORE. CONSTRUCT THRUST BLOCKS FOR QUICK COUPLERS AS PER DETAIL.

3.5 FLUSHING AND TESTING

- A. FLUSHING:
 1. OPENINGS IN PIPING SYSTEM DURING INSTALLATION ARE TO BE CAPPED OR PLUGGED TO PREVENT DIRT AND DEBRIS FROM ENTERING PIPE AND EQUIPMENT. REMOVE PLUGS WHEN NECESSARY TO FLUSH OR COMPLETE SYSTEM.
 2. AFTER COMPLETION AND PRIOR TO THE INSTALLATION OF ANY TERMINAL FITTINGS, THE ENTIRE PIPELINE SYSTEM SHALL BE THOROUGHLY FLUSHED TO REMOVE DIRT, DEBRIS, AND/OR OTHER MATERIAL.
- B. TESTING:
 1. AFTER FLUSHING, THE FOLLOWING TESTS SHALL BE CONDUCTED IN THE SEQUENCE LISTED BELOW. THE CONTRACTOR SHALL FURNISH ALL EQUIPMENT, MATERIALS AND LABOR NECESSARY TO PERFORM THE TESTS AND ALL TESTS SHALL BE CONDUCTED IN THE PRESENCE OF THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE.
 2. WATER PRESSURE TESTS SHALL BE PERFORMED ON ALL PRESSURIZED MAINLINES AND NON-PRESSURIZED LATERAL LINES BEFORE ANY COUPLINGS, FITTINGS, VALVES AND THE LIKE ARE CONCEALED.
 3. IMMEDIATELY PRIOR TO TESTING, ALL IRRIGATION LINES SHALL BE PURGED OF ALL ENTRAPPED AIR

- OR DEBRIS BY ADJUSTING CONTROL VALVES AND INSTALLING TEMPORARY CAPS FORCING WATER AND DEBRIS TO BE DISCHARGED FROM A SINGLE OUTLET.
- 4. TEST ALL PRESSURIZED MAINLINE AT 150 PSI FOR A MINIMUM TIME PERIOD OF FOUR (4) HOURS WITH ZERO (0) PSI LOSS. PRESSURE AND GAUGES SHALL BE READ IN PSI AND CALIBRATED SUCH THAT ACCURATE DETERMINATION OF POTENTIAL PRESSURE LOSS CAN BE ASCERTAINED. PUMP USED TO ENERGIZE SYSTEM FOR PRESSURE TEST SHALL BE COMPLETELY REMOVED FROM THE SYSTEM PRIOR TO START OF TIME PERIOD, AND NOT REACTIVATED AT ANY TIME DURING THE PRESSURE TEST.
- 5. TEST ALL NON-PRESSURIZED LATERAL LINE AT ONE-HUNDRED (100) PSI FOR A MINIMUM TIME PERIOD OF TWO (2) HOURS WITH ZERO (0) PSI LOSS. PUMP USED TO ENERGIZE SYSTEM FOR PRESSURE TEST SHALL BE COMPLETELY REMOVED FROM THE SYSTEM PRIOR TO START OF TIME PERIOD, AND NOT REACTIVATED AT ANY TIME DURING THE PRESSURE TEST.
- 6. TEST ALL NON-PRESSURE DRIP PIPE AT FORTY (40) PSI FOR A MINIMUM TIME PERIOD OF ONE (1) HOUR WITH AN ALLOWABLE LOSS OF 3 PSI.
- 7. RE-TEST AS REQUIRED AFTER MAKING APPROPRIATE REVISIONS UNTIL THE SYSTEM MEETS THE REQUIREMENTS. ANY LEAKS, WHICH OCCUR DURING TEST PERIOD, WILL BE REPAIRED IMMEDIATELY FOLLOWING THE TEST. ALL PIPE SHALL BE RE-TESTED UNTIL FINAL WRITTEN ACCEPTANCE IS ACHIEVED.
- 8. ALL MATERIALS AND INSTALLATION PROCEDURE USED FOR MAKING CORRECTIONS ARE TO BE THE SAME AS SPECIFIED HEREIN.

3.6 PIPE BACKFILLING AND COMPACTING

- A. IRRIGATION TRENCHES SHALL BE CAREFULLY BACKFILLED WITH MATERIAL APPROVED FOR BACKFILLING AND FREE OF ROCKS AND DEBRIS ONE-INCH (1) IN DIAMETER AND LARGER.
- B. UNDER NO CIRCUMSTANCE IS PIPE TO REST ON CONCRETE, ROCK, WOOD BLOCKS, OR OTHER POTENTIAL DELETERIOUS ITEMS.
- C. BACKFILL SHALL BE COMPACTED WITH APPROVED EQUIPMENT TO NINETY-PERCENT (90%) MAXIMUM DENSITY AND PER CITY ENGINEERING SPECIFICATIONS. FINISH GRADE OF ALL TRENCHES SHALL CONFORM TO ADJACENT GRADES WITHOUT CLIPS OR OTHER IRREGULARITIES. DISPOSE OF EXCESS SOIL OR DEBRIS OFF SITE AT CONTRACTOR'S EXPENSE.
- D. INSTALL APPROPRIATE TRENCH MARKER TAPE ON A CONTINUOUS RUN OF ALL PRESSURIZED LINE (MAINLINE PIPE) TRENCHES, AT A DEPTH OF NINE-INCHES (9) BELOW FINISH GRADE.
- E. RESTORE ALL SURFACES AND REPAIR EXISTING UNDERGROUND INSTALLATIONS DAMAGED OR CUT AS A RESULT OF THE EXCAVATION TO THEIR ORIGINAL CONDITION, SATISFACTORY TO THE OWNER'S REPRESENTATIVE.
- F. ANY SETTLING OF BACKFILL MATERIAL DURING THE MAINTENANCE OR WARRANTY PERIOD SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AND PER CITY ENGINEERING SPECIFICATIONS, INCLUDING ANY REPLACEMENT OR REPAIR OF SOIL, LAWN, AND PLANT MATERIAL OR PAVING SURFACE. SURFACE DRAINAGE FLOWS SHALL BE MAINTAINED BY DESIGN.

3.7 INSTALLATION OF EQUIPMENT

- A. AUTOMATIC CONTROLLER ASSEMBLY:
 1. INSTALL AS PER MANUFACTURER'S / SUPPLIER'S INSTRUCTIONS AND/OR DETAIL, WHERE INDICED ON THE PLANS. THE OWNER'S REPRESENTATIVE SHALL APPROVE LOCATION PRIOR TO INSTALLATION.
 2. REMOTE CONTROL VALVES SHALL BE CONNECTED TO THE CONTROLLER IN NUMERICAL SEQUENCE AS SHOWN ON THE PLANS.
 3. CONTROLLER SHALL BE TESTED WITH COMPLETE ELECTRICAL CONNECTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TEMPORARY POWER TO THE CONTROLLER ASSEMBLY FOR OPERATION AND TESTING PURPOSES.
 4. CONNECTIONS TO CONTROL WIRING SHALL BE MADE WITHIN THE PEDESTAL OF THE CONTROLLER ASSEMBLY. ALL WIRE SHALL FOLLOW THE PRESSURE MAINLINE PIPE INsofar AS POSSIBLE.
 5. ELECTRICAL WIRING SHALL BE "HARD-WIRED" IN AN APPROPRIATE RIGID CONDUIT PURSUANT TO ALL APPROPRIATE CODES AND REGULATIONS, FROM THE CONTROLLER ASSEMBLY TO THE ELECTRICAL SUPPLY. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ALL WIRING TO THE CONTROLLER, IN ORDER TO PROPERLY COMPLETE THIS INSTALLATION. A DISCONNECT SWITCH SHALL BE INCLUDED.
 6. INSIDE THE AUTOMATIC CONTROLLER ASSEMBLY, THE LETTER OF THE CONTROLLER (AS DESIGNATED ON THE PLANS) SHALL BE STENCIL PAINTED ON THE CONTROLLER CABINET DOOR WITH BLACK OR WHITE ENAMEL PAINT.
 7. UPON COMPLETION OF INSTALLATION, THE ENTIRE AUTOMATIC CONTROLLER ASSEMBLY SHALL BE INSPECTED AND TESTED FOR PROPER CONNECTIONS AND COMPLETE AND FULL OPERATION BY THE MANUFACTURER'S AND/OR SUPPLIER'S REPRESENTATIVE, INCLUDING PROPER OPERATION AND INTERFACE WITH THE FLOW SENSOR, FLOW SENSOR DATA INTERFACE, MASTER CONTROL VALVE, ETC.
 8. A REDUCED COPY OF THE AS-BUILT RECORD DRAWINGS OF THE IRRIGATION PLAN SHALL BE COLOR-CODED BY STATIONS AND LAMINATED IN PLASTIC, AND SHALL BE MOUNTED ON THE INSIDE OF EACH CONTROLLER ENCLOSURE FOR MAINTENANCE PERSONNEL.
- C. MASTER CONTROL VALVE, FLOW SENSOR, AND FLOW SENSOR DATA INTERFACE:
 1. THE MASTER CONTROL VALVE, FLOW SENSOR, AND FLOW SENSOR DATA INTERFACE SHALL BE INSTALLED AS PER MANUFACTURER'S AND/OR SUPPLIER'S RECOMMENDATIONS.
 2. INSTALL SO THAT ALL COMPONENTS COMMUNICATE APPROPRIATELY WITH EACH OTHER AND THE IRRIGATION CONTROLLER.
 3. ENSURE THAT THE FUNCTION OF EACH COMPONENT IS FULLY OPERATIONAL, WITH FLOW SENSOR SETTINGS BASED UPON SITE CONDITIONS TO PREVENT POTENTIAL PROPERTY DAMAGE.
- D. ISOLATION VALVES (GATE VALVES / BALL VALVES / GLOBE VALVES, ETC):
 1. INSTALL AS REQUIRED AT LOCATIONS DESIGNATED ON DRAWINGS WITHIN AN APPROPRIATE VALVE BOX.
- E. CHECK VALVES / ANTI-DRAIN VALVES:
 1. INSTALL AS SHOWN ON DETAILS AT LOCATIONS NECESSARY TO PREVENT LOW HEAD RUN OFF.
 2. INSTALL IN-LINE ANTI-DRAIN VALVES AS WARRANTED BY SITE CONDITIONS TO ALLEVIATE LOW HEAD DRAINAGE.
- F. REMOTE CONTROL VALVES AND VALVE MANIFOLDS:
 1. INSTALL AS SHOWN ON DETAIL AT LOCATIONS DESIGNATED ON PLANS AND HOUSE EACH VALVE IN AN INDIVIDUAL BOX. GROUP VALVES TOGETHER WHERE PRACTICAL AND LOCATE IN SHRUB AREAS.
 2. REMOTE CONTROL VALVES SHALL HAVE A RECYCLED WATER IDENTIFICATION TAG INSTALLED ON THE TOP PORTION.
 3. REMOTE CONTROL VALVE MANIFOLDS AND QUICK-COUPLING VALVES SHALL BE CONNECTED SEPARATELY ON THE MAINLINE, ALLOWING USE OF A QUICK COUPLER WITH ALL REMOTE CONTROL VALVES SHUT OFF.
 4. REVIEW ALL VALVE BOX LOCATIONS WITH OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION OF VALVES. INSTALL BOXES NO FARTHER THAN TWELVE-INCHES (12) FROM EDGE OF PAVING AND PERPENDICULAR TO EDGE OF PAVING AND PARALLEL TO EACH OTHER. ALLOW SIX-INCHES (6) CLEARANCE BETWEEN ADJACENT BOXES.
- G. QUICK COUPLING VALVE:
 1. INSTALL QUICK COUPLING VALVE AS SHOWN IN DETAIL WITH THRUST BLOCK AND LOCATE WHERE INDICATED ON PLANS. INSTALL WITHIN VALVE BOX, AND IN ACCORDANCE WITH PLANS AND DETAILS.
 2. QUICK COUPLING VALVES SHALL HAVE A RECYCLED WATER IDENTIFICATION TAG INSTALLED ON THE TOP PORTION.
 3. IN TURF AREAS, SUCH EQUIPMENT SHALL BE INSTALLED IN A VALVE BOX SET TO FINISH GRADE.
- H. VALVE BOXES:
 1. INSTALL ONE VALVE BOX FOR EACH TYPE OF VALVE INSTALLED AS PER THE DETAILS. NO

- MORE THAN ONE VALVE SHALL BE INSTALLED IN ANY SINGLE VALVE BOX.
- 2. ALL VALVE BOXES SHALL BE SET TWO-INCHES (2") ABOVE FINISH GRADE IN SHRUB AND GROUND COVER AREAS, AND FLUSH WITH FINISH GRADE IN TURF AREAS.
- 3. ALL VALVE BOXES SHALL BE SET PARALLEL WITH EACH OTHER AND WITH ADJACENT HARDSCAPE ELEMENT (WALKWAYS, CURBS, VEHICULAR DRIVES, BUILDINGS, FENCES, ETC).
- 4. GRAVEL SUMP SHALL BE INSTALLED AFTER COMPACTION OF ALL TRENCHES. FINAL PORTION OF GRAVEL SHALL BE PLACED INSIDE VALVE BOX AFTER VALVE IS BACKFILLED AND COMPACTED.
- 5. BOXES SHALL BE INSTALLED SO THAT ALL VALVE HANDLES AND OTHER COMPONENTS OPERATE FREELY AND FUNCTION PROPERLY WITHIN THE BOX (OPEN/CLOSE, ETC).

I. SPRINKLERS:

1. ALL MAINLINES AND LATERAL LINES, INCLUDING RISERS, SHALL BE FLUSHED AND PRESSURE TESTED BEFORE INSTALLING SPRINKLER HEADS, AFTER WHICH A WATER COVERAGE TEST SHALL BE PERFORMED.
2. INSTALL SPECIFIED SPRINKLER HEADS AS SHOWN IN DETAILS AT LOCATIONS SHOWN ON THE PLANS. ADJUST LAYOUT FOR FULL COVERAGE. SPACING OF HEADS SHALL NOT EXCEED THE MAXIMUM SPACING RECOMMENDED BY THE MANUFACTURER.

J. WIRING:

- 1. LOW VOLTAGE WIRING:
 - a. CONTROL WIRING BETWEEN CONTROLLER AND ELECTRICAL VALVES SHALL BE INSTALLED IN THE SAME TRENCH AS THE MAINLINE WHERE PRACTICAL. THE WIRE SHALL BE BUNDLED AND SECURED TO THE LOWER QUADRANT OF THE TRENCH AT TEN-FEET (10) INTERVALS WITH PLASTIC ELECTRICAL TAPE.
 - b. WHEN THE CONTROL WIRING CANNOT BE INSTALLED IN SAME MAINLINE TRENCH IT SHALL BE INSTALLED A MINIMUM OF 18-INCHES (18) BELOW FINISH GRADE AND A BRIGHT COLORED PLASTIC RIBBON WITH SUITABLE MARKINGS SHALL BE INSTALLED IN THE TRENCH SIX-INCHES (6) BELOW GRADE DIRECTLY OVER THE WIRE.
 - c. AN EXPANSION LOOP SHALL BE PROVIDED EVERY TWO-HUNDRED-FEET (200) AND/OR 270 DEGREES OF BENDS IN A BOX AND INSIDE EACH VALVE BOX. EXPANSION LOOP SHALL BE FORMED BY WRAPPING WIRE AT LEAST EIGHT (8) TIMES AROUND A THREE-QUARTER-INCH (3/4) PIPE AND THEN WITHDRAWING PIPE FROM THE COILED WIRE.
 - d. PROVIDE ONE CONTROL WIRE TO SERVICE EACH REMOTE CONTROL VALVE IN THE SYSTEM.
 - e. PROVIDE ONE COMMON WIRE PER CONTROLLER.
 - f. ALL CONTROL WIRE SPLICES NOT OCCURRING AT CONTROL VALVE SHALL BE INSTALLED IN A SEPARATE SPLICE VALVE BOX.
 - g. WIRE MARKERS (SEALED, 1 INCH TO 3 INCH SQUARE) ARE TO IDENTIFY CONTROL WIRES AT VALVES AND AT TERMINAL STRIPS OF CONTROLLER. AT THE TERMINAL STRIP MARK EACH WIRE CLEARLY INDICATING VALVE CIRCUIT NUMBER.
- 2. HIGH VOLTAGE WIRING FOR AUTOMATIC CONTROLLER ASSEMBLY:
 - a. ALL ELECTRICAL WORK SHALL CONFORM TO ANY AND ALL LOCAL CODES, ORDINANCES, AND ANY AUTHORITIES HAVING JURISDICTION.
 - b. ALL HIGH VOLTAGE ELECTRICAL WORK SHALL BE PERFORMED BY A STATE OF CALIFORNIA LICENSED ELECTRICIAN.
 - c. THE CONTRACTOR SHALL PROVIDE 120-VOLT POWER CONNECTION TO THE AUTOMATIC CONTROLLER ASSEMBLY, UNLESS NOTED OTHERWISE ON PLANS.
- 3. TRACER WIRE:
 - a. TRACER WIRE SHALL BE INSTALLED WITH NON-METALLIC PLASTIC IRRIGATION MAINLINES WHERE CONTROLLER WIRES ARE NOT BURIED IN THE SAME TRENCH AS THE MAINLINE.
 - b. THE TRACER WIRE SHALL BE PLACED ON THE BOTTOM OF THE TRENCH UNDER THE VERTICAL PROJECTION OF THE PIPE WITH SPLICED JOINTS SOLDERED AND COVERED WITH INSULATION TYPE TAPE.
 - c. TRACER WIRE SHALL BE OF A COLOR NOT USED FOR VALVE WIRING. TERMINATE WIRE IN A VALVE BOX. PROVIDE ENOUGH LENGTH OF WIRE TO MAKE A LOOP AND ATTACH WIRE MARKER WITH THE DESIGNATION "TRACER WIRE".

3.8 ADJUSTMENT AND COVERAGE TEST

- A. ADJUSTMENT:
 1. THE CONTRACTOR SHALL FLUSH AND ADJUST ALL SPRINKLER HEADS, VALVES AND ALL OTHER EQUIPMENT TO ASCERTAIN THAT THEY FUNCTION ACCORDING TO THE MANUFACTURER'S DATA.
 4. ADJUST ALL SPRINKLER HEADS SO AS TO NOT OVERSPRAY ONTO WALKS, ROADWAYS, BUILDINGS, AND OTHER HARDSCAPE ELEMENTS WHEN UNDER MAXIMUM OPERATING PRESSURE AND DURING TIMES OF NORMAL PREVAILING WINDS.
 5. ALL SPRINKLER HEADS SHALL BE SET PERPENDICULAR TO FINISH GRADE UNLESS OTHERWISE DESIGNATED ON THE PLANS OR DETAILS.
- B. COVERAGE TEST:
 1. THE CONTRACTOR SHALL PERFORM THE COVERAGE TEST FOR THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE AFTER ALL SPRINKLER HEADS HAVE BEEN INSTALLED, FLUSHED AND ADJUSTED. EACH SECTION IS TESTED TO PROVIDE UNIFORM AND ADEQUATE COVERAGE OF THE AREAS SERVICED.
 2. ANY SYSTEMS THAT REQUIRE ADJUSTMENTS FOR FULL AND EVEN COVERAGE SHALL BE DONE BY THE CONTRACTOR PRIOR TO FINAL ACCEPTANCE AT THE DIRECTION OF THE LANDSCAPE ARCHITECT OR OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST. ADJUSTMENTS MAY ALSO INCLUDE REALIGNMENT OF PIPES, ADDITION OF EXTRA HEADS, AND CHANGES IN NOZZLE TYPE OR SIZE.
 3. THE CONTRACTOR SHALL IMMEDIATELY CORRECT ALL UNAUTHORIZED CHANGES OR POOR INSTALLATION PRACTICES AT NO ADDITIONAL COST.
 4. THE ENTIRE SYSTEM SHALL BE OPERATING PROPERLY WITH WRITTEN APPROVAL PRIOR TO ANY PLANTING OPERATIONS.

3.9 CLEAN-UP AND SAFE ENVIRONMENT

AS PROJECT PROGRESSES, CONTRACTOR SHALL MAINTAIN ALL AREAS IN A NEAT AND SAFE MANNER, AND REMOVE UNSIGHTLY DEBRIS AS NECESSARY. AFTER COMPLETION OF PROJECT EACH DAY, CONTRACTOR SHALL REMOVE ALL DEBRIS AND CONTAINERS USED IN ACCOMPLISHING WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR DISPOSING OF, OFF SITE, AT NO ADDITIONAL EXPENSE, ANY TRASH OR DEBRIS GENERATED BY THE INSTALLATION OF THE WORK.

3.10 GENERAL MAINTENANCE AND THE MAINTENANCE PERIOD

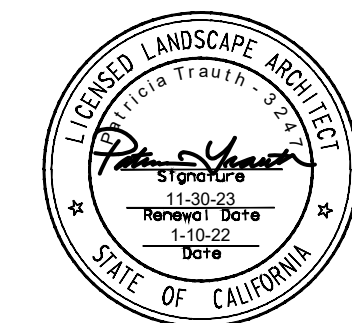
- A. GENERAL MAINTENANCE SHALL BEGIN IMMEDIATELY AFTER INSTALLATION OF IRRIGATION SYSTEM. THE GENERAL MAINTENANCE AND THE MAINTENANCE PERIOD SHALL INCLUDE THE FOLLOWING:
 1. ON A WEEKLY BASIS THE CONTRACTOR SHALL KEEP THE IRRIGATION SYSTEM IN GOOD RUNNING ORDER AND MAKE INSPECTIONS ON THE ENTIRE SYSTEM FOR PROPER OPERATION AND COVERAGE. CONTRACTOR SHALL CONTINUE TO ADJUST SPRINKLER NOZZLES AS NECESSARY TO OBTAIN OPTIMUM COVERAGE AND MINIMUM OVERSPRAY OF WATER ON HARDSCAPE ELEMENTS THROUGHOUT THE MAINTENANCE PERIOD. REPAIR AND CLEANING SHALL BE DONE AS NECESSARY TO KEEP THE SYSTEM IN FULL OPERATION.
 2. DRIP IRRIGATION: FLUSH LATERAL SYSTEMS ONE (1) TIME PER MONTH MINIMUM DURING THE MAINTENANCE PERIOD.
 3. RECORDS OF ALL TIMING CHANGES TO CONTROL VALVES FROM INITIAL INSTALLATION TO TIME OF FINAL ACCEPTANCE SHALL BE KEPT AND TURNED OVER TO THE OWNER'S REPRESENTATIVE AT THE TIME OF FINAL ACCEPTANCE.
 4. DURING THE LAST WEEK OF THE MAINTENANCE PERIOD, PROVIDE EQUIPMENT FAMILIARIZATION AND INSTRUCTION ON THE TOTAL OPERATIONS OF THE SYSTEM TO THE

OWNER'S REPRESENTATIVE AND TO THE PERSONNEL WHO WILL ASSUME RESPONSIBILITY FOR RUNNING THE IRRIGATION SYSTEM. A SIGNED RECEIPT BY THE OWNER'S REPRESENTATIVE THAT THE EQUIPMENT FAMILIARIZATION AND INSTRUCTION OCCURRED WILL BE REQUIRED AT THE TIME OF FINAL ACCEPTANCE.

5. AT THE END OF THE MAINTENANCE PERIOD, TURN OVER ALL OPERATIONS LOGS, MANUALS, INSTRUCTIONS, SCHEDULES, KEYS AND ANY OTHER EQUIPMENT NECESSARY FOR OPERATION OF THE IRRIGATION SYSTEM TO THE OWNER'S REPRESENTATIVE, WHO WILL ASSUME RESPONSIBILITY FOR THE OPERATIONS AND MAINTENANCE OF THE IRRIGATION SYSTEM. A SIGNED RECEIPT BY THE OWNER'S REPRESENTATIVE THAT THESE ITEMS ARE RECEIVED WILL BE REQUIRED AT THE TIME OF FINAL ACCEPTANCE.

B. THE MAINTENANCE PERIOD FOR THE IRRIGATION SYSTEM SHALL COINCIDE WITH THE NINETY (90) DAY MAINTENANCE PERIOD FOR THE LANDSCAPE MATERIALS.

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



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AS BUILT		UTILITY NOTE	
SIGNATURE _____ DATE _____	R.L.A. No. _____	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.	
Printed Name _____ My Registration Expires _____	Discipline _____		
CONSTRUCTION RECORD	REFERENCES	By	REVISIONS
CONTRACTOR: HALE ENGINEERING GRADING PLANS: 14011			
INSPECTOR:			
DATE COMPLETED:			

DATUMS		SCALE	Designed By:	Drawn By:	Checked By:	Submitted:	APPROVED BY:	DATE:
CITY OF CHULA VISTA BEACH MARK NO. 95072 ELEVATION 448.361 NAVD 88	HORIZONTAL	LE	LE / RR	PT				
DESCRIPTION: 3" BRASS DISK (LS4324) WELL MON @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841	VERTICAL	N/A	Plans Prepared Under Supervision Of:	Date: 2/10/2022				
			PATRICIA TRAUH	R.L.A. No. 3247				

CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT		DRAWING NO.
IRRIGATION SPECIFICATIONS FOR: CHULA VISTA TRACT NO. 09-04 PH.2 LI-22		19015-25
OTAY RANCH, VILLAGE 8 WEST		W.O. NO. OR652G
GRADING PERMIT No. GR13-005 PLR-20-018		OWD SHEET 25 OF 27

OWD # D1044-060274

ANNUAL ANTICIPATED WATER DEMAND									
PROJECT: OTAY RANCH, VILLAGE 8 PERMANENT SLOPES									
P.O.C. 'B' MHOA									
DATE:	1/17/2017	INFORMATION REQUIRED TO CALCULATE FORMULAS							
BY:	RICK ENGINEERING	MAWA	MAXIMUM APPLIED WATER ALLOWANCE (GALLONS PER YEAR)						
PROJ. NO.:	19194	EWU	ESTIMATED TOTAL WATER USE (GALLONS PER YEAR)						
		ET ₀	REFERENCE EVAPOTRANSPIRATION PER YEAR						
		0.45	ET ADJUSTMENT FACTOR						
		LA	LANDSCAPE AREA (SQUARE FEET)						
		PF	PLANT FACTOR 0.3						
		0.62	CONVERSION FACTOR (GALLONS PER SQUARE FOOT)						
		0.75	IRRIGATION EFFICIENCY						
CONTROLLER 'B'									
SHRUB AREAS									
MAXIMUM APPLIED WATER ALLOWANCE:									
FORMULA: MAWA = (ET ₀)(0.8)(LA)(0.62)									
MAWA +	ET ₀	0.45	LA	0.62					
MAWA +	51.00	0.45	146,850	0.62	22.95	2,089,529	2,793	6.41	
ESTIMATED TOTAL WATER USE PER YEAR:									
FORMULA: EWU = (ET ₀)(PF)(LA)(0.62) / 0.7									
EWU =	ET ₀	PF	LA	0.62	0.750				
EWU =	51.00	0.3	146,850	0.62	0.750	20.40	1,857,359	2,483	5.70
TOTAL MAWA: 22.95 2,089,529 2,793 6.41									
ANNUAL ANTICIPATED WATER DEMAND: 20.40 1,857,359 2,483 5.70									
(TOTAL E.T.W.U.)									
TOTAL WATER SAVINGS: 2.55 232,170 310 0.71									
(OVER MAWA) INCHES GALS./YR. HUNDRED ACRES									

ANNUAL ANTICIPATED WATER DEMAND									
PROJECT: OTAY RANCH, VILLAGE 8 PERMANENT SLOPES									
P.O.C. 'C' MHOA									
DATE:	1/17/2017	INFORMATION REQUIRED TO CALCULATE FORMULAS							
BY:	RICK	MAWA	MAXIMUM APPLIED WATER ALLOWANCE (GALLONS PER YEAR)						
PROJ. NO.:	19194	EWU	ESTIMATED TOTAL WATER USE (GALLONS PER YEAR)						
		ET ₀	REFERENCE EVAPOTRANSPIRATION PER YEAR						
		0.45	ET ADJUSTMENT FACTOR						
		LA	LANDSCAPE AREA (SQUARE FEET)						
		PF	PLANT FACTOR 0.3						
		0.62	CONVERSION FACTOR (GALLONS PER SQUARE FOOT)						
		0.75	IRRIGATION EFFICIENCY						
CONTROLLER 'C'									
SHRUB AREAS									
MAXIMUM APPLIED WATER ALLOWANCE:									
FORMULA: MAWA = (ET ₀)(0.8)(LA)(0.62)									
MAWA +	ET ₀	0.45	LA	0.62					
MAWA +	51.00	0.45	56,700	0.62	22.95	806,784	1,079	2.48	
ESTIMATED TOTAL WATER USE PER YEAR:									
FORMULA: EWU = (ET ₀)(PF)(LA)(0.62) / 0.7									
EWU =	ET ₀	PF	LA	0.62	0.750				
EWU =	51.00	0.3	56,700	0.62	0.750	20.40	717,142	959	2.20
TOTAL MAWA: 22.95 806,784 1,079 2.48									
ANNUAL ANTICIPATED WATER DEMAND: 20.40 717,142 959 2.20									
(TOTAL E.T.W.U.)									
TOTAL WATER SAVINGS: 2.55 89,643 120 0.28									
(OVER MAWA) INCHES GALS./YR. HUNDRED ACRES									

ANNUAL ANTICIPATED WATER DEMAND									
PROJECT: OTAY RANCH, VILLAGE 8 PERMANENT SLOPES									
P.O.C. 'E' MHOA									
DATE:	1/17/2017	INFORMATION REQUIRED TO CALCULATE FORMULAS							
BY:	WYAC	MAWA	MAXIMUM APPLIED WATER ALLOWANCE (GALLONS PER YEAR)						
PROJ. NO.:	13-008.002	EWU	ESTIMATED TOTAL WATER USE (GALLONS PER YEAR)						
		ET ₀	REFERENCE EVAPOTRANSPIRATION PER YEAR						
		0.45	ET ADJUSTMENT FACTOR						
		LA	LANDSCAPE AREA (SQUARE FEET)						
		PF	PLANT FACTOR 0.3						
		0.62	CONVERSION FACTOR (GALLONS PER SQUARE FOOT)						
		0.75	IRRIGATION EFFICIENCY						
CONTROLLER 'D'									
SHRUB AREAS									
MAXIMUM APPLIED WATER ALLOWANCE:									
FORMULA: MAWA = (ET ₀)(0.8)(LA)(0.62)									
MAWA +	ET ₀	0.45	LA	0.62					
MAWA +	51.00	0.45	156,750	0.62	22.95	2,230,396	2,982	6.85	
ESTIMATED TOTAL WATER USE PER YEAR:									
FORMULA: EWU = (ET ₀)(PF)(LA)(0.62) / 0.7									
EWU =	ET ₀	PF	LA	0.62	0.750				
EWU =	51.00	0.3	156,750	0.62	0.750	20.40	1,982,574	2,651	6.08
TOTAL MAWA: 22.95 2,230,396 2,982 6.85									
ANNUAL ANTICIPATED WATER DEMAND: 20.40 1,982,574 2,651 6.08									
(TOTAL E.T.W.U.)									
TOTAL WATER SAVINGS: 2.55 247,822 331 0.76									
(OVER MAWA) INCHES GALS./YR. HUNDRED ACRES									

ANNUAL ANTICIPATED WATER DEMAND									
PROJECT: OTAY RANCH, VILLAGE 8 PERMANENT SLOPES									
P.O.C. 'D' MHOA									
DATE:	1/17/2017	INFORMATION REQUIRED TO CALCULATE FORMULAS							
BY:	WYAC	MAWA	MAXIMUM APPLIED WATER ALLOWANCE (GALLONS PER YEAR)						
PROJ. NO.:	13-008.002	EWU	ESTIMATED TOTAL WATER USE (GALLONS PER YEAR)						
		ET ₀	REFERENCE EVAPOTRANSPIRATION PER YEAR						
		0.45	ET ADJUSTMENT FACTOR						
		LA	LANDSCAPE AREA (SQUARE FEET)						
		PF	PLANT FACTOR 0.3						
		0.62	CONVERSION FACTOR (GALLONS PER SQUARE FOOT)						
		0.75	IRRIGATION EFFICIENCY						
CONTROLLER 'D'									
SHRUB AREAS									
MAXIMUM APPLIED WATER ALLOWANCE:									
FORMULA: MAWA = (ET ₀)(0.8)(LA)(0.62)									
MAWA +	ET ₀	0.45	LA	0.62					
MAWA +	51.00	0.45	88,700	0.62	22.95	1,262,112	1,687	3.87	
ESTIMATED TOTAL WATER USE PER YEAR:									
FORMULA: EWU = (ET ₀)(PF)(LA)(0.62) / 0.7									
EWU =	ET ₀	PF	LA	0.62	0.750				
EWU =	51.00	0.3	88,700	0.62	0.750	20.40	1,121,878	1,500	3.44
TOTAL MAWA: 22.95 1,262,112 1,687 3.87									
ANNUAL ANTICIPATED WATER DEMAND: 20.40 1,121,878 1,500 3.44									
(TOTAL E.T.W.U.)									
TOTAL WATER SAVINGS: 2.55 140,235 187 0.43									
(OVER MAWA) INCHES GALS./YR. HUNDRED ACRES									

AS BUILT		UTILITY NOTE	
DATE	_____	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.	
SIGNATURE	_____		
Printed Name	_____		
My Registration Expires	_____		
Discipline	_____		
R.I.A. No.	_____		

CONSTRUCTION RECORD		REFERENCES		By		REVISIONS		Date	App'd	DATUMS		SCALE	Designed By:	Drawn By:	Checked By:	Submitted:	APPROVED BY:	DATE:	CITY OF CHULA VISTA GENERAL SERVICES DEPARTMENT		DRAWING NO.
CONTRACTOR:	HALE ENGINEERING GRADING PLANS: 14011									CITY OF CHULA VISTA BENCH MARK NO. 95072 ELEVATION 448.361 MVD 88 DESCRIPTION: 3" BRASS DISK (LS4324) WELL MON @ CL INT. RUTGERS & OTAY LAKES, PT. NO. 5072 PER ROS 14841	HORIZONTAL	LE	LE / RR	PT	By: _____	Director of Development Services, Tiffany Allen or Designee				19015-42	
INSPECTOR:											VERTICAL	Plans Prepared Under Supervision Of:	Date: 2/10/2022	Office: _____						W.O. NO. 0R652G	
DATE COMPLETED:											N/A	PATRICIA TRAUH	RLA No. 3247							OTAY RANCH, VILLAGE 8 WEST	

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