SHILOH ELEMENTARY SCHOOL
WATER TREATMENT SYSTEM

6633 PARADISE ROAD
MODESTO, CA. 95358

ABV	ABOVE
AFF	ABOVE FINISH FLOOR
ACC	ACCESSIBLE
ACOUS	ACOUSTICAL
ADJ	ADJUSTABLE
A/C	AIR CONDITIONING
ALT	ALTERNATE
ALUM	ALUMINUM
AB	ANCHOR BOLT
ANOD	ANODIZED
ARCH	ARCHITECT(URAL)
AC	ASPHALT CONCRETE
APL	ASSUMED PROPERTY LINE
AUTO	AUTOMATIC
BM	BEAM
BET	BETWEEN
BLK	BLOCK
BLKG	BLOCKING
BD	BOARD
BOT	BOTTOM
BOB	BOTTOM OF BEAM
BLDG	BUILDING
CIP	CAST IN PLACE
CB	CATCH BASIN
CLKG	CAULKING
CLG	CEILING
CJ	CEILING JOIST / CONTROL JOINT
CEM	CEMENT
CL	CHAIN LINK
CO	CLEAN OUT
CLR	CLEAR(ENCE)
COL	COLUMN
COMB	COMBINATION
CONC	CONCRETE
CMU	CONCRETE MASONRY UNIT
CONST	CONSTRUCTION
CONT	CONTINUOUS
CTSK	COUNTER SINK
DP	DEEP
D	DEEP (DEPTH)
DEPT	DEPARTMENT
DTL	DETAIL
DIAG	DIAGONAL
DIA	DIAMETER
DIM	DIMENSION
DISP	DISPENSER
DR	DOOR
DBL	DOUBLE
DF	DOUGLAS FIR
DN	DOWN
DS	DOWN SPOUT
DWG	DRAWING
DF	DRINKING FOUNTAIN
EA	EACH
EW	EACH WAY
E	EAST
EWC	ELECT. WATER COOLER
ELEC	ELECTRIC(AL)
ELEV	ELEVATION
EMER	EMERGENCY
ENCL	ENCLOSURE
EQ	EQUAL
EXH	EXHAUST
	EXISTING
EJ	EXPANSION JOINT
EXP	EXPOSED/EXPANSION
EXT	EXTERIOR
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUD/STRUCTURE
FIN	FINISH
FF	FINISH FLOOR
FA	FIRE ALARM
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FH	FIRE HYDRANT
FLASH	FLASHING
FLR	FLOOR
FT	FOOT / FEET
FTG	FOOTING
FDN	FOUNDATION
GA	GAGE / GAUGE
GI	GALVANIZED IRON
GL	GLASS / GLAZING
GALV	GLAVANIZED
GLB	GLUE LAMINATED BEAM
GB	GRAB BAR
GND	GROUND
GYP	GYPSUM
GYPBD	GYPSUM BOARD
HDW	HARDWARE
HDR	HEADER
HVAC	HEATING/VENTILATING/AIR CONDITION
HT	HEIGHT
H	HIGH
HC	HOLLOW CORE
HM	HOLLOW METAL
HSS	HOLLOW STRUCTURAL SECTION
HORIZ	HORIZONTAL
HB	HOSE BIB
HR	HOUR
IN	INCH
ID	INSIDE DIAMETER
INSUL	INSULATION
INT	INTERIOR
LAB	LABORATORY
LAM	LAMINATE(D)
LAV	LAVATORY
LT	LIGHT
LTWT	LIGHT WEIGHT
LONG/LENGTH	LONG/LENGTH
LV	LOUVER VENT
MB	MACHINE BOLT
MH	MAN HOLE
	MANUFACTURER
MAS	MASONRY
MAX	MAXIMUM
MECH	MECHANICAL
	METAL
MIN	MINIMUM
MISC	MISCELLANEOUS
MTD	MOUNTED
(N)	NEW
NRC	NOISE REDUCTION COEFF.
NOM	NOMINAL
N	NORTH
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NO/#	NUMBER
OC	ON CENTER
OPNG	OPENING
OD	OUTSIDE DIAMETER
O/	OVER
OFOI	OWNER FURNISHED OWNER INSTALLED
OFCI	OWNER FURSHINED CONTRACTOR INSTALLED
PR	PAIR
PTD	PAPER TOWEL DISPENSER
d	PENNY
PERF	PERFORATED
	PLASTER
PLYWD	PLYWOOD
PT	POINT
POC	POINT OF CONNECTION
PVC	POLYVINYL CHLORIDE
PSI	POUNDS PER SQ. INCH
PSF	POUNDS PER SQ.FT.
PREFAB	PREFABRICATED
P.T.	PRESSURE TREATED
PTDF	PRESSURE TREATED DOUG. FIR
PROJ	PROJECT
P.L.	PROPERTY LINE
RAD	RADIUS
REF	REFERENCE
REFL	REFLECTED
REFR	REFRIDGERATOR
REINF	REINFORCE(ING)
REQ	REQUIRED
RA	RETURN AIR
REV	REVISION(S)/REVISED
ROW	RIGHT OF WAY
R	RISER/RADIUS
RD	ROOF DRAIN
RM	ROOM
RO	ROUGH OPENING
RB	RUBBER BASE
SECT	SECTION
SHTG	SHEATHING
SHT	SHEET
SM	SHEET METAL
SIM	SIMILAR
SD	SOAP DISPENSER
SC	SOLID CORE
STC	SOUND TRANSMISSION COEFF.
S	SOUTH
SPEC	SPECIFICATION
SQ	SQUARE
SF	SQUARE FOOT
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURE
S4S	SURFACE FOUR SIDES
SUSP	SUSPENDED
SAT	SUSPENDED ACOUSTICAL TILE
SYM	SYMBOL/SYMMETRICAL
TB	TACKBOARD
TEL	TELEPHONE
TV	TELEVISION
THK	THICK
THRES	THRESHOLD
T&G	TONGUE & GROOVE
TOB	TOP OF BEAM
TOC	TOP OF CURB/CONCRETE
TOP	TOP OF PLATE/PARAPET/PAVEMENT
TOS	TOP OF SHEATHING STEEL/SLAB
TOW	TOP OF WALK/WALL
T	TREAD
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UR	URINAL
VERT	VERTICAL
VCT	VINYL COMPOSITION TILE
WSTC	WAINSCOT
WC	WATER CLOSET
WH	WATER HEATER
WP	WATER PROOFING
WR	WATER RESISTANCE
WT	WEIGHT
WWF	WELDED WIRE FABRIC
W	WEST/WIDTH/WIDE
WDW	WINDOW
W/	WITH
W/O	WITHOUT
WD	WOOD
WWM	WOVEN WIRE MESH
WI	WROUGHT IRON

ABBREVIATIONS

GENERAL NOTES

01.	SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NONCOMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS, A REVISION, A CONSTRUCTION CHANGE DOCUMENT, OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, OUTLINING THE REQUIRED REPAIR WORK SHALL BE APPROVED BY DSA BEFORE PROCEEDING WITH THE REPAIR WORK
02.	CHANGES TO APPROVED DOCUMENTS DURING BIDDING PHASE AND PRIOR TO LETTING CONTRACT SHALL BE MADE BY ADDENDA AND SUBMITTED TO AND APPROVED BY DSA PRIOR TO DISTRIBUTION TO CONTRACTORS. CHANGES TO THE STRUCTURAL, ACCESSIBILITY, OR FIRE AND LIFE-SAFETY PORTIONS OF THE APPROVED PLANS AND SPECIFICATIONS AFTER THE WORK HAS BEEN LET SHALL BE MADE BY A CONSTRUCTION CHANGE DOCUMENT AS REQUIRED IN SECTION 4-338, PART 1, CAC, AND SHALL BE SUBMITTED TO AND APPROVED BY DSA PRIOR TO COMMENCEMENT OF WORK. CONSTRUCTION CHANGE DOCUMENTS SHALL BE PREPARED AND SUBMITTED TO DSA IN COMPLIANCE WITH DSA INTERPRETATION OF REGULATION IR A-6.
03.	THE LOCATION AND STORAGE OF CONSTRUCTION MATERIALS AND THE EFFECTS ON EXISTING OCCUPIED BUILDINGS SHALL BE APPROVED BY THE CITY OF MODESTO FIRE DEPARTMENT.
04.	TEMPORARY TOILET FACILITIES SHALL BE PROVIDED PER THE PROJECT MANUAL UNDER TEMPORARY FACILITIES.
05.	ALL PENETRATIONS IN FIRE RATED ASSEMBLIES SHALL BE PROTECTED IN ACCORDANCE WITH C.B.C. CHAPTER 7.
06.	TESTING OF MATERIALS SHALL BE CONDUCTED BY A TESTING LAB SELECTED BY THE OWNER & APPROVED BY THE ARCHITECT. THE OWNER SHALL PAY FOR TESTING OF MATERIALS IN ACCORDANCE WITH SECTION 01410.
07.	ALL WORK SHALL BE CONTINUALLY INSPECTED BY A INSPECTOR (CLASS 1) APPROVED BY THE ARCHITECT & THE DIVISION OF STATE ARCHITECTS.
08.	A COPY OF TITLE 24 PART ONE THROUGH FIVE SHALL BE KEPT AVAILABLE IN THE FIELD BY THE INSPECTOR AND THE CONTRACTOR DURING CONSTRUCTION.
09.	ALL ITEMS ARE TO BE CONSIDERED NEW UNLESS IDENTIFIED AS (E) OR EXISTING
10.	THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIRING AN UNDERGROUND UTILITY LOCATING SERVICE AND WILL BE RESPONSIBLE FOR REPAIRS TO ANY AND ALL UNDERGROUND UTILITIES DAMAGED IN THE TRENCHING AND/OR HORIZONTAL BORING AT THE SITE THE FIELD BY THE INSPECTOR
11.	IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND ARCHITECT OF RECORD TO VISIT THE SITE TO BECOME FAMILIAR WITH THE PROJECT AREA AND SITE CONDITIONS
12.	THE CONTRACTOR SHALL ADVISE THE OWNER AND ARCHITECT OF THE SCHEDULE AND COORDINATE WORK AS SO TO HAVE THE LEAST POSSIBLE IMPACT ON THE OWNER'S OPERATIONS
13.	EXISTING IMPROVEMENTS AND UTILITIES DAMAGED DURING THE COURSE OF THE WORK SHALL BE PROMPTLY REPAIRED. EXISTING IMPROVEMENTS AND UTILITIES DAMAGED, FOR WHICH LOCATIONS WERE UNKNOWN, SHALL BE IMMEDIATELY BROUGHT TO THE ARCHITECT'S ATTENTION AND PROMPTLY REPAIRED AT HIS DIRECTION.
14.	THE CONTRACTOR WILL VERIFY EXACT CONDITIONS AND DIMENSIONS IN THE FIELD
15.	ADEQUATELY PROTECT ALL PERSONNEL AND THE PUBLIC FROM HARM AND ACCIDENT DURING WORK OF THIS PROJECT, BY THE ERECTION OF PROPER BARRICADES, SIGNAGE AND LIGHTING AS MAY BE NECESSARY. ADEQUATELY PROTECT ALL EXISTING BUILDINGS AND SURFACES ADJACENT TO THE WORK OF THIS PROJECT FROM DAMAGE
16.	NO INTERFERENCE OF THE USE OF FIRE LANES OR PUBLIC EGRESS AT ANY TIME SHALL BE ALLOWED UNLESS OTHERWISE AUTHORIZED IN THESE DOCUMENTS OR IN WRITING
17.	ALL RUBBISH AND DEBRIS SHALL BE LEGALLY DISPOSED OF OFF THE SITE BY THE CONTRACTOR THE CONTRACTOR SHALL MAINTAIN THE PREMISES FREE OF ACCUMULATED WASTE AND MATERIALS CAUSED BY CONTRACTORS, EMPLOYEES OR WORK, OR THE EMPLOYEES OR WORK OF THE SUBCONTRACTORS
18.	NO MATERIAL OR EQUIPMENT SHALL BE LEFT ON THE PROJECT SITE OVERNIGHT UNSECURED.
19.	IN ACCORDANCE WITH THE GENERAL CONDITIONS OF THE CONTRACT, A FULL-TIME SUPERINTENDENT SHALL BE EMPLOYED BY THE CONTRACTOR AND SHALL BE PRESENT AT THE JOB SITE WHILE WORK IS BEING PERFORMED
20.	THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR EXISTING CONCRETE WALKS, LANDSCAPING, IRRIGATION SYSTEMS, ETC. WHICH MAY BE DAMAGED BY THE WORK OF THIS PROJECT, IF DAMAGE OCCURS, CONTRACTOR MUST REPAIR
21.	THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR FIRE SAFETY DURING DEMOLITION AND CONSTRUCTION OF THE PROJECT PER 2022 CFC 33
22.	PROVIDE ADDRESS IDENTIFICATION NUMBERS OR LETTERS. EACH CHARACTER SHALL BE NOT LESS THAN 4" IN HEIGHT AND NOT LESS THAN 0.5"(1/2") IN WIDTH. THEY SHALL BE INSTALLED ON A CONTRASTING BACKGROUND AND BE PLAINLY VISIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY. CBC 501.2

GENERAL DEMOLITION NOTES

01.	THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS. ANY DISCREPENSIES BETWEEN DRAWINGS AND ACTUAL CONDITIONS SHALL BE BROUGHT TO THE ATTENTIONS OF THE ARCHITECT FOR CORRECTION / CLARIFICATION PRIOR TO EXECUTION OF THE WORK.
02.	DETAILING, METARIALS & FINISHES ARE TYPICAL FOR ALL SIMILAR CONDITIONS.
03.	THE INTENT OF THE DEMOTION PLANS IS TO DESCRIBE THE GENERAL SCOPE OF THE DEMOLITION WORK BUT DOES NOT NECESSARY DEPICT ALL ITEMS / CONDITIONS REQUIRED TO COMPLETE THE RELEVANT WORK AS INDICATED IN THE CONSTRUCTION DOCUMENTS. THE CONTRACTOR AND ANY RELEVANT SUB-CONTRACTOR SHALL PERFORM A THOROUGH SITE INVESTIGATION PRIOR TO BIDDING AND/OR COMMENCING WITH THE WORK.

GENERAL NOTES

ALL WORK SHALL COMPLY WITH APPLICABLE CODES AND STANDARDS	
APPLICABLE CODES - EFFECTIVE JANUARY 1, 2023	
TITLE 19 CCR	PUBLIC SAFETY, STATE FIRE MARSHAL REGULATIONS
TITLE 24 CCR	PART 1 - 2022 BUILDING STANDARDS ADMINISTRATIVE CODE
TITLE 24 CCR	PART 2 - 2022 CALIFORNIA BUILDING CODE, VOL. 1 & 2 (CBC) (2021 IBC, AS AMENDED BY CA)
TITLE 24 CCR	PART 3 - 2022 CALIFORNIA ELECTRICAL CODE (CEC) (2020 NEC, AS AMENDED BY CA)
TITLE 24 CCR	PART 4 - 2022 CALIFORNIA MECHANICAL CODE (CMC) (2022 IAPMO UMC, AS AMENDED BY CA)
TITLE 24 CCR	PART 5 - 2022 CALIFORNIA PLUMBING CODE (CPC) (2022 IAPMO UPC, AS AMENDED BY CA)
TITLE 24 CCR	PART 6 - 2022 CALIFORNIA ENERGY CODE
TITLE 24 CCR	PART 9 - 2022 CALIFORNIA FIRE CODE (CFC) (2021 IFC, AS AMENDED BY CA)
TITLE 24 CCR	PART 11 - 2022 CALIFORNIA GREEN BUILDING STANDARDS CODE
TITLE 24 CCR	PART 12 - 2022 REFERENCED STANDARDS

APPLICABLE STANDARDS - 2022 CBC CH.35 AND 2022 CFC CH. 80

APPLICABLE CODES

SHEET INDEX SHEET COUNT: 27

CS	COVER SHEET
FGA	FIRE, GATES AND ACCESS PLAN

SHEETS - CIVIL

C.1	EXISTING TOPOGRAPHY
C.2	DEMOLITION PLAN
C.3	HORIZONTAL CONTROL PLAN
C.4	GRADING AND DRAINAGE PLAN

SHEETS - ARCHITECTURAL

AS.1	SITE PLANS
AS.2	DETAILS
WT-1	WATER TREATMENT BUILDING

SHEETS - STRUCTURAL

S1.1	STRUCTURAL NOTES
S1.2	STRUCTURAL NOTES
S1.3	TYPICAL DETAILS - FOUNDATION
S1.4	TYPICAL DETAILS - FOUNDATION & WALL FRAMING
S1.5	TYPICAL DETAILS - WOOD WALL FRAMING
S2.1	FOUNDATION PLAN / ROOF FRAMING PLAN / STRUCTURAL DETAILS
S3.1	TANK FOUNDATION PLAN & DETAILS

SHEETS - PLUMBING

P0.0	PLUMBING - LEGEND, NOTES & SCHEDULES
P1.0	PLUMBING - FLOOR PLAN & DETAILS

SHEETS - ELECTRICAL

E0	GENERAL NOTES, LEGEND
E1	ELECTRICAL SITE PLAN
E2	ENLARGED PLAN
E3	ELECTRICAL DETAILS

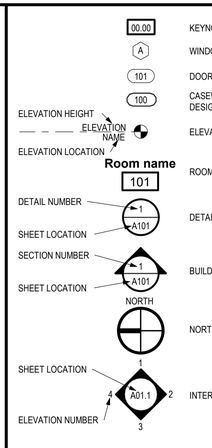
SHEETS - WATER TREATMENT PLANT

WTP1.1	WATER TREATMENT PLANT
WTP1.2	WATER TREATMENT PLANT
WTP1.3	WATER TREATMENT PLANT
WTP1.4	WATER TREATMENT PLANT
WTP1.5	WATER TREATMENT PLANT

CODE ANALYSIS

OCCUPANCY CLASSIFICATION:	U
BUILDING CONSTRUCTION TYPE:	V-B, NON-SPRINKLERED
ALLOWABLE BUILDING AREA:	5,500 SF
ACTUAL BUILDING AREA:	247 SF

SYMBOLS LEGEND



VICINITY MAP

SHILOH ELEMENTARY SCHOOL DISTRICT

6633 PARADISE ROAD
MODESTO, CA 95358
(209) 522-2261
(209) 522-0188

ARCHITECT

TIMOTHY P. HUFF & ASSOCIATES, INC.
DBA: TPH ARCHITECTS
TIMOTHY P. HUFF, AIA PRINCIPAL ARCHITECT
519 McHENRY AVENUE
MODESTO, CALIFORNIA 95354
PH: (209) 571 2232
FAX: (209) 571 1936

CIVIL ENGINEER

ASSOCIATED ENGINEERING GROUP INC.
RYAN CARREL, P.E.
4206 TECHNOLOGY DR. #4
MODESTO CA 95356
PH: (209) 545 3390
FAX: FAX: (209)545-3875

STRUCTURAL ENGINEER

PELTON WYLIE FAHRNEY ENGINEERING
NICHOLAS FAHRNEY, S.E.
2813 COFFEE ROAD, SUITE D1
MODESTO, CALIFORNIA 95355
PH: (209) 575 9619
FAX: (209) 575 0274

ELECTRICAL ENGINEER:

HCS ENGINEERING, INC.
RICHARD SMITH. E.E.
4651 QUAIL LAKES DRIVE
STOCKTON, CA 95207
PH: (209) 478 8270
FAX: (209) 478 2169

WATER TREATMENT ENGINEERING:

AFFINITY ENGINEERING
JAMES D. CARSON P.E.
3433 MARDI GRAS COURT
RANCHO CORDOVA, CA 95670

PROJECT TEAM

THE SCOPE OF WORK ON THIS PROJECT INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING:

1. SITE DEMOLITION WORK.
2. CONSTRUCTION OF WATER TREATMENT EQUIPMENT BUILDING.
3. WATER TREATMENT SYSTEM - INCLUDING COMPLETION OF WELL, WATER STORAGE TANK AND TREATMENT EQUIPMENT AND ADDITIONAL WORK INDICATED IN THE CONSTRUCTION DOCUMENTS.
4. DRILLING OF 8-INCH STEEL IRRIGATION WELL
5. DISINFECTION AND FLUSHING OF ENTIRE CAMPUS NEW AND EXISTING WATER DISTRIBUTION FACILITIES.
6. MISCELLANEOUS SITE WORK.

NOTES:
1) DSA INSPECTOR: THIS APPLICATION IS EXEMPT FROM ACCESSIBLE POT REQUIREMENTS PER 11B-203.5.
2) A "DSA CERTIFIED" PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY THE DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR. A MINIMUM CLASS 3 INSPECTOR IS REQUIRED.

PROJECT SCOPE

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 02-122118 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/05/2024

TPH architects
TIMOTHY P. HUFF & ASSOCIATES, INC.
Timothy P. Huff, AIA Architect
519 McHenry Ave., Modesto, CA 95354
Ph: (209) 571-2232 Fax: (209) 571-1936

LICENSED ARCHITECT TIMOTHY PAUL HUFF No. C 15527 REN. 5/25 STATE OF CALIFORNIA

Consultants

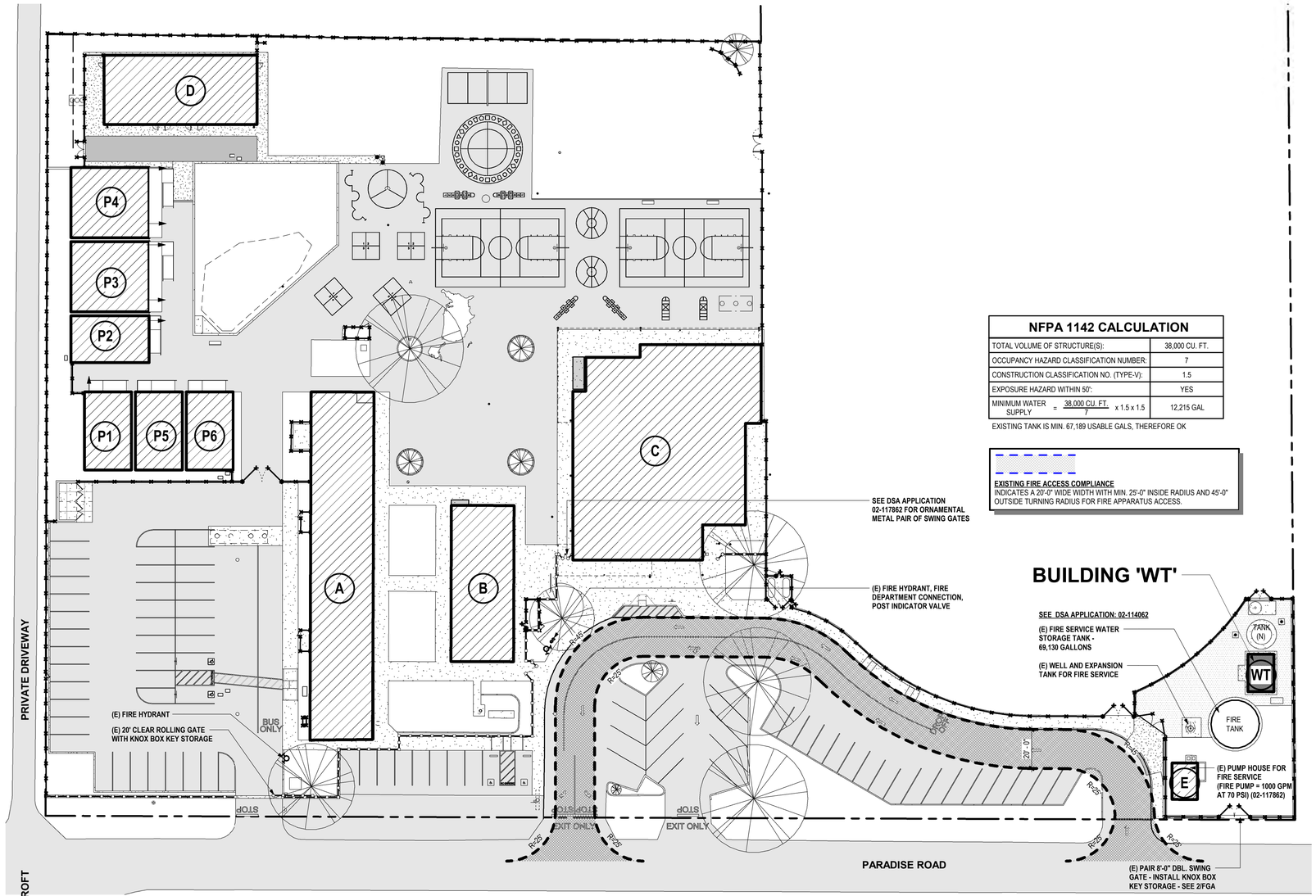
SHILOH ELEMENTARY WATER TREATMENT SYSTEM
6633 PARADISE ROAD MODESTO, CALIFORNIA 95358
SHILOH ELEMENTARY SCHOOL DISTRICT
COVER SHEET

Project Number	2324
Date	JAN 2024
Drawn by	RRM
Checked by	JH

CS

Plot Date & Time 8/16/2024 4:13:37 PM

C:\Local\2324 Shiloh Water Treatment Plant_CENTRAL.rvt



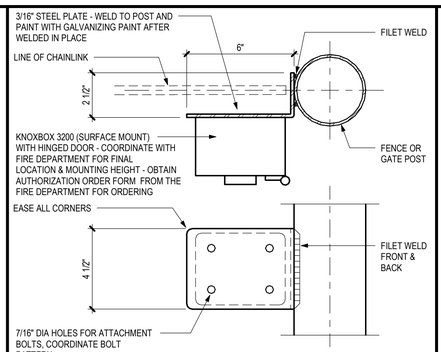
1 FIRE, GATES AND ACCESS PLAN

SCALE: 1" = 30'-0"

NFPA 1142 CALCULATION	
TOTAL VOLUME OF STRUCTURE(S):	38,000 CU. FT.
OCCUPANCY HAZARD CLASSIFICATION NUMBER:	7
CONSTRUCTION CLASSIFICATION NO. (TYPE-V):	1.5
EXPOSURE HAZARD WITHIN 50':	YES
MINIMUM WATER SUPPLY = 38,000 CU. FT. / 7 x 1.5 x 1.5	12,215 GAL

EXISTING TANK IS MIN. 67,189 USABLE GALS, THEREFORE OK

EXISTING FIRE ACCESS COMPLIANCE
INDICATES A 20'-0" WIDE WIDTH WITH MIN. 25'-0" INSIDE RADIUS AND 45'-0" OUTSIDE TURNING RADIUS FOR FIRE APPARATUS ACCESS.



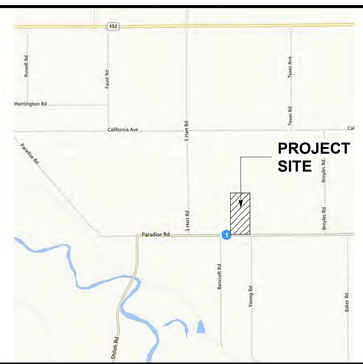
2 KNOX BOX AT CLF

SCALE: 3" = 1'-0"

BUILDING INFORMATION

BUILDING INFORMATION								
ID	BUILDING DESCRIPTION	DSA APPLICATION	SPRINKLERS	OCCUPANCY	BUILDING & COVERED AREA	STORIES	TYPE OF CONSTRUCTION	ALLOWABLE AREA
A	ADMINISTRATION / CLASSROOM BUILDING	A2-107861	NO	E	5,713 SF	1	V-B	
B	CLASSROOM BUILDING	A2-107861	NO	E	2,565 SF	1	V-B	
C	MULTI-PURPOSE / CLASSROOM BUILDING	02-117862	YES	A-3, E	11,221 SF	1	V-B	
D	CLASSROOM BUILDING	02-121572	NO	E	3,458 SF	1	V-B	
E	PUMP HOUSE	02-117862	NO	U	247 SF	1	V-B	
P1	RELOCATABLE CLASSROOM	55118 / 02-117862	NO	E	1080 SF	1	V-B	
P2	RELOCATABLE CLASSROOM	66064 / 02-117862	NO	E	1080 SF	1	V-B	
P3	RELOCATABLE CLASSROOM	02-117862	NO	E	1080 SF	1	V-B	
P4	RELOCATABLE CLASSROOM	02-117862	NO	E	1080 SF	1	V-B	
P5	RELOCATABLE CLASSROOM	02-114062	NO	E	1080 SF	1	V-B	
P6	RELOCATABLE CLASSROOM	02-114062	NO	E	1080 SF	1	V-B	
WT	WATER TREATMENT BUILDING	THIS APPLICATION	NO	U	247 SF	1	V-B	5500 SF

VICINITY MAP



DSA 810

FIRE & LIFE SAFETY SITE CONDITIONS SUBMITTAL

Division of the State Architect (DSA) documents referenced within this publication are available on the DSA Forms or DSA Publications webpages.

To facilitate the Division of the State Architect's (DSA) fire and life safety plan review of project site conditions, DSA requires the design professional to provide the following information at time of project submittal for projects consisting of construction of a new campus, construction of new building(s), additions to existing buildings, and for site alternate design means for fire department emergency vehicle access, and fire suppression water supply.

Information associated with compliance items 1 through 3 below is to be provided for all project types indicated above. Information associated with items 4 through 7 is to be completed when an alternate means is utilized. Acknowledgement by the school district and signature from the Local Fire Authority (LFA) is only required when an alternate design means is being requested.

The Project Information and Fire & Life Safety Information sections are to be completed for all projects and imaged onto the fire access site plan. When an alternate design/means is proposed, all sections on pages 1 and 2 are to be completed and imaged on the fire access site plan.

For additional information refer to the instructions at the end of this form and DSA Policy *PI, 09-01: Fire Flow for Buildings*.

PROJECT INFORMATION	
School District/Owner:	SHILOH ELEMENTARY SCHOOL DISTRICT
Project Name/School:	SHILOH ELEMENTARY SCHOOL
Project Address:	6633 PARADISE ROAD, MODESTO, CA. 95358

FIRE & LIFE SAFETY INFORMATION				
1.	Has a fire hydrant flow test been performed within the past 12 months? *(If yes, provide a copy of the test data.)*	Yes ☐		No ☑
2.	Was the fire hydrant water flow test performed as part of this LFA review?	Yes ☐		No ☑
3.	Is the project located within a designated fire hazard severity zone (FHSZ) as established by Cal-Fire? *(If yes, indicate FHSZ classification below.)*	Yes ☐		No ☑
	Refer to the following website for FHSZ locations: http://egis.fire.ca.gov/FHSZ/	Moderate ☐	High ☐	Very High ☐
	Wildland Interface Area (WIFA) *(If any designations are checked, project design must meet the requirements of CBC Chapter 7A.)*			WIFA ☐

DSA 810
FIRE & LIFE SAFETY SITE CONDITIONS SUBMITTAL

CONDITION MEANS AND METHODS RESOLUTION		ALTERNATE ACCEPTED			
		Yes	No	N/A	N/R
4.	Emergency vehicle access roadways do not meet CFC requirements.			X	
4a.	**Acceptable Alternate:** Emergency vehicle and personnel access as proposed by the project architect is acceptable for providing fire suppression and protection of life and property.				
5.	**Fire Hydrants:** Number and spacing does not meet CFC requirements.			X	
5a.	**Acceptable Alternate:** Number of fire hydrants and spacing as propcsed by the project architect is acceptable for fire suppression and protection of life and property.				
6.	**Fire Hydrants:** Water flow and pressure are less than CFC minimum			X	
6a.	**Acceptable Alternate:** The available flow and pressure is acceptable for providing fire suppression and protection of life and property.				
7.	Location of fire department connection(s) serving fire sprinkler systems or standpipe systems does not meet CFC requirements.			X	
7a.	**Acceptable Alternate:** The location of fire department connection serving the fire sprinkler system and/or standpipe system is acceptable for providing fire suppression and protection of life and property.				

School District Acceptance of Acceptable Design Alternates

By signing this form, the school district acknowledges and accepts the proposed design as an alternative to California Building Code (CBC) and California Fire Code (CFC) minimum requirements, as indicated by one or more of the conditions indicated at items 4a, 5a, 6a or 7a, for providing fire and life safety protection of life and property.

Accepted by: Seth Ehrler Title: Superintendent/Principal

Signature: _____ Date: _____

LOCAL FIRE AUTHORITY (LFA) INFORMATION			
LFA Agency Name:	STANISLAUS COUNTY FIRE PREVENTION BUREAU		
LFA Review Official:	MATTHEW JENKINS		
Title:	FIRE MARSHAL	Work Phone:	(209) 552-3700
Work Email:	mjenkins@stanoes.com		

LFA Reviewer's Signature: _____ Date: _____

LOCAL FIRE AUTHORITY REVIEW

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 02-122118 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/05/2024

TPH architects
TIMOTHY P. HUFF & ASSOCIATES, INC.
Timothy P. Huff, AIA Architect
519 McHenry Ave., Modesto, CA 95354
Ph: (209) 571-2232 Fax: (209) 571-1936

LICENSED ARCHITECT TIMOTHY PAUL HUFF No. C 15927 REN: 5/25 STATE OF CALIFORNIA

Consultants

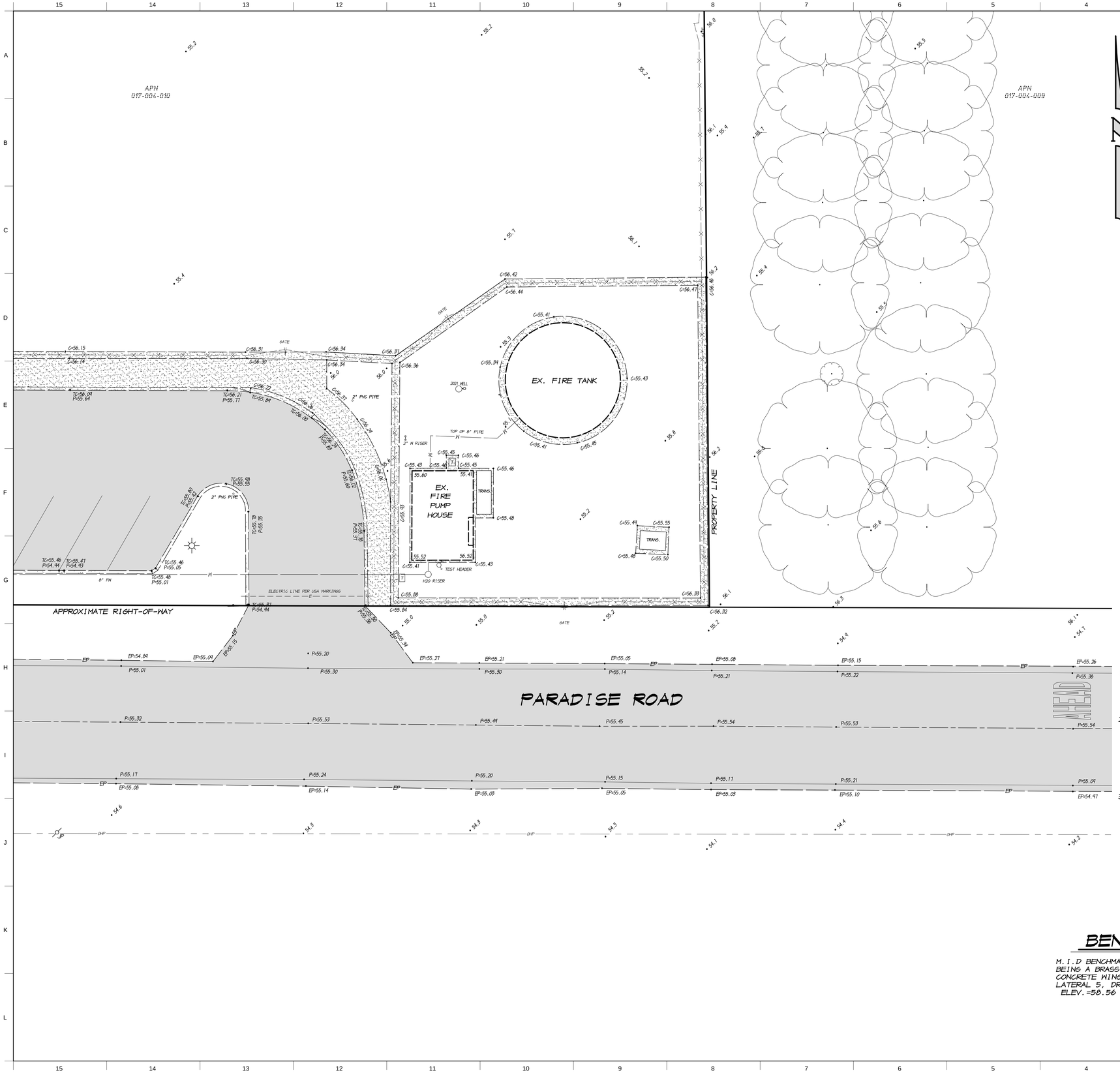
SHILOH ELEMENTARY
WATER TREATMENT SYSTEM
6633 PARADISE ROAD MODESTO, CALIFORNIA 95358
SHILOH ELEMENTARY SCHOOL DISTRICT
FIRE, GATES AND ACCESS PLAN

Project Number	2324
Date	JAN 2024
Drawn by	RRM
Checked by	TPH

FGA

Plot Date & Time 8/29/2024 8:42:45 AM

C:\Local\2324 Shiloh Water Treatment Plant_CENTRAL.rvt



LEGEND

- EX. GROUND ELEVATION
- EX. TOP OF CURB ELEVATION
- EX. FLOWLINE ELEVATION
- EX. EDGE OF PAVEMENT ELEVATION
- EX. A.C. PAVEMENT ELEVATION
- EX. CONCRETE ELEVATION
- EX. CURB AND GUTTER
- EX. EDGE OF PAVEMENT
- EX. WATER LINE
- EX. JOINT POLE
- EX. SIGN
- EX. ELECTRICAL CONDUIT
- EX. ELECTROLIER
- EX. FENCE
- EX. TREE, SPREAD DRAWN TO SCALE
- EX. COMMS
- EX. AREA OF CONCRETE
- EX. AREA OF ASPHALT PAVEMENT

811 Know what's **below.** **Call** before you dig.

UTILITY LOCATIONS

1. EXISTING UNDERGROUND UTILITIES SHOWN ARE TAKEN FROM RECORD INFORMATION TO AID THE CONTRACTOR. THE CONTRACTOR SHALL VERIFY THE LOCATIONS, BOTH VERTICAL AND HORIZONTAL, OF ALL EXISTING UNDERGROUND LINES AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES OR CONFLICTS PRIOR TO WORK.
2. EXISTING UTILITIES ARE SHOWN AS THEY ARE BELIEVED TO EXIST FROM RECORDS SUPPLIED BY OTHERS. THE OWNER AND ENGINEER DO NOT ACCEPT RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE COMMENCEMENT OF WORK, THE CONTRACTOR SHALL HAVE EACH UTILITY COMPANY ACCURATELY LOCATE IN THE FIELD THEIR MAINS AND SERVICE LINES. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES, SO THAT NO DAMAGE RESULTS TO THEM DURING THE PERFORMANCE OF THIS CONTRACT. CONTACT U.S.A. AT PH. 800-227-2600
3. PRIOR TO OPENING AN EXCAVATION, EFFORT SHALL BE MADE TO DETERMINE WHETHER UNDERGROUND INSTALLATION I.E., SEWER, WATER, FUEL, ELECTRIC LINES, ETC. WILL BE ENCOUNTERED AND IF SO, WHERE SUCH UNDERGROUND INSTALLATIONS ARE LOCATED. WHEN EXCAVATION APPROACHES THE APPROXIMATE LOCATION OF SUCH AN INSTALLATION, THE EXACT LOCATION SHALL BE DETERMINED BY CAREFUL PROBING OR HAND DIGGING AND WHEN IT IS UNCOVERED, ADEQUATE PROTECTION SHALL BE PROVIDED FOR THE INSTALLATION. ALL KNOWN OWNERS OF UNDERGROUND FACILITIES IN THE AREA CONCERNED SHALL BE ADVISED OF PROPOSED WORK AT LEAST 48 HOURS PRIOR TO THE START OF ACTUAL EXCAVATION.

BENCHMARK

M.I.D BENCHMARK #520;
BEING A BRASS PIN IN A 2"X2.25" BRASS PLATE IN THE SOUTH CONCRETE WING WALL, APPROXIMATELY 1.5" EAST OF WALK ON LATERAL 5, DROP 15, EAST OF BROYLES AVE.
ELEV.=50.56 (NAVD88)

REGISTERED PROFESSIONAL ENGINEER RYAN D. CARREL No. 84648 STATE OF CALIFORNIA

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LICENSED ARCHITECT TIMOTHY PAUL HUFF No. C 15527 REN. 5/25 STATE OF CALIFORNIA

ASSOCIATED ENGINEERING GROUP
Consultants
4206 TECHNOLOGY DRIVE, SUITE 4, MODESTO, CA 95356
PHONE: (209) 545-3390 FAX: (209) 545-3875 www.assoceng.com

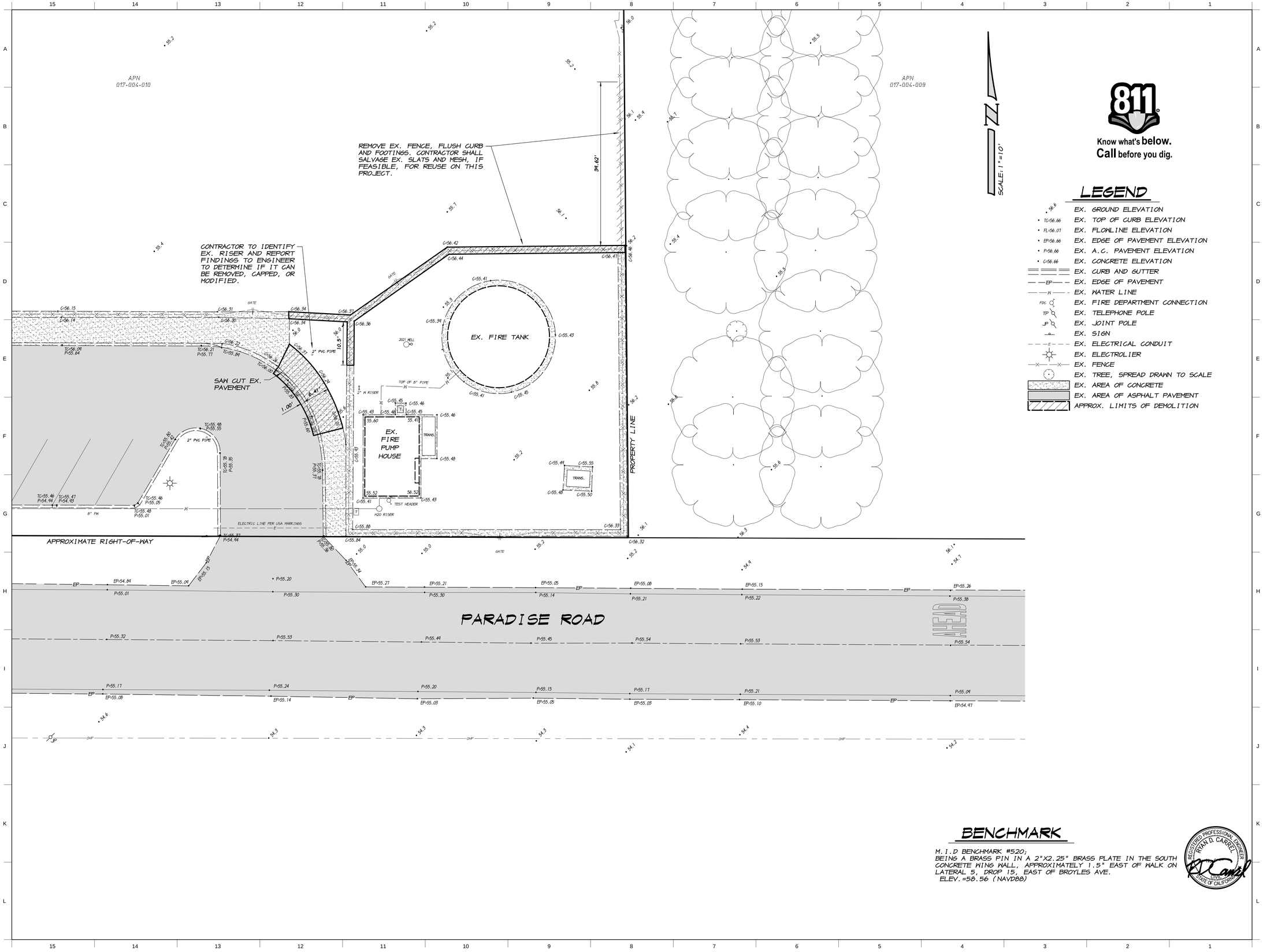
SHILOH ELEMENTARY
WATER TREATMENT SYSTEM
6633 PARADISE ROAD MODESTO, CALIFORNIA 95358
SHILOH ELEMENTARY SCHOOL DISTRICT

EXISTING TOPOGRAPHY

Project Number	1522
Date	AUG 2024
Drawn by	B.C.F.
Checked by	R.D.C.

C.1

Plot Date & Time 8/5/2024 11:07:38 AM



BENCHMARK

M.I.D BENCHMARK #520;
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ELEV.=50.56 (NAVD88)

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LEGEND

- EX. GROUND ELEVATION
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- EX. FLOWLINE ELEVATION
- EX. EDGE OF PAVEMENT ELEVATION
- EX. A.C. PAVEMENT ELEVATION
- EX. CONCRETE ELEVATION
- EX. CURB AND GUTTER
- EX. EDGE OF PAVEMENT
- EX. WATER LINE
- EX. FIRE DEPARTMENT CONNECTION
- EX. TELEPHONE POLE
- EX. JOINT POLE
- EX. SIGN
- EX. ELECTRICAL CONDUIT
- EX. ELECTROLIER
- EX. FENCE
- EX. TREE, SPREAD DRAWN TO SCALE
- EX. AREA OF CONCRETE
- EX. AREA OF ASPHALT PAVEMENT
- APPROX. LIMITS OF DEMOLITION

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SHILOH ELEMENTARY WATER TREATMENT SYSTEM

6633 PARADISE ROAD MODESTO, CALIFORNIA 95358
SHILOH ELEMENTARY SCHOOL DISTRICT

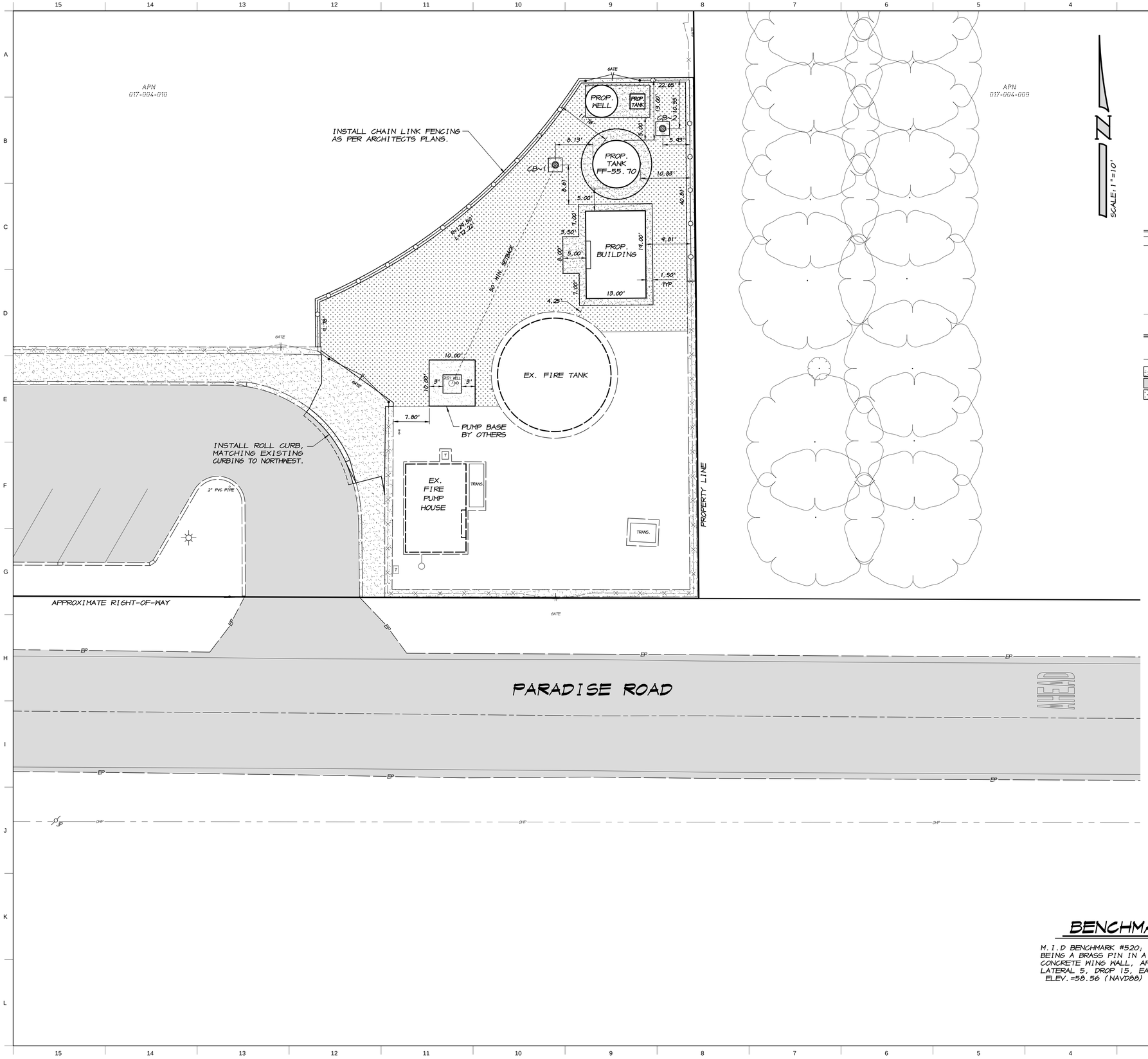
DEMOLITION PLAN

Project Number	1522
Date	AUG 2024
Drawn by	B.C.F.
Checked by	R.D.C.

C.2

Plot Date & Time 8/5/2024 11:07:38 AM

REGISTERED PROFESSIONAL ENGINEER RYAN D. CARROLL CIVIL STATE OF CALIFORNIA



811 Know what's **below.** **Call** before you dig.

LEGEND

- EX. CURB AND GUTTER
- EP — EX. EDGE OF PAVEMENT
- FDC — EX. FIRE DEPARTMENT CONNECTION
- TP — EX. TELEPHONE POLE
- JP — EX. JOINT POLE
- EX. SIGN
- EX. ELECTROLIER
- EX. FENCE
- EX. TREE, SPREAD DRAWN TO SCALE
- PROP. CONCRETE CURBING
- CB-1 — PROP. CATCH BASIN
- PROP. CHAIN LINK FENCE
- PROP. AREA OF CONCRETE
- PROP. AREA OF ASPHALT PAVEMENT
- PROP. AREA OF 2" PEA GRAVEL OVER 6.0 OZ. NON-WOVEN FILTER FABRIC

GENERAL NOTES

1. ALL DIMENSIONS SHOWN ARE TO THE FACE OF CURB, OR ALONG THE FACE OF THE BUILDING.
2. THIS CALCULATED SITE PLAN IS INTENDED TO BE COORDINATED WITH THE PROJECT'S ARCHITECTURAL SITE PLAN.
3. THE PROPOSED IMPROVEMENTS SHALL BE LAID OUT PARALLEL AND PERPENDICULAR TO THE EASTERN PROPERTY LINE.

BENCHMARK

M.I.D BENCHMARK #520;
BEING A BRASS PIN IN A 2"X2.25" BRASS PLATE IN THE SOUTH CONCRETE WING WALL, APPROXIMATELY 1.5" EAST OF WALK ON LATERAL 5, DROP 15, EAST OF BROYLES AVE.
ELEV.=50.56 (NAVD88)

REGISTERED PROFESSIONAL ENGINEER — RYAN D. CARREL — No. 61619 — STATE OF CALIFORNIA

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LICENSED ARCHITECT — TIMOTHY PAUL HUFF — No. C 15527 — REN. 5/25 — STATE OF CALIFORNIA

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SHILOH ELEMENTARY WATER TREATMENT SYSTEM

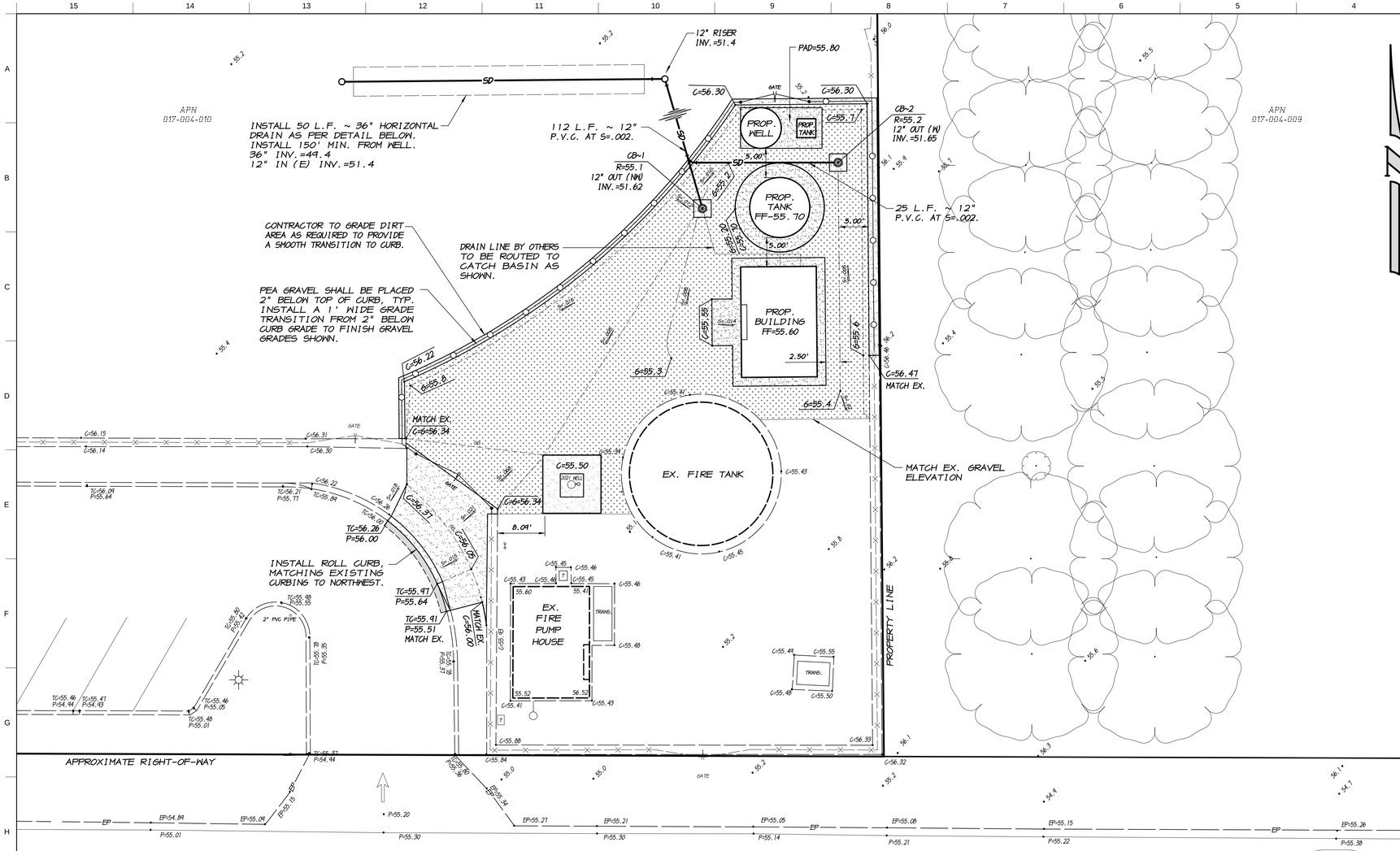
6633 PARADISE ROAD MODESTO, CALIFORNIA 95358
SHILOH ELEMENTARY SCHOOL DISTRICT

HORIZONTAL CONTROL PLAN

Project Number	1522
Date	AUG 2024
Drawn by	B.C.F.
Checked by	R.D.C.

C.3

Plot Date & Time 8/5/2024 11:07:38 AM



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- EX. FLOWLINE ELEVATION
- EX. EDGE OF PAVEMENT ELEVATION
- EX. A.C. PAVEMENT ELEVATION
- EX. CONCRETE ELEVATION
- EX. CURB AND GUTTER
- EX. EDGE OF PAVEMENT
- EX. WATER LINE
- EX. FIRE DEPARTMENT CONNECTION
- EX. TELEPHONE POLE
- EX. JOINT POLE
- EX. SIGN
- EX. ELECTRICAL CONDUIT
- EX. ELECTROLIER
- EX. FENCE
- EX. TREE, SPREAD DRAWN TO SCALE
- PROP. TOP OF CURB ELEVATION
- PROP. A.C. PAVEMENT ELEVATION
- PROP. CONCRETE ELEVATION
- PROP. RIM ELEVATION
- PROP. FINISH GRAVEL ELEVATION
- PROP. CATCH BASIN
- PROP. SLOPE AND DIRECTION OF FLOW
- PROP. STORM DRAIN LINE
- PROP. CHAIN LINK FENCE
- PROP. AREA OF 4" THICK CONCRETE
- PROP. AREA OF ASPHALT PAVEMENT. USE 0.25' A.C. OVER 0.35' A.B. ON NATIVE SOIL COMPACTED TO 95% R.D.
- PROP. AREA OF 2" PEA GRAVEL OVER 6.0 OZ. NON-WOVEN FILTER FABRIC ON NATIVE SOIL COMPACTED TO 95% R.D.

Know what's **below.** **Call** before you dig.

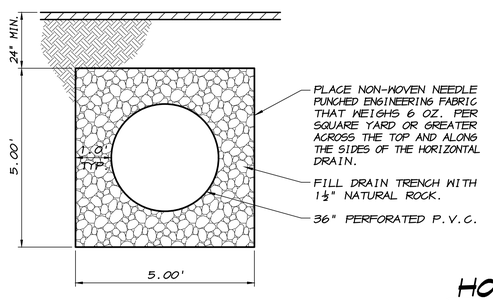
ON-SITE HORIZONTAL DRAIN MATERIAL SPECIFICATION
(1 1/2" NATURAL DRAIN ROCK)

THE AGGREGATE MATERIAL TO BE USED FOR THE HORIZONTAL DRAIN IS TO BE 1 1/2" DRAIN ROCK OBTAINED FROM NATURAL MATERIAL ONLY. NO CRUSHED PRODUCT WILL BE ALLOWED.

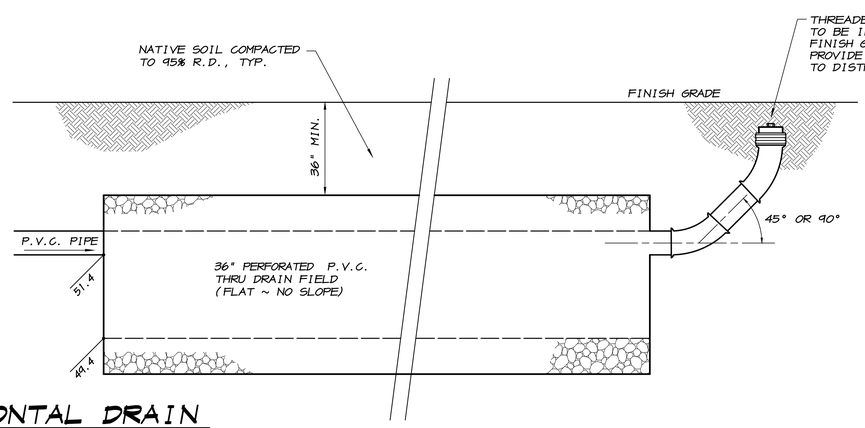
THE SIEVE ANALYSIS OF THE MATERIAL SHALL BE AS FOLLOWS:

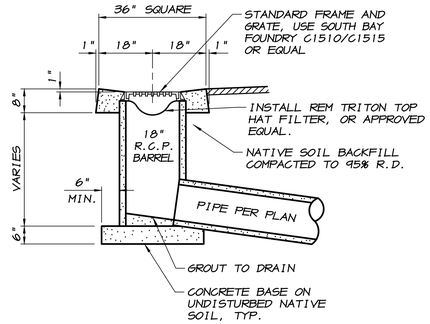
SCREEN SIZE	+/- RETAINED	+/- PASSING
2"	0	100
1 1/2"	4	96
3/4" AND BELOW	NOT TO EXCEED 10% PASSING	

A MATERIAL SIEVE ANALYSIS IS TO BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEER FOR REVIEW PRIOR TO THE PLACEMENT OF THE ROCK MATERIAL.



HORIZONTAL DRAIN
NO SCALE





CATCH BASIN DETAIL
SCALE: 1"=2'

BENCHMARK

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SHILOH ELEMENTARY
WATER TREATMENT SYSTEM
6633 PARADISE ROAD MODESTO, CALIFORNIA 95358
SHILOH ELEMENTARY SCHOOL DISTRICT
GRADING AND DRAINAGE PLAN

Project Number	1522
Date	AUG 2024
Drawn by	B.C.F.
Checked by	R.D.C.

C.4

Plot Date & Time 8/5/2024 11:07:38 AM

BUILDING INFORMATION								
ID	BUILDING DESCRIPTION	DSA APPLICATION	SPRINKLERS	OCCUPANCY	BUILDING & COVERED AREA	STORIES	TYPE OF CONSTRUCTION	ALLOWABLE AREA
A	ADMINISTRATION / CLASSROOM BUILDING	A2-107861	NO	E	5,713 SF	1	V-B	
B	CLASSROOM BUILDING	A2-107861	NO	E	2,565 SF	1	V-B	
C	MULTI-PURPOSE / CLASSROOM BUILDING	02-117862	YES	A-3, E	11,221 SF	1	V-B	
D	CLASSROOM BUILDING	02-121572	NO	E	3,458 SF	1	V-B	
E	PUMP HOUSE	02-117862	NO	U	247 SF	1	V-B	
P1	RELOCATABLE CLASSROOM	55118 / 02-117862	NO	E	1080 SF	1	V-B	
P2	RELOCATABLE CLASSROOM	66064 / 02-117862	NO	E	1080 SF	1	V-B	
P3	RELOCATABLE CLASSROOM	02-117862	NO	E	1080 SF	1	V-B	
P4	RELOCATABLE CLASSROOM	02-117862	NO	E	1080 SF	1	V-B	
P5	RELOCATABLE CLASSROOM	02-114062	NO	E	1080 SF	1	V-B	
P6	RELOCATABLE CLASSROOM	02-114062	NO	E	1080 SF	1	V-B	
WT	WATER TREATMENT BUILDING	THIS APPLICATION	NO	U	247 SF	1	V-B	5500 SF

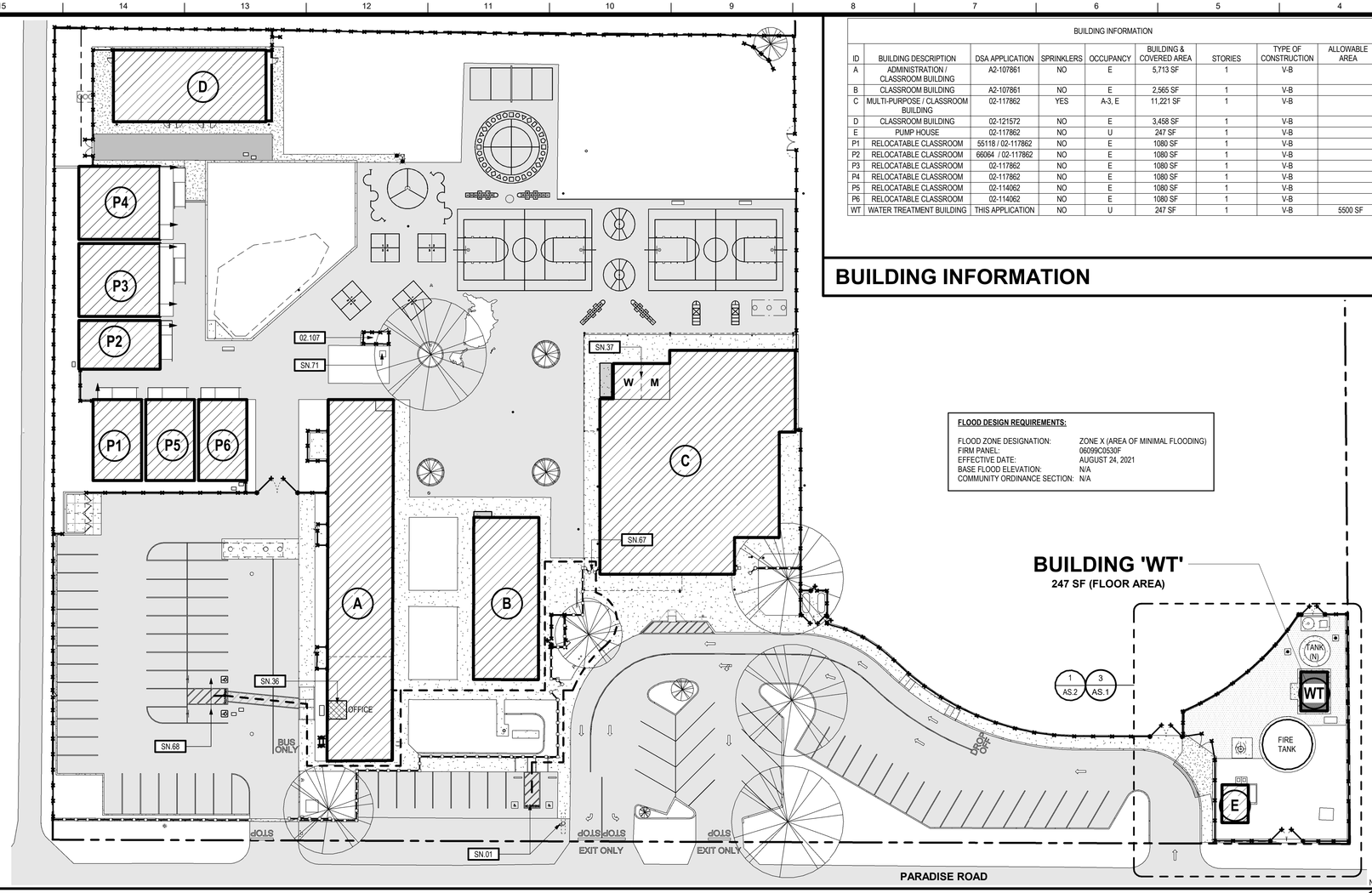
BUILDING INFORMATION

FLOOD DESIGN REQUIREMENTS:

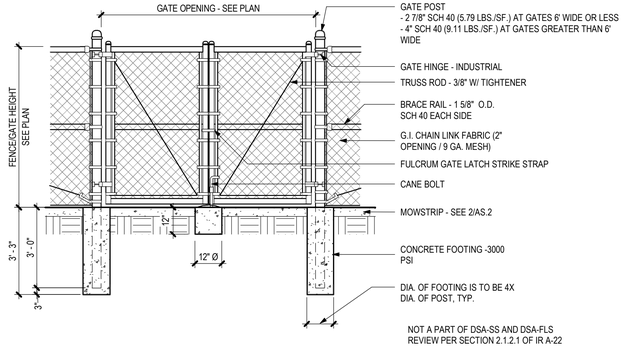
FLOOD ZONE DESIGNATION:	ZONE X (AREA OF MINIMAL FLOODING)
FIRM PANEL:	06099C0530F
EFFECTIVE DATE:	AUGUST 24, 2021
BASE FLOOD ELEVATION:	N/A
COMMUNITY ORDINANCE SECTION:	N/A

BUILDING 'WT'
247 SF (FLOOR AREA)

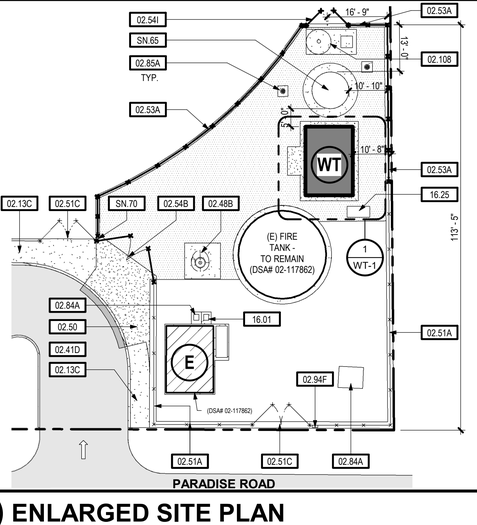
1 SITE PLAN
SCALE: 1" = 30'-0"



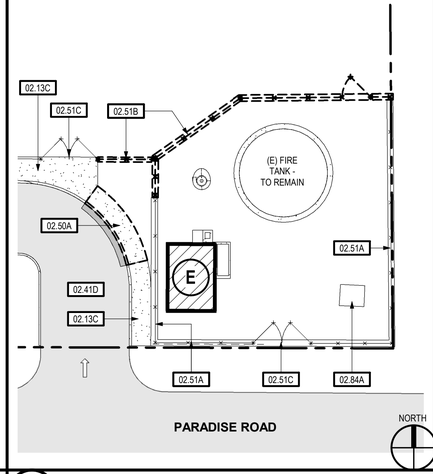
4 CHAIN LINK - VEH DOUBLE GATES
SCALE: 3/8" = 1'-0"



3 ENLARGED SITE PLAN
SCALE: 1" = 20'-0"



2 ENLARGED DEMO. SITE PLAN
SCALE: 1" = 20'-0"



KEYNOTES

02.13C	CONCRETE FLATWORK - (E) TO REMAIN
02.41D	ASPHALT PAVING - EXISTING
02.48B	CONCRETE PUMP BASE - SEE M1/WTP1.3
02.50	CONCRETE CURB / SIDEWALK - NEW - SEE CIVIL DRAWINGS AND DETAILS 1/AS.2
02.50A	CONCRETE CURB / SIDEWALK - EXISTING - TO BE REMOVED - SEE CIVIL DRAWINGS
02.51A	CHAIN LINK FENCE AND CONCRETE MOW STRIP - EXISTING - TO REMAIN
02.51B	CHAIN LINK FENCE AND CONCRETE MOW STRIP - EXISTING - TO BE REMOVED - SEE CIVIL DRAWINGS
02.51C	CHAIN LINK GATE (PAIR 8'-0") - EXISTING - TO REMAIN
02.53A	CHAIN LINK FENCE W/ VINYL SLATS (6'-0" TALL - FIELD VERIFY AND MATCH (E)) W/ CONCRETE MOWSTRIP - SEE DETAIL 5/AS.2
02.54B	CHAIN LINK SWING GATE W/ VINYL SLATS (PAIR 9'-0" W. X ADJ. FENCE HEIGHT - FIELD VERIFY AND MATCH (E)) - SEE DETAIL 4/AS.2
02.54I	CHAIN LINK SWING GATE W/ VINYL SLATS (PAIR 6'-0" W. X ADJ. FENCE HEIGHT - FIELD VERIFY AND MATCH (E)) - SEE DETAIL 4/AS.1
02.84A	ELECTRICAL POWER - TRANSFORMER - EXISTING - TO REMAIN
02.85A	STORM DRAIN CATCH BASIN - SEE CIVIL DRAWINGS
02.94F	INSTALL KNOX BOX - SEE DETAIL 2/FGA
02.107	CAMPUS WELL LOCATION - EXISTING - TO REMAIN
02.108	IRRIGATION WELL - SEE P1.0
16.01	ELECTRICAL POWER - TRANSFORMER - SEE ELECTRICAL DRAWINGS
16.25	GENERATOR - SEE ELECTRICAL DRAWINGS

SHEET NOTES

SN.01	(E) ACCESSIBLE PARKING SPACES AND ACCESSIBLE SITE ENTRY SIGNAGE (A.02-114295)
SN.36	ACCESSIBLE RESTROOMS - STAFF (APP #100632 AND #02-114295)
SN.37	ACCESSIBLE RESTROOMS - STUDENT (APP #02-117862)
SN.65	POTABLE WATER TANK AND CONCRETE FOUNDATION - SEE DETAIL 14/AS.2 AND WTP DRAWINGS
SN.67	(E) ORNAMENTAL DOUBLE SWINGING GATES (02-117862)
SN.68	(E) ACCESSIBLE PARKING SPACES AND ACCESSIBLE SITE ENTRY SIGNAGE (A.02-117862)
SN.70	REMOVE (E) GATE POST AND FOOTING AND REPLACE WITH NEW 6" SCH 40 POST AND FOOTING - SEE 4/AS.2
SN.71	AT THE EXISTING WATER SYSTEM MANIFOLD VAULT: DISCONNECT THE (E) 4" WATER LINE, BEING FED FROM THE NEW WATER TREATMENT SYSTEM, FROM THE (E) WELL WATER SERVICE LINE. CONNECT THE 4" WATER TREATMENT SYSTEM LINE TO THE (E) TWO (2) - 2" DOMESTIC WATER SYSTEM LINES. THE NEW WATER TREATMENT AND DOMESTIC WATER LINES ARE TO BE ISOLATED FROM THE (E) CAMPUS WELL SOURCE AND CAMPUS IRRIGATION LINES - THE (E) CAMPUS WELL WATER SOURCE IS TO ONLY FEED THE IRRIGATION SYSTEMS

NOTES

- EXISTING BUILDING
- PROPOSED BUILDING
- EXISTING CONCRETE FLATWORK TO REMAIN
- NEW CONCRETE FLATWORK
- EXPANSION / CONSTRUCTION JOINT
- CONTROL JOINT
- EXISTING AC PAVING
- NEW AC PAVING
- EXISTING LAWN OR LANDSCAPE AREA - SEE LANDSCAPE DRAWINGS
- REPAIRED LAWN - SEE LANDSCAPE DRAWINGS
- PLAYPIT
- GRAVEL (NEW) - TO MATCH EXISTING GRAVEL

SITE LEGEND

(ACS) ACCESS COMPLIANCE

THE **PATH OF TRAVEL (P.O.T.)** IS A COMMON BARRIER FREE ACCESS ROUTE AT LEAST 48" WIDE WITHOUT ANY ABRUPT VERTICAL CHANGES EXCEEDING 1/2" BEVELED AT 1:2 MAXIMUM SLOPE, EXCEPT THAT LEVEL CHANGES DO NOT EXCEED 1/4" VERTICAL. THE P.O.T. IS SLIP RESISTANT, STABLE, FIRM AND SMOOTH. PASSING SPACES (11B-403.5.3) AT LEAST 60"X60" ARE LOCATED NOT MORE THAN 200' APART. PARTS OF P.O.T. WITH CONTINUOUS GRADIENTS HAVE 60" LEVEL AREAS (11B-403.7) NOT MORE THAN 400' APART. THE CROSS-SLOPE DOES NOT EXCEED 2% AND SLOPE IN THE DIRECTION OF TRAVEL IS LESS THAN 5% UNLESS OTHERWISE INDICATED. (P.O.T.) SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTION TO 80" MINIMUM (11B-307.4) & PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM WALL AND ABOVE 27" AND LESS THAN 80" (11B-307.2). GRID OPENINGS OF GRATINGS IN THE P.O.T. SHALL NOT EXCEED 1/2" IN THE DIRECTION OF TRAFFIC FLOW.

DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE STATEMENT: THE POT IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISION FOR **PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS**. AS PART OF THE DESIGN OF THE IS PROJECT, THE POT WAS EXAMINED AND ANY ELEMENTS, COMPONENTS OR PORTIONS OF THE POT THAT WERE DETERMINED TO BE NONCOMPLIANT 1) HAVE BEEN INDENTIFIED AND 2) THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS. ANY NONCOMPLIANT ELEMENTS, COMPONENTS OR PORTION OF THE POT THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATION OR FINDING OF UNREASONABLE HARDSHIP ARE SO INDICATED IN THESE CONSTRUCTION DOCUMENTS.

DURING CONSTRUCTION, IF POT ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CODE COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABLE CONSTRUCTION TOLERANCES, THEY SHALL BE BROUGHT INTO COMPLIANCE WITH THE CBC AS PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT.

PATH OF TRAVEL NOTES

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DIV. OF THE STATE ARCHITECT
APP. 02-122118 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/05/2024

TPH architects
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LICENSED ARCHITECT TIMOTHY PAUL HUFF No. C 15527 REN. 5/25 STATE OF CALIFORNIA

Consultants

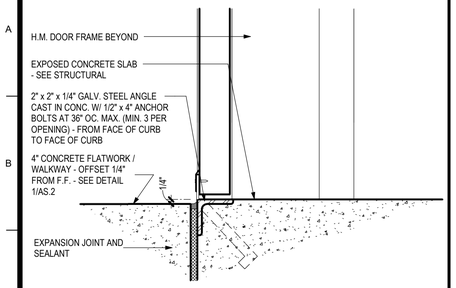
SHILOH ELEMENTARY
WATER TREATMENT SYSTEM
6633 PARADISE ROAD MODESTO, CALIFORNIA 95358
SHILOH ELEMENTARY SCHOOL DISTRICT
SITE PLANS

Project Number	2324
Date	JAN 2024
Drawn by	CI
Checked by	JH/TPH

AS.1

Plot Date & Time 8/29/2024 8:42:44 AM

C:\Local\2324 Shiloh Water Treatment Plant_CENTRAL.rvt



13 THRESHOLD
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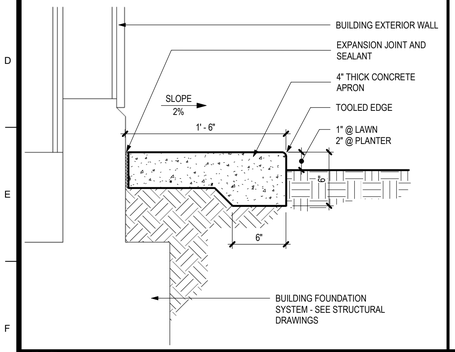

14 CONCRETE APRON
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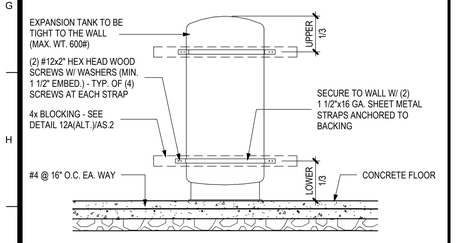

15 PRESSURE TANK ANCHOR
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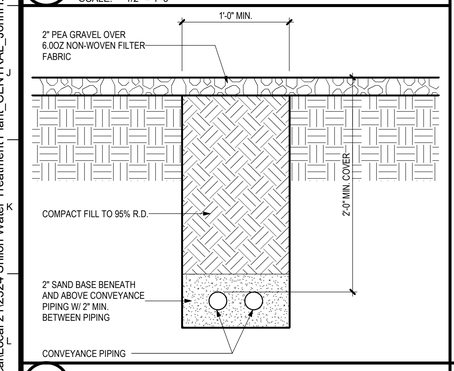

16 CONVEYANCE TRENCHING
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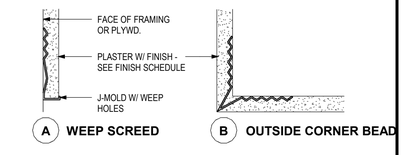
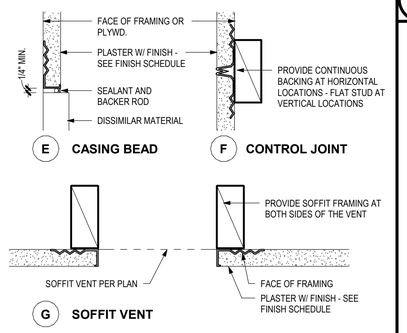
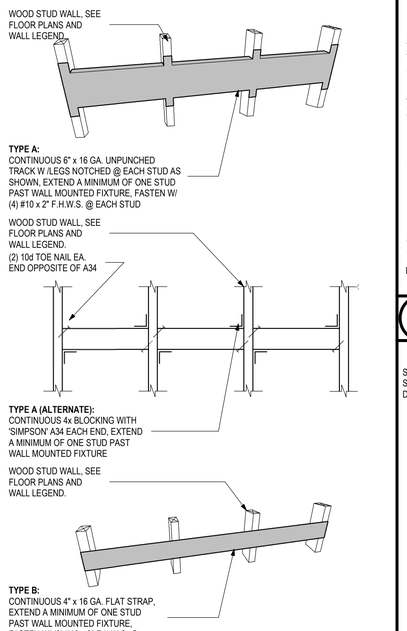
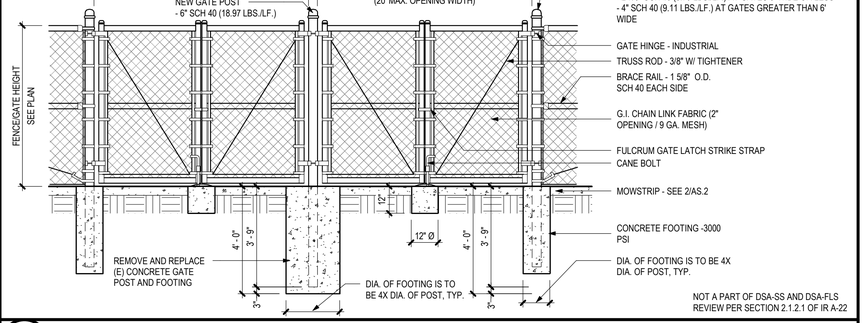




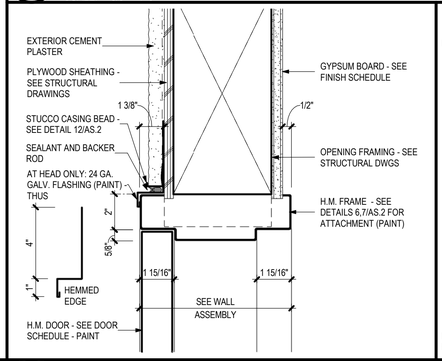
11 CEMENT PLASTER DETAILS
SCALE: 3" = 1'-0"



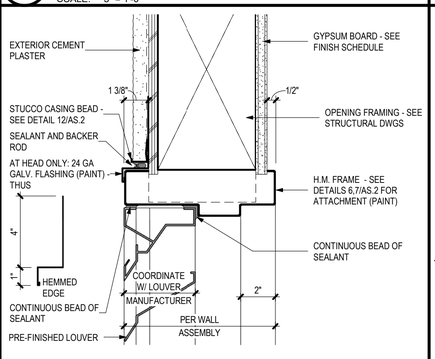
12 BACKING - WOOD STUDS
SCALE: 1" = 1'-0"



4 CHAIN LINK DOUBLE UTILITY GATES
SCALE: 3/8" = 1'-0"



8 EXT. DOOR HEAD (JAMB SIM.)
SCALE: 3" = 1'-0"



9 LOUVER HEAD (JAMB SIM.)
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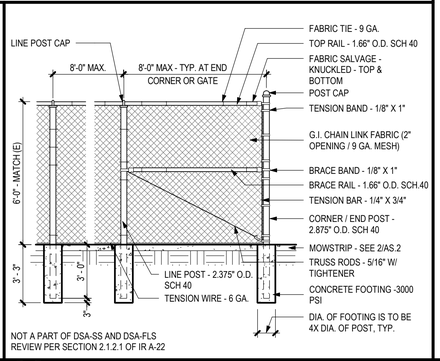
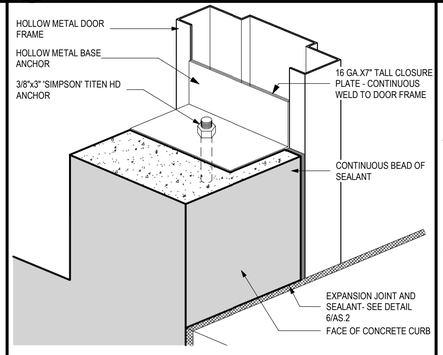
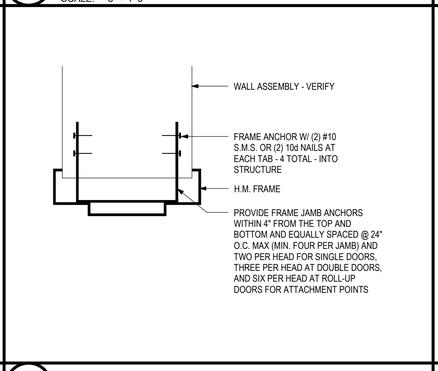


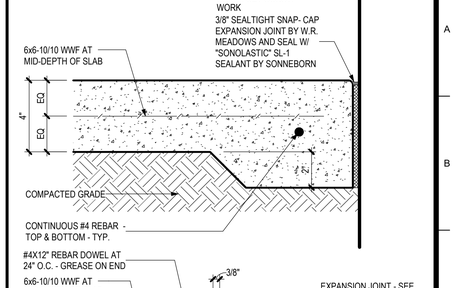
5 CHAIN LINK FENCE
SCALE: 1/4" = 1'-0"



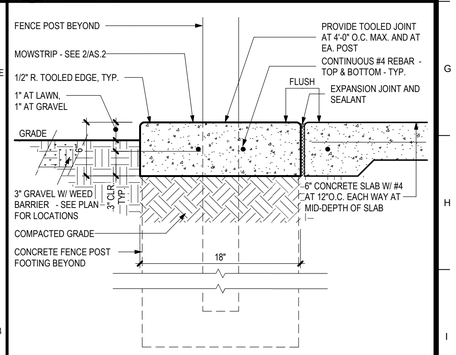
6 EXT.DOOR FRAME AT CURB
SCALE: 3" = 1'-0"



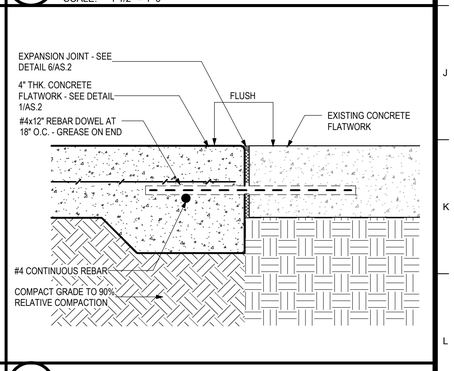
7 H.M. FRAME ATTACHMENT
SCALE: 3" = 1'-0"



1 CONCRETE FLATWORK
SCALE: 3" = 1'-0"



2 MOW STRIP AT FENCE
SCALE: 1 1/2" = 1'-0"



3 NEW TO (E) FLATWORK
SCALE: 3" = 1'-0"

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WATER TREATMENT SYSTEM

6633 PARADISE ROAD MODESTO, CALIFORNIA 95358

SHILOH ELEMENTARY SCHOOL DISTRICT

DETAILS

Project Number	2324
Date	JAN 2024
Drawn by	RRM
Checked by	JH

AS.2

Plot Date & Time 7/19/2024 9:50:11 AM

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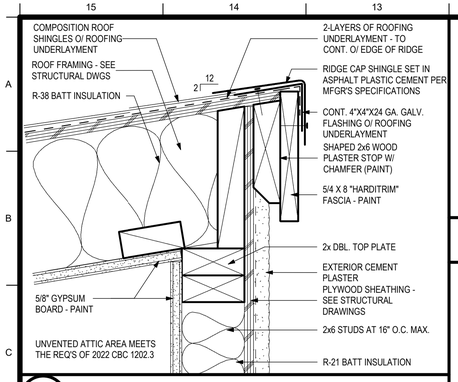
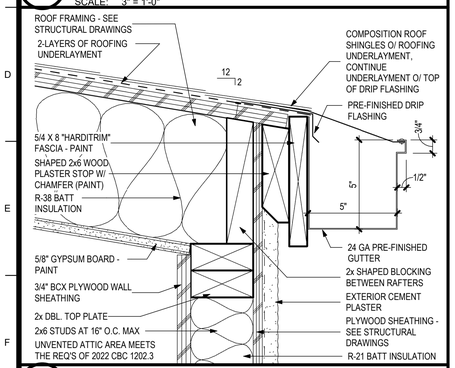
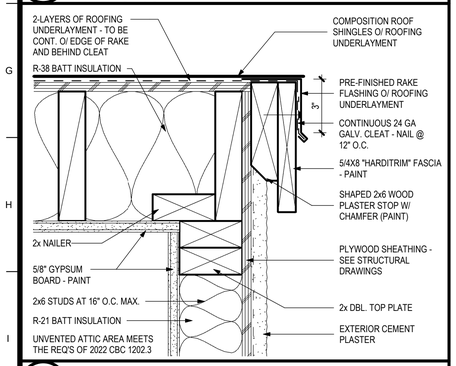


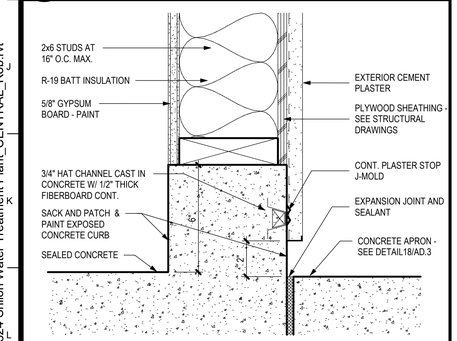
8 FASCIA AT RIDGE
SCALE: 3" = 1'-0"



9 FASCIA AT EAVE
SCALE: 3" = 1'-0"



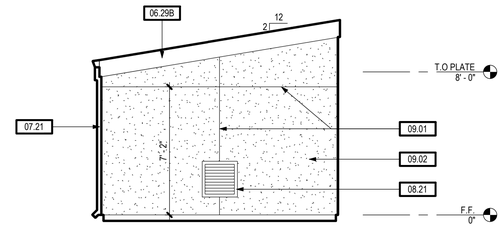
10 FASCIA AT RAKE
SCALE: 3" = 1'-0"



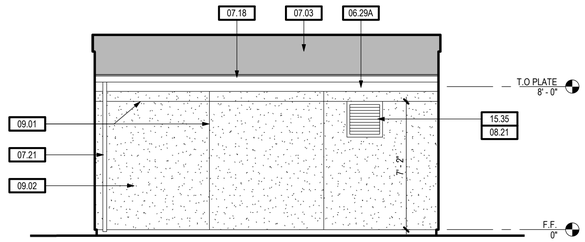
11 PERIMETER CURB
SCALE: 3" = 1'-0"

DOOR SCHEDULE - PUMP HOUSE

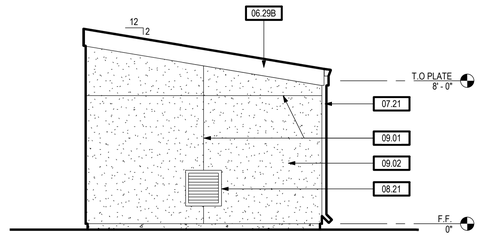
MARK	DOORS						FRAMES		DETAILS	
	WIDTH	HEIGHT	TYPE	THICKNESS	MATERIAL	HDW. GRP.	MATERIAL	TYPE	HEAD / JAMB	THRESHOLD
1	6' - 0"	7' - 0"	E	1 3/4"	H.M.	1	H.M.	1	8/AS.2	12/AS.2



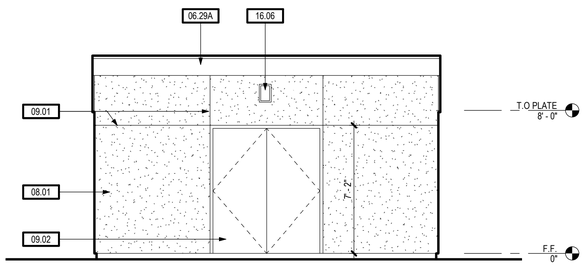
TREATMENT BUILDING - NORTH 4



TREATMENT BUILDING - EAST 5

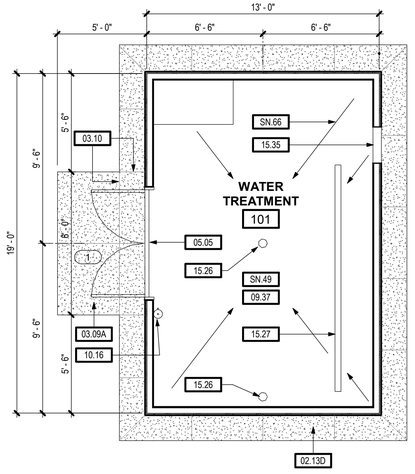


TREATMENT BUILDING - SOUTH 6

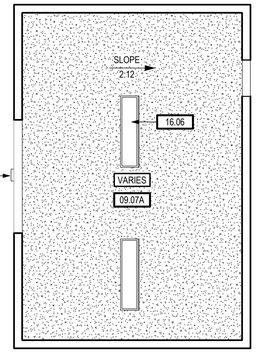


TREATMENT BUILDING - WEST 7

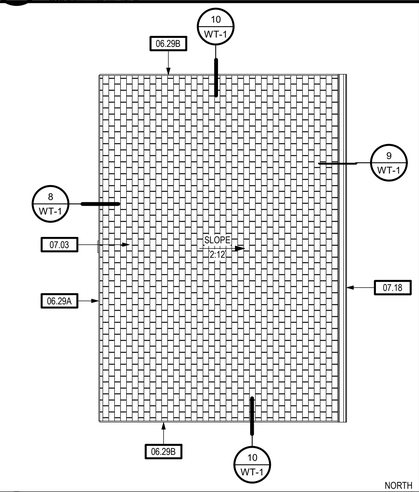
EXTERIOR ELEVATIONS
SCALE: 1/4" = 1'-0"



1 FLOOR PLAN
SCALE: 1/4" = 1'-0"



2 REFLECTED CEILING PLAN
SCALE: 1/4" = 1'-0"



3 ROOF PLAN
SCALE: 1/4" = 1'-0"

NORTH

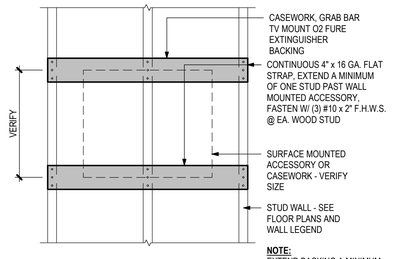
KEYNOTES

02.13D	CONCRETE APRON - 18" WIDE x 4" THK., SLOPED 1:48 AWAY FROM THE BUILDING - SEE DETAILS 1/AS.2 AND 14/AS.2
03.09A	CONCRETE FLATWORK / APRON - SEE DETAIL 1/AS.2
03.10	CONCRETE CONTROL JOINTS AT 48"oc MAX.
05.05	EMBEDDED GALV. ANGLE - SEE DETAIL 13/AS.2
06.29A	FASCIA
06.29B	RAKE FASCIA
07.03	ROOFING - COMPOSITION SHINGLES
07.18	GUTTER - PRE-FINISHED - 9/WT-1
07.21	DOWNSPOUT - PRE-FINISHED - SEE DETAIL 10/AS.2
08.01	DOOR - HOLLOW METAL w/ H.M. FRAME
08.21	WALL LOUVER - 24"x24" - SEE DETAIL 9/AS.2
09.01	CONTROL JOINT
09.02	CEMENT PLASTER - EXTERIOR - SEE DETAIL 11/AS.2
09.07A	5/8" GYPSUM BOARD - PAINT
09.37	FLOOR FINISH - EXPOSED SEALED CONCRETE
10.16	FIRE EXTINGUISHER- WALL MOUNTED - 2A-10BC - SEE DETAIL 12/WT-1
15.26	PLUMBING - FLOOR DRAIN - SEE WATER TREATEMNT DRAWINGS
15.27	PLUMBING - TRENCH DRAIN - SEE WATER TREATEMNT DRAWINGS
15.35	WALL EXHAUST FAN - AER-20-03-0615-VTG, 300 CFM, 0.1" SP, 1/4 HP, 71#, 1.9 SONES, 37 dba, 476 RPM
16.06	LIGHTING - SEE ELECTRICAL DRAWINGS

SHEET NOTES

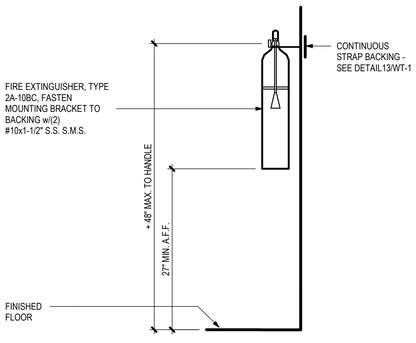
SN.49	WATER TREATMENT BUILDING - SEE SHEET WT-1 AND WATER TREATMENT DRAWINGS AND ELECTRICAL DRAWINGS
SN.66	SLOPE CONCRETE FLOOR 1% TO FLOOR DRAIN

NOTES



NOTE:
EXTEND BACKING A MINIMUM OF ONE STUD BEYOND EXTENT OF ACCESSORY

13 BACKING - ACCESSORIES
SCALE: 1" = 1'-0"



12 FIRE EXTINGUISHER
SCALE: 1" = 1'-0"

EXTERIOR WALLS

2x6 WOOD STUDS W/ R-21 BATT INSULATION: EXTERIOR CEMENT PLASTER OVER PLYWD. SHEATHING AT EXTERIOR / GYPSUM BOARD AT INTERIOR

NOTE:
ALL STUDS ARE TO BE SPACED AT 16" O.C. MAX. - UNO - SEE STRUCTURAL DRAWINGS

SEE STRUCTURAL DRAWINGS FOR ALL EXTERIOR AND INTERIOR SHEAR WALL LOCATIONS

ALL DIMENSIONS ARE TO FACE OF STUDS UNLESS INDICATED AS CLEAR OR MINIMUM. CLEAR OR MINIMUM ARE TO FACE OF FINISH MATERIALS

WALL LEGEND

IDENTIFICATION STAMP
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Project Number	2324
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WT-1

Plot Date & Time 7/18/2024 4:40:22 PM

C:\Local\2324 Shiloh Water Treatment Plant_CENTRAL_Rob.rvt

STRUCTURAL NOTES

I. GENERAL

A ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE SECTIONS OF THE CALIFORNIA BUILDING CODE (CBC) 2022 EDITION, AND ALL OTHER PUBLICATIONS LISTED.

B ALL DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, ALL CONTRACT DOCUMENTS AND SPECIFICATIONS.

C DETAILS SHOWN ON THE STRUCTURAL DRAWINGS ARE TYPICAL. SIMILAR DETAILS APPLY TO SIMILAR CONDITIONS.

D DIMENSIONS SHOWN SHALL TAKE PRECEDENCE OVER SCALE ON THE PLANS, SECTIONS AND DETAILS. DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT IMMEDIATELY.

E NOTES AND DETAILS ON THE DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.

F CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON ROOF FRAMING MEMBERS. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD.

G REVIEW OF THE SHOP DRAWINGS BY THE ARCHITECT/ENGINEER IS FOR GENERAL COMPLIANCE WITH THE INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR WILL REMAIN RESPONSIBLE FOR ALL ERRORS OF DETAILING, FABRICATION AND FOR THE CORRECT FITTING OF ALL STRUCTURAL MEMBERS INCLUDING COORDINATION OF ALL TRADES.

H ALL DETAIL CHANGES DESIRED SHALL BE SUBMITTED TO THE ARCHITECT/ ENGINEER IN WRITING. SHOP DRAWING SUBMITTALS DO NOT CONSTITUTE CHANGES IN WRITING UNLESS ACCOMPANIED BY A LETTER INDICATING ALL PROPOSED CHANGES. ALL SUCH CHANGES SHALL BE CLEARLY IDENTIFIED ON THE SHOP DRAWINGS.

I ALL WORK IS TO BE PERFORMED IN COMPLIANCE WITH THESE CONSTRUCTION DOCUMENTS. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND THE ENGINEER IMMEDIATELY. REQUIRED REVISED DESIGNS TO CORRECT DEFICIENCIES OR DEVIATIONS SHALL BE PREPARED BY THE DESIGN ARCHITECT OR ENGINEER FOR REVIEW AND APPROVAL BY THE DIVISION OF THE STATE ARCHITECT AT THE CONTRACTOR'S EXPENSE. ALL CORRECTIVE WORK IS TO BE COMPLETED IN ACCORDANCE WITH THE APPROVED REVISED CONSTRUCTION DOCUMENTS.

J THE CONTRACTOR SHALL NOTIFY PW+F ENGINEERING, INC 48 HOURS PRIOR TO THE FOLLOWING PHASES OF CONSTRUCTION:

1 FOUNDATION POURS

2 AFTER ERECTION OF THE SUPERSTRUCTURE AND PRIOR TO CLOSING ANY PHASE

K ALL STRUCTURAL MEMBERS SHOWN ON PLANS ARE DESIGNED AS IN THEIR FINAL LOCATION. PW+F ENGINEERING, INC DOES NOT PERFORM CONSTRUCTION ENGINEERING OR ENGINEERING NECESSARY TO PLACE ANY STRUCTURAL MEMBERS IN THEIR FINAL LOCATION.

II. SITE PREPARATION

A FOUNDATION DESIGN: SOIL BEARING PRESSURE: 1500 PSF FOR FOUNDATIONS IN NATIVE SOIL.

GEOTECHNICAL HAZARD REPORT NOT REQUIRED PER DSA 1R A–4 – SECTION 3.5.1.2

B COMPACTION REQUIREMENTS:

1 MINIMUM SITE PREPARATION SHALL CONSIST OF SCARIFYING AND RECOMPACTING THE LOOSE SURFACE SOIL. THE SURFACE SOILS WITHIN AND TO A MINIMUM OF 5 FEET BEYOND THE PROPOSED BUILDING AREA, AND IN ALL AREAS TO BE PAVED, SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 12 INCHES AND BE RE–COMPACTED. THE RECOMMENDED DEGREE OF COMPACTION IS A MINIMUM OF 90% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D–1557–70 TEST PROCEDURE.

2 ANY FILL SOIL REQUIRED TO BRING THE SITE UP TO GRADE SHOULD CONSIST OF GRANULAR, NONEXPANSIVE SOIL APPROVED BY THE ENGINEER. ENGINEERED FILL SHOULD BE PLACED IN THIN HORIZONTAL LAYERS A MAXIMUM OF 6 INCHES IN LOOSE THICKNESS AND COMPACTED, AS NOTED ABOVE. IF ANY SOFT OR LOOSE POCKETS OF SOIL ARE FOUND IN THE STRIPPING OR SCARIFYING PROCESS, THESE SOILS SHOULD BE OVER EXCAVATED AND RECOMPACTED TO THE REQUIREMENTS FOR ENGINEERED FILL.

3 IT IS RECOMMENDED THAT THE BUILDING PAD HAVE A COMPACTION TEST PERFORMED BY A GEOTECHNICAL ENGINEERING AND/OR A TESTING AGENCY.

4 IF ANY PROBLEMS OR UNUSUAL CONDITIONS ARISE, CONSULT A GEOTECHNICAL ENGINEER.

III. CONCRETE

A GENERAL: ALL CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE ACI MANUAL OF CONCRETE PRACTICE AND THE 2022 CBC.

B CEMENT SHALL CONFROM TO ASTM C150, PORTLAND CEMENT, TYPE II.

C REINFORCING MATERIAL:

1 DEFORMED ASTM A615, GRADE 40 (#4 BARS AND SMALLER)
GRADE 60 (#5 BARS AND LARGER)

D CONCRETE STRENGTH:

PSI @ 28 DAYS	MAX AGG	MAX SLUMP*
SLAB 4000	3/4"	4"*
FTGS 3000	1 1/2"	4"

* CONCRETE SLABS ON GRADE ARE TO HAVE A MAXIMUM SLUMP OF 4" – IF A GREATER SLUMP IS DESIRED FOR MOVING AND WORKING THE CONCRETE SLUMP MAY BE INCREASED BY THE ADDITION OF WATER REDUCING AGENTS OR PLASTICIZER WHILE MAINTAINING THE REQUIRED WATER/CEMENT RATIO – DO NOT ADD WATER.

E ADMIXTURES: ONLY AS APPROVED BY THE ENGINEER.

F WELDING OF INSERTS: ALL WELDING OF REINFORCING STEEL SHALL BE WITH LOW–HYDROGEN ELECTRODES IN ACCORDANCE WITH THE LATEST RECOMMENDATIONS OF THE AMERICAN WELDING SOCIETY (ANSI/ A.W.S. D1.4–11). ALL REINFORCING TO BE WELDED IS TO BE A706 STEEL OR A CHEMICAL ANALYSIS OF THE REINFORCING STEEL IS REQUIRED BY DSA (CBC SECTION 1903A.8).

G LAP SPLICES: 48 BAR DIAMETERS FOR GRADE 60 REINFORCING OR 32 BAR DIAMETERS FOR GRADE 40 REINFORCING.

H COVER TO BARS: UNLESS OTHERWISE SHOWN OR NOTED, COVER TO REINFORCING BARS SHALL BE AS STATED PER ACI 318–14 SECTION 20.6.1.3

I CONCRETE CURING: KEEP CONCRETE CONTINUOUSLY WET FOR 7 DAYS (MEMBRANE CURING) AS APPROVED BY THE ENGINEER.

J FORM REMOVAL: SIDE OF FOOTINGS AND SLABS ON GRADE, MINIMUM 2 DAYS.

K VIBRATION: VIBRATE ALL CONCRETE IN PLACE WITH A MECHANICAL VIBRATOR USED BY EXPERIENCED PERSONNEL.

L TESTING: IN ACCORDANCE WITH CBC SECTIONS 1705A.3 AND 1910A.

M CONCRETE SHALL BE DEPOSITED AS NEAR AS PRACTICABLE IN ITS FINAL POSITION TO AVOID SEGREGATION DUE TO REHANDLING OF FLOWING. CONCRETE PLACEMENT SHALL BE CARRIED ON AT SUCH A RATE THAT CONCRETE IS AT ALL TIMES PLASTIC AND FLOWS READILY INTO SPACES BETWEEN REINFORCEMENT. CONCRETE THAT HAS PARTIALLY HARDENED OR BEEN CONTAMINATED BY FOREIGN MATERIALS SHALL NOT BE DEPOSITED IN THE STRUCTURE.

N CONCRETE (OTHER THAN HIGH–EARLY–STRENGTH) SHALL BE MAINTAINED ABOVE 50° F, AND IN A MOIST CONDITION FOR AT LEAST THE FIRST SEVEN DAYS AFTER PLACEMENT.

O CONDUITS, PIPES, AND SLEEVES OF ANY MATERIAL NOT HARMFUL TO CONCRETE AND WITHIN THE LIMITATIONS OF ACI 318 SECTION 6.3 MAY BE EMBEDDED IN THE CONCRETE WITH THE APPROVAL OF THE ENGINEER OF RECORD PROVIDED THEY ARE NOT CONSIDERED TO REPLACE STRUCTURALLY THE DISPLACED CONCRETE. REINFORCEMENTS, ANCHOR BOLTS, PIPE SLEEVES, AND OTHER INSERTS SHALL BE POSITIVELY SECURED IN PLACE PRIOR TO PLACING THE CONCRETE.

P PROVIDE CONTROL OR CONSTRUCTION JOINTS AT 15'–0" ON CENTER EACH WAY, UNLESS OTHERWISE NOTED ON THE PLANS. SUBMIT A LAYOUT TO THE ARCHITECT AND ENGINEER FOR REVIEW. THE SURFACE OF THE CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND LAITANCE REMOVED. ALL CONSTRUCTION JOINTS SHALL BE WETTED AND STANDING WATER REMOVED IMMEDIATELY BEFORE ANY NEW CONCRETE IS PLACED. CONSTRUCTION JOINTS SHALL BE MADE AND LOCATED AS NOT TO IMPAIR THE STRENGTH OF THE STRUCTURE. PROVISION SHALL BE MADE FOR TRANSFER OF SHEAR AND OTHER FORCES THROUGH CONSTRUCTION JOINTS.

Q THE EVALUATION AND ACCEPTANCE OF THE CONCRETE SHALL BE BASED ON CBC SECTION 1705A.3.

R THE MIXING OF CONCRETE SHALL BE DONE IN ACCORDANCE WITH ACI 318 SECTION 26.4.2.

S NON–SHRINK GROUT (OR DRY–PACK) UNDER COLUMN BASES SHALL CONFORM TO ASTM C1107 AND HAVE A MINIMUM STRENGTH OF 4000 PSI.

IV. STRUCTURAL STEEL AND MISCELLANEOUS METALS

A GENERAL: ALL WELDING OF STRUCTURAL STEEL SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF THE "WELDING CODE" (A.W.S D1.1–10).

B MATERIALS:

1 STRUCTURAL STEEL– ASTM A36 (OPT: ASTM A992 WIDE FLANGE (W) SECTIONS).

2 STRUCTURAL TUBING – ASTM A500, GRADE B

3 STEEL PIPE – ASTM A53, GRADE B

4 BASE PLATES AND CONNECTION PLATES – A36

5 NUTS AND BOLTS – CONNECTION TO WOOD – ASTM A307

6 NUTS AND BOLTS – STEEL TO STEEL CONNECTION – ASTM A325N

7 ANCHOR BOLTS AND TREADED RODS – ASTM 1554, GRADE 36

8 WELDING ROD – HEAVILY COATED, CONFORMING WITH A.W.S. "SPECIFICATION FOR ARC WELDING ELECTRODES" OF CLASSIFICATION NUMBERS SUITABLE TO THE WORK TO BE DONE. USE LOW–HYDROGEN ELECTRODES FOR WELDING OF REINFORCING BARS.

V. STRUCTURAL WOOD

A MATERIALS:

1 FOUNDATIONS SILLS, NAILERS, AND LEDGERS IN DIRECT CONTACT WITH CONCRETE OR MASONRY AND WITHIN 6 FEET OF THE GROUND ARE TO BE PRESERVATIVE TREATED DF #1.

2 ALL 4x AND 6x POSTS AND COLUMNS: DF #1 OR BETTER.

3 ALL OTHER 6x MEMBERS: DF #1 OR BETTER

4 ALL OTHER 2x AND 4x FRAMING MEMBERS: DF #2 OR BETTER.

5 ALL 2x, 4x, AND 6x MEMBERS SHALL HAVE A MAXIMUM MOISTURE CONTENT OF 19%.

6 PLYWOOD: EACH PANEL SHALL BE IDENTIFIED WITH THE GRADE TRADEMARK OF THE APA. NOTE: THE PRESSURE TREATED SILL PLATES ARE CORROSIVE THEREFORE ALL PLYWOOD NAILING INTO THE PRESSURE TREATED SILL PLATES ARE TO BE HOT DIPPED GALVANIZED.

ROOF: 19/32" STRUCT 1 CD–EXT GLUE 40/20
WALL PLY: 15/32" STRUCT 1 CD–EXT GLUE 32/16

B PRESERVATIVE TREATMENT: TREAT ALL WOOD BELOW A HEIGHT OF 6 FEET THAT IS IN DIRECT CONTACT WITH OR EMBEDDED IN CONCRETE OR MASONRY, INCLUDING SILLS, NAILERS, LEDGERS, WOOD GROUNDS, BLOCKING AND OTHER WOOD, WITH CHEMONITE, OR APPROVED EQUAL, IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND CBC SECTION 2303.1.9 (TREAT ENDS OF PRESSURE TREATED SILLS WHERE SILLS ARE CUT). PRESSURE TREATED LUMBER IS CORROSIVE TO STEEL PRODUCTS. ALL NAILING, BOLTING AND STEEL PLATING ARE TO BE HOT DIPPED GALVANIZED. ALL SHEET METAL FASTENERS ARE TO BE "Z MAX" GALVANIZING BY THE MANUFACTURER. (OPTION: GALVANIZED NAILING AND CONNECTORS ARE NOT REQUIRED IF SILL PLATES WITH "DISODIUM OCTABORATE TERRAHYDRATE (DOT)" PRESSURE TREATING CHEMICALS ARE USED – COORDINATE WITH THE PROJECT STRUCTURAL ENGINEER IF "DOT" TREATED SILL PLATES ARE TO BE USED).

C MACHINE BOLTS AND LAG BOLTS:

1 BOLTS AND NUTS: ASTM A307

2 WASHERS: A STANDARD CUT WASHER SHALL BE PROVIDED AT EACH BOLT HEAD AND NUT PLACED NEXT TO WOOD. PROVIDE MALLEABLE IRON WASHERS (M.I.W.) OR STEEL PLATE WASHERS WHERE INDICATED ON THE DRAWINGS.

3 BOLT HOLES: MAXIMUM 1/16" LARGER THAN BOLTS ACCURATELY LOCATED. OVERSIZED OR SLOTTED HOLES ARE NOT PERMITTED UNLESS SPECIFICALLY NOTED ON THE DRAWINGS.

4 LAG BOLTS: LEAD HOLES FOR THE THREADED PORTION SHALL BE BETWEEN 40% – 70% OF THE SHANK DIAMETER WITH A DEPTH EQUAL TO THE LENGTH OF THE BOLT, AND LEAD HOLE FOR THE UNTHREADED PORTION SHALL BE EQUAL TO THE DIAMETER AND LENGTH OF THE SHANK.

5 ALL BOLTS COMING IN CONTACT WITH THE PRESSURE TREATED SILL PLATES ARE TO BE HOT DIPPED GALVANIZED.

6 ALL BOLTS/NUTS ARE TO BE RE–TIGHTENED BEFORE FRAMING IS "CLOSED–IN" AND IS NO LONGER EXPOSED AND ACCESSIBLE.

D ANCHOR BOLTS ARE TO CONFORM TO ASTM F1554, GRADE 36

E NAILED JOINTS: COMMON WIRE NAILS OR SPIKES. FOR MINIMUM REQUIREMENTS REFER TO THE TYPICAL NAILING SCHEDULE. ALL NAILS USED TO ATTACH THE PRESSURE TREATED PLATES OR OTHER PRESSURE TREATED MEMBERS ARE TO BE HOT DIPPED GALVANIZED.

F MISC. METAL CONNECTORS: ALL SHEET METAL CONNECTORS USED FOR CONNECTING STRUCTURAL WOOD MEMBERS SHALL HAVE CBC AND I.C.C. APPROVAL AND BE 'SIMPSON STRONG–TIE' CONNECTORS OR EQUAL APPROVED BY THE ENGINEER. ALL CONNECTORS SHALL BE GALVANIZED OR PROVIDED WITH APPROVED CORROSION PROTECTION PAINT. ALL CONNECTORS OR FASTENERS USED THAT ARE TO BE IN CONTACT WITH THE PRESSURE TREATED PLATES OR OTHER PRESSURE TREATED MEMBERS ARE TO BE "Z MAX" GALVANIZED

VI. TYPICAL NAILING SCHEDULE

UNLESS OTHERWISE SHOWN OR NOTED, THE GENERAL NAILING REQUIREMENTS SHALL COMPLY WITH CBC CHAPTER 23 AND THE FOLLOWING ADDITIONAL MINIMUM REQUIREMENTS. THE MORE STRINGENT REQUIREMENTS SHALL TAKE PRECEDENCE. ALL NAILS USED TO ATTACH TO THE PRESSURE TREATED PLATES ARE TO BE HOT DIPPED GALVANIZED.

TYPICALLY USE 16d NAILS FOR CONNECTING 2x MEMBERS AND 8d OR 10d NAILS FOR CONNECTING 1x MEMBERS WITH A MINIMUM OF 2 NAILS AT EACH JOINT.

SUB–BORE WHEN NAILS TEND TO SPLIT WOOD AND SUB–BORE FOR 20d AND LARGER NAILS (THE DRILL DIAMETER SHALL BE 0.75 x NAIL DIAMETER).

STUDS AND POSTS: (FULL HEIGHT BETWEEN SILL AND TOP PLATE) STUDS TO SILL OR TOP PLATE .....2–16d END NAIL OR 2–10d TOE NAILS EACH SIDE

4x POST TO SILL ......"SIMPSON" A34 EA. SIDE EA END

6x POST TO SILL ....."SIMPSON" A35 EA SIDE EA END

ADJACENT STUDS AND POSTS.....16d @ 16"

STUDWALL BLOCKING.....2–16d END NAIL OR 2–10d TOE–NAIL EA. END EA. SIDE

DOUBLE TOP PLATE: (MINIMUM 6'–0" LAPS AT SPLICE)

PLATE TO PLATE .....16d @ 16"

AT ALL INTERSECTIONS.....3–16d AT PLATE LAP

AT TYPICAL SPLICES.....ADDITIONAL 10–16d EACH SIDE OF SPLICES UNLESS NOTED OTHERWISE (REFER TO FRAMING PLANS & DETAILS)

JOIST TO TOP PLATE OR TRUSS TO BEAM.....2–16d TOENAIL EACH SIDE (PROVIDE FRAMING CLIPS WHERE INDICATED IN DRAWINGS)

JOIST BLOCKING: (MIN 2x BLKG FULL DEPTH OF JOIST; TYPICAL @ ALL SUPPORTS AND AS INDICATED ON DRAWINGS)

BLOCKING TO JOIST.....2–16d END NAIL OR 2–10d TOE–NAIL EACH SIDE

BLOCKING TO PLATE.....3–16d TOENAIL (UNLESS NOTED OTHERWISE – REFER TO THE FRAMING DETAILS)

HEADERS AND BEAMS (UNLESS OTHERWISE SPECIFIED IN THE DRAWINGS):

TO TOP OF POST....."SIMPSON" AC SERIES POST CAPS

TO SIDE OF POST....."SIMPSON" HH SERIES

COMMON WIRE NAIL SCHEDULE: (COMMON NAILS ONLY ARE TO BE USED ON THIS PROJECT – DO NOT MIX NAIL TYPES)

PENNYWEIGHT	NAIL LENGTH	NAIL DIAMETER
8d	2 1/2"	0.131"
10d	3"	0.148"
12d	3 1/4"	0.148"
16d	3 1/2"	0.162"
20d	4"	0.192"

NOTE: MACHINE NAILING IS SUBJECT TO APPROVAL BY THE ARCHITECT, PROJECT STRUCTURAL ENGINEER, AND DSA.

VII. SHOP DRAWINGS

A SHOP DRAWINGS ARE REQUIRED FOR THE FOLLOWING ITEMS. SUBMIT AS SPECIFIED IN THE PROJECT MANUAL SECTION 01340.

1 CONCRETE REINFORCING BARS

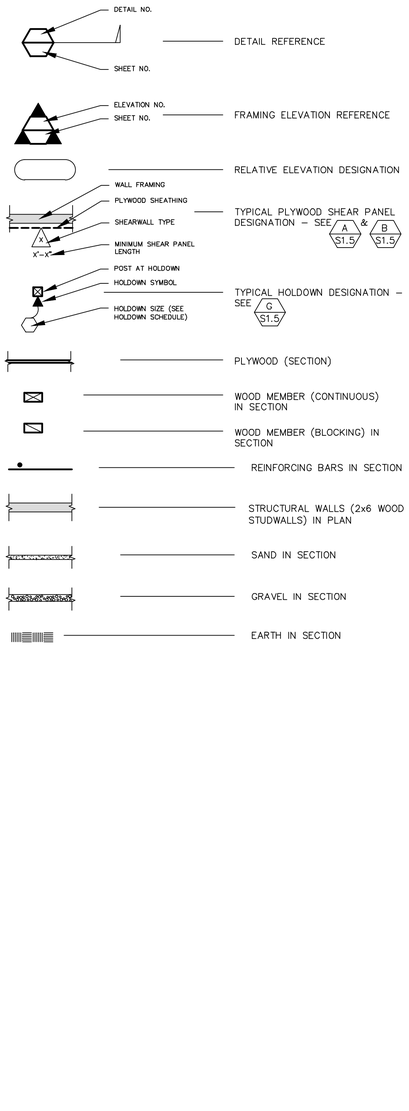
2 STRUCTURAL STEEL

3 CONCRETE MIX DESIGNS

B ALLOW TEN (10) WORKING DAYS FOR SHOP DRAWING REVIEW COMMENCING THE NEXT WORKING DAY AFTER RECEIPT OF SHOP DRAWINGS. PLAN YOUR SCHEDULE ACCORDINGLY.

C NO PART OF THE CONTRACT DOCUMENTS ARE TO BE REPRODUCED AS PART OF THE SHOP DRAWINGS. SHOP DRAWINGS CONTAINING DETAILS, SECTIONS OR PLANS PHOTOCOPIED FROM THE CONTRACT DOCUMENTS WILL BE REJECTED.

SYMBOLS



IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 02-122118 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
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Consultants

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WATER TREATMENT SYSTEM

6633 PARADISE ROAD MODESTO, CALIFORNIA 95358

SHILOH ELEMENTARY SCHOOL DISTRICT

STRUCTURAL NOTES

Project Number	THA034-24
Date	02-14-2024
Drawn by	SG
Checked by	NF

S1.1

Plot Date & Time

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SPECIAL INSPECTION REQUIREMENTS

A GENERAL: SPECIAL INSPECTIONS SHALL BE PERFORMED BY QUALIFIED INSPECTORS RETAINED BY THE OWNER AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT TO PROVIDE SPECIAL INSPECTIONS IN ACCORDANCE WITH CHAPTER 17A OF THE CALIFORNIA BUILDING CODE (CBC). THE RESPONSIBILITIES OF THE SPECIAL INSPECTOR ARE:

1 FIELD AND/OR LAB INSPECT ALL STRUCTURAL ELEMENTS OF THE STRUCTURE AS REQUIRED BY CBC CHAPTER 17A, THE DIVISION OF THE STATE ARCHITECT, AND THESE CONSTRUCTION DOCUMENTS.

2 ALL DEFICIENCIES IN THE QUALITY OF THE CONSTRUCTION AND ANY DEVIATIONS FROM THE APPROVED CONSTRUCTION DOCUMENTS ARE TO BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION (AND TO THE ARCHITECT, THE DIVISION OF THE STATE ARCHITECT, AND THE ENGINEER FOR THEIR RECORDS). THE CORRECTED WORK MUST BE RE-INSPECTED UNTIL IT MEETS THE REQUIRED STANDARDS FOR QUALITY AND CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS. IF THE WORK IS NOT CORRECTED IT IS TO BE BROUGHT TO THE ATTENTION OF THE ENGINEER IMMEDIATELY.

3 REQUIRED REVISED DESIGNS TO CORRECT DEFICIENCIES OR DEVIATIONS SHALL BE PREPARED BY THE DESIGN ARCHITECT OR ENGINEER FOR APPROVAL BY THE DIVISION OF THE STATE ARCHITECT AT THE CONTRACTOR'S EXPENSE. ALL CORRECTIVE WORK IS TO BE COMPLETED IN ACCORDANCE WITH THE APPROVED REVISED CONSTRUCTION DOCUMENTS.

4 A FINAL INSPECTION REPORT, SIGNED BY THE SPECIAL INSPECTOR, SHALL BE SUBMITTED TO THE ARCHITECT, THE DIVISION OF THE STATE ARCHITECT, AND THE ENGINEER UPON COMPLETION OF EACH ELEMENT REQUIRING SPECIAL INSPECTION. THE REPORT MUST CERTIFY THAT THE WORK WAS IN COMPLIANCE, BOTH FOR QUALITY AND NON-DEVIATION, WITH THE APPROVED CONSTRUCTION DOCUMENTS AND AUTHORIZED CHANGES.

B STATEMENT OF SPECIAL INSPECTIONS (PER CBC 1704A.3): THE FOLLOWING MATERIALS, COMPONENTS AND WORK REQUIRED ARE TO HAVE SPECIAL INSPECTION OR TESTING. INCLUDED ARE: THE EXTENT AND TYPE OF EACH SPECIAL INSPECTION; THE TYPE AND EXTENT OF EACH TEST; ADDITIONAL REQUIREMENTS FOR SPECIAL INSPECTION OR TESTING FOR SEISMIC OR WIND RESISTANCE AS SPECIFIED IN CBC SECTION 1705A.10 AND 1705A.11 (WHEN SEISMIC REQUIREMENTS ARE TO BE INCLUDED IDENTIFY THE DESIGNATED SEISMIC SYSTEM AND SEISMIC-FORCE-RESISTING SYSTEMS THAT ARE SUBJECT TO SPECIAL INSPECTIONS IN ACCORDANCE WITH CBC SECTION 1705A.11); CBC SECTION 1705A.10 (WIND REQUIREMENTS FOR STRUCTURES CONSTRUCTED IN THE FOLLOWING AREAS: WIND EXPOSURE CATEGORY B, WHERE THE 3-SECOND-GUST BASIC WIND SPEED IS 120 MILES PER HOUR (MPH) OR GREATER; OR IN WIND EXPOSURE CATEGORY C OR D, WHERE THE 3-SECOND-GUST BASIC WIND SPEED IS 110 MPH OR GREATER); CBC SECTION 1705A.11 (SPECIAL INSPECTIONS ITEMIZED IN SECTIONS 1705A.11.2 THROUGH 1705A.11.8 UNLESS EXEMPTED IN SECTION 1705A.11.1, ARE REQUIRED FOR THE SEISMIC-FORCE-RESISTING SYSTEMS IN STRUCTURES ASSIGNED TO SEISMIC FORCE CATEGORY C, D, E, OR F (PER CBC SECTION 1613A); OR DESIGNATED SEISMIC SYSTEMS IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY D, E, OR F); AND SECTION 1705A.12.

1 STRUCTURAL STEEL: SPECIAL INSPECTION OF THE FOLLOWING IS REQUIRED PER CBC SECTION 1705A.2 AND CBC TABLE 1705A.2.1:

a WELDING INSPECTION SHALL BE IN COMPLIANCE WITH AWS D1.1.

b CONTINUOUS INSPECTION OF WELDING IS REQUIRED FOR: COMPLETE AND PARTIAL PENETRATION GROOVE WELDS; MULTIPASS FILLET WELDS; AND SINGLE PASS GROOVE WELDS GREATER THAN 5/16".

c PERIODIC INSPECTIONS OF WELDING IS REQUIRED FOR: SINGLE PASS FILLET WELDS LESS THAN OR EQUAL TO 5/16" (PROVIDED THE MATERIALS, WELDING PROCEDURES, AND QUALIFICATIONS OF WELDERS ARE VERIFIED PRIOR TO THE START OF WORK).
PERIODIC
INSPECTIONS ARE MADE OF THE WORK IN PROGRESS AND A VISUAL INSPECTION OF ALL WELDS IS MADE PRIOR TO COMPLETION OF SHOP WELDING.

d CONTINUOUS INSPECTION OF REINFORCING STEEL:

1 VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A706.

2 REINFORCING AT BOUNDARY ELEMENTS OF SPECIAL REINFORCED CONCRETE SHEARWALLS ("HOLDOWNS").

e SPECIAL INSPECTION OF STRUCTURAL LOAD-BEARING MEMBERS AND ASSEMBLIES IS GOVERNED BY CBC 1704A.2.5.

2 CONCRETE CONSTRUCTION: SPECIAL INSPECTION AND TESTING OF THE CONCRETE CONSTRUCTION IS REQUIRED PER CBC SECTION 1705A.3 AND CBC TABLE 1705A.3

a PERIODIC INSPECTION OF REINFORCING STEEL

b PERIODIC INSPECTION VERIFYING THE USE OF THE REQUIRED DESIGN MIX

c PERIODIC INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES

d CONTINUOUS INSPECTION AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.

e CONTINUOUS INSPECTION OF POST INSTALLED ANCHORS.

4 WOOD AND LIGHT GAGE STEEL STUD CONSTRUCTION: SPECIAL INSPECTION OF SITE-BUILT ASSEMBLIES SHALL BE IN ACCORDANCE WITH CBC SECTION 1705A.5, 1705A.10.2, AND 1705A.11.3

a PERIODIC INSPECTION IS REQUIRED PER CBC SECTION 1705A.10.1 AND 1705A.11.2 FOR ALL SEISMIC AND WIND RESISTING ELEMENTS (ROOF DIAPHRAGMS AND SHEARWALLS). SPECIAL INSPECTION IS REQUIRED FOR THESE ELEMENTS OF THE ROOF DIAPHRAGMS AND PLYWOOD SHEARWALLS: THE PLYWOOD PANEL GRADE AND THICKNESS, THE NAIL SIZE AND SPACING, THE ROOF FRAMING MEMBER SIZE, GRADE AND SPACING, THE WALL STUD SIZE, GRADE AND SPACING, THE WALL TOP PLATE SIZE, GRADE AND SPLICE CONNECTION, THE WALL SILL PLATE SIZE, GRADE AND ANCHOR BOLTING, WALL HOLDOWN SIZE, ATTACHMENT TO THE WALL STUD AND ANCHOR BOLTING TO THE FOUNDATION, ALL SPECIAL DRAG STRAPPING OR CONNECTIONS.

b PERIODIC INSPECTION PER CBC SECTION 1705A.10.1 AND 1705A.11.2 IS REQUIRED FOR NAILING, BOLTING, ANCHORING AND OTHER FASTENING OF COMPONENTS WITHIN THE SEISMIC-AND-WIND-FORCE-RESISTING SYSTEM INCLUDING WOOD SHEARWALLS, WOOD DIAPHRAGMS, DRAG STRUTS, BRACES, SHEAR PANELS AND HOLDOWNS

5 THE MAIN WIND- OR SEISMIC-FORCE-RESISTING SYSTEM, DESIGNATED SEISMIC OR A WIND- OR SEISMIC-FORCE-RESISTING COMPONENTS ARE AS FOLLOWS:

a THE WOOD AND LIGHT GAGE STEEL STUD SHEARWALLS.

b THE PLYWOOD ROOF DIAPHRAGM.

c SHEARWALL HOLDOWN BOLTING.

d THE BOLTING OF THE SHEARWALLS TO THE FOUNDATION.

e SEISMIC DRAG BEAMS, BEAM ANCHORAGE TO THE SHEARWALLS, AND THE DRAG BEAM SPLICES.

f CONCRETE FOOTINGS UNDER THE SHEARWALLS.

6 EPOXY ANCHORS: CONTINUOUS SPECIAL INSPECTIONS AND TEST FOR "SIMPSON SET-3G ADHESIVE ANCHOR SYSTEMS" TO THE CONCRETE WALLS ARE TO BE PROVIDED PER CBC SECTION 1705A.1.1. FOR THE SPECIFIC DETAILED INSPECTIONS AND TESTS REQUIRED REFER TO ES REPORT ESR-4057 BY ICC EVALUATION SERVICES, INC.

DESIGN CRITERIA

WIND DESIGN DATA

BASIC WIND SPEED: 105 MPH

WIND EXPOSURE: EXPOSURE "C"

RISK CATEGORY: III

EARTHQUAKE DESIGN DATA

SEISMIC IMPORTANCE FACTOR: Ie = 1.25

SHORT TERM SPECTRAL RESPONSE: Ss = 0.836 S_{DS}= 0.669

1 SECOND SPECTRAL RESPONSE: S_1= 0.311 S_{D1} = 0.412

SITE CLASS: "D"

SEISMIC DESIGN CATEGORY: "D"

BASIC SEISMIC FORCE RESISTING SYSTEM: LIGHT FRAMED WALLS SHEATHED WITH WOOD STRUCTURAL PANELS RATED FOR SHEAR RESISTANCE (ASCE 7-16 TABLE 12.2-1, ITEM A.15)

SEISMIC RESPONSE COEFFICIENT: Cs = 0.129

RESPONSE MODIFICATION FACTOR: R = 6.5

DESIGN BASE SHEAR: Cs x EFFECTIVE SEISMIC WEIGHT OF THE BUILDING

ANALYSIS DESIGN PROCEDURE: EQUIVALENT LATERAL FORCE PROCEDURE

ABBREVIATIONS

ADJ	ADJACENT
ALT	ALTERNATE
A BOLT(S)	ANCHOR BOLT(S)
ARCH DRWGS	ARCHITECTURAL DRAWINGS
@	AT
BM	BEAM
BRG	BEARING
BLK	BLOCK
BLKG	BLOCKING
BOT	BOTTOM
BRDG	BRIDGING
CBC	CALIFORNIA BUILDING CODE
CL	CENTER LINE
CTRD	CENTERED
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CMU	CONCRETE MASONRY UNIT
CONSTR	CONSTRUCTION
CONT	CONTINUOUS
CTRSK	COUNTERSINK
DIAG	DIAGONAL
DIA	DIAMETER
DBL	DOUBLE
DF	DOUGLAS FIR (LARCH)
DRWGS	DRAWINGS
(E)	EXISTING
EA	EACH
EXIST	EXISTING
FTG	FOOTING
FNDN	FOUNDATION
FLR	FLOOR
FRAM	FRAMING
GL	GRID LINE
GLB	GLUED-LAMINATED BEAM
HORIZ	HORIZONTAL
ICC	INTERNATIONAL CODE COUNCIL
MAX	MAXIMUM
MIN	MINIMUM
N/A	NOT APPLICABLE
(N)	NEW
NTS	NOT TO SCALE
OPT	OPTIONAL
PAF	POWDER ACTUATED FASTENER
PERPEN	PERPENDICULAR
PL	PLATE
PLY	PLYWOOD
PREMAN	PREMANUFACTURED
PRESS TRTD	PRESSURE TREATED
REINF	REINFORCING
REQD	REQUIRED
SCHED	SCHEDULE
SHT	SHEET
SIM	SIMILAR
SMS	SHEET METAL SCREW
SQ	SQUARE
STD	STANDARD
STL	STEEL
TOEN	TOE-NAIL
T & B	TOP & BOTTOM
TPI	TRUSS PLATE INSTITUTE
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
W/	WITH

FOUNDATION NOTES

1 THE SOILS/PROJECT ENGINEER IS TO OBSERVE AND APPROVE THE FOUNDATION EXCAVATIONS AND REINFORCING PRIOR TO PLACEMENT OF THE CONCRETE.

2 ANCHOR BOLTS FOR ALL HOLDOWNS AND STEEL COLUMNS ARE TO BE WIRED IN PLACE OR HELD IN PLACE BY A TEMPLATE PRIOR TO THE PLACEMENT OF THE CONCRETE, THEY ARE NOT TO BE ADDED WHILE THE CONCRETE IS WET.

3 FOR SPECIAL INSPECTION REQUIREMENTS REFER TO THE GENERAL STRUCTURAL NOTES AND ANY ADDITIONAL REQUIREMENTS PER THE DIVISION OF THE STATE ARCHITECT.

4 FOR ALL SLAB DEPRESSIONS, SLOPED SLABS, FLOOR DRAINS, SPECIAL EQUIPMENT OR INSERTS - SEE THE ARCHITECTURAL, MECHANICAL, ELECTRICAL AND DRAWINGS OF OTHER TRADES.

ROOF FRAMING NOTES

1 DESIGN ROOF LOADS:

TYP ROOF	
DL	20.0 PSF
LL	20.0 PSF

2 FOR SPECIAL INSPECTION REQUIREMENTS REFER TO THE GENERAL STRUCTURAL NOTES AND ANY ADDITIONAL REQUIREMENTS PER THE DIVISION OF THE STATE ARCHITECT,

3 PROVIDE TOP PLATE SPLICE PER C1/S1.5 TYP UNLESS SHOWN OR NOTED OTHERWISE.

4 DRILLING OF HOLES, DRIVING OF HEAVY SCREWS OR USE OF LAG BOLTS IN THE BOTTOM OF THE ROOF JOISTS, EXCEPT AS NOTED ON THE DRAWINGS, IS NOT PERMITTED. DO NOT CUT OR DRILL ROOF JOISTS, EXCEPT AS NOTED ON THE DRAWINGS.

PROOF TEST VALUES FOR "SIMPSON" STRONG-BOLT 2 ANCHORS

ANCHOR DIAMETER (INCHES)	MINIMUM EMBEDMENT DEPTH (INCHES)	TORQUE FORCE INTO NORMAL WEIGHT CONC 3000 PSI
3/8"	1 1/2"	30 FT-#
1/2"	2 1/4"	60 FT-#
5/8"	2 3/4"	90 FT-#
3/4"	3 3/8"	150 FT-#
1"	4 1/2"	230 FT-#

NOTE: TORQUE TESTING OF THE "SIMPSON" STRONG-BOLT 2 ANCHORS ARE TO BE PROVIDED AS FOLLOWS (PER 2022 CBC SECTION 1910A.5 AND ICC ESR 3037):

1. 10% OF THE ANCHORS ARE TO BE TESTED FOR ALL SILL PL BOLTING APPLICATIONS
2. 50% OR ALTERNATE BOLTS IN A GROUP, INCLUDING AT LEAST ONE-HALF THE ANCHORS IN EACH GROUP, SHALL BE TESTED FOR NON-STRUCTURAL APPLICATIONS SUCH AS EQUIPMENT ANCHORAGE.
3. ALL OF THE ANCHORS ARE TO BE TESTED FOR OTHER STRUCTURAL APPLICATIONS.

1 "SIMPSON" STRONG BOLT 2 ANCHOR

PROOF TEST VALUES FOR "HILTI" KWIK BOLT TZ2 ANCHORS

ANCHOR DIAMETER (INCHES)	MINIMUM EMBEDMENT DEPTH (INCHES)	TORQUE FORCE INTO NORMAL WEIGHT CONC 3000 PSI
3/8"	1 1/2"	25 FT-#
1/2"	2 1/4"	40 FT-#
5/8"	2 3/4"	60 FT-#
3/4"	3 3/8"	110 FT-#

NOTE: TORQUE TESTING OF THE "HILTI" KWIK BOLT TZ2 ANCHORS ARE TO BE PROVIDED AS FOLLOWS (PER 2022 CBC SECTION 1910A.5 AND ICC ESR 4266):

1. 10% OF THE ANCHORS ARE TO BE TESTED FOR ALL SILL PL BOLTING APPLICATIONS
2. 50% OR ALTERNATE BOLTS IN A GROUP, INCLUDING AT LEAST ONE-HALF THE ANCHORS IN EACH GROUP, SHALL BE TESTED FOR NON-STRUCTURAL APPLICATIONS SUCH AS EQUIPMENT ANCHORAGE.
3. ALL OF THE ANCHORS ARE TO BE TESTED FOR OTHER STRUCTURAL APPLICATIONS.

2 "HILTI" KWIK BOLT TZ2 ANCHOR

A/S1.2 BOLT PROOF LOADING

NO SCALE

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 02-122118 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
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LICENSED ARCHITECT TIMOTHY PAUL HUFF No. C 18524 REN: 8/26 STATE OF CALIFORNIA

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REGISTERED PROFESSIONAL ENGINEER NICOLAS FAHRNEY No. S5098 Exp. 9/30/26 STRUCTURAL STATE OF CALIFORNIA

Consultants

SHILOH ELEMENTARY WATER TREATMENT SYSTEM

6633 PARADISE ROAD MODESTO, CALIFORNIA 95358

SHILOH ELEMENTARY SCHOOL DISTRICT

STRUCTURAL NOTES

Project Number	THA034-24
Date	02-14-2024
Drawn by	SG
Checked by	NF

S1.2

Plot Date & Time

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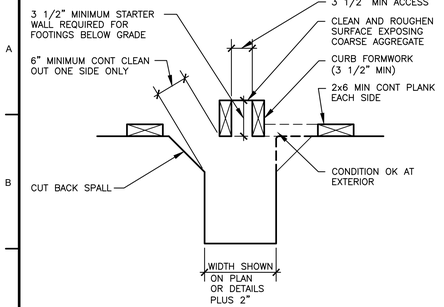


NOTES:

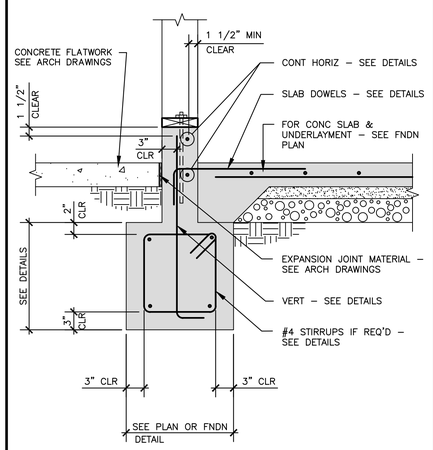
1 FOUNDATION CONCRETE MAY BE PLACED DIRECTLY INTO NEAT EXCAVATIONS PROVIDED THE FOUNDATION TRENCH WALLS ARE STABLE AS DETERMINED BY THE STRUCTURAL ENGINEER AND APPROVED BY DSA.

2 FORM WORK NOT PERMITTED BELOW GRADE UNLESS FOOTING AND WALL ARE FULLY FORMED.

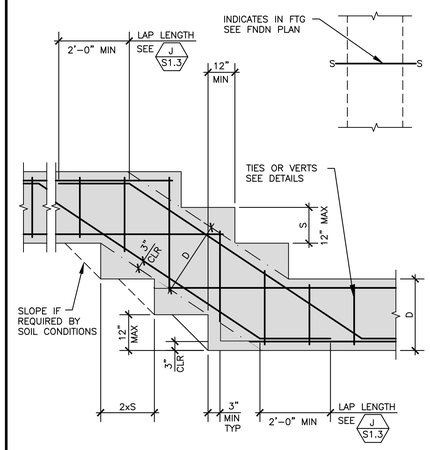
3 STAKES NOT PERMITTED WITHIN FOOTING SECTION.

4 THIS IS THE STATE MANDATORY MINIMUM FORMWORK REQUIRED FOR FOOTINGS UNLESS THE FOOTINGS ARE FULLY FORMED.

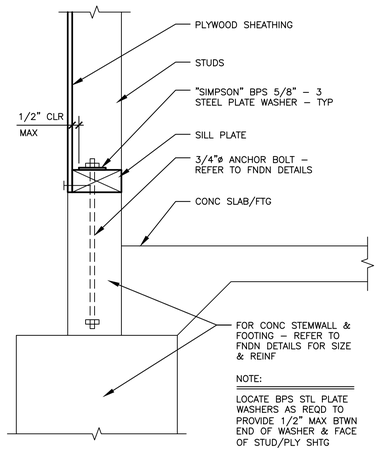
A S1.3 TYP FOOTING EXCAVATION REQUIREMENTS — NO SCALE



B S1.3 TYPICAL REINFORCING CLEARANCES — NO SCALE



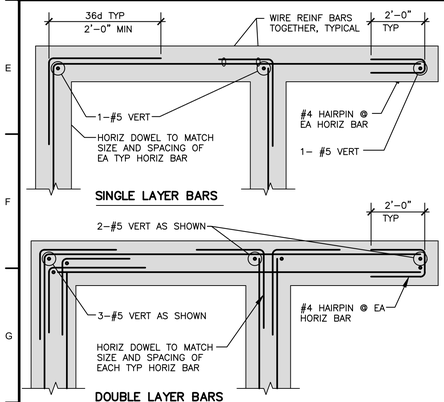
D S1.3 SECTION AT STEPPED FOOTING — NO SCALE



NOTE:

LOCATE BPS STL PLATE WASHERS AS REQD TO PROVIDE 1/2" MAX BTWN END OF WASHER & FACE OF STUD/PLY SHTG

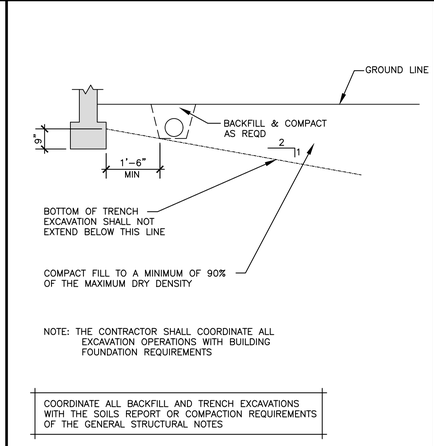
E S1.3 SECTION AT WASHER PLACEMENT — NO SCALE



NOTES:

1 SEE CONCRETE NOTES & DETAILS FOR REINF CLEARANCES
2 VERTICAL REINF NOT SHOWN SEE DETAILS
3 "d" IS REINF BAR DIAMETER

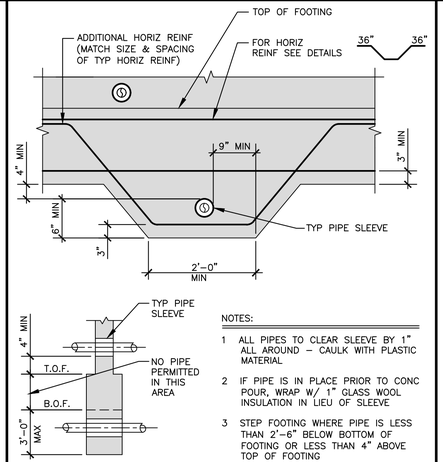
F S1.3 TYP REBAR INTERSECTION DETAIL — NO SCALE



NOTE: THE CONTRACTOR SHALL COORDINATE ALL EXCAVATION OPERATIONS WITH BUILDING FOUNDATION REQUIREMENTS

COORDINATE ALL BACKFILL AND TRENCH EXCAVATIONS WITH THE SOILS REPORT OR COMPACTION REQUIREMENTS OF THE GENERAL STRUCTURAL NOTES

G S1.3 EXCAVATION PARALLEL TO FOOTING — NO SCALE



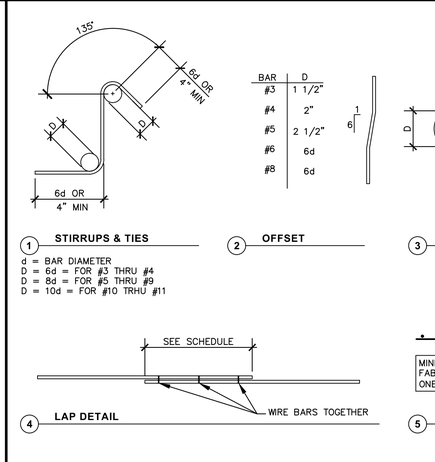
NOTES:

1 ALL PIPES TO CLEAR SLEEVE BY 1" ALL AROUND – CAULK WITH PLASTIC MATERIAL

2 IF PIPE IS IN PLACE PRIOR TO CONC POUR, WRAP W/ 1" GLASS WOOL INSULATION IN LIEU OF SLEEVE

3 STEP FOOTING WHERE PIPE IS LESS THAN 2'–6" BELOW BOTTOM OF FOOTING OR LESS THAN 4" ABOVE TOP OF FOOTING

H S1.3 TYPICAL PIPE BELOW FOOTING — NO SCALE

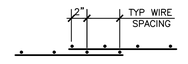


1 STIRRUPS & TIES

d = BAR DIAMETER
D = 6d = FOR #3 THRU #4
D = 8d = FOR #5 THRU #9
D = 10d = FOR #10 THRU #11

2 OFFSET

3 BAR BEND REQUIREMENTS



MINIMUM LAP FOR WELDED WIRE FABRIC REINFORCING SHALL BE ONE WIRE SPACING PLUS 2"

4 LAP DETAIL

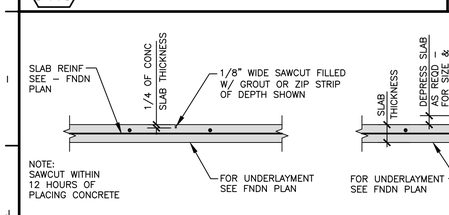
5 WELDED WIRE FABRIC LAP

REBAR LAP LENGHTS (3000 PSI CONC)

SIZE	CONCRETE (CLASS B)		MASONRY
	BOTTOM BARS	TOP BARS	ALL BARS
#3	22"	28"	27"
#4	30"	38"	36"
#5	36"	48"	45"
#6	44"	56"	54"
#7	64"	82"	63"
#8	72"	94"	-----
#9	80"	104"	-----
#10	90"	116"	-----
#11	98"	128"	-----

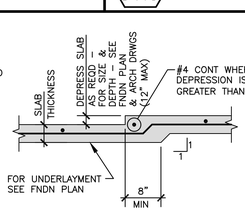
NOTE: FY = 60,000 PSI (#5 BARS & LARGER)
FY = 40,000 PSI (#3 & #4 BARS)

J S1.3 REINFORCING DETAILS — NO SCALE

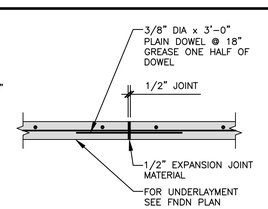


NOTE: SAWCUT WITHIN 12 HOURS OF PLACING CONCRETE

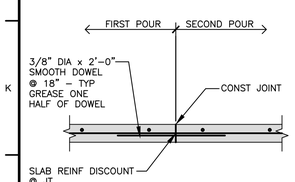
1 CRACK CONTROL JOINT



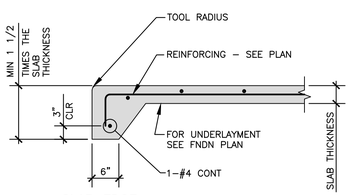
2 DEPRESSED SLAB



3 EXP JOINT AT EXTERIOR SLABS ONLY



4 CONSTRUCTION JOINT

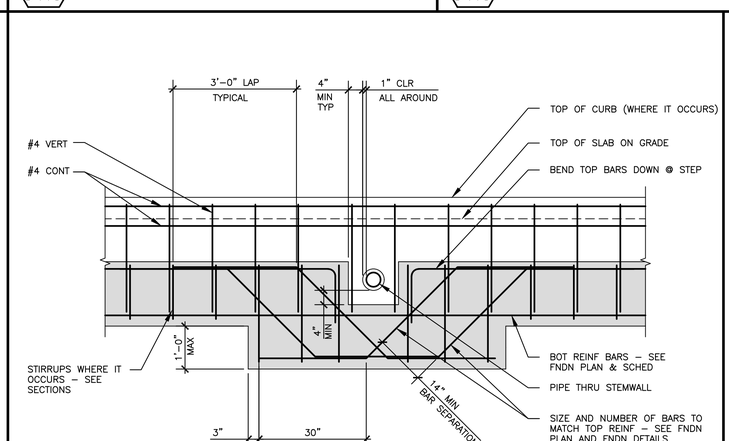


5 SLAB EDGE

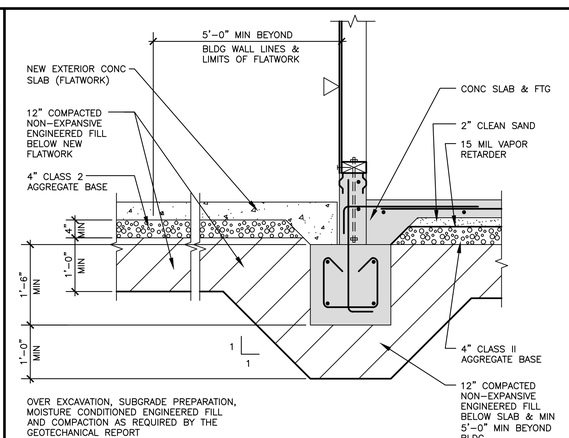
NOTE:

CONSTRUCTION AND CRACK CONTROL JOINTS ARE THE RESPONSIBILITY OF THE CONTRACTOR AND ARE TO BE PLACED AT INTERVALS NOT EXCEEDING ± 15'–0" MAX FEET EACH DIRECTION (PLACE IN CHECKERBOARD FASHION AS REQUIRED). THE JOINT LAYOUT IS TO BE SUBMITTED TO AND APPROVED BY THE ARCHITECT, STRUCTURAL ENGINEER OF RECORD, AND DSA PRIOR TO PLACING INTERIOR CONCRETE SLABS.

K S1.3 TYPICAL SLAB DETAILS — NO SCALE



L S1.3 PIPE THRU FOOTING — NO SCALE



OVER EXCAVATION, SUBGRADE PREPARATION, MOISTURE CONDITIONED ENGINEERED FILL AND COMPACTION AS REQUIRED BY THE GEOTECHNICAL REPORT

NOTE:
COORDINATE & VERIFY W/ GEOTECHNICAL REPORT

M S1.3 TYPICAL ENGINEERD FILL PROFILE — NO SCALE

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 02-122118 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/05/2024

TPH architects
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Consultants

SHILOH ELEMENTARY WATER TREATMENT SYSTEM

6633 PARADISE ROAD MODESTO, CALIFORNIA 95358
SHILOH ELEMENTARY SCHOOL DISTRICT

TYPICAL DETAILS - FOUNDATION

Project Number	THA034-24
Date	02-14-2024
Drawn by	SG
Checked by	NF

S1.3

Plot Date & Time

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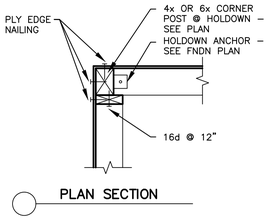
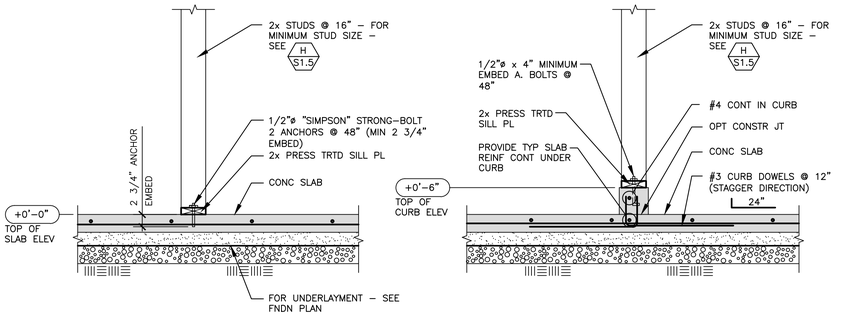


PLAN SECTION

A S1.4 TYP WALL INTERSECTION DETAILS WOOD STUDWALL — NO SCALE



1 WALL TO SLAB

2 WALL TO CURB

B S1.4 TYPICAL INTERIOR NON–STRUCTURAL WALL SILL CONNECTION TO SLAB &/OR CURB – WOOD STUDWALL — NO SCALE

NOTES:

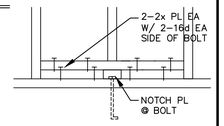
1 A MINIMUM OF TWO ANCHOR BOLTS SHALL BE PLACED WITHIN ANY ONE PIECE OF SILL LENGTH

2 A TREADED SILL THAT HAS BEEN CUT, DRILLED, OR NOTCHED SHALL BE TREATED WITH A PRESERVATIVE LISTED IN C.B.C. ON ALL EXPOSED SURFACES FROM WHICH THE PRESERVATIVE TREATMENT HAS BEEN REMOVED (PRESERVATIVE LISTED IN THE C.B.C.)

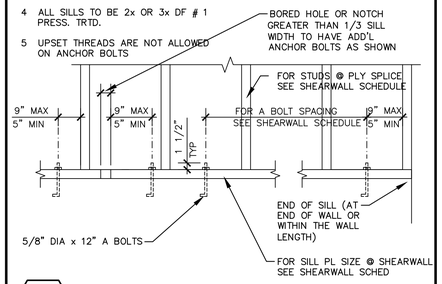
3 BOLTS SHALL BE F1554–36 W/ STD BOLT HEADS

4 ALL SILLS TO BE 2x OR 3x DF # 1 PRESS. TRTD.

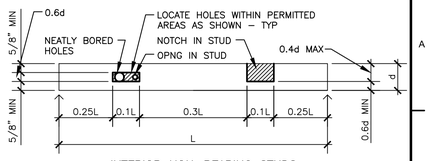
5 UPSET THREADS ARE NOT ALLOWED ON ANCHOR BOLTS



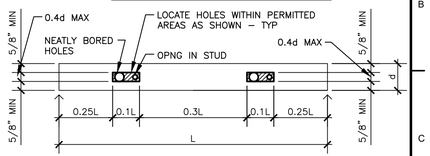
CONDITION WHERE BOLTS OCCURS AT STUD



C S1.4 TYP ANCHOR BOLT PLACEMENT — NO SCALE



INTERIOR NON–BEARING STUDS

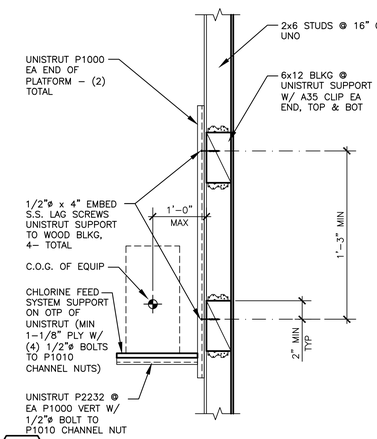


EXTERIOR BEARING STUDS

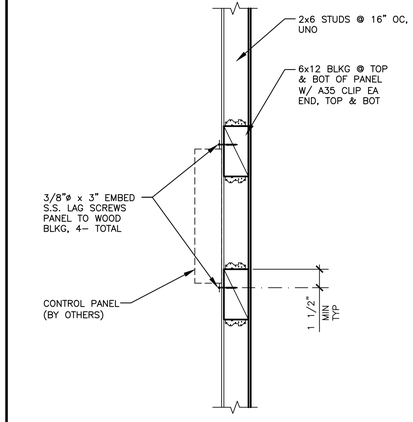
– NO HOLES OR NOTCHES PERMITTED AT LOCATIONS OTHER THAN THOSE INDICATED UNLESS DETAILED ON STRUCTURAL DRAWINGS

– NO NOTCHES PERMITTED AT STRUCTURAL POSTS (INCLUDING KING AND BEARING STUDS AT OPENINGS)

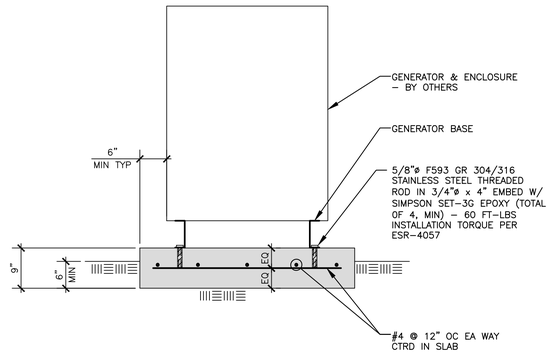
D S1.4 HOLE LIMITATIONS THRU WOOD STUDS — NO SCALE



E S1.4 CHLORINE FEED SUPPORT ANCHORAGE — NO SCALE



F S1.4 CONTROL PANEL ANCHORAGE — NO SCALE



G S1.4 GENERATOR ANCHORAGE — NO SCALE

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SHILOH ELEMENTARY WATER TREATMENT SYSTEM

6633 PARADISE ROAD MODESTO, CALIFORNIA 95358

SHILOH ELEMENTARY SCHOOL DISTRICT

TYPICAL DETAILS - FOUNDATION & WALL FRAMING

Project Number	THA034-24
Date	02-14-2024
Drawn by	SG
Checked by	NF

S1.4

Plot Date & Time

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TYP BLK OR STUD @ ADJOINING PLY PANEL EDGES – FOR STUDS BTWN PLY EDGES REFER TO STRUCT DETAILS

PLYWOOD PANEL SCHEDULE					
TYPE	PANEL DESIGNATION	EDGE NAILING	BLKG & STUDS	SILL PL OR BOT PL	ANCHOR BOLTS AT FOUNDATION
A	15/32" STRUCT I	10d @ 6"	2x	2x	3/4"ø @ 48"
B	15/32" STRUCT I	10d @ 4"	3x	3x	3/4"ø @ 32"
C	15/32" STRUCT I	10d @ 3"	3x	3x	3/4"ø @ 24"

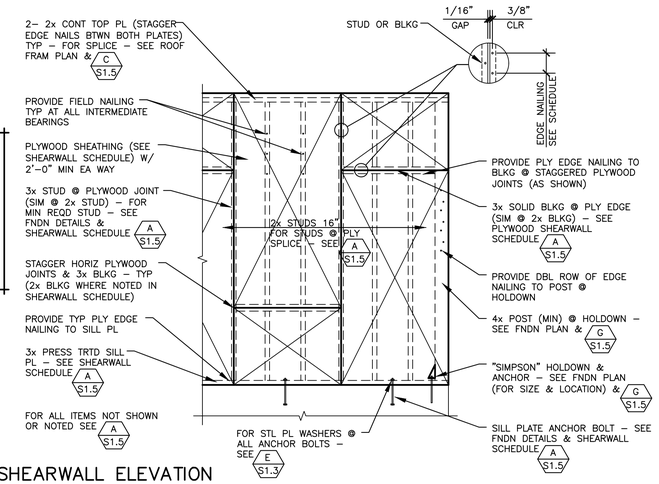
1 ALL EDGES OF PLY SHALL BE FASTENED PER SCHEDULE NAILING REQUIREMENTS
2 REFER TO NOMINAL THICKNESS OF STUDS & BLKG AT PLY SPLICE
3 ALL NAILS SHALL BE COMMON WIRE NAILS
4 ALL PLYWOOD MUST BE MARKED "APA W/ EXT GLUE"
5 PREDRILL HOLES WHERE PLYWOOD TENDS TO SPLIT
6 MIN INDIVIDUAL PIECE: 8 SQ FT – LEAST DIMENSION = 1'–4"
7 FIELD NAILING: 10d @ 12" – TYP AT ALL INTERMEDIATE BEARINGS

FOR SHEAR WALL ELEVATION & NOTES – SEE B S1.5

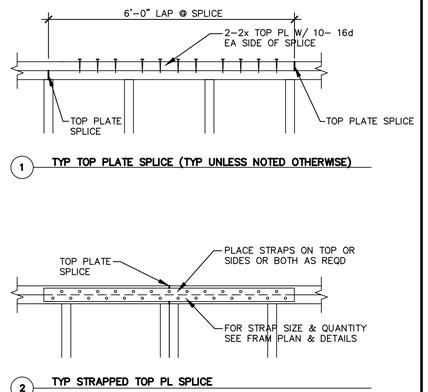
A S1.5 PLYWOOD SHEARWALL SCHEDULE
WOOD STUDWALL — NO SCALE

NOTE:
FOR OPNGS IN SHEARWALLS BTWN STUDS FOR DUCTS, ETC – REFER TO D S1.5

FOR LARGER OPNGS, OR OPNGS CLOSER THAN 10'–0", OR OPNGS IN WALLS W/ PLY EA SIDE (IF REQD) REFER TO SPECIFIC STRUCTURAL DETAILS REFERENCED ON FRAMING PLANS



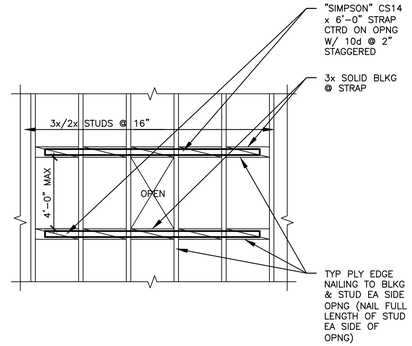
B S1.5 TYPICAL SHEARWALL ELEVATION
WOOD STUDWALL — NO SCALE



1 TYP TOP PLATE SPLICE (TYP UNLESS NOTED OTHERWISE)

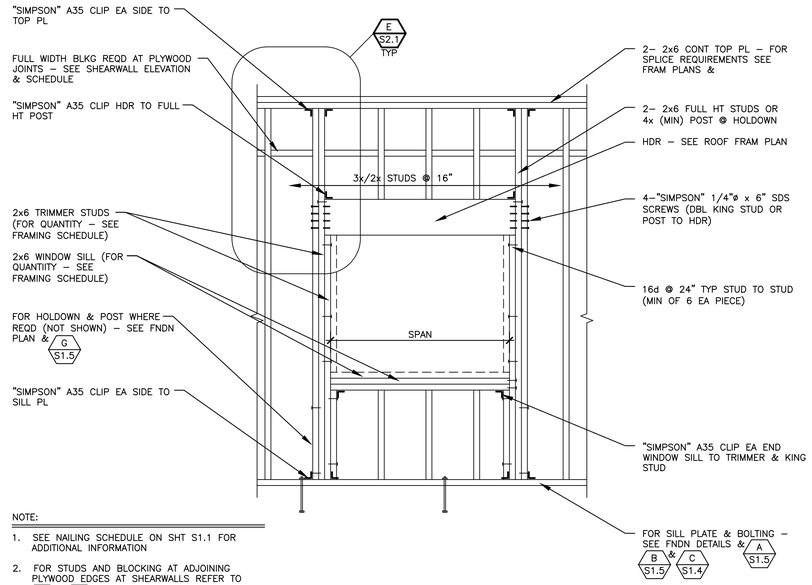
2 TYP STRAPPED TOP PL SPLICE

C S1.5 TYPICAL TOP PLATE SPLICE
WOOD STUDWALL — NO SCALE



NOTE:
1. OPENINGS IN SHEARWALLS ARE TO BE NO CLOSER THAN 10'–0" WITHOUT SPECIAL DETAILING. FOR LOCATIONS – SEE FOUNDATION OR ROOF FRAMING PLANS.
2. OPENINGS IN SHEARWALLS WITH PLYWOOD ON EACH SIDE OF THIS WALL ARE NOT ALLOWED WITHOUT A SPECIAL DETAIL.

D S1.5 TYPICAL OPENING IN SHEARWALL
WOOD STUDWALL — NO SCALE

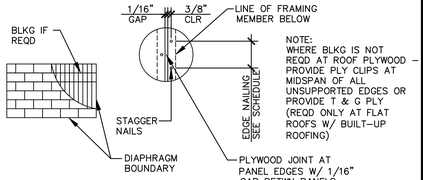


NOTE:
1. SEE NAILING SCHEDULE ON SHT S1.1 FOR ADDITIONAL INFORMATION
2. FOR STUDS AND BLOCKING AT ADJOINING PLYWOOD EDGES AT SHEARWALLS REFER TO A S1.5 & B S1.5
3. FOR SILL PLATE SIZE AND BOLTING AT SHEARWALLS – SEE A S1.5 & B S1.5

STRUCTURAL WALL OPENING FRAMING SCHEDULE			
SPAN	NOMINAL HDR DEPTH	QUANTITY OF MEMBERS	
		TRIMMER	WINDOW SILL
4'–1" TO 6'–0"	SEE FRAMING PLAN	1	2

NOTE:
1. FOR HEADER SIZE – REFER TO THE FRAMING PLAN
2. FOR CLEAR OPENING AT DOORS AND WINDOWS REFER TO THE ARCH DRWGS

F S1.5 TYPICAL STRUCTURAL WALL FRAMING AT OPENING
WOOD STUDWALL — NO SCALE

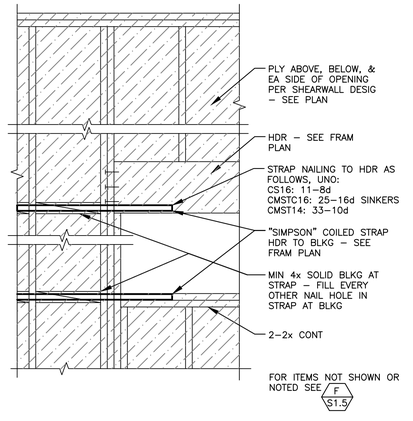


NOTE:
WHERE BLKG IS NOT REQD AT ROOF PLYWOOD – PROVIDE PLY CLIPS AT MIDSPAN OF ALL UNSUPPORTED EDGES OR PROVIDE T & G PLY (REQD ONLY AT FLAT ROOFS W/ BUILT–UP ROOFING)

PLYWOOD PANEL SCHEDULE				
TYPE	PANEL DESIGNATION	EDGE & BOUNDARY NAILING	NAILING @ INTERM	BLKG
ROOF	19/32" STRUCT I	10d @ 6"	10d @ 12"	2x

1 ALL NAILS SHALL BE COMMON WIRE NAILS
2 ALL PLYWOOD MUST BE MARKED "APA W/ EXT GLUE"
3 PROVIDE EDGE NAILING ALONG ALL STRUT & CHORD LINES
4 PREDRILL HOLES WHERE PLYWOOD TENDS TO SPLIT
5 MIN INDIVIDUAL PIECE: 8 SQ FT – LEAST DIMENSION = 2'–0"

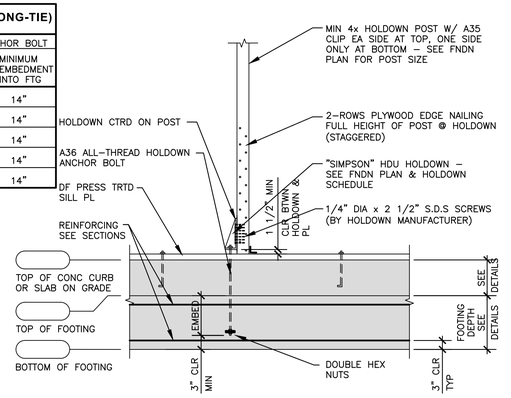
E S1.5 PLYWOOD ROOF SHEATHING
NO SCALE



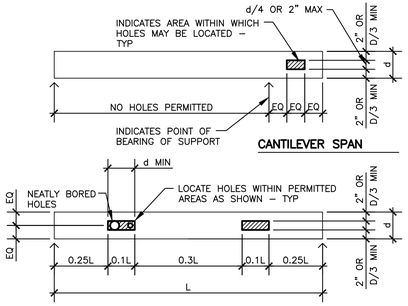
H S1.5 SECTION AT WALL FRAMING
NO SCALE

HOLDOWN SCHEDULE ("SIMPSON" STRONG-TIE)				
SYMBOL	DESIGNATION	"SIMPSON" SDS SCREWS TO POST	HOLDOWN ANCHOR BOLT	
			A36 ALL–THREAD ROD	MINIMUM EMBEDMENT INTO FTG
1	HDU2	6– 1/4"ø x 2 1/2"	5/8"ø	14"
2	HDU4	10– 1/4"ø x 2 1/2"	5/8"ø	14"
3	HDU5	14– 1/4"ø x 2 1/2"	5/8"ø	14"
4	HDU8	20– 1/4"ø x 2 1/2"	7/8"ø	14"
5	HDU14	36– 1/4"ø x 2 1/2"	1"ø	14"

1. INSTALL HOLDOWN PER MANUFACTURER'S RECOMMENDATIONS
2. ANCHOR BOLT NUT IS TO BE FINGER TIGHT WITH 1/3 TO 1/2 TURN WITH A WRENCH
3. FOR ADDITIONAL INFORMATION – SEE "SIMPSON" REQUIREMENTS
4. PROVIDE HOLDOWN ANCHOR FROM THREADED ROD AND DOUBLE NUT (WITH MINIMUM ANCHOR DIAMETERS AND MINIMUM EMBEDMENTS SHOWN)
5. HOLDOWN ANCHOR BOLTS ARE IN ADDTION TO AND NOT IN LIEU OF THE SPECIFIED SILL PLATE ANCHOR BOLTS
6. ALL–THREAD ROD HOLDOWN ANCHOR BOLT EMBEDMENT IS THE MINIMUM EMBEDMENT REQUIRED FROM THE TOP OF THE FOOTING TO THE BOTTOM OF THE ANCHOR.



G S1.5 TYPICAL HOLDOWN DETAIL
WOOD STUDWALL — NO SCALE



– NO NOTCHES PERMITTED UNLESS DETAILED ON STRUCTURAL DRAWINGS
– NO HOLES PERMITTED AT MULTIPLE SPAN MEMBERS
– NO HOLES PERMITTED AT LOCATIONS OTHER THAN THOSE INDICATED UNLESS DETAILED ON STRUCTURAL DRAWINGS
– NO HOLES PERMITTED AT GLUE–LAMINATED MEMBERS

CEILING JOISTS

J S1.5 HOLE LIMITATIONS THRU SAWN TIMBER
NO SCALE

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APP. 02-122118 INC:
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DATE: 09/05/2024

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Consultants

SHILOH ELEMENTARY
WATER TREATMENT SYSTEM
6633 PARADISE ROAD MODESTO, CALIFORNIA 95358
SHILOH ELEMENTARY SCHOOL DISTRICT
TYPICAL DETAILS - WOOD WALL FRAMING

Project Number	THA034-24
Date	02-14-2024
Drawn by	SG
Checked by	NF

S1.5
Plot Date & Time

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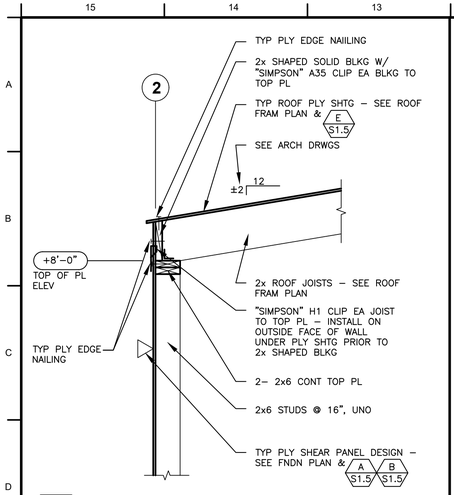
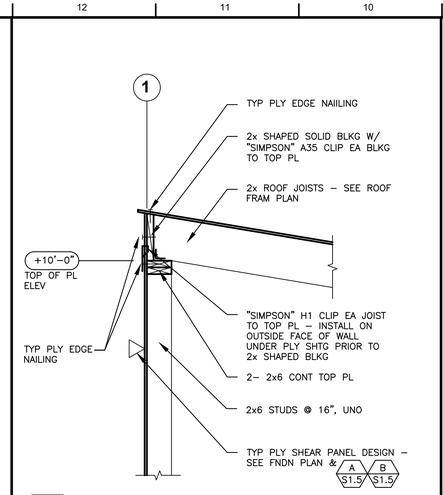


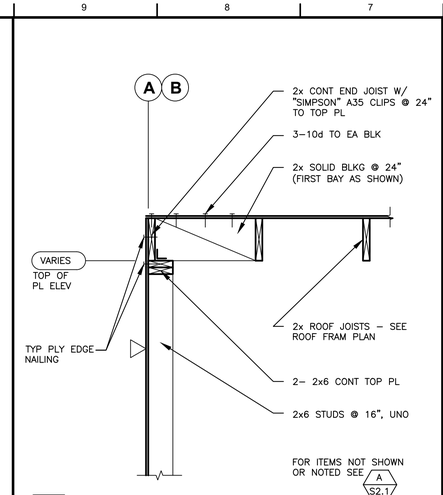
A S2.1 SECTION AT ROOF FRAMING

3/4" = 1'–0"



B S2.1 SECTION AT ROOF FRAMING

3/4" = 1'–0"



C S2.1 SECTION AT ROOF FRAMING

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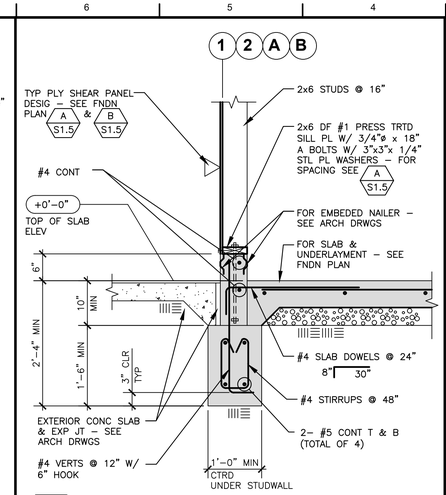
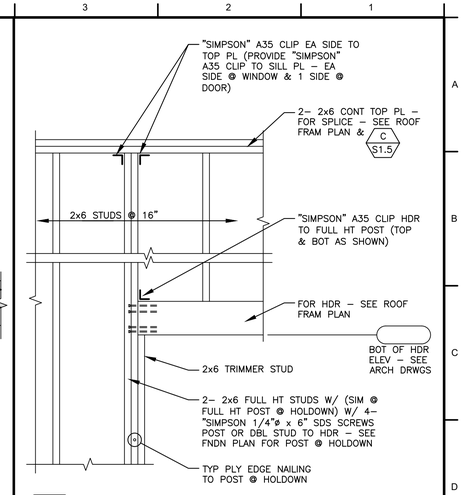


D S2.1 SECTION AT FOUNDATION

3/4" = 1'–0"



E S2.1 SECTION AT HEADER CONN

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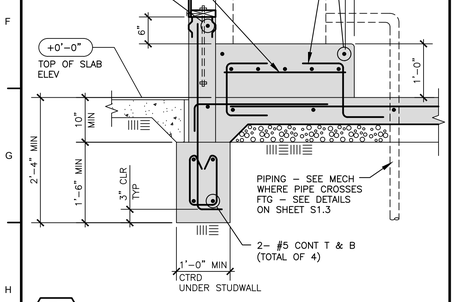
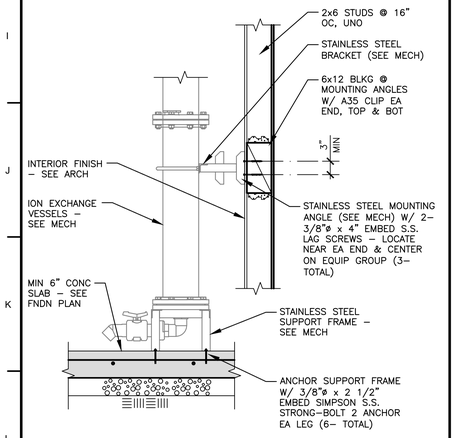


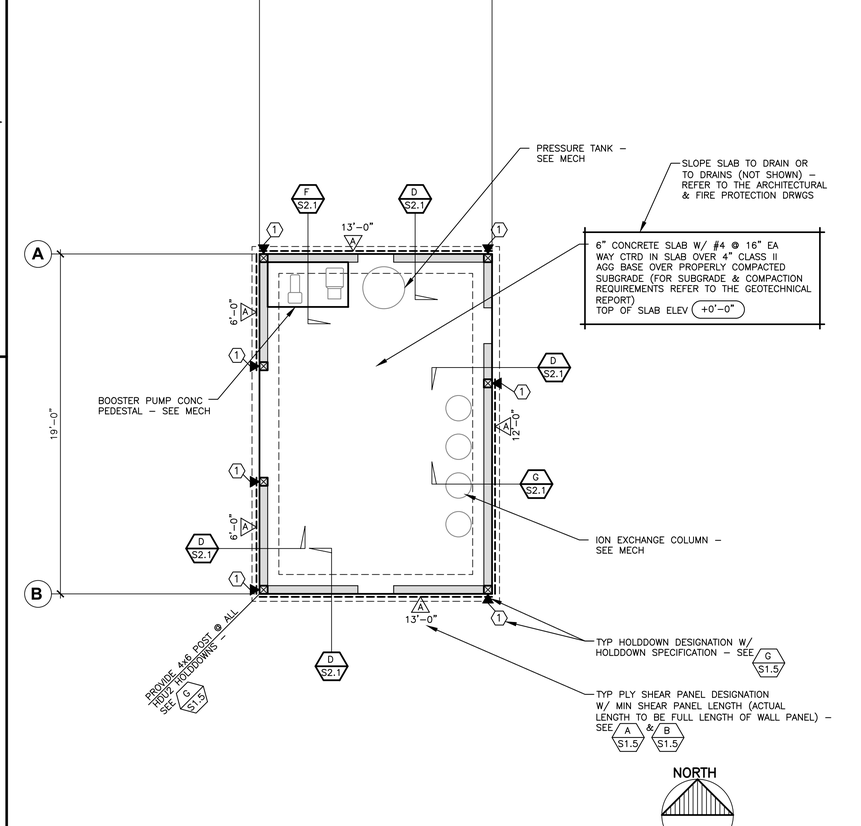
F S2.1 SECTION AT FOUNDATION

3/4" = 1'–0"



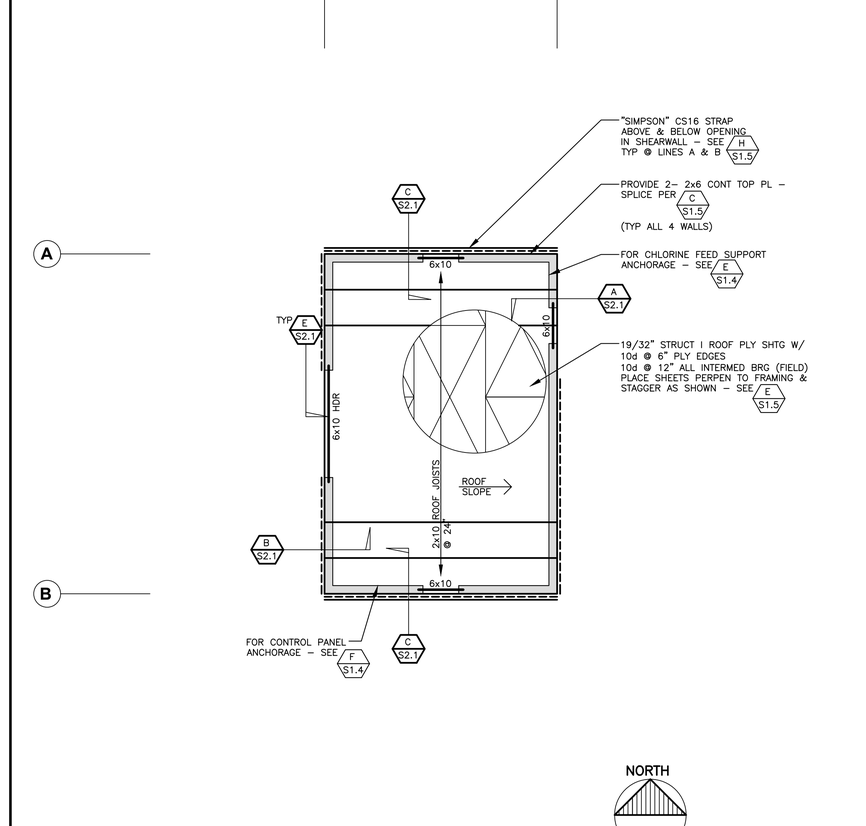
G S2.1 SECTION AT FOUNDATION

3/4" = 1'–0"



FOUNDATION PLAN

1/4" = 1'–0"



ROOF FRAMING PLAN

1/4" = 1'–0"

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Consultants

SHILOH ELEMENTARY WATER TREATMENT SYSTEM

6633 PARADISE ROAD MODESTO, CALIFORNIA 95358

SHILOH ELEMENTARY SCHOOL DISTRICT

FOUNDATION PLAN
ROOF FRAMING PLAN
STRUCTURAL DETAILS

Project Number	THA034-24
Date	02-14-2024
Drawn by	SG
Checked by	NF

S2.1

Plot Date & Time

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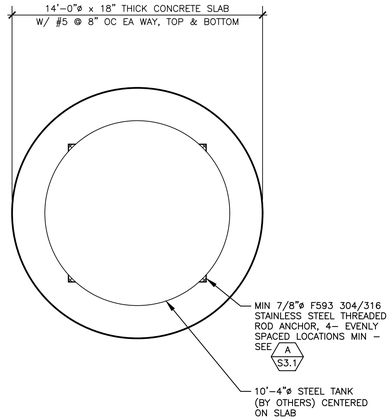
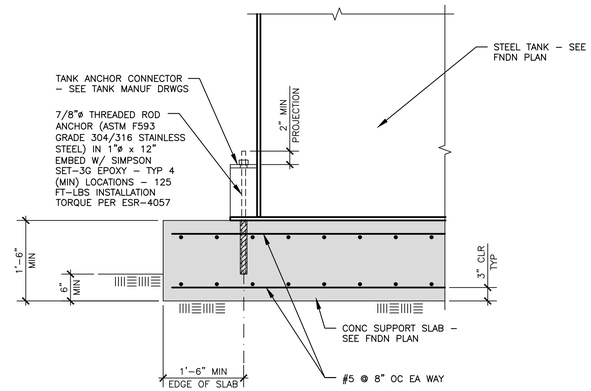


TANK FOUNDATION PLAN

1/4" = 1'-0"



A S3.1 SECTION AT TANK FOUNDATION

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SHILOH ELEMENTARY SCHOOL DISTRICT

TANK FOUNDATION PLAN & DETAILS

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Checked by	NF

S3.1

Plot Date & Time

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PLUMBING EQUIPMENT SCHEDULE

MARK	DESCRIPTION
P-1	BASIS OF DESIGN - THE FOLLOWING SPECIFICATION IS FOR BASIS OF DESIGN, THE CONTRACTOR SHALL SELECT A WELL PUMP BASED ON WATER LEVEL TO PROVIDE 200 GPM @ 80 PSIG MINIMUM AT THE WELL HEAD. SUBMERSIBLE PUMP: 200 GPM AT 240 FEET TOTAL DYNAMIC HEAD, 25 HP, 460V, 3Ø, 88.0 A, 1.15 SF. STAINLESS STEEL MOTOR SHAFT AND COUPLING, STAINLESS STEEL IMPELLER, MOTOR CAPABLE OF RUNNING CONTINUOUSLY UNDER WATER, 4" DROP PIPE, SUBMERSIBLE CABLE CONNECTIONS. GRUNDFOS #230S250-7. MOTOR CONTROLLER: VARIABLE FREQUENCY DRIVE MOTOR CONTROLLER SHALL BE SELECTED TO MATCH PUMP MOTOR. CONTROLLER SHALL HAVE ALPHA-NUMERIC INPUT & DISPLAY. CONTROLLER SHALL CHANGE DRIVE SPEED TO MAINTAIN A CONSTANT DISCHARGE PRESSURE, DISPLAY STATUS OF MOTOR AND STORE LAST 8 ALARM FAULTS. CONTROLLER SHALL BE ENCLOSED IN AN UL TYPE 1 ENCLOSURE (NEMA 3). THE ENCLOSURE SHALL BE LOCATED ON EXTERIOR WALL OF FIRE PUMP HOUSE. MITSUBISHI ELECTRIC AUTOMATION, INC. FR-F700 OR APPROVED EQUAL.
ET-1	EXPANSION TANK: 264 GALLON, 0.65 ACCEPTANCE FACTOR, VERTICAL, 82.25" TALL x 36" DIAMETER. 3" SYSTEM CONNECTION, MAX OPERATING WEIGHT 3010 LBS. AMTROL WELL-X-TROL WX-453C.

NFPA 22 4.2.1.4 CALCULATION

200 GALLONS / MIN = 12000 GALLONS / HOUR
8 HOUR * 1200 GALLONS / HOUR = 96,000 GALLONS PER 8 HOURS
(E) FIRE TANK CAPACITY: 67,362 GALLONS
67,362 > 96,000 : 200 GPM PUMP ACCEPTABLE

PLUMBING GENERAL NOTES

1. SCOPE:
   A COMPLETE DOMESTIC PLUMBING SYSTEM AS GENERALLY DELINEATED ON THE PLUMBING DRAWINGS, INCLUDING SERVICE PIPING AND FINAL CONNECTIONS TO EQUIPMENT FURNISHED AND INSTALLED BY OTHER TRADES AS MAY BE SHOWN ON THE ARCHITECTURAL, ELECTRICAL OR OTHER DRAWINGS OF THE CONTRACT DOCUMENTS.
2. CALIFORNIA CODE OF REGULATIONS:
   ALL HOT WATER DISTRIBUTION AND CIRCULATION LINES SHALL BE INSULATED IN ACCORDANCE WITH SECTION 120.3 OF THE CALIFORNIA CODE OF REGULATIONS, TITLE 24, PART 6, SUBCHAPTER 3.
3. ALL PLUMBING FIXTURES & EQUIPMENT USED (E.G. SHOWERHEADS, LAVATORY FAUCETS, SINK FAUCET AND WATER HEATERS) SHALL HAVE BEEN CERTIFIED TO THE CALIFORNIA ENERGY COMMISSION BY ITS MANUFACTURER TO COMPLY WITH THE EFFICIENCY STANDARDS FOR SUCH APPLIANCES.
4. CODES:
   ALL WORK, MATERIAL, AND EQUIPMENT SHALL BE FURNISHED AND INSTALLED IN COMPLIANCE WITH THE FOLLOWING CODES AS ADOPTED AND AMENDED BY THE INSPECTING AUTHORITY HAVING JURISDICTION. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT THE INSTALLATION OF WORK, MATERIAL OR EQUIPMENT NOT CONFORMING TO THESE OR OTHER CODES APPLICABLE TO THIS PROJECT.
   A. 2022 CALIFORNIA ADMINISTRATIVE CODE (CAC) PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)
   B. 2022 CALIFORNIA BUILDING CODE (CBC) PART 2, TITLE 24, CCR BASED ON THE 2021 INTERNATIONAL BUILDING CODE (IBC)
   C. 2022 CALIFORNIA ELECTRICAL CODE (CEC) PART 3, TITLE 24, CCR BASED ON THE 2020 NATIONAL ELECTRICAL CODE (NEC)
   D. 2022 CALIFORNIA MECHANICAL CODE (CMC) PART 4, TITLE 24, CCR BASED ON THE 2021 UNIFORM MECHANICAL CODE (UMC)
   E. 2022 CALIFORNIA PLUMBING CODE (CPC) PART 5, TITLE 24, CCR BASED ON THE 2021 UNIFORM PLUMBING CODE (UPC)
   F. 2022 CALIFORNIA ENERGY CODE (CEC) PART 6, TITLE 24 CCR.
   G. 2022 CALIFORNIA FIRE CODE (CFC) PART 9, TITLE 24, CCR BASED ON THE 2021 INTERNATIONAL FIRE CODE (IFC)
   H. 2022 CALIFORNIA GREEN BUILDING STANDARDS (CGBSC) PART 11, TITLE 24, CCR
5. WORKMANSHIP:
   ALL WORK SHALL BE DONE IN A NEAT AND WORKMANLIKE MANNER ACCORDING TO THE BEST TRADE PRACTICE BY THOSE SKILLED IN THE PARTICULAR TRADE. EQUIPMENT, FIXTURES, PIPING, ETC., SHALL BE PLUMB, LEVEL, SQUARE AND/OR CENTERED, ETC. EQUIPMENT TO BE INSTALLED IN STRICT COMPLIANCE WITH MANUFACTURER'S RECOMMENDATIONS.
6. EXISTING INFORMATION:
   LOCATION, SIZE, ELEVATION, MATERIAL, ETC., OF EXISTING UTILITIES IS PROVIDED FROM SOURCES DEEMED RELIABLE BUT IS NOT GUARANTEED. THE CONTRACTOR SHALL FIELD VERIFY ALL DATA BEFORE PROCEEDING WITH ANY WORK. NO EXTRA COST WILL BE ALLOWED FOR SERVICES NOT AS SHOWN.
7. PERMITS AND UTILITY SERVICE FEES:
   THE PLUMBING CONTRACTOR SHALL ARRANGE AND PAY FOR ALL PERMITS, INSPECTIONS, AND SERVICE CHARGES REQUIRED FOR THE INSTALLATION OF THE WORK.
8. ACCURACY:
   PLANS ARE DIAGRAMMATIC. THE CONTRACTOR SHALL CONFIRM ALL DIMENSIONS AND LOCATION OF WALLS, PARTITIONS, FIXTURES, ETC., AGAINST DESIGN PLANS FOR CONSISTENCY AND ACCURACY PRIOR TO COMMENCING WORK.
9. PROVIDE AND INSTALL CONDENSATE DRAIN WITH TRAP AT EACH A/C UNIT PER THE UPC, AT LOCATIONS SHOWN ON DRAWINGS. COORDINATE WITH MECHANICAL CONTRACTOR.
10. PROVIDE AND INSTALL ACCESS PANELS FOR ALL SHUT-OFF, ISOLATION, OR BRANCH VALVES NOT READILY ACCESSIBLE. ACCESS PANELS SHALL BE PROVIDED AND INSTALLED AT ALL TRAP PRIMER VALVES AND WATER HAMMER ARRESTORS.
11. ALL PIPING PASSING THROUGH CONCRETE FLOORS SHALL BE SLEEVED TO PROTECT PIPING AGAINST BREAKAGE.
12. HORIZONTAL DRAINAGE PIPING LESS THAN 4" IN DIAMETER SHALL BE SLOPED AT A MINIMUM OF 1/4" PER FOOT (2%) DRAINAGE PIPING 4" AND LARGER SHALL BE SLOPED AT A MINIMUM OF 1/4" PER FOOT (2%) UNLESS OTHERWISE APPROVED BY THE AHJ.
13. ALL PLUMBING FIXTURES AND PIPING SHALL BE LISTED BY AN APPROVED LISTING AND TESTING AGENCY AND PROPERLY LABELED.
14. ALL PIPES SHALL BE LABELED WITH CLASSIFICATION, COLOR SCHEME, AND SIZING PER ANSI STANDARD A13.1.

PLUMBING MATERIAL SPECIFICATIONS

A. DOMESTIC WATER - SITE: (SCW) ABOVE GRADE
PIPE: SCH 40 GALVANIZED STEEL PER ASTM A-53
FITTINGS: SCREWED MALLEABLE IRON PER ASME B-16.3
OR FLANGED FITTINGS PER ASME B-16.5

B. DOMESTIC WATER - SITE: (SCW) BELOW GRADE
PIPE: POLY VINYL CHLORIDE (PVC) SCH 40 PER ASTM D-1785
FITTINGS: POLY VINYL CHLORIDE (PVC) PER ASTM D-2467
(PROVIDE THRUST BLOCKS AS REQUIRED)

MEP COMPONENT ANCHORAGE

SEE E.0 FOR ANCHORAGE NOTES

PLUMBING LEGEND

SYMBOL	ABBREVIATION	DESCRIPTION
	SS	SOIL, WASTE OR SANITARY SEWER BELOW FLOOR
	SS	SOIL, WASTE OR SANITARY SEWER OVERHEAD
	V	VENT PIPING
	CW	COLD WATER
	HW (110°, 140°)	HOT WATER SUPPLY
	HWR	HOT WATER RETURN
G	G	NATURAL GAS - LOW PRESSURE
X X X X X X X X		EXISTING TO BE REMOVED
D OR IW	D OR IW	DRAIN OR INDIRECT WASTE
CD	CD	CONDENSATE DRAIN
OCD	OCD	OVERFLOW CONDENSATE DRAIN
	SD, RWL	STORM DRAIN, RAINWATER LEADER
	OFL	RAINWATER OVERFLOW LEADER (STORM)
	AD, AP	ACCESS DOOR, ACCESS PANEL
	AC	AIR CHAMBER
	ANV	ANGLE VALVE
	AQ	AQUASTAT
	AD	AREA DRAIN
	AAV	AUTOMATIC AIR VENT
	BV	BALL VALVE
		BRANCH - TOP CONNECTION
		BRANCH - BOTTOM CONNECTION
		BRANCH - SIDE CONNECTION
	BFV	BUTTERFLY VALVE
	COP	CAP ON END OF PIPE
	CBV	CALIBRATED BALANCE VALVE
	CB, RD	CATCH BASIN, ROOF DRAIN
	CKV	CHECK VALVE
	CP	CIRCULATING PUMP
CO CO	CO	CLEANOUT PLUG
	CR	CONCENTRIC REDUCER
Ø	DIA	DIAMETER
	ER	ECCENTRIC REDUCER
	FC	FLEXIBLE CONNECTOR
	FCO	FLOOR CLEANOUT
FD	FD	FLOOR DRAIN
FS	FS	FLOW SWITCH
	GCK	GAGE COCK
	SOV	SHUT OFF VALVE
	GSCK, PC	GAS COCK, PLUG COCK
	GPR	GAS PRESSURE REGULATOR
	GL. V.	GLOBE VALVE
	GCO	GRADE CLEANOUT
	HB	HOSE BIBB
	AN	PIPE ANCHOR
	PG	PIPE GUIDE
	POC	POINT OF CONNECTION
	PRV	PRESSURE REDUCING VALVE
	PG	PRESSURE GAUGE
OR	RV or T&P	RELIEF VALVE OR TEMPERATURE & PRESSURE RELIEF VALVE
	SV	SOLENOID VALVE
	STR	STRAINER
	TDL	TOTAL DEVELOPED LENGTH
	TH	THERMOMETER
TP	TP	TRAP PRIMER
	UN	UNION OR FLANGE
	WCO	WALL CLEANOUT

SHEET INDEX

SHEET NO.	DESCRIPTION
P0.0	PLUMBING - LEGEND, NOTES & SCHEDULES
P1.0	PLUMBING - FLOOR PLAN & DETAILS

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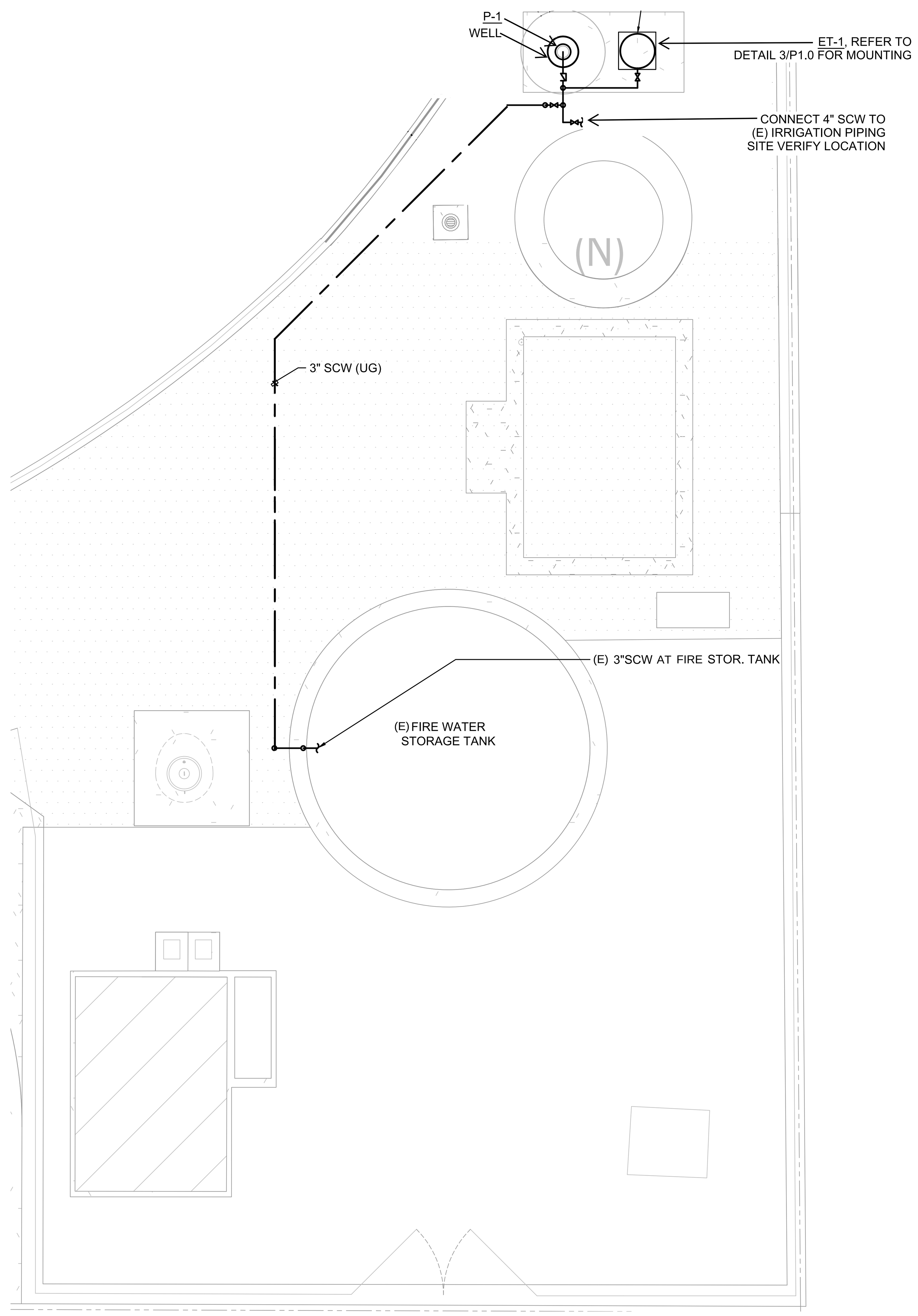
SHILOH ELEMENTARY
WATER TREATMENT SYSTEM
6633 PARADISE ROAD MODESTO, CALIFORNIA 95358
SHILOH ELEMENTARY SCHOOL DISTRICT
PLUMBING - LEGEND, NOTES & SCHEDULES

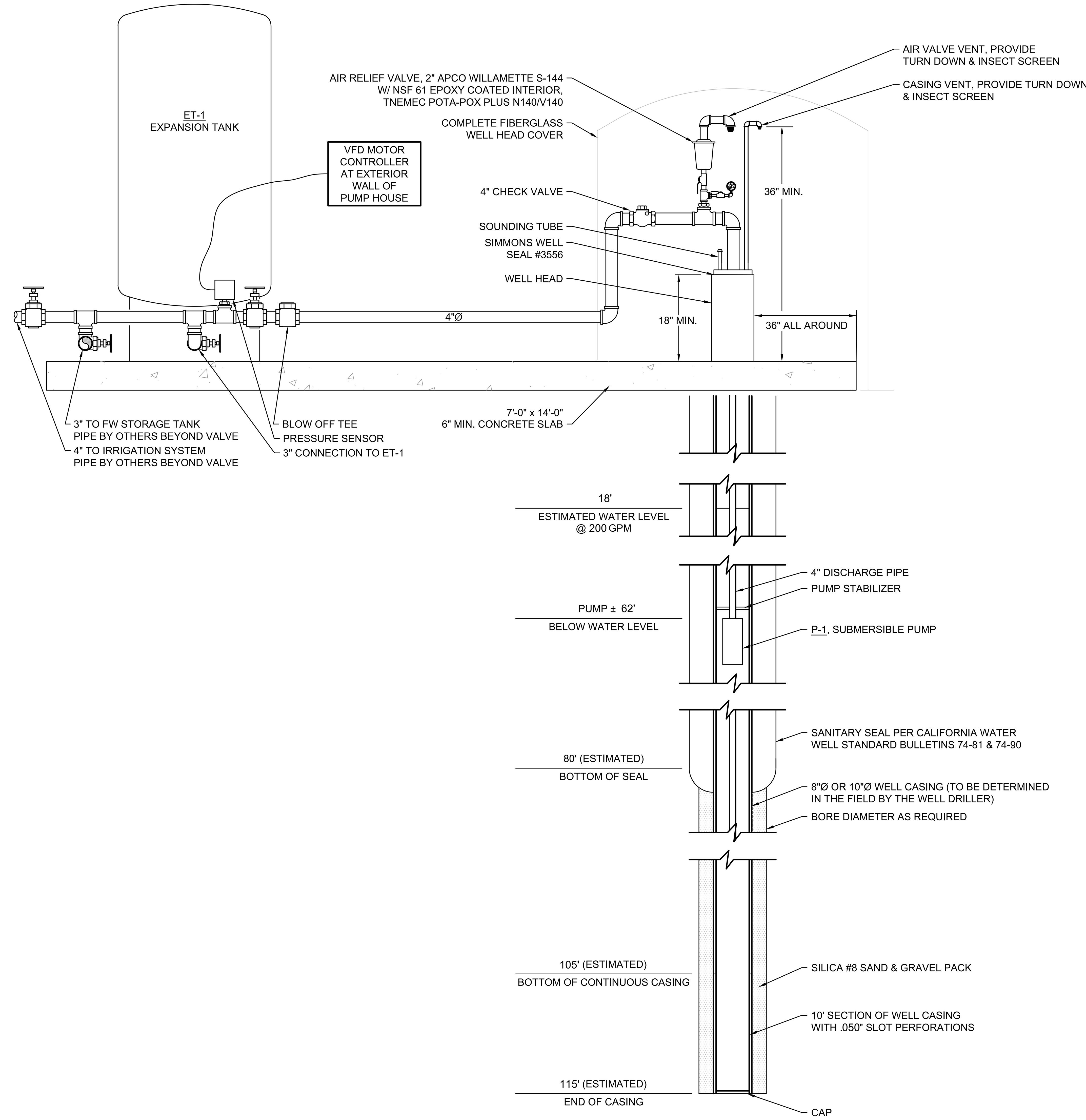
Project Number	2324
Date	AUG 2024
Drawn by	DW
Checked by	AL

P0.0

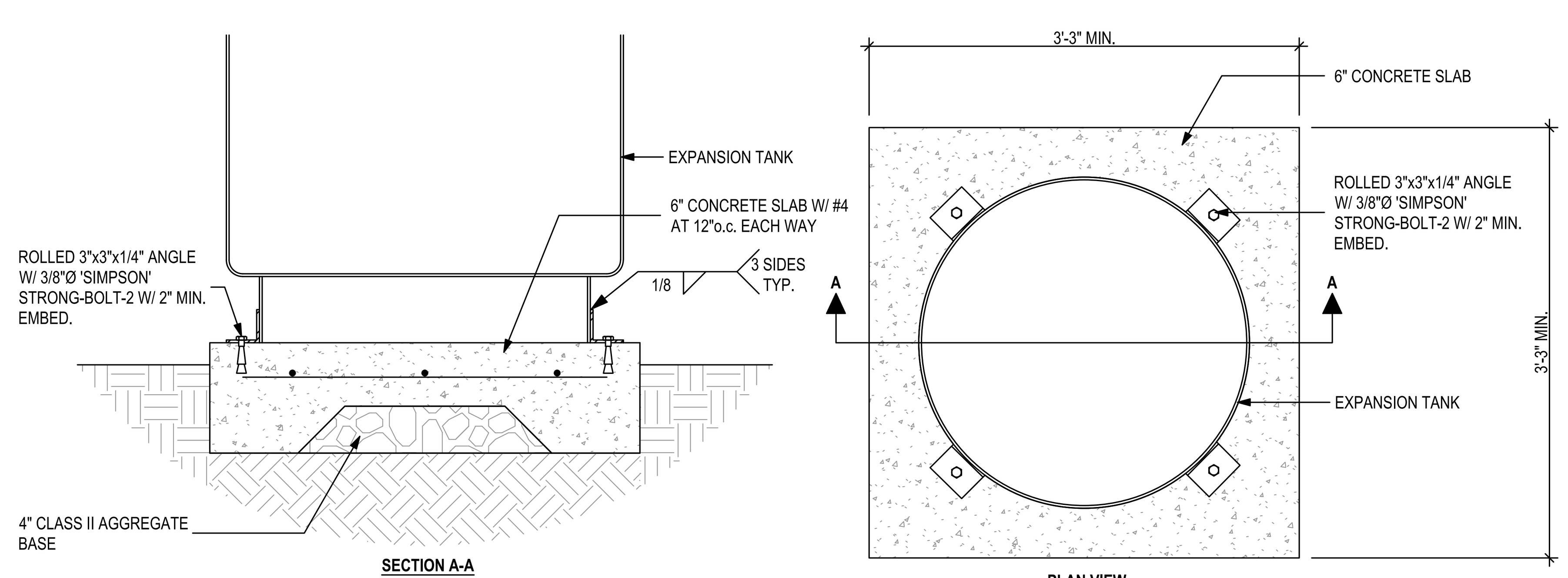
Plot Date & Time



1 P1.0 PLUMBING - WELL PLAN
SCALE: 1/8" = 1'-0"



2 P1.0 WELL DETAIL
SCALE: N/A



3 P1.0 EXPANSION TANK ANCHORAGE DETAIL
SCALE: N/A

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SHILOH ELEMENTARY SCHOOL DISTRICT

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P1.0

Plot Date & Time

ELECTRICAL SPECIFICATIONS

GENERAL NOTES:

1. ELECTRICAL INSTALLATION SHALL COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS, INCLUDING THE FOLLOWING:
TITLE 24, CCR, PART 2, 2022 CBC
TITLE 24, CCR, PART 3, 2022 CEC
TITLE 24, CCR, PART 4, 2022 CMC
TITLE 24, CCR, PART 9, 2022 CFC
ALL APPLICABLE LOCAL CODES.

2. ELECTRICAL CONTRACTOR SHALL PROCURE AND PAY FOR ALL LICENSES, ETC. REQUIRED TO CARRY ON AND COMPLETE THE WORK. PERMIT BY OWNER.

3. PROVIDE ALL LABOR, MATERIALS, TOOLS, PLANT EQUIPMENT, TRANSPORTATION AND PERFORM ALL OPERATIONS NECESSARY FOR ANY REASONABLE INCIDENTAL TO PROPER EXECUTION AND COMPLETION OF ALL "ELECTRICAL WORK" WHETHER SPECIFICALLY MENTIONED OR NOT; ALL AS INDICATED, SPECIFIED HEREIN, AND/OR IMPLIED THEREBY TO CARRY OUT THE APPARENT INTENT THEREOF.

4. ALL ELECTRICAL MATERIALS SHALL BE NEW AND LISTED WITH THE UNDERWRITERS' LABORATORIES, INC., SHALL MEET THEIR REQUIREMENTS AND SHALL BEAR THEIR LABEL WHEREVER STANDARDS HAVE BEEN ESTABLISHED AND LABEL SERVICE IS REGULARLY FURNISHED BY THAT AGENCY.

5. ELECTRICAL DRAWINGS ARE ESSENTIALLY DIAGRAMMATIC AND ALTHOUGH THE SIZE AND LOCATIONS OF EQUIPMENT ARE SHOWN TO SCALE WHEREVER POSSIBLE, CONTRACTOR SHALL MAKE USE OF ALL DATA IN ALL CONTRACT DOCUMENTS AND VERIFY THIS INFORMATION AT THE SITE. CONTRACTOR SHALL BE RESPONSIBLE FOR LAYING OUT AND INSTALLING HIS WORK TO AVOID INTERFERENCE WITH OTHER TRADES.

6. CONDUCTORS SHALL BE COPPER CONDUCTORS TYPE THWN UNLESS OTHERWISE NOTED OR REQUIRED BY CODE.

7. ALL LUMINAIRES AND BALLASTS SHALL BE CERTIFIED BY THE MANUFACTURER TO THE CALIFORNIA ENERGY COMMISSION.

10. THE OWNER RESERVES THE RIGHT TO RELOCATE ALL LIGHTING, OUTLETS AND SWITCHES BEFORE THEY ARE ROUGHED IN AT NO EXTRA COST.

11. ALL EXIT SIGNS TO BE UNSWITCHED.

NAMEPLATES & IDENTIFICATION:

INSTALL ENGRAVED NAMEPLATES FOR EACH PANELBOARD, CABINET, DISCONNECT, ETC. NAMEPLATES SHALL BE SECURELY FASTENED TO THE EQUIPMENT WITH #4 PHILLIPS ROUND HEAD CADMIUM PLATED SELF-TAPPING SCREWS, BRASS BOLT, OR WITH A PLASTIC RESIN ADHESIVE GLUE, GOODYEAR "PLIEBOND" OR EQUAL.

WIRING METHODS:

1. ALL WIRING SHALL BE INSTALLED IN STEEL CONDUITS, CONCEALED IN WALL AND CEILING U.O.N.

2. MINIMUM CONDUIT SIZE SHALL BE 1/2". MINIMUM ACCEPTABLE CONDUITS ARE
   A. GALVANIZED RIGID STEEL.
   B. GALVANIZED STEEL EMT.
   C. LIQUID TIGHT FLEX STEEL - FOR FINAL CONNECTION TO OUTDOOR EQUIPMENT.
   D. FLEXIBLE STEEL CONDUIT - FOR INDOOR FINAL CONNECTIONS TO MECHANICAL EQUIPMENT (NOT TO EXCEED 36").
   E. PVC CONDUIT SCHEDULE 40, UNDERGROUND.
3. NMC CABLING SYSTEMS ARE NOT ALLOWED IN THIS BUILDING.
4. MC CABLING SYSTEMS ARE NOT ALLOWED IN THIS BUILDING.

WIRING DEVICES:

UNITS SHALL BE EQUAL TO THE DEVICES SET FORTH HEREIN, IN STANDARD COLORS (BROWN, WHITE, GREY, BEIGE OR IVORY) AS SELECTED BY THE ARCHITECT:

A. WIRING DEVICES	LEVITON #	HUBBELL #	P & S #
SINGLE POLE SWITCH	1221	1221	20AC1
THREE WAY SWITCH	1223	1223	20AC3
DUPLEX CONV. OUT. 15A	5262	5262	5262
DUPLEX GFI CONV. OUT.		GF5262	

DEVICE PLATES:

1. ALL DEVICE PLATES FOR INDOOR USE SHALL BE SMOOTH NYLON OR APPROVED EQUAL UNLESS OTHERWISE NOTED. ALL DEVICE PLATES FOR OUTDOOR USE SHALL BE RAISED METAL.

2. DEVICE COVERS FOR SURFACE MOUNTED BOXES SHALL BE 1/2" RAISED STEEL PLATES. WEATHERPROOF COVERS TO BE SNAP TYPE COVERS.

3. DEVICE PLATES FOR TELEPHONE AND COMPUTER OUTLETS TO BE PROVIDED BY OWNER'S VENDOR. ALL TELEPHONE AND COMPUTER SYSTEM WIRING BY OWNER'S VENDOR.

SUPPORTS:

1. FURNISH ALL NECESSARY FOUNDATIONS, SUPPORTS, BACKING, ETC., FOR ALL ELECTRICAL ENCLOSURES, CONDUITS AND EQUIPMENT.

2. ATTACH ALL BOXES, CABINETS, ETC. TO WOOD WITH WOOD OR LAG SCREWS, TO METAL WITH MACHINE SCREWS OR BOLTS AND TO CONCRETE WITH EXPANSION ANCHORS AND MACHINE SCREWS OR BOLTS.

GROUNDING:

1. GROUND AND BOND ALL EQUIPMENT AS REQUIRED BY GOVERNING CODES AND SPECIFICALLY INCLUDING SWITCHBOARD, PANELBOARDS, MOTOR CASES, ETC.

PANELBOARDS:

UNITS SHALL BE FLUSH OR SURFACE MOUNTED AS INDICATED ON THE PANEL SCHEDULE, WITH THE NUMBER AND SIZE OF BREAKERS INDICATED ON THE PANEL SCHEDULE. SINGLE POLE, TWO POLE AND THREE POLE BREAKERS SHALL BE BOLT-ON TYPE. THE PANEL DOORS SHALL HAVE FLUSH TYPE LOCKS, ALL LOCKS SHALL BE KEYED ALIKE AND HAVE TYPEWRITTEN DIRECTORIES INDICATING FIXTURES, EQUIPMENT, OR OUTLETS SERVICED BY EACH BREAKER. ALL BUSSING SHALL BE COPPER..

TESTING:

1. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE FREE FROM SHORT CIRCUITS AND IMPROPER GROUNDS. TEST ALL WIRING AND CONNECTIONS FOR CONTINUITY AND GROUNDS BEFORE ANY FIXTURES OR EQUIPMENT ARE CONNECTED AND WHETHER SUCH TESTS INDICATE FAULTY INSULATION OR OTHER DEFECTS, THEY SHALL BE LOCATED, REPAIRED AND RETESTED AT THE CONTRACTOR'S EXPENSE.

2. DEMONSTRATE TO THE OWNER AND THE ARCHITECT, THAT THE ENTIRE INSTALLATION IS COMPLETE, IN PROPER OPERATING CONDITION AND THAT THE CONTRACT HAS BEEN PROPERLY AND FULLY EXECUTED. PROVIDE ALL INSTRUMENTS TO MAKE SUCH TESTS.

ELECTRICAL LEGEND

LIGHTING FIXTURES

FIXTURE NOTATIONS:
A,(b),C-12 FIXTURE TYPE "A", SWITCH "b", CIRCUIT C-12

LINEAR FIXTURE
- SQUARE = RECESSED
- CIRCLE =SURFACE

(A / LED) ALTERNATE DESIGNATION FOR SITE LIGHTING FIXTURES

TASK LIGHT OR STRIP LIGHT

DOWNLIGHT, SQUARE = RECESSED

WALL MOUNT

CEILING EXHAUST FAN

POLE MOUNT AREA LIGHT

EMERGENCY LIGHTING

EXIT SIGN WITH 90 MIN BATTERY BACKUP

WALL MOUNT EMERGENCY LIGHT WITH 90 MIN BATTERY BACK

EXTERIOR LANDING EMERGENCY LIGHT. CONNECT TO INTERIOR EXIT SIGN FOR POWER.

FIXTURES WITH INTEGRAL EMERGENCY BALLAST

BASIC LIGHTING CONTROLS

LIGHT SWITCH, +48" TO TOP OF BOX
- D = DIMMER
- 3 = SWAY
- P = PILOT SWITCH
- os = LINE VOLTAGE OCCUPANCY SENSOR
- T = TIMMER
- VS = VACANCY SENSOR

WALL MOUNT OCCUPANCY SENSOR (LINE VOLTAGE)

TITLE 24 LIGHTING CONTROLS

LIGHT SWITCH

COMPONENTS OF DIMMING ROOM CONTROLLER
- US = LOW VOLTAGE OCCUPANCY SENSOR (CAT 5 OR AS REQUIRED)
- DRC = DIMMING ROOM CONTROLLER
- PE = LOW VOLTAGE DIMMING PHOTOCELL (CAT 5 OR AS REQUIRED)
- D = LOW VOLTAGE DIMMER (CAT 5 OR AS REQUIRED)
- R = PLUG LOAD CONTROLLER
- ADR = AUTOMATIC DEMAND RESPOSNE (FOR BUILDINGS OVER 10,000 SF)

NOTES:

1. FOR SUBMITTAL INCLUDE FACTORY CONTROL DRAWINGS.

2. CONDUCT A CONTROLS PRE-CONSTRUCTION MEETING WITH CONTROLS STARTUP TEAM. PROVIDE AGENDA AND ATTENDEES AS A SUBMITTAL. INCLUDE DEVICE I.D. TAGS, PROGRAMMING, CABLE ROUTING, PROGRAM AND TIME SCHEDULES AND DATE OF PROGRAMMING AND TESTING.

3. CONTRACTOR TO HAVE SYSTEM FACTORY SUPPORT FOR START UP, PROGRAMMING AND COMMISSIONING. VERIFY OPERATIONAL HOURS WITH OWNER PRIOR TO COMMISSIONING.

ELECTRICAL POWER

ALL LINE VOLTAGE WIRING IN CONDUIT, SEE GENERAL NOTES
TICKS = # OF #12 WIRE, SHORT = HOT, LONG = NEUTRAL, DOT = GROUND, UNLESS NOTED OTHERWISE

120V OUTLET, +18" TO BOTTOM OF BOX
- S = SIGN
- F = FLOOR
- GFI = GROUND FAULT INTERUPTER

COUNTER OUTLET. +44" TO TOP OF BOX.

QUADRUPLEX OUTLET

HALF SWITCHED OUTLETS

JUNCTION BOX WITH MOTOR TOGGLE DISCONNECT

JUCTION BOX

MOTOR / DISCONNECT

PANELBOARD

TRANSFORMER / SWITCHBOARD AS NOTED

COMMUNICATIONS

TELEPHONE BACKBOARD, PROVIDE #8 GND TO SERVICE GROUND

COMMUNICATIONS OUTLET, PHONE & DATA

PHONE ONLY OUTLET, PREWIRED WITH CAT 6 CABLE

DATA ONLY OUTLET JACK, PREWIRED WITH CAT 6 CABLE

IP SPEAKER

CLOCK SPEAKER (IP BASED)

WAP — WIRELESS ACCESS POINT

TS — TEACHER STATION

HDMI — HMDI CONNECTOR IN FLUSH WALL PLATE

TV — TV EXIST WITH COAX OUTLET, NEW WITH 2 DATA AND HDMI

ELECTRICAL LEGEND

DRAFTING NOTATIONS

N## KEY NOTE, SEE SCHEDULE

N## EQUIPMENT TAG, SEE SCHEDULE

A / E-2 REFERENCE TO A DETAIL VIEW "A" ON SHEET E-2

NEW ELECTRICAL CONDUIT AND WIRE

(e) (E) EXISTING DEVICE, TO REMAIN IN OPERATION

(r) (R) REMOVE DEVICE, KEEP REMAINDER OF CIRCUIT IN OPERATION

(RR) REMOVE, RELOCATE AND RECONNECT DEVICE ON EXISTING CIRCUIT, EXTEND CIRCUIT

ELECTRICAL ABBREVIATIONS:

AL = ALUMINUM
A = AMPERAGE
AIC = AMPS INTERRUPTING CAPACITY
AFF = ABOVE FINISHED FLOOR
AFG = ABOVE FINISHED GRADE
CKT = CIRCUIT
CO = CONDUIT ONLY
CU = COPPER
EC = ELECTRICAL CONTRACTOR
GC = GENERAL CONTRACTOR
GFI = GROUND FAULT INTERRUPTER
GND = GROUND
KW = KILOWATT
KVA = KILO-VOLT-AMPERE
LC = LIGHTING CONTACTOR
NO = NUMBER
NL = NIGHT LIGHT
PB = PULLBOX
SP = SPACE
UG = UNDERGROUND
UON = UNLESS OTHERWISE NOTED
V = VOLT
WP = WEATHERPROOF

ONE LINE DIAGRAM

BUS / SWITCHBOARD

PANEL

GROUND

METER

CURRENT TRANSFORMER

POTENTIAL TRANSFORMER

DRY TYPE TRANSFORMER

MOTOR

RELAY
CR# = CONTROL RELAY
TDR = TIME DELAY RELAY
M = MOTOR STARTER
CONTACTOR RELAY
ETM = ELAPSE TIME METER

CONTACT (OPEN)

CONTACT (CLOSED)

VFD — VARIABLE FREQ. DRIVE

MOTOR OVERLOAD HEATER

INDICATOR LIGHT (R) RED, (W) WHITE

ANTENNA

50/3 — CIRCUIT BREAKER 50 AMP RATED, 3 POLE

GFI = GROUND FAULT INTERRUPTER
AFCI = ARC FAULT CIRCUIT INTERRUPTER

DISCONNECT, RATED TO POWER SOURCE VOLTAGE AND AMPERAGE RATING FOR FUSE OR AS NOTED

60 — FUSE, SIZE = 60 AMPS

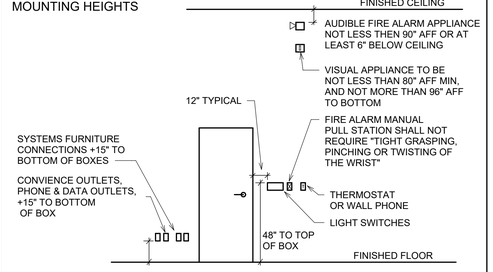
AUTOMATIC TRANSFER SWITCH

G 50/3 — ENGINE DRIVEN GENERATOR RATING AS NOTED AGAINST THE UNIT.

DRAW OUT DEVICE

52 — ANSI RELAY

MOUNTING HEIGHTS



FOR NEW DEVICES, MOUNTING HEIGHT ABOVE COUNTERS OR OBSTRUCTIONS:
+44" MAX TO TOP OF BOX AT LOCATIONS WITH FORWARD APPROACH
+46" MAX TO TOP OF BOX AT LOCATIONS WITH PARALLEL APPROACH

MEP COMPONENT ANCHORAGE

APPLICABLE CODE: 2022 CBC

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA-APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26, AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.

2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G., HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED" SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.

3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVING A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.

B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2022 CBC, SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G., HCAI OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP ☐ MD ☐ PP ☒ E ☒ - OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DEAILS.

MP ☐ MD ☐ PP ☐ E ☐ OPTION 2: SHALL COMPLY WITH HCAI PREAPPROVAL (OPM #)

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 02-122118 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/05/2024

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REGISTERED PROFESSIONAL ENGINEER — RICHARD C. SMITH — No. E14305 Exp. 6-30-25 — ELECTRICAL — STATE OF CALIFORNIA

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Consultants

SHILOH ELEMENTARY SCHOOL
WATER TREATMENT SYSTEM
6633 PARADISE ROAD, MODESTO, CALIFORNIA 95358
SHILOH ELEMENTARY SCHOOL DISTRICT

GENERAL NOTES, LEGEND

Project Number	2023
Date	9.14.2023
Drawn by	Author
Checked by	Checker

E0

Plot Date & Time 8/14/2024 9:31:21 AM

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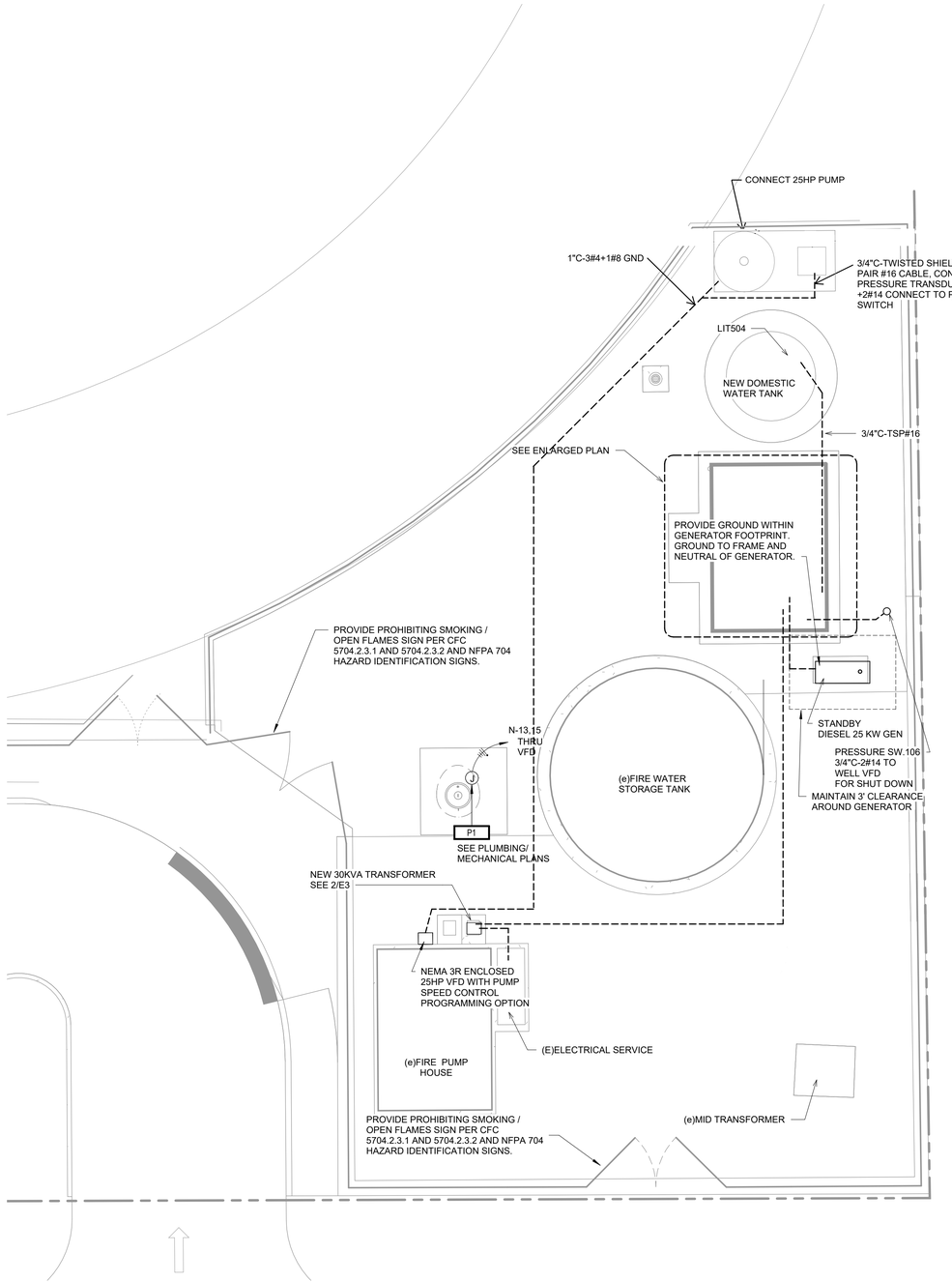
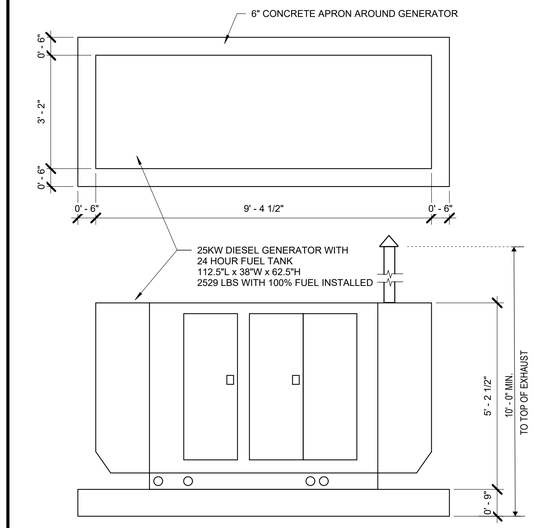


1 ELECTRICAL SITE PLAN

SCALE: 1/8" = 1'-0"



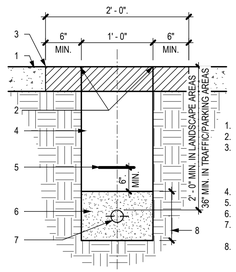
NOTE: EXHAUST SYSTEM CONTAINED WITHIN SOUND ATTENUATED ENCLOSURE
EXHAUST TO INCLUDE A RAIN CAP OR PROVISION TO PROTECT FROM RAIN WATER.
EXTEND EXHAUST TO +10'-0" ABOVE SURROUNDING GRADE

3 GENERATOR

SCALE: 1/2" = 1'-0"

SHEET NOTES	
Key Value	Keynote Text
P1	GOULDS 1/2HP, 240V, 1PH WELL PUMP. EXTEND 2"C-MANUFACTURER'S PUMP CABLE TO VFD STARTER.

NOTES



1. (E) CONCRETE/AC SURFACE
2. INITIAL SAW CUT
3. 2ND SAW CUT PRIOR TO PATCHING, BOTH SIDES, TYP. RESULTING WALKWAYS TO BE 2% MAX CROSS SLOPE & FLUSH WITH ADJACENT EXISTING SURFACES
4. COMPACT FILL TO 95%
5. MARKING TAPE ON THE TOP OF SAND, TYP.
6. (N) SAND
7. REFER TO DRAWING FOR QUANTITY AND SIZE.
8. 2" BED OF SAND UNDER CONDUITS, 2" BETWEEN CONDUITS AND 2" MIN ABOVE CONDUITS.

NOTE: PROVIDE MIN 12" CLEARANCE BETWEEN ELECTRICAL AND OTHER UTILITIES (GAS, WATER, ETC.).

2 TRENCH

SCALE: NTS

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SHILOH ELEMENTARY SCHOOL WATER TREATMENT SYSTEM

6633 PARADISE ROAD, MODESTO, CALIFORNIA 95358

SHILOH ELEMENTARY SCHOOL DISTRICT

ELECTRICAL SITE PLAN

Project Number	2023
Date	9.14.2023
Drawn by	BA
Checked by	Checker

E1

Plot Date & Time 8/14/2024 9:31:23 AM

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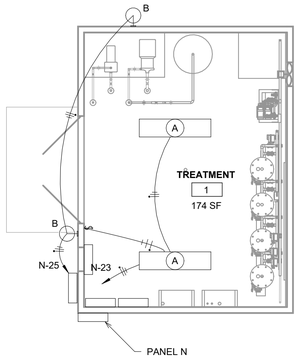
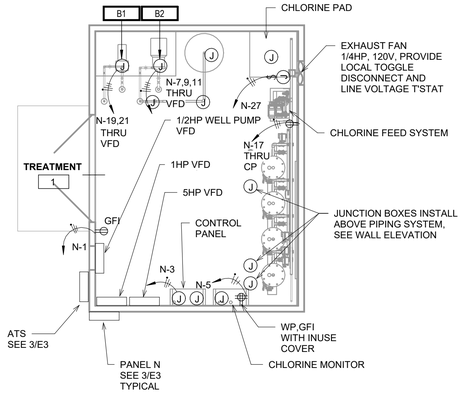
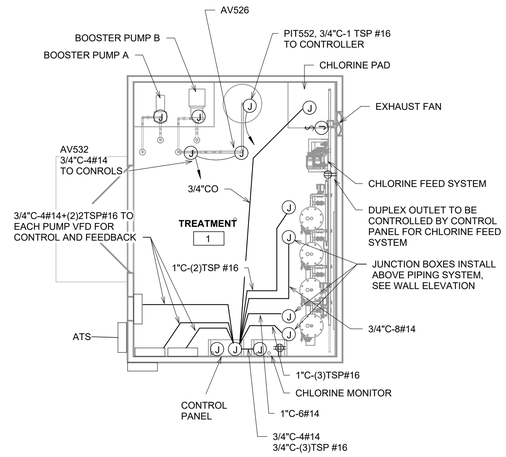


1 LIGHTING PLAN
SCALE: 1/4" = 1'-0"



2 ELECTRICAL PLAN
SCALE: 1/4" = 1'-0"



3 CONTROL CONDUITS
SCALE: 1/4" = 1'-0"

NOTES

SHEET NOTES	
Key Value	Keynote Text
B1	LOW CAPACITY BOOSTER PUMP, 240V, 1PH, 1HP, 8 AMPS, EXTEND 3/4"C-2#12+1#12 GND TO VFD STARTER, AND FROM STARTER TO PANEL
B2	HIGH CAPACITY BOOSTER PUMP, 240V, 3PH, 5HP, 15.2 AMPS, EXTEND 3/4"C-3#10+1#10 GND TO VFD STARTER, AND FROM STARTER TO PANEL

FIXTURE SCHEDULE

Type Mark	Lamp	Description	Manufacturer	Model	Apparent Load
A	LED	4' LED 4000 LUMEN LED WRAP SURFACE MOUNT FIXTURE, 0-10 V DIMMING DRIVER, UNIVERSAL VOLTAGE	LITHONIA	STL4 40L EZ1 LP840	35 VA
B	LED	WALL MOUNT AREA LIGHT, +7'-6" TO BOTTOM, PHOTOCELL CONTROL	COOPER	XTOR-2A-PC	20 VA

PANEL N

Location: TREATMENT 1 | **Volts:** 240V DELTA | **A.I.C. Rating:** 18,000
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: Surface | **Wires:** 4 | **Mains Rating:** 100 A
Enclosure: NEMA 3R | **MCB Rating:** 100 A

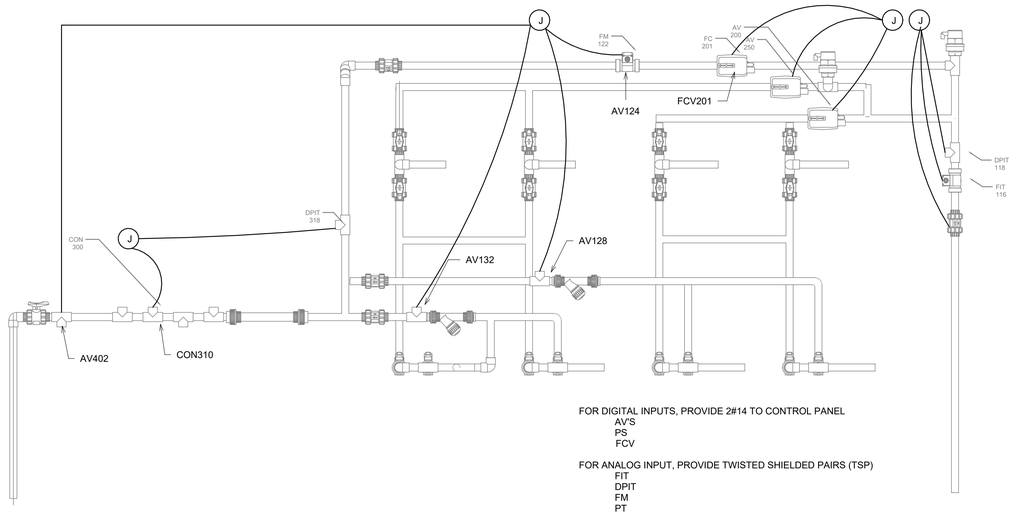
Notes:

CKT	Circuit Description	Trip	Poles	A	B	C	Poles	Trip	Circuit Description	CKT
N-1	Receptacle	20 A	1	180 VA						N-2
N-3	CONTROL PANEL	20 A	1		200 VA					N-4
N-5	ANALYZERS	20 A	1			360 VA				N-6
N-7	HIGH SPEED PUMP	30 A	3	2106 VA						N-8
N-9	--	--	--		2106 VA					N-10
N-11	--	--	--			2106 VA				N-12
N-13	WELL PUMP	15 A	2	480 VA						N-14
N-15	--	--	--		480 VA					N-16
N-17	Receptacle	20 A	1			180 VA				N-18
N-19	LOW FLOW PLUMP	20 A	2	960 VA						N-20
N-21	--	--	--		960 VA					N-22
N-23	INT LIGHTS	20 A	1			70 VA				N-24
N-25	EXT LIGHTING	20 A	1	40 VA						N-26
N-27	WALL FAN	20 A	1		696 VA					N-28
N-29										N-30
		Total Load:		3764 VA	4442 VA	2716 VA				
		Total Amps:		31 A	37 A	23 A				

Legend:

C IS STINGER LEG

SCHEDULES



FOR DIGITAL INPUTS, PROVIDE 2#14 TO CONTROL PANEL
- AV'S
- PS
- FCV

FOR ANALOG INPUT, PROVIDE TWISTED SHIELDED PAIRS (TSP)
- FIT
- DPIT
- FM
- PT

4 CONTROL CONDUIT WALL
SCALE: NTS

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LICENSED PROFESSIONAL ENGINEER RICHARD C. SMITH No. E14303 Exp. 6-30-25 ELECTRICAL STATE OF CALIFORNIA

HCS Engineering inc.
4512 Feather River Dr #F, Stockton, CA 95219
209-478-8270 | www.hcs-eng.com

Consultants

SHILOH ELEMENTARY SCHOOL WATER TREATMENT SYSTEM
6633 PARADISE ROAD, MODESTO, CALIFORNIA 95358
SHILOH ELEMENTARY SCHOOL DISTRICT

ENLARGED PLAN

Project Number	2023
Date	9.14.2023
Drawn by	BA
Checked by	Checker

E2

Plot Date & Time 8/14/2024 9:31:25 AM

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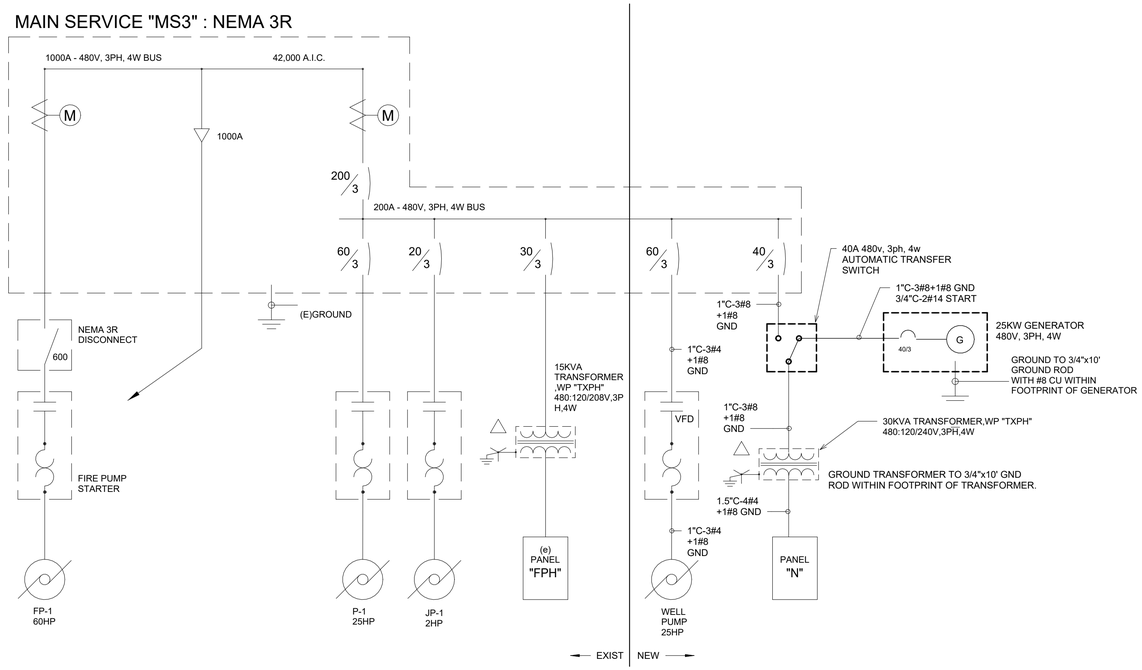
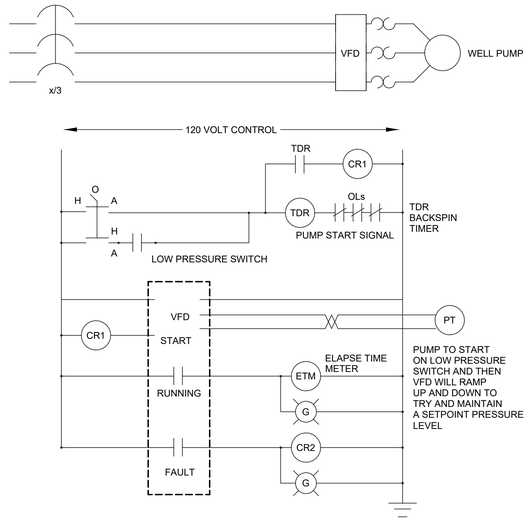
path://john/17/4

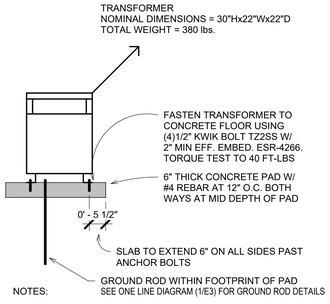


1 ONE LINE DIAGRAM
SCALE: NTS



VFD STARTER

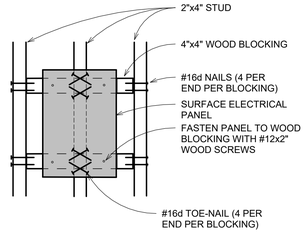
6 ELEMENTARY DIAGRAMS
SCALE: NTS



NOTES:

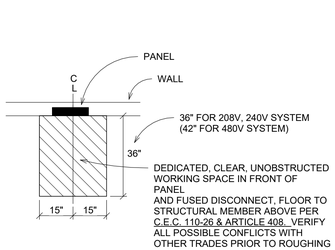
1. PAD FOR TRANSFORMER SHALL BE POURED AT SAME TIME AS THE CONCRETE FLAT WORK SURROUNDING IT. TOP OF PAD SHALL BE AT LEAST 2" ABOVE SURROUNDING FLAT WORK.

2 GRADE MOUNT TRANSFORMER
SCALE: NTS



LIGHTING/OUTLET PANELS:
NOMINAL DIMENSIONS: 24"Hx20"Wx5.75"D
WEIGHT: 80 lbs.

3 SURFACE PANEL/ATS MOUNTING
SCALE: NTS



4 PANEL CLEARANCE
SCALE: NTS

LABELS FOR FEEDERS ORIGINATING WITHIN DISTRIBUTION PANEL/SWITCHBOARDS:

NAME OF PANEL/EQUIPMENT SERVED
FEEDER WIRE SIZE

LABELS AT EQUIPMENT DISCONNECTS:

EQUIPMENT FED
FED FROM PANEL
FEEDER WIRE SIZE
VOLTS / AMPS / PHASES

LABELS FOR SWITCHBOARD/DISTRIBUTION PANELS & BRANCH CIRCUIT PANELS:

PANEL NAME
FEED FROM PANEL
FEEDER WIRE SIZE
VOLTS / AMPS / PHASES

NOTES:

1. NAMEPLATES SHALL BE CONSTRUCTED OF ENGRAVED BAKELITE - BLACK BACKGROUND WITH WHITE LETTERS.
2. MINIMUM SIZE TO BE 1"x3".
3. RIVET NAMEPLATES TO ENCLOSURE.
4. FILL-IN UNDERLINED NAMES AND VALUES FOR EACH NAMEPLATE TO INSTALLED.
5. ALL DISCONNECTS, PANELS, AND CIRCUIT BREAKERS INSTALLED UNDER THIS PROJECT SHALL HAVE A NAMEPLATE AS SHOWN HERE.
6. NAMEPLATES FOR EMERGENCY POWER FED EQUIPMENT SHALL HAVE RED BACKGROUND WITH WHITE LETTERS.

5 PANEL LABELS
SCALE: NTS

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 02-122118 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/05/2024

TPH architects
TIMOTHY P. HUFF & ASSOCIATES, INC.
Timothy P. Huff, AIA Architect
519 McHenry Ave., Modesto, CA 95354
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LICENSED ARCHITECT TIMOTHY PAUL HUFF No. C 15921 REN: 8/31 STATE OF CALIFORNIA

REGISTERED PROFESSIONAL ENGINEER RICHARD C. SMITH No. E14305 Exp. 6-30-25 ELECTRICAL STATE OF CALIFORNIA

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Consultants

SHILOH ELEMENTARY SCHOOL WATER TREATMENT SYSTEM

6633 PARADISE ROAD, MODESTO, CALIFORNIA 95358

SHILOH ELEMENTARY SCHOOL DISTRICT

ELECTRICAL DETAILS

Project Number	2023
Date	9.14.2023
Drawn by	BA
Checked by	Checker

E3

Plot Date & Time 8/14/2024 9:31:26 AM

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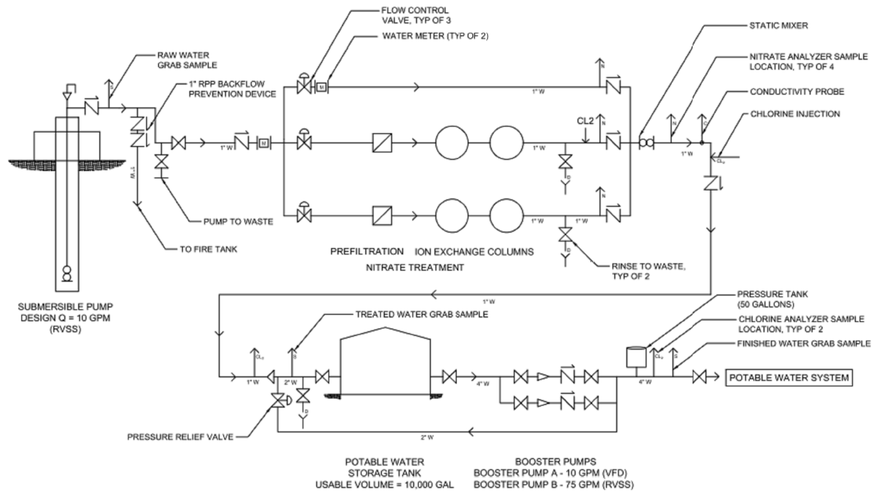

CONSULTANT:	NO.	REVISION DESCRIPTION	BY	DATE	CLIENT:	PROJECT:	SCALE:		SHEET NAME:
AFFINITY ENGINEERING, 3433 Mardi Gras Court, Rancho Cordova, CA, 95670, www.affinityengineering.com					**Shiloh School District**, 6633 Paradise Rd, Modesto, CA 95358	SHILOH SCHOOL WATER TREATMENT PLANT PROJECT	NTS	PROCESS FLOW	PF1
							ATTENTION LINE IS 2" AT FULL SIZE (SCALE ACCORDINGLY)	SHEET TITLE: PROCESS FLOW DIAGRAM OVERALL FACILITY	7/11/24

Shiloh School District

Water Treatment Plant
Modesto, CA

Bid Set

September 25, 2023

AREA MAP

AFFINITY ENGINEERING
3221 Fitzgerald Road, Rancho Cordova, CA, 95670
www.affinityengineering.com

James D. Carson
C43839
Project Engineer

LOCATION MAP

CONSULT:	NO.	REVISION DESCRIPTION	BY	DATE	CLIENT:	PROJECT:	SCALE:		SHEET NAME:
AFFINITY ENGINEERING, 3433 Mardi Gras Court, Rancho Cordova, CA, 95670, www.affinityengineering.com					**Shiloh School District**, 6633 Paradise Rd, Modesto, CA 95358	SHILOH SCHOOL WATER TREATMENT PLANT PROJECT	ATTENTION LINE IS 2" AT FULL SIZE (SCALE ACCORDINGLY)	SHEET TITLE: COVER SHEET	CS
									9/25/23

P&ID ABBRREVIATIONS

ABBREVIATION	DISCRIPTION
PMP	Pump (centrifugal, dosing, submersible).
TNK	Tank
MV	Manual Valve
AV	Automated Valve
INJ	Injection Quill
NRV	Non-return (Check) Valve
ARV	Air Pressure Relief Valve
PRV	Pressure Relief Valve
SP	Sample Point
NC	Normally Closed
PS	Pressure Switch
PIT	Pressure Indicator / Transmitter
FM	Flow Meter
FCV	Flow Control Valve
RTW	Run to Waste
LIT	Level Indicator / Transmitter
IX	Ion Exchange
STR	Strainer
MIX	Inline Static Blade Mixer
N	Nitrate
FIL	Filter
CON	Conductivity
CL	Chlorine (Residual Free Chlorine)
BPV	Back Pressure Valve

P&ID SYMBOLS

SYMBOL	DISCRIPTION
	Submersible well pump
	Flow non-return or check valve
	Pressure relief valve
	Manual activated ball isolation valve. NC denotes valve 'normally closed' In regular operation, for example on sample SP pipeline connections to manual sample collection hose bibs.
	Automated diaphragm isolation valve.
	Manual needle valve with flow tube sight glass, allowing the operator to set the sample flow to match local installation conditions and the correct sample flow rate for the analytical instrument that it serves. Mid-range on the flow tube sight glass should be the nominal analyzer sample flow requirement by design.
	Automatic flow control valve.
	Flow meter, paddle wheel type with 4-20mA output proportional to the flow through the device.
	Inline barrier filter.
	Inline strainer / filter
	Inline mixer (static blade)
	Metered dosing pump
	Centrifugal pump
	Chlorination injection quill

Piping and Instrumentation Diagram Numbering Description

PMP 100	100 series Raw water contact components.
MV 204	200 Series Ion Exchange Treatment contact components
CON 310	300 Series Blended Raw and Treated Water contact components pre-chlorination
INJ 400	400 Series Chlorination contact components
TNK 500	500 Series Potable Storage and Distribution Pressurization contact components

CONSULTANT:	NO.	REVISION DESCRIPTION	BY	DATE	CLIENT:	PROJECT:	SCALE:		SHEET NAME:
AFFINITY ENGINEERING, 3433 Mardi Gras Court, Rancho Cordova, CA, 95670, www.affinityengineering.com					**Shiloh School District**, 6633 Paradise Rd, Modesto, CA 95358	SHILOH SCHOOL WATER TREATMENT PLANT PROJECT	NTS	INSTRUMENTATION	I2
							ATTENTION LINE IS 2" AT FULL SIZE (SCALE ACCORDINGLY)	SHEET TITLE: SYMBOLS AND ABBREVIATIONS	9/25/23

ABBREVIATIONS

Ø	DIAMETER
°	DEGREES
'	FEET
"	INCHES
A	AMPS
AFF	ABOVE FINISHED FLOOR
ATS	AUTOMATIC TRANSFER SWITCH
BKS	BACKSPIN
BLDG	BUILDING
C	CONDUIT
CHEM	CHEMICAL
CL2	SODIUM HYPOCHLORITE
CNTL	CONTROL+
CONC	CONCRETE
D	DRAIN
DWG	DRAWING
(E)	EXISTING
EL	ELEVATION
EP	EDGE OF PAVEMENT
(F)	FUTURE
FF	FINISHED FLOOR
FIP	FEMALE IRON PIPE
GFI	GROUND FAULT INTERRUPTOR
HOA	HAND-OFF-AUTOMATIC
HH	HANDHOLE
HRS	HOURS
HP	HIGH POINT
INV	INVERT
KWH	KILOWATT HOUR
LP	LOW POINT
LTG	LIGHTING
MCC	MOTOR CONTROL CENTER
MH	MANHOLE
MJ	MECHANICAL JOINT
N.T.S	NOT TO SCALE
PB	PULL BOX
PG&E	PACIFIC GAS AND ELECTRIC COMPANY
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
POS	POSITION
PVC	POLYVINYL CHLORIDE
RECPT	RECEPTACLE
RLECWD	RIO LINDA / ELVERTA COMMUNITY WATER DISTRICT
S/O	SLIP ON
SCADA	SCADA
SD	STORM DRAIN
SPD	SPEED
SS	STAINLESS STEEL
STD	STANDARD
STL	STEEL
TB	TERMINAL BOX
TBE	THREADED BOTH ENDS
TOS	TOP OF SLAB
TW	TREATED WATER
TYP	TYPICAL
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VFD	VARIABLE FREQUENCY DRIVE
VLV	VALVE
W	WATER
WP	WEATHERPROOF WHILE IN USE
XFMR	TRANSFORMER

PATTERNS

SOIL

CONCRETE

ASPHALT CONCRETE PAVEMENT

DEMOLITION

COMMON LINES AND SYMBOLS

EXPOSED

BOUNDARY OR OUTLINE

CENTERLINE

HIDDEN (BELOW GRADE, IN WALLS, ETC.)

PROPERTY LINE

(E) OVERHEAD UTILITY

GROUND WIRE

ELECTRONIC SIGNAL (SUCH AS BETWEEN PLC CONTROL ALGORITHMS)

(E) WATER

(E) NATURAL GAS

(E) SANITARY SEWER

RIGHT OF WAY

(E) BURIED ELECTRICAL

FENCE

FENCE

CONTINUATION MARK

SECTION CUT. REFERENCE LETTER TOP, SHEET REFERENCE TO WHERE SECTION APPEARS, ARROW POINTS IN DIRECTION THAT SECTION IS TAKEN

NORTH ARROW, N IS IN THE DIRECTION OF NORTH

REVISION SYMBOL, LOCATION CORRESPONDS TO PART OF DRAWING REVISED

WELL SITE LOCATION MARKER

PROCESS, PIPING AND MECHANICAL SYSTEMS

SHEET CONTINUATION

I/O LABEL: SIGNAL TYPE AT BOTTOM, S AT TOP INDICATES THE I/O SHALL BE SHOWN ON THE PRIMARY SCADA SCREEN FOR THE PROCESS

TRIANGLES BELOW INDICATE THE I/O BEING ONE OF 4 TYPES AS SHOWN BELOW

I/O TYPES:

DISCRETE INPUT

DISCRETE OUTPUT

ANALOG INPUT

ANALOG OUTPUT

HARD WIRED INTERLOCK

LOGICAL (PROGRAMMED) INTERLOCK

UNLTRASONIC OR RADAR LEVEL TRANSMITTER

FLOAT SWITCH

REDUCER

PROCESS, PIPING AND MECHANICAL SYSTEMS (CONTINUED)

AIR RELEASE VALVE

SITE DRAIN

CHECK VALVE

MAGNETIC FLOW METER

VALVE: MANUAL, AUTOMATIC CONTROL (BUTTERFLY OR GATE)

MOTOR

VERTICAL TURBINE PUMP

HORIZONTAL SPLIT CASE CENTRIFUGAL PUMP

SUMP PUMP

TANK LEVEL SIGHT BOARD

SAND SEPARATOR

SMALL DIAMETER VALVE (3" MAX)

SOLENCID VALVE

PROCESS, PIPING AND MECHANICAL SYSTEMS (CONTINUED)

FIELD MOUNTED INSTRUMENT IDENTIFIER:
TYPE: ISA 5.1 INSTRUMENT TYPE DESIGNATIONS, SEE BELOW
NUM: INSTRUMENT NUMBERS (WHERE USED)
FUNC: FUNCTIONAL INFORMATION (AS NEEDED)
SUF: INSTRUMENT NUMBER SUFFIXES TO ESTABLISH UNQUE INSTRUMENT IDENTIFIERS (AS NEEDED)

INSTRUMENT IDENTIFIER AS ABOVE EXCEPT THAT THE INSTRUMENT IS MOUNTED ON A PANEL AND VISIBLE WITH THE DEAD FRONT DOOR CLOSED

INSTRUMENT IDENTIFIER AS ABOVE EXCEPT THAT THE INSTRUMENT IS MOUNTED ON A PANEL AND NOT VISIBLE WITH THE DEAD FRONT DOOR CLOSED

ISA 5.1 INSTRUMENT TYPE DESIGNATIONS:
DESIGNATIONS BEGIN WITH ONE OR TWO LETTERS DEFINING THE MEASURED OR CONTROLLED VARIABLE:

A - ANALYSIS
F - FLOW
H - HAND
I - CURRENT
L - LEVEL
N, Y - USER DEFINED
P - PRESSURE
PD - DIFFERENTIAL PRESSURE
T - TEMPERATURE
Z - POSITION

THE SUBSEQUENT ONE OR TWO LETTERS OF THE DESIGNATION DEFINES THE INSTRUMENT FUNCTION:

I - INDICATE
C - CONTROL
R - RECORD
S - SWITCH
T - TRANSMIT

THE FINAL LETTER OF THE DESIGNATION MAY BE USED TO INDICATE AN ACTUATION LEVEL:

H - HIGH
L - LOW
O - OPEN
C - CLOSED

EXAMPLES:

FIT - FLOW INDICATING TRANSMITTER
HS - HAND SWITCH
LSL - LEVEL SWITCH LOW
2C - POSITION CONTROLLER
ZSC - POSITION SWITCH CLOSED

DRAWING COORDINATE SYSTEM
CA STATE PLANE - ZONE 2

CONSULTANT:	NO.	REVISION DESCRIPTION	BY	DATE	CLIENT:	PROJECT:	SCALE:		SHEET NAME:
AFFINITY ENGINEERING, 3433 Mardi Gras Court, Rancho Cordova, CA, 95670, www.affinityengineering.com					**Shiloh School District**, 6633 Paradise Rd, Modesto, CA 95358	SHILOH SCHOOL WATER TREATMENT PLANT PROJECT	ATTENTION LINE IS 2" AT FULL SIZE (SCALE ACCORDINGLY)	SHEET TITLE: ABBREVIATIONS AND SYMBOLS	G2
									9/25/23

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 02-122118 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/05/2024

TPH architects

TIMOTHY P. HUFF & ASSOCIATES, INC.
Timothy P. Huff, AIA Architect
519 McHenry Ave., Modesto, CA 95354
Ph: (209) 571-2232 Fax: (209) 571-1936

LICENSED ARCHITECT, TIMOTHY PAUL HUFF, No. C 15927, REN. 8/25, STATE OF CALIFORNIA

Consultants

SHILOH ELEMENTARY
WATER TREATMENT SYSTEM

6633 PARADISE ROAD MODESTO, CALIFORNIA 95358

SHILOH ELEMENTARY SCHOOL DISTRICT

WATER TREATMENT PLANT

Project Number	2324
Date	JAN 2024
Drawn by	RRM
Checked by	JH

WTP1.1

Plot Date & Time 7/19/2024 9:57:32 AM

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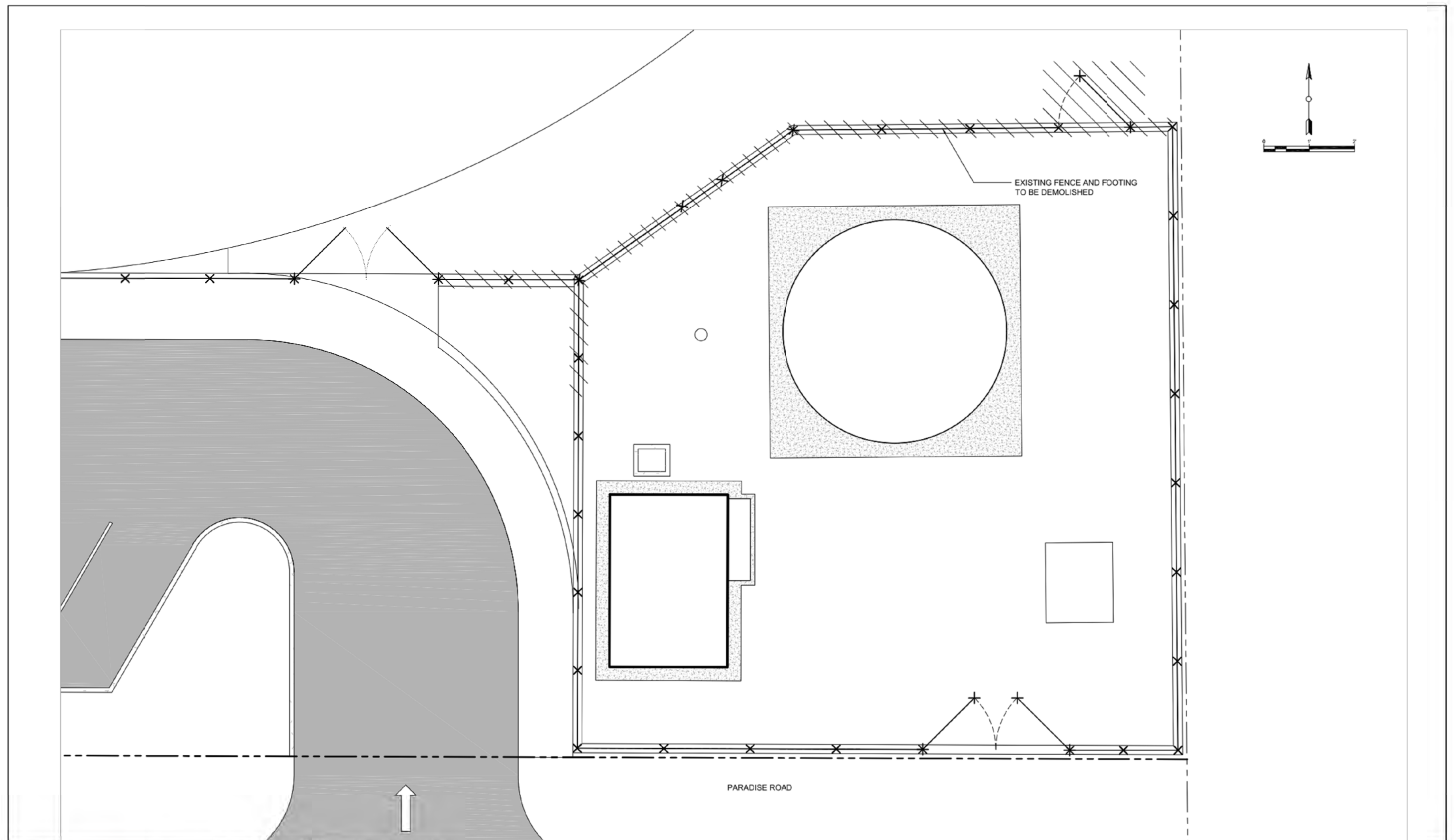


CONSULTANT: AFFINITY ENGINEERING, 3433 Mardi Gras Court, Rancho Cordova, CA 95670, www.affinityengineering.com

CLIENT: **Shiloh School District**, 6633 Paradise Rd, Modesto, CA 95358

PROJECT: SHILOH SCHOOL WATER TREATMENT PLANT PROJECT

SCALE: 1" =5'

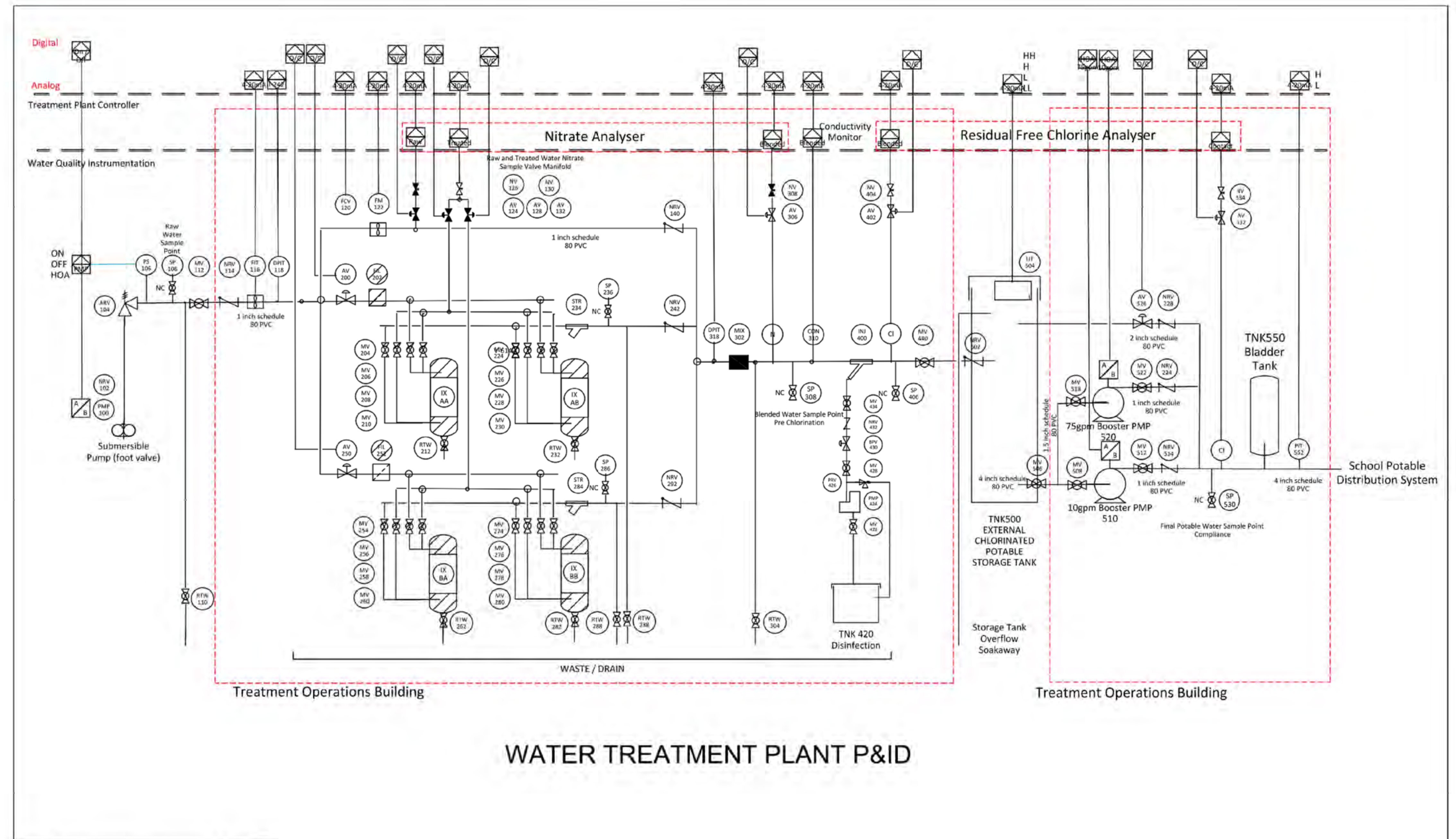
ATTENTION: LINE IS 2" AT FULL SIZE (SCALE ACCORDINGLY)

CIVIL

SHEET TITLE: DEMOLITION PLAN

SHEET NAME: C2

9/25/23



CONSULTANT: AFFINITY ENGINEERING

CLIENT: **Shiloh School District**, 6633 Paradise Rd, Modesto, CA 95358

PROJECT: SHILOH SCHOOL WATER TREATMENT PLANT PROJECT

SCALE: NTS

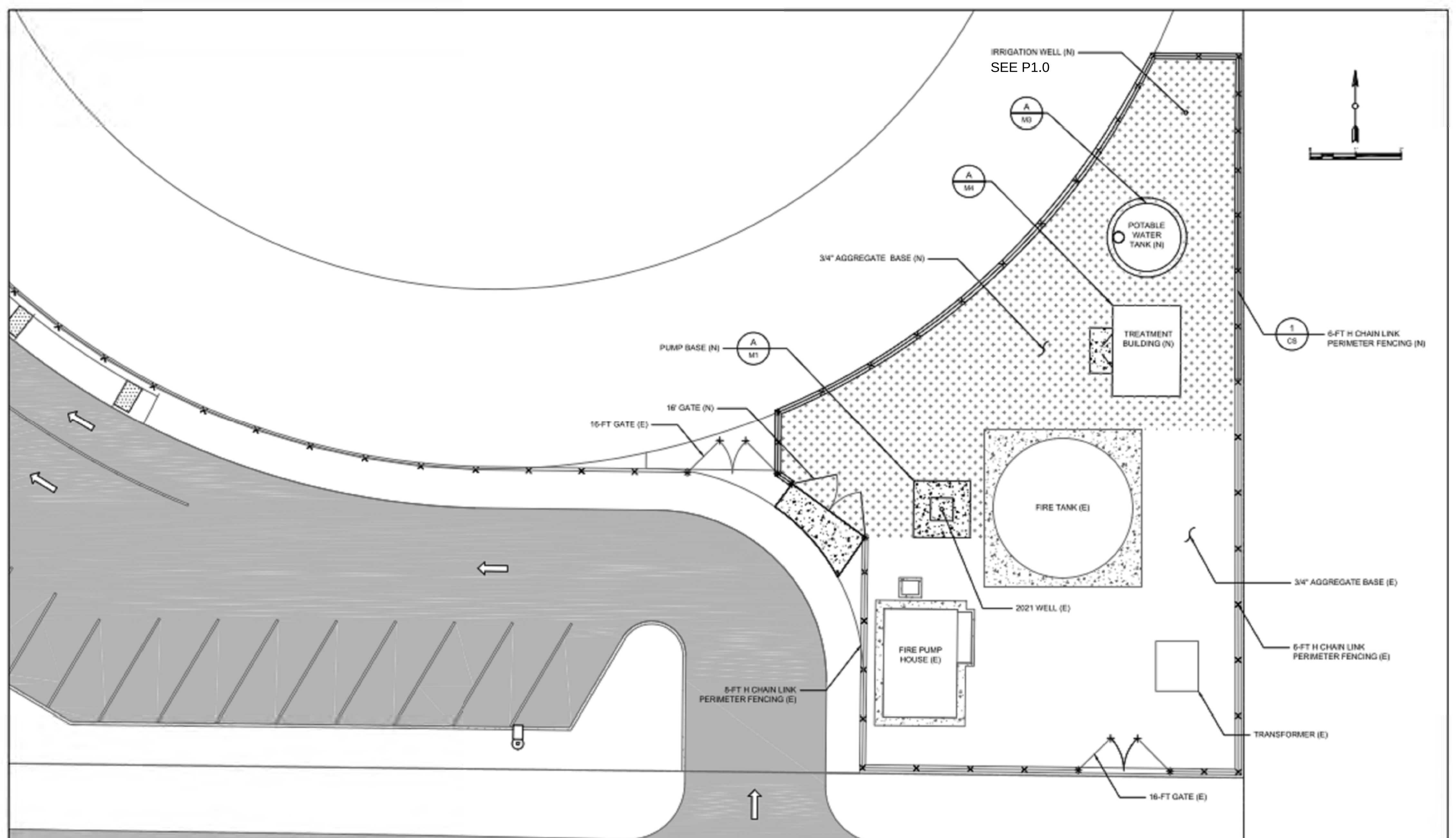
ATTENTION: LINE IS 2" AT FULL SIZE (SCALE ACCORDINGLY)

INSTRUMENTATION

SHEET TITLE: WATER TREATMENT PLANT

SHEET NAME: I2

9/25/23



CONSULTANT: AFFINITY ENGINEERING

REVISION: 1 MOVED BUILDING AND TANK

CLIENT: **Shiloh School District**, 6633 Paradise Rd, Modesto, CA 95358

PROJECT: SHILOH SCHOOL WATER TREATMENT PLANT PROJECT

SCALE: 1" =8'

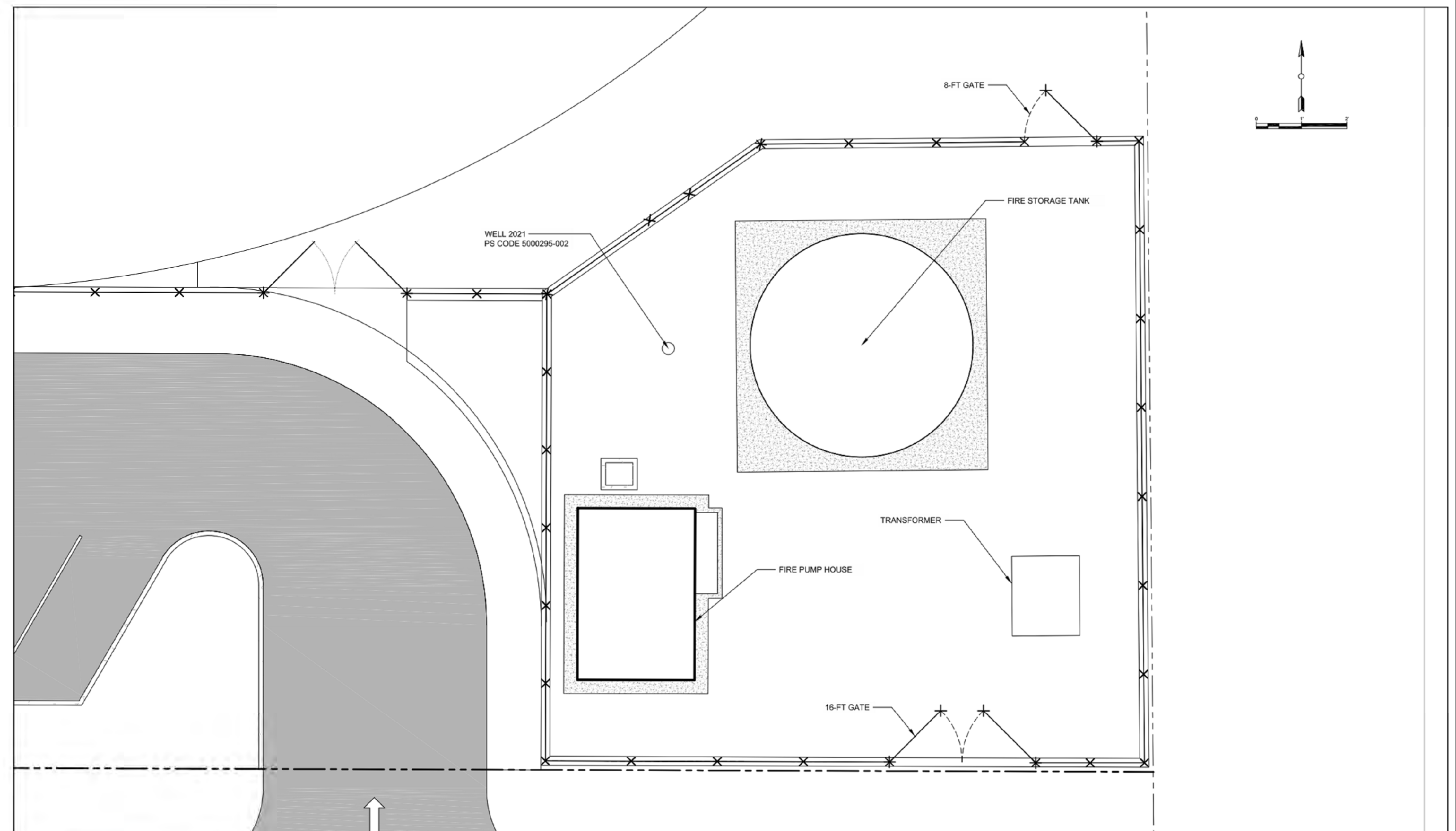
ATTENTION: LINE IS 2" AT FULL SIZE (SCALE ACCORDINGLY)

CIVIL

SHEET TITLE: CIVIL SITE PLAN

SHEET NAME: C3

7/11/24



CONSULTANT: AFFINITY ENGINEERING

CLIENT: **Shiloh School District**, 6633 Paradise Rd, Modesto, CA 95358

PROJECT: SHILOH SCHOOL WATER TREATMENT PLANT PROJECT

SCALE: 1" =5'

ATTENTION: LINE IS 2" AT FULL SIZE (SCALE ACCORDINGLY)

CIVIL

SHEET TITLE: EXISTING SITE

SHEET NAME: C1

9/25/23

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SHILOH ELEMENTARY WATER TREATMENT SYSTEM

6633 PARADISE ROAD MODESTO, CALIFORNIA 95358

SHILOH ELEMENTARY SCHOOL DISTRICT

WATER TREATMENT PLANT

Project Number	2324
Date	JAN 2024
Drawn by	RRM
Checked by	JH

WTP1.2

Plot Date & Time 7/19/2024 9:57:55 AM

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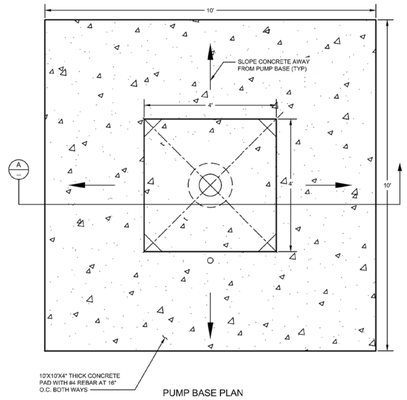
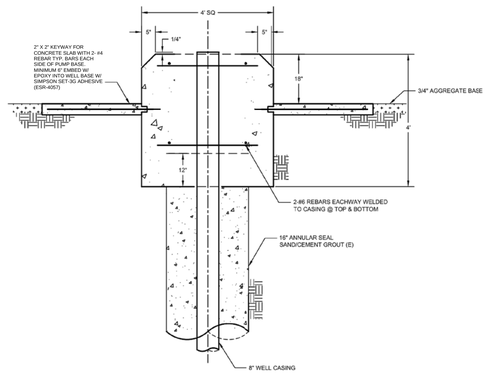
NOTES:

1. TOP OF PUMP BASE TO BE 18" ABOVE GRADE
2. EXTEND 8" WELL CASING TO PROTRUDE 1/4" ABOVE PUMP BASE
3. ALL CONCRETE STRENGTH TO BE f'c = 2,500 PSI



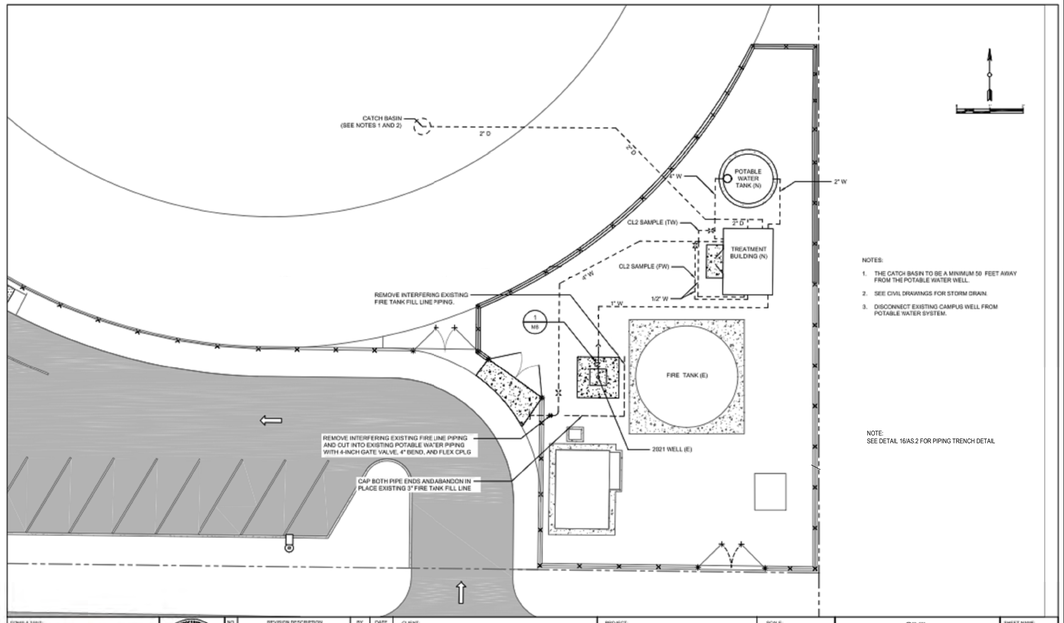
PUMP BASE PLAN
SCALE: 1"=1'



PUMP BASE ELEVATION

SECTION
SCALE: 1"=1'

CONSULTANT:	NO.	REVISION DESCRIPTION	BY	DATE	CLIENT:	PROJECT:	SCALE:	SHEET NAME:
AFFINITY ENGINEERING, 3433 Mardi Gras Court, Rancho Cordova, CA, 95670, www.affinityengineering.com					**Shiloh School District**, 6633 Paradise Rd, Modesto, CA 95358	SHILOH SCHOOL WATER TREATMENT PLANT PROJECT	AS SHOWN **ATTENTION** LINE IS 2" AT FULL SIZE (SCALE ACCORDINGLY)	MECHANICAL SHEET TITLE: PUMP BASE REPLACEMENT M1 9/25/23

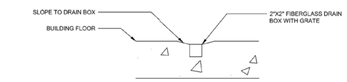


NOTES:

1. THE CATCH BASIN TO BE A MINIMUM 50 FEET AWAY FROM THE POTABLE WATER WELL.
2. SEE CIVIL DRAWINGS FOR STORM DRAIN.
3. DISCONNECT EXISTING CAMPUS WELL FROM POTABLE WATER SYSTEM.

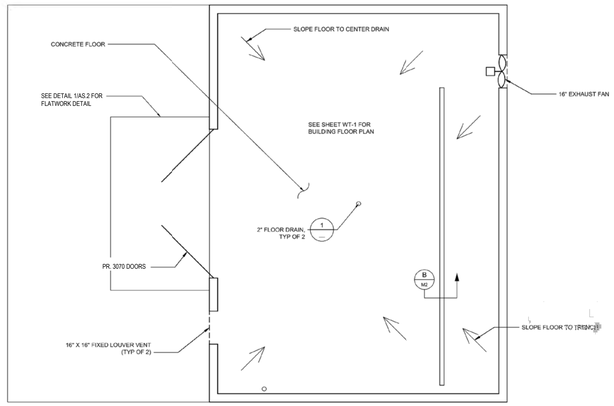
NOTE:
SEE DETAIL 16/AS.2 FOR PIPING TRENCH DETAIL

CONSULTANT:	NO.	REVISION DESCRIPTION	BY	DATE	CLIENT:	PROJECT:	SCALE:	SHEET NAME:
AFFINITY ENGINEERING, 3433 Mardi Gras Court, Rancho Cordova, CA, 95670, www.affinityengineering.com	1	MOVED BUILDING, TANK, AND PIPING	JC	7/25/23	**Shiloh School District**, 6633 Paradise Rd, Modesto, CA 95358	SHILOH SCHOOL WATER TREATMENT PLANT PROJECT	1" =8' **ATTENTION** LINE IS 2" AT FULL SIZE (SCALE ACCORDINGLY)	CIVIL SHEET TITLE: YARD PIPING PLAN C4 7/11/24

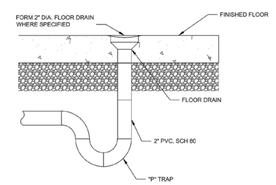


BUILDING TRENCH DRAIN
SECTION
SCALE: NTS

CONSULTANT:	NO.	REVISION DESCRIPTION	BY	DATE	CLIENT:	PROJECT:	SCALE:	SHEET NAME:
AFFINITY ENGINEERING, 3433 Mardi Gras Court, Rancho Cordova, CA, 95670, www.affinityengineering.com	1	ADDED MOW STRIP DETAIL	JC	7/25/23	**Shiloh School District**, 6633 Paradise Rd, Modesto, CA 95358	SHILOH SCHOOL WATER TREATMENT PLANT PROJECT	AS SHOWN **ATTENTION** LINE IS 2" AT FULL SIZE (SCALE ACCORDINGLY)	MECHANICAL SHEET TITLE: CONCRETE DETAILS M2 9/25/23



PLAN VIEW
DETAIL
SCALE: 3/4" = 1'



FLOOR DRAIN DETAIL
DETAIL
SCALE: NTS

CONSULTANT:	NO.	REVISION DESCRIPTION	BY	DATE	CLIENT:	PROJECT:	SCALE:	SHEET NAME:
AFFINITY ENGINEERING, 3433 Mardi Gras Court, Rancho Cordova, CA, 95670, www.affinityengineering.com					**Shiloh School District**, 6633 Paradise Rd, Modesto, CA 95358	SHILOH SCHOOL WATER TREATMENT PLANT PROJECT	AS SHOWN **ATTENTION** LINE IS 2" AT FULL SIZE (SCALE ACCORDINGLY)	MECHANICAL SHEET TITLE: TREATMENT BUILDING PLAN A1 9/25/23

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP. 02-122118 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/05/2024

TPH architects
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LICENSED ARCHITECT, TIMOTHY PAUL HUFF, No. C 15927, REN 8/25, STATE OF CALIFORNIA

Consultants

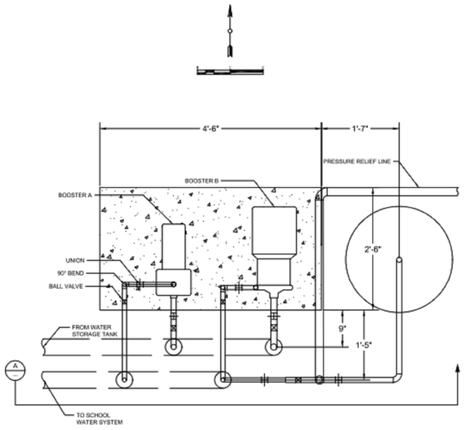
SHILOH ELEMENTARY WATER TREATMENT SYSTEM
6633 PARADISE ROAD MODESTO, CALIFORNIA 95358
SHILOH ELEMENTARY SCHOOL DISTRICT
WATER TREATMENT PLANT

Project Number	2324
Date	JAN 2024
Drawn by	RRM
Checked by	JH

WTP1.3

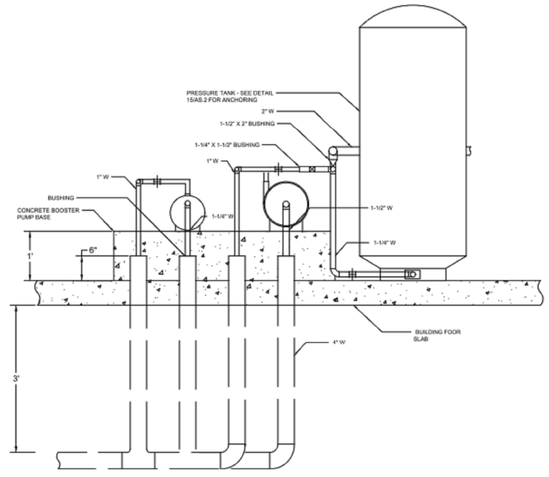
Plot Date & Time 7/19/2024 9:58:16 AM

C:\Local\Local 211\2324 Shiloh Water Treatment Plant_CENTRAL_JohnH.rvt



BOOSTER PUMPS PLAN VIEW

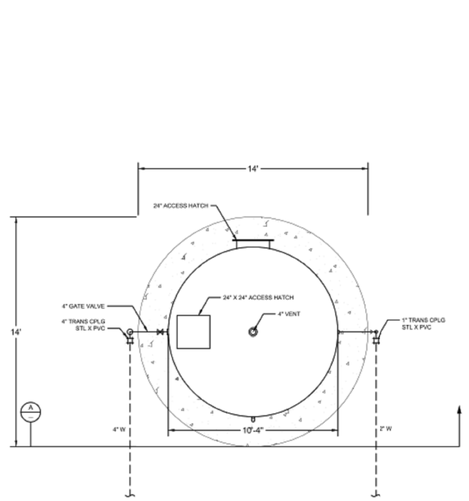
DETAIL 1/M5 — SCALE: 1-1/2" = 1'



BOOSTER PUMPS ELEVATION VIEW

DETAIL A/M5 — SCALE: 1-1/2" = 1'

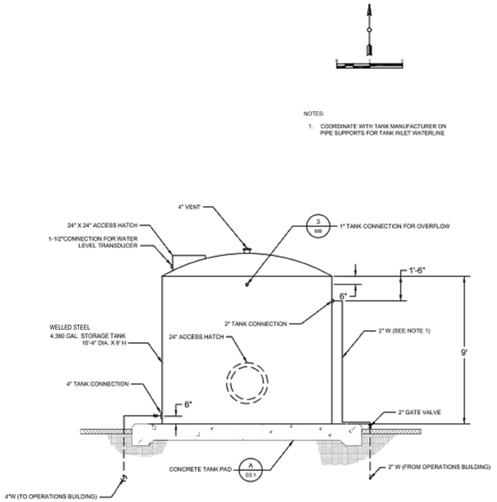
CONSULTANT:		NO.	REVISION DESCRIPTION	BY	DATE	CLIENT:	PROJECT:	SCALE:	SHEET NAME:
AFFINITY ENGINEERING, 3433 Mardi Gras Court, Rancho Cordova, CA. 95670, www.affinityengineering.com	REGISTERED PROFESSIONAL ENGINEER, JOHN HUFF, No. 43839, EXP. 6/30/25, CIVIL, STATE OF CALIFORNIA	1	CONFORMED	CR	1/30/18	**Shiloh School District**, 6633 Paradise Rd, Modesto, CA 95358	SHILOH SCHOOL WATER TREATMENT PLANT PROJECT	AS SHOWN; **ATTENTION** LINE IS 2" AT FULL SIZE (SCALE ACCORDINGLY)	MECHANICAL; SHEET TITLE: BOOSTER PUMP PIPING DETAILS	M5; SHEET NUMBER 17 OF 20; 7/11/24



TANK PLAN VIEW

SCALE: 1"=2'

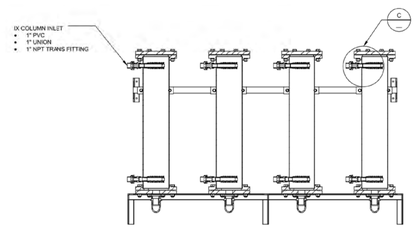
NOTES:
1. COORDINATE WITH TANK MANUFACTURER ON PIPE SUPPORTS FOR TANK INLET WATERLINE



TANK ELEVATION VIEW

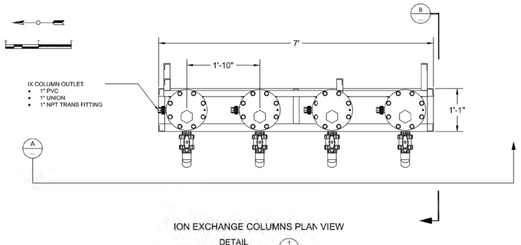
SECTION A/M3 — SCALE: 1"=2'

CONSULTANT:		NO.	REVISION DESCRIPTION	BY	DATE	CLIENT:	PROJECT:	SCALE:	SHEET NAME:
AFFINITY ENGINEERING, 3433 Mardi Gras Court, Rancho Cordova, CA. 95670, www.affinityengineering.com	REGISTERED PROFESSIONAL ENGINEER, JOHN HUFF, No. 43839, EXP. 6/30/25, CIVIL, STATE OF CALIFORNIA	1	REDUCED TANK SIZE	JBC	6/4/24	**Shiloh School District**, 6633 Paradise Rd, Modesto, CA 95358	SHILOH SCHOOL WATER TREATMENT PLANT PROJECT	AS SHOWN; **ATTENTION** LINE IS 2" AT FULL SIZE (SCALE ACCORDINGLY)	MECHANICAL; SHEET TITLE: TANK PLAN AND DETAILS	M3; 7/11/24



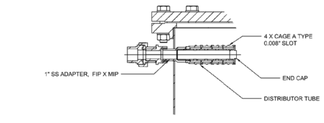
ION EXCHANGE COLUMN FRONT ELEVATION

DETAIL A/M6 — SCALE: 1" = 20"



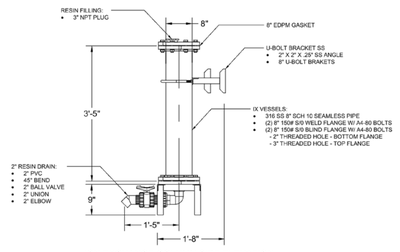
ION EXCHANGE COLUMNS PLAN VIEW

DETAIL 1/M6 — SCALE: 1" = 20"



INLET/OUTLET DISTRIBUTOR DETAIL

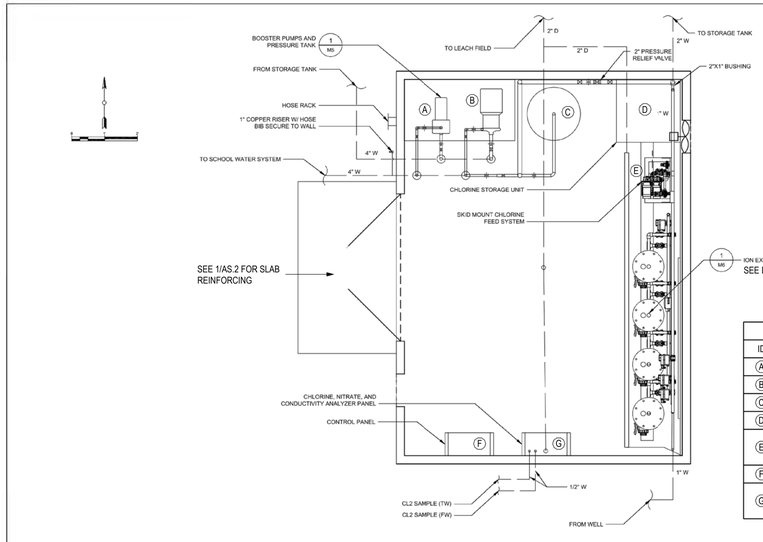
DETAIL C/M6 — SCALE: NTS



ION EXCHANGE COLUMN SIDE ELEVATION

DETAIL B/M6 — SCALE: 1" = 20"

CONSULTANT:		NO.	REVISION DESCRIPTION	BY	DATE	CLIENT:	PROJECT:	SCALE:	SHEET NAME:
AFFINITY ENGINEERING, 3433 Mardi Gras Court, Rancho Cordova, CA. 95670, www.affinityengineering.com	REGISTERED PROFESSIONAL ENGINEER, JOHN HUFF, No. 43839, EXP. 6/30/25, CIVIL, STATE OF CALIFORNIA	1	CONFORMED	CR	1/30/18	**Shiloh School District**, 6633 Paradise Rd, Modesto, CA 95358	SHILOH SCHOOL WATER TREATMENT PLANT PROJECT	AS SHOWN; **ATTENTION** LINE IS 2" AT FULL SIZE (SCALE ACCORDINGLY)	MECHANICAL; SHEET TITLE: ION EXCHANGE COLUMN DETAILS	M6; 9/25/23



PLAN VIEW

DETAIL 1/M4 — SCALE: 3/4" = 1'

EQUIPMENT			
ID	DESCRIPTION	SIZE (LxWxH)	WEIGHT
A	BOOSTER PUMP	18"x9"x9"	23 lbs
B	BOOSTER PUMP	23"x10"x10"	135 lbs
C	PRESSURE TANK	62"x26"x26"	600 lbs
D	CHLORINE STORAGE UNIT	24"x14"x25"	100 lbs
E	SKID MOUNT CHLORINE FEED SYSTEM	14"x24"x25"	200 lbs
F	CONTROL PANEL	16"x8"x16"	170 lbs
G	CHLORINE, NITRATE AND CONDUCTIVITY ANALYZER PANEL	16"x8"x16"	170 lbs

CONSULTANT:		NO.	REVISION DESCRIPTION	BY	DATE	CLIENT:	PROJECT:	SCALE:	SHEET NAME:
AFFINITY ENGINEERING, 3433 Mardi Gras Court, Rancho Cordova, CA. 95670, www.affinityengineering.com	REGISTERED PROFESSIONAL ENGINEER, JOHN HUFF, No. 43839, EXP. 6/30/25, CIVIL, STATE OF CALIFORNIA	1	CONFORMED	CR	1/30/18	**Shiloh School District**, 6633 Paradise Rd, Modesto, CA 95358	SHILOH SCHOOL WATER TREATMENT PLANT PROJECT	AS SHOWN; **ATTENTION** LINE IS 2" AT FULL SIZE (SCALE ACCORDINGLY)	MECHANICAL; SHEET TITLE: TREATMENT BUILDING PIPING	M4; 9/25/23

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Consultants

SHILOH ELEMENTARY WATER TREATMENT SYSTEM

6633 PARADISE ROAD MODESTO, CALIFORNIA 95358

SHILOH ELEMENTARY SCHOOL DISTRICT

WATER TREATMENT PLANT

Project Number	2324
Date	JAN 2024
Drawn by	RRM
Checked by	JH

WTP1.4

Plot Date & Time 7/19/2024 9:58:44 AM

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MEP COMPONENT ANCHORAGE

APPLICABLE CODE: 2022 CBC

MEP COMPONENT ANCHORAGE NOTE

ALL MECHANICAL, PLUMBING, AND ELECTRICAL COMPONENTS SHALL BE ANCHORED AND INSTALLED PER THE DETAILS ON THE DSA-APPROVED CONSTRUCTION DOCUMENTS. THE FOLLOWING COMPONENTS SHALL BE ANCHORED OR BRACED TO MEET THE FORCE AND DISPLACEMENT REQUIREMENTS PRESCRIBED IN THE 2022 CBC SECTIONS 1617A.1.18 THROUGH 1617A.1.26 AND ASCE 7-16 CHAPTERS 13, 26, AND 30:

1. ALL PERMANENT EQUIPMENT AND COMPONENTS.

2. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT THAT IS PERMANENTLY ATTACHED (E.G., HARD WIRED) TO THE BUILDING UTILITY SERVICES SUCH AS ELECTRICITY, GAS OR WATER. "PERMANENTLY ATTACHED " SHALL INCLUDE ALL ELECTRICAL CONNECTIONS EXCEPT PLUGS FOR 110/220 VOLT RECEPTACLES HAVING A FLEXIBLE CABLE.

3. TEMPORARY, MOVABLE OR MOBILE EQUIPMENT WHICH IS HEAVIER THAN 400 POUNDS OR HAS A CENTER OF MASS LOCATED 4 FEET OR MORE ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT IS REQUIRED TO BE RESTRAINED IN A MANNER APPROVED BY DSA.

THE FOLLOWING MECHANICAL AND ELECTRICAL COMPONENTS SHALL BE POSITIVELY ATTACHED TO THE STRUCTURE BUT NEED NOT DEMONSTRATE DESIGN COMPLIANCE WITH THE REFERENCES NOTED ABOVE. THESE COMPONENTS SHALL HAVE FLEXIBLE CONNECTIONS PROVIDED BETWEEN THE COMPONENT AND ASSOCIATED DUCTWORK, PIPING, AND CONDUIT. FLEXIBLE CONNECTIONS MUST ALLOW MOVEMENT IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS:

A. COMPONENTS WEIGHING LESS THAN 400 POUNDS AND HAVING A CENTER OF MASS LOCATED 4 FEET OR LESS ABOVE THE ADJACENT FLOOR OR ROOF LEVEL THAT DIRECTLY SUPPORT THE COMPONENT.

B. COMPONENTS WEIGHING LESS THAN 20 POUNDS, OR IN THE CASE OF DISTRIBUTED SYSTEMS, LESS THAN 5 POUNDS PER FOOT, WHICH ARE SUSPENDED FROM A ROOF OR FLOOR OR HUNG FROM A WALL.

THE ANCHORAGE OF ALL MECHANICAL, ELECTRICAL AND PLUMBING COMPONENTS SHALL BE SUBJECT TO THE APPROVAL OF THE DESIGN PROFESSIONAL IN GENERAL RESPONSIBLE CHARGE OR STRUCTURAL ENGINEER DELEGATED RESPONSIBILITY AND ACCEPTANCE BY DSA. THE PROJECT INSPECTOR WILL VERIFY THAT ALL COMPONENTS AND EQUIPMENT HAVE BEEN ANCHORED IN ACCORDANCE WITH THE ABOVE REQUIREMENTS.

PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEM BRACING NOTE

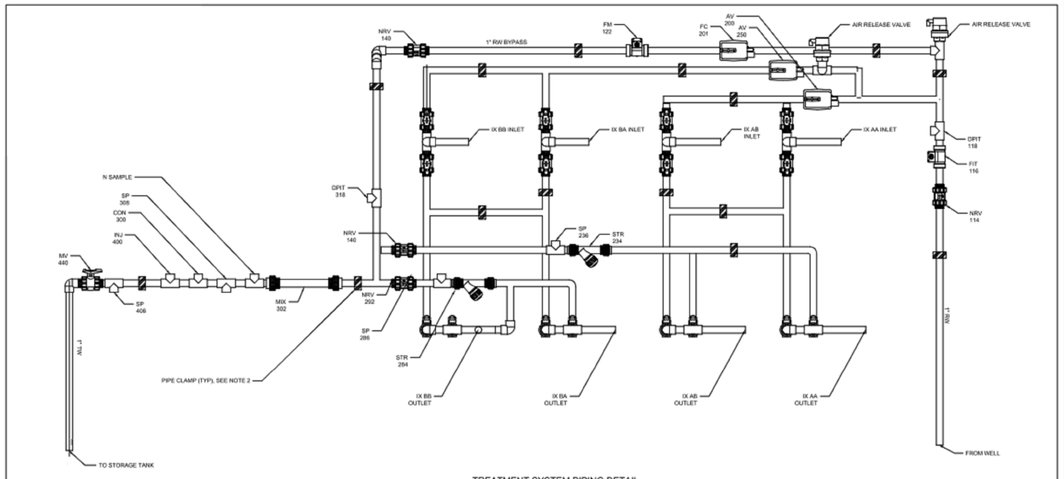
PIPING, DUCTWORK, AND ELECTRICAL DISTRIBUTION SYSTEMS SHALL BE BRACED TO COMPLY WITH THE FORCES AND DISPLACEMENTS PRESCRIBED IN ASCE 7-16 SECTION 13.3 AS DEFINED IN ASCE 7-16 SECTIONS 13.6.5, 13.6.6, 13.6.7, 13.6.8; AND 2022 CBC. SECTIONS 1617A.1.24, 1617A.1.25 AND 1617A.1.26.

THE METHOD OF SHOWING BRACING AND ATTACHMENTS TO THE STRUCTURE FOR THE IDENTIFIED DISTRIBUTION SYSTEM ARE AS NOTED BELOW. WHEN BRACING AND ATTACHMENTS ARE BASED ON A PREAPPROVED INSTALLATION GUIDE (E.G., HCAI OPM FOR 2013 CBC OR LATER), COPIES OF THE BRACING SYSTEM INSTALLATION GUIDE OR MANUAL SHALL BE AVAILABLE ON THE JOBSITE PRIOR TO THE START OF AND DURING THE HANGING AND BRACING OF THE DISTRIBUTION SYSTEMS. THE STRUCTURAL ENGINEER OF RECORD SHALL VERIFY THE ADEQUACY OF THE STRUCTURE TO SUPPORT THE HANGER AND BRACE LOADS.

MECHANICAL PIPING (MP), MECHANICAL DUCTS (MD), PLUMBING PIPING (PP), ELECTRICAL DISTRIBUTION SYSTEMS (E):

MP ☐ MD ☐ PP ☒ E ☐ - OPTION 1: DETAILED ON THE APPROVED DRAWINGS WITH PROJECT SPECIFIC NOTES AND DEAILS.

MP ☐ MD ☐ PP ☐ E ☐ OPTION 2: SHALL COMPLY WITH HCAI PREAPPROVAL (OPM #)



TREATMENT SYSTEM PIPING DETAIL
DETAIL 1
SCALE: NTS

NOTES:
1. SEE DRAWING I2 FOR ABBREVIATION DESCRIPTIONS
2. PROVIDE B-LINE B3180 PIPE CLAMP AT A MAX. 24" O.C. AND WITHIN 8" OF EACH PIPE CHANGE OF DIRECTIONS - TYPICAL AT ALL PIPE SECTIONS GREATER THAN 12". ATTACH CLIPS TO PLYWOOD BACKBOARD WITH TWO (2) #10X 1" WOOD SCREWS. CLAMPS SHOWN ON PIPING DETAIL ARE DIAGRAMMATIC. PROVIDE CLAMP LAYOUT AS DESCRIBED BASED ON INSTALLED PIPE FIELD CONDITIONS. UTILIZE B3148 OFFSET PIPE CLAMP AT LOCATIONS NEEDED.

CONSULTANT: AFFINITY ENGINEERING, 3433 Mandi Gina Court, Rancho Cordova, CA, 95670, www.affinityengineering.com

NO.	REVISION DESCRIPTION	BY	DATE
1	CONFORMED	CR	1/30/15

CLIENT: **Shiloh School District**, 6633 Paradise Rd, Modesto, CA 95358

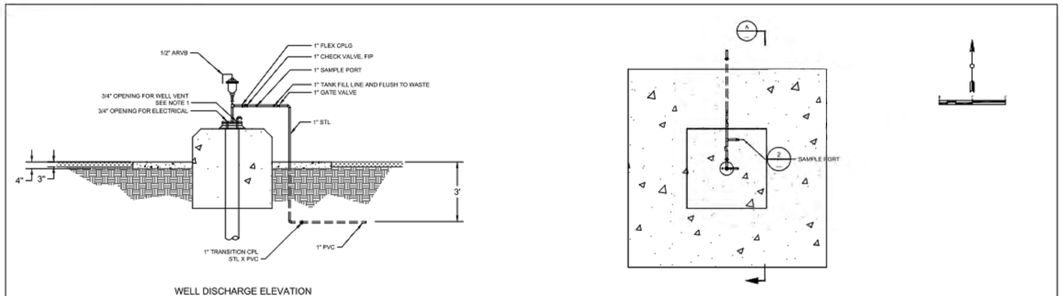
PROJECT: SHILOH SCHOOL WATER TREATMENT PLANT PROJECT

SCALE: AS SHOWN
ATTENTION LINE IS 2" AT FULL SIZE (SCALE ACCORDINGLY)

SHEET TITLE: MECHANICAL — ION EXCHANGE COLUMN DETAILS

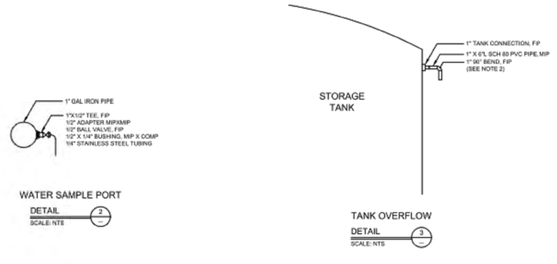
SHEET NAME: M7

7/11/24



WELL DISCHARGE ELEVATION
SECTION A
SCALE: N.T.S.

WELL DISCHARGE PLAN
DETAIL 1
NTS



NOTES:
1. WELL VENT TO INCLUDE THE FOLLOWING:
   - 3/4" GALVANIZED IRON PIPE
   - TWO (2) 3/4" 90° BEND, FIP
   - STAINLESS STEEL BUG SCREEN
   - STAINLESS STEEL SCREEN CLAMPS
2. TANK VENT TO INCLUDE THE FOLLOWING:
   - STAINLESS STEEL BUG SCREEN
   - STAINLESS STEEL CLAMPS

WATER SAMPLE PORT
DETAIL 2
SCALE: NTS

TANK OVERFLOW
DETAIL 3
SCALE: NTS

CONSULTANT: AFFINITY ENGINEERING, 3433 Mandi Gina Court, Rancho Cordova, CA, 95670, www.affinityengineering.com

NO.	REVISION DESCRIPTION	BY	DATE

CLIENT: **Shiloh School District**, 6633 Paradise Rd, Modesto, CA 95358

PROJECT: SHILOH SCHOOL WATER TREATMENT PLANT PROJECT

SCALE: AS SHOWN
ATTENTION LINE IS 2" AT FULL SIZE (SCALE ACCORDINGLY)

SHEET TITLE: MECHANICAL — PIPING DETAILS

SHEET NAME: M8

7/11/24

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Consultants

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WATER TREATMENT SYSTEM
6633 PARADISE ROAD MODESTO, CALIFORNIA 95358
SHILOH ELEMENTARY SCHOOL DISTRICT
WATER TREATMENT PLANT

Project Number	2324
Date	JAN 2024
Drawn by	RRM
Checked by	JH

WTP1.5

Plot Date & Time 7/19/2024 10:00:08 AM

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