# PALO VERDE COUNTY WATER DISTRICT (PVCWD) -WATER WELLS REPLACEMENT PROJECT PHASE II

CDBG NO. 16-CDBG-11151

IMPERIAL COUNTY COMMUNITY AND ECONOMIC DEVELOPMENT AGENCY NO. ICCED-011

## PROJECT DESCRIPTION

THE PALO VERDE COUNTY WATER DISTRICT'S WATER TREATMENT PLANT IS LOCATED TWO (2) 130 WATER CUSTOMERS. THE AVERAGE DOMESTIC DEMAND (EXCLUDING FIRE FLOWS) IN THE WINTER IS 20,000 GALLONS PER DAY, WHILE THE AVERAGE DEMAND (EXCLUDING FIRE FLOWS) IN THE SUMMER IS 40,000 GALLONS PER DAY. THE ESTIMATED MAXIMUM DEMAND IS 70,000

APPLICABLE CODES AND REGULATIONS.

ALONG WITH THE REPLACEMENT OF THE EXISTING WELL, THE CONTRACTOR WILL BE REQUIRED TO CONSTRUCT A CONCRETE SLAB, SHADE STRUCTURE, WATER PIPING, VALVES, WATER QUALITY ANALYZING EQUIPMENT, ELECTRICAL AND CONTROL EQUIPMENT WILL BE

IT WILL BE NECESSARY TO MAINTAIN THE EXISTING WATER TREATMENT FLOW AND OPERATION THROUGH THE WATER TREATMENT PLANT DURING THE NORTH WELL REPLACEMENT PERIOD. THE SEQUENCE OF CONSTRUCTION FOR INSTALLATION OF THE NEW WELL AND DESTRUCTION OF THE OF THE EXISTING WELL SHALL BE ACCOMPLISHED AS PER THE SPECIFICATIONS.

## **GENERAL NOTES**

- ALL WORK, MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (THE GREENBOOK) CURRENT EDITION AND AMERICAN WATER WORKS ASSOCIATION STANDARDS. IF CONTRADICTIONS ARISE BETWEEN VARIOUS
- THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR THE JOB SITE CONDITIONS INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY, AND SHALL NOT BE LIMITED TO NORMAL WORKING HOLDS
- ALL DRAWINGS ARE CONSIDERED TO BE A PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES THAT OCCUR SHALL BE BROUGHT TO TH ATTENTION OF THE ENGINEER PRIOR TO START OF CONSTRUCTION SO THAT A CLARIFICATION CAN BE ISSUED. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE AND AT NO EXPENSE TO THE OWNER OR ENGINEER.
- THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR OR LIABLE FOR UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.
- THESE PLANS HAVE BEEN OBTAINED FROM A REVIEW OF AVAILABLE RECORD DATA. NO REPRESENTATION IS MADE AS TO THE ACCURACY OR COMPLETENESS OF SAID UTILITY INFORMATION. THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. CONTRACTOR WILL VERIFY
- IF AT ANY TIME DURING EXCAVATION OPERATIONS ANY UNFAVORABLE GEOLOGICAL CONDITIONS ARE ENCOUNTERED, INCLUDING BUT NOT LIMITED TO THE UNCOVERING OF ARTICLES POTENTIALLY ARCHEOLOGICAL IN NATURE, EXCAVATION IN THAT AREA WILL STOP UNTIL APPROVED CORRECTIVE MEASURES ARE OBTAINED. CONTRACTOR WILL VERIFY LOCATIONS.
- ALL DEBRIS AND FOREIGN MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT APPROVED DISPOSAL SITES. THE CONTRACTOR SHALL OBTAIN NECESSARY PERMITS FOR THE TRANSPORTATION OF MATERIAL TO AND FROM THE SITE.
- 10. DIMENSIONS TO PIPELINES ARE TO CENTERLINE UNLESS OTHERWISE NOTED
- MATCH EXISTING, INCLUDING PERMANENT TRENCH RESURFACING
- 12. ALL DIMENSIONS ARE IN FEET OR DECIMALS THEREOF.
- 13. WATER SHALL BE PROVIDED ONSITE AND USED TO CONTROL DUST DURING CONSTRUCTION OPERATIONS I4. A GEOTECHNICAL FIRM SHALL ALSO BE RESPONSIBLE TO VERIFY AND REPORT THAT PROPER COMPACTION HAS BEEN OBTAINED BY SUBCONTRACTORS AND AGENCIES CONCERNING UTILITY LINE BACKFILL (INCLUDING, BUT NOT LIMITED TO WATER LINES, ELECTRICAL AND LANDSCAPE IRRIGATION
- 15. IF ANY UNFORESEEN SUB-SURFACE STRUCTURES ARE ENCOUNTERED DURING CONSTRUCTION, THEY SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER BEFORE PROCEEDING FURTHER.
- 6. UNSUITABLE MATERIAL THAT IS EXCAVATED BY THE CONTRACTOR THAT CANNOT BE USED AS FILL SHALL BE DISPOSED OF OFF-SITE BY THE CONTRACTOR. 7. CONTRACTOR SHALL REPLACE ANY SURFACE OR SUBSURFACE IMPROVEMENTS DAMAGED OR REMOVED
- DUE TO CONSTRUCTION AND IS REQUIRED TO REPLACE THEM TO THEIR ORIGINAL CONDITION. 18. CONTRACTOR SHALL MAINTAIN ACCESS TO EXISTING FIRE LANES AT ALL TIMES. COORDINATE WITH FIRE
- 19. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY INSPECTIONS PRIOR TO POURING ANY CONCRETE. 20.CONTRACTOR IS RESPONSIBLE FOR EROSION, DUST, MUD, SILT, DEBRIS AND TEMPORARY DRAINAGE CONTROL DURING EXCAVATION OPERATIONS.
- 21.THE TERM "INSPECTION" OR "INSPECT" AS USED IN THESE CONTRACT DOCUMENTS SHALL BE TAKEN TO MEAN "OBSERVE" OR "OBSERVATION". THE ENGINEER IS NOT RESPONSIBLE FOR THE CONTRACTOR'S
- 22.SUBMIT SHOP DRAWINGS AND LAYOUT DRAWINGS FOR ALL MATERIALS PRIOR TO ANY MATERIAL PURCHASE OR INSTALLATION FOR REVIEW/APPROVAL BY THE ENGINEER.
- 23.REMOVE INTERFERING PORTIONS OF EXISTING ABANDONED UTILITIES AS REQUIRED TO CONSTRUCT PROJECT. VERIFY ABANDONED STATUS PRIOR TO REMOVAL.
- 24.IN THE COURSE OF RUNOFF WATER CONTROL, THE CONTRACTOR SHALL PROTECT ALL WATER COURSES, THE GROUND WATER BODIES OF WATER FROM POLLUTION BY FUEL, OILS, BITUMENS OR OTHER HARMFUI
- 25.HARD HAT AND HIGH VISIBILITY ORANGE VESTS SHALL BE WORN AT ALL TIMES WHEN WORKING ON THE
- 26 CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT 48 HOURS PRIOR TO ANY EXCAVATION.
- 27.CONTRACTOR SHALL NOTIFY THE IMPERIAL COUNTY COMMUNITY AND ECONOMIC DEVELOPMENT AGENCY 48 HOURS PRIOR TO COMMENCEMENT OF WORK. TELEPHONE: 442-265-1104.
- 28.THE CONTRACTOR SHALL PROVIDE THE DISTRICT LEAD OPERATOR WRITTEN NOTICE AS TO THE PROPOSED TIME OF CONNECTION TO AN EXISTING DISTRICT WATERLINE. UNINTERRUPTED SERVICE SHALL BE PROVIDED TO THE CONSUMER EXCEPT IN INSTANCES SPECIFICALLY APPROVED BY THE DISTRICT CHIEF OPERATOR. SAID NOTICE SHALL OUTLINE THE SEQUENCE OF WORK REQUIRED TO MAKE CONNECTION. VERIFY ALL AFFECTED WATER USERS AND ESTIMATE THE DURATION OF ANY PROPOSED SHUTDOWN TIME. SPECIFIC APPROVAL OF THE DISTRICT CHIEF OPERATOR SHALL BE REQUIRED PRIOR TO ANY SHUTDOWN. 24-HOUR WRITTEN NOTICE SHALL BE PROVIDED BY THE CONTRACTOR TO ALL AFFECTED CONSUMERS. THE CONTRACTOR SHALL NOTIFY THE DISTRICT CHIEF OPERATOR 48 HOURS PRIOR TO STARTING ANY WORK. THE CONNECTION TO EXISTING DISTRICT WATERLINE SHALL BE SUPERVISED BY THE DISTRICT CHIEF OPERATOR.
- 29.ALL DRAINING OF EXISTING WATER MAINS AND DISPOSAL OF WATER AT TIE-INS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 30.ALL WATER LINE INSTALLATIONS SHALL BE CHLORINATED IN ACCORDANCE WITH THE STATE OF CALIFORNIA HEALTH DEPARTMENT, CONSISTING OF NOT LESS THAN 50 PPM INITIAL DOSAGE WITH NOT LESS THAN 25 PPM RESIDUAL DOSAGE, AFTER 24-HOURS. INSTALLATIONS SHALL BE FLUSHED AND A 48-HOUR BACTI TEST SHALL BE REQUIRED PRIOR TO PRESSURE TESTING. ALL TESTING AND TESTING METHODS SHALL BE APPROVED BY THE COUNTY OF IMPERIAL PUBLIC HEALTH DEPARTMENT. DISINFECTION REQUIREMENTS AT PIPE CONNECTIONS AND SHORT PIPE RUNS MAY BE ACCOMPLISHED IN ACCORDANCE WITH AWWA STANDARDS.

- 32 PRIOR TO PLACING NEW/ALTERED WATER PIPELINE SECTIONS IN SERVICE, OR AFTER DEPRESSURIZING AN EXISTING WATER PIPELINE SECTION BELOW 5 PSI, A BACTERIA TEST IS TO BE COMPLETED AND THE RESULTS ARE TO BE REVIEWED BY THE LPA FOR APPROVAL. FOR MINOR PIPELINE WORK INVOLVING THE CUTTING INTO OR REMOVING OR REPAIRING EXISTING SMALL LENGTH PIPING, VALVES OR FITTINGS DISINFECTION MAY BE ALLOWED PER AWWA C651-14 WITHOUT THE NECESSITY OF COMPLETING BACTERIAL TESTING IF APPROVED BY THE LPA.
- 33. THE CONTRACTOR SHALL FIELD VERIFY THE TYPE OF EXISTING JOINT AT ALL POINTS OF CONNECTION, AND IS RESPONSIBLE FOR PROVIDING ALL FITTINGS WITH THE JOINTS REQUIRED TO MAKE CONNECTIONS TO EXISTING PIPELINES.

## THE CONTRACTOR SHALL DEMOLISH AND REMOVE FROM THE SITE ALL EXISTING UTILITIES, STRUCTURES, AND ALL OTHER SITE FEATURES, UNLESS OTHERWISE NOTED ON THE PLAN.

- UNDERGROUND UTILITY LINES, STRUCTURES OR IRRIGATION LINES. THE CONTRACTOR IS TO MAKE AN ON-SITE INSPECTION AND NOTIFY ALL UTILITY AND IRRIGATION COMPANIES PRIOR TO WORK OR EXCAVATION TO DETERMINE THE EXACT LOCATION OF ANY AND ALL UNDERGROUND FACILITIES.
- 5. THE CONTRACTOR SHALL VERIFY AND LOCATE ALL EXISTING ABOVE AND UNDERGROUND UTILITIES.
  LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND ARE SHOWN FOR GENERAL INFORMATION
  ONLY. THE CONTRACTOR SHALL POTHOLE AND EXPOSE EXISTING ELECTRICAL CIRCUITRY AND PIPELINES
  PRIOR TO COMPLETING EXCAVATION WORK FOR THE INSTALLATION OF NEW ELECTRICAL CIRCUITRY OR
- DAMAGE TO ANY EXISTING UTILITIES AND SERVICES TO REMAIN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL REPAIR AND/OR REPLACE IN KIND.
- ANY WALLS, FENCES, SIDEWALKS, SLABS, STRUCTURES AND/OR APPURTENANCES ADJACENT TO OR WITHIN THIS PROJECT SHALL BE PROTECTED IN PLACE. IF GRADING OPERATIONS DAMAGE OR ADVERSELY AFFECT SAID ITEMS IN ANY WAY, THE CONTRACTOR IS RESPONSIBLE FOR REPLACING THE DAMAGED ITEMS TO THE SATISFACTION OF THE DISTRICT. 8. CONTRACTOR AND CONSTRUCTION MANAGER SHALL MAINTAIN RECORD DRAWINGS OF ALL UTILITIES ENCOUNTERED DURING DEMOLITION, AND RECORD THE LOCATIONS OF ALL CAPPED UTILITIES FOR THE
- PREPARATION OF AS-BUILT DRAWINGS. COORDINATE THE SALVAGE AND REMOVAL OF ITEMS/EQUIPMENT WITH THE DISTRICT.
- 10 CONTRACTOR MUST OBTAIN A DUST PERMIT AND IMPLEMENT THE PROVISIONS OF THE DUST PERMIT DURING CONSTRUCTION.
- . LOCATIONS AND DEPTHS OF UNDERGROUND UTILITIES SHOWN ARE APPROXIMATE AND BASED ON AVAILABLE RECORD DRAWINGS. LOCATIONS, DEPTHS, DIAMETERS AND MATERIAL COMPOSITION OF EXISTING WATER PIPELINES ARE UNKNOWN. THE LOCATION OF ELECTRICAL CIRCUITRY IS UNKNOWN.
- CONTRACTOR IS RESPONSIBLE FOR COORDINATING THE MARK-OUT OF ALL UNDERGROUND FACILITIES PRIOR TO ANY EXCAVATION. THE CONTRACTOR SHALL POTHOLE AND EXPOSE ALL EXISTING UTILITIES, ELECTRICAL CIRCUITRY AND WATER PIPELINES ALONG THE LENGTH OF THE NEW ELECTRICAL CIRCUITS AND WATER PIPELINES PRIOR TO EXCAVATION OF THE NEW ELECTRICAL CIRCUITRY AND WATER PIPELINES. THE TRENCH SHALL BE EXCAVATED BY HAND WITH A SHOVEL TO WITH A BACKHOE. A RENCHER SHALL NOT BE ALLOWED TO BE USED FOR ELECTRICAL CIRCUITRY OR WATER PIPELINE
- NO LESS THAN 3 WORKING DAYS PRIOR TO ANY EXCAVATION OR TRENCHING, EACH CONTRACTOR DOING SUCH WORK SHALL CONTACT THE FOLLOWING AGENCIES SO THAT EXISTING UNDERGROUND UTILITIES MAY BE LOCATED. THE AGENCY MAY REQUIRE AN INSPECTOR TO BE PRESENT.
  - 1. PALO VERDE COUNTY WATER DISTRICT 2. SOUTHERN CALIFORNIA EDISON

NDERGROUND UTILITY CONFLICT NOTES

- PRIOR TO EXCAVATING FOOTINGS FOR LIGHTS OR CONCRETE PADS AND SLABS, THE CONTRACTOR SHALL CONFIRM THAT NO UNDERGROUND UTILITIES ARE WITHIN 3' HORIZONTALLY OF THE PROPOSED EXCAVATION. ANY UTILITY FOUND TO BE WITHIN 3' OF THE EXCAVATION SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER. THE LOCATION OF THE STREET LIGHT, CONCRETE PAD AND SLABS MAY BE ADJUSTED AS DIRECTED BY THE CONSTRUCTION MANAGER.
- 5. CONTRACTOR TO TAKE PRECAUTIONARY MEASURES TO PROTECT EXISTING WATER MAINS DURING PREPARATION OF SUBGRADE.
- THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL RUBBISH, WASTE MATERIALS, EXISTING PAVEMENT, CONCRETE DEBRIS AND ALL OTHER MATERIAL RESULTING FROM DEMOLITION ACTIVITIES. SURPLUS NATIVE MATERIAL SHALL BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
- . THE CONTRACTOR SHALL COMPLY WITH SAFETY AND PROTECTION REQUIREMENTS NOTED IN THE GENERAL CONDITIONS, AND ALL PERTINENT PROVISIONS OF THE DEPARTMENT OF LABOR "SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION," TITLE 29, PARTS 1910 AND 1926 (ALSO NOTED IN THE ECHNICAL SPECIFICATIONS), WITH ADDITIONS OR MODIFICATIONS THERETO, IN EFFECT DURING
- 2. ALL HEAVY CONSTRUCTION MACHINERY TO INCLUDE BULLDOZERS, BACKHOES, ETC., MUST BE EQUIPPED WITH A ROLL BAR MEETING THE REQUIREMENTS OF THE ABOVE REGULATION. SAFETY HELMETS SHALL BE WORN BY ALL PERSONNEL WORKING AT THE SITE. IN ADDITION, ALL SPECTATORS AND INSPECTORS SHALL BE REQUIRED TO WEAR SAFETY HELMETS IN CONSTRUCTION ZONE. STEEL TOE SAFETY SHOES OR BOOTS, LONG SLEEVE SHIRTS AND LONG PANTS SHALL BE WORN BY ALL PERSONNEL WORKING AT THE

#### NCIDENTAL ITEMS

ANY ITEM OF WORK CALLED OUT BY THE CONTRACT PLANS OR SPECIFICATIONS AND NOT SPECIFICALLY NOTED AS A BID ITEM ON THE PROPOSAL SHALL BE CONSIDERED INCIDENTAL TO ONE OF THE BID ITEMS

## SHEET INDEX

- TITLE SHEET SITE PLAN
- **DEMOLITION PLAN**
- SHADE STRUCTURE DETAILS
- WATER WELL SECTIONS AND BLOWUP
- **CONTROL & MONITORING BUILDING**
- **ELECTRICAL SITE PLAN**
- **ELECTRICAL DETAILS**

ABBREVIATIONS										
	AGG.	AGGREGATE	INV.	INVERT						
	APP.	APPROXIMATE	L.	LENGTH						
	A.C.P.	ASBESTOS CEMENT PIPE	LIP.	LIP OF CURB IN DRIVEWAYS						
	A.C.	ASPHALT CONCRETE	L.P.A.	LOCAL PRIMACY AGENCY						
	AWWA	AMERICAN WATER WORKS ASSOCIATION	M.H.	MANHOLE						
	B.C.	BEGINNING OF CURVE RADIUS	MAX.	MAXIMUM						
	BLDG.	BUILDING	MIN. MISC.	MINIMUM MISCELLANEOUS						
	B.V.	BUTTERFLY VALVE	N.T.S.	NOT TO SCALE						
	C.H.	CHORD								
	C.I.	CAST IRON	O.C.	ON CENTER						
	C.B.	CATCH BASIN	O.D. OHE	OUTSIDE DIAMETER OVERHEAD ELECTRICAL LINE						
	C.M.C.	CEMENT MORTAR COATED	P.E.	PAD ELEVATION						
	C.M.L.	CEMENT MORTAR LINED	%	PERCENT						
	<u>ę</u>	CENTERLINE	P.I.G.	POINT OF INTERSECTING GRADES						
	C & G	CURB AND GUTTER	P.I.T.	POINT OF INTERSECTING TANGENTS						
	DIA.	DIAMETER	P.V.C.	POLY VINYL CHLORIDE						
	DN	DOWN		D. PALO VERDE COUNTY WATER DISTRICT						
	D/W	DRIVEWAY	P.C.C.	PORTLAND CONCRETE CEMENT						
	Δ	DELTA								
	E.P.	EDGE OF PAVEMENT	P.P. R.	POWER POLE						
	EL.	ELEVATION	R.C.P.	RADIUS REINFORCED CONCRETE PIPE						
	E.C.	END OF CURVE RADIUS	R/W	RIGHT-OF-WAY						
	F.F.	FINISH FLOOR ELEVATION	S/W	SIDEWALK						
	F <u>.</u>	FLOWLINE	S.	SLOPE						
	Fe	FINIOU CUDEACE	<b>U</b> .							

## INSIDE DIAMETER T.P. TOP OF PAVEMENT

**DECLARATION OF RESPONSIBLE CHARGE** 

T.C.

SCHEDULE

TANGEN'

TOP OF MANHOLE

TOP OF CURB OR TOP OF CONCRETE

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

UNDERSTAND THAT THE CHECK OF THE PROJECT DRAWINGS AND SPECIFICATIONS BY THE COUNTY OF IMPERIAL IS CONFINED TO REVIEW ONLY AND DOES NOT RELIEVE ME AS ENGINEER OF WORK, OF MY RESPONSIBILITY FOR PROJECT DESIGN.

JESUS R. MARMOLEJO THE HOLT GROUP, INC 1601 N. IMPERIAL AVENUE (760) 337-3883

FINISH SURFACE

IMPERIAL IRRIGATION DISTRICT

GATE VALVE

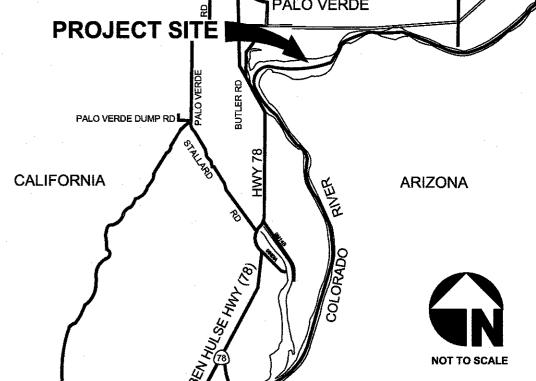
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JESUS R. MARMOLEJO R.C.E. NO. 80410

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**EXPIRATION DATE**; 03-31-23

# **VICINITY MAP**

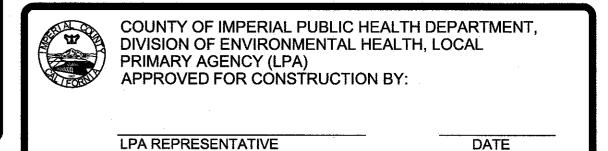




Underground Service Aleri

Call: TOLL FREE

TWO WORKING DAYS BEFORE DIGGING



## PVCWD BOARD OF DIRECTORS

DAVID KHOURY

**RON WOODS** JESS PRESTON JAN AYALA

PRESIDENT VICE-PRESIDENT DIRECTOR DIRECTOR

## PVCWD STAFF

CHELSIE **BARBARA HOPTON** DARIN KANE

OFFICE MANAGER **ASSISTANT OFFICE MANAGER** 

LEAD OPERATOR

No. 80410 Exp. 03-31-23/ PREPARED UNDER THE DIRECT SUPERVISION OF:

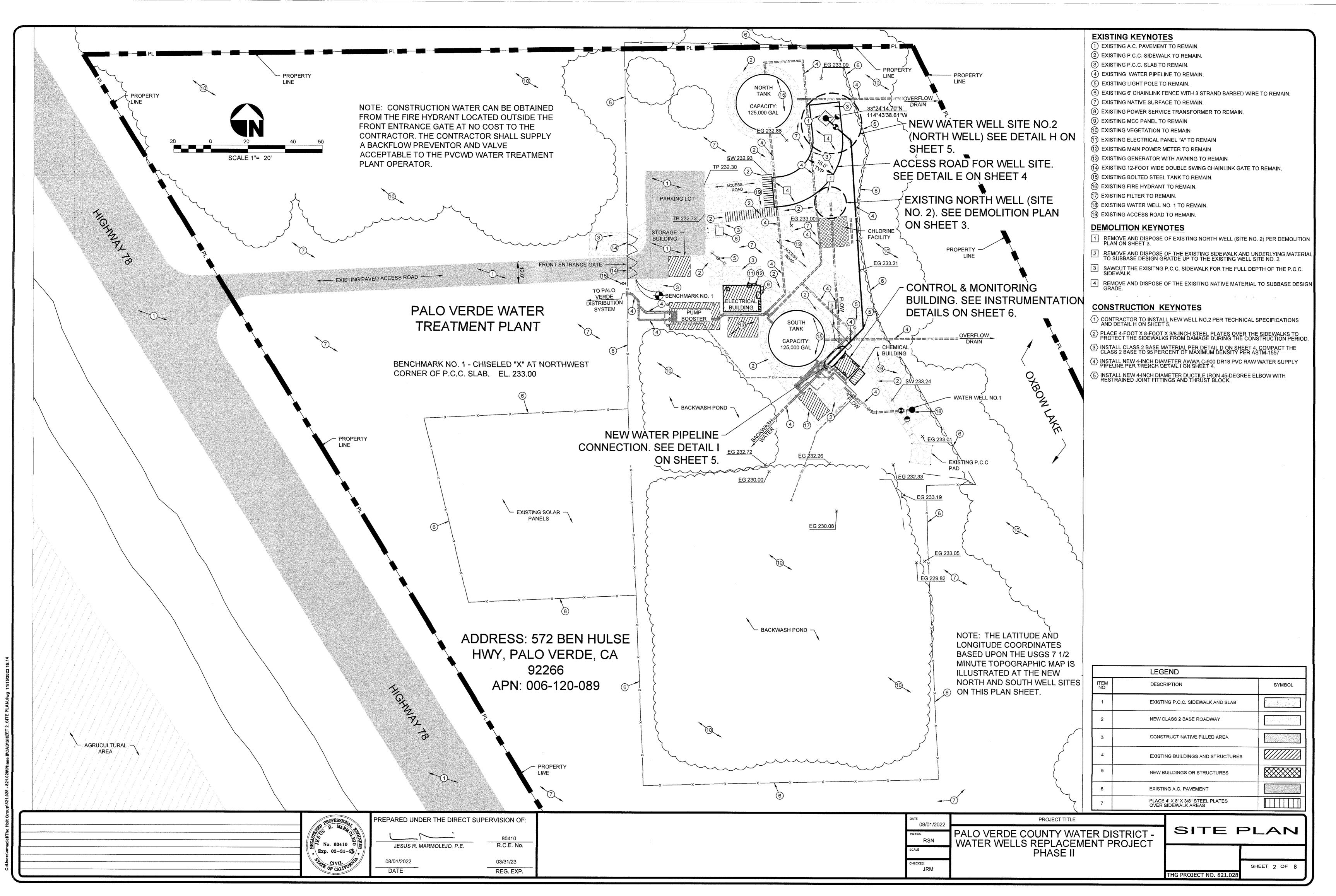
JESUS R. MARMOLEJO, P.E.

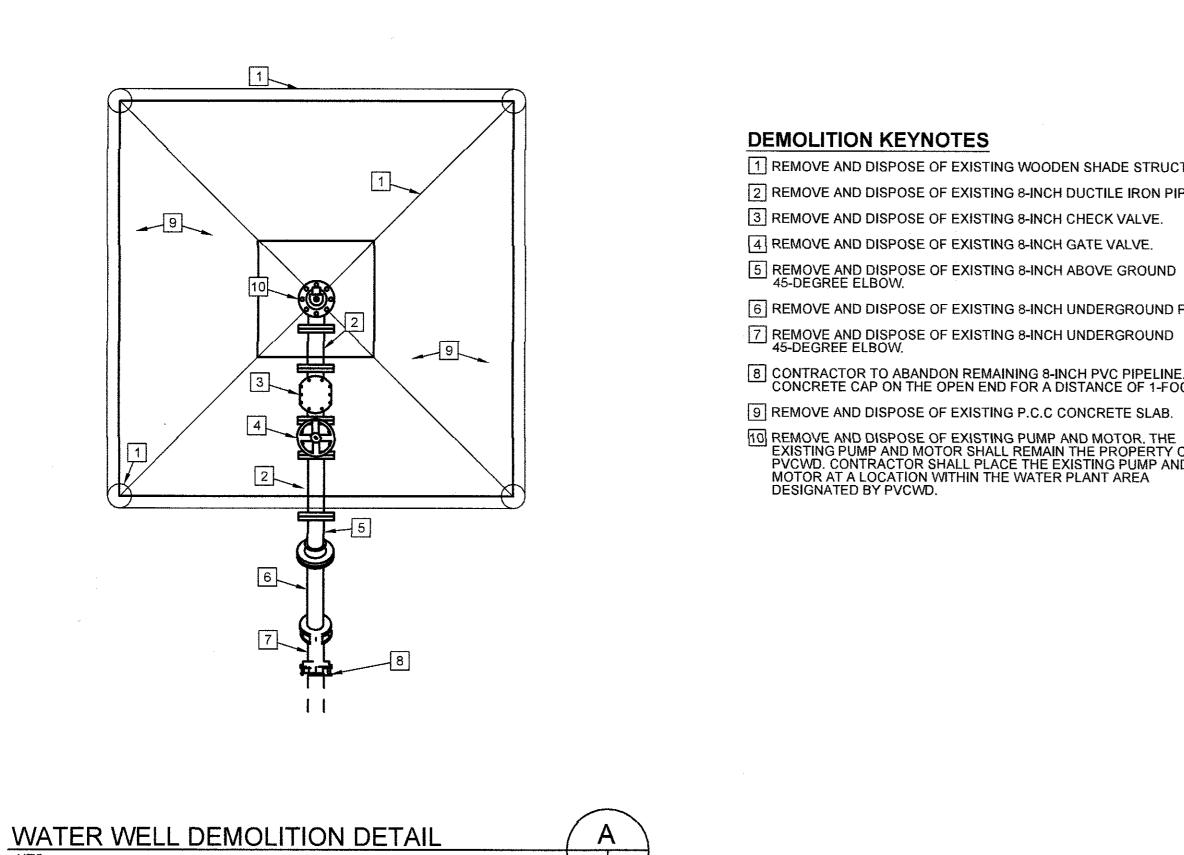
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03/31/23 REG. EXP.

PROJECT TITLE PALO VERDE COUNTY WATER DISTRICT WATER WELLS REPLACEMENT PROJECT PHASE II NTS

TITLE SHEET SHEET 1 OF 6





#### **DEMOLITION KEYNOTES**

- 1 REMOVE AND DISPOSE OF EXISTING WOODEN SHADE STRUCTURE.
- 2 REMOVE AND DISPOSE OF EXISTING 8-INCH DUCTILE IRON PIPING.
- 3 REMOVE AND DISPOSE OF EXISTING 8-INCH CHECK VALVE.
- FREMOVE AND DISPOSE OF EXISTING 8-INCH ABOVE GROUND 45-DEGREE ELBOW.
- 6 REMOVE AND DISPOSE OF EXISTING 8-INCH UNDERGROUND PIPING.
- 8 CONTRACTOR TO ABANDON REMAINING 8-INCH PVC PIPELINE. PLACE CONCRETE CAP ON THE OPEN END FOR A DISTANCE OF 1-FOOT.
- 9 REMOVE AND DISPOSE OF EXISTING P.C.C CONCRETE SLAB.
- REMOVE AND DISPOSE OF EXISTING PUMP AND MOTOR. THE EXISTING PUMP AND MOTOR SHALL REMAIN THE PROPERTY OF PVCWD. CONTRACTOR SHALL PLACE THE EXISTING PUMP AND MOTOR AT A LOCATION WITHIN THE WATER PLANT AREA DESIGNATED BY PVCWD.

REMOVE AND DISPOSE OF EXISTING CONCRETE PAD,
APPROXIMATELY 8-INCHES THICK AND 4'X4', GRADE AREA 4 4 4 REMOVE AND DISPOSE OF EXISTING WELL CASING TO A - REMOVE AND DISPOSE OF EXISTING WELL CASING TO A DEPTH OF 3-FEET BELOW SURFACE GRADE AND WELD A FULL CIRCLE STEEL PLATE CAP.PLACE NATIVE SOIL IN THE AREA ABOVE THE REMOVED WELL CASING TO FINISH GRADE. COMPACT THE NATIVE MATERIAL IN MAXIMUM 1-FOOT LIFTS TO 85 PERCENT OF MAXIMUM DENSITY PER ASTM D-1557. INSTALL SAND-CEMENT GROUT WITHIN THE EXISTING WELL CASING WITHIN THE REMAINDER OF THE EXISTING WELL TO WITHIN 3-FEET OF EXISTING GRADE. -- INSTALL 3/8 INCH DIAMETER (MAX) GRAVEL WITHIN THE EXISTING WELL CASING TO WITHIN 20-FEET OF GROUND LEVEL. GRAVEL SHALL BE DISINFECTED BY WASHING WITH 50 MG/L CHLORINE SOLUTION PRIOR TO INSTALLING IN WELL CASING AS RECOMMENDED BY AWWA A100-15 SCALE

#### **WELL DEMOLITION NOTES**

- 1. WELL TO BE DESTROYED BY A C-57 WATER WELL CONTRACTOR/SUBCONTRACTOR.
- 2. PRELIMINARY WORK. BEFORE THE WELL IS DESTROYED, IT SHALL BE INVESTIGATED TO DETERMINE ITS CONDITION, DETAILS OF CONSTRUCTION, AND WHETHER THERE ARE OBSTRUCTIONS THAT WILL INTERFERE WITH THE PROCESS OF FILLING AND SEALING. THIS WILL INCLUDE THE USE OF DOWNHOLE TELEVISION AND PHOTOGRAPHY FOR VISUAL INSPECTION OF THE WELL.
- 3. THE WELL SHALL BE CLEANED, AS NEEDED, SO THAT ALL UNDESIRABLE MATERIALS, INCLUDING OBSTRUCTIONS TO FILLING AND SEALING, DEBRIS, OIL FROM OIL-LUBRICATED PUMPS, OR POLLUTANTS AND CONTAMINANTS THAT COULD INTERFERE WITH WELL DESTRUCTION ARE REMOVED FOR DISPOSAL. THE IMPERIAL COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH SHALL BE NOTIFIED AS SOON AS POSSIBLE IF POLLUTANTS AND CONTAMINANTS ARE KNOWN OR SUSPECTED TO BE IN A WELL TO BE DESTROYED. WELL DESTRUCTION OPERATIONS MAY THEN PROCEED ONLY AT THE APPROVAL OF THE AGENCY.
- 4. DURING PERIODS WHEN NO WORK IS DONE OVER THE EXCAVATION, COVER THE EXCAVATION TO ENSURE NO FOREIGN MATERIAL IS INTRODUCED INTO THE WELL.
- 5. CONTRACTOR SHALL BACKFILL THE EXISTING ABANDONED WATER WELL SHAFT. PRIOR TO BACKFILLING THE WATER WELL SHAFT REMOVE AND DISPOSE OF THE WATER WELL SHADE STRUCTURE. REMOVE AND DISPOSE OF THE P.C.C. SLAB SURROUNDING THE EXISTING WATER WELL.
- 6. THE CONTRACTOR SHALL PREPARE THE WELL ABANDONMENT COMPLETION REPORT AND FORWARD THE REPORTS TO THE IMPERIAL COUNTY HEALTH DEPARTMENT FOR REVIEW AND

WATER WELL DEMOLITION DETAIL

В 2 3

PREPARED UNDER THE DIRECT SUPERVISION OF:

JESUS R. MARMOLEJO, P.E.

08/01/2022

DATE

Exp. 03-31-23

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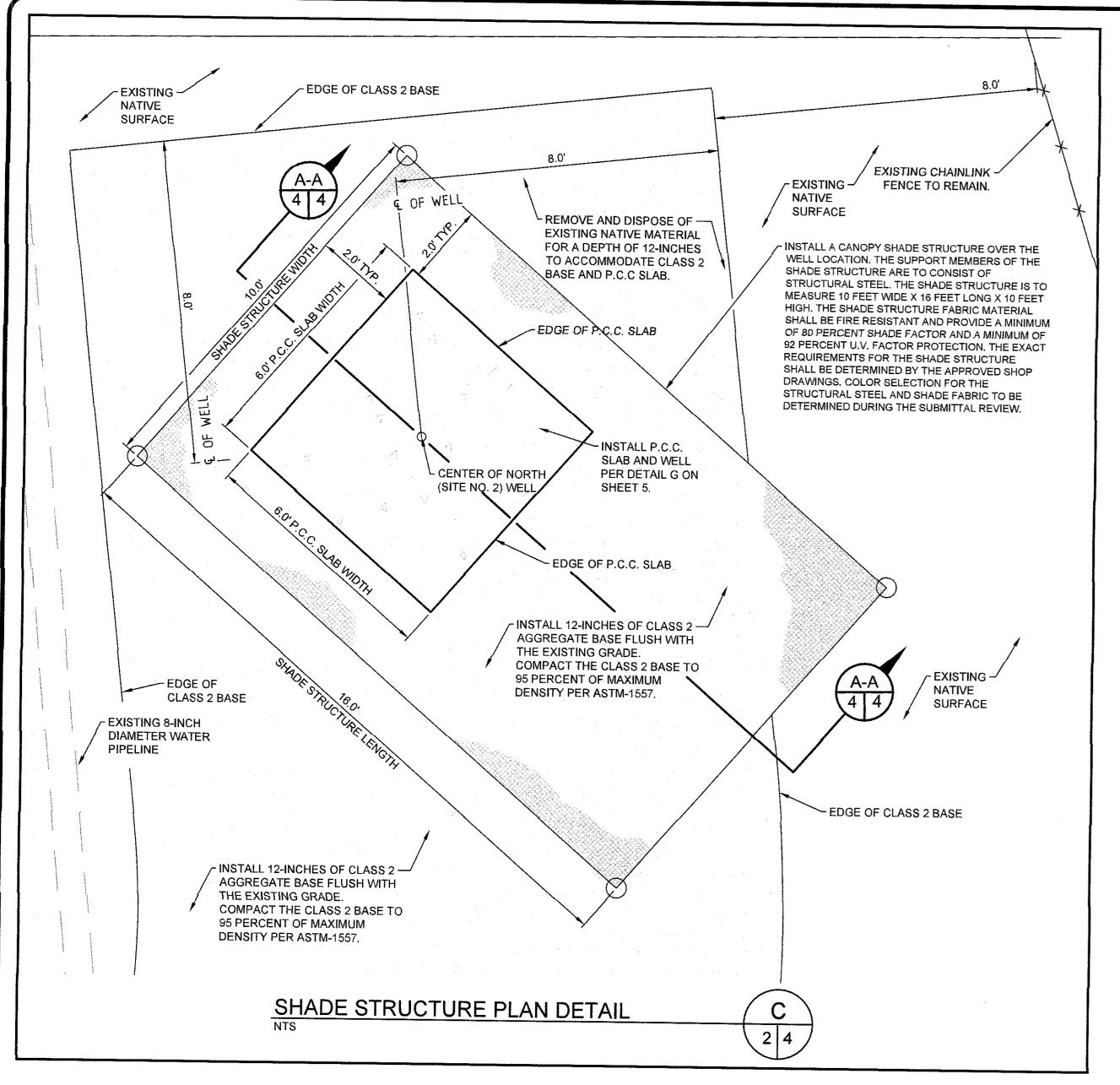
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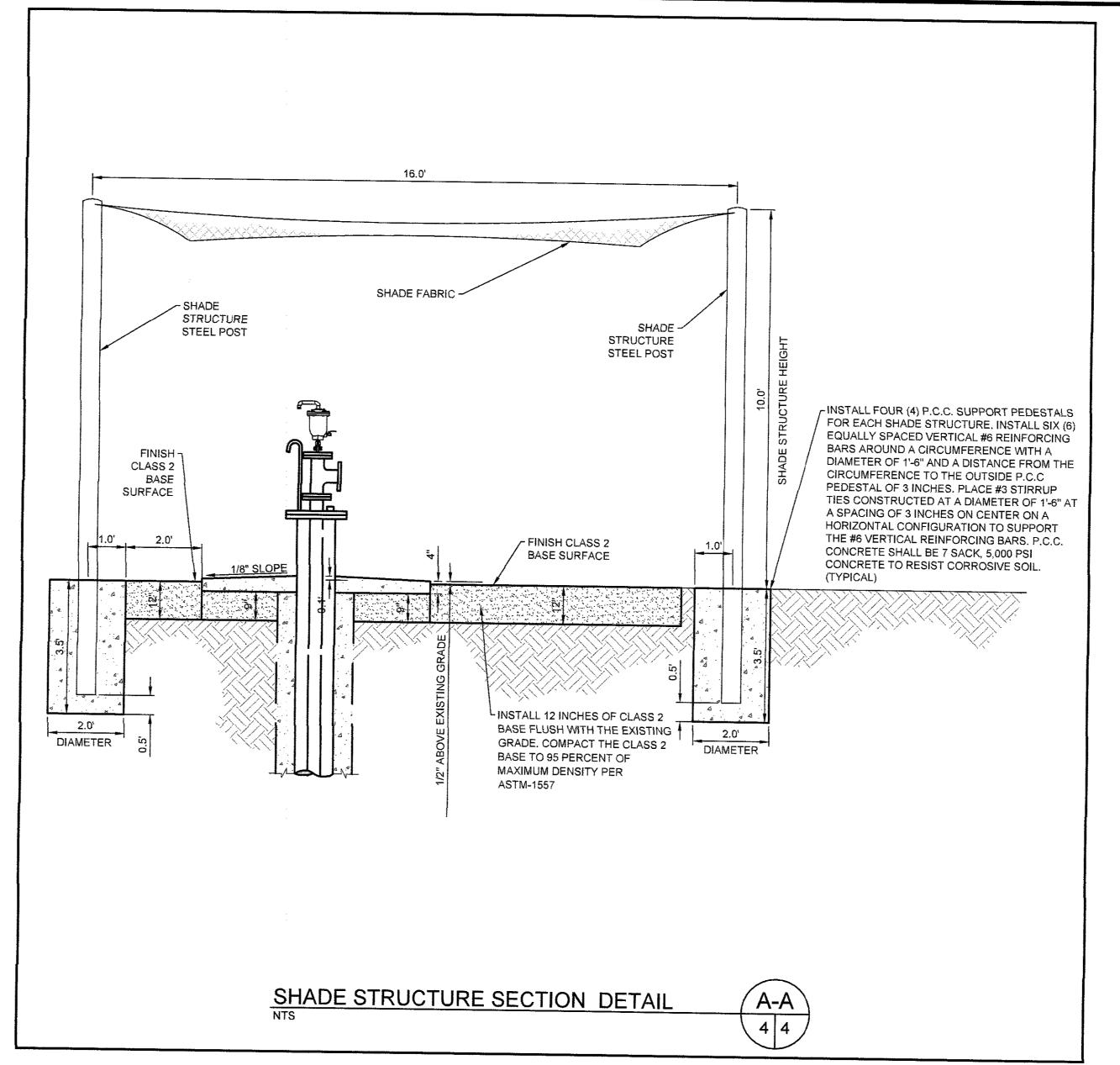
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**DEMOLITION PLAN** 

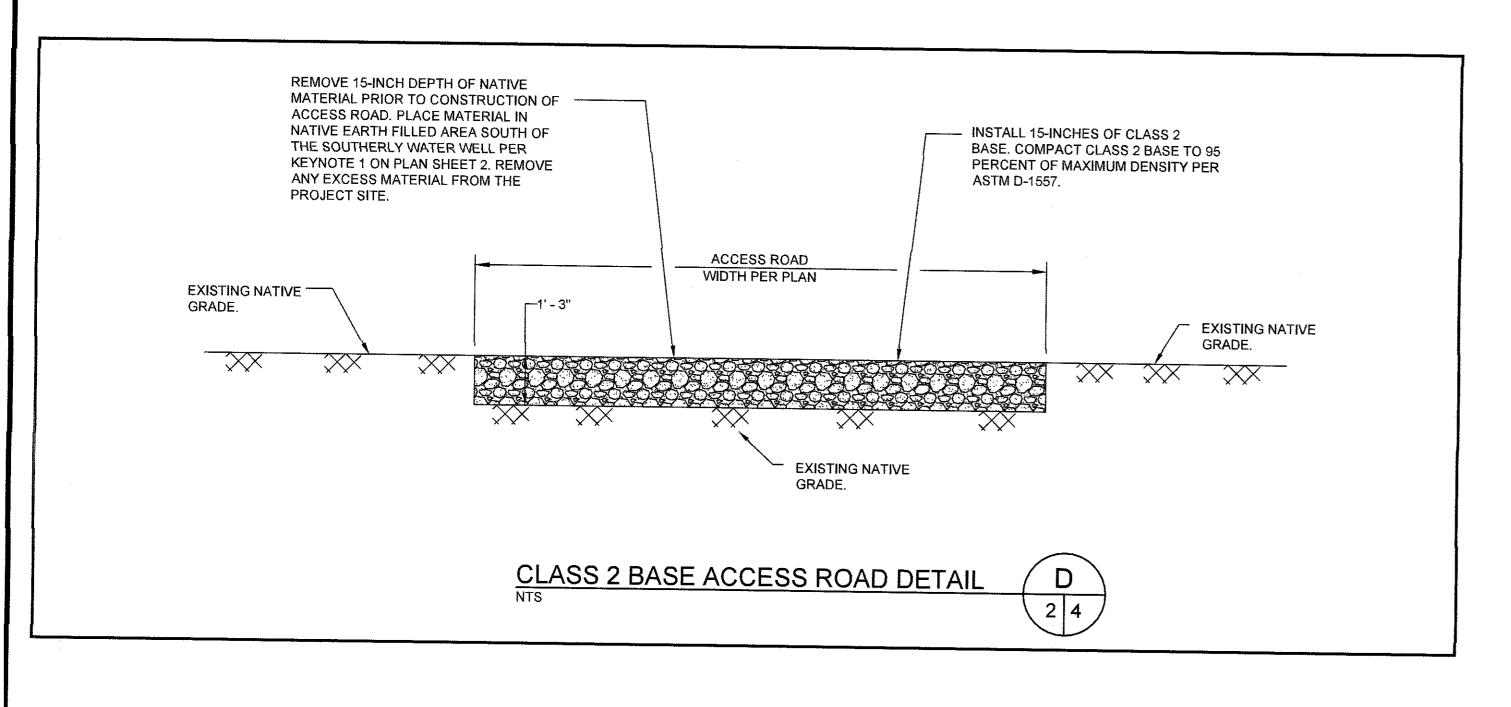
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SHEET 3 OF 8





A563DH, AND WASHERS SHALL COMPLY WITH ASTM F436.



No. 80410

CIVIL OF CALIFOR

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08/01/2022

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03/31/23

REG. EXP.

#### SHADE STRUCTURE REQUIREMENTS SHADE STRUCTURE REQUIREMENTS (CONTINUED) **GENERAL NOTES** 9. ALL HIGH STRENGTH BOLTS SHALL BE TIGHTENED TO A SNUG TIGHT CONDITION. 10. ALL STAINLESS STEEL BOLTS / STUDS SHALL COMPLY WITH ASTM F-593, ALLOY GROUP 1 OR 2. ALL NUTS SHALL COMPLY WITH DESIGN LOADS ASTM F-594 ALLOY GROUP 1 OR 2. BUILDING CODE CBC 2018 (BASED ON IBC 2015) LIVE LOADS 11. ALL STRUCTURAL STEEL SHALL BE PAINTED WITH ONE SHOP COAT (2.5 TO 3.5 MILS THICK MIN). THIS COAT IS A WEATHER 5 PSF RESISTANT POWDER COATING BASED ON POLYESTER TGIC (MANUFACTURED BY SHERWIN WILLIAMS OR TIGER DRYLAC), TO SNOW LOAD 5 PSF WIND LOADS ACHIEVE OPTIMUM ADHESION, IT IS RECOMMENDED THAT THE PROPER TREATMENT AND DRYING TAKE PLACE BEFORE 115 MPH COATING. POLYESTER POWDER (TGIC). SPECIFICATIONS SHALL BE AS FOLLOWS: 3 - Sec. Gust, RISK CATEGORY II & XPOSURE C -PENCIL HARDNESS (ASTM D-3363) STRUCTURAL STEEL -HUMIDITY (ASTM D-2247) -SOLVENT RESISTANCE (PCI METHOD) - 50 DBL RUBS SL. SOFTNESS . ALL STRUCTURAL SHAPES SHALL BE COLD FORMED HSS ASTM A500 GRADE C, UNLESS OTHERWISE NOTED, TYPICAL MECHANICAL PROPERTIES FOR HSS PRODUCTS-FABRIC SPECIFICATION SQUARE AND RECTANGULAR 50,000 PSI YIELD/ 62,000 PSI TENSILE ROUND PIPE 1. FABRIC SHALL BE A HIGH DENSITY POLYETHYLENE WITH ULTRA VIOLET ADDITIVES, WITH MONOFILAMENT AND TAPE 46,000 PSI YIELD/ 62,000 PSI TENSILE CONSTRUCTION GIVING A STABLE MATERIAL AND RACHEL KNITTED TO ENSURE MATERIAL WILL NOT UNRAVEL IF CUT. 2. ALL GALVANIZED STEEL TUBE PRODUCTS ARE MANUFACTURED PER ASTM A500, TYPICAL MECHANICAL PROPERTIES ACHIEVED FOR GALVANIZED TUBE PRODUCTS: 2. FABRIC SPECIFICATION SOLID COLORS STRIPE COLORS 45,000 PSI YIELD / 48.000 PSI TENSILE ROUND TUBE TEAR STRENGTH WARP 220.4622 LB WARP 182.9836 LB WEFT 462.9707 LB WEFT 401.2413 LB 3. ALL PLATES SHALL COMPLY WITH ASTM A572 GRADE 50. - BURST STRENGTH 37.7098 PSIA 33.0686 PSIA 4. ALL STEEL TUBING SHALL BE TRIPLE COATED FOR RUST PROTECTION USING THE IN-LINE ELECTROPLATING COAT PROCESS. FADING MINIMUM FADING AFTER 5 YEARS TUBING SHALL BE INTERNALLY COATED WITH ZINC AND ORGANIC COATINGS TO PREVENT CORROSION AS MANUFACTURED BY - LIFE EXPECTANCY A MINIMUM OF 8 YEARS CONTINUOUS EXPOSURE TO THE SUN ALLIED TUBE & CONDUIT. 3. FIRE TEST ON FABRIC. NFPA 701 TEST 2 AND ASTM E 84 5. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH A.I.S.C. SPECIFICATIONS. 4. THREAD -PTFE (TEFLON) USED MEET THE FOLLOWING SPECIFICATIONS: HIGH STRENGTH, LOW SHRINKAGE, WIDE TEMPERATURE 6. ALL SHOP WELDS SHALL BE EXECUTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN WELDING SOCIETY (AWS) D RANGE, FLEX & ABRASION RESISTANT AND U RADIATION IMMUNITY, LOCKSTITCH - 1200 DENIER, CHAINSTITCH THREAD - 2400 1.1 SPECIFICATIONS, ALL WELDS SHALL BE CONTINUOUS WHERE LENGTH IS NOT GIVEN, UNLESS OTHERWISE SHOWN OR NOTED ON DRAWINGS, ALL WELDS SHALL DEVELOP THE FULL STRENGTH OF THE WEAKER MEMBER, ALL WELDS SHALL BE MADE USING E70XX .045 WIRE. AIRCRAFT CABLE . SHOP CONNECTIONS SHALL BE WELDED UNLESS NOTED OTHERWISE. FIELD CONNECTIONS SHALL BE AS INDICATED ON THE 1. WIRE ROPE CABLE SHALL BE 7 x 19 STRAND CORE GALVANIZED WIRE ROPE WITH A BREAKING STRENGTH VALUE OF 7,000 LBS (1/4" DRAWINGS (IF REQUIRED). ALL FILLET WELDS SHALL BE A MINIMUM OF 3/16" UNLESS OTHERWISE NOTED. FIELD WELDS SHALL NOT BE ALLOWED. 2. CABLES SHALL BE FED THROUGH THE FABRIC SLEEVES AROUND THE PERIMETER OF THE CANOPY AND TENSIONED UNTIL THE 8. ALL HIGH STRENGTH BOLTS SHALL COMPLY WITH ASTM A325 TYPE 1 OR A490 TYPE 1. ALL NUTS SHALL COMPLY WITH ASTM FABRIC PANELS (DESIGNED PURPOSELY UNDERSIZED) REACH A TAUNT APPEARANCE. ANY LONG TERM CABLE SAG SHALL BE

08/01/2022

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MINIMIZED DURING THE MAINTENANCE RETIGHTENING VISITS AS REQUIRED.

SHADE STRUCTURE DETAILS

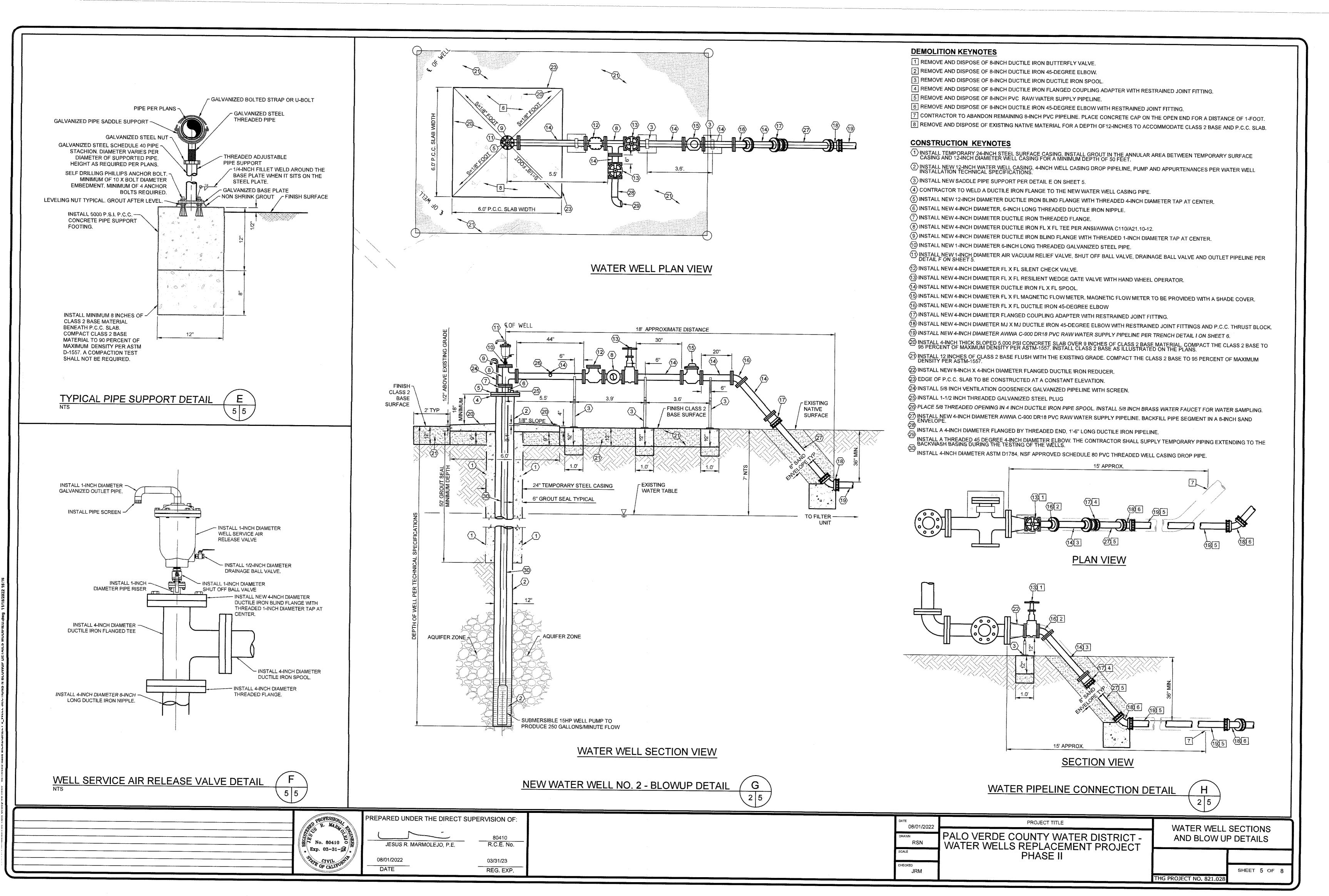
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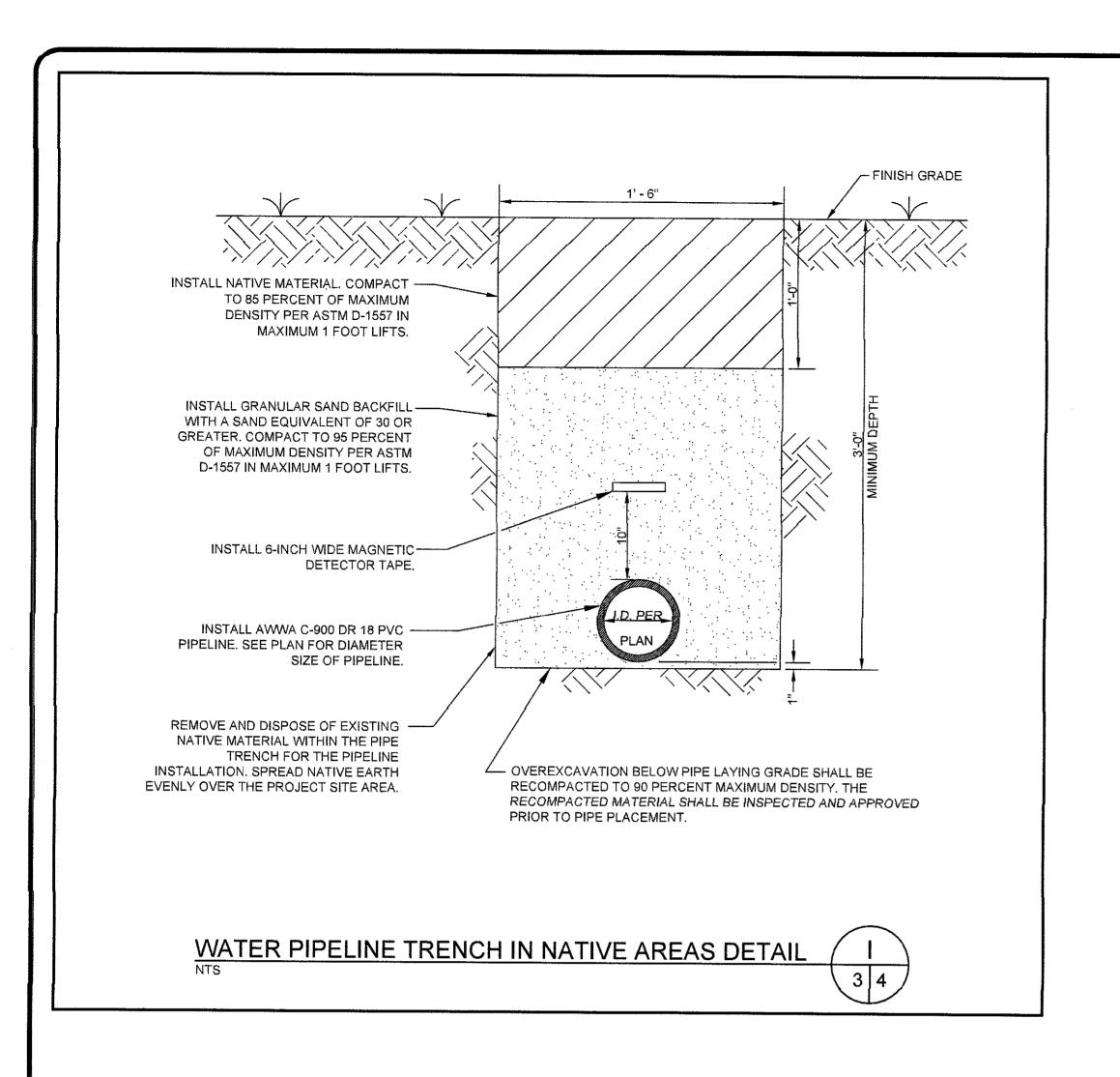
SHEET 4 OF 8

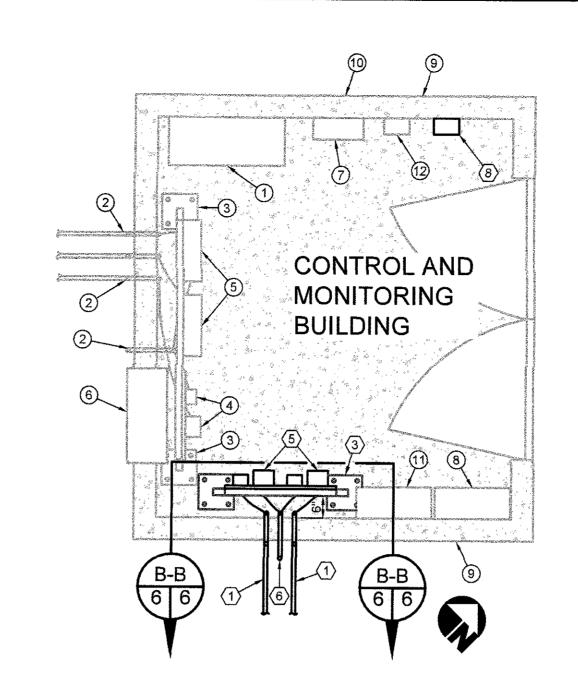
PROJECT TITLE

PALO VERDE COUNTY WATER DISTRICT - WATER WELLS REPLACEMENT PROJECT

PHASE II





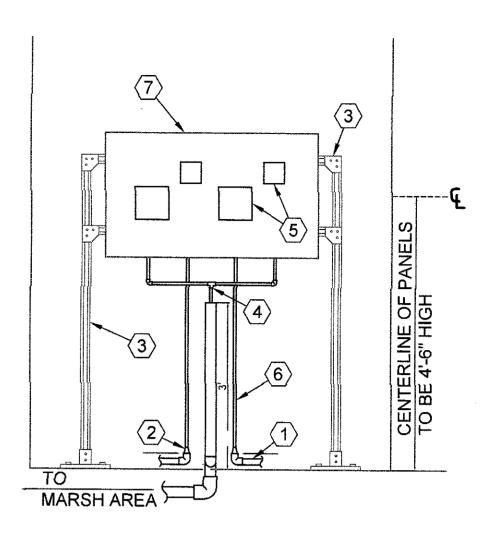


CONTROL & MONITORING BUILDING BLOW-UP DETAIL

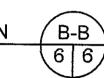


#### **EXISTING KEYNOTES**

- (1) EXISTING FILTER CONTROL PANEL B.
- 2 EXISTING PVC SAMPLING PIPELINE OR PVC DRAINAGE PIPELINE.
- (3) EXISTING PANEL SUPPORT.
- (4) EXISTING TURBIDIMETER WITH CONTROLLER.
- 5 EXISTING FREE CHLORINE RESIDUAL ANALYZER.
- 6 EXISTING AIR CONDITIONER (AC) UNIT.
- 7 EXISTING AIR INJECTION PANEL.
- 8 EXISTING ELECTRICAL CONTROL PANEL "B" TO REMAIN.
- 9 EXISTING CONTROL & MONITORING BUILDING TO REMAIN.
- 10 EXISTING MASONRY WALLS.
- 11 EXISTING REMOTE TERMINAL UNIT FOR ONLINE CELLULAR DATA BASED MONITORING (SCADA) SYSTEM.
- 12 EXISTING FLOW METER DISPLAY.



PANEL SUPPORT FOR TURBIDIMETERS SECTION



#### **CONSTRUCTION KEYNOTES**

- 1) INSTALL 1" DIA. SCHEDULE 80 PVC PIPE AND FITTINGS.
- (2) INSTALL 1" DIA. X 3/4" DIA. SCHEDULE 80 PVC REDUCER.
- 3 INSTALL PANEL SUPPORT FOR TURBIDIMETERS PER DETAIL.
- SECURE AND DIRECT INSTRUMENT TUBING TO THE 2-INCH DIA. SCHEDULE 40 PVC DRAIN PIPELINE.
- 5 INSTALL MTOL+ TURBIDIMETER WITH JUNCTION BOX. THE TURBIDITIMETER SHALL BE PROVIDED PER TECHNICAL SPECIFICATIONS. INSTALL TURBIDITY METER ASSEMBLY ON PANEL SUPPORT BACKING PER DETAIL.
- (6) INSTALL 2-INCH DIA. SCH 40 PVC DRAIN PIPELINE. INSTALL 3" DIA. X 2" DIA. SCHEDULE 40 PVC REDUCER TO CONNECT TO 3-INCH DIA. SCHEDULE 40 PVC DRAIN PIPELINE OUTSIDE OF THE CONTROL AND MONITORING BUILDING.
- (7) INSTALL GALVANIZED RIGID STEEL BOARD PANEL.
- (8) INSTALL FLOWMETER DISPLAY.

No. 80410 Exp. 03-31-23

PREPARED UNDER THE DIRECT SUPERVISION OF: 80410

JESUS R. MARMOLEJO, P.E.

08/01/2022 03/31/23 DATE REG. EXP.

R.C.E. No.

08/01/2022 RSN 1:5

PROJECT TITLE PALO VERDE COUNTY WATER DISTRICT -WATER WELLS REPLACEMENT PROJECT PHASE II CONTROL & MONITORING BLOW UP PLANS AND DETAILS

SHEET 6 OF 8

THG PROJECT NO. 821.02

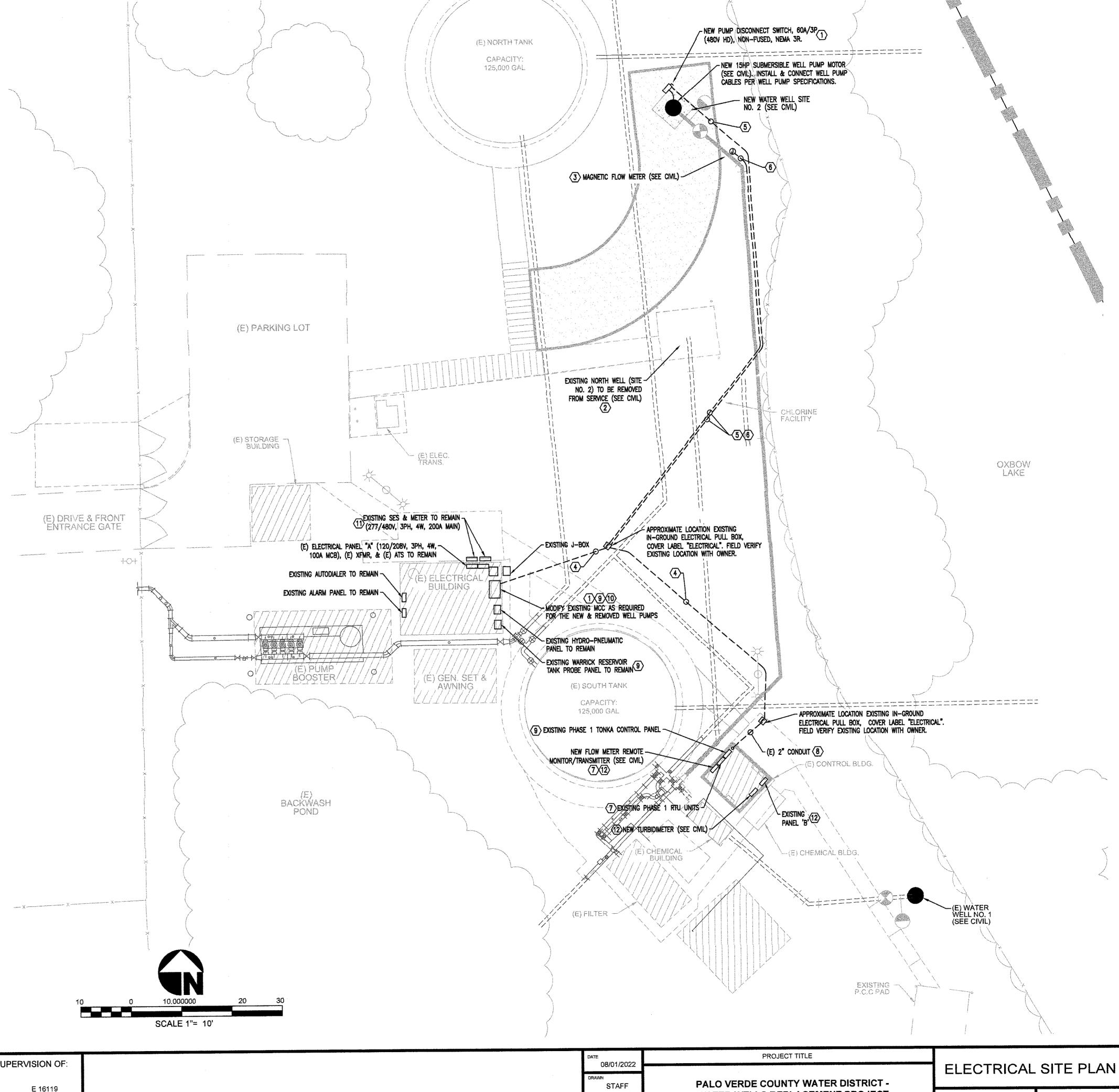
- 1. ALL ELECTRICAL WORK SHOWN IS NEW UNLESS OTHERWISE NOTED.
- 2. EXISTING ELECTRICAL NOT INDICATED TO BE REMOVED OR REPLACED SHALL BE PROTECTED DURING CONSTRUCTION & LEFT IN PLACE. CLEAN/REPAIR/RESTORE THIS EXISTING ELECTRICAL TO SERVICEABLE CONDITION PRIOR TO COMPLETION OF
- INSPECT, CLEAN, & REPAIR ALL EQUIPMENT TO BE REUSED.
- 4. THE ELECTRICAL CONTRACTOR SHALL COORDINATE, BID, AND PROVIDE ALL INCIDENTAL ELECTRICAL DEMOLITION WORK, TEMPORARY ELECTRICAL REMOVAL & REINSTALLATION WORK, & RESTORATION OF EXISTING ELECTRICAL WORK TO EXISTING CONDITION OR BETTER AT ANY CIVIL OR MECHANICAL DEMOLITION OR RENOVATIONS IDENTIFIED ON THE CIVIL OR MECHANICAL PLANS. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR REVIEWING THE CIVIL & MECHANICAL PLANS & COORDINATING WORK RESPONSIBILITY WITH THE GENERAL CONTRACTOR & INCLUDING ALL SUCH WORK IN THE CONTRACT BID.

#### **KEY NOTES:**

- 1 SEE ELECTRICAL ONE-LINE DIAGRAM.
- (2) AFTER WELL DEACTIVATION & REMOVAL FROM SERVICE PER CIVIL PLANS, REMOVE & DISPOSE EXISTING WELL PUMP ELECTRICAL INCLUDING DISCONNECT SWITCH, 120V SERVICE RECEPTACLE, WIRING, CONDUIT, & ALL ASSOCIATED ACCESSORIES. REMOVE WIRING COMPLETELY BACK TO THE MCC. CAP & ABANDON UNDERGROUND CONDUIT IN PLACE.
- (3) WP J-BOX & CONNECTION FOR MAG METER. INSTALL PER MANUFACTURER & SUPPLIER
- 4 EXISTING CONDUITS: (1) 2" CONDUIT (NEW & EXISTING WELL PUMP MOTOR CIRCUITS). ) 2" CONDUIT (NEW & EXISTING CONTROL/SIGNAL). 2" CONDUIT (SPARE W/PULLSTRING). SEE ELECTRICAL ONE-LINE DIAGRAM.
- (5) (1) 1" CONDUIT (WELL PUMP MOTOR CIRCUIT). SEE ELECTRICAL ONE-LINE DIAGRAM.
- (6) (1) 1" CONDUIT (CONTROL/SIGNAL CONDUCTORS). CABLING SHALL BE PROVIDED BY THE MANUFACTURER & SUPPLIER. INSTALL CABLING AS REQUIRED BY SUPPLIER.
- (7) NEW WELL FLOW METER MONITOR/TRANSMITTER WITH TOTALIZER INDICATOR FOR NEW WELL. COORDINATE INSTALLATION WITH OWNER & CIVIL ENGINEER TO FIT IN THE AVAILABLE SPACE. CONNECT MAG FLOW METER OUTPUT SIGNAL TO THE FLOW METER REMOTE MONITOR/TRANSMITTER. CONNECT MONITOR/TRANSMITTER OUPUT SIGNAL TO THE EXISTING RTU UNIT. AN ANALOG OUTPUT SHALL BE PROVIDED FOR THE FLOW INDICATOR. A PULSE OUTPUT SHALL BE PROVIDED FOR THE FLOW TOTALIZER. DESIGN, LAYOUT, WIRING, CONNECTIONS, RTU INTERFACE, & PROGRAMMING TO BE PROVIDED BY THE CONTRACTOR'S FLOW METER SUPPLIER. FLOW METER SUPPLIER SHALL COORDINATE WITH MANUFACTURER/SUPPLIER OF RTU UNIT.
- (8) (1) 2" CONDUIT (CONTROL/SIGNAL CONDUCTORS). CABLING SHALL BE PROVIDED BY THE MÁNUFACTURER & SUPPLIÈR. INSTALL CABLING ÁS REQUIRED BY SUPPLIER.
- (9) VERIFY, INSPECT, CLEAN, REPAIR, & RECONNECT EXISTING WELL PUMP CONTROLS. REFURBISH OR REPLACE ANY DAMAGED OR INOPERATIVE FLOAT SWITCHES, SELECTOR SWITCHES, RELAYS, TIMERS, WIRING, OR COMPONENTS AS REQUIRED. TANK SELECTION BETWEEN "OFF" AND THE NORTH & SOUTH TANKS AND WELL PUMP START/STOP INITIATED BY THE TANK LEVEL CONTROLS IS ACCOMPLISHED AT THE EXISTING WARRICK RESERVOIR PANEL AT THE ELECTRICAL BUILDING. THE TONKA FILTER CONTROL PANEL AT THE CONTROL BUILDING USES INPUTS FROM THE TANK FLOATS AND PUMP START CIRCUIT AT THE WARRICK RESERVOIR PANEL TO INITIATE THE FILTER CYCLE. THE TONKA FILTER CONTROL PANEL ALSO OUTPUTS 2 WELL PUMP INTERRUPT CIRCUITS BACK TO THE WARRICK RESERVOIR PANEL WHEN BACKWASH IS INITIATED.
- (10) CONNECT NEW WELL PUMP MOTOR CIRCUITS. LABEL PER NEC & SPECIFICATIONS.
- (11) EXISTING SES, ATS, GENERATOR, & ELECTRICAL DISTRIBUTION TO REMAIN. THE NEW WELL PUMPS & ASSOCIATED WORK WILL BE REPLACING EXISTING WELL PUMPS & ASSOCIATED WORK AND WILL NOT CHANGE THE EXISTING ELECTRICAL DEMAND AT THE SES. AT START OF CONSTRUCTION, COORDINATE WITH OWNER AND SOUTHERN CALIFORNIA EDISON TO OBTAIN PEAK KW DEMAND FOR THE PREVIOUS 12 MONTHS. SUBMIT PEAK KW DEMAND DATA TO THE ENGINEER FOR FINAL ANALYSIS OF THE EXISTING ELECTRICAL DEMAND.
- (12) COORDINATE WITH FLOW METER MONITOR/TRANSMITTER SUPPLIER & TURBIDIMETER SUPPLIER. INSTALL 120V POWER SUPPLIES AS NEEDED. INSTALL NEW 15A CIRCUIT BREAKERS AT PANEL & INSTALL NEW BRANCH CIRCUITS IN CONDUIT FROM PANEL TO EQUIPMENT. LABEL AT PANEL PER NEC. (AS AN OPTIONAL ALTERNATIVE, CONTRACTOR & SUPPLIER MAY CONNECT TO AN EXISTING CONTROL/MONITOR EQUIPMENT BRANCH CIRCUIT IF DETERMINED TO BE SUITABLE & ACCEPTABLE FOR ALL NEW & EXISTING CONNECTED EQUIPMENT.) SEE PHASE 1 CHLORINATION SYSTEM AND CONTROL REPLACEMENT PROJECT FOR EXISTING PANEL 'B' INFORMATION & LOADS. NEW FLOW METER EQUIPMENT WILL ADD 52VA (0.43A @ 120V) TO THE EXISTING PANEL. NEW TURBIDIMETER EQUIPMENT WILL ADD 80VA (0.67A • 120V) TO THE EXISTING PANEL.

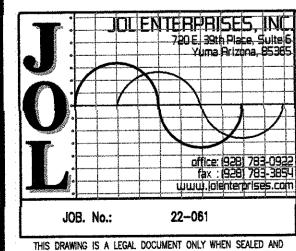
### **ELECTRICAL SYMBOLS & ABBREVIATIONS:**

- DUPLEX RECEPTACLE, 120V/20A, MOUNT 15" A.F.F. UNLESS NOTED OTHERWISE.
- ① JUNCTION BOX, MOUNT AS SHOWN.
- NUMBER OF WIRES IN CONDUIT, LONG SLASH DENOTES GROUND WIRE, SHORT SLASH DENOTES NUMBER OF CURRENT CARRYING CONDUCTORS & NEUTRALS, HALF SLASH DENOTES SWITCHED LEG.
- \$ LIGHT CIRCUIT SWITCH, 120V/20A, MOUNT 46" A.F.F. UNLESS NOTED OTHERWISE.
- FUSED OR NONFUSED DISCONNECT SAFETY SWITCH, SIZE & TYPE AS SHOWN.
- IXI NEMA MOTOR STARTER, SIZE AS SHOWN.
- ---- UNDERGROUND CONDUIT.
- ----- ABOVE GROUND CONCEALED CONDUIT.
- ATS AUTOMATIC TRANSFER SWITCH.
- CWP COLD WATER PIPE.
- (E) EXISTING EQUIPMENT.
- FVNR FULL VOLTAGE, NON-REVERSING.
- GFI GROUND FAULT CIRCUIT INTERRUPTER.
- HD HEAVY DUTY.
- MCC MOTOR CONTROL CENTER.
- SES SERVICE ENTRANCE SECTION, SIZED AS SHOWN.
- XFMR TRANSFORMER.
- WP OUTDOOR WEATHERPROOF ENCLOSURE.
- WP-IU OUTDOOR WEATHERPROOF "IN-USE" ENCLOSURE.

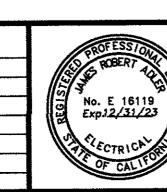


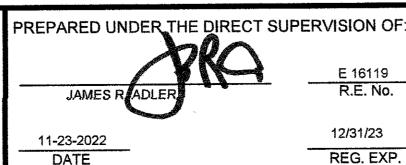
AS SHOWN





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DATE

WATER WELLS REPLACEMENT PROJECT PHASE II

SHEET 7 OF 8 THG PROJECT NO. 821.02

1. ALL MATERIALS AND WORKMANSHIP TO BE NEW AND OF FIRST RATE QUALITY. MATERIALS TO BE ULLISTED AND APPROVED. ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED IN COMPLIANCE WITH THE CURRENT ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE, CALIFORNIA ELECTRICAL CODE, AND ANY OTHER STATE AND LOCAL APPLICABLE CODES.

2. ALL CEILING, FLOOR, AND WALL PENETRATIONS AND BOXES SHALL BE CAULKED/SEALED TO PRESERVE FIRE RATINGS AND WATER PROOF INTEGRITY. FIRESTOPPING OF PENETRATIONS IN AND THROUGH FIRE RATED FLOORS, CEILINGS & WALLS SHALL BE IN ACCORDANCE WITH IBC & UL AND AS REQUIRED BY THE FIRESTOPPING MANUFACTURER FOR THE CONSTRUCTION TYPE & FIRE RATING SPECIFIED (SEE ARCHITECTURAL DRAWINGS). THE FIRESTOPPING SYSTEM SHALL BE LISTED AND TESTED TO UL-1479 & ASTM E-814. INSTALL IN STRICT COMPLIANCE WITH THE MANUFACTURER INSTRUCTIONS.

3. ALL ELECTRICAL CONDUCTORS SHALL BE COPPER, 90 DEGREE C TEMPERATURE RATING, MINIMUM SIZE IS NO. 12 AWG. ALL WIRING SHALL BE IN CONDUIT UNLESS OTHERWISE NOTED ON THE DRAWINGS. UNDERGROUND CONDUCTORS MUST BE RATED FOR 90 DEGREE C AS DEFINED FOR "WET LOCATION" BY THE NEC UNLESS NOTED OTHERWISE.

4.A. ALL CONDUIT SHALL BE METALLIC ELECTRICAL CONDUIT UNLESS NOTED OTHERWISE ON THE DRAWINGS. MINIMUM SIZE CONDUIT IS 1/2".
ALL CONDUITS AND BOXES SHALL BE CONCEALED ABOVE CEILINGS, IN WALLS OR UNDER FLOORS AS REQUIRED OR AS NOTED OTHERWISE ON THE DRAWINGS.

B. UNDERGROUND CONDUIT SHALL BE MINIMUM OF SCHEDULE 40 PVC OR MEDIUM WALL (MW) FIBERGLASS RTRC, 90 DEGREE C. RATED WITH MINIMUM OF TRENCH COVER PER NEC TABLE 300-5. ALL UNDERGROUND JUNCTION/PULL BOXES SHALL BE RATED THE SAME AS THE ASSOCIATED CONDUIT, MINIMUM SIZE UNDERGROUND CONDUIT IS 3/4".

5. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF CONDUIT, WIRING, ELECTRICAL EQUIPMENT AND ASSOCIATED HARDWARE WITH THE INSTALLATION OF THE MECHANICAL EQUIPMENT AND OTHER TRADES. SEE THE CIVIL PLANS FOR EXACT LOCATIONS.

6. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR COORDINATION AND INSTALLATION OF SERVING ELECTRICAL TELEPHONE/TV COMPANY CONDUIT SYSTEMS AND SERVICE EQUIPMENT. UNDERGROUND TRENCH LOCATIONS SHOWN ARE APPROXIMATE AND MUST BE VERIFIED BY THE SERVING UTILITY. CONTACT WITH THE SERVING UTILITIES IS REQUIRED PRIOR TO INSTALLATION. THE CONTRACTOR IS RESPONSIBLE FOR EXISTING FIELD CONDITIONS AND PROVIDING A FULL FUNCTIONING ELECTRICAL SYSTEM.

7. ALL LIGHT FIXTURES, RECEPTACLE AND JUNCTION BOXES, PANEL BOARDS AND ALL OTHER METALLIC ELECTRICAL APPLIANCES AND DEVICES MUST BE GROUNDED AS REQUIRED BY SECTION 250 OF THE NATIONAL ELECTRICAL CODE.

8. ASBESTOS CONTAINING MATERIALS MAY BE PRESENT IN THE EXISTING STRUCTURES ON THIS PROJECT. THE CONTRACTOR SHALL TAKE APPROPRIATE SAFETY PRECAUTIONS IN ACCORDANCE WITH OSHA AND EPA REGULATIONS DURING INSTALLATION OF ELECTRICAL EQUIPMENT AND, OR REMOVAL OF EXISTING BUILDING MATERIALS WHICH MAY CONTAIN ASBESTOS. CONTRACTOR SHALL IMMEDIATELY CEASE WORK AND NOTIFY THE OWNER OF ANY MATERIALS BELIEVED TO CONTAIN ASBESTOS. WORK SHALL PROCEED ONLY UPON DIRECTION FROM THE OWNER.

#### **ELECTRICAL SPECIFICATIONS:**

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FURNISH AND INSTALL, INCLUDING LABOR, SUPERVISION, MATERIALS, TOOLS, SERVICES, TRANSPORTATION, OVERHEAD COSTS, FEES, PLAN CHECK FEES, INSPECTION CHARGES, ROYALTIES, PROFITS, ETC., A COMPLETE ELECTRICAL INSTALLATION AS SPECIFIED HEREIN AND INDICATED ON THE ELECTRICAL DRAWINGS. PERFORM WORK IN AN APPROVED, NEAT, FIRST CLASS, SAFE, WORKMANSHIP LIKE MANNER THAT COMPLIES WITH ALL APPLICABLE LOCAL, STATE, FEDERAL, AND SERVICING ELECTRICAL AND TELEPHONE UTILITIES, ETC., CODES, ORDINANCES, RULES, REGULATIONS, STANDARDS, ETC. THE ENTIRE ELECTRICAL INSTALLATION SHALL COMPLY WITH OR SURPASS THE MOST RECENT EDITION OF THE NATIONAL ELECTRICAL CODE AND OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA).

ALL MATERIALS AND EQUIPMENT FURNISHED BY THE ELECTRICAL CONTRACTOR SHALL BE NEW OF FIRST—CLASS QUALITY UNLESS NOTED OTHERWISE, FREE FROM DEFECTS, AND CONFORM WITH UNDERWRITER LABORATORIES INC. STANDARDS AND BE SO LABELED. MATERIALS, EQUIPMENT ETC. NOT INDICATED ON DRAWINGS OR SPECIFIED HEREIN BUT REQUIRED FOR A SUCCESSFUL AND EFFICIENT COMPLETION OF THE ELECTRICAL INSTALLATION SHALL BE HELD TO BE IMPLIED AND SHALL BE FURNISHED AND INSTALLED AT NO ADDITIONAL COST. ENCLOSURES FOR ALL EQUIPMENT SHALL BE SUITABLE FOR USE INTENDED e.g., WEATHER—PROOF FOR EXTERIOR AND WET LOCATIONS. ALL EQUIPMENT SHALL BE RATED FOR USE INTENDED, e.g., VOLTAGE, HORSE POWER, RATING OF DISCONNECT SWITCHES, ETC.

MATERIALS, EQUIPMENT, ETC., INCLUDING THOSE FURNISHED BY OTHERS, THAT ARE TO BE INSTALLED BY THE ELECTRICAL CONTRACTOR SHALL BE RECEIVED AND PROPERLY PROTECTED BY THE CONTRACTOR UNTIL ENTIRE INSTALLATION IS COMPLETE.

MAKE NO INSTALLATION OF WORK WHICH WOULD LEAVE INADEQUATE OPERATION OR SERVICING SPACE FOR ANY ITEM FOR THE ENTIRE PROJECT. DRAWINGS ARE NOT INTENDED TO SHOW IN DETAIL ALL FEATURES OF WORK. CHECK LOCATION AT ELECTRICAL WORK TO DETERMINE IN ADVANCE THAT IT CLEARS ALL OPENINGS, STRUCTURAL MEMBERS, ETC. THE CONTRACTOR SHALL INSTALL ALL THE MINIMUM CODE REQUIRED MATERIALS AND EQUIPMENT AT NO ADDITIONAL COST.

ALL SWITCHES AND RECEPTACLES FOR THIS PROJECT SHALL BE COMMERCIAL GRADE 20 AMP. ALL DEVICE PLATES SHALL BE SMOOTH PLASTIC; IVORY COLORED ON LIGHT WALLS AND BROWN COLORED ON DARK WALLS. (U.N.O.) PROVIDE WEATHER—PROOF DIE CAST ALUMINUM BOXES & COVERS AT OUTDOOR LOCATIONS. INSTALL "IN—USE" TYPE WP COVERS AT RECEPTACLES AT OUTDOOR WET LOCATIONS. PROVIDE ALUMINUM OR SST DEVICE PLATES AT INDOOR SHOP AREAS.

ALL WIRING SHALL BE INSTALLED IN APPROVED RACEWAYS IF REQUIRED BY CODES. RACEWAYS SHALL BE APPROVED FOR USE INTENDED. ALL ELECTRICAL CONDUCTORS SHOWN ARE 600V COPPER, MINIMUM SIZE CONDUCTOR IS NO. 12 AWG, AND AS RECOMMENDED BY SUPPLIER OF EQUIPMENT AS APPLICABLE.

ALL CONDUIT SHALL BE INSTALLED CONCEALED UNLESS NOTED OTHERWISE. ALL CEILING, FLOOR, AND WALL PENETRATIONS & BOXES SHALL BE CAULKED/SEALED TO PRESERVE FIRE RATINGS AND WATER PROOF INTEGRITY. FIRESTOPPING OF PENETRATIONS IN & THROUGH FIRE RATED FLOORS, CEILINGS & WALLS SHALL BE IN ACCORDANCE WITH IBC & UL AND AS REQUIRED BY THE FIRESTOPPING MANUFACTURER FOR THE CONSTRUCTION TYPE & FIRE RATING SPECIFIED (SEE ARCHITECTURAL DRAWINGS). THE FIRESTOPPING SYSTEM SHALL BE LISTED AND TESTED TO UL-1479 & ASTM E-814. INSTALL IN STRICT COMPLIANCE WITH THE MANUFACTURER INSTRUCTIONS.

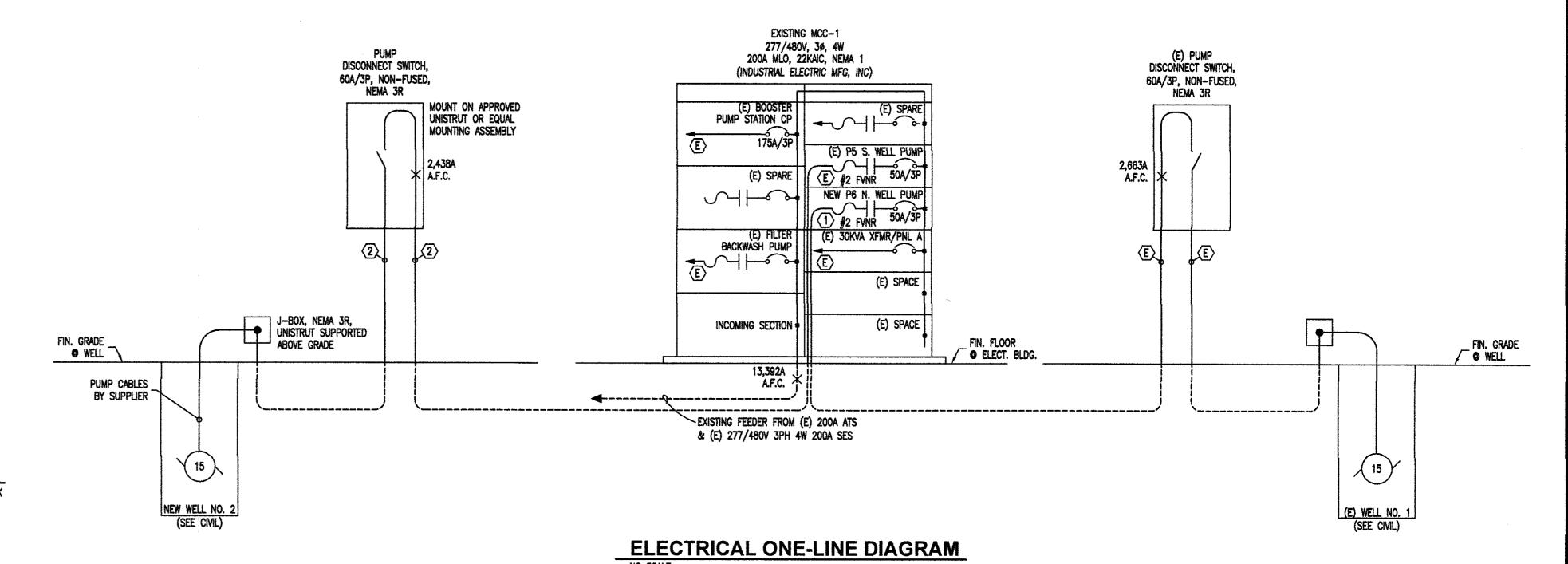
PROVIDE SWITCHBOARDS, SERVICE EQUIPMENT, & PANELBOARDS WITH FULL SIZED BREAKERS AND COPPER BUSSING. LABEL EQUIPMENT AND WIRING PER NEC. PROVIDE TYPED PANEL DIRECTORIES AND IDENTIFY ALL CIRCUITS AND SPACES.

LABEL EQUIPMENT WITH MYCARTA TAGS, 1/4" ENGRAVED LETTERS. PROVIDE WIRE COLOR CODING PER NEC AND ACCEPTED STANDARDS (MATCH EXISTING). PROVIDE UNDERGROUND WARNING TAPE AT ALL UNDERGROUND CONDUIT SYSTEMS.

THIS CONTRACT IS TO INCLUDE ALL CONTINGENCIES WHICH MAY ARISE AND WHICH MAY BE REQUIRED TO MAKE A COMPLETE ELECTRICAL

THE ELECTRICAL CONTRACTOR SHALL VISIT SITE AND DETERMINE EXTENT OF THE WORK. AT COMPLETION OF ELECTRICAL INSTALLATION, PROVIDE OWNER WITH ACCURATE AS—BUILT DRAWINGS INDICATING ALL VARIATIONS FROM CONTRACT DRAWINGS, AND A LETTER TO THE OWNER'S REPRESENTATIVE STATING PROJECT FULLY COMPLIES WITH ALL CONTRACT DOCUMENTS AND IF NOT, HOW INSTALLATION WAS ACCOMPLISHED. ALL CHANGES SHALL BE SUBJECT TO OWNER'S REPRESENTATIVE'S APPROVAL.

PROVIDE NECESSARY LABOR, TOOLS, EQUIPMENT, e.g., VOLTMETER, AMMETER, MEGGER, ETC., AND CHECK ENTIRE ELECTRICAL SYSTEM IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE. ALL TESTING SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION OF EQUIPMENT, MATERIALS, ETC., BEING TESTED.



LOAD SUMMARY (EXISTING SES)	AMPS @	AMPS @ 480V/3PH					
EQUIPMENT	НР	QTY	LOAD	TOTAL LOAD	TOTAL AMPS		
EXISTING LOAD:							
EXISTING LOAD*	-	-	61,765 VA				
TOTAL EXISTING LOAD*				61,765 VA			
REMOVED LOAD:	ļ		·				
ACTIVE WELL PUMP	5	1	-6,319 VA				
TOTAL REMOVED LOAD				-6,319 VA			
NEW LOAD:							
WELL PUMP (PHASE 1)	15	1	17,459 VA				
WELL PUMP (PHASE 2)	15	1	17,459 VA				
OTHER LOAD	-	-	52 VA	1			
TOTAL NEW LOAD	Ì			34,970 VA			
TOTAL:	1	1		90,416 VA	108.8 AMPS		

NOTE:

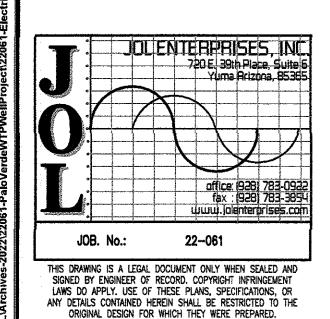
\* EXISTING DEMAND LOAD PER SCE RECORDED METER DATA & PER NEC ARTICLE 220-35 (ASSUMED BALANCED LOADS @ 85% PF, 125% DEMAND).

### NOTES (ONE-LINE DIAGRAM):

- 1. PROVIDE RATED EQUIPMENT & DEVICES BY MANUFACTURER CAPABLE OF SAFELY INTERRUPTING THE AVAILABLE FAULT CURRENT.
- PROVIDE WARNING LABELS & MARKING BY MANUFACTURER AT ALL SWITCHBOARDS, PANELBOARDS, & INDUSTRIAL CONTROL PANELS/MCC'S LIKELY TO CREATE ARC FLASH CONDITIONS AS REQUIRED BY NEC ART. 110.16.
- 3. LABEL & MARK MAIN SERVICE DISCONNECT(S) PER NEC.
- 4. WHERE CONDUIT IS INDICATED AS OVERHEAD METAL CONDUIT, UNDERGROUND/UNDERSLAB PVC CONDUIT IS AN APPROVED ALTERNATE.
- 5. PHASE NEW ELECTRICAL WORK TO COORDINATE WITH OWNER REQUIREMENTS & REQUIREMENTS INDICATED ON THE CIVIL DRAWINGS. MAINTAIN CONTINUOUS POWER TO ALL OPERATIONAL WATER TREATMENT PLANT EQUIPMENT DURING THE CONSTRUCTION. COORDINATE SCHEDULE OF WORK & ALL POWER OUTAGES WITH OWNER. OUTAGES SHALL BE LIMITED TO 30 MINUTE DURATION. ALL OUTAGES SHALL BE SCHEDULED MINIMUM 7 DAYS IN ADVANCE AND APPROVED BY THE OWNER PRIOR TO
- 6. ALL WORK SHOWN IS NEW UNLESS NOTED OTHERWISE.

#### **KEY NOTES:**

- COORDINATE WITH MANUFACTURER AS REQUIRED TO REMOVE & REPLACE THE EXISTING STARTER BUCKET WITH A NEW OR MANUFACTURER REFURBISHED STARTER BUCKET AS REQUIRED FOR THE NEW PUMP. AS AN OPTIONAL ALTERNATIVE TO REFURBISHING THE ORIGINAL IEM EQUIPMENT, THE CONTRACTOR MAY VERIFY & REPLACE THE COMPLETE MCC WITH A NEW MCC INCLUDING ALL STARTERS, FEEDER BREAKERS, ACCESSORIES, & COMPONENTS TO MATCH EXISTING (SIEMENS, GE, AB, SQUARE-D, OR EQUAL). MATCH EXISTING EQUIPMENT (ELAPSED TIME METERS, H-O-A SWITCHES, RUN PILOT LIGHTS, ETC.). ORDER STARTERS, CIRCUIT BREAKERS, & OVERLOAD DEVICES TO COORDINATE WITH THE NEW PUMPS. ALL NEW EQUIPMENT SHALL BE COMPATIBLE TO EXISTING EQUIPMENT & EQUIPMENT RATINGS. CONNECT NEW WELL PUMP BRANCH CIRCUITS. LABEL EQUIPMENT WITH ENGRAVED NAMEPLATES PER NEC & SPECIFICATIONS.
- (2) (3) #8 CU THWN-2, (1) #10 CU GRD, 1" CONDUIT.
- (E) EXISTING FEEDER OR BRANCH CIRCUIT.



PROJECT TITLE PREPARED UNDER THE DIRECT SUPERVISION OF: 08/01/2022 **ELECTRICAL DETAILS** E 16119 PALO VERDE COUNTY WATER DISTRICT -STAFF JAMES RA WATER WELLS REPLACEMENT PROJECT NONE PHASE II 12/31/23 11-23-2022 SHEET 8 OF 8 REG. EXP. DATE THG PROJECT NO. 821.028