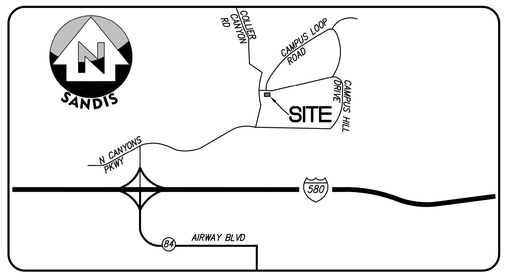
CHABOT-LAS POSITAS COMMUNITY COLLEGE DISTRICT

LAS POSITAS COLLEGE

3000 CAMPUS HILL DRIVE
LIVERMORE, CA 94551

DOMESTIC WATER BOOSTER PUMP PROJECT

100% CONSTRUCTION DOCUMENTS MARCH 01, 2021



VICINITY MAP
NOT TO SCALE

PROJECT DIRECTORY

OWNER INFO

CHABOT-LOS POSITAS CCD
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SANDIS
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ELECTRICAL ENGINEER

MAZZETTI
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PLUMBING ENGINEER

MAZZETTI
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220 MONTGOMERY ST #650
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PROJECT DESCRIPTION

THE SCOPE OF THE PROJECT INCLUDES PROVIDING A BOOSTER PUMP SYSTEM TO RAISE THE CAMPUS DOMESTIC WATER PRESSURE. PRESSURE REDUCING VALVES WILL BE INSTALLED AT SELECTED BUILDINGS TO PREVENT OVERPRESSURE OF PLUMBING FIXTURES.

AS AN ADD ALTERNATE THE CONTRACTOR SHALL INSTALL AN AQUASHIELD ENCLOSURE (OR APPROVED EQUIVALENT PRODUCT) AROUND THE BOOSTER PUMP STATION. THE ENCLOSURE SHALL HAVE A MILL GRADE MARINE ALUMINUM OR STAINLESS STEEL FINISH. THE ENCLOSURE MUST ALSO BE FITTED WITH A REMOVABLE TOP AND ACCESS DOORS ON ITS FRONT, SIDE AND REAR.

SHEET INDEX

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SILICON VALLEY TRI-VALLEY
CENTRAL VALLEY EAST BAY/SF

DATE 03/01/2021
REGISTERED PROFESSIONAL ENGINEER MICHAEL A. KUYKENDALL No. 70870 Exp. 6/30/21 CIVIL STATE OF CALIFORNIA
MICHAEL A. KUYKENDALL
R.C.E. NO. 70870, EXPIRES 6-30-21

LAS POSITAS COLLEGE
DOMESTIC WATER BOOSTER PUMP PROJECT
LIVERMORE CALIFORNIA

No.	REVISION	DATE	BY

DATE: 03/01/2020
SCALE:
DRAWN BY:
APPROVED BY:
DRAWING NO.:

COVER SHEET

SHEET
G0.01

LEGEND

	EXISTING	PROPOSED
SAWCUT AND CONFORM LINE		
RETAINING WALL		
A.C. PAVEMENT		
CONC. VALLEY GUTTER		
CONC. SIDEWALK OR PAD		
6" CURB & GUTTER		
EDGE OF A.C. PAVEMENT	EP	
6" VERTICAL CURB		
CENTER LINE		
SANITARY SEWER MAIN	8" SS	8" SS
STORM DRAIN MAIN	12" SD	15" SD
PERFORATED PIPE		6" SD
WATER MAIN	6" W	6" W
FIRE WATER MAIN	6" FW	4" FW
DOMESTIC WATER MAIN	6" DW	4" DW
CHILLED WATER MAIN	6" CHW	4" CHW
IRRIGATION LINE	2" IRR	4" IRR
HOT WATER SUPPLY & RETURN	HWS HWR	HWS HWR
STEAM LINE	ST	ST
TRENCH DRAIN		
CONDENSATE RETURN	CR	CR
METAL BEAM GUARD RAIL		
SILT FENCE		
FLOW LINE		
CHAIN LINK FENCE	x x	x x
GAS MAIN	G	2" G
ELECTRIC AND SIGNAL DUCT BANK	E	E
OVERHEAD ELECTRIC LINE	OHE	OHE
UNDERGROUND ELECTRIC LINE	UGE	UGE
STREET LIGHT CONDUIT	SL	SL
CONTOUR ELEVATION LINE	85	90 89
SPOT ELEVATION	× 95.94	FG 95.94
DIRECTION OF SLOPE		2:1 1%
GAS METER		GM
GAS VALVE		GV
WATER METER		WM
WATER VALVE	WV	WV
FIRE HYDRANT		
BACK FLOW PREVENTOR		
POST INDICATOR VALVE	PIV	PIV
FIRE DEPARTMENT CONNECTION	FDC	FDC
WATER LINE TEE		
CAP AND PLUG END		
AIR RELEASE VALVE		ARV
SIGN		
ACCESSIBLE RAMP		
CONCRETE THRUST BLOCK		
REDUCER		
SANITARY SEWER MANHOLE		
SANITARY SEWER CLEANOUT	SSCO	SSCO
STORM DRAIN MANHOLE		
STORMCEPTOR		
STORM DRAIN AREA DRAIN		
STORM DRAIN CATCH BASIN	CB	
STORM DRAIN CURB INLET		
STORM DRAIN CLEANOUT	SDCO	SDCO
ELECTROLIER		
JOINT POLE		
OVERLAND RELEASE		
CONSTRUCTION DETAIL REFERENCE		15 / C5.2 DETAIL REFERENCE SHEET REFERENCE

ABBREVIATIONS

AB	–	AGGREGATE BASE
AC	–	ASPHALT CONCRETE
AD	–	AREA DRAIN
ADA	–	AMERICANS WITH DISABILITIES ACT
ASB	–	AGGREGATE SUBBASE
BC	–	BEGINNING OF CURVE
BFP	–	BACK FLOW PREVENTOR
BLDC	–	BUILDING CORNER
BLDG	–	BUILDING
BOD	–	BOTTOM OF DOCK
BOL	–	BOLLARD
BOS	–	BOTTOM OF STEP
BOW	–	FG @ BOTTOM OF WALL
BVC	–	BEGIN VERTICAL CURVE
BW	–	BACK OF WALK
C	–	CONCRETE OR CIVIL
C&G	–	CURB AND GUTTER
CB	–	CATCH BASIN
CI	–	CURB INLET
CIP	–	CAST IRON PIPE
CL	–	CENTER LINE OR CLASS
CMP	–	CORRUGATED METAL PIPE
CO	–	CLEANOUT
CONC	–	CONCRETE
CONST	–	CONSTRUCTION OR CONSTRUCT
CY	–	CUBIC YARD
DCDA	–	DOUBLE CHECK DETECTOR ASSEMBLY
DI	–	DROP INLET
DIP	–	DUCTILE IRON PIPE
DOM	–	DOMESTIC
DW	–	DOMESTIC WATER
DWG	–	DRAWING
E	–	EAST
EC	–	END OF CURVE
EP	–	EDGE OF PAVEMENT
ER	–	END OF RETURN
EVC	–	END VERTICAL CURVE
ELEV	–	ELEVATION
EX., EXIST.	–	EXISTING
FC	–	FACE OF CURB
FDC	–	FIRE DEPARTMENT CONNECTION
FF	–	FINISHED FLOOR
FG	–	FINISHED GRADE
FH	–	FIRE HYDRANT
FL	–	FLOW LINE
FOUND	–	FOUNDATION
FS	–	FINISHED SURFACE
FT	–	FOOT
FW	–	FIRE WATER
G	–	GROUND ELEVATION
GB	–	GRADE BREAK
GV	–	GATE VALVE
HCP	–	ACCESSIBLE RAMP
HP	–	HIGH POINT
INV	–	INVERT ELEVATION
JP	–	JOINT POLE
JT	–	JOINT TRENCH
LIP	–	LIP OF GUTTER
LP	–	LOW POINT
LSA	–	LANDSCAPE ARCHITECT
MAX	–	MAXIMUM
MEP	–	MECHANICAL/ELECTRICAL/PLUMBING
MH	–	MANHOLE
MIN	–	MINIMUM
MPVC	–	MIDPOINT OF VERTICAL CURVE
MON	–	MONUMENT
N	–	NORTH
N.I.C.	–	NOT IN CONTRACT
NO	–	NUMBER
NTS	–	NOT TO SCALE
P	–	PAVEMENT ELEVATION
PCC	–	PORTLAND CEMENT CONCRETE / POINT OF CONTINUOUS CURVATURE
PIV	–	POST INDICATOR VALVE
PL	–	PROPERTY LINE
PMH	–	POWER MANHOLE
POC	–	POINT ON CURVE
PP	–	POWER POLE
PRC	–	POINT OF REVERSE CURVATURE
PVC	–	POLYVINYL CHLORIDE PIPE
R	–	RADIUS
RC	–	RELATIVE COMPACTION
RCP	–	REINFORCED CONCRETE PIPE
RPPA	–	REDUCED PRESSURE PRINCIPLE ASSEMBLY
R/W	–	RIGHT OF WAY
S	–	SLOPE OR SOUTH
S.A.D.	–	SEE ARCHITECTURAL DRAWINGS
SB	–	SEDIMENT BASIN
SD	–	STORM DRAIN
S.E.D.	–	SEE ELECTRICAL DRAWINGS
SF	–	SILT FENCE
SG	–	SUBGRADE
S.L.D.	–	SEE LANDSCAPE DRAWINGS
S.M.D.	–	SEE MECHANICAL DRAWINGS
SMH	–	SIGNAL MANHOLE
S.P.D.	–	SEE PLUMBING DRAWINGS
SS	–	SANITARY SEWER
STA	–	STATION
STD	–	STANDARD
S/W	–	SIDEWALK
TC	–	TOP OF CURB
TD	–	TRENCH DRAIN
TOD	–	TOP OF DOCK
TOE	–	TOE OF SLOPE
TOS	–	TOP OF STAIR
TOW	–	FG @ TOP OF WALL
TS	–	TOP OF SLAB
TYP	–	TYPICAL
UON	–	UNLESS OTHERWISE NOTED
U/G	–	UNDERGROUND
VC	–	VERTICAL CURVE
WM	–	WATER METER
WV	–	WATER VALVE
W	–	WEST
WWF	–	WELDED WIRE FABRIC
W/	–	WITH

CONSTRUCTION NOTES

1. ALL OFF-SITE CONSTRUCTION MATERIAL AND METHODS SHALL COMPLY WITH THE WITH THE LATEST EDITION OF THE CITY OF LIVERMORE STANDARD PLANS & SPECIFICATIONS AND THE LATEST CALTRANS STANDARD SPECIFICATIONS.
2. CONTRACTOR SHALL POST ON THE SITE, EMERGENCY TELEPHONE NUMBERS FOR AMBULANCE, POLICE, AND FIRE DEPARTMENTS.
3. CONTRACTOR SHALL NOTIFY ALL PUBLIC OR PRIVATE UTILITY OWNERS 48 HOURS PRIOR TO COMMENCEMENT OF WORK ADJACENT TO THE UTILITY UNLESS AN EXCAVATION PERMIT SPECIFIES OTHERWISE.
4. UTILITIES AND UNDERGROUND FACILITIES INDICATED ARE FOR INFORMATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION AND DEPTH WITH THE APPROPRIATE AGENCIES. NEITHER THE OWNER NOR THE CITY NOR THE DESIGN PROFESSIONAL ASSUMES RESPONSIBILITY THAT THE UTILITIES AND UNDERGROUND FACILITIES INDICATED WILL BE THE UTILITIES AND UNDERGROUND FACILITIES ENCOUNTERED.
5. CONTRACTOR TO CONTACT OWNERS REPRESENTATIVE FORTY-EIGHT (48) HOURS PRIOR TO BEGINNING WORK. CONTRACTOR TO HAVE THE LOCATION OF EXISTING UNDERGROUND UTILITIES MARKED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY, LOCATE, AND PROTECT ALL UNDERGROUND FACILITIES.
6. THE CONTRACTOR SHALL HIRE A STREET CLEANING CONTRACTOR TO CLEAN UP DIRT AND DEBRIS FROM CITY STREETS AND CAMPUS STREETS AND PARKING LOT THAT ARE ATTRIBUTABLE TO THE DEVELOPMENT'S CONSTRUCTION ACTIVITIES.
7. ALL GRADING SHALL BE PERFORMED IN SUCH A MANNER AS TO COMPLY WITH THE STANDARDS ESTABLISHED BY THE AIR QUALITY MAINTENANCE DISTRICT FOR AIRBORNE PARTICULATES (DUST).
8. ALL GRADING SHALL CONFORM TO APPROVED SPECIFICATIONS PRESENTED HEREON OR ATTACHED HERETO. ALL GRADING WORK SHALL BE OBSERVED AND APPROVED BY THE SOILS ENGINEER. THE SOILS ENGINEER SHALL BE NOTIFIED AT LEAST 48 HOURS BEFORE BEGINNING ANY GRADING. UNOBSERVED AND UNAPPROVED GRADING WORK SHALL BE REMOVED AND REDONE AT THE CONTRACTORS EXPENSE.
9. ALL MATERIALS, REQUIRED FOR THE COMPLETE EXECUTION OF THE PROJECT, SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
10. THE CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAGMEN OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY DURING THE CONSTRUCTION PERIOD.
11. THE CONTRACTOR SHALL BE RESPONSIBLE TO REPAIR OR REPLACE ANY EXISTING IMPROVEMENTS OF UNDERGROUND FACILITIES DAMAGED DURING THE CONSTRUCTION PERIOD.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL ENCROACHMENT, EXCAVATION, CONCRETE, ELECTRICAL, PLUMBING, ETC. PERMITS NECESSARY PRIOR TO BEGINNING CONSTRUCTION FOR ANY WORK.
13. THE CONTRACTOR SHALL HAVE A SUPERINTENDENT OR REPRESENTATIVE ON SITE AT ALL TIMES DURING CONSTRUCTION.
14. STORAGE OF CONSTRUCTION MATERIAL AND EQUIPMENT ON CITY STREETS AND CAMPUS ROADWAYS WILL NOT BE PERMITTED.
15. CONSTRUCTION EQUIPMENT SHALL BE PROPERLY MUFFLED. UNNECESSARY IDLING OF GRADING CONSTRUCTION EQUIPMENT IS PROHIBITED.
16. CONSTRUCTION EQUIPMENT, TOOLS, ETC. SHALL NOT BE CLEANED OR RINSED INTO A STREET, GUTTER OR STORM DRAIN.
17. A CONTAINED AND COVERED AREA ON-SITE SHALL BE USED FOR STORAGE OF CEMENT BAGS, PAINTS, FLAMMABLE, OILS, FERTILIZERS, PESTICIDES, OR ANY OTHER MATERIALS THAT HAVE POTENTIAL FOR BEING DISCHARGED TO THE STORM DRAIN SYSTEM BY WIND OR IN THE EVENT OF A MATERIAL SPILL.
18. ALL CONSTRUCTION DEBRIS SHALL BE GATHERED ON A REGULAR BASIS AND PLACED IN A DUMPSTER WHICH IS EMPTIED OR REMOVED WEEKLY. WHEN FEASIBLE, TARPS SHALL BE USED ON THE GROUND TO COLLECT FALLEN DEBRIS OR SPLATTERS THAT COULD CONTRIBUTE TO STORMWATER POLLUTION.
19. ANY TEMPORARY ON-SITE CONSTRUCTION PILES SHALL BE SECURELY COVERED WITH A TARP OR OTHER DEVICE TO CONTAIN DEBRIS.
20. CONCRETE TRUCKS AND CONCRETE FINISHING OPERATIONS SHALL NOT DISCHARGE WASH WATER INTO THE STREET GUTTERS OR DRAINS.
21. UNLESS OTHERWISE NOTED, ALL CONCRETE SHALL BE CALTRANS CLASS 2 WITH A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI. CONCRETE FOR PROPOSED THRUST BLOCKS SHALL ACHIEVE MINIMUM STRENGTH AS RAPIDLY AS POSSIBLE TO MINIMIZE DISRUPTION TO CAMPUS OPERATIONS.
22. THE CONTRACTOR SHALL PROVIDE THE DISTRICT WITH A DETAILED SCHEDULE FOR ANY SERVICES INTERRUPTION AND SHALL NOTIFY THE OWNERS REPRESENTATIVE AT LEAST 48 HOURS PRIOR TO COMMENCING A SHUTDOWN. THE SHUTDOWN PERIOD SHALL NOT EXCEED 24HOURS.

EARTHWORK NOTE

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO INCLUDE ALL MATERIAL AND LABOR REQUIRED WITHIN THE BID PRICE, FOR EARTHWORK CONSTRUCTION, TO CARRY OUT THE CUT/FILL AND/OR IMPORT/EXPORT AS NECESSARY TO MEET THE DESIGN GRADES SHOWN ON THE PLANS. CONTRACTOR IS TO DELIVER TO OWNER THE PROJECT IN A COMPLETE AND OPERATIONAL MANNER. EARTHWORK QUANTITIES SHOWN ON THE PLANS OR REPRESENTED BY THE ENGINEER ARE APPROXIMATE AND ARE FOR GRADING PERMIT APPROVAL ONLY. THE CONTRACTOR IS RESPONSIBLE FOR ANY INVESTIGATION OR STUDIES THAT ARE REQUIRED BY THE CONTRACTOR TO SATISFY THIS REQUIREMENT. NO ADDITIONAL COMPENSATION SHALL BE PAID FOR SAID CUT/FILL AND/OR IMPORT/EXPORT.

DISCREPANCIES

IF THERE ARE ANY DISCREPANCIES BETWEEN DIMENSIONS IN DRAWINGS AND EXISTING CONDITIONS WHICH WILL AFFECT THE WORK, THE CONTRACTOR SHALL BRING SUCH DISCREPANCIES TO THE ATTENTION OF THE ENGINEER FOR ADJUSTMENT BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROPER FITTING OF ALL WORK AND FOR THE COORDINATION OF ALL TRADES, SUBCONTRACTORS, AND PERSONS ENGAGED UPON THIS CONTRACT.

UTILITY/POTHOLE NOTE

THE TYPES, LOCATIONS, SIZES AND /OR DEPTHS OF EXISTING UNDERGROUND UTILITIES AS SHOWN ARE APPROXIMATE AND WERE OBTAINED FROM SOURCES OF VARYING RELIABILITY. ONLY ACTUAL EXCAVATION WILL REVEAL THE TYPES, EXTENT, SIZES, LOCATIONS AND DEPTHS OF SUCH UNDERGROUND UTILITIES. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE ALL KNOWN UNDERGROUND UTILITIES. HOWEVER, THE ENGINEER CAN ASSUME NO RESPONSIBILITY FOR THE COMPLETENESS OR ACCURACY OF ITS DELINEATION OF SUCH UNDERGROUND UTILITIES WHICH MAY BE ENCOUNTERED, BUT WHICH ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND FACILITIES AND UTILITIES BY POTHOLING PRIOR TO COMMENCING CONSTRUCTION.

SURVEY NOTES

1. ALL DISTANCES AND DIMENSIONS ARE SHOWN IN FEET AND DECIMALS THEREOF.
2. DATE OF FIELD SURVEY: 08/26/20
3. COORDINATES, BEARINGS, AND DISTANCES SHOWN ARE BASED ON AN ASSUMED COORDINATE SYSTEM. SEE SURVEY CONTROL TABLE BELOW FOR PROJECT COORDINATES. THE VERTICAL DATUM FOR THE SURVEY IS BASED ON LAS POSITAS COLLEGE BENCHMARK NO. 22 – 3/4" IRON PIPE WITH PLUG ON THE SOUTH SIDE OF THE LOOP ROAD, APPROX. 1100' FROM THE WEST ENTRY TO THE CAMPUS FROM COLLIER CANYON ROAD.

   ELEVATION = 466.71

SURVEY CONTROL TABLE

Point #	Elevation	Northing	Easting	Description
1	544.08	13183.80	13290.31	CUT X
3	540.66	13065.26	12784.71	CNTL
35	530.04	12503.70	12911.45	CUT X
37	537.93	12217.93	13008.92	60D FEATHER
38	515.89	11929.30	12605.77	CUT X

CATHODIC PROTECTION NOTE

THE EXISTING SOILS ON-SITE ARE KNOWN TO BE BE CORROSIVE TO BURIED METALLIC ELEMENTS. AN ANALYSIS OF AN EXISTING SOIL SAMPLE PROVIDES THE FOLLOWING CORROSION DATA:

SOIL CHARACTERISTICS	TEST RESULTS/CONDITION
CHLORIDE	190 PPM
PH	7.7
RESISTIVITY	800 OHM-CM
SULFIDE	140 PPM
MOISTURE	FAIR DRAINAGE

THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO INCLUDE ALL COMPONENTS OF THE CATHODIC PROTECTION SYSTEM, INCLUDING TEST STATION LOCATIONS, NUMBER, SIZE, AND TYPE OF ANODES, DIELECTRIC ISOLATING JOINTS, CABLES, COATING REPAIR, JOINT BONDS AND ANY OTHER WORK NECESSARY TO COMPLETE THE INSTALLATION FOR ALL UNDERGROUND METALLIC PIPE, FITTINGS, VALVES, AND APPURTENANCES. THE ANODES SHALL BE DESIGNED FOR A MINIMUM 20-YR DESIGN LIFE. LOCATE TEST STATIONS IN LANDSCAPE AREAS.

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

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SILICON VALLEY TRI-VALLEY
CENTRAL VALLEY EAST BAY/SF

DATE 03/01/2021

REGISTERED PROFESSIONAL ENGINEER MICHAEL A. KUYKENDALL No. 70870 Exp. 6/30/21 CIVIL STATE OF CALIFORNIA

MICHAEL A. KUYKENDALL
R.C.E. NO. 70870, EXPIRES 6-30-21

LAS POSITAS COLLEGE DOMESTIC WATER BOOSTER PUMP PROJECT

LIVERMORE CALIFORNIA

No.	REVISION	DATE	BY

DATE: 03/01/2020
SCALE:
DRAWN BY:
APPROVED BY:
DRAWING NO.:

CIVIL NOTES, LEGEND, AND ABBREVIATIONS

SHEET
C0.01

SCALE: 1"=10'

CB, TC@CB=448.00
24" INV. IN=443.95 (E)
24" INV. OUT=443.90 (W)

SDMH, RIM=445.14
24" INV. IN=444.04 (E)
24" INV. OUT=444.09 (W)

CB, TC@CB=447.79
36" INV. IN=442.59 (N)
24" INV. IN=442.04 (E)
36" INV. OUT=440.84 (S)

DI, RIM=448.08
18" INV. IN=444.38 (N)
24" INV. IN=444.23 (E)
24" INV. OUT=444.13 (W)

SDMH, RIM=447.26
36" INV. IN=441.86 (N)
36" INV. OUT=441.81 (W)

DI, RIM=450.76
24" INV. IN=446.46 (E)
24" INV. OUT=446.26 (W)

CB, TC@CB=443.65
8" INV. IN=439.90 (S)
36" INV. THRU=XXX.XX (E-S)

CB, TC@CB=443.10
12" VERT. PIPE
36" INV. THRU=432.40 (N-S)

SSMH, RIM=442.08
10" INV. IN=437.28 (E)
10" INV. OUT=437.08 (S)

VERTICAL 24" HDPE FILLED WITH DIRT

SDMH, RIM=443.39
18" INV. PLUGGED (W)
36" INV. IN=432.99 (NE)
36" INV. OUT=432.94 (S)

DI, RIM=438.67
36" INV. THRU=432.77

CB, TC@CB=451.11
36" INV. IN=437.71 (W)
36" INV. OUT=437.81 (E)

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SILICON VALLEY | TRI-VALLEY
CENTRAL VALLEY | EAST BAY/SF

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MICHAEL A. KUYKENDALL
R.C.E. NO. 70870, EXPIRES 6-30-21

LAS POSITAS COLLEGE
DOMESTIC WATER BOOSTER PUMP PROJECT
LIVERMORE CALIFORNIA

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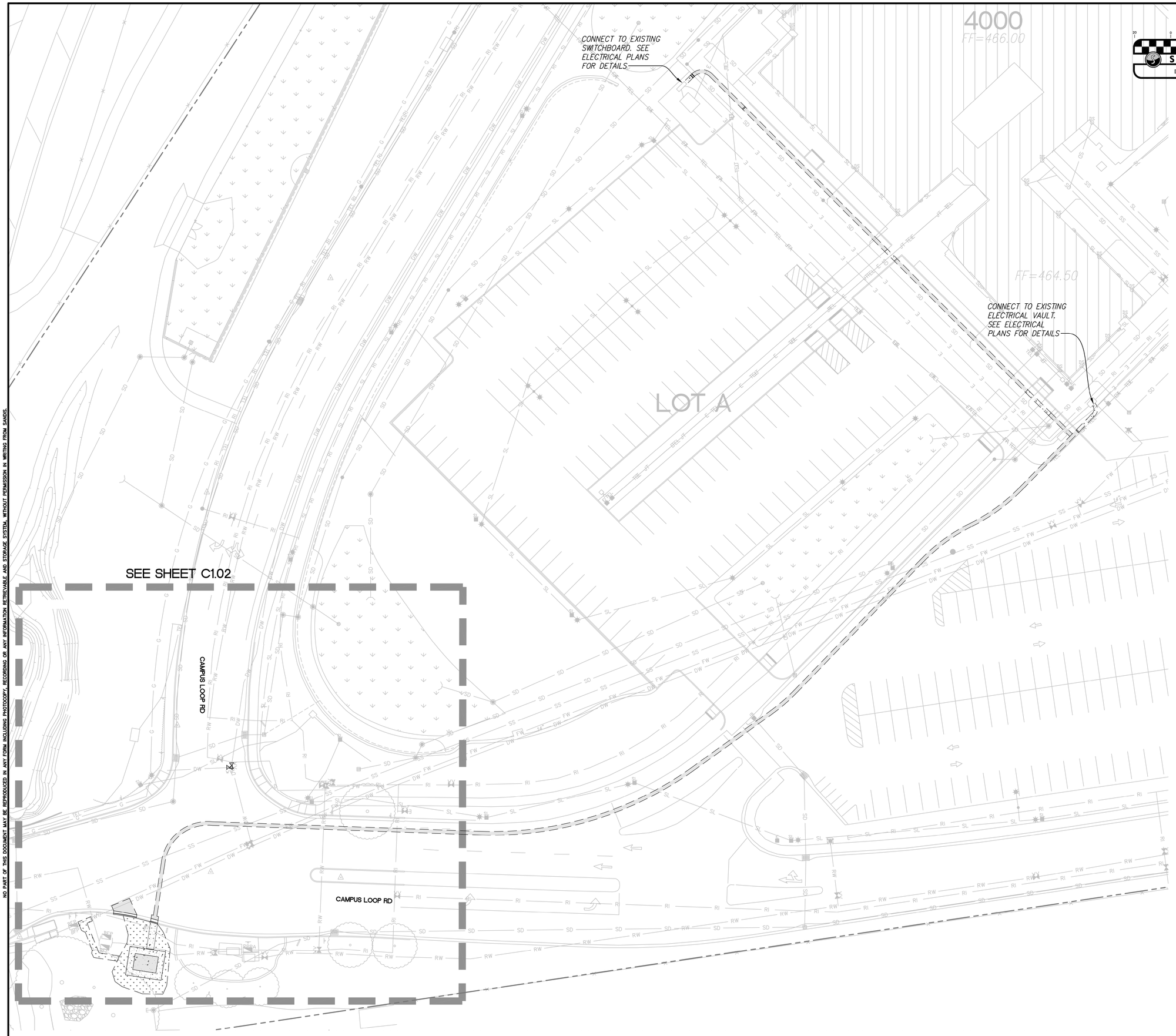
SCALE:
DRAWN BY:
APPROVED BY:
DRAWING NO.:

TOPOGRAPHIC SURVEY (FOR REFERENCE ONLY)

SHEET

C0.10



SANDIS
EAST BAY/SF
SCALE: 1"=20'

LEGEND

- PROPERTY LINE
- SAWCUT LINE
- DIRECTION OF STEEP SLOPE
- FLOW LINE
- GRADE BREAK
- 194 / 195 CONTOURS
- FENCE LINE
- CONCRETE HOUSEKEEPING PAD (08 C3.01)
- CONCRETE PAVEMENT (07 C3.01)
- REINSTATED LANDSCAPING (SEE SHEET NOTE 2. BELOW)
- ASPHALT PAVEMENT (09 C3.01)

CONSTRUCTION NOTES

1. THIS SHEET SHOWS THE EXTENT OF TRENCHING REQUIRED FOR OPEN TRENCHING OF ELECTRICAL LINES.
2. ALL TRENCHES SHALL BE BACK FILLED PER THE SPECIFICATIONS WITH APPROPRIATE TESTS BY THE GEOTECHNICAL ENGINEER TO VERIFY COMPACTION VALUES. LANDSCAPED AREAS WHICH ARE DISTURBED DURING CONSTRUCTION WORKS MUST BE RESTORED TO THEIR EXISTING FINISHED SURFACE CONDITION UNLESS OTHERWISE DEPICTED.
3. CONTRACTOR SHALL COORDINATE ALL CONSTRUCTION WORKS WITH OWNERS REPRESENTATIVE, IN PARTICULAR WORKS WHICH MAY IMPACT ACCESS INTO PARKING LOT A AND IMPACTS ENTRY/EXIT INTO BUILDING 4000. CONTRACTOR MUST SUBMIT A TRAFFIC MANAGEMENT PLAN TO DISTRICT DETAILING HOW THEY PLAN TO MINIMIZE DISTURBANCE AND CONTROL RISKS TO PEDESTRIANS AND VEHICLES

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SITE PLAN

SHEET
C1.01

SCALE: 1"=10'

LEGEND

- PROPERTY LINE
- SAWCUT LINE
- DIRECTION OF STEEP SLOPE
- FLOW LINE
- GRADE BREAK
- 194 / 195 CONTOURS
- FENCE LINE
- CONCRETE HOUSEKEEPING PAD (08 C3.01)
- CONCRETE PAVEMENT (07 C3.01)
- REINSTATED LANDSCAPING (SEE SHEET C1.01, NOTE 2)
- ASPHALT PAVEMENT (09 C3.01)

COLLIER CANYON ROAD

CAMPUS LOOP RD

CAMPUS LOOP RD

C 446.82
MATCH EX. TC

C 447.02
MATCH EX. TC

MAINTENANCE ACCESS PATH (7 C3.01)

PROTECT EXISTING SIGN TO REMAIN

MATCH EX. FG 445.50

C 445.88
FG 445.71

C 445.93
FG 445.76

C 445.95
FG 445.78

PROTECT EXISTING SIGN TO REMAIN

EXISTING DOMESTIC WATER BACKFLOW DEVICE

EXISTING RECYCLED WATER BACKFLOW DEVICE

LEVEL OF PAD=446.00

C 446.00
FG 445.63

MATCH EX. FG 445.40

EXISTING RECYCLED WATER METER

C 445.59
FG 445.42

13'x9' BOOSTER PUMP HOUSE KEEPING PAD (8 C3.01)

C 445.71
FG 445.54

MATCH EX. FG 442.00

MATCH EX. FG 442.50

EXISTING CONCRETE MOWING STRIP

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SILICON VALLEY | TRI-VALLEY
CENTRAL VALLEY | EAST BAY/SF

DATE 03/01/2021

REGISTERED PROFESSIONAL ENGINEER
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No. 70870
Exp. 6/30/21
CIVIL
STATE OF CALIFORNIA

MICHAEL A. KUYKENDALL
R.C.E. NO. 70870, EXPIRES 6-30-21

LAS POSITAS COLLEGE
DOMESTIC WATER BOOSTER PUMP PROJECT
LIVERMORE CALIFORNIA

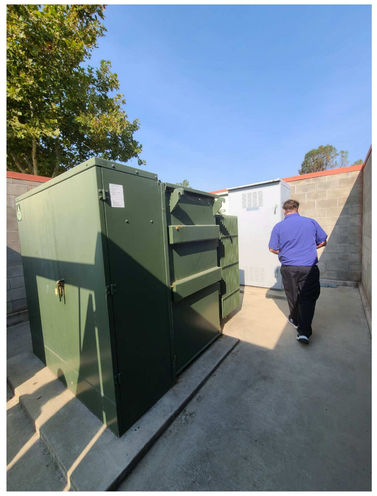
No.	REVISION	DATE	BY

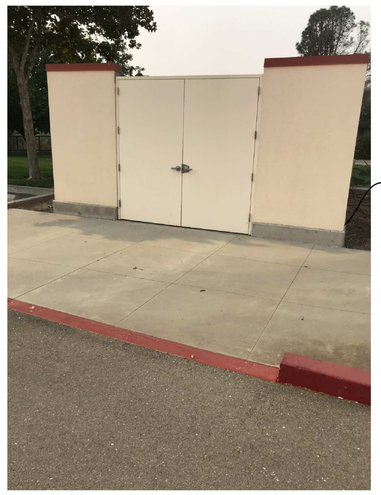
DATE: 03/01/2020
SCALE:
DRAWN BY:
APPROVED BY:
DRAWING NO.:

SITE PLAN

SHEET
C1.02

File: X:\P\618184\(4) ENGINEERING\(2) PLAN SETS\(3) SHEET SET\DW BOOSTER\C1.01.dwg Date: Mar 01, 2021 - 12:02 PM





CONTRACTOR TO TRENCH UNDER EXISTING ENCLOSURE AND INSTALL ELECTRICAL DUCT MIN. 1' DEPTH BELOW BASE OF ENCLOSURE FOOTING

EXISTING TRANSFORMER ENCLOSURE

(PHOTO TAKEN BY SANDIS 10/01/2020)

SANDIS EAST BAY/SF

SCALE: 1"=30'

LOT G

INSTALL 2.5" PRV TO SERVICE BUILDING 4000.

INSTALL 2.5" PRV TO SERVICE BUILDING 600

INSTALL 2.5" PRV TO SERVICE BUILDING 1600.

INSTALL 4" PRV TO SERVICE BUILDING 1000.

INSTALL 2.5" PRV TO SERVICE BUILDINGS 400,500,1300 AND 1310

CONNECT TO EXISTING SWITCHBOARD. SEE ELECTRICAL PLANS FOR DETAILS.

TRENCH UNDER EXISTING ENCLOSURE. REFER IMAGE ABOVE.

PROPOSED ELECTRICAL PULLBOX. SEE ELECTRICAL PLANS FOR DETAILS

CONNECT TO EXISTING ELECTRICAL VAULT. SEE ELECTRICAL PLANS FOR DETAILS

4000 FF=466.00

600 FF=470.79

500 FF=468.78

400 FF=468.37

700 FF=470.85

1310

1300

1000 FF=469.68

FF=464.50

LOT A

LOT B

SEE SHEET C2.02

CAMPUS LOOP RD

CAMPUS LOOP RD

LEGEND

- PRV — PROPOSED PRV ASSEMBLY (06 / C3.01)
- WV — PROPOSED WATER VALVE (05 / C3.01)
- PROPOSED THRUST BLOCK (03&04 / C3.01)

UTILITY NOTES

1. MAINTAIN WATER MAIN LINES 10' AWAY FROM SANITARY SEWER MAIN LINES. LATERALS SHALL BE SEPARATED PER PLAN DIMENSIONS.
2. WHERE WATER LINES HAVE TO CROSS SANITARY SEWER LINES, DO SO AT A 90 DEGREE ANGLE AND WATER LINES SHALL BE MINIMUM OF 12" ABOVE TOP OF SANITARY SEWER LINES.
3. ALL WATER SERVICE CONNECTIONS SHALL BE INSTALLED IN ACCORDANCE WITH THE APPLICABLE WATER DISTRICT STANDARDS.
4. ALL WATER LINES SHALL BE INSTALLED WITH 36" MINIMUM COVER.
5. THRUST RESTRAINTS SHALL BE DESIGNED AND INSTALLED AT ALL TEES, CROSSES, BENDS (HORIZONTAL AND VERTICAL), AND AT SIZE CHANGES
6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE SIZE AND LOCATION OF EACH BUILDING POINT OF CONNECTION, PRIOR TO INSTALLING PRV'S. THE CONTRACTOR MUST NOTIFY THE ENGINEER IF INFORMATION FOUND IN THE FIELD DIFFERS FROM THAT SHOWN ON THIS PLAN.
7. ALL UTILITY INSTALLATION WORKS REQUIRING TEMPORARY SHUTDOWN OF SERVICES TO BUILDINGS IS TO BE COORDINATED WITH OWNERS REPRESENTATIVE.
8. UNLESS OTHERWISE NOTED, ALL CONCRETE SHALL BE CALTRANS CLASS 2 WITH A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI. CONCRETE FOR PROPOSED THRUST BLOCKS SHALL ACHIEVE MINIMUM STRENGTH AS RAPIDLY AS POSSIBLE TO MINIMIZE DISRUPTION TO CAMPUS OPERATIONS.
9. THE CONTRACTOR SHALL PROVIDE THE DISTRICT WITH A DETAILED SCHEDULE FOR ANY SERVICES INTERRUPTION AND SHALL NOTIFY THE OWNERS REPRESENTATIVE AT LEAST 48 HOURS PRIOR TO COMMENCING A SHUTDOWN. THE SHUTDOWN PERIOD SHALL NOT EXCEED 24HOURS.

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UTILITY PLAN

SHEET
C2.01

ADD ALTERNATES

1 AS AN ADD ALTERNATE THE CONTRACTOR SHALL INSTALL A 10.5' W x 8' L x 6.25' H AQUASHIELD ENCLOSURE (OR APPROVED EQUIVALENT PRODUCT) AROUND THE BOOSTER PUMP STATION. THE ENCLOSURE SHALL HAVE A MILL GRADE MARINE ALUMINUM OR STAINLESS STEEL FINISH. THE ENCLOSURE MUST ALSO BE FITTED WITH A REMOVABLE TOP AND ACCESS DOORS ON FRONT, SIDE AND REAR. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF THE ENCLOSURE FOR THE DISTRICTS REVIEW IN COORDINATION WITH SHOP DRAWINGS OF THE PUMP SKID.

LEGEND

- PRV — PROPOSED PRV ASSEMBLY (06 / C3.01)
- WV — PROPOSED WATER VALVE (05 / C3.01)
- PROPOSED THRUST BLOCK (03&04 / C3.01)

SCALE: 1"=10'

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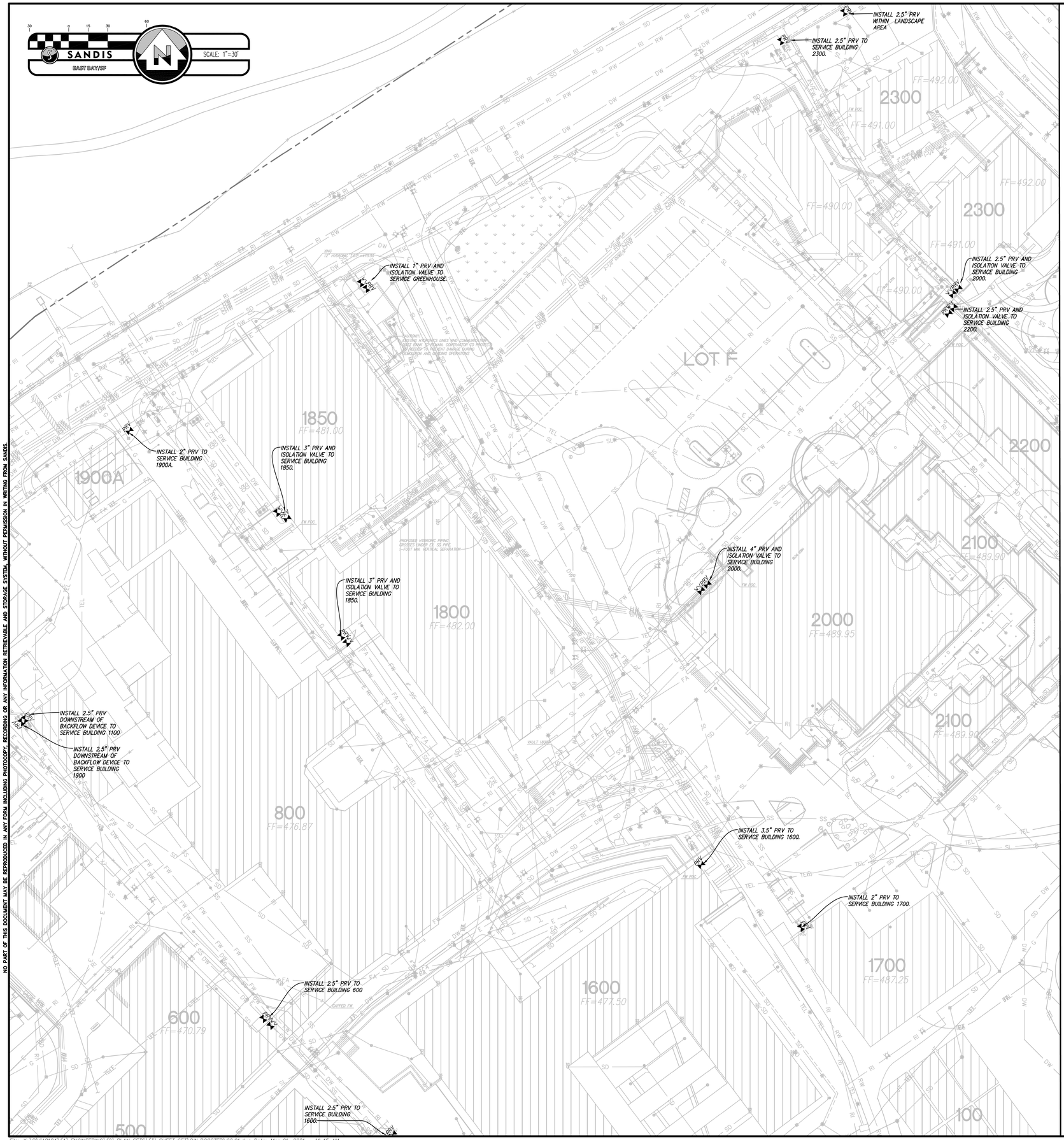

LEGEND

- PRV — PROPOSED PRV ASSEMBLY (06 / C3.01)
- WV — PROPOSED WATER VALVE (05 / C3.01)
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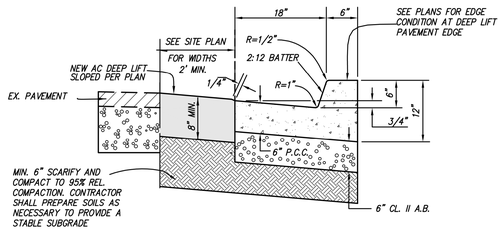
UTILITY PLAN

SHEET
C2.03



NOTE:
PER CBC CHAPTER 11B THE SLOPE OF THE GUTTER PAN SHALL NOT EXCEED 5% AT ACCESSIBLE RAMPS.

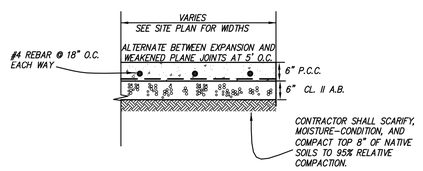
CURB REINSTATEMENT DETAIL 1
N.T.S.

THRUST CALCULATION TABLE						
TYPE OF FITTING		90° BEND & BURIES	45° BEND	22 1/2° BEND	11 1/4° BEND	TEE OR DEAD END
TYPICAL PLAN VIEW						
THRUST FORCE T, IN POUNDS						
Pipe Size	4"	5120	2770	1415	710	3620
	6"	10580	5725	2920	1470	7480
	8"	18200	9850	5020	2525	12865
	10"	27370	14815	7555	3795	19355
	12"	38710	20950	10680	5370	27370

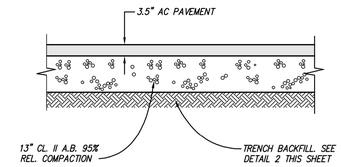
THRUST CALCULATION NOTES

1. CALCULATIONS BASED ON NFPA 24, TABLE 10.6.1(a), 2016 EDITION
2. THRUST CALCULATED FOR 200 PSI STATIC PRESSURE

THRUST CALCULATIONS 3
N.T.S.

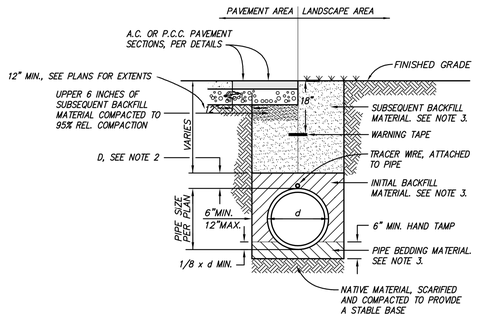


MAINTENANCE ACCESS PATH 7
N.T.S.



NOTE:
SURFACE RESTORATION SHOULD BE PER THIS DETAIL OR MATCH EXISTING CONDITION, WHICHEVER IS GREATER

ASPHALT PAVEMENT SECTION 9
N.T.S.



NOTE:
1. PLACE CUT OFF PLUG OF IMPERMEABLE MATERIAL WHERE ALL TRENCHES ENTER A PAVEMENT AREA.
2. D=6" MIN. FOR PIPE SIZES ≤ 12 INCHES
   D=12" MIN. FOR PIPE SIZES > 12 INCHES
3. COMPACT BACKFILL AND BEDDING MATERIALS TO THE FOLLOWING PERCENT RELATIVE COMPACTION:
4. ALL TRENCHES SHOULD BE RESTORED TO THE EXISTING FINISH CONDITION UNLESS OTHERWISE DEPICTED

COMPACTION REQUIREMENTS					
	TRENCH SAND	TRENCH GRAVEL	APPROVED NATIVE	IMPORTED FILL	CLASS II AGGREGATE BASE
SUBSEQUENT BACKFILL MATERIAL (UNDER PAVEMENT)	N/A	N/A	95%	95%	95%
SUBSEQUENT BACKFILL MATERIAL (IN LANDSCAPE)	N/A	N/A	90%	90%	85%
INITIAL BACKFILL MATERIAL	90%	90%	N/A	N/A	N/A
BEDDING MATERIAL	95%	95%	N/A	N/A	N/A

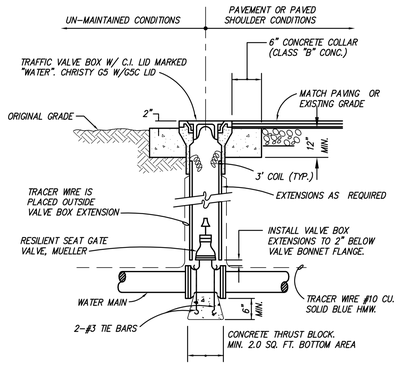
TRENCH DETAIL 2
N.T.S.

THRUST BLOCK TABLE						
TYPE OF FITTING		90° BEND & BURIES	45° BEND	22 1/2° BEND	11 1/4° BEND	TEE OR DEAD END
TYPICAL PLAN VIEW						
REQUIRED BEARING TOTAL AREA IN SQUARE FEET						
Pipe Size	4"	2.6	1.4	0.8	0.4	1.9
	6"	5.3	2.9	1.5	0.8	3.8
	8"	9.1	5.0	2.6	1.3	6.5
	10"	13.7	7.5	3.8	1.9	9.7
	12"	19.4	10.5	5.4	2.7	13.7

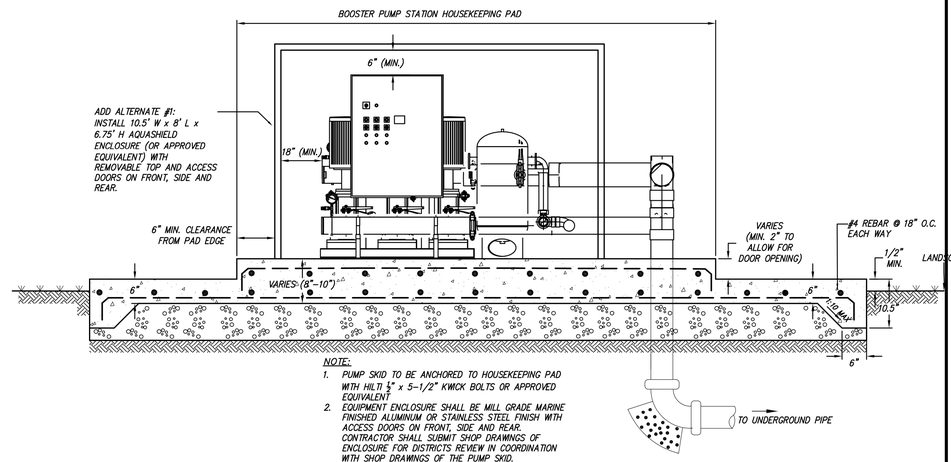
THRUST BLOCK NOTES

1. Thrust blocks to be constructed of 2500 Class 3 Caltrans concrete.
2. Blocks to be poured against undisturbed soil.
3. Joints to be kept free of concrete. Allow working room.
4. Abrupt changes in vertical alignment shall be anchored per gravity block detail.
5. Areas given are for PVC C900 class 200 pipe at a static test pressure of 200 psi in soil with 2,000 psf bearing capacity. Subject to field conditions.
6. Tapping sleeves shall have thrust blocks sized the same as tees.

THRUST BLOCK DETAIL 4
N.T.S.

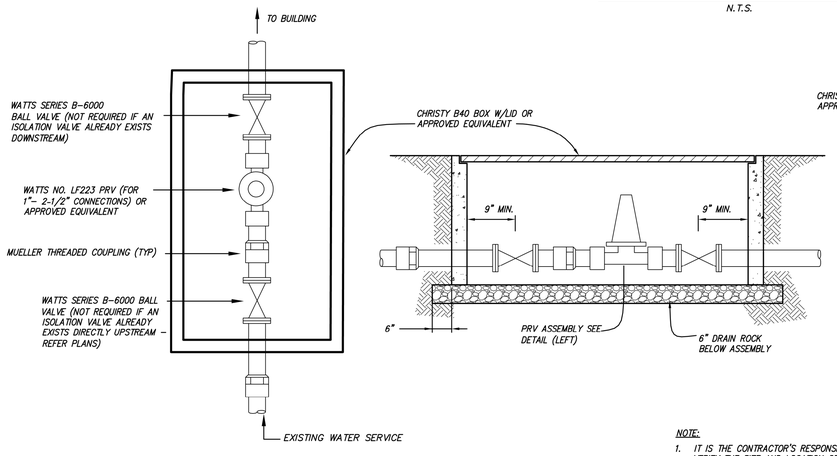


GATE VALVE DETAIL 5
N.T.S.



NOTE:
1. PUMP SKID TO BE ANCHORED TO HOUSEKEEPING PAD WITH HILTI 1" x 5-1/2" KWICK BOLTS OR APPROVED EQUIVALENT
2. EQUIPMENT ENCLOSURE SHALL BE MILL GRADE MARINE FINISHED ALUMINUM OR STAINLESS STEEL FINISH WITH ACCESS DOORS ON FRONT, SIDE AND REAR. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS OF ENCLOSURE FOR DISTRICTS REVIEW IN COORDINATION WITH SHOP DRAWINGS OF THE PUMP SKID.

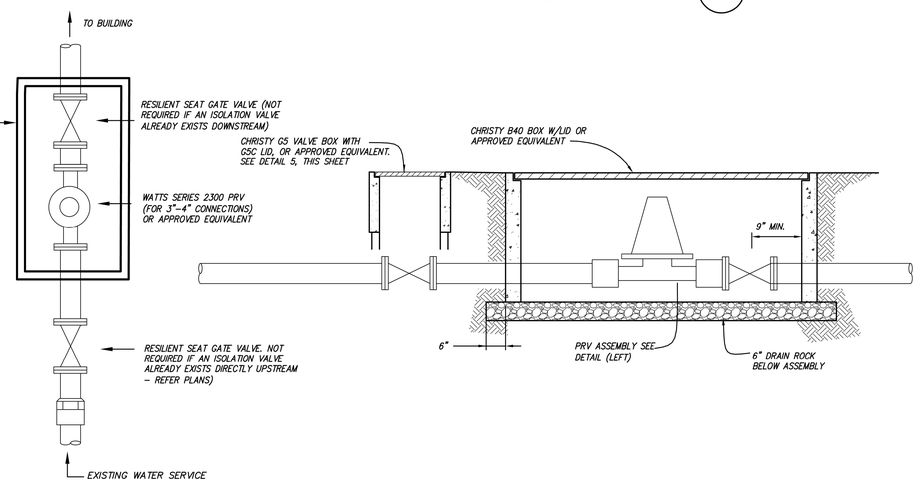
CONCRETE PAD SECTION (TYP.) 8
N.T.S.



1" - 2-1/2" CONNECTIONS

NOTE:
1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE SIZE AND LOCATION OF EACH BUILDING POINT OF CONNECTION, PRIOR TO INSTALLING PRV'S

NEW PRV ASSEMBLY 6



3" - 4" PRV CONNECTIONS

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LIVERMORE CALIFORNIA

No.	REVISION	DATE	BY

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APPROVED BY:
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CIVIL CONSTRUCTION DETAILS

SHEET
C3.01

PLUMBING SYMBOL SCHEDULE

SYMBOL LEGEND

———————	EXISTING PIPE
– – – – – – – –	EXISTING PIPE, FIXTURE OR EQUIPMENT TO BE REMOVED
——— – ——— – ———	COLD WATER PIPING

GENERAL NOTES

1. ENTIRE INSTALLATION SHALL CONFORM TO THE REQUIREMENTS OF THE PLUMBING CODE, BUILDING CODE, NATIONAL FIRE PROTECTION CODE, AND ALL OTHER APPLICABLE CODES AND REGULATIONS AS CURRENTLY ADOPTED BY AUTHORITY HAVING JURISDICTION.
2. COORDINATE PLUMBING SYSTEMS WITH WORK OF OTHER TRADES PRIOR TO ANY FABRICATION OR INSTALLATION. PROVIDE ALL FITTINGS, OFFSETS AND TRANSITIONS AS REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.
3. PLATFORMS, CURBS AND FLASHINGS FOR PLUMBING EQUIPMENT SHALL BE AS INDICATED ON THE CIVIL PLANS, UNLESS NOTED OTHERWISE. COORDINATE EXACT SIZES OF REQUIRED OPENINGS AND SUPPORTS FOR FURNISHED EQUIPMENT.
4. ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS AND APPLICABLE CODES. PROVIDE ALL FITTINGS, TRANSITIONS, VALVES AND OTHER DEVICES REQUIRED FOR A COMPLETE WORKABLE INSTALLATION.
5. MAINTENANCE LABEL SHALL BE AFFIXED TO ALL PLUMBING EQUIPMENT AND A MAINTENANCE MANUAL SHALL BE PROVIDED TO OWNER'S REP.
6. PIPES SHALL BE SUPPORTED AND BRACED PER SMACNA "GUIDELINES FOR SEISMIC RESTRAINTS OF MECHANICAL SYSTEMS AND PLUMBING PIPING SYSTEMS."
7. HOUSEKEEPING PADS SHALL BE 6 INCHES HIGH WITH A MINIMUM OF 6 INCHES BEYOND EQUIPMENT (INTERIOR ONLY).

GENERAL SEISMIC BRACING NOTES

1. SUPPORTS AND ATTACHMENTS OF ALL EQUIPMENT TO BE INSTALLED AS A PART OF THE PROJECT SHALL BE DETAILED ON CONSTRUCTION DOCUMENTS PER CBC 2019.
2. ONCE THE EXACT LOCATIONS OF ALL PIPES, DUCTS AND CONDUITS HAVE BEEN ESTABLISHED, THE STRUCTURAL ENGINEER OF RECORD MUST VERIFY THE ADEQUACY OF THE SUPPORTING STRUCTURE FOR LOADS IMPOSED BY THE ANCHORAGE AND BRACING SYSTEM. TO ENSURE THAT THE ORIGINAL DESIGN IS ADEQUATE, THE SEOR SHALL DESIGN ANY SUPPLEMENTARY FRAMING FOR THE INSTALLATION OF THE PRE-APPROVED SYSTEM AS NEEDED TO RESIST THE LOADS, AND/OR MAINTAIN STABILITY AS PART OF A CHANGE ORDER.
3. A COPY OF THE PRE-APPROVED BRACING SYSTEMS INSTALLATION MANUAL SHALL BE ON THE JOBSITE PRIOR TO STARTING THE INSTALLATION OF HANGERS AND/OR BRACES. SUBMIT APPLICABLE DETAILS FOR REVIEW AND APPROVAL.
4. ALL ANCHORAGE, SUPPORT AND SEISMIC RESTRAINT WORK TO BE IN ACCORDANCE WITH THE APPROVED LOCAL REQUIRMENTS.

SYMBOL LEGEND

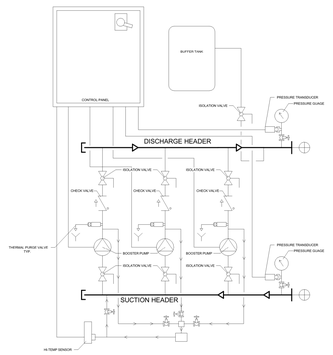
	SHUT OFF VALVE, SEE SPECIFICATIONS FOR VALVE TYPE
	BUTTERFLY VALVE
	GLOBE VALVE
	BALL VALVE
	CHECK VALVE
	ANGLE VALVE
	TEMPERATURE AND PRESSURE RELIEF VALVE
	BALANCING VALVE
	GAS COCK VALVE
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
	PRESSURE REGULATING VALVE
	PRESSURE REDUCING VALVE ASSEMBLY
	SOLENOID VALVE
	OS & Y VALVE
	STRAINER
	STRAINER WITH HOSE BIBB
	HOSE BIBB
	SHOCK ABSORBER (WATER HAMMER ARRESTOR)
FS	FLOW SWITCH
TS	TAMPER SWITCH
M	METER
	PRESSURE GAUGE
	THERMOMETER
	FLEXIBLE CONNECTION
	UNION
	REDUCER
	DIRECTION FLOW
	PIPE UP
	PIPE DOWN
	VALVE IN VERTICAL
	PIPE CONNECTION, TOP
	PIPE CONNECTION, BOTTOM
	CAPPED PIPE
	PIPE SLEEVE
	POINT OF CONNECTION
1	SHEET NOTE DESIGNATION
EQPT 1	EQUIPMENT DESIGNATION EQUIPMENT NUMBER
1 X.X	DETAIL REFERENCE BUBBLE DETAIL NUMBER SHEET BEARING DETAIL

ABBREVIATIONS

AAP	AREA ALARM PANEL (MED. GAS)	LA	LAB AIR
AD	AREA DRAIN	LAV	LAVATORY
AFF	ABOVE FINISHED FLOOR	LB	POUND
AP	ACCESS PANEL	LV	LAB VENT
ARCH	ARCHITECTURAL	LVAC	LAB VACUUM
AS	AUTOMATIC FIRE SPRINKLER	LW	LAB WASTE
AV	ACID VENT	MA	MEDICAL AIR
AW	ACID WASTE	MAI	MEDICAL AIR INTAKE
BFF	BELOW FINISHED FLOOR	MAP	MASTER ALARM PANEL (MED. GAS)
BFG	BELOW FINISHED GRADE	MAX	MAXIMUM
BHP	BRAKE HORSEPOWER	MBH	THOUSAND BTU PER HOUR
BV	BALANCING VALVE	MG	NATURAL GAS - MEDIUM PRESSURE
CA	COMPRESSED AIR	MIN	MINIMUM
CD	CONDENSATE DRAIN	MV	MEDICAL VACUUM
CFF	CAPPED FOR FUTURE CONNECTION	MVE	MEDICAL VACUUM EXHAUST
CFM	CUBIC FEET PER MINUTE	N2	NITROGEN
CHV	CHECK VALVE	N2O	NITROUS OXIDE
COND	CONDENSATE	(N)	NEW
CONN	CONNECTION	NC	NORMALLY CLOSED
CONT	CONTINUATION	NO	NORMALLY OPEN
CSS	CLINICAL SERVICE SINK	NO.	NUMBER
CSP	COMBINATION STANDPIPE	OFD	OVERFLOW DRAIN
CTE	CONNECT TO EXISTING	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
CU. FT.	CUBIC FEET	OS&Y GV	OUTSIDE STEM AND YOKE GATE VALVE
CU. IN.	CUBIC INCHES	PAS	PRE-ACTION AUTOMATIC SPRINKLER
CW	COLD WATER	PD	PUMPED DISCHARGE
DF	DRINKING FOUNTAIN	PG	PRESSURE GAUGE
DFU	DRAINAGE FIXTURE UNITS	POC	POINT OF CONNECTION
DIA	DIAMETER	PRV	PRESSURE REDUCING VALVE ASSEMBLY
DI	DEIONIZED WATER	PSI	POUNDS PER SQUARE INCH
DW	DISHWASHER	PWR	PURE WATER RETURN
(E)	EXISTING	PWS	PURE WATER SUPPLY
EEW	EMERGENCY EYE WASH	R	RELOCATE OR RELOCATED
EL	ELEVATION	RD	ROOF DRAIN
ESH	EMERGENCY SHOWER	ROS	REVERSE OSMOSIS WATER SUPPLY
ETV	EEWIESH TEMPERING VALVE	ROR	REVERSE OSMOSIS WATER RETURN
EWC	ELECTRIC WATER COOLER	RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
F	FIRE MAIN	RPM	REVOLUTIONS PER MINUTE
FCO	FLOOR CLEANOUT	S	SOIL OR WASTE
FCV	FLOW CONTROL VALVE	SD	STORM DRAINAGE
FD	FLOOR DRAIN	SOV	SHUT-OFF VALVE IN RISER
FHC	FIRE HOSE CABINET	SK	SINK
FHV	FIRE HOSE VALVE	SPD	SPRINKLER DRAIN
FIN.FLR.	FINISHED FLOOR	□	SQUARE FEET
FOT	FUEL OIL TANK	SQ. FT.	SQUARE FEET
FPT	FIRE PUMP TEST	SS	SANITARY SEWER
FS	FLOOR SINK	SSC	SURGEON'S SCRUB SINK
FT	FEET	SW	SOFTENED WATER
G	NATURAL GAS	TDL	TOTAL DEVELOPED LENGTH OF PIPE
GAL	GALLON	TP	TRAP PRIMER
GCO	GRADE CLEANOUT	TS	TAMPER SWITCH
GPM	GALLONS PER MINUTE	TW	TEMPERED WATER
GV	GATE VALVE	TYP	TYPICAL
GW	GREASE WASTE	UON	UNLESS OTHERWISE NOTED
GWS	GRAY WATER SYSTEM	UR	URINAL
HB	HOSE BIBB	V	VENT
HP	HORSEPOWER	VTR	VENT THROUGH ROOF
HW	HOT WATER	W	WASTE
HWR	HOT WATER RETURN	WAGD	WASTE ANESTHETIC GAS DISPOSAL
HZ	HERTZ	WC	WATER CLOSET
IA	INSTRUMENT AIR	WCO	WALL CLEANOUT
ICW	INDUSTRIAL/ NON-POTABLE COLD WATER	WH	WATER HEATER
IEWH	INSTANTANEOUS ELECTRIC WATER HEATER	WHA	WATER HAMMER ARRESTER
IHW	INDUSTRIAL/ NON-POTABLE HOT WATER	WHB	WALL HYDRANT BOX
IHWR	INDUSTRIAL/ NON-POTABLE HOT WATER RETURN	WSFU	WATER SUPPLY FIXTURE UNITS
IN	INCHES	WSP	WET STANDPIPE
I.E.	INVERT ELEVATION	ZVB	ZONE VALVE BOX - MEDICAL GAS
IW	INDIRECT WASTE		
KW	KILOWATT		

PLUMBING DRAWING INDEX

SYSTEM-FLOW DIAGRAM BASED ON PUMP-SKID MANUFACTURER DIAGRAM



1 P0.00 SYSTEM FLOW DIAGRAM
NOT TO SCALE

SYSTEM-FLOW DIAGRAM BASED ON PUMP-SKID MANUFACTURER DIAGRAM

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Project Number: 200-098

LAS POSITAS COLLEGE
DOMESTIC WATER BOOSTER PUMP PROJECT
LIVERMORE CALIFORNIA

No.	REVISION	DATE	BY

DATE :	11/04/2020
SCALE :	AS INDICATED
DRAWN BY:	JM
APPROVED BY:	MM
DRAWING NO. :	

PLUMBING COVER SHEET

SHEET
P0.00

1 P1.00 1" = 80'-0"

PLUMBING OVERALL SITE PLAN

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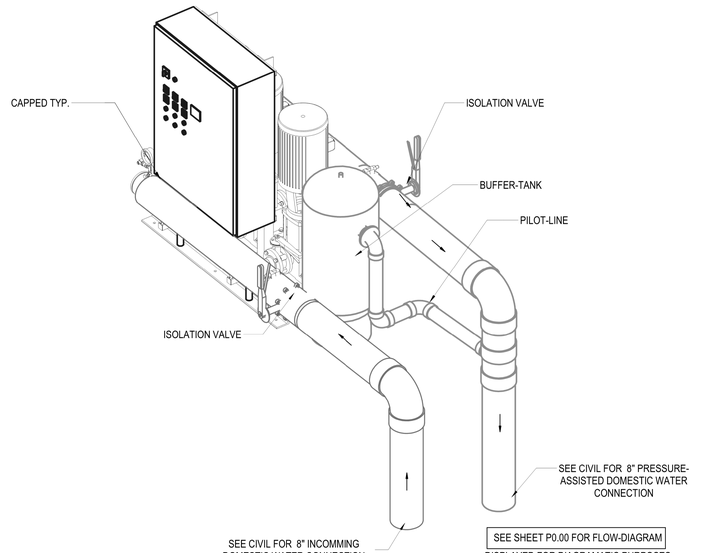
OVERALL SITE PLAN

SHEET
P1.00

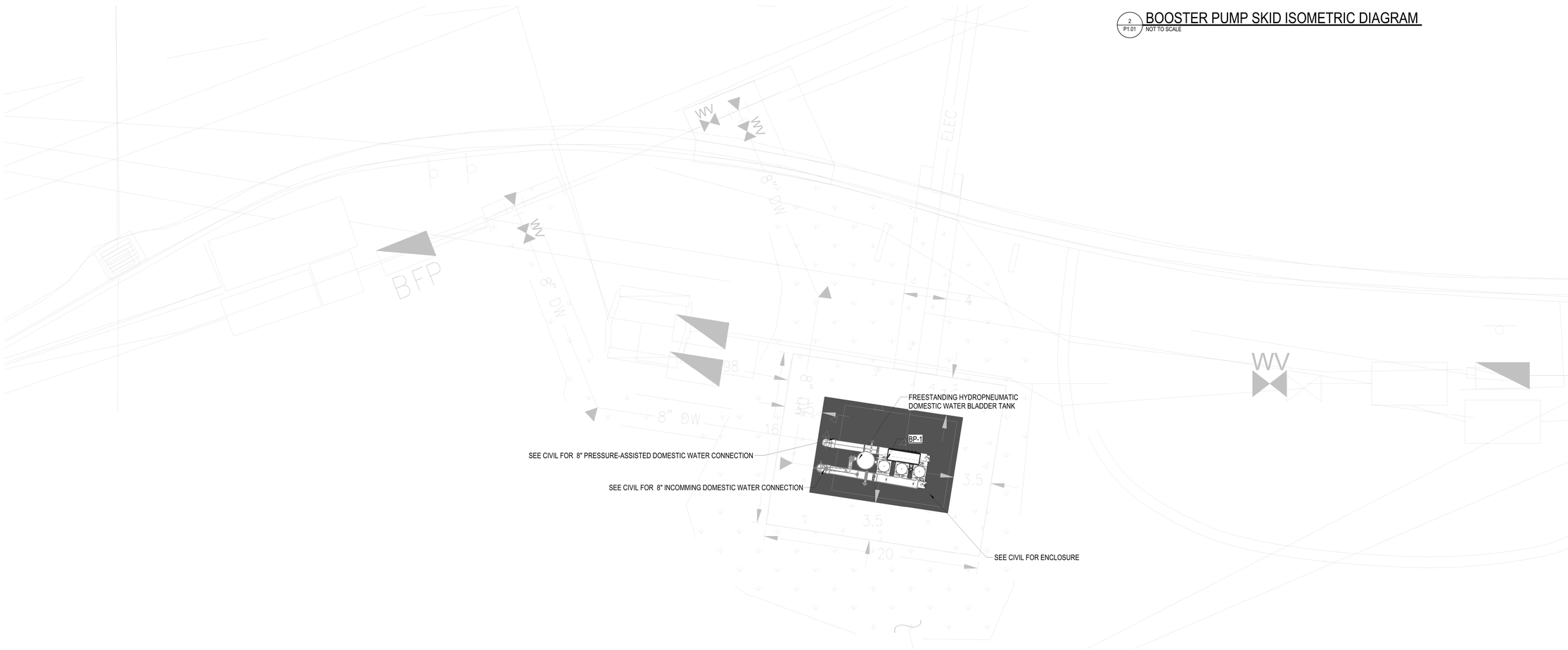
DOMESTIC WATER BOOSTER PUMP SCHEDULE

CODE	DESCRIPTION	SERVICE	MFG	DESIGN	MODEL	SYSTEM PERFORMANCE				PUMP PERFORMANCE								DESIGN BASIS/ NOTES
						SYSTEM CAPACITY (GPM)	SUCTION PRESSURE (PSIG)	DISCHARGE PRESSURE (PSIG)	SYSTEM HEADER DIA./ CONNECTION	PUMP TAG	GPM	PUMP HEAD (TDH)	CHECK VALVE	MOTOR HP	MOTOR ENCL.	MOTOR RPM	MOTOR VOLTAGE	
BP-1	Domestic Water	Outdoors	FlowTherm Systems	Triplex	QFMV3.1-15	600	40	110	8"	P-1	200	162	3"	15	TEFC	3500	460	System designed for outdoor operation Notes: 1, 2, 3, 4, 5, 6, (7)
										P-2	200	162	3"	15	TEFC	3500	460	
										P-3	200	162	3"	15	TEFC	3500	460	

1) 304 stainless steel headers - minimum size and connection type listed
2) Individual check valve per pump - minimum size listed
3) Hydropneumatic Tank w/accessory package provided loose as part of package for remote field piping.
4) System controls and VFDs are provided, mounted, and wired to the system.
5) Motors to be premium efficient rated for VFD application.
6) Refer to specifications for pump construction and system control requirements.
7) Pump-Skid manufacturer to paint tank in same finish as pump-skid.



2 / P1.01 BOOSTER PUMP SKID ISOMETRIC DIAGRAM
NOT TO SCALE



1 / P1.01 PLUMBING ENLARGED SITE PLAN
1/4" = 1'-0"

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PLUMBING ENLARGED SITE PLAN AND DETAILS

SHEET
P1.01

File: X:\P\618184\(4) ENGINEERING\(2) PLAN SETS\(3) SHEET SET\DW BOOSTER\SAMPLE.dwg Date: ----

ELECTRICAL SYMBOL SCHEDULE

DESIGNATION SYMBOLS

Symbol	Description
1	KEY NOTE TAG
A / E1.1	DETAIL REFERENCE BUBBLE DETAIL NUMBER SHEET BEARING DETAIL
EF / 1	EQUIPMENT TAG

CONDUIT SYMBOLS

Symbol	Description
	CONDUIT INSTALLED CONCEALED ABOVE CEILINGS, IN WALLS IN FINISHED AREAS, OR EXPOSED IN UNFINISHED AREAS
—E—E—	SITE UNDERGROUND CONDUIT
	CONDUIT TURNING UP
	CONDUIT TURNING DOWN
	CONDUIT STUBBED OUT WITH BUSHING
	CONDUIT STUBBED OUT AND CAPPED
	FLEXIBLE CONDUIT WITH SINGLE POINT OF CONNECTION AT ELECTRICAL EQUIPMENT
—G—	GROUNDING CONDUCTOR
	CONDUIT HOMERUN; ROUTE TO PANELBOARD, CABINET, OR TERMINAL BOARD INDICATED, AND TERMINATE CONDUCTORS TO CIRCUIT OVER CURRENT PROTECTIVE DEVICE

APPLICABLE CODES

- 2017 NFPA 70, NATIONAL ELECTRICAL CODE (NEC)

ELECTRICAL GENERAL NOTES

A. ALL ELECTRICAL WORK SHALL COMPY WITH THE CURRENT APPROVED EDITION OF THE NATIONAL ELECTRICAL CODE, AS ACCEPTED AND AMENDED BY LOCAL ORDINANCES.

B. WHERE GROUNDED CONDUCTORS OF DIFFERENT SYSTEMS ARE INSTALLED IN THE SAME RACEWAY, CABLE, BOX, AUXILIARY GUTTER, OR OTHER TYPE OF ENCLOSURE, EACH GROUNDED CONDUCTOR SHALL BE IDENTIFIED BY SYSTEM PER NEC ARTICLE 200.6 (D). MEANS OF IDENTIFICATION SHALL BE PERMANENTLY POSTED AT EACH BRANCH CIRCUIT PANELBOARD.

C. PER NEC ART 210.5 (C), UNDERGROUNDED CONDUCTORS OF MORE THAN ONE NOMINAL VOLTAGE SYSTEM SHALL BE IDENTIFIED BY SYSTEM. PROVIDE MEANS OF IDENTIFICATION AS REQUIRED PER THIS ARTICLE.

D. PER NEC ART 215.12, FEEDER IDENTIFICAITON IS REQUIRED WHEN MORE THAN ONE NOMINAL VOLTAGE SYSTEM EXISTS. PROVIDE MEANS OF IDENTIFICATION AS REQUIRED PER THIS ARTICLE.

E. VERIFY FINAL PLACEMENT AND CONNECTION REQUIREMENTS PRIOR TO ROUGHING IN EQUIPMENT UTILITIES.

F. FINAL ACCEPTANCE OF WORK IN PLACE SHALL BE SUBJECT TO APPROVAL BY OWNER'S REPRESENTATIVE. INSTALLATION APPROVAL SHALL BE BASED ON APPROVED SUBMITTAL, SHOP DRAWINGS AND LOCAL INSPECTIONS.

G. SUBMIT RED-LINE RECORD DRAWINGS WITHIN TWO (2) WORK WEEKS OF DATE OF NOTIFICATION OF FINAL APPROVAL.

H. ALL WORK SHOWN ON DRAWINGS IS IN PART SCHEMATIC, INTENDED TO CONVEY SCOPE OF WORK AND GENERAL LAYOUT. VERIFY ALL EXISTING CONDITIONS AND MAKE ADJUSTMENTS AS REQUIRED. ELECTRICAL DRAWINGS ARE LARGELY DIAGRAMMATIC AND, THEREFORE, REPRESENT INSTALLATION INTENT AND GUIDELINES; IT IS THE CONTRACTOR'S RESPONSIBILITY TO COVER ALL CONDITIONS ON THEIR PREPARED SHOP DRAWINGS.

I. PROVIDE UP-TO-DATE, ACCURATE, AND LEGIBLE CIRCUIT DIRECTORY WHICH APPLIES TO PANELBOARDS AND SWITCHBOARDS AS REQUIRED BY NEC ART. 408.4 DIRECTORY SHALL BE LOCATED ON THE FACE OR ON THE DOOR OF EACH PANELBOARD OR AT EACH SWITCH ON A SWITCHBOARD. WITHIN EACH PANELBOARD PRIOR TO FINAL ACCEPTANCE OF WORK IN PLACE.

J. LABEL ALL WIRING DEVICES WITH SOURCE PANELBOARD AND CIRCUIT NUMBER ON COVER PLATE. SEE SPECIFICATIONS.

K. LABEL ALL NEW PANELBOARDS, SWITCHBOARDS AND MOTOR CONTROL CENTERS WITH ENGRAVED LAMINATED-PLASTIC NAMEPLATES MOUNTED WITH CORROSION-RESISTANT SCREWS. SEE SPECIFICATIONS.

L. ALL INTERIOR OUTLET, JUNCTION AND PULL BOXES SHALL BE METALLIC, SIZED PER CODE FOR THE NUMBER OF CONDUCTORS THEREIN.

M. ALL ELECTRICAL RACEWAYS SHALL BE CONCEALED IN THE WALLS AND ABOVE SUSPENDED CEILING UNLESS OTHERWISE NOTED.

N. ALL CONDUCTORS SHALL BE #12 AWG MINIMUM TYPE THHN/THWN UNLESS OTHERWISE NOTED.

O. ALL CEILING MOUNTED ELECTRICAL DEVICES SHALL BE SUPPORTED FROM THE CEILING GRID, NOT FROM CEILING TILE. LIGHTING SHALL BE SUPPORTED FROM STRUCTURE ABOVE.

P. ELECTRICAL PLANS ARE MOSTLY DIAGRAMMATIC. CONTRACTOR SHALL PROVIDE CONNECTIONS BETWEEN FIXTURES AND LIGHTING CONTROL DEVICES SUCH AS OCCUPANCY SENSORS, LIGHT SWITCHES, AND LIGHTING CONTROL PANEL TO PROVIDE AN OPERABLE LIGHTING SYSTEM.

Q. IN THE EVENT OF ANY INCONSISTENCY BETWEEN ITEMS INDICATED ON THE PLANS AND/OR THE SPECIFICATIONS, THE ONE WHICH PROVIDED THE MOST COMPLETE WORK OR HIGHER STANDARD SHALL PREVAIL.

R. SUPPLY AND INSTALL ALL REQUIRED SUPPORTS AND BRACING OF EQUIPMENT AND CONDUITS FOR PROPER EQUIPMENT INSTALLATIONS AND CODE COMPLIANCE.

S. ALL EXPOSED CONDUITS SHALL BE INSTALLED AT RIGHT ANGLE TO ROOM OR STRUCTURE. EXPOSED CONDUITS SHALL BE SUPPORTED FROM BUILDING STRUCTURE USING APPROVED PIPE HANGERS.

T. ALL CONDUITS SHALL BE SIZED AS PER NEC UNLESS LARGER SIZES ARE NOTED ON THE DRAWINGS.

U. ALL CUTTING, PATCHING AND PAINTING REQUIRED FOR THE CONCEALED INSTALLATION OF CONDUITS SHALL BE PROVIDED BY THE CONTRACTOR. DO NOT CUT OR DRILL STRUCTURAL MEMBERS WITHOUT WRITTEN APPROVAL FROM STRUCTURAL ENGINEER. ALL CUTTING AND PATCHING SHALL BE NEAT, AND PATCHING SHALL MATCH ADJACENT SURFACE AS TO TEXTURE AND FINISH.

V. ALL PENETRATIONS THROUGH FIRE RATED WALLS, FLOORS OR CEILINGS SHALL BE SEALED IN ACCORDANCE WITH A UL APPROVED SYSTEM THAT MAINTAINS THE INTEGRITY OF THE EXISTING FIRE RATING. PROVIDE AN ENCLOSURE OF EQUAL FIRE RESISTANT RATING AROUND ALL FIXTURES AND EQUIPMENT INSTALLED IN OR PENETRATING FIRE RATED SEPARATIONS.

W. ALL DATA CABLING TO BE PROVIDED BY THE OWNERS'S IT VENDOR. COORDINATE ROUGH-IN WORK WITH OWNER'S IT VENDOR.

POWER SYMBOLS

Symbol	Description
M	MOTOR OUTLET
	FUSED DISCONNECT SWITCH SWITCH XX/XX/XX = AMP SWITCH/POLES/AMP FUSE
	HEAVY DUTY NON-FUSED DISCONNECT SWITCH SWITCH XX/XX = AMP SWITCH/POLES
	MOTOR STARTER
	COMBINATION MOTOR STARTER
S_M	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD
VFD	VARIABLE FREQUENCY DRIVE
	AUTOMATIC TRANSFER SWITCH
	AUTOMATIC TRANSFER SWITCH WITH BY-PASS SWITCH
T1 45KVA Δ Y	TRANSFORMER
	TRANSFORMER
G	GENERATOR
	STATIONARY CIRCUIT BREAKER; RATING AS SHOWN ON PLANS
	DRAWOUT CIRCUIT BREAKER; RATING AS SHOWN ON PLANS
	SWITCH AND FUSE; RATING AS SHOWN ON PLANS
	SWITCH AND FUSE; RATING AS SHOWN ON PLANS
	NORMALLY OPEN CONTACT NORMALLY CLOSED CONTACT
	GROUND ROD IN GROUND WELL
J	WALL JUNCTION BOX (FLOOR PLAN SYMBOL)
J	CELING MOUNTED JUNCTION BOX (FLOOR PLAN SYMBOL)
	PUSH BUTTON STATION (FLOOR PLAN SYMBOL)
T	TRANSFORMER (FLOOR PLAN SYMBOL)
P	PUSH PLATE (FOR AUTOMATIC DOOR)
PB	PUSH BUTTON (FOR AUTOMATIC DOOR)
	277/480 SURFACE MOUNTED PANELBOARD (FLOOR PLAN SYMBOL)
	277/480 FLUSH MOUNTED PANELBOARD (FLOOR PLAN SYMBOL)
	120/208 SURFACE MOUNTED PANELBOARD (FLOOR PLAN SYMBOL)
	120/208 FLUSH MOUNTED PANELBOARD (FLOOR PLAN SYMBOL)
A	AUTO SINK TOILET OUTLET (FLOOR PLAN SYMBOL)
A	WALL MOUNTED AUTO SINK TOILET OUTLET (FLOOR PLAN SYMBOL)

SINGLE LINE DIAGRAM LEGEND

Symbol	Description
	(E) - EXISTING TO REMAIN
	(D) - DEMOLITION WORK
	(N) - NEW WORK
	(F) FUTURE WORK
100NG	FEEDER TAG

ABBREVIATIONS

A, AMP	AMPERE	G, GND	GROUND
AC	ALTERNATING CURRENT	HP	HORSEPOWER
ACT	ABOVE COUNTER TOP	MCB	MAIN CIRCUIT BREAKER
AIC	AMPERE INTERRUPTING CAPACITY	MLO	MAIN LUGS ONLY
AFF	ABOVE FINISHED FLOOR	MCA	MINIMUN CIRCUIT AMPS
AFG	ABOVE FINISHED GRADE	MOCP	MAXIMUM OVER CURRENT PROTECTION
ATS	AUTOMATIC TRANSFER SWITCH	MV	MEDIUM-VOLTAGE
AF	FRAME RATING IN AMPERES	(N)	NEW
AS	SWITCH RATING IN AMPERES	N	NEUTRAL
AT	TRIP RATING IN AMPERES	NC	NORMALLY CLOSED
AWG	AMERICAN WIRE GAUGE	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
C	CONDUIT	NO	NORMALLY OPEN
CFOI	CONTRACTOR FURNISHED OWNER INSTALLED	NTS	NOT TO SCALE
CKT	CIRCUIT	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
CL	CONNECTED LOAD	OC	OVER CURRENT
CP	CONTROL PANEL	PB	PULL BOX
(D)	DEMOLISH EXISTING	∅ , PH	PHASE
DF	DEMAND FACTOR	PNL	PANEL
DL	DESIGN LOAD	PVC	POLYVINYL CHLORIDE CONDUIT
DC	DIRECT CURRENT	P	POLE
DPDT	DOUBLE POLE, DOUBLE THROW	PWR	POWER
DPST	DOUBLE POLE SINGLE THROW	(R)	RELOCATE EXISTING
DIST	DISTRIBUTION	RSC	RIGID STEEL CONDUIT
(E)	EXISTING TO REMAIN	SPDT	SINGLE POLE, DOUBLE THROW
EC	EMPTY CONDUIT	SPST	SINGLE POLE, SINGLE THROW
ELEC, E	ELECTRICAL	SWBD	SWITCHBOARD
ELEV	ELEVATOR	SWGR	SWITCH GEAR
EM	EMERGENCY	V	VOLT
EMT	ELECTRO METALLIC TUBING	VD	VOLTAGE DROP
FLA	FULL LOAD AMPS (NAME PLATE)	VA	VOLT AMPERES
FLC	FULL LOAD CURRENT (NEC)	W	WATT
(F)	FUTURE	W	WIRE
GFCI	GROUND FAULT CIRCUIT INTERRUPTING	XFMR	TRANSFORMER

ELECTRICAL DRAWING INDEX

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ELECTRICAL COVER SHEET

SHEET

E0.00

1
E1.00
ELECTRICAL OVERALL SITE PLAN
1" = 80'-0"

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ELECTRICAL OVERALL SITE PLAN

SHEET
E1.00

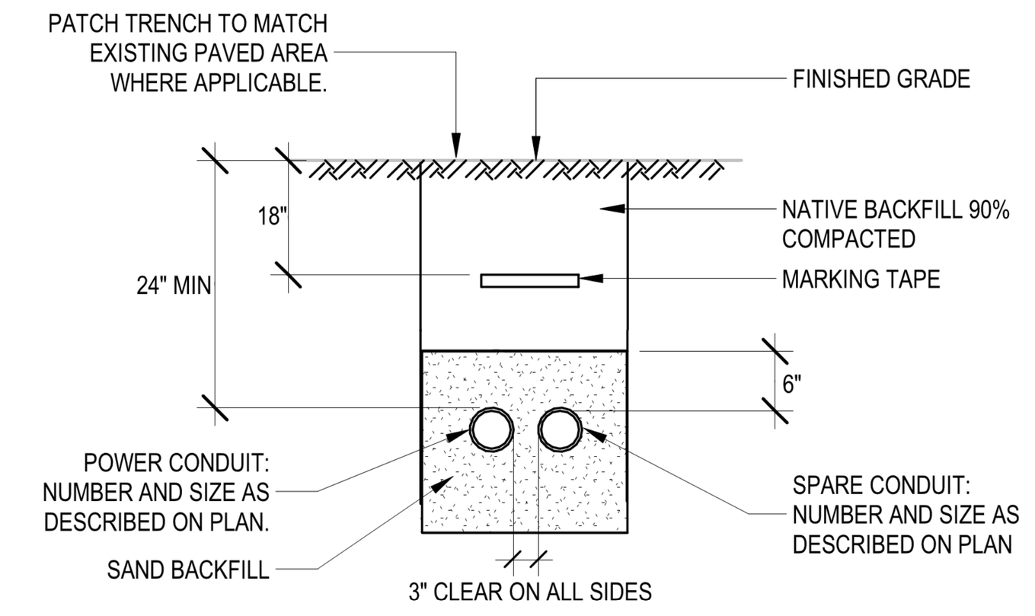
File: X:\P\618184\(4) ENGINEERING\(2) PLAN SETS\(3) SHEET SET\DW BOOSTER\SAMPLE.dwg Date: ----

VOLTAGE DROP CALCULATIONS

POINT A	POINT B	DISTANCE L - (ft.)	VOLTAGE (V) / PHASE (ϕ)	FEEDER DESIGNATION	MATERIAL (Cu or Al)	CURRENT	LOAD (kVA)	LOAD (A)	CONDUCTOR SIZE	SETS	ALLOWABLE VD (%)	ACTUAL VD (%)
SWBD	DOMESTIC WATER BOOSTER PUMP	950	480 V / 3 ϕ	100 FEEDER	Cu	AC	42.9	53.9	#1	1	3.5	2.95

THREE (3) PHASE VOLTAGE DROP CALCULATION:
VD = (1.73 x L x R x I)/1000
VD% = (VD/V) x 100
VD = VOLTAGE DROP
L = LENGTH OF RUN IN FEET
R = CONDUCTOR RESISTANCE (Ω/1000 FT)

SINGLE (1) PHASE VOLTAGE DROP CALCULATION:
VD = (2 x L x R x I)/1000
VD% = (VD/V) x 100



NOTE:
1. REFER TO NEC ARTICLE 300.5 FOR MINIMUM COVER REQUIREMENTS.
2. REFER TO SPECIFICATIONS FOR SEPARATION REQUIREMENTS BETWEEN POWER AND OTHER UTILITIES.

3 E1.01 SAND BACKFILL DUCTBANK IN EXISTING PAVEMENT
NOT TO SCALE

SHEET NOTES

A. INFORMATION SHOWN IS BASED ON EXISTING DESIGN DRAWINGS AND LIMITED FIELD INVESTIGATION. VERIFY EXACT SIZES, LOCATIONS, AND OTHER CONDITIONS IN THE FIELD. IF DISCOVERED CONDITIONS DIFFER SIGNIFICANTLY FROM CONDITIONS SHOWN, SUCH THAT THE EXTENT OF DEMOLITION OR NEW CONNECTIONS ARE UNCLEAR, COORDINATE WITH THE OWNER'S REPRESENTATIVE PRIOR TO PROCEEDING WITH THE WORK.

B. EQUIPMENT LOCATIONS AND CONDUIT ROUTING ARE SHOWN DIAGRAMMATICALLY. DO NOT DIMENSION OFF THOSE DRAWINGS. THESE DRAWINGS REPRESENT THE BASIC INTENT OF THE SCOPE. VERIFY ACTUAL CONDITIONS WITH SITE UTILITY DRAWINGS AND CONDUCT ADDITIONAL SITE INVESTIGATIONS AS REQUIRED.

C. PRIOR TO PROCEEDING WITH ANY EXCAVATION OR TRENCHING, LOCATE USING INDEPENDENT ELECTRONIC LOCATOR SERVICE AND IDENTIFY EXISTING UNDERGROUND SERVICES AND UTILITIES WITHIN CONTRACT WORK LIMIT AREAS. PROVIDE ADEQUATE MEANS OF PROTECTION OF EXISTING UTILITIES AND SERVICES. REPAIR UTILITIES DAMAGED DURING EARTHWORK OPERATION AT CONTRACTOR'S EXPENSE.

D. PROTECTION OF EXISTING TREES AND SHRUBS:
   a. EXISTING TREES AND SHRUBS SHALL BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.
   b. TREES AND SHRUBS DAMAGED DURING CONSTRUCTION SHALL BE REPLACED IN KIND AS PART OF THE BASE BID.
   c. LOCATE AND CAP EXISTING IRRIGATION TO PREVENT POSSIBLE WATER RUNOFF ONTO CONSTRUCTION AREA WHILE MINIMIZING DAMAGE TO ADJACENT UNDISTRUBED PLANTED AND IRRIGATED AREAS.
   d. AFTER TRENCHING, BACKFILL, AND COMPACTION, THE CONTRACTOR SHALL PROVIDE GROUND COVER TO MATCH THE SURROUNDING AREAS.

E. CONTRACTOR SHALL TAKE ALL PRECAUTIONS TO PREVENT EROSION DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTINUOUS MAINTENANCE OF EROSION CONTROL DEVICES DURING CONSTRUCTION.

F. LOOSE SOIL AND EBRIS SHALL BE REMOVED FROM ROAD AREAS UPON STARTING OPERATIONS AND PERIODICALLY THEREAFTER AS DIRECTED BY THE OWNER'S REPRESENTATIVE.

G. PAVED ROADWAYS, SIDEWALKS, AND OTHER IMPROVEMENTS SHALL BE MAINTAINED IN A NEAT AND CLEAN CONDITION, FREE OF LOOSE SOIL, CONSTRUCTION DEBRIS, AND TRASH. ROADWAY SWEEPING OR OTHER EQUALLY EFFECTIVE MEANS SHALL BE USED ON A REGULAR BASIS TO REMOVE DEPOSITED MATERIALS. WATER SHALL NOT BE USED TO CLEAN ROADWAY EXCEPT OF FINE MATERIAL NOT OTHERWISE REMOVED BY SWEEPING OR OTHER MECHANICAL MEANS.

H. CONTRACTOR SHALL MAINTAIN CONNECTIVITY TO ALL EXISTING SERVICES. IF EXISTING SERVICES NEED TO BE INTERRUPTED FOR ANY REASON, COORDINATE SERVICE OUTAGE WITH OWNER'S REPRESENTATIVE PRIOR TO SERVICE INTERRUPTION.

I. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF EXISTING UNDERGROUND IRRIGATION CONDUIT AND WIRE, IRRIGATION PIPING (INCLUDING SPRINKLER HEADS) OR OTHER PIPING TO PREVENT POSSIBLE WATER RUNOFF ONTO CONSTRUCTION AREA WHILE MINIMIZING DAMAGE TO ADJACENT UNDISTURBED PLANTED AND IRRIGATION AREAS.

J. IF EXISTING MANHOLES/HANDHOLES ARE FILLED WITH WATER, CONTRACTOR SHALL BE RESPONSIBLE TO PUMP OUT WATER PRIOR TO STARTING WORK INSIDE MANHOLES/HANDHOLES.

K. CAREFUL PLANNING OF WORK IS REQUIRED AND MUST BE CAREFULLY COORDINATED WITH FACILITY TO MINIMIZE SHUT-DOWNS OF SYSTEMS. CONTRACTOR TO SUBMIT DETAILED WORK SEQUENCE PLAN TO CAMPUS FACILITIES AND RECEIVE WRITTEN APPROVAL PRIOR TO COMMENCING ANY WORK WHICH MAY INTERUPT UTILITY SERVICES FOR CAMPUS OPERATIONS.

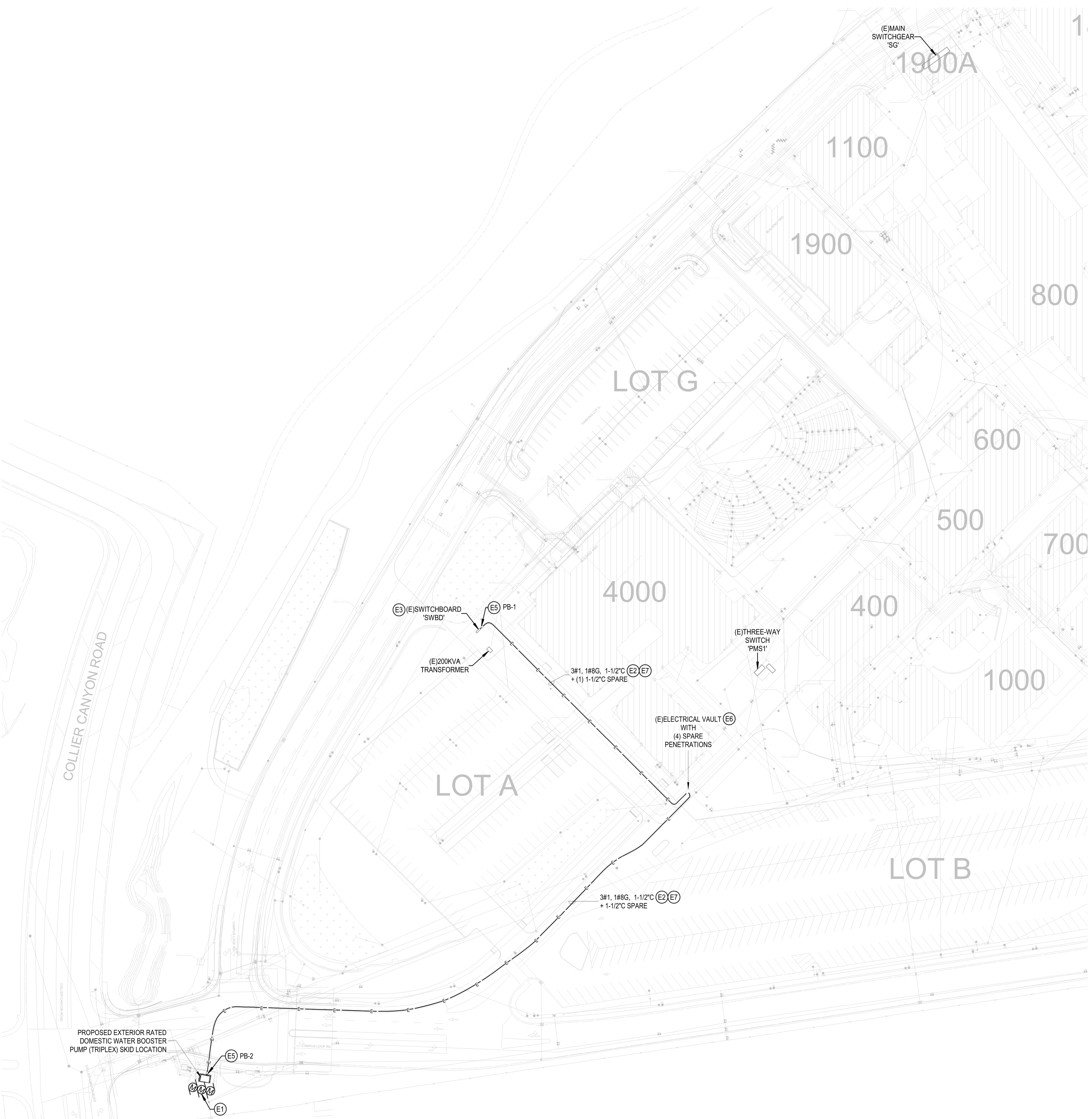
L. CONTRACTOR SHALL REFER TO CIVIL DRAWINGS FOR EXACT DUCTBANK ROUTING, MANHOLE LOCATIONS, TRENCH LOCATIONS AND ELEVATIONS.

M. OPEN TRENCHES SHALL NOT REMAIN UNCOVERED OVERNIGHT. STEEL PLATES SHALL BE PROVIDED TO COVER OPEN TRENCHES OVERNIGHT AND DURING PERIODS WHEN ACCESS TO TRENCHES IS NOT REQUIRED.

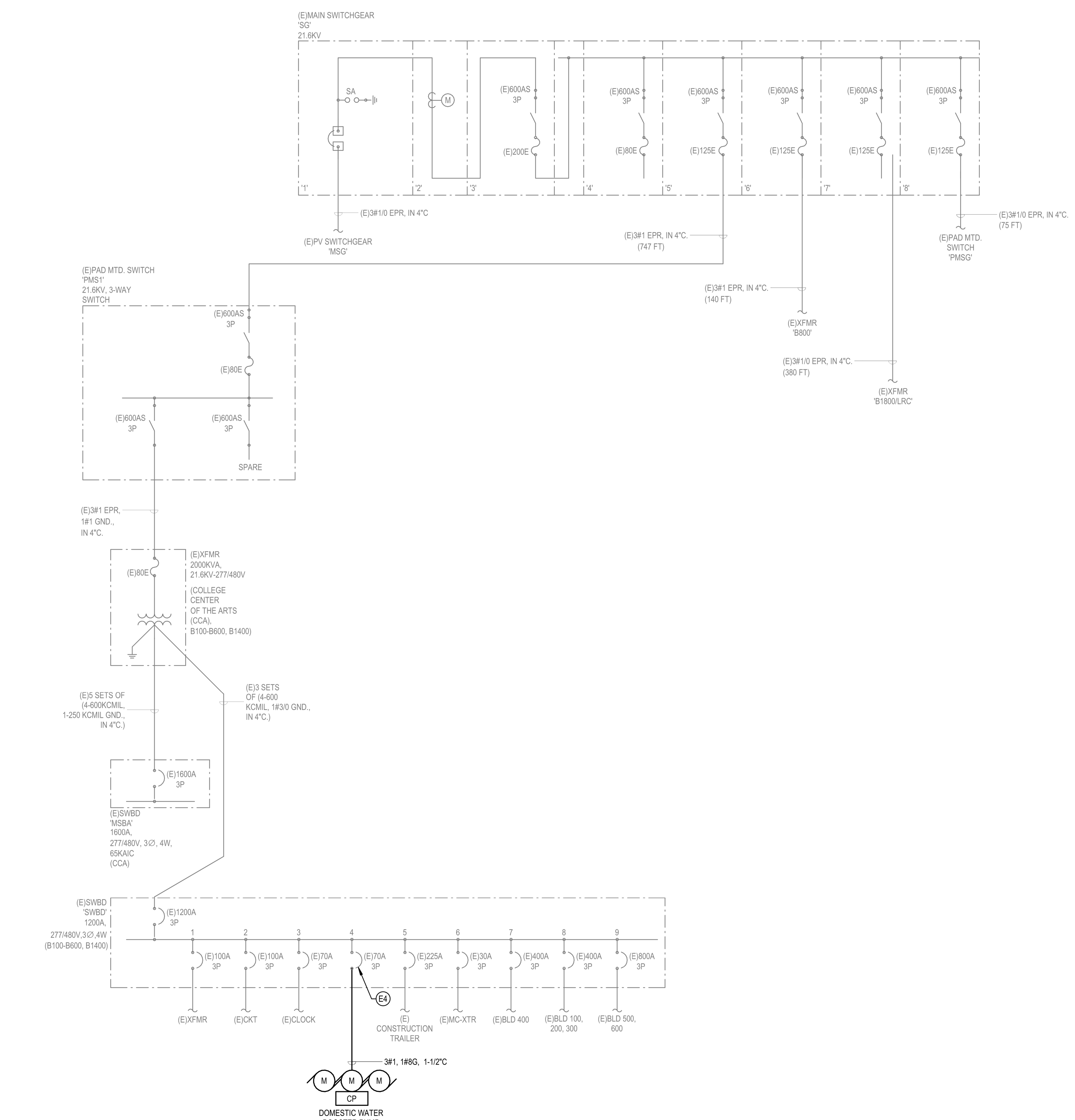
N. UTILITY TRENCHES SHALL BE BACKFILLED WITHIN 24 HOURS AND MUST BE BACKFILLED PRIOR TO THE END OF THE WORK DAY IF A 20 PERCENT CHANCE OF RAIN IS PREDICTED.

KEYNOTES

E1 DOMESTIC WATER BOOSTER PUMP PACKAGED SYSTEM: 480V, 3PH, (2)15HP + (1)15HP REDUNDANT, 53.9FLA. SYSTEM CONTROL PANEL WITH VFDS FURNISHED BY MANUFACTURER AND INSTALLED BY DIVISION 22, CONNECTED BY DIVISION 26. ELECTRICAL CONTRACTOR TO MAKE SINGLE POINT POWER CONNECTION AT CONTROL PANEL PER MANUFACTURER'S RECOMMENDATIONS.
E2 PROVIDE CONDUIT AND WIRING FROM EXISTING SWITCHBOARD 'SWBD' TO NEW DOMESTIC WATER BOOSTER PUMP.
E3 MODIFIED LOADS ON EXISTING PANELBOARD.
E4 USE EXISTING 70A, 3P BREAKER (BALL FIELD - CURRENTLY SPARE) FOR NEW CONNECTION TO DOMESTIC WATER BOOSTER PUMP.
E5 PROVIDE PRECAST CONCRETE HANDHOLE WITH CONCRETE COVER AND NO BOTTOM SLAB. MINIMUM SIZE: 10.5"W X 13.5"L (PER NEC 314.28 AND NEC 314.30).
E6 USE EXISTING PENETRATIONS WITHIN EXISTING VAULT TO ROUTE CONDUIT.
E7 SPARE CONDUIT TO TERMINATE WITHIN PULLBOXES PB-1 AND PB-2.



1 E1.01 ELECTRICAL ENLARGED SITE PLAN
1" = 60'-0"



2 E1.01 ELECTRICAL PARTIAL SINGLE LINE DIAGRAM
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ELECTRICAL ENLARGED SITE PLAN & PARTIAL SINGLE LINE

SHEET
E1.01