

TOWN OF HILLSBOROUGH CHERRY CREEK PUMP STATION HILLSBOROUGH, CALIFORNIA PROJECT NO. XXXX



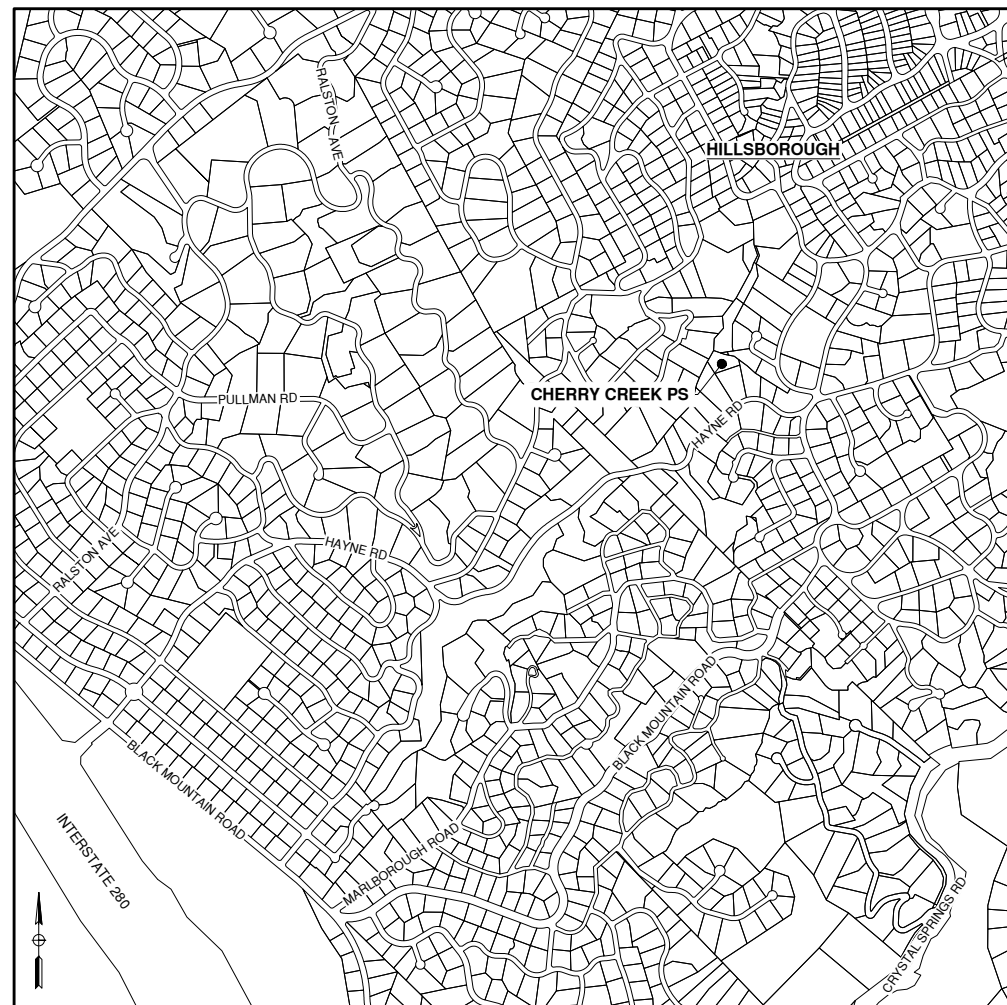
CITY COUNCIL

MARIE CHUANG
SHAWN CHRISTIANSON
JESS BENTON
LAURENCE MAY
ALVIN ROYSE

MAYOR
VICE MAYOR
COUNCILMEMBER
COUNCILMEMBER
COUNCILMEMBER

TOWN OF HILLSBOROUGH

PAUL WILLIS
CITY ENGINEER
TOWN OF HILLSBOROUGH
R.C.E. 68265, EXP. 9/30/19



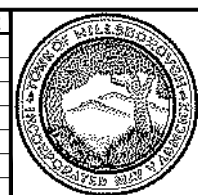
PROJECT MAP
NTS

GENERAL NOTES

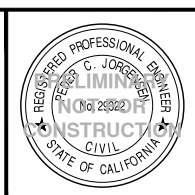
1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE 2016 CALIFORNIA BUILDING CODE, 2016 CALIFORNIA MECHANICAL CODE, 2016 CALIFORNIA PLUMBING CODE, 2016 CALIFORNIA FIRE CODE, 2016 ELECTRICAL CODE, 2016 CALIFORNIA ENERGY CODE, ALONG WITH ANY OTHER LOCAL AND STATE LAWS AND REGULATIONS, STANDARD DRAWINGS, AND REQUIREMENTS OF THE TOWN OF HILLSBOROUGH.
2. NO CHANGE TO THE PROJECT PLANS SHALL BE PERMITTED WITHOUT PRIOR APPROVAL BY THE DIRECTOR OF PUBLIC WORKS/CITY ENGINEER.
3. CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE TOWN AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPT TO THE EXTENT ARISING FROM THE SOLE NEGLIGENCE OF THE TOWN OR ENGINEER.
4. CONTRACTOR SHALL CONFORM TO THE RULES AND REGULATIONS OF THE STATE CONSTRUCTION SAFETY ORDERS.
5. INFORMATION CONCERNING EXISTING UTILITIES IS NOT GUARANTEED; LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE ONLY. CONTRACTOR SHALL REQUEST THAT UNDERGROUND FACILITIES BE LOCATED AND MARKED IN THE FIELD A MINIMUM OF 48 HOURS PRIOR TO THE START OF CONSTRUCTION BY CALLING UNDERGROUND SERVICE ALERT (U.S.A.) AT 800-227-2600. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY POTENTIAL CONFLICT WITH EXISTING UTILITIES PRIOR TO CONSTRUCTION.
6. CONTRACTOR SHALL NOTIFY THE TOWN OF HILLSBOROUGH DEPARTMENT OF PUBLIC WORKS AT LEAST 48 HOURS IN ADVANCE OF THE START OF ANY CONSTRUCTION ACTIVITY. ALL UTILITY SHUTDOWNS ARE TO BE COORDINATED THROUGH THE TOWN. ANY TEMPORARY SUSPENSION OF THE WORK OR SUBSEQUENT RESUMPTION OF WORK REQUIRES THE NOTIFICATION OF THE TOWN AND THE ENGINEER.
7. ALL EXISTING UTILITIES SHALL BE ADEQUATELY SUPPORTED AND PROTECTED TO THE SATISFACTION OF THE TOWN. IN THE EVENT OF DAMAGE TO ANY UTILITY BY THE CONTRACTOR OPERATIONS, THE CONTRACTOR, AT HIS SOLE COST AND EXPENSE, WILL IMMEDIATELY CAUSE REPAIRS TO BE MADE TO THE SATISFACTION OF THE AFFECTED UTILITY. NOTIFY THE ENGINEER OF ANY ADJUSTMENTS NECESSITATED BY WAY OF CONFLICT WITH EXISTING UTILITIES.
8. CONTRACTOR SHALL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAG MEN, CONES OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY IN ACCORDANCE WITH THE SPECIFICATIONS. CONTRACTOR SHALL PROVIDE A TRAFFIC CONTROL PLAN IN CONFORMANCE WITH THE SPECIFICATIONS.
9. CONTRACTOR SHALL REPLACE, AT HIS EXPENSE, ALL TREES, SHRUBS, LAWNS, FENCES AND IMPROVEMENTS WHICH ARE TO REMAIN INTACT BUT HAVE BEEN REMOVED OR DAMAGED DURING CONSTRUCTION. CONTRACTOR SHALL NOT REMOVE OR DAMAGE IMPROVEMENTS LOCATED WITHIN TOWN PROPERTY WITHOUT WRITTEN PERMISSION FROM THE TOWN.
10. WRITTEN PERMISSION FROM APPROPRIATE PROPERTY OWNERS MUST BE OBTAINED PRIOR TO REMOVING ANY EXISTING FENCES, SHEDS, OR OTHER PROPERTY OUTSIDE OF THE PUBLIC RIGHT-OF-WAY OR TOWN PROPERTY.
11. ALL PERMANENT IMPROVEMENTS REMOVED OR DAMAGED BY THE CONTRACTOR SHALL BE RESTORED TO THEIR ORIGINAL LOCATION AND CONDITION BY THE CONTRACTOR USING NEW MATERIALS AS DIRECTED BY THE ENGINEER. ALL INFRASTRUCTURE, INCLUDING BUT NOT LIMITED TO CURBS AND GUTTERS, SIDEWALKS, DRIVEWAYS, PAVEMENT RESTORATION, ETC. SHALL BE REPLACED PER THE TOWN'S STANDARD PLANS.
12. CONTRACTOR TO PROVIDE TEMPORARY FENCING AND GATES WHENEVER AND WHEREVER EXISTING FENCING OR GATES ARE REMOVED FOR CONSTRUCTION PURPOSES.
13. CONTRACTOR TO MAINTAIN A MEANS OF ACCESS TO PROPERTIES, DRIVEWAYS, AND DWELLINGS AT ALL TIMES AS DETERMINED BY THE ENGINEER.
14. THE CONTRACTOR SHALL NOTIFY, BY CIRCULAR, AS DIRECTED BY THE ENGINEER, ALL BUSINESS ESTABLISHMENTS AND RESIDENCES AFFECTED BY THE WORK, AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION. CIRCULAR SHALL BE SUBJECT TO APPROVAL BY THE DIRECTOR OF PUBLIC WORKS/TOWN ENGINEER.
15. ALL SURPLUS AND UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE SITE AND PUBLIC RIGHT-OF-WAY.
16. CONTRACTOR SHALL PERFORM HIS CONSTRUCTION AND OPERATION IN A MANNER WHICH WILL NOT ALLOW HARMFUL POLLUTANTS TO ENTER THE STORM DRAIN SYSTEM OR CREEKS. THE CONTRACTOR SHALL PRESENT HIS PROPOSED POLLUTION PREVENTION BMP'S AT THE PRE-CONSTRUCTION MEETING FOR REVIEW AND APPROVAL.
17. THE CONTRACTOR SHALL NEITHER WASTE NOR DEPOSIT ANY HAZARDOUS MATERIALS WITHIN THE AREAS OF THIS PROJECT, INCLUDING BUT NOT LIMITED TO GASOLINE OR DIESEL FUELS, MOTOR OILS OR TRANSMISSION FLUIDS, ANTIFREEZE, HYDRAULIC FLUIDS, LUBRICANTS, STARTING FLUIDS AND FILTERS, AND/OR CONTAINERS FOR THESE PRODUCTS. HAZARDOUS MATERIAL SPILLS THAT OCCUR AS A RESULT OF EITHER EQUIPMENT FAILURES OR VANDALISM, INCLUDING ALL ADJACENT CONTAMINATED SOILS, SHALL BE REMOVED AND TRANSPORTED TO AN ENVIRONMENTALLY APPROVED DISPOSAL SITE. ALL REMOVAL, TRANSPORTATION AND DISPOSAL COSTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR OR HIS SUBCONTRACTORS.
18. OVERNIGHT PARKING OF CONSTRUCTION EQUIPMENT IN THE STREET RIGHT-OF-WAY OR ADJACENT PARKING LOT SHALL NOT BE PERMITTED, EXCEPT AT LOCATION(S) APPROVED BY THE TOWN.
19. ALL PIPING CONNECTIONS SHALL BE MECHANICALLY RESTRAINED. MJ CONNECTIONS SHALL BE RESTRAINED USING EBAA MEGALUGS OR APPROVED EQUAL.
20. CONTRACTOR SHALL CONTROL DUST AT ALL TIMES AND SWEEP STREETS AS OFTEN AS NECESSARY DURING CONSTRUCTION, AS REQUIRED BY THE CITY ENGINEER.
21. THE CONTRACTOR SHALL GIVE THE CITY ENGINEER A MINIMUM OF TWO WORKING DAYS ADVANCE NOTICE PRIOR TO INSPECTION.
22. THE CONTRACTOR SHALL PREVENT TRASH, DEBRIS, OR ANY OTHER SOURCE OF STORMWATER POLLUTION FROM ACCUMULATING WITHIN THE STORM DRAIN SYSTEM. CONTRACTOR SHALL INSTALL SUFFICIENT GRAVEL BAGS IN DRAINAGE DITCH TO PREVENT CONTAMINANTS FROM MIGRATING DOWNHILL INTO SUBSEQUENT DRAINAGE DITCHES OR CREEKS AND SHALL REMOVE ANY FOREIGN MATERIAL THAT LANDS IN THE DRAINAGE DITCH.
23. EXISTING BOOSTER STATION IS NOT FUNCTIONAL AND CAN BE REMOVED WITHOUT BYPASS PUMPING.
24. THE CONTRACTOR SHALL NOTIFY THE SFPUC RIGHT OF WAY MANAGER AT LEAST ONE WEEK PRIOR TO COMMENCING CONSTRUCTION WORK ON SFPUC PROPERTY AND/OR PIPELINES (CONTACT JANE HERMAN, SFPUC RIGHT OF WAY MANAGER, AT JHERMAN@SFWATER.ORG OR (650) 652-3204).
25. THE CONTRACTOR WILL CONTACT THE SFPUC-WSTD LAND ENGINEERING CONSTRUCTION INSPECTOR AT LEAST 48 HOURS PRIOR TO COMMENCING CONSTRUCTION WORK (CONTACT ALBERT HAO, CONSTRUCTION INSPECTOR, AT AHAO@SFWATER.ORG OR (650) 871-3015).
26. THE PROJECT SPONSOR AND/OR ITS CONTRACTOR WILL NOTIFY SFPUC MILBRAE DISPATCH, AT (650) 872-5900, WHEN COMMENCING CONSTRUCTION ON SFPUC PROPERTY.
27. PRIOR TO DEMOBILIZATION, THE CONTRACTOR SHALL ENSURE THAT ALL CONSTRUCTION DEBRIS IS REMOVED FROM SFPUC PROPERTY AND DISPOSED OF PROPERLY AND LEGALLY.
28. ANY NOTES ON COMPLIANCE WITH AGENCY PERMITS?

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NO	REVISIONS	DATE	APPR



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**TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
TITLE SHEET**

DATE: 12/04/17	SHEET T1 1 OF 38
SCALE: AS SHOWN	
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DRAWN: MRG	
CHECKED: PCJ	

SHEET INDEX

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ABBREVIATIONS

AB	AGGREGATE BASE	KW	KILOWATT
AC	ASPHALTIC CONCRETE OR ASBESTOS CEMENT	L	LEFT
AMP	HILLSBOROUGH MUNICIPAL POWER	LF	LINEAR FEET
APPROX	APPROXIMATE	MAX	MAXIMUM
ATS	AUTOMATIC TRANSFER SWITCH	MCC	MOTOR CONTROL CENTER
BFP	BACK FLOW PREVENTER	MH	MANHOLE
BLDG	BUILDING	MIN	MINIMUM
BM	BENCH MARK	MJ	MECHANICAL JOINT
BOC	BACK OF CURB	(N)	NEW
C.	CONDUIT	NTS	NOT TO SCALE
CDF	CONTROLLED DENSITY FILL	PE	PLAIN END
CL	CENTERLINE	POC	POINT OF CONNECTION
CLR	CLEAR	PRV	PRESSURE REDUCING VALVE
CLSM	CONTROLLED LOW STRENGTH MATERIAL	PS	PUMP STATION
C.O.	CONDUCTOR	PUE	PUBLIC UTILITY EASEMENT
CONC	CONCRETE	PVC	POLY VINYL CHLORIDE
DEG	DEGREE	RCP	REINFORCED CONCRETE PIPE
DIA	DIAMETER	REQD	REQUIRED
DIP	DUCTILE IRON PIPE	RFC	RESTRAINED FLANGED COUPLING ADAPTER
DWY	DRIVEWAY	ROW	RIGHT OF WAY
EA	EACH	RPZ	ROOT PROTECTION ZONE
ELEC	ELECTRICAL	SCH	SCHEDULE
ELECT	ELECTRICAL	SDMH	STORM DRAIN MANHOLE
EL, ELEV	ELEVATION	SPECS	SPECIFICATIONS
EG	ENGINE-GENERATOR	SS	STAINLESS STEEL, SANITARY SEWER
EQ	EQUAL	SSCO	SANITARY SEWER CLEAN OUT
(E)	EXISTING	STA	STATION
FCA	FLANGED COUPLING ADAPTER	SD	STORM DRAIN
FDR	FEEDER	SDCB	STORM DRAIN CATCH BASIN
FG	FINISH GRADE	TC	TOP OF CURB
FL	FLANGE	TSB	TRAFFIC SIGNAL BOX
FM	FORCE MAIN	TW	TOP OF WALL
FRP	FIBERGLASS REINFORCED PLASTIC	TYP	TYPICAL
GALV	GALVANIZED	UG	UNDERGROUND
GND	GROUND	UON	UNLESS OTHERWISE NOTED
GPM	GALLONS PER MINUTE	USA	UNDERGROUND SERVICE ALERT
GRV	GROOVE	VCP	VITRIFIED CLAY PIPE
HV	HIGH VOLTAGE	W	WITH
HP	HORSEPOWER	WM	WATER METER
ID	INSIDE DIAMETER	WV	WATER VALVE
INV	INVERT	XFMR	TRANSFORMER

LEGEND

EXISTING	PROPOSED	
		CURB, GUTTER AND SIDEWALK
		EASEMENT / PROPERTY LINE
		SANITARY SEWER FORCE MAIN
		SANITARY SEWER
		STORM DRAIN
		WATER MAIN
		UNDERGROUND ELECTRIC
		UNDERGROUND TELEVISION LINE
		UNDERGROUND TELEPHONE LINE
		CENTER LINE
		CHAIN LINK FENCE
		LANDSCAPING
		POWER POLE
		SPOT ELEVATION
		BOLLARD
		DETAIL OR SECTION DESIGNATION SHEET NO. WHERE DETAIL OR SECTION IS DRAWN
		WATER VALVE
		WATER METER
		MONUMENT DISC
		CONCRETE
		CLMS
		FILL
		DEMOLISH
		CONTOUR LINE

PROJECT BENCHMARK

ELEVATIONS ARE BASED ON NGVD 88 DATUM.
PROJECT BENCHMARK IS THE RIM OF THE SEWER MANHOLE AS SHOWN. ELEVATION = 183.42'

BASIS OF BEARINGS

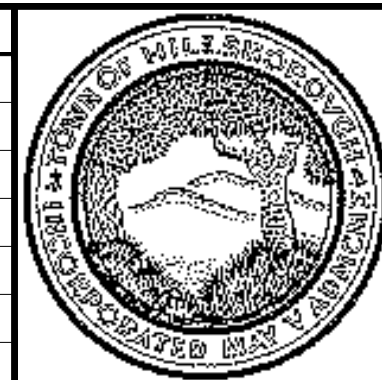
PT 7 & PT 9 AS SHOWN ON ATTACHED DRAWING SHEET 3.
PT 7 - N5073.47, E4699.30
PT 9 - N5002.73, E4398.66

TREE PROTECTION NOTES

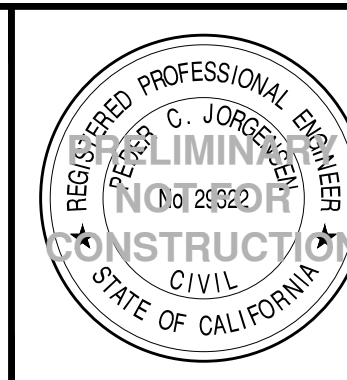
- NO CUTTING OF ANY PART OF PRIVATE OR TOWN TREES, INCLUDING ROOTS, SHALL BE DONE WITHOUT SECURING APPROVAL AND DIRECT SUPERVISION FROM THE TOWN ARBORIST.
- ANY ROOTS DAMAGED DURING CONSTRUCTION SHALL BE EXPOSED TO SOUND TISSUE AND CUT CLEANLY WITH APPROVED TOOLS/EQUIPMENT. ACCIDENTALLY BROKEN ROOTS SHOULD BE SAWED ABOUT TWO INCHES (2") BEHIND THE RAGGED END. CRUSHED OR TORN ROOTS ARE MORE LIKELY TO ALLOW DECAY TO BEGIN; SHARPLY CUT ROOTS PRODUCE A FLUSH OF NEW ROOTS HELPING THE TREE TO RECOVER FROM ITS INJURY.
- NO TRENCHING SHALL BE DONE WITHIN THE DRIP LINE OF EXISTING TREES WITHOUT THE APPROVAL OF THE TOWN ARBORIST.
- WHEN TRENCHING IS ALLOWED, THE CONTRACTOR MUST FIRST CUT ROOTS WITH A VERMEER ROOT CUTTER PRIOR TO ANY TRENCHING TO AVOID TUGGING OR PULLING OF ROOTS.
- IF TRENCHING WITHIN DRIPLINE OF TREE IS ALLOWED / APPROVED BY TOWN ARBORIST, THEN CONTRACTOR IS TO REFILL OPEN TRENCHES QUICKLY WITHIN HOURS OF EXCAVATION WHEN THEY OCCUR WITHIN THE DRIP LINE OF EXISTING TREES. IF THIS IS NOT POSSIBLE AND WEATHER IS HOT, DRY, OR WINDY, CONTRACTOR MUST KEEP ROOT ENDS MOIST BY COVERING THEM WITH WET BURLAP.
- WHEN CONSTRUCTION OCCURS WITHIN DRIP-LINE OF EXISTING TREES, CONTRACTOR IS TO PLACE SOIL AND OTHER MATERIALS BEYOND THE DRIP-LINE. WHEN THIS IS NOT POSSIBLE, WITH THE APPROVAL OF TOWN/PROJECT ARBORIST, PLACE SOIL ON PLYWOOD, A TARP, OR THICK BED OF MULCH. THIS IS TO HELP PREVENT CUTTING INTO THE SOIL SURFACE WHEN REFILLING THE TRENCH.
- NO MATERIALS, EQUIPMENT, FUELS, PAINT, SPOIL, WASTE OR WASH-OUT WATER MAY BE DEPOSITED, STORED, OR PARKED WITHIN THE DRIP-LINE OF A TREE.
- THE DEATH OF A TREE DUE TO DAMAGE DURING CONSTRUCTION SHALL RESULT IN THE CONTRACTOR REPLACING THE TREE WITH ANOTHER OF COMPARABLE SIZE. IN THE EVENT THE TREE IS, DUE TO LARGE SIZE OR UNIQUE STRUCTURE, UNABLE TO BE DUPLICATED, A FAIR VALUE AS DETERMINED BY A CERTIFIED ARBORIST OR THE "GUIDE FOR ESTABLISHING VALUE OF TREES" (COUNCIL OF TREE AND LANDSCAPE APPRAISERS) WILL BE CHARGED TO THE CONTRACTOR.

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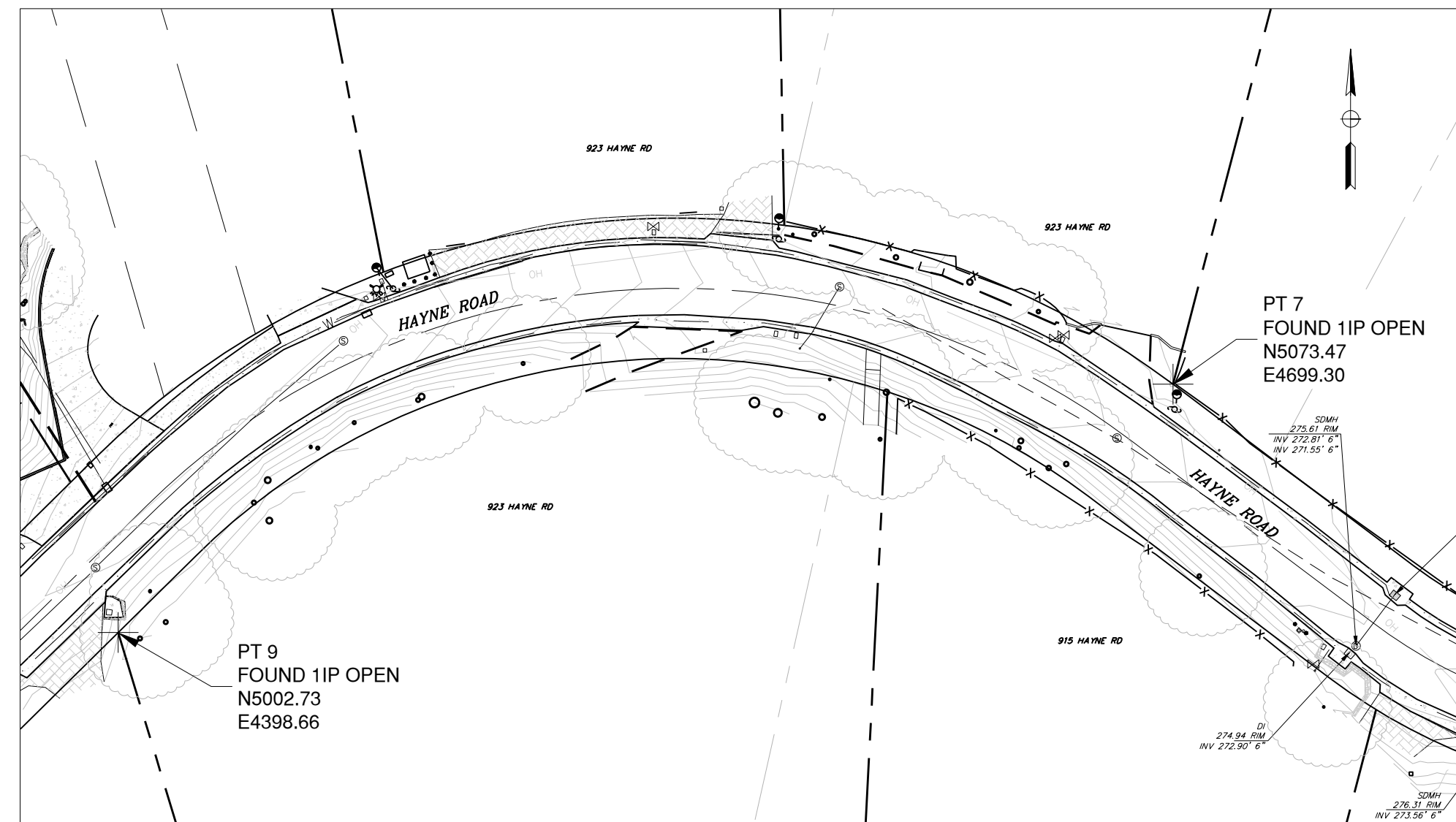
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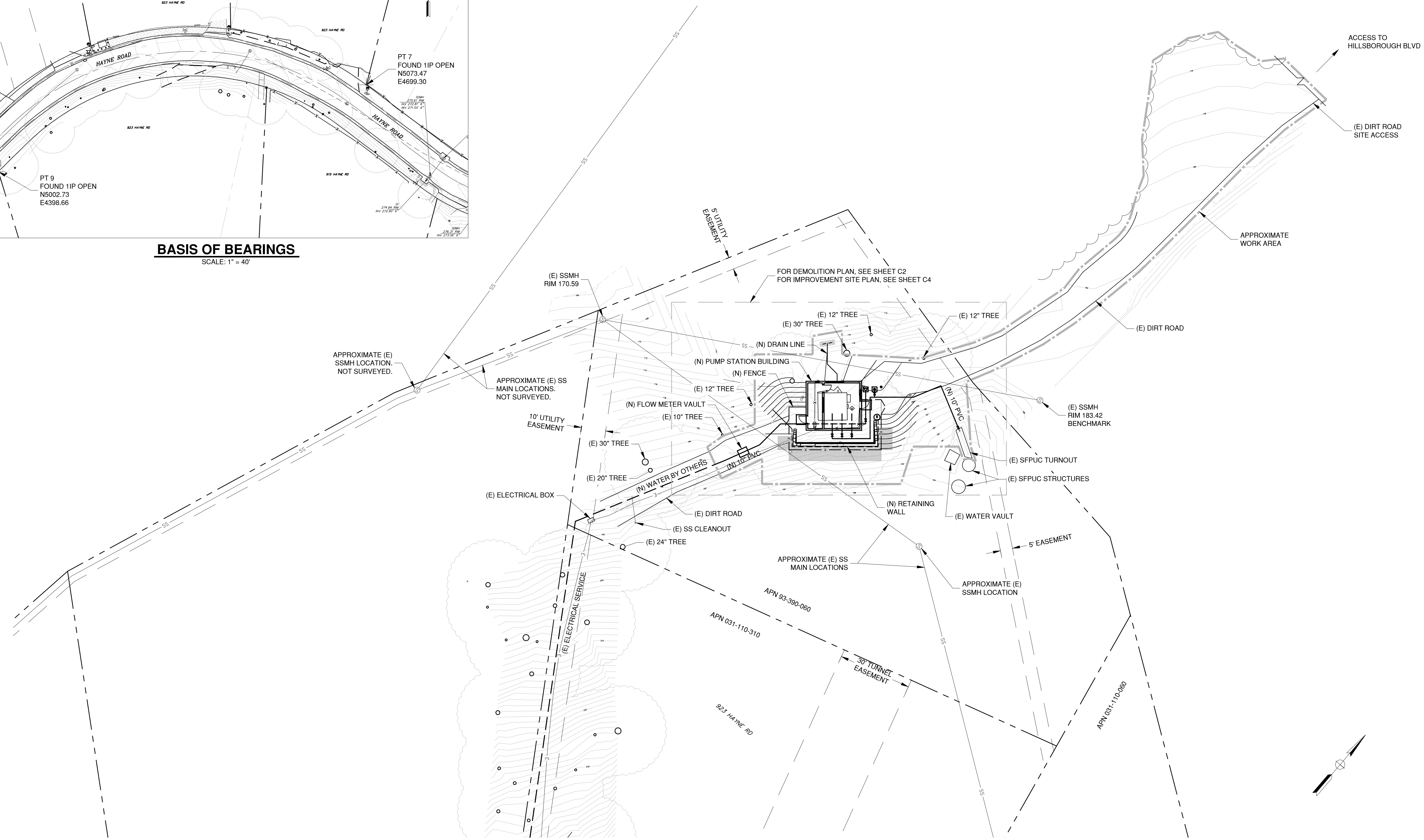
TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
NOTES, ABBREVIATIONS AND LEGEND

DATE:	12/04/17
SCALE:	AS SHOWN
DESIGN:	PCJ
DRAWN:	MRG
CHECKED:	PCJ

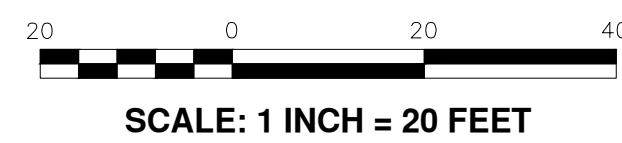
SHEET
T2
2 OF 38



BASIS OF BEARINGS
SCALE: 1" = 40'

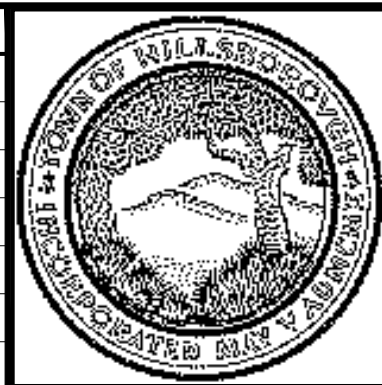


OVERALL SITE PLAN

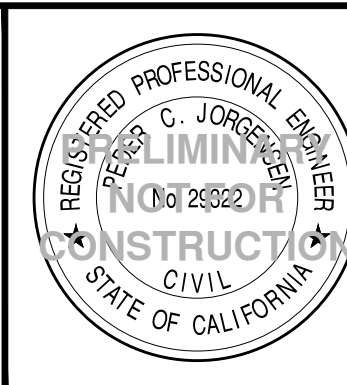


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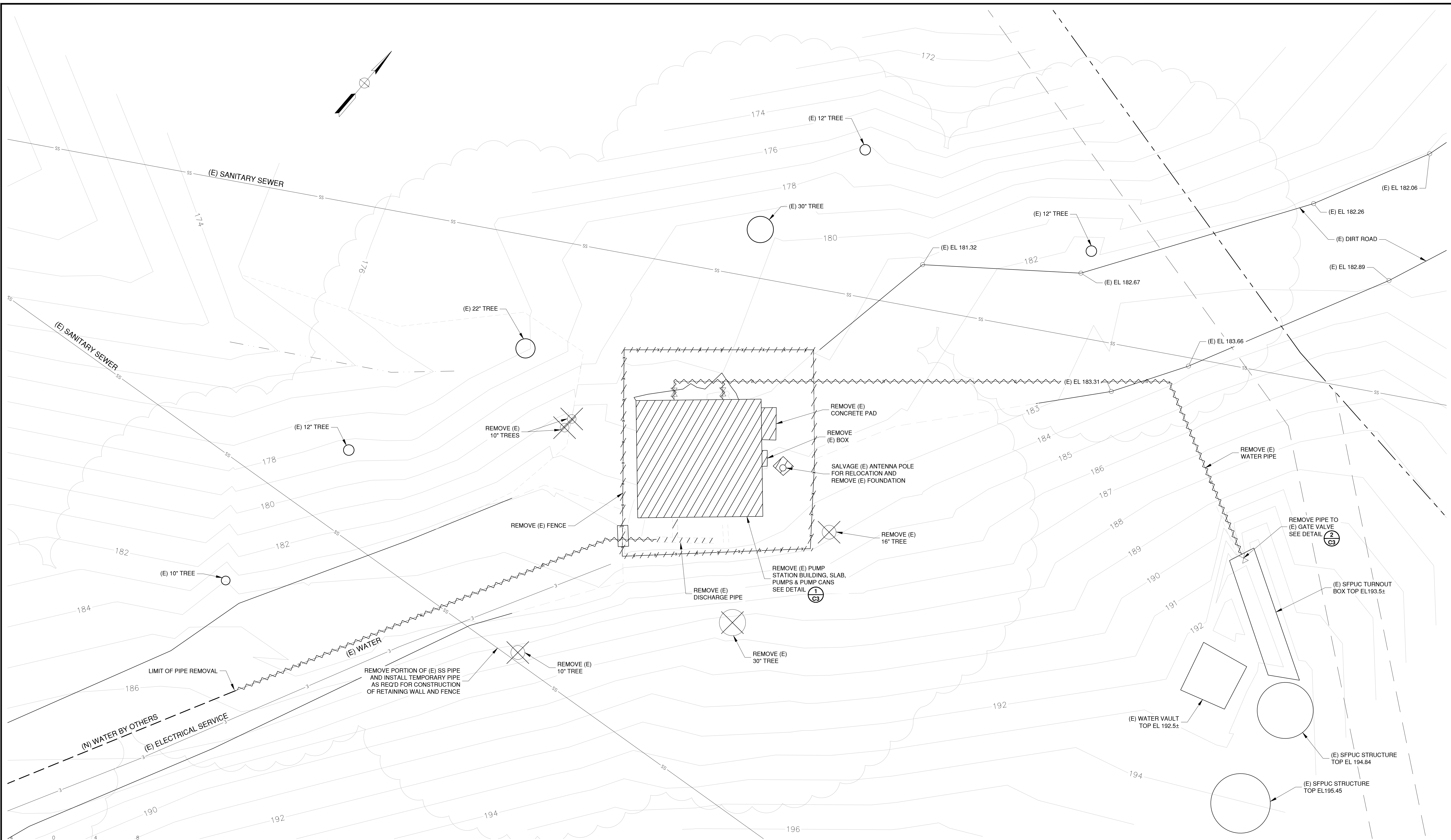
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**TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
OVERALL SITE PLAN**

DATE: 12/04/17
SCALE: AS SHOWN
DESIGN: PCJ
DRAWN: LNF
CHECKED: PCJ

**SHEET
C1
3 OF 38**



SCALE: 1 INCH = 4 FEET

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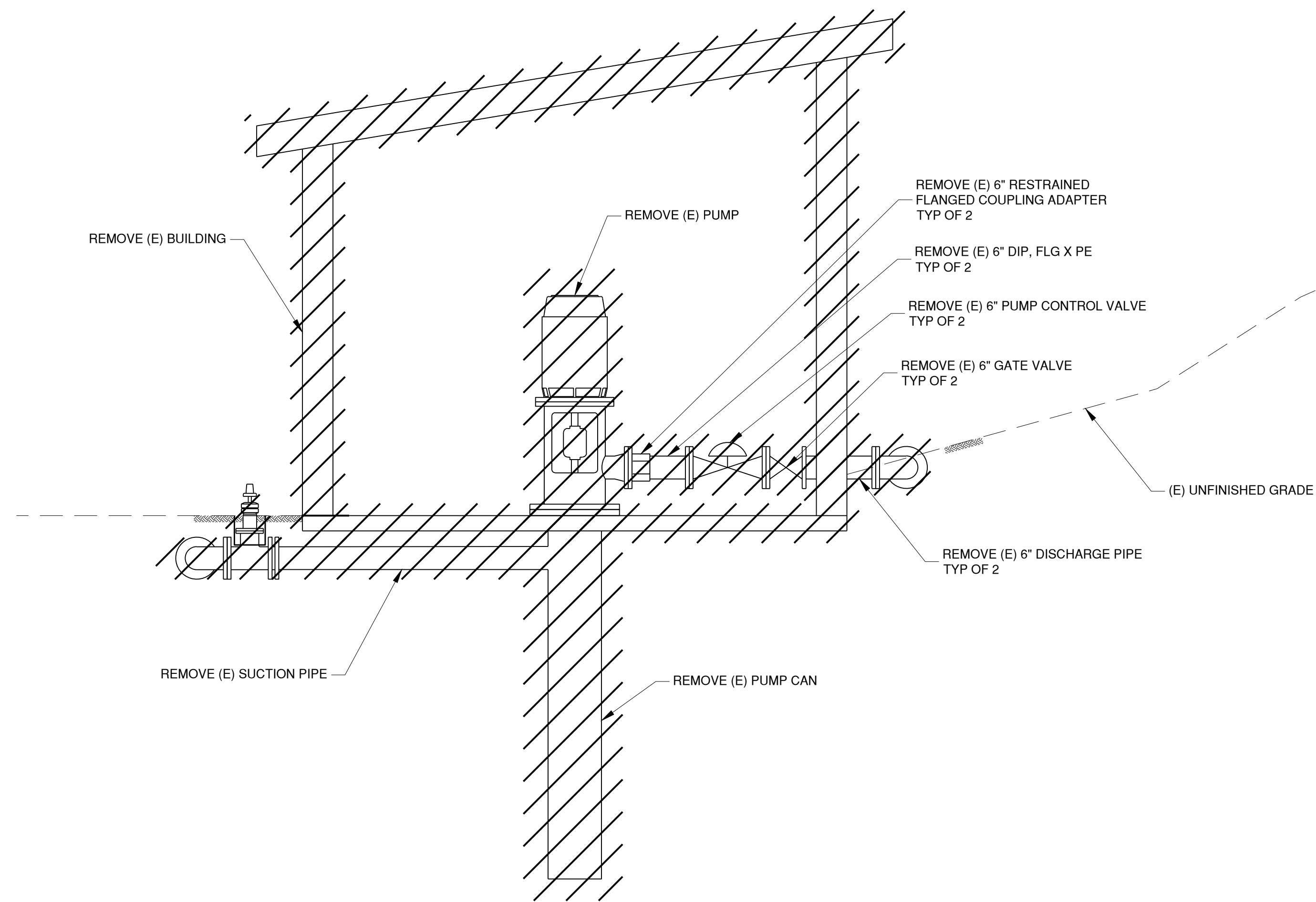
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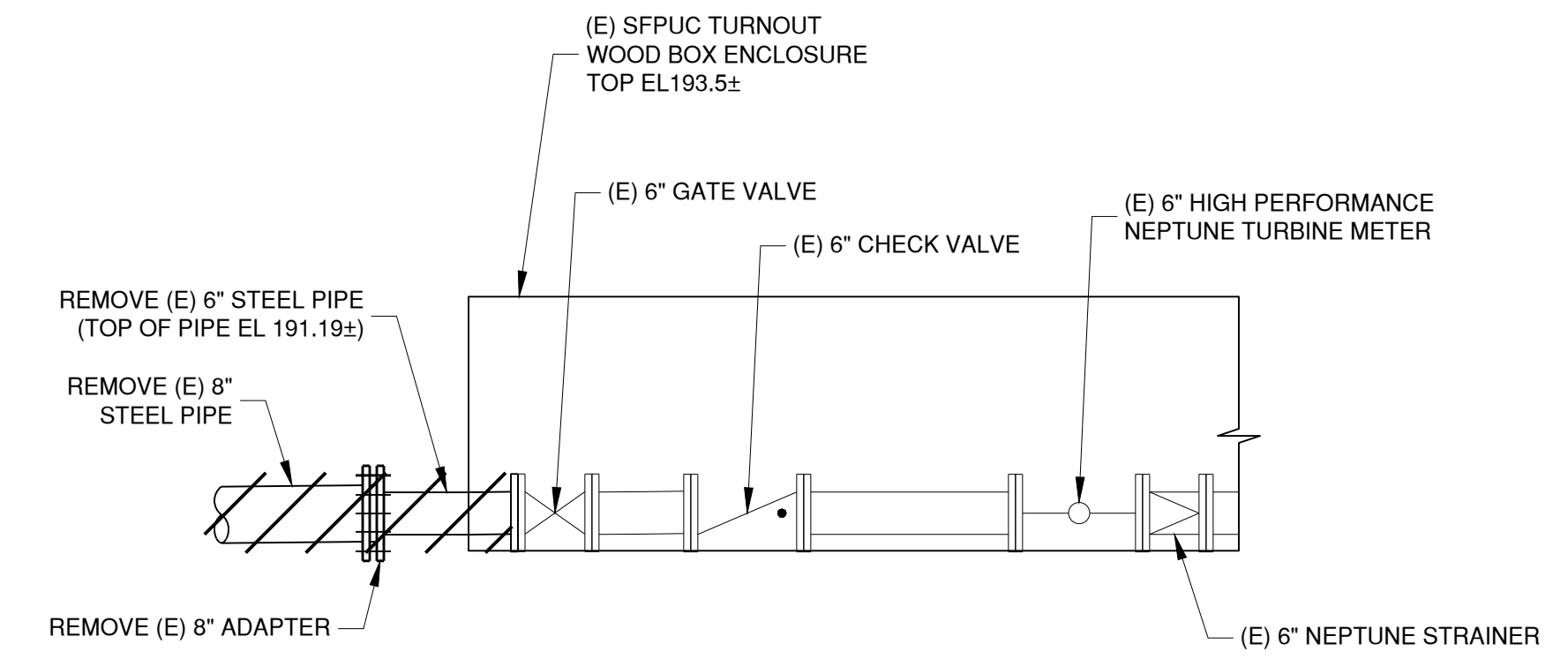
**TOWN OF HILLSBOROUGH
 CHERRY CREEK PUMP STATION
 DEMOLITION SITE PLAN**

DATE: 12/04/17
 SCALE: AS SHOWN
 DESIGN: PCJ
 DRAWN: LNF
 CHECKED: PCJ

**SHEET
 C2
 4 OF 38**



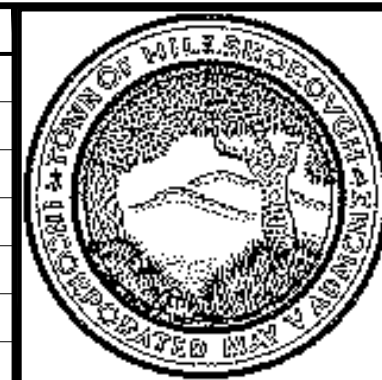
EXISTING PUMP STATION DEMOLITION SECTION DETAIL 1
NTS C3



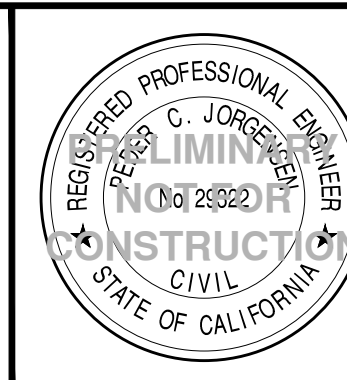
SFPUC TURNOUT DEMOLITION DETAIL 2
NTS C3

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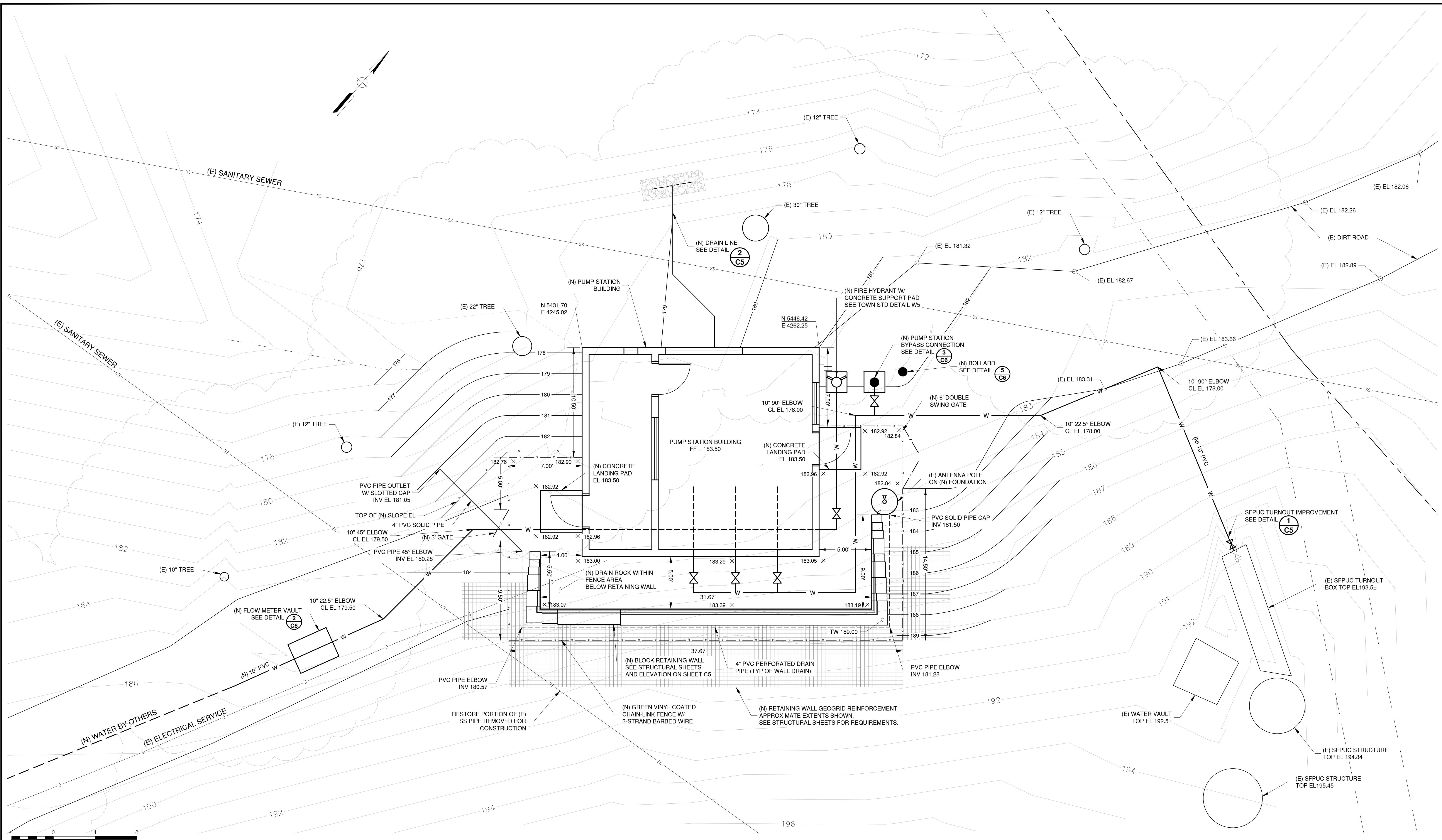
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**TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
DEMOLITION DETAILS**

DATE: 12/04/17
SCALE: AS SHOWN
DESIGN: PCJ
DRAWN: MRG
CHECKED: PCJ

SHEET
C3
5 OF **38**



SCALE: 1 INCH = 4 FEET

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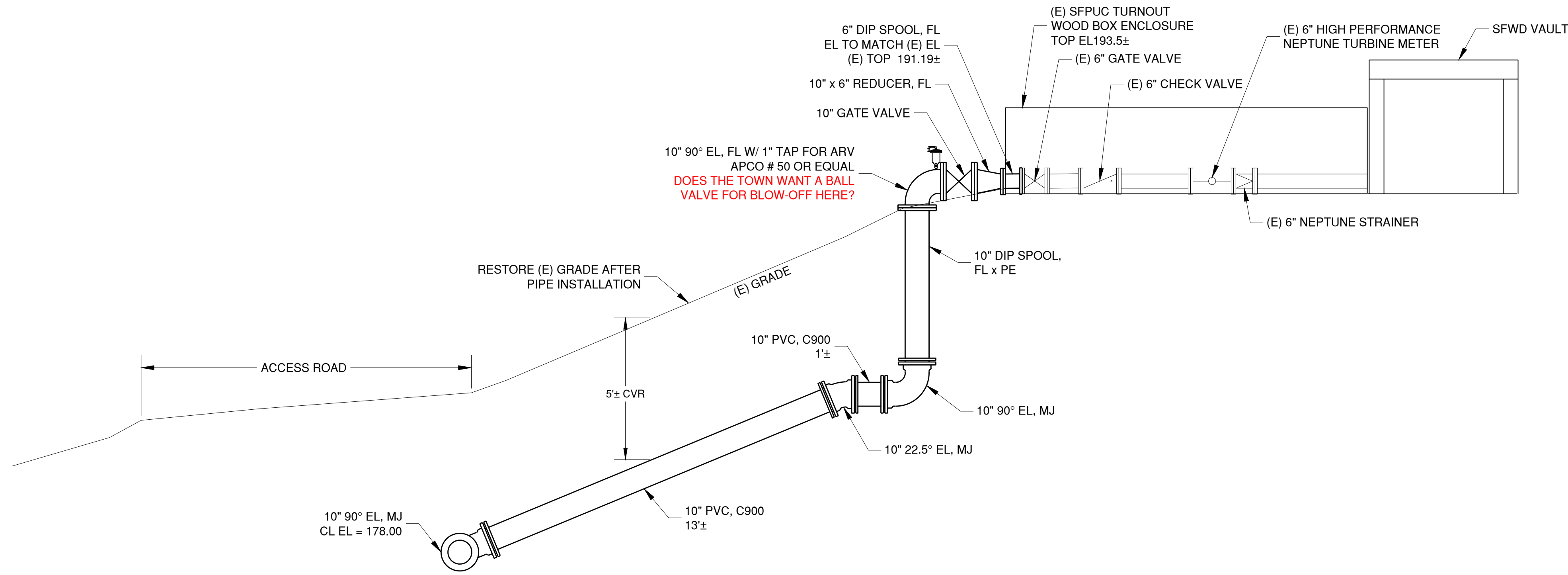
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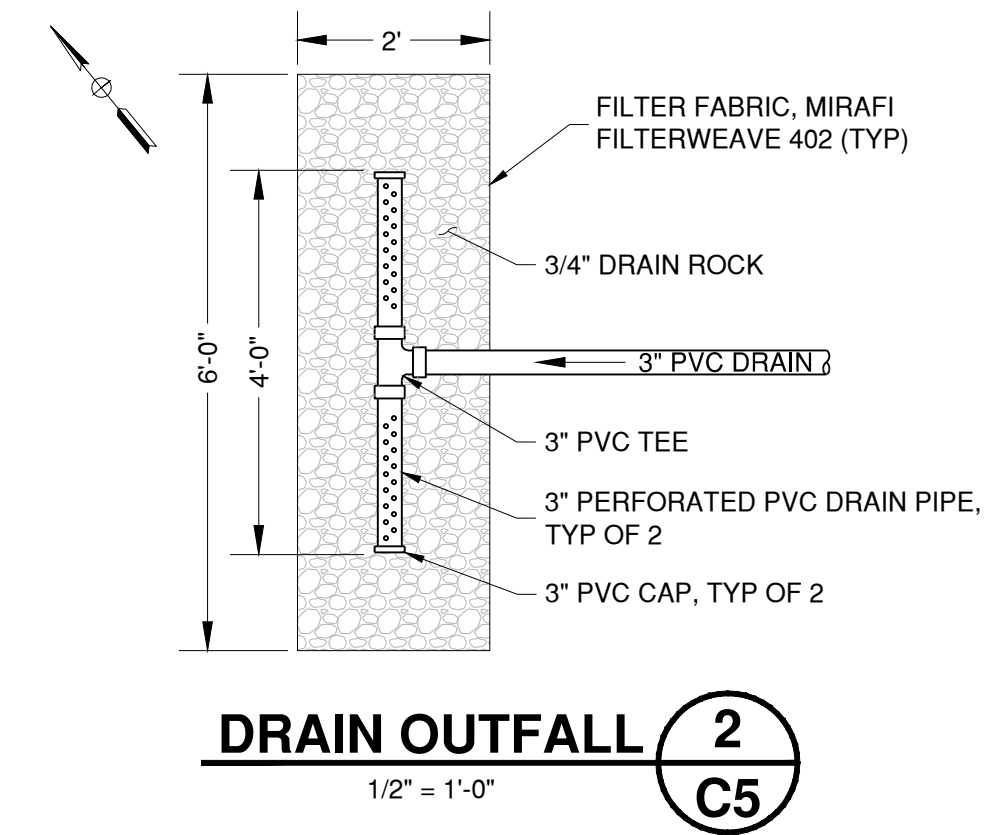
TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
IMPROVEMENT SITE PLAN

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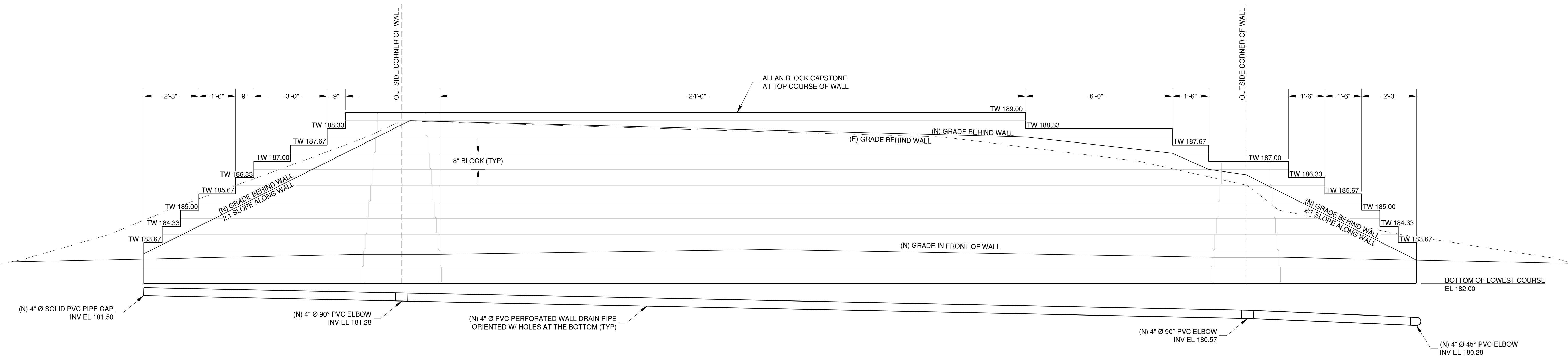
SHEET
C4
6 OF 38



SFPUC TURNOUT IMPROVEMENT SECTION 1
NTS C5



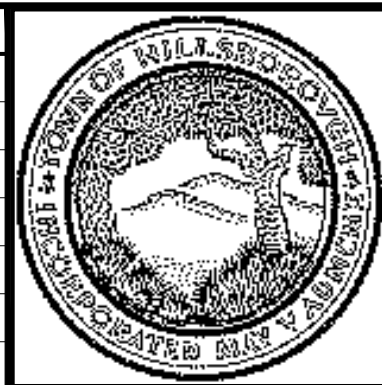
DRAIN OUTFALL 2
1/2" = 1'-0" C5



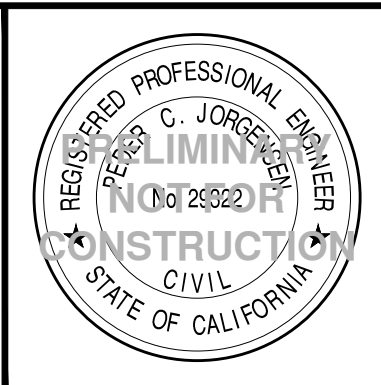
RETAINING WALL ELEVATION
1/2" = 1'-0"

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NO	REVISIONS	DATE	APPR
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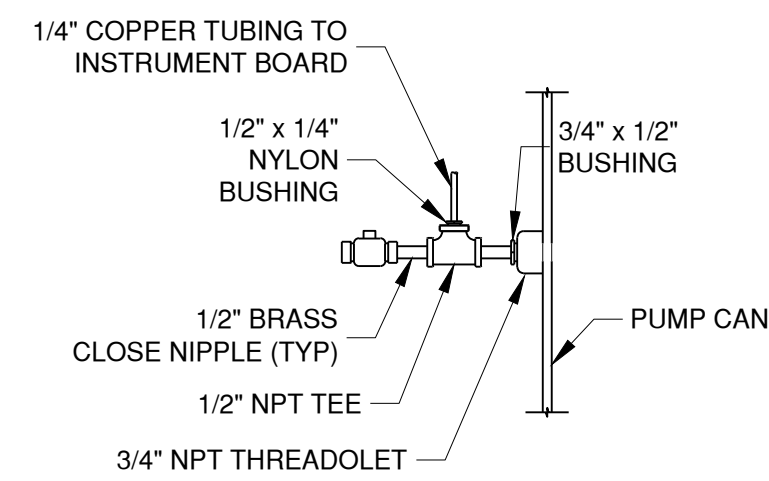
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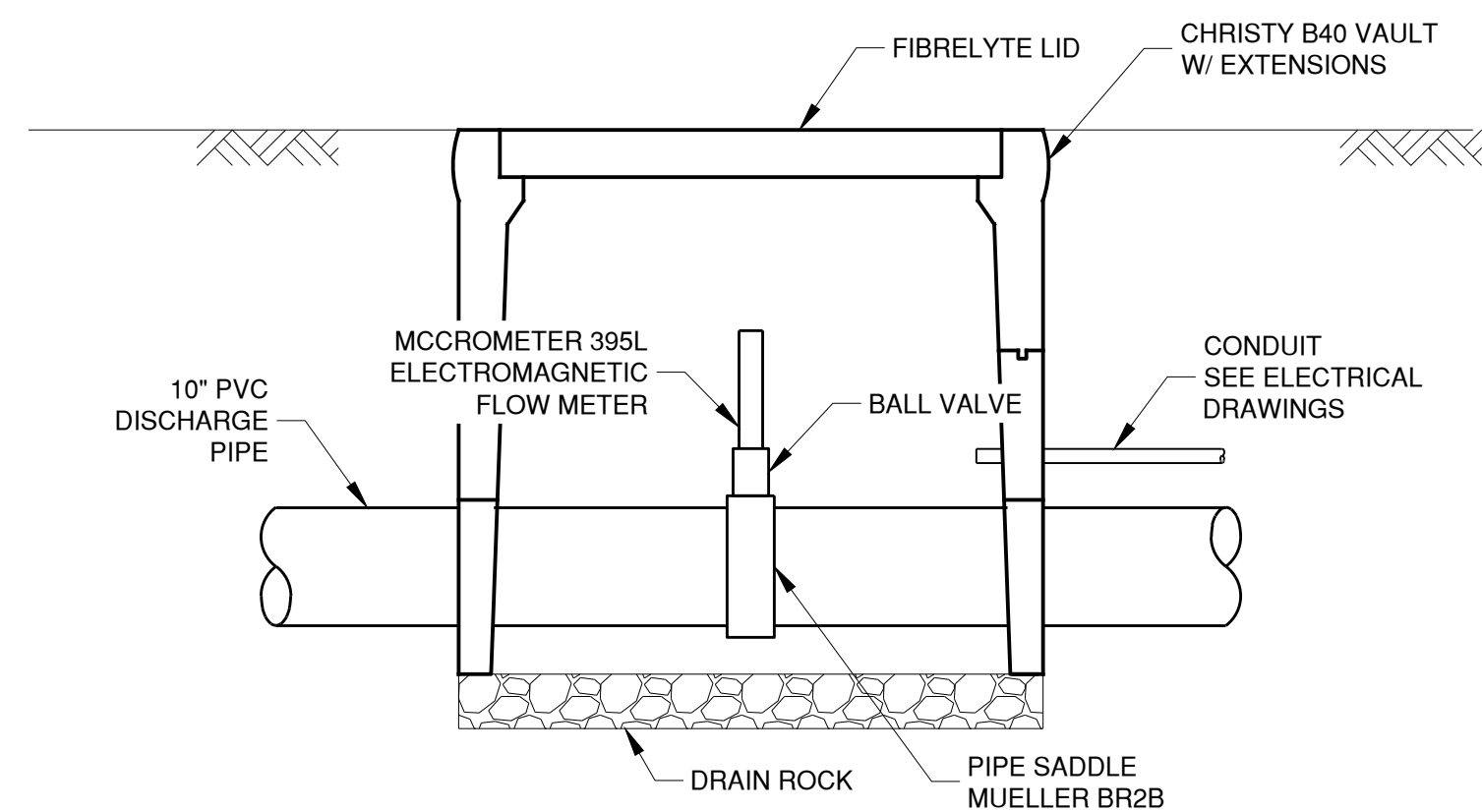
TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
DETAILS

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DESIGN: PCJ
DRAWN: MRG
CHECKED: PCJ

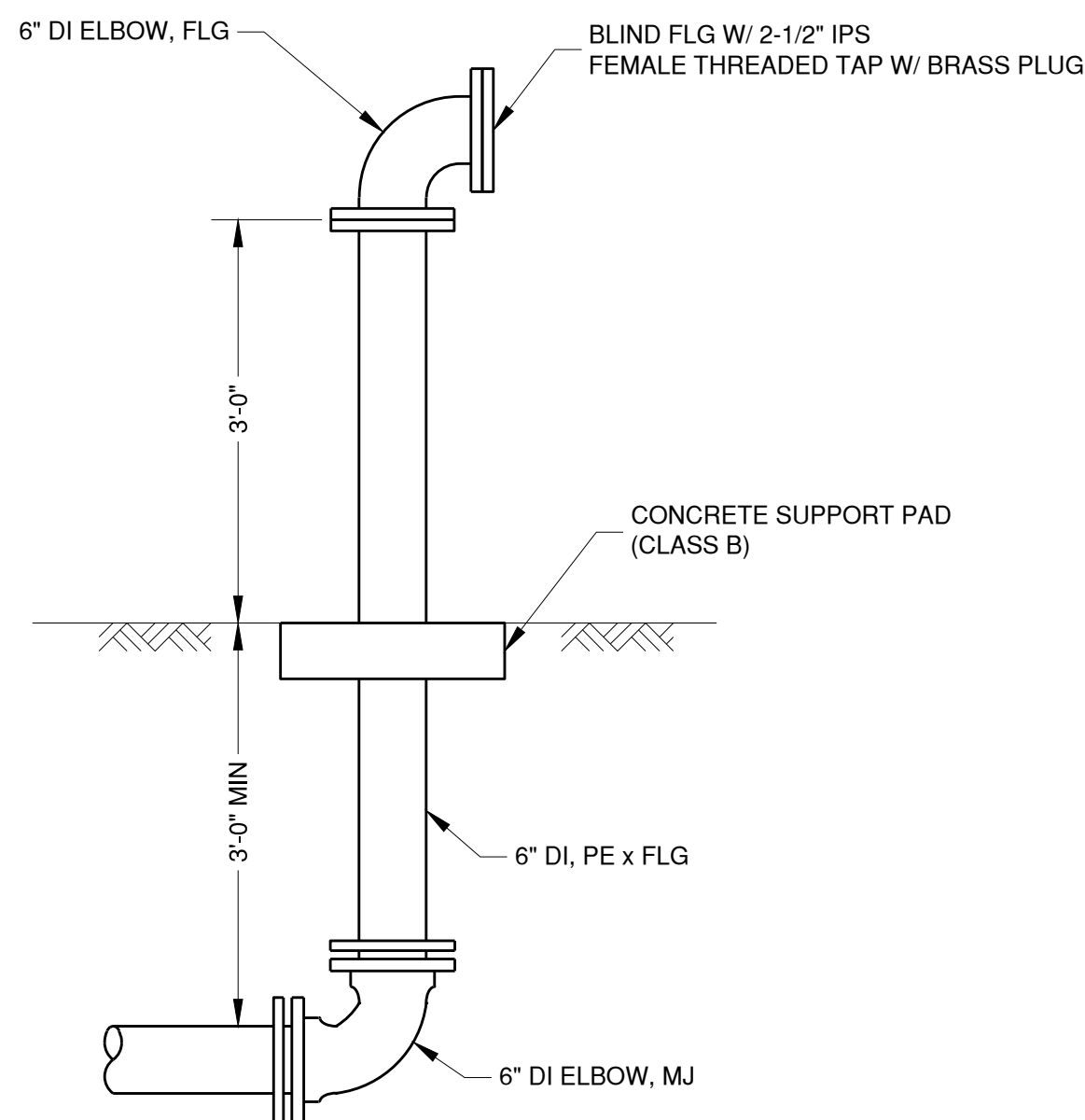
SHEET
C5
7 OF **38**



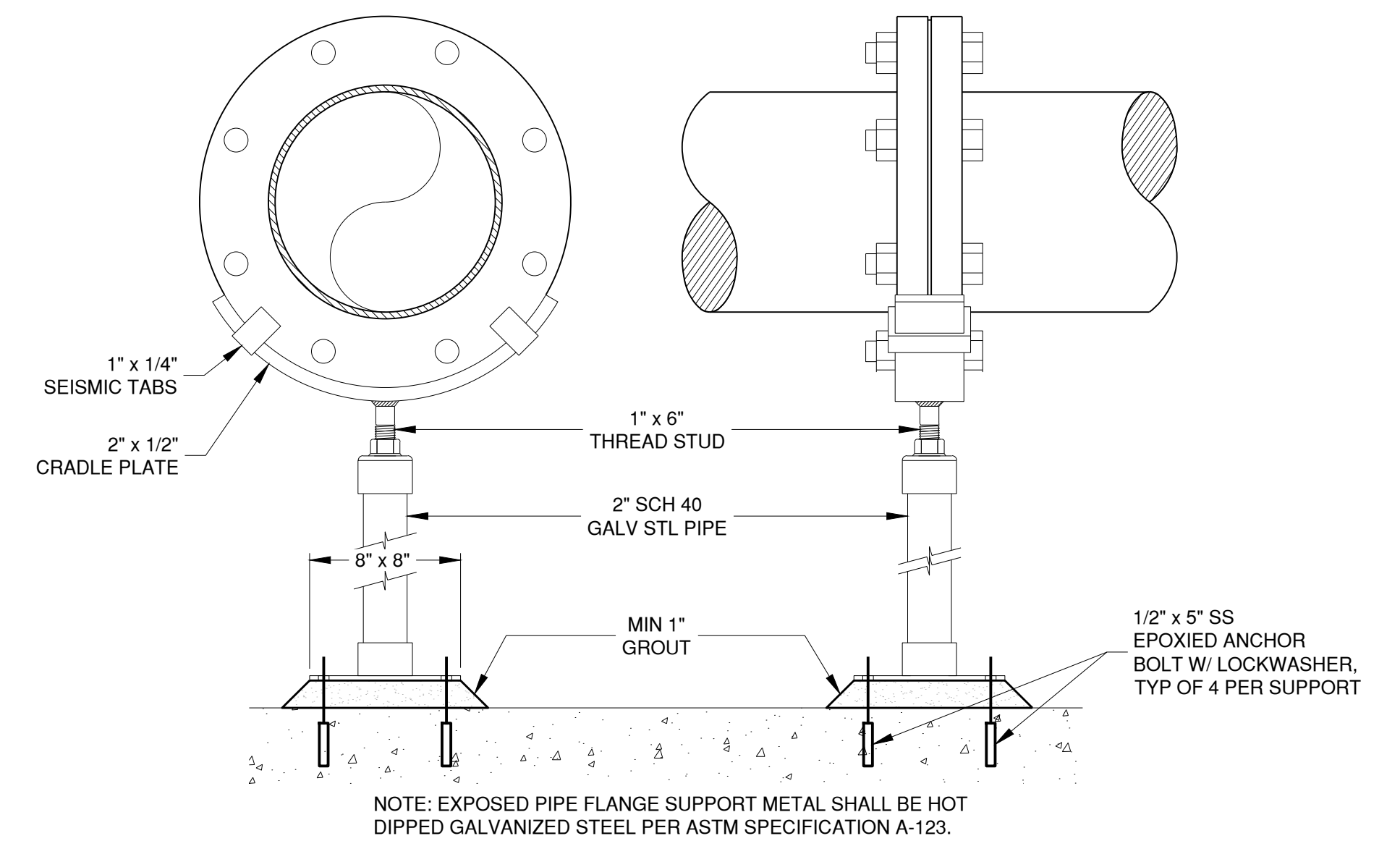
PUMP CAN TAP 1/6
NTS



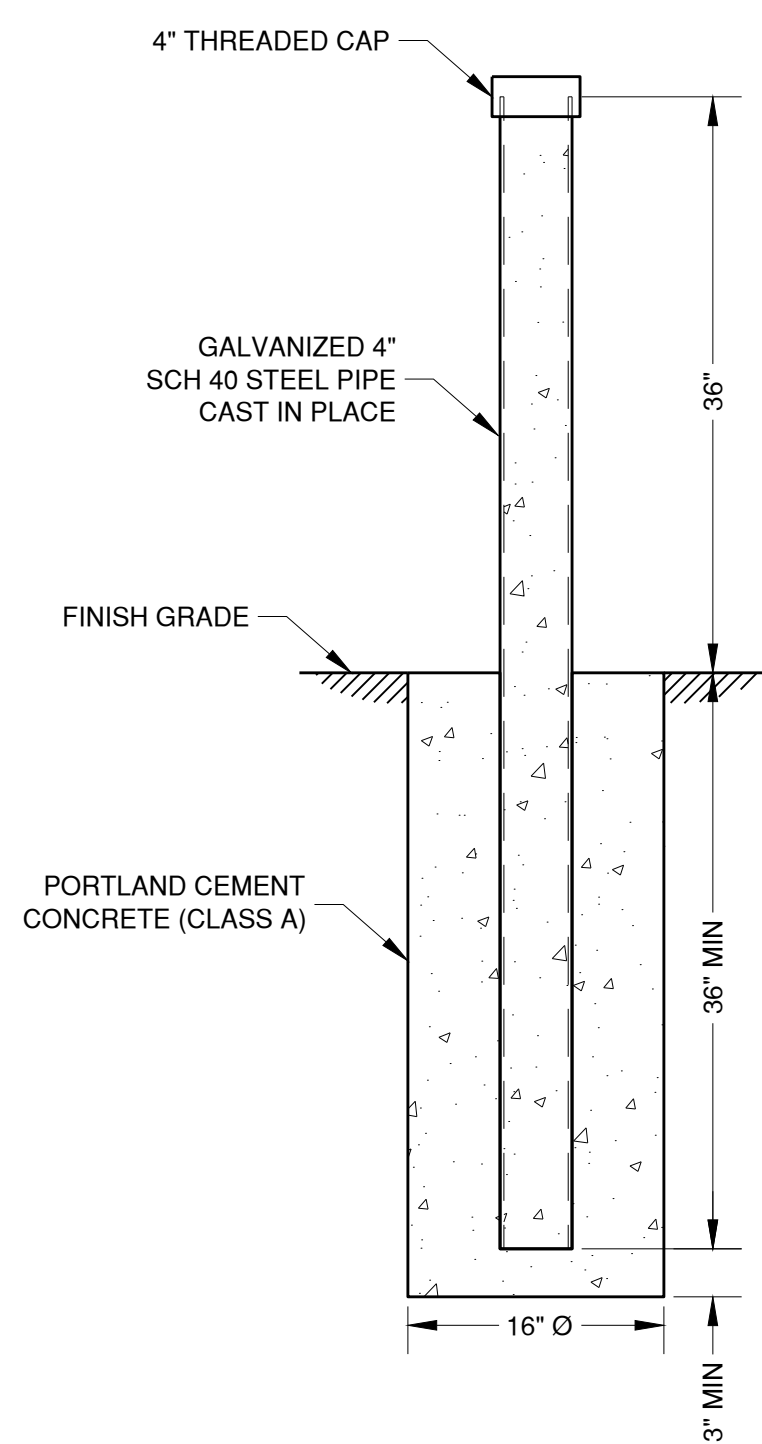
FLOW METER VAULT SECTION 2/6
NTS



PUMP STATION BYPASS CONNECTION DETAIL 3/6
NTS

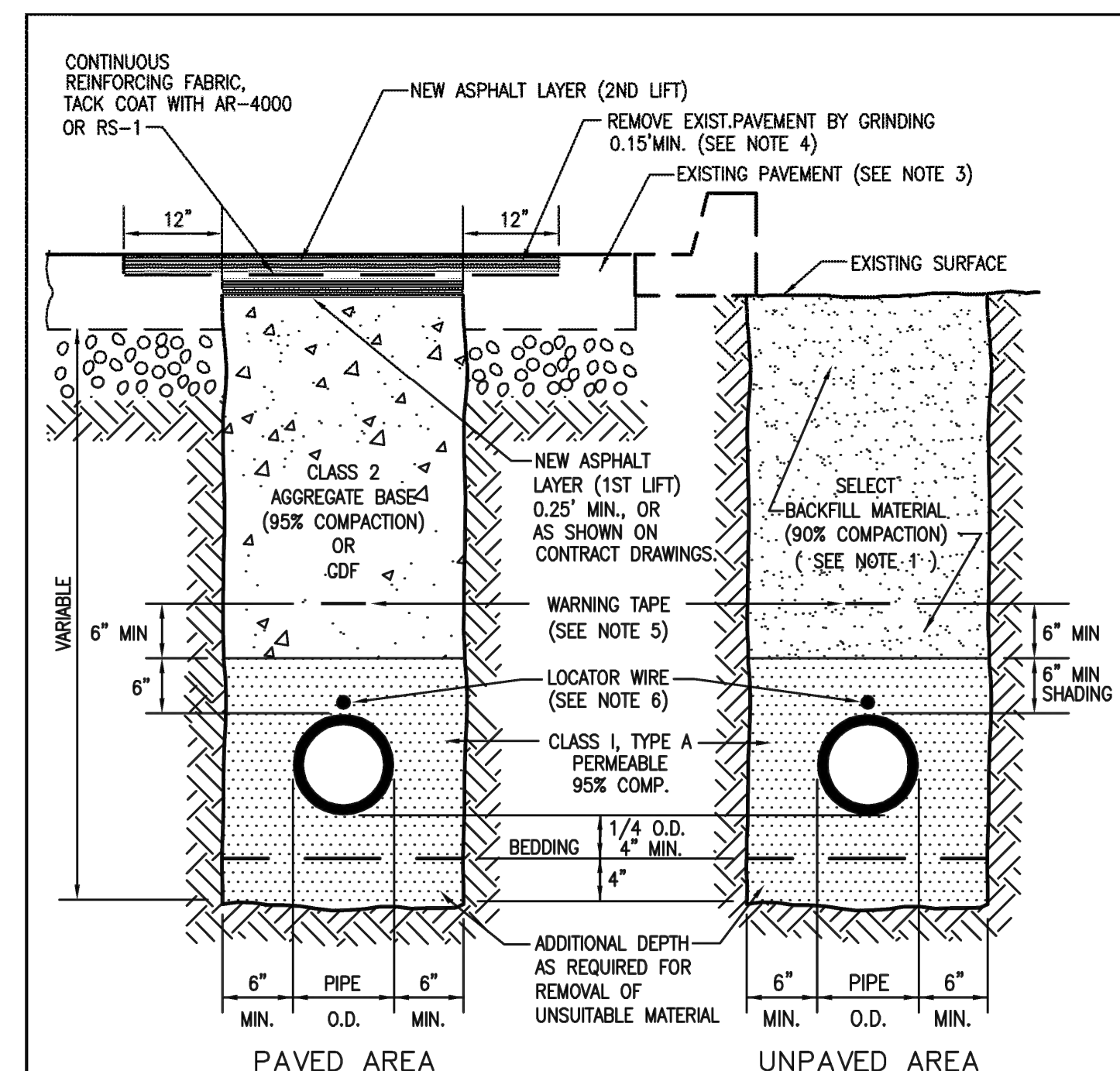


PIPE FLANGE SUPPORT DETAIL 4/6
N.T.S.



NOTE: PAINT IN COLOR SELECTED BY TOWN.

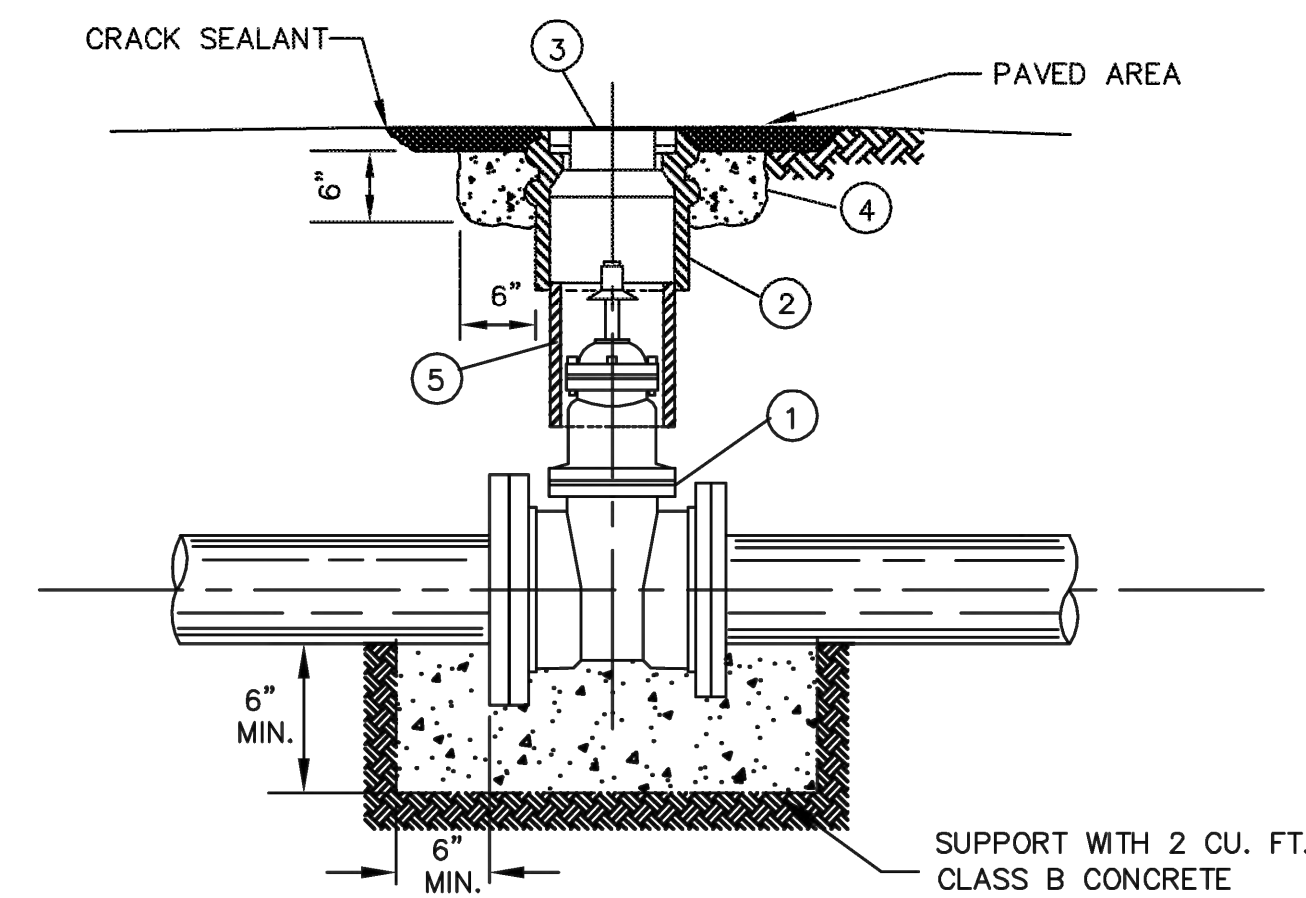
BOLLARD 5/6
NTS



NOTES:

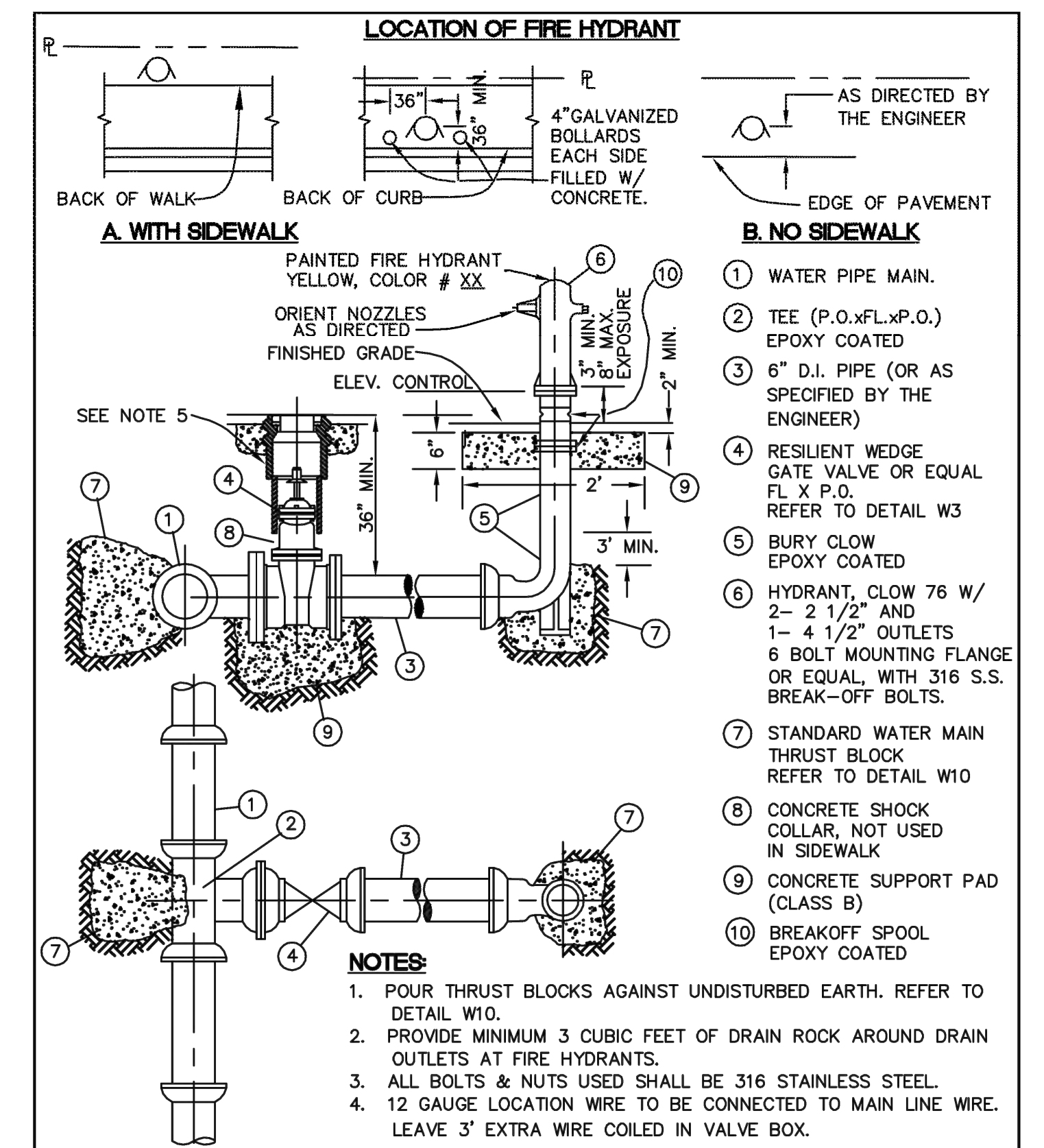
1. SELECT BACKFILL MATERIAL - MATERIAL FROM EXCAVATION, FREE FROM STONES OR LUMPS EXCEEDING 3" IN GREATEST DIMENSION, VEGETABLE MATTER, OR UNSATISFACTORY MATERIAL. (SEE SPECIFICATIONS)
2. FOR NEW STREETS USE DESIGN STRUCTURAL SECTION AS SHOWN ON PLANS.
3. IF THE EDGE OF THE TRENCH FALLS WITHIN 3' OF THE GUTTER OR THE EDGE OF PAVEMENT, THE PAVEMENT SHALL BE REMOVED TO THE EDGE OF PAVEMENT.
4. IF EXISTING PAVEMENT IS LESS THAN 3" THICK, PAVEMENT EDGE SHALL BE SAWCUT TO FULL DEPTH AND ENTIRELY REMOVED IN LIEU OF GRINDING.
5. PLACE WARNING TAPE 12" MIN ABOVE PIPE.
6. PLACE LOCATOR WIRE AT TOP OF PIPE.

TOWN OF HILLSBOROUGH, CALIFORNIA STANDARD DETAIL
APPROVED BY: [Signature] PUBLIC WORKS DIRECTOR DATE: JULY 9, 2013
STANDARD TRENCH C16



1. RESILIENT SEAT GATE VALVE: MUELLER A-2360 WITH "O"-RING SEALS AND NON-RISING STEM (CCW TO OPEN), OR EQUAL.
2. VALVE BOX: CHRISTY G-5, SET 2" ABOVE GRADE IN NON-TRAFFIC AREAS.
3. C.I. COVER, INSCRIBED "WATER"
4. CONCRETE SETTING COLLAR IN PAVED AREAS (CLASS B)
5. 8" PVC, RISER, SDR 35 (UNLESS SPECIFIED OTHERWISE BY THE ENGINEER) (LENGTH AS NECESSARY).
6. ALL BOLTS AND NUTS USED SHALL BE 316 STAINLESS STEEL.
7. USE FIELD LOCK GASKETS FOR ALL PUSH-ON ASSEMBLY'S.
8. ALL HDPE/PVC PIPES SHALL HAVE 12 GAUGE TRACER WIRE INSTALLED.

TOWN OF HILLSBOROUGH, CALIFORNIA STANDARD DETAIL
APPROVED BY: [Signature] PUBLIC WORKS DIRECTOR DATE: JULY 9, 2013
GATE VALVE ASSEMBLY W2



NOTES:

1. POUR THRUST BLOCKS AGAINST UNDISTURBED EARTH. REFER TO DETAIL W10.
2. PROVIDE MINIMUM 3 CUBIC FEET OF DRAIN ROCK AROUND DRAIN OUTLETS AT FIRE HYDRANTS.
3. ALL BOLTS & NUTS USED SHALL BE 316 STAINLESS STEEL.
4. 12 GAUGE LOCATION WIRE TO BE CONNECTED TO MAIN LINE WIRE. LEAVE 3' EXTRA WIRE COILED IN VALVE BOX.
5. SEE STANDARD GATE VALVE ASSEMBLY.
6. 3" MIN. CLEARANCE AROUND HYDRANT FOR FIRE PROTECTION PURPOSE.
7. REQUIRES FIELD LOCK GASKETS ON ASSEMBLY'S.

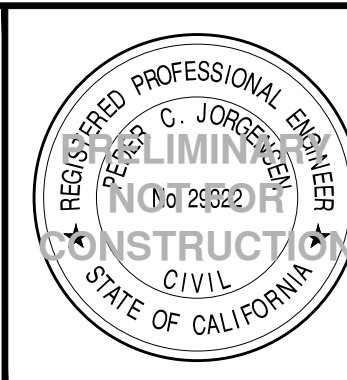
TOWN OF HILLSBOROUGH, CALIFORNIA STANDARD DETAIL
APPROVED BY: [Signature] PUBLIC WORKS DIRECTOR DATE: JULY 9, 2013
FIRE HYDRANT ASSEMBLY W5

90% SUBMITTAL

NO	REVISIONS	DATE	APPR



Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS
1171 HOMESTEAD ROAD, STE 255
SANTA CLARA, CA 95050
(408) 246-4848



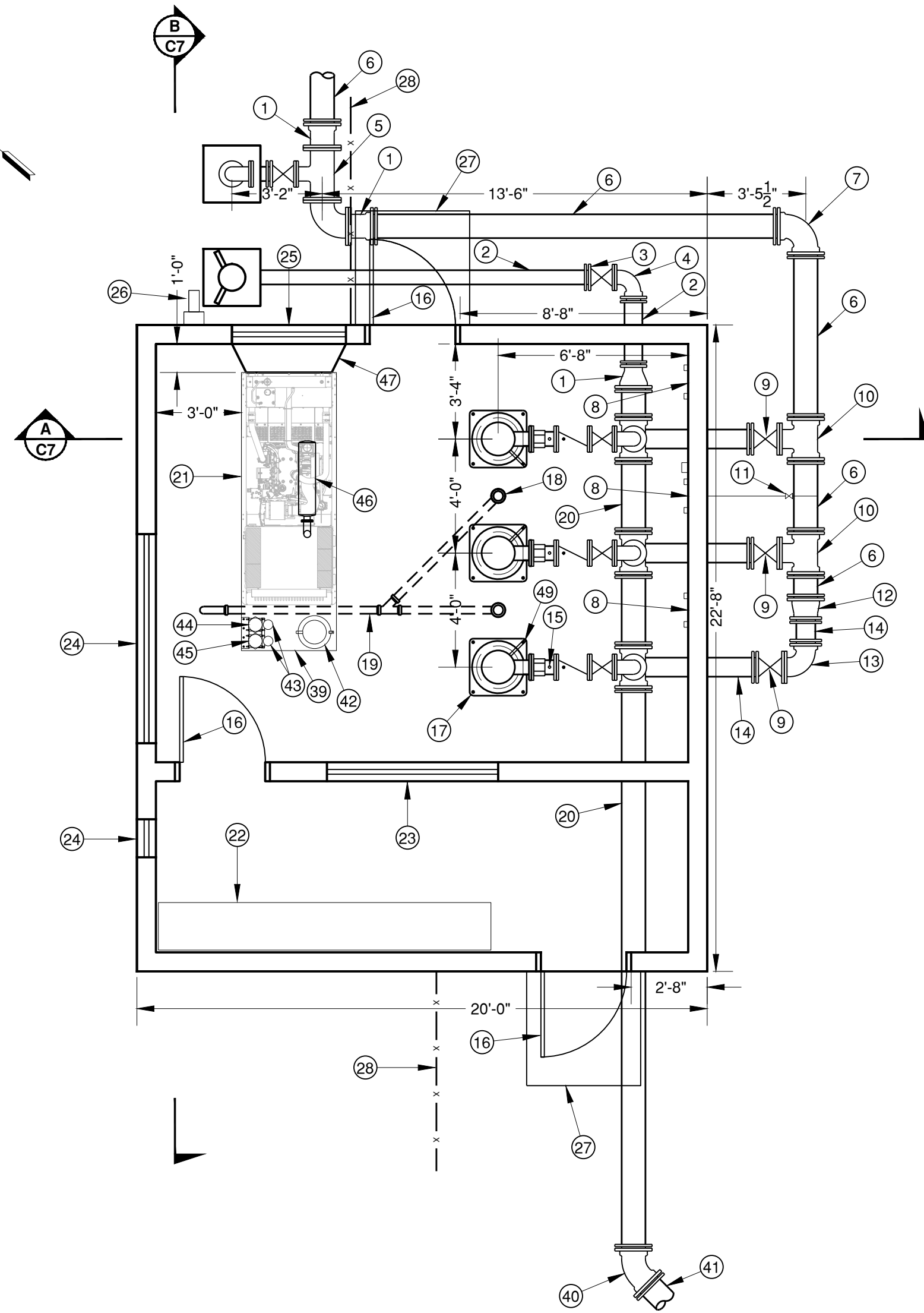
TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
DETAILS

DATE: 12/04/17
SCALE: AS SHOWN
DESIGN: PCJ
DRAWN: LJK
CHECKED: PCJ

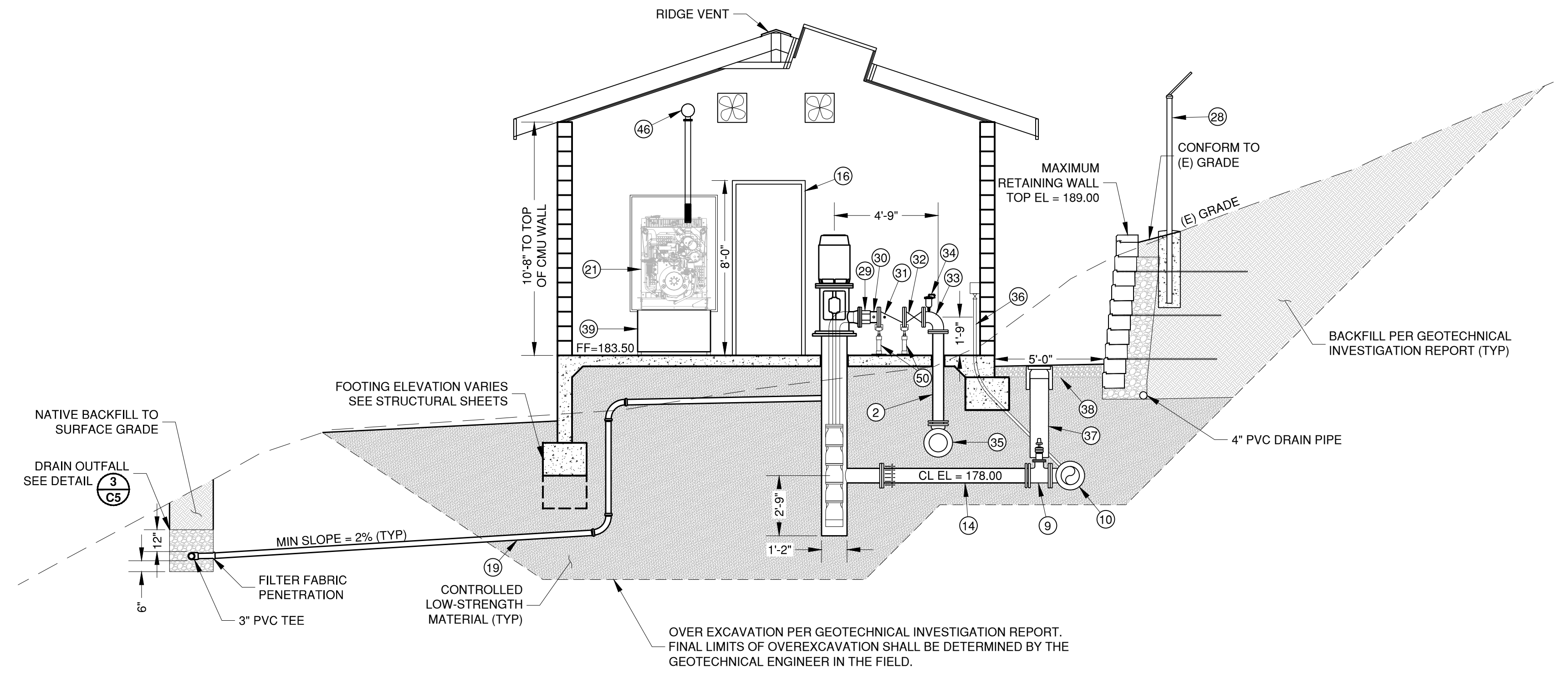
SHEET
C6
8 OF **38**

LEGEND

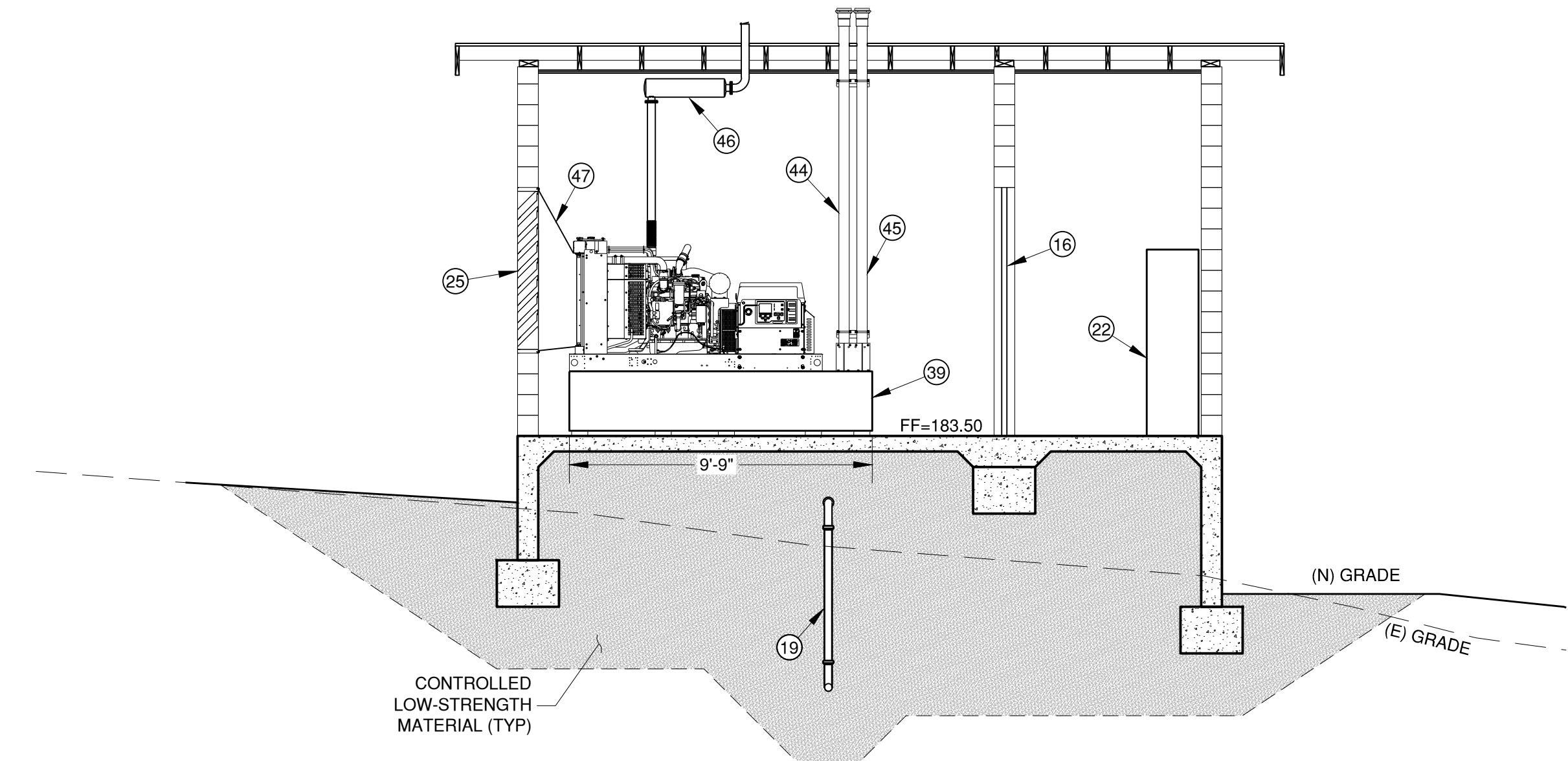
- 1 FL X MJ ADAPTOR
- 2 6" DIP DISCHARGE PIPING
- 3 6" GATE VALVE FL X MJ
- 4 6" ELL MJ X FL
- 5 10" X 6" REDUCING TEE, FLG
- 6 10" PVC SUCTION PIPING
- 7 10" ELL 90° MJ
- 8 INSTRUMENT BOARD - SEE ELECTRICAL SHEETS FOR DETAILS
- 9 8" GV FL X MJ
- 10 10" X 8" TEE MJ X FL
- 11 3/4" CORP STOP SUCTION PRESSURE TRANSDUCER
- 12 10" X 8" REDUCER MJ
- 13 8" ELL MJ X FL
- 14 8" DIP SUCTION PIPING
- 15 DISCHARGE PRESSURE TRANSDUCER TAP
- 16 DOOR, 8'-0" x 3'-4" CMU OPENING, 3'-0" MIN CLR WIDTH
- 17 PUMP
- 18 FLOOR DRAIN W/ TRAP
- 19 3" PVC DRAIN PIPE
- 20 10" DIP DISCHARGE PIPING
- 21 ENGINE GENERATOR
- 22 CONTROL PANEL OFFSET 1" FROM WALLS
- 23 6' W X 4' H WINDOW 4" FROM FLOOR
- 24 LOUVERED OPENING
- 25 LOUVERED AIR EXHAUST FOR RADIATOR COOLING AIR
- 26 RECEPTACLE FOR PORTABLE LOAD BANK
- 27 4' X 4' CONCRETE PAD
- 28 6' GREEN VINYL COATED CHAIN LINK FENCE W/ 3-STRAND BARBED WIRE
- 29 6" RESTRAINED FLANGE ADAPTER (EBAA IRON 2100 MEGAFLANGE)
- 30 6" DIP SPOOL FL X PE, LENGTH AS REQUIRED
- 31 6" CHECK VALVE FL
- 32 6" OPEN STEM AND YOLK GATE VALVE FL
- 33 6" ELL 90° FL W/ TAPPED BOSS FOR ARV INSTALLATION
- 34 ARV - APCO # 50 OR EQUAL
- 35 10" X 6" TEE MJ
- 36 1/2" CTS HDPE INSIDE 1-1/2" CONDUIT TO PRESSURE TRANSDUCER
- 37 VALVE BOX W/ EXTENSION
- 38 DRAIN ROCK
- 39 DIESEL SUB BASE FUEL TANK
- 40 10" ELL 45° MJ
- 41 10" PVC DISCHARGE PIPING
- 42 DIESEL FUEL TANK FILL W/ 5 GALLON SPILL CONTAINMENT
- 43 DIESEL FUEL TANK NORMAL VENTS
- 44 DIESEL FUEL TANK PRIMARY EMERGENCY VENT
- 45 DIESEL FUEL TANK SECONDARY EMERGENCY VENT
- 46 ENGINE EXHAUST MUFFLER
- 47 DUCT FOR RADIATOR COOLING AIR, SIZE TO FIT
- 48 FLEX CONNECTOR
- 49 PUMP CAN TAP SEE DETAIL 1/6
- 50 PIPE FLANGE SUPPORT SEE DETAIL 4/6



BUILDING PLAN
1/4" = 1'-0"



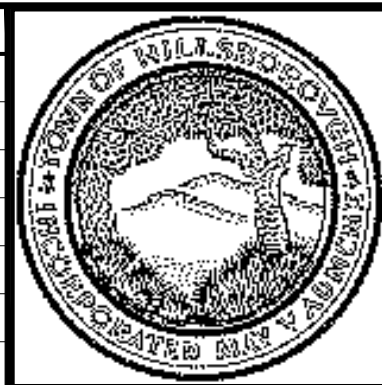
SECTION A
SCALE: 1/4" = 1'-0"
C7



SECTION B
SCALE: 1/4" = 1'-0"
C7

90% SUBMITTAL

NO	REVISIONS	DATE	APPR
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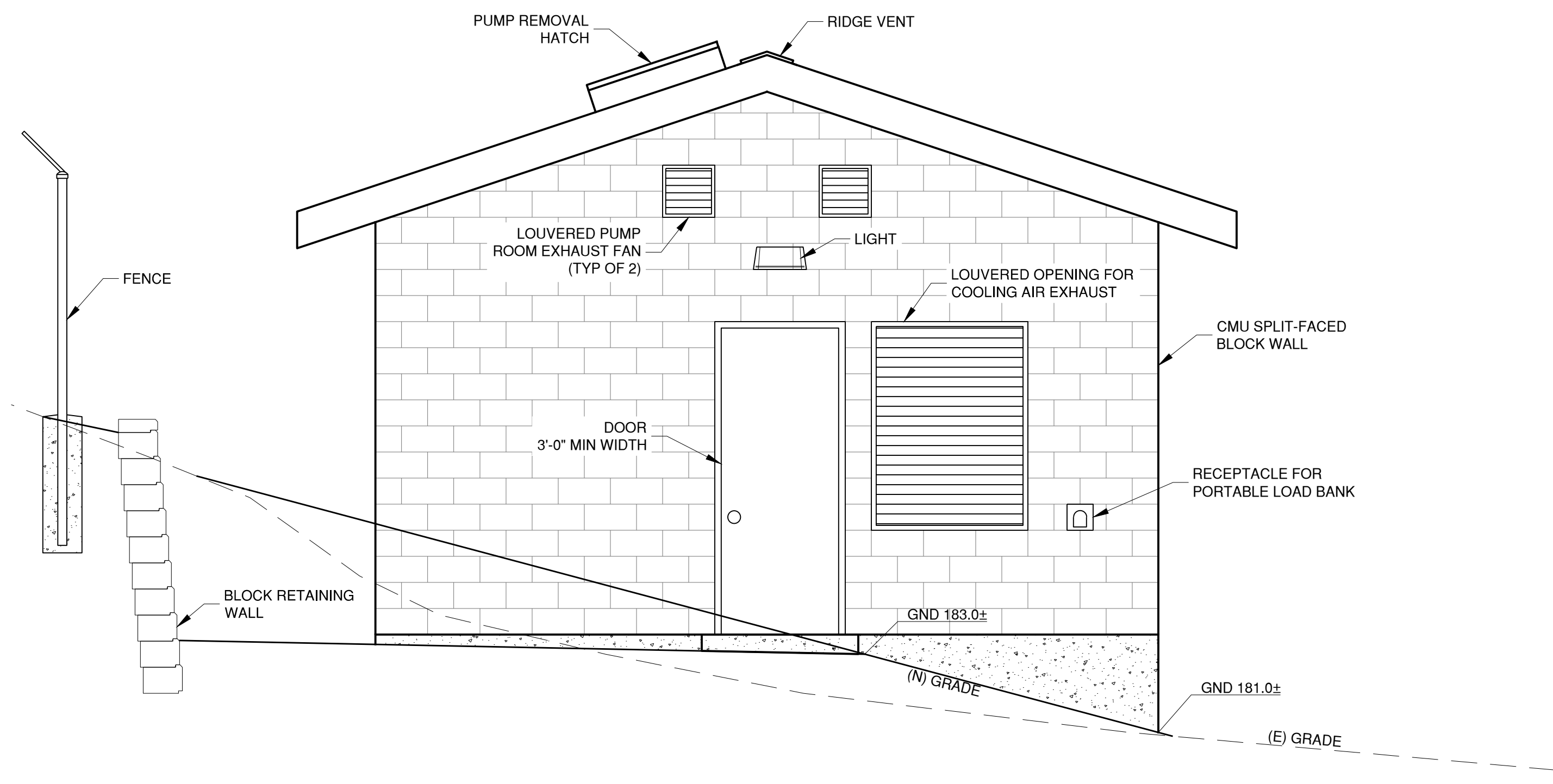
Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS
1171 HOMESTEAD ROAD, STE 255
SANTA CLARA, CA 95050
(408) 246-4848



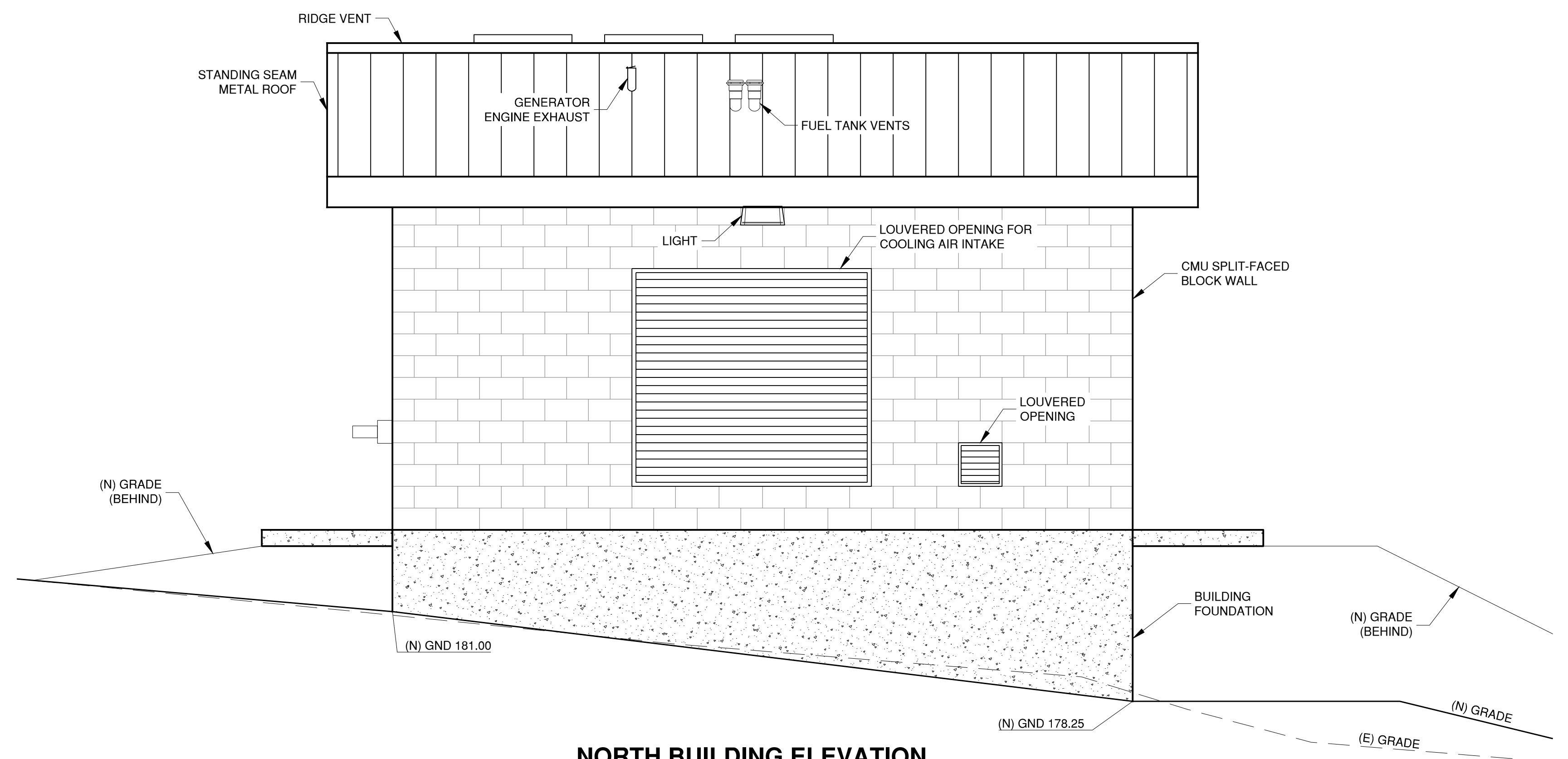
TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
BUILDING AND PIPING PLAN

DATE:	12/04/17
SCALE:	AS SHOWN
DESIGN:	PCJ
DRAWN:	MRG
CHECKED:	PCJ

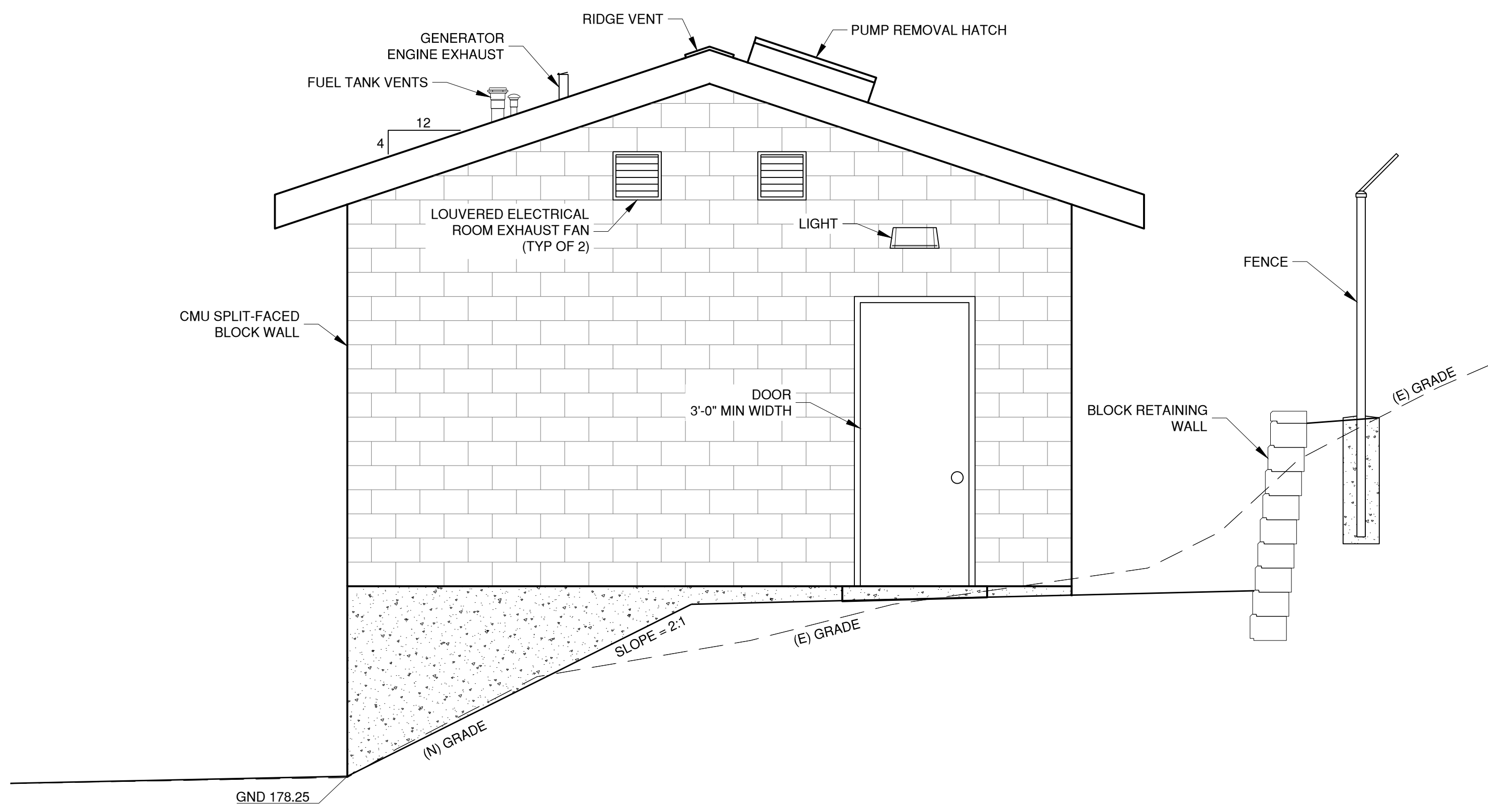
SHEET
C7
9 OF **38**



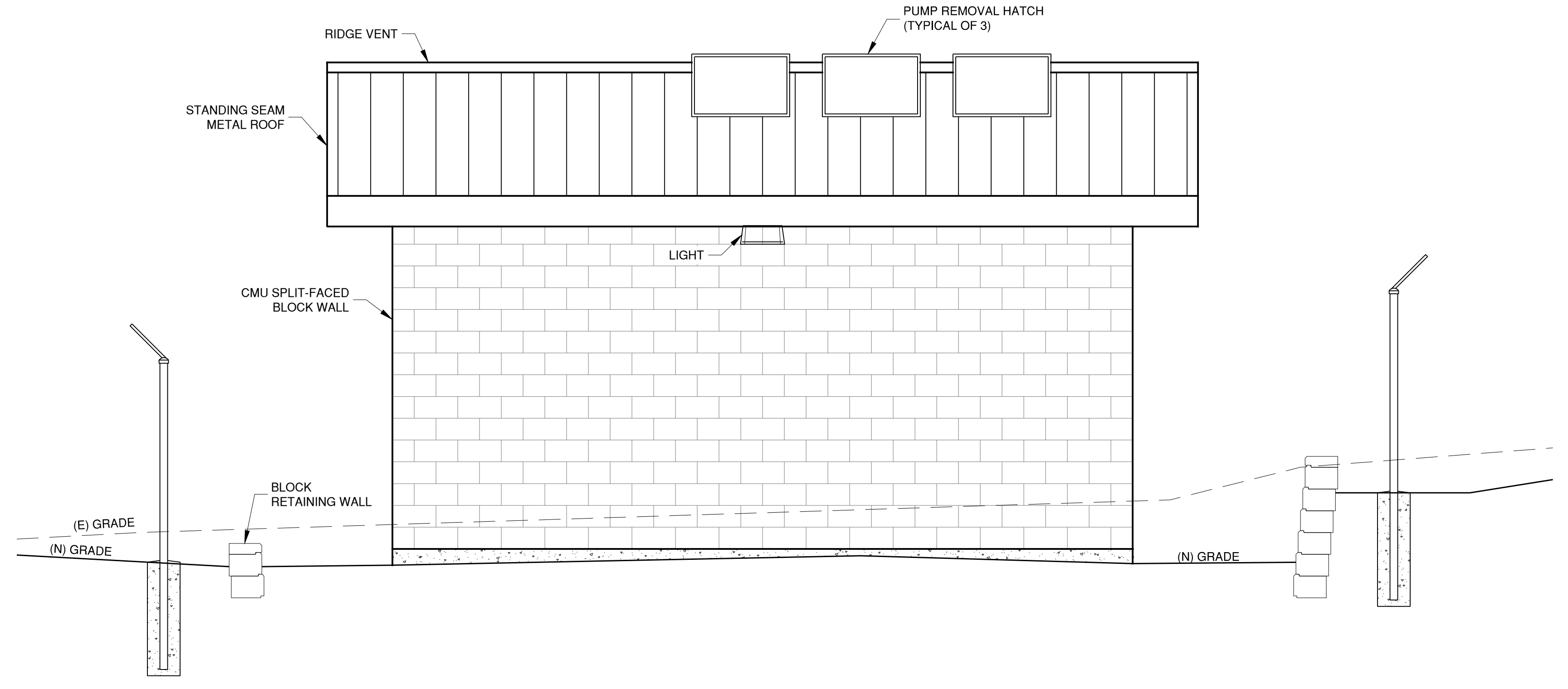
EAST BUILDING ELEVATION
3/8" = 1'-0"



NORTH BUILDING ELEVATION
3/8" = 1'-0"



WEST BUILDING ELEVATION
3/8" = 1'-0"



SOUTH BUILDING ELEVATION
3/8" = 1'-0"

NOTES:
1. ALL EXTERIOR DOORS AND WOOD AND SHALL BE PAINTED TO MATCH.

90% SUBMITTAL

NO	REVISIONS	DATE	APPR
1			
2			
3			
4			
5			



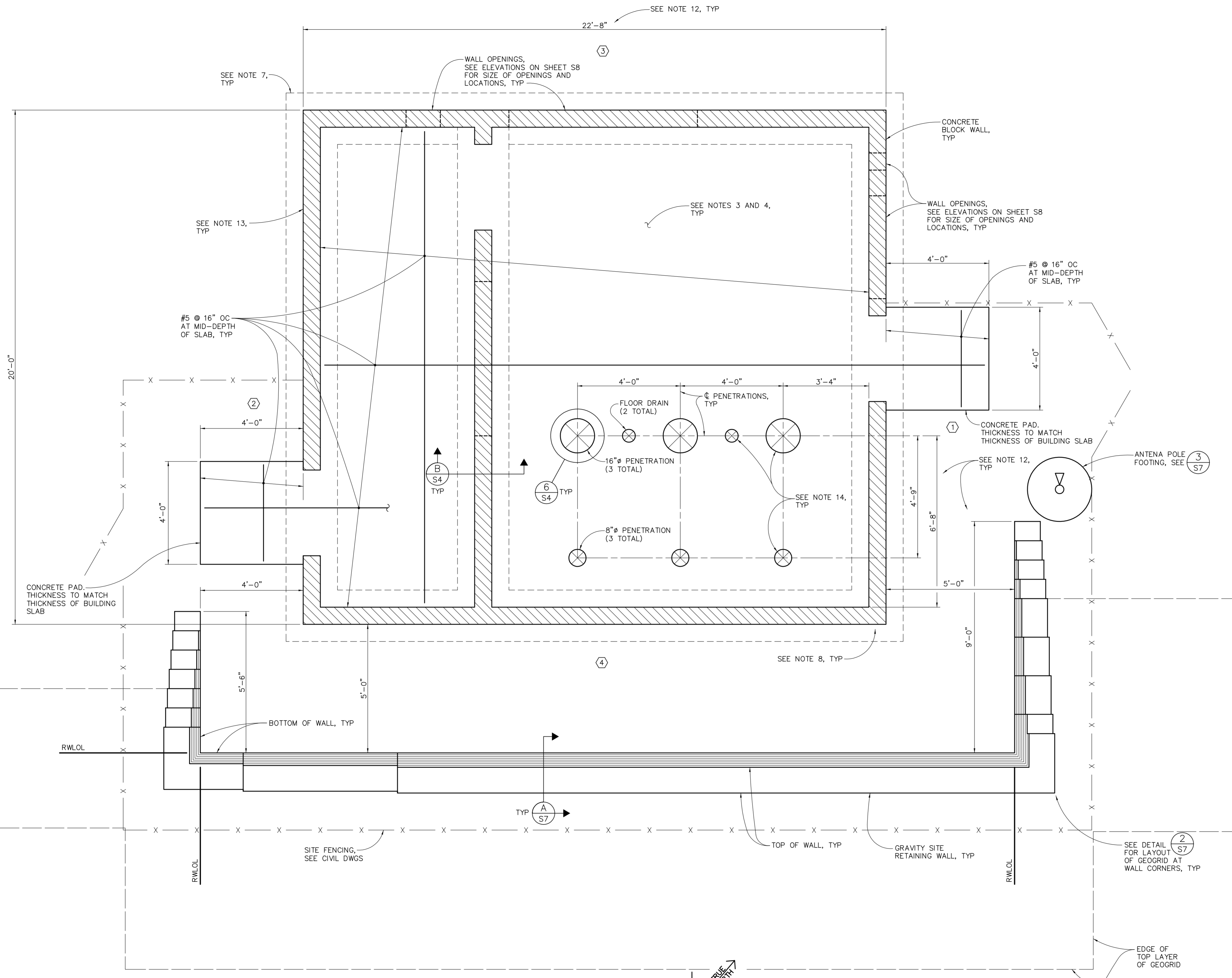
Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS
1171 HOMESTEAD ROAD, STE 255
SANTA CLARA, CA 95050
(408) 246-4848



TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
BUILDING ELEVATIONS

DATE: 12/04/17
SCALE: AS SHOWN
DESIGN: PCJ
DRAWN: LNF
CHECKED: PCJ

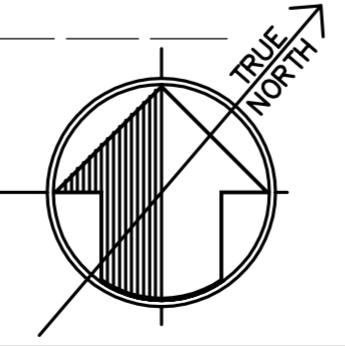
SHEET
C8
10 OF 38



- FOUNDATION NOTES:**
- TOP OF SLAB ELEVATION AT GROUND FLOOR PER CIVIL DWGS = 183'-6" TYP, UON.
 - FOR DETAILED SOILS INFORMATION, REFER TO SOILS REPORT BY CORNERSTONE EARTH GROUP, INC. DATED 08/09/2017.
 - TYPICAL SLAB SECTION IN PUMP STATION AS FOLLOWS:**
 - 6" THICK CONCRETE SLAB
 - 4" OF 3/4" CRUSHED ROCK
 - FOR CONCRETE SLAB-ON-GRADE, THE NATIVE SOIL SHALL BE TREATED PER GEOTECHNICAL ENGINEERING RECOMMENDATION
 - TWO (2) CONTROL JOINTS, EQUALLY SPACED, ARE TO BE INSTALLED ALONG EACH DIRECTION OF THE SLAB. CONTROL JOINTS SHALL BE MADE BY SAW CUTTING SLAB WITH THE SOFF-CUT SYSTEM OR APPROVED EQUAL AS SOON AS THE SURFACE IS FIRM ENOUGH SO THAT IT WILL NOT BE DAMAGED BY THE BLADE, USUALLY WITHIN 2 TO 4 HOURS AFTER FINAL FINISHING (NO LATER THAN 8 HOURS AFTER PLACEMENT). SAWCUT DEPTH SHALL BE 1/4 OF THE SLAB DEPTH (1 1/2" MAX). CONSTRUCTION JOINTS MAY BE INSTALLED AT THE CONTRACTOR'S OPTION. SEE "TYPICAL SLAB JOINTS" DETAIL FOR CONSTRUCTION JOINT & CONTROL JOINT. SEE DETAIL (4/S4).
 - ALL CONTRACTORS WILL BE RESPONSIBLE FOR THE VERIFICATION OF LOCATIONS OF ALL EXISTING UTILITIES IN THE FIELD. ALL CONTRACTOR'S SHALL CALL U.S.A., (CA. 1-800-227-2600) 48 HOURS BEFORE DIGGING. EXCAVATION FOR UNDERGROUND FACILITIES SHALL NOT BE PERMITTED PRIOR TO UNDERGROUND SERVICE ALERT'S IDENTIFICATION OF EXISTING UTILITIES.
 - THE SIZE & LOCATION OF ALL FOOTING AND SLAB PENETRATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW PRIOR TO INSTALLATION
 - FOR TYPICAL FOOTING INTERSECTION, SEE DETAIL (3/S4).
 - FOR CMU WALL INTERSECTION, SEE DETAIL (B/S6).
 - FOR TYPICAL HOOKS, BENDS & LAP OF REINFORCING IN CONCRETE, SEE DETAIL (1/S4).
 - FOR DETAILS OF PIPES THROUGH FOOTINGS, SEE DETAIL (5/S4).
 - CONCRETE CONTRACTOR IS RESPONSIBLE FOR THE PLACEMENT OF ALL EMBEDDED ITEMS.
 - VERIFY ALL DIMENSIONS WITH CIVIL DWGS.
 - SEE CMU WALL ELEVATIONS ON SHEET S8 FOR FOOTING CROSS-SECTION CALLOUTS AROUND PERIMETER OF BUILDING.
 - SEE CIVIL DWGS TO VERIFY/OBTAIN LOCATIONS OF SLAB PENETRATIONS.
 - FOR REINFORCING LAP SPLICE SCHEDULE IN CONCRETE, SEE DETAIL (2/S4).

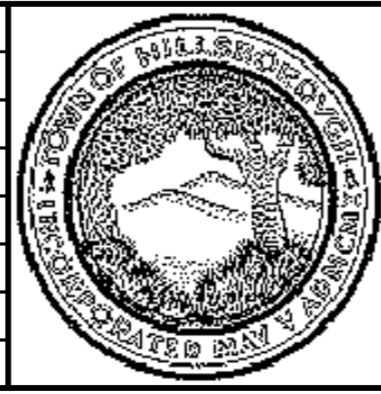
- LEGEND:**
- (---) INDICATES FOOTING.
 - (---) INDICATES CONCRETE BLOCK WALL ABOVE.
 - (1) INDICATES WALL/PANEL ELEVATION TO BE VIEWED FROM SYMBOL SIDE. SEE SHEET S8 FOR ELEVATIONS.

FOUNDATION PLAN
1/2" = 1'-0"



NOT FOR CONSTRUCTION (11/21/17) **90% SUBMITTAL**

NO	REVISIONS	DATE	APPR



BIGGS CARDOSA ASSOCIATES INC
STRUCTURAL ENGINEERS
865 The Alameda
San Jose, California 95126
408-296-5515

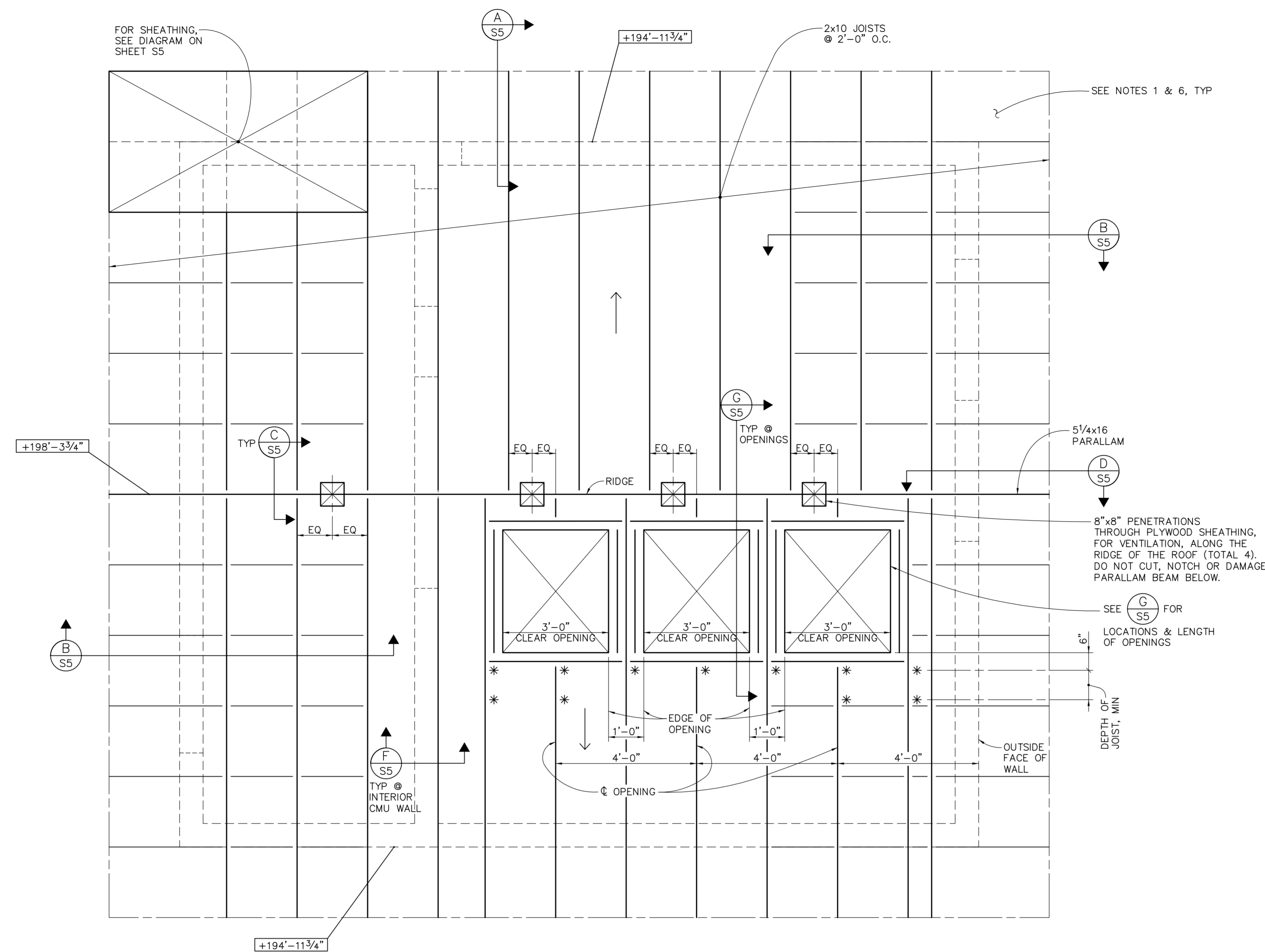
BCA

ONLY THE MOST CURRENT WET SIGNED DOCUMENTS CONSTITUTE THE PROFESSIONAL WORK OF BIGGS CARDOSA ASSOCIATES, INC. IF THERE ARE ANY DIFFERENCES BETWEEN THE MOST CURRENT WET SIGNED DOCUMENTS AND EARLIER OR NOT WET SIGNED VERSIONS OF THE DOCUMENTS, THE MOST CURRENT WET SIGNED DOCUMENTS SHALL GOVERN. BIGGS CARDOSA ASSOCIATES, INC. IS NOT RESPONSIBLE FOR ANY MODIFICATIONS MADE TO OUR DOCUMENTS BY ANYONE OTHER THAN THE ENGINEER OF RECORD FOR BIGGS CARDOSA ASSOCIATES, INC.



TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
PUMP STATION FOUNDATION PLAN

DATE:	11/17/17	SHEET S2 12 OF 34
SCALE:	AS SHOWN	
DESIGN:	FJC	
DRAWN:	RLQ	
CHECKED:		



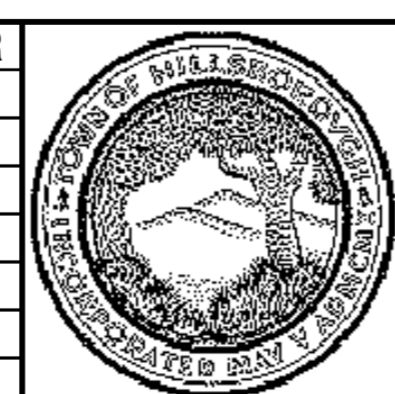
- ROOF FRAMING NOTES:**
1. ROOF SHEATHING TO BE 3/4" RATED SHTG W/ ZONE A FASTENING. SEE SHEET S5 FOR "ROOF SHEATHING FASTENING SCHEDULE (SFRS)"
 2. CONTRACTOR TO VERIFY ALL DIMENSIONS AND ELEVATIONS SHOWN WITH ARCHITECTURAL DRAWINGS AND INFORM BOTH ARCHITECT AND ENGINEER OF ANY CONFLICTING INFORMATION.
 3. INSTALL EXTRA 2x6 AT RIDGE & VALLEY LOCATIONS WHERE NECESSARY.
 4. JOISTS AND THEIR COMPONENTS SHALL NOT BE CUT, NOTCHED, SPLICED OR OTHERWISE ALTERED WITHOUT APPROVAL OF THE ENGINEER OF RECORD.
 5. SLOPE BEAM SEATS TO MATCH BEAM SLOPE FOR FULL BEARING.
 6. SEE CIVIL DWGS FOR ROOFING OVER SHEATHING.
 7. VERIFY ALL DIMENSIONS W/ CIVIL DWGS.

- LEGEND:**
- ← INDICATES DIRECTION OF ROOF SLOPE.
 - INDICATES TOP OF SHEATHING ELEVATION.
 - * LOCATION OF 2" DIA PENETRATIONS THROUGH JOISTS. SEE (1/S5), TYP.

ROOF FRAMING PLAN
 1/2" = 1'-0"

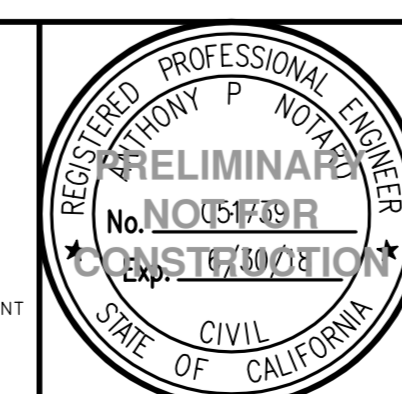
NOT FOR CONSTRUCTION (11/21/17) **90% SUBMITTAL**

NO	REVISIONS	DATE	APPR
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BIGGS CARDOSA ASSOCIATES INC
 STRUCTURAL ENGINEERS
 865 The Alameda
 San Jose, California 95126
 408-296-5515

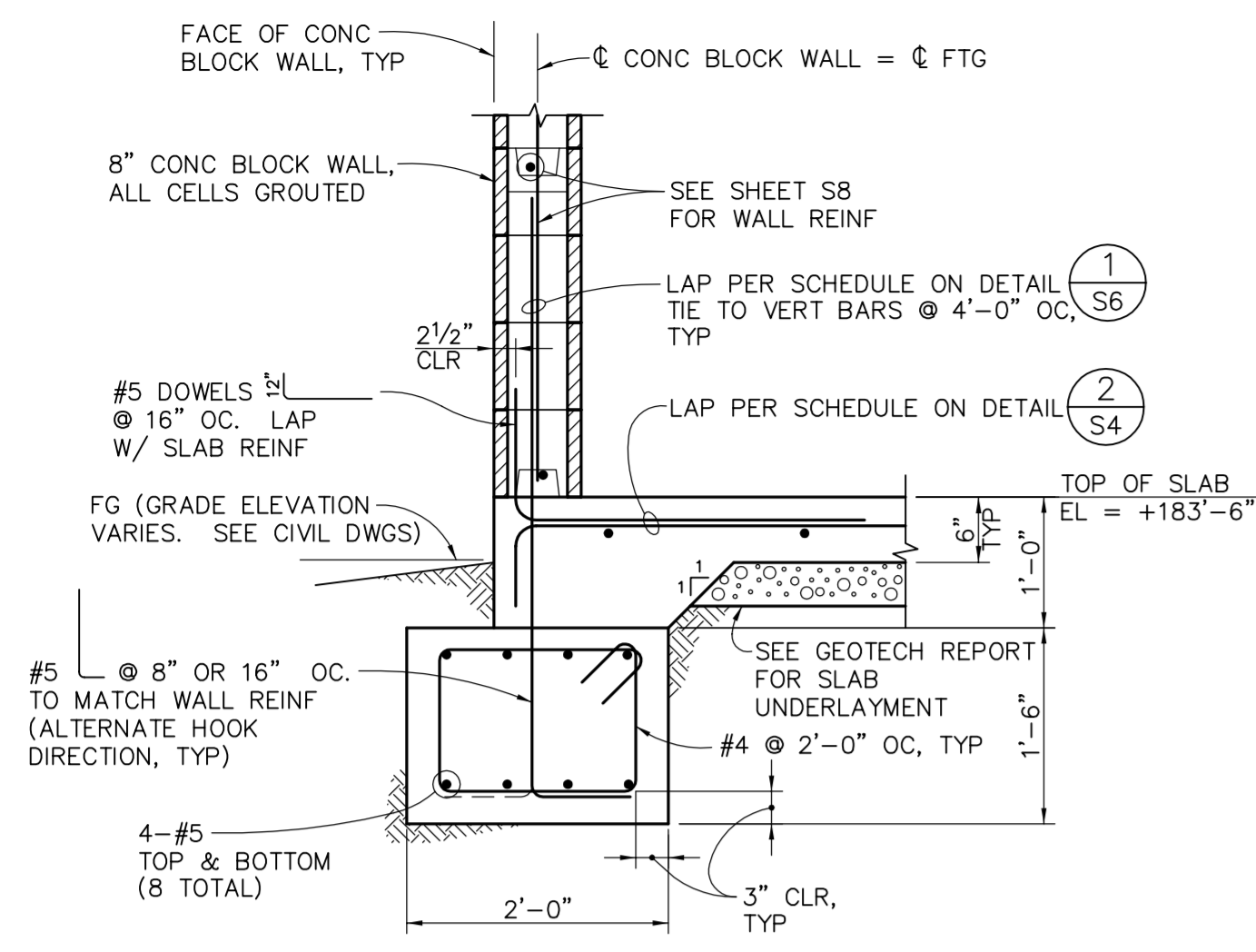
ONLY THE MOST CURRENT WET SIGNED DOCUMENTS CONSTITUTE THE PROFESSIONAL WORK OF BIGGS CARDOSA ASSOCIATES, INC. IF THERE ARE ANY DIFFERENCES BETWEEN THE MOST CURRENT WET SIGNED DOCUMENTS AND EARLIER OR NOT WET SIGNED VERSIONS OF THE DOCUMENTS, THE MOST CURRENT WET SIGNED DOCUMENTS SHALL GOVERN. BIGGS CARDOSA ASSOCIATES, INC. IS NOT RESPONSIBLE FOR ANY MODIFICATIONS MADE TO OUR DOCUMENTS BY ANYONE OTHER THAN THE ENGINEER OF RECORD FOR BIGGS CARDOSA ASSOCIATES, INC.



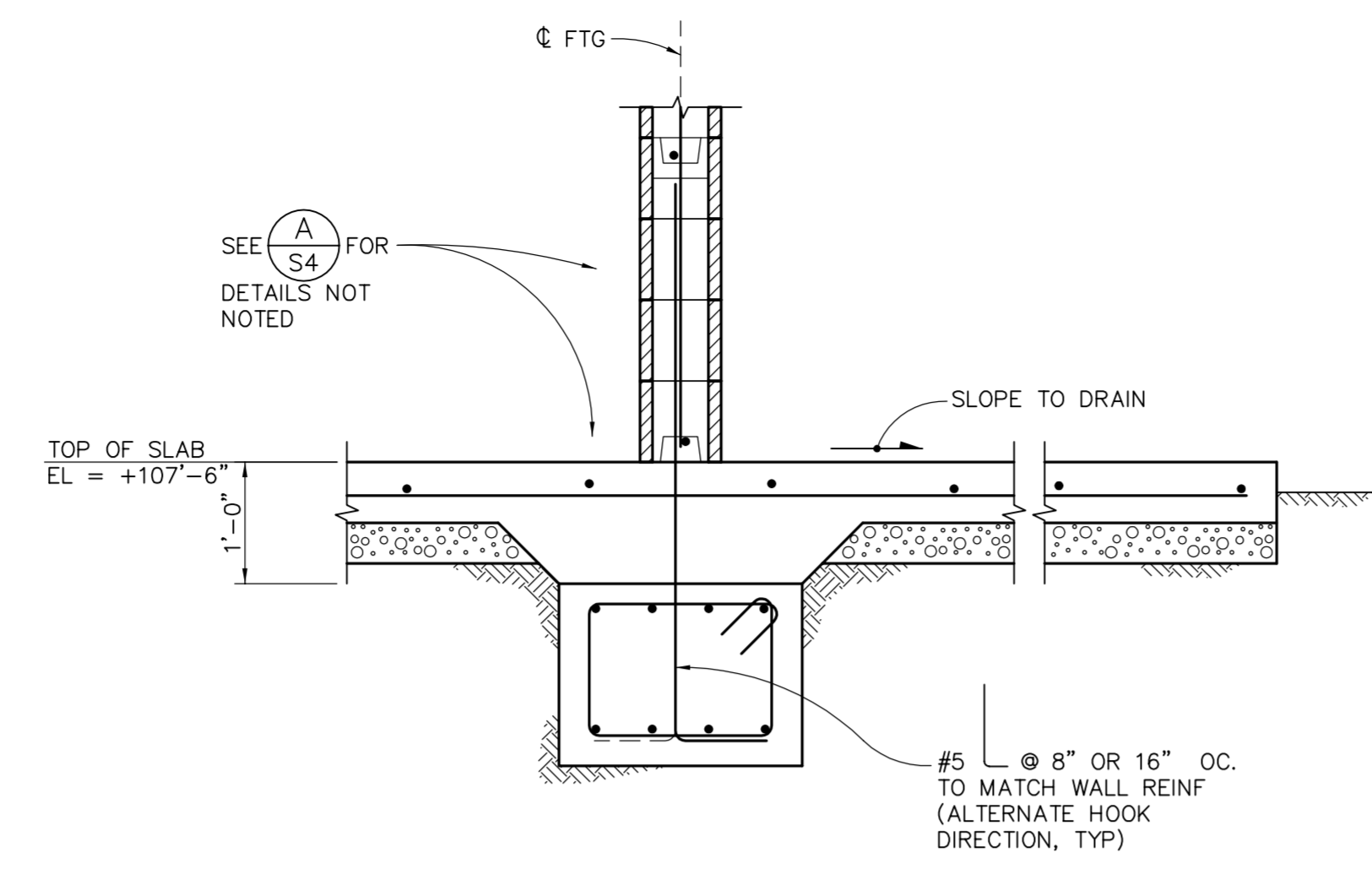
**TOWN OF HILLSBOROUGH
 CHERRY CREEK PUMP STATION
 PUMP STATION ROOF FRAMING PLAN**

DATE: 11/17/17
 SCALE: AS SHOWN
 DESIGN: FJC
 DRAWN: RLQ
 CHECKED:

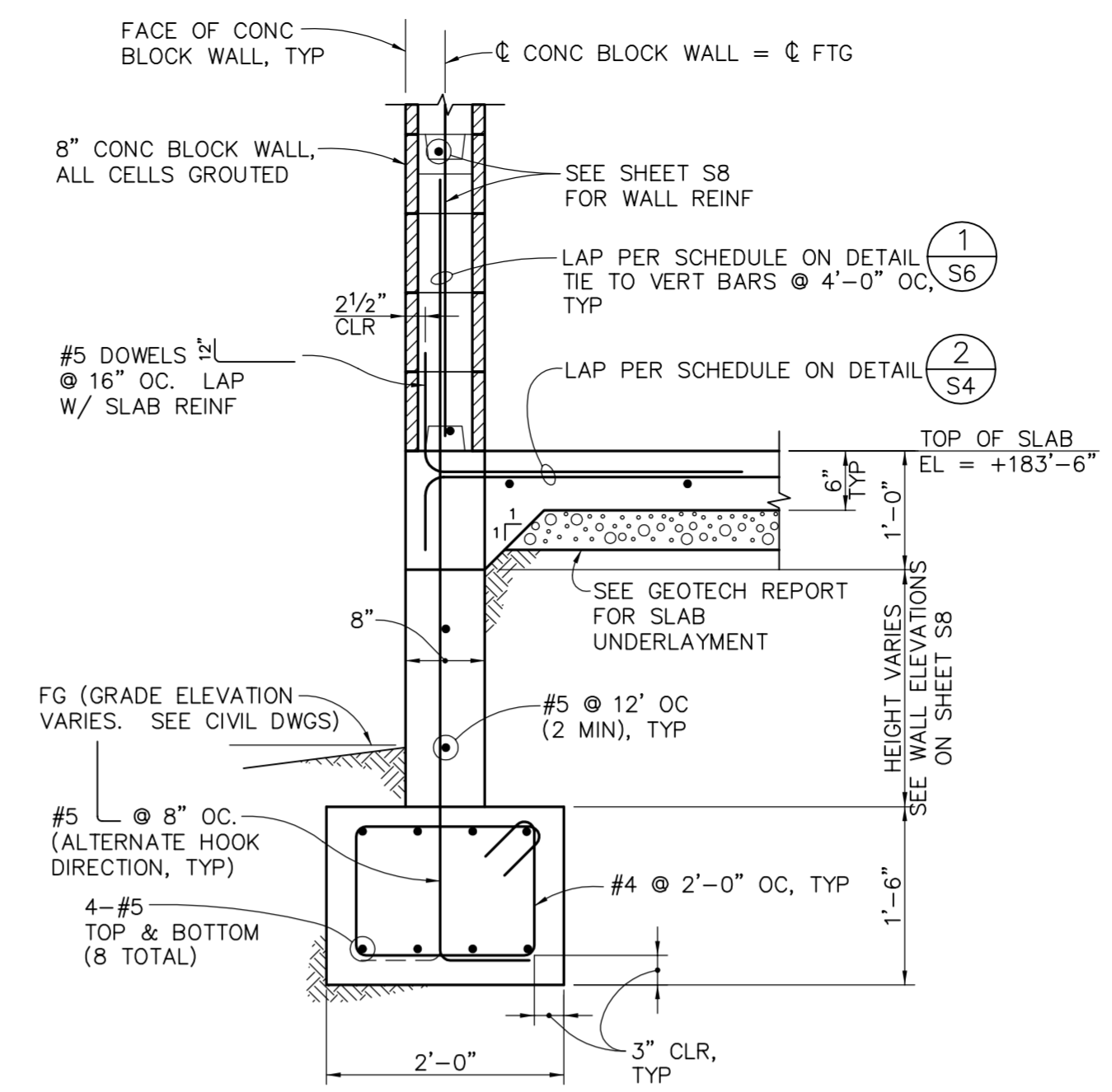
SHEET
S3
13 OF 34



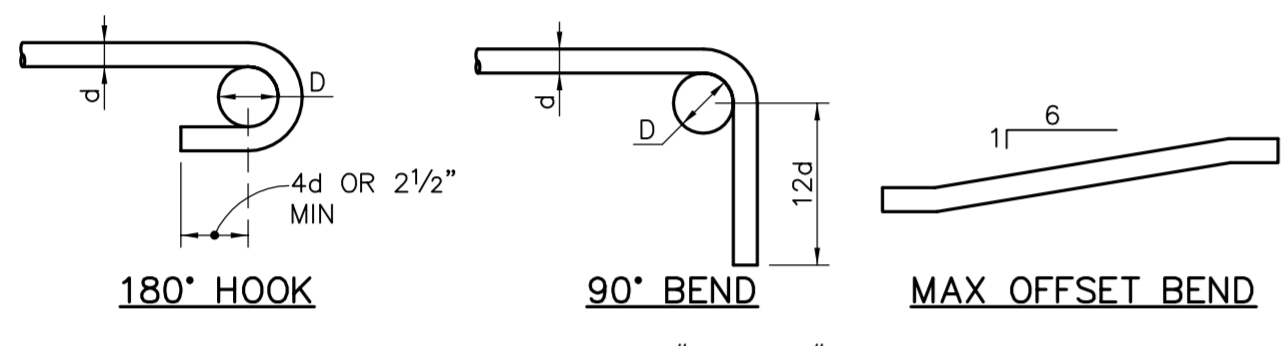
SECTION A
S4
3/4" = 1'-0"



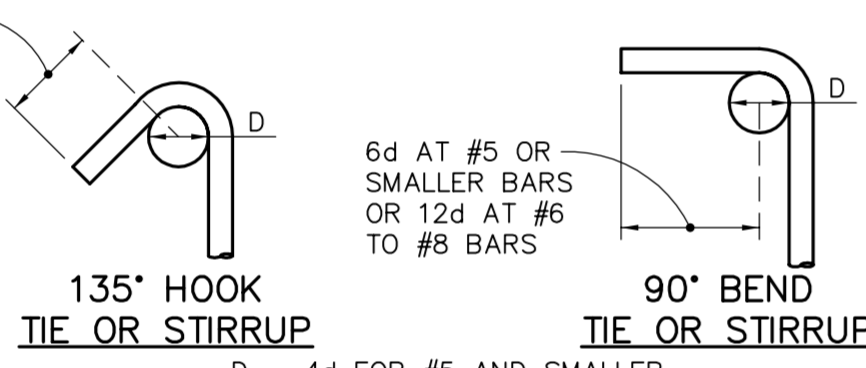
SECTION B
S4
3/4" = 1'-0"



SECTION C
S4
3/4" = 1'-0"



D = 6d FOR #3 THRU #8
D = 8d FOR #9 THRU #11
D = 10d FOR #14 THRU #18



D = 4d FOR #5 AND SMALLER
D = 6d FOR #6 THRU #8
D = 8d FOR #9 THRU #11

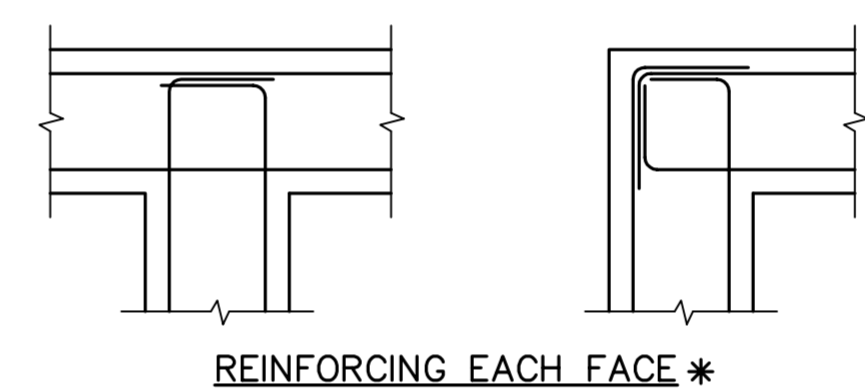
NOTES:
1. ALL BENDS SHALL BE MADE COLD.
2. #14 & #18 BARS SHALL BE BEND-TESTED AND APPROVED PRIOR TO BENDING.

TYPICAL BAR HOOKS & BENDS 1
S4
NO SCALE

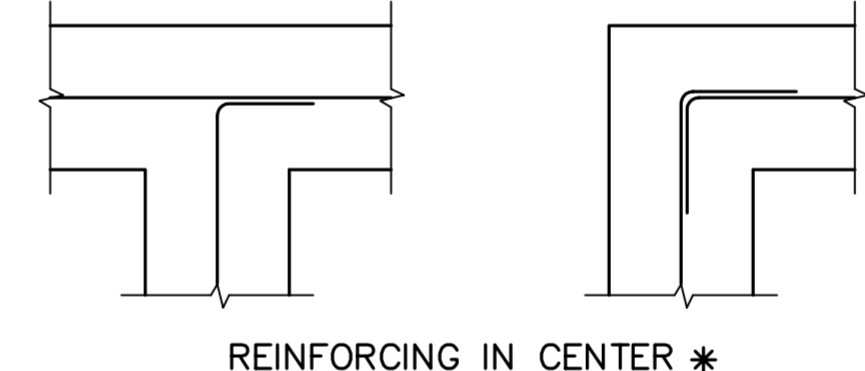
BAR SIZE	f'c=3000 PSI	
	BOTTOM	TOP
#3	16"	18"
#4	18"	24"
#5	24"	30"
#6	36"	42"
#7	42"	54"
#8	54"	72"
#9	66"	84"
#10	78"	102"
#11	96"	120"

NOTES:
1. LAP SPlice LOCATIONS SHALL BE APPROVED BY THE ENGINEER.
2. THE TOP BAR LAP SPlice SHALL BE USED FOR HORIZONTAL BARS WHERE THERE IS 12" OR MORE OF FRESH CONCRETE BELOW THE BAR. WALL HORIZONTAL BARS ARE "TOP BARS". WALL VERTICAL BARS ARE "BOTTOM BARS".
3. WHEN TWO BARS OF DIFFERENT SIZES ARE SPliced, USE THE SHORTER LAP LENGTH.
4. STAGGER LAP SPlices OF ADJACENT BARS BY 24".
5. INCREASE LAP SPlice LENGTH BY A FACTOR OF 1.3 FOR EPOXY COATED TOP BARS AND 1.5 FOR EPOXY COATED BOTTOM BARS AND 1.33 FOR LIGHT WEIGHT CONCRETE.
6. MINIMUM CENTER TO CENTER BAR SPACING: 3" FOR #6 AND SMALLER, 5" FOR #7 AND LARGER. INCREASE LAP LENGTH BY A FACTOR OF 1.7 FOR SMALLER SPACING, BUT NO LESS THAN 1 1/2" CLEAR DISTANCE FOR #8 AND SMALLER; AND 2 1/2" CLEAR DISTANCE FOR #9 AND LARGER.

LAP SPlice SCHEDULE 2
S4
NO SCALE



REINFORCING EACH FACE *

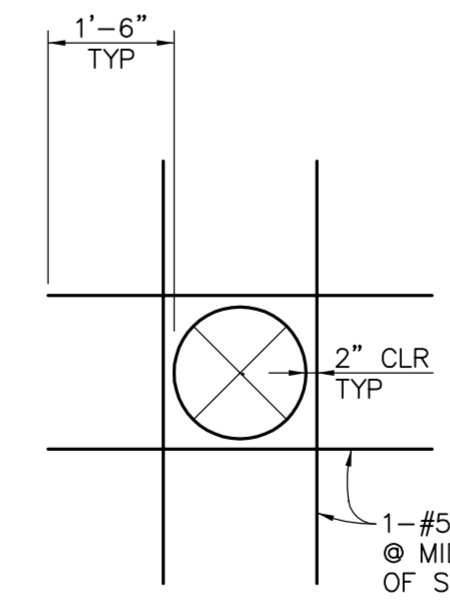


REINFORCING IN CENTER *

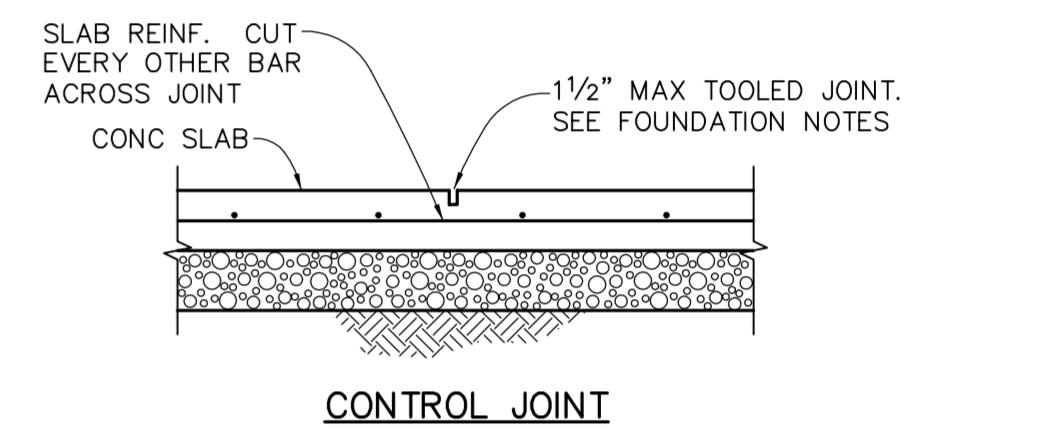
* VERTICAL REINFORCING NOT SHOWN

NOTES:
1. d = BAR DIAMETER.
2. SEE TYPICAL BAR HOOKS & BENDS FOR MIN HOOK DIMENSIONS.

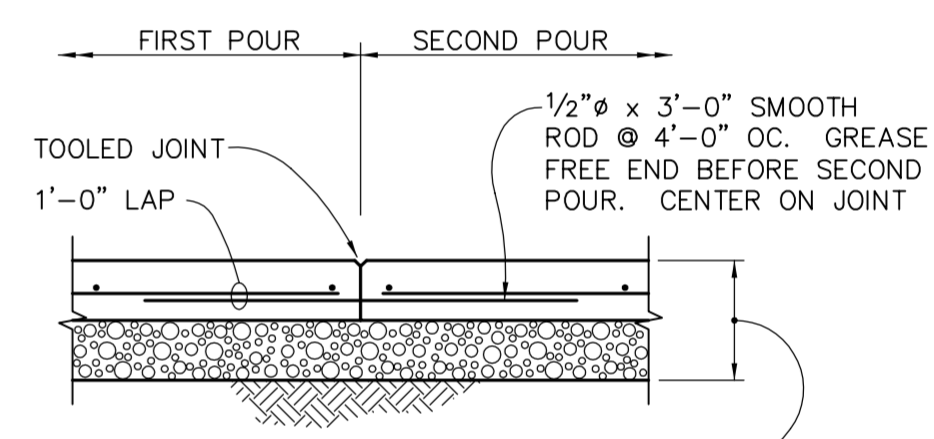
FOOTING INTERSECTIONS 3
S4
3/4" = 1'-0"



TRIM BARS AT SLAB OPENINGS 6
S4
NO SCALE

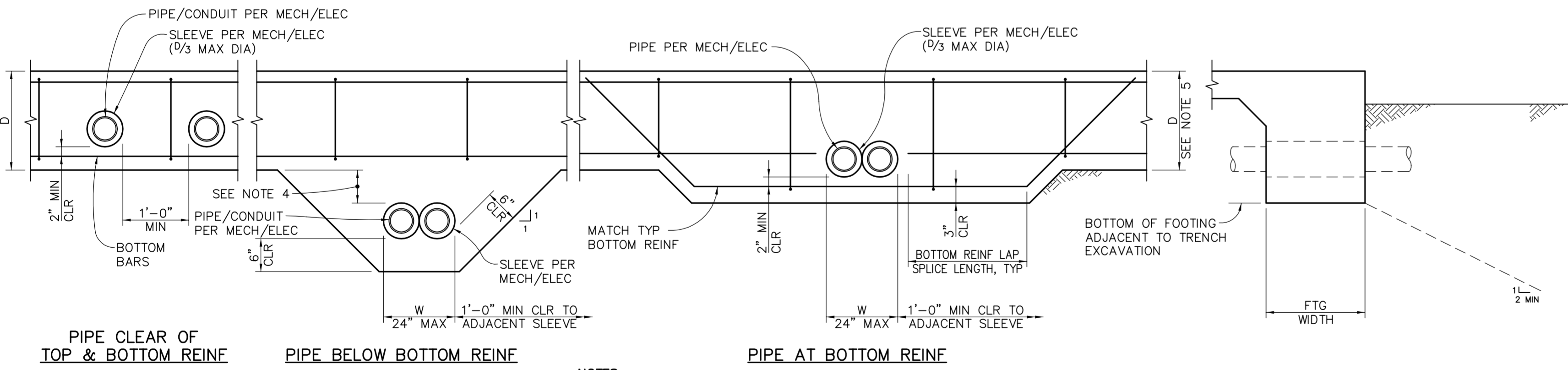


CONTROL JOINT



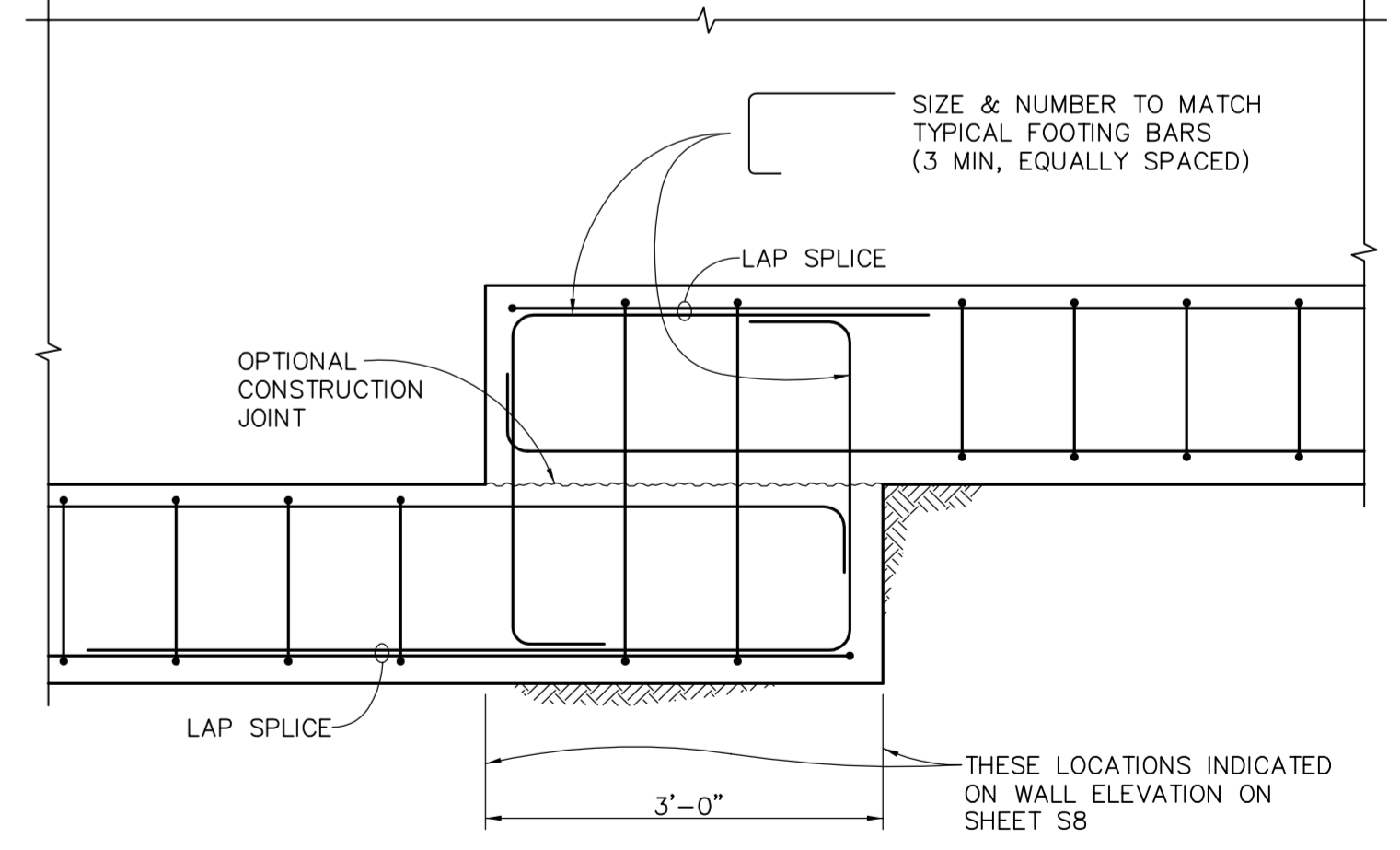
CONSTRUCTION JOINT

TYPICAL SLAB JOINTS 4
S4
NO SCALE



NOTES:
1. SLEEVE ID 2" LARGER THAN PIPE/CONDUIT OD OR BELL OD.
2. SEAL VOID BETWEEN PIPE/CONDUIT AND SLEEVE PER MECH/ELEC.
3. DETAIL APPLICABLE TO MAXIMUM 8" SLEEVE.
4. NO FTG EXTENSION REQ'D FOR PIPE/CONDUIT DEEPER THAN 12" BELOW FTG (SLEEVE STILL REQ'D). EXCAVATE AT LEAST 6 INCHES UNDER AND 18 INCHES WIDER THAN THE PIPE SLEEVE ACROSS THE WIDTH OF THE FOOTING. THE EXCAVATION SHALL BE FILLED WITH LEAN CONCRETE.
5. SEE DETAIL A S4 FOR DIMENSIONS OF FOOTING AND SLAB.

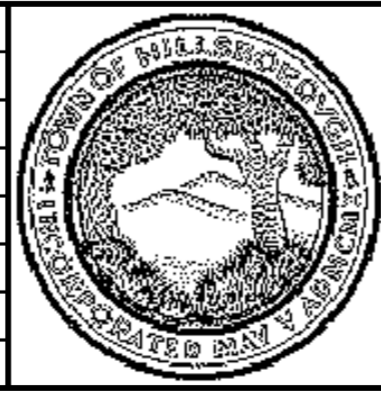
TYPICAL FOOTING PENETRATIONS 5
S4
NO SCALE



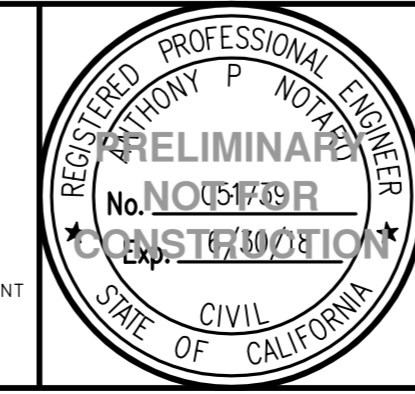
TYPICAL FOOTING STEP 7
S4
3/4" = 1'-0"

NOT FOR CONSTRUCTION (11/21/17) 90% SUBMITTAL

NO	REVISIONS	DATE	APPR



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San Jose, California 95128
408-296-5515



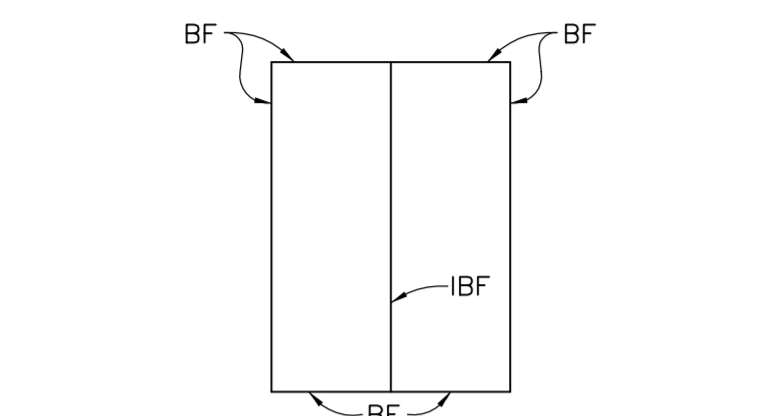
TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
FOUNDATION SECTIONS AND DETAILS

DATE:	11/17/17	SHEET S4 14 OF 34
SCALE:	AS SHOWN	
DESIGN:	FJC	
DRAWN:	RLQ	
CHECKED:		

ROOF SHEATHING FASTENING SCHEDULE (SFRS) 1,2,3,4,5

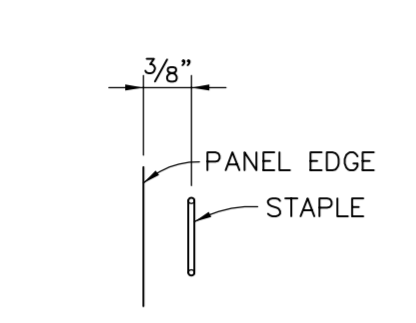
ZONE	ROOF BOUNDARIES	CONTINUOUS PANEL EDGES	OTHER PANEL EDGES	FASTENING NOTES
1	6" OC	6" OC	6" OC	5

- FASTENING NOTES:**
- ALL FASTENERS SHALL BE 10d COMMON OR 16d SINKER NAILS OR 1 1/2" MIN x 3/8" MIN. CROWN x No. 16 STAPLES OR SIMPSON WSNTL2 SCREWS.
 - FASTEN EDGES OF EACH SHEET OF PANEL TO ALL 4x's, 6x's, GL, GIRDER TRUSSES W/ FASTENERS @ 4" OC UNLESS HEAVIER FASTENING IS CALLED ELSEWHERE.
 - FIELD FASTENING SHALL BE @ 12" OC FOR NAILS AND 6" OC FOR STAPLES.
 - USE 10d NAILS FOR DIAPHRAGM.
 - USE SIMPSON PANEL SHEATHING CLIP WHERE EDGES ARE UNBLOCKED.

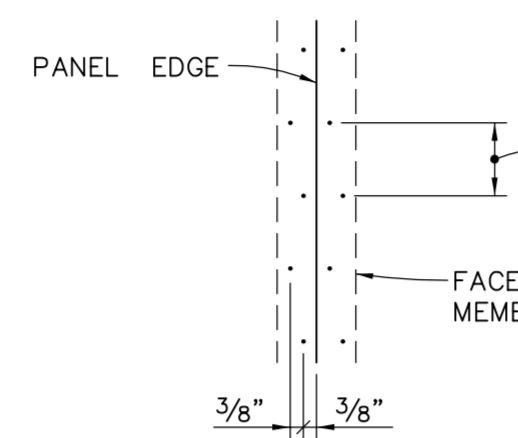


ROOF SHEATHING FASTENING DIAGRAM
NO SCALE

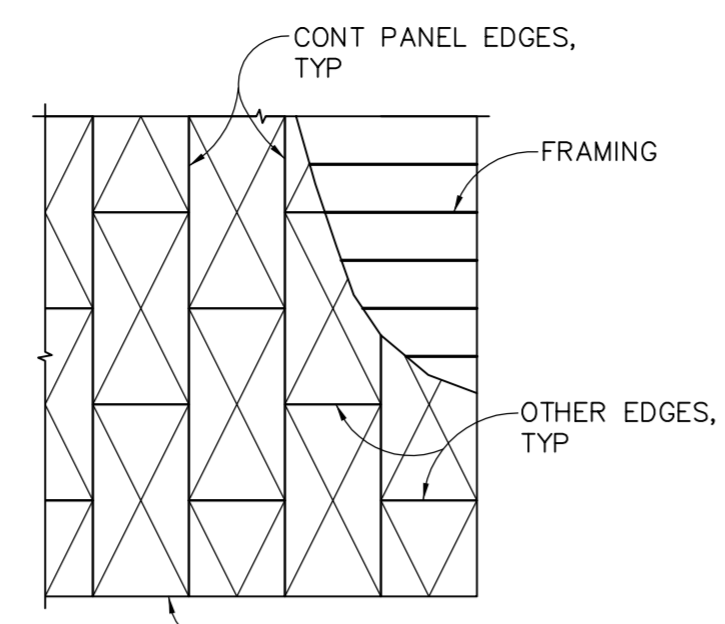
- NOTES:**
BF DENOTES BOUNDARY FASTENING
IBF DENOTES BOUNDARY FASTENING FROM EACH SIDE ADJACENT TO THE BOUNDARY



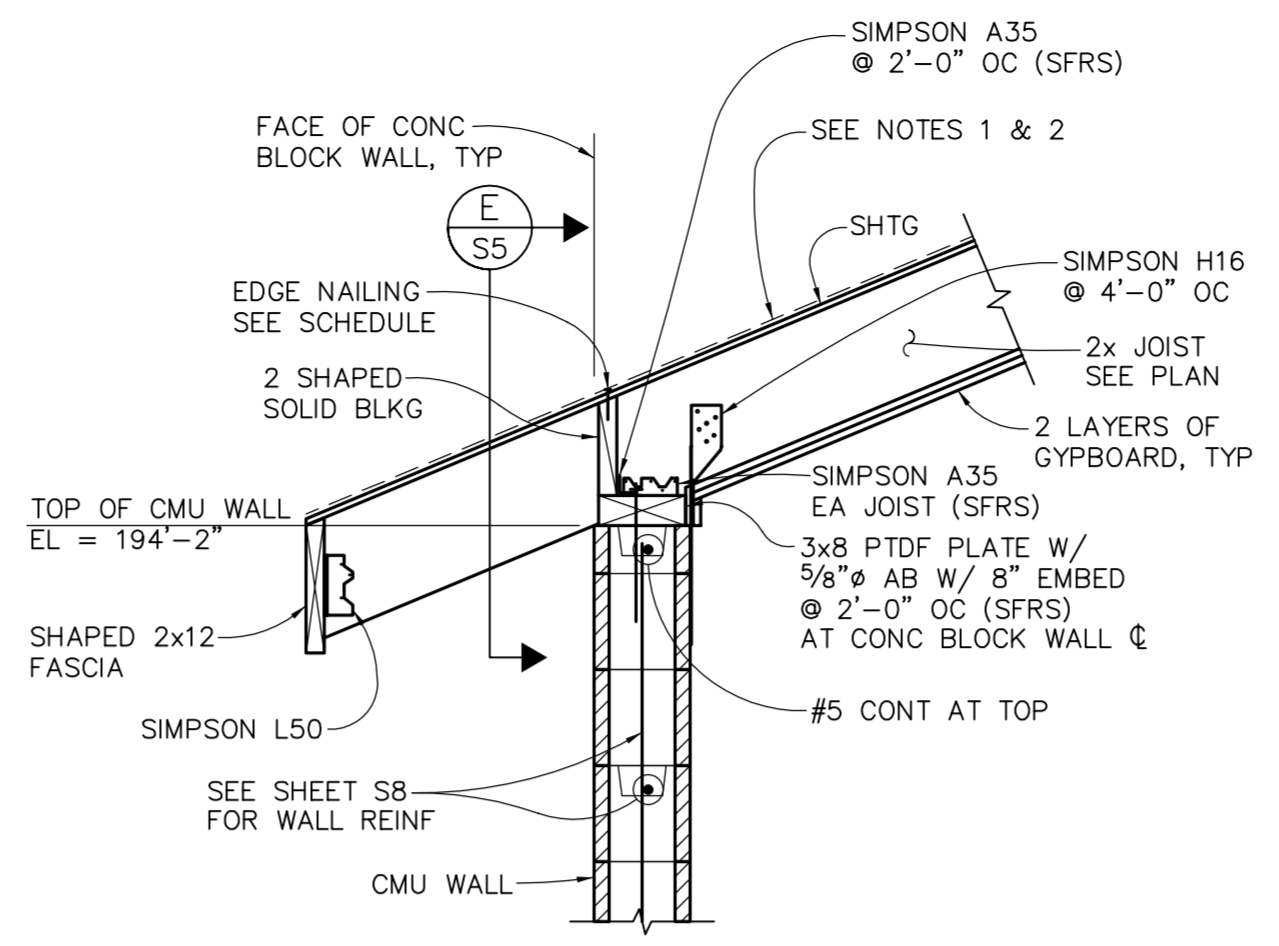
STAPLING DIAGRAM
NO SCALE



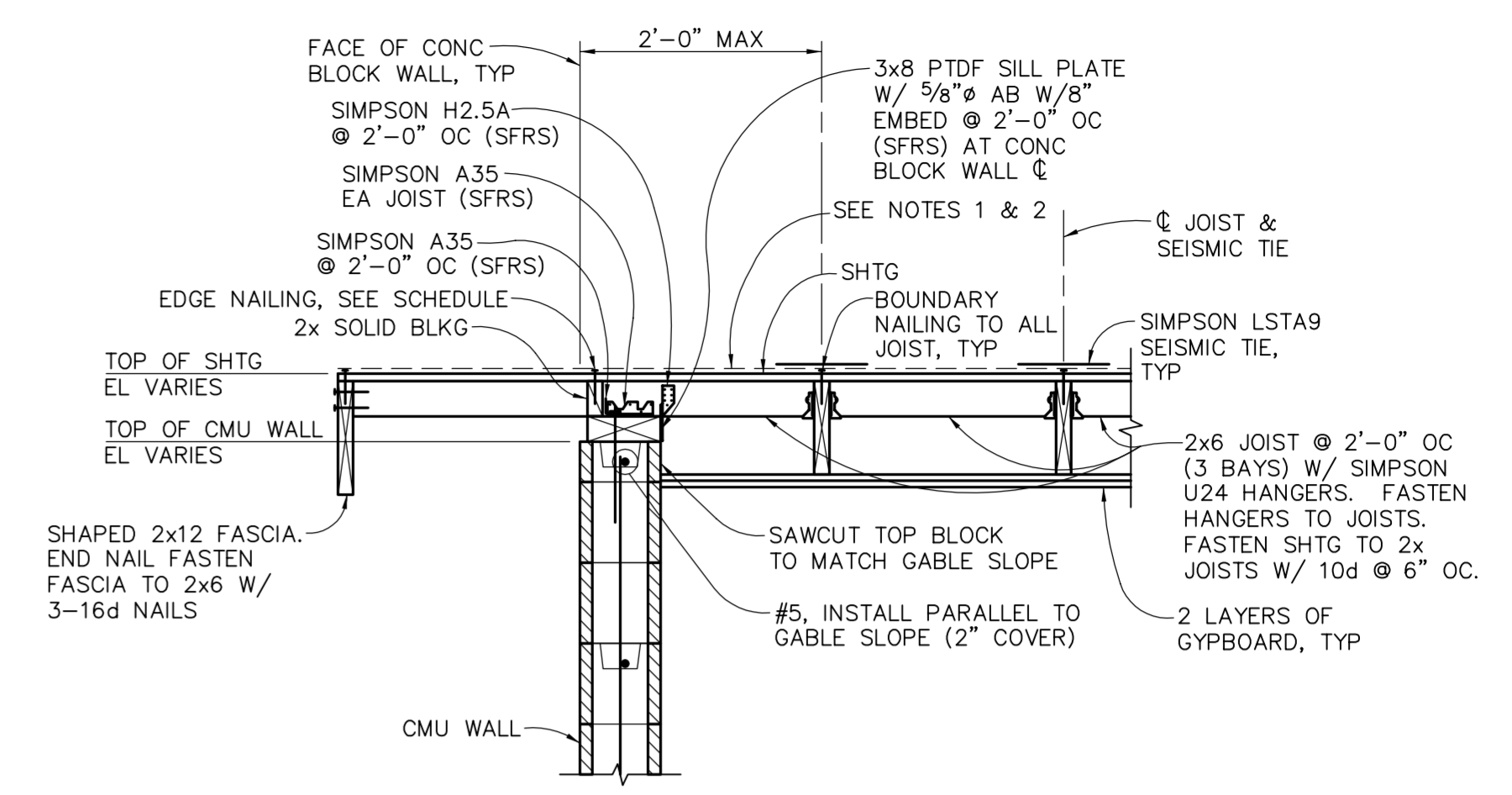
STAGGER DIAGRAM
NO SCALE



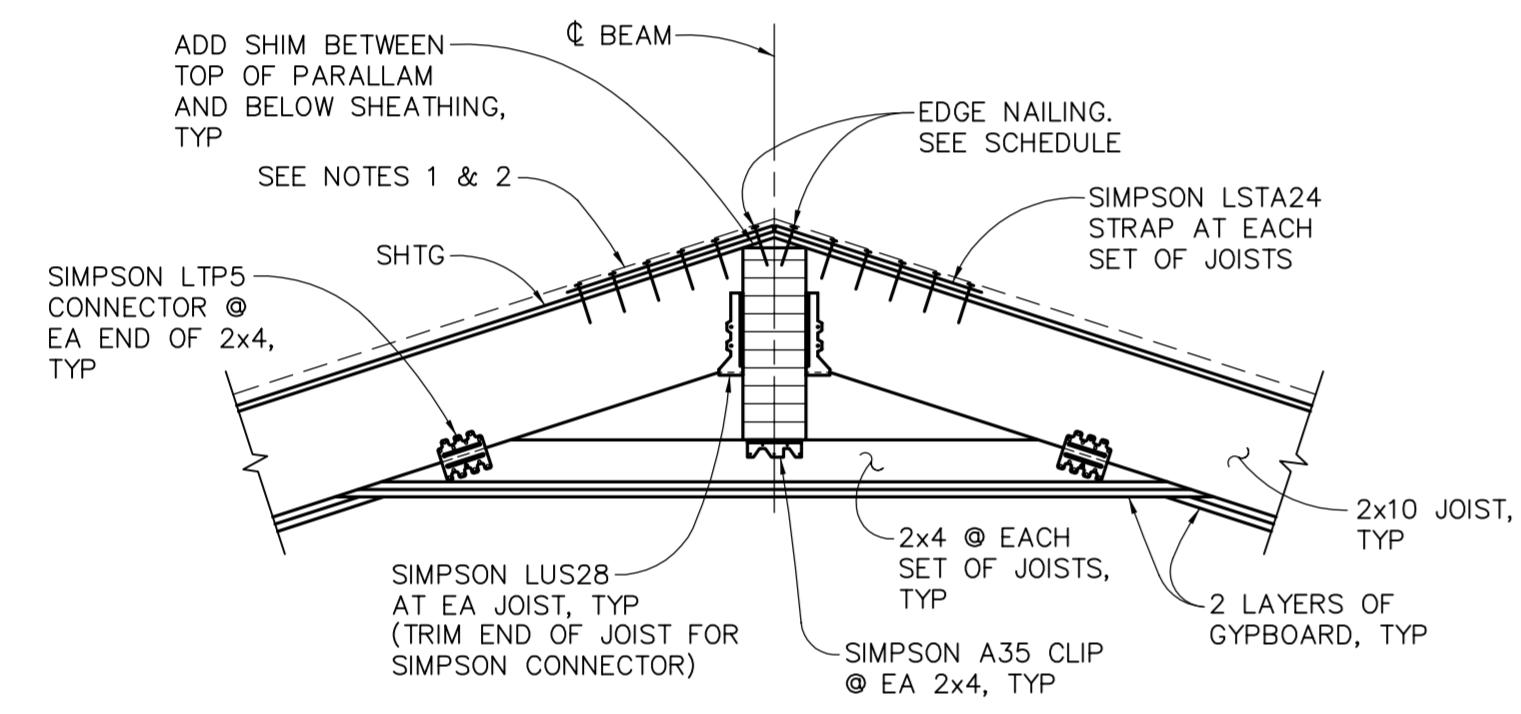
CONT. PANEL EDGES, TYP.
FRAMING
OTHER EDGES, TYP.
ROOF BOUNDARY, TYP. SEE ROOF SHEATHING FASTENING DIAGRAM



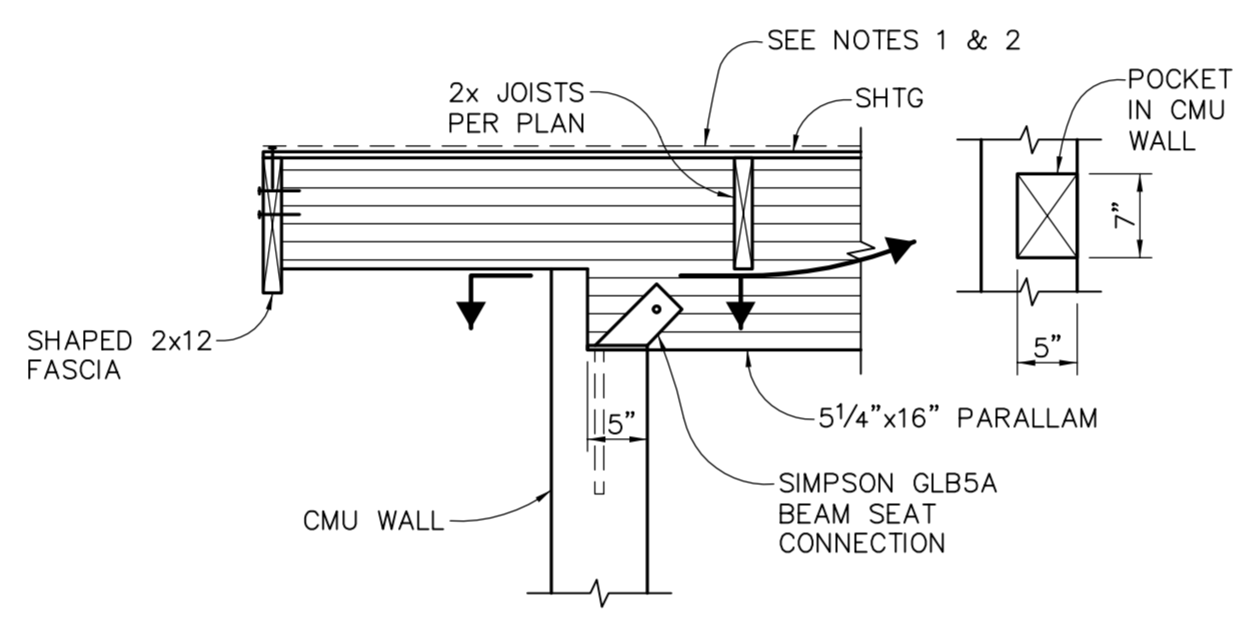
SECTION A
3/4" = 1'-0"



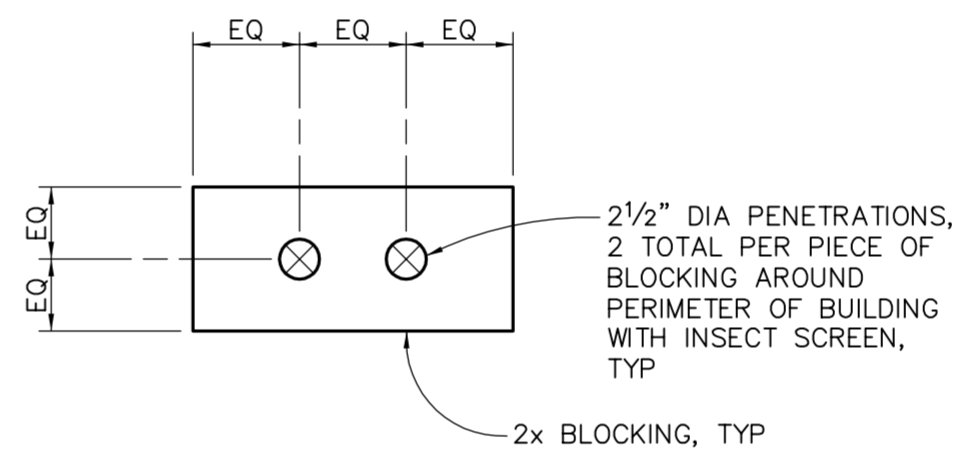
SECTION B
3/4" = 1'-0"



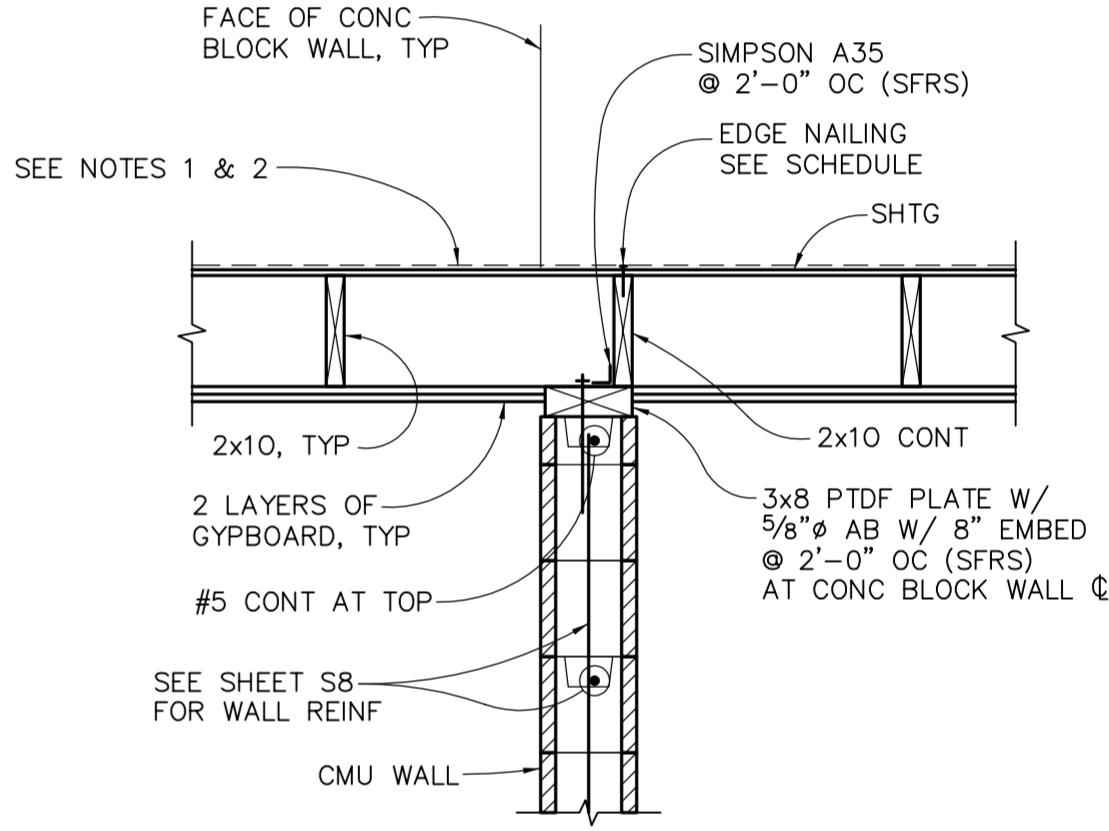
SECTION C
3/4" = 1'-0"



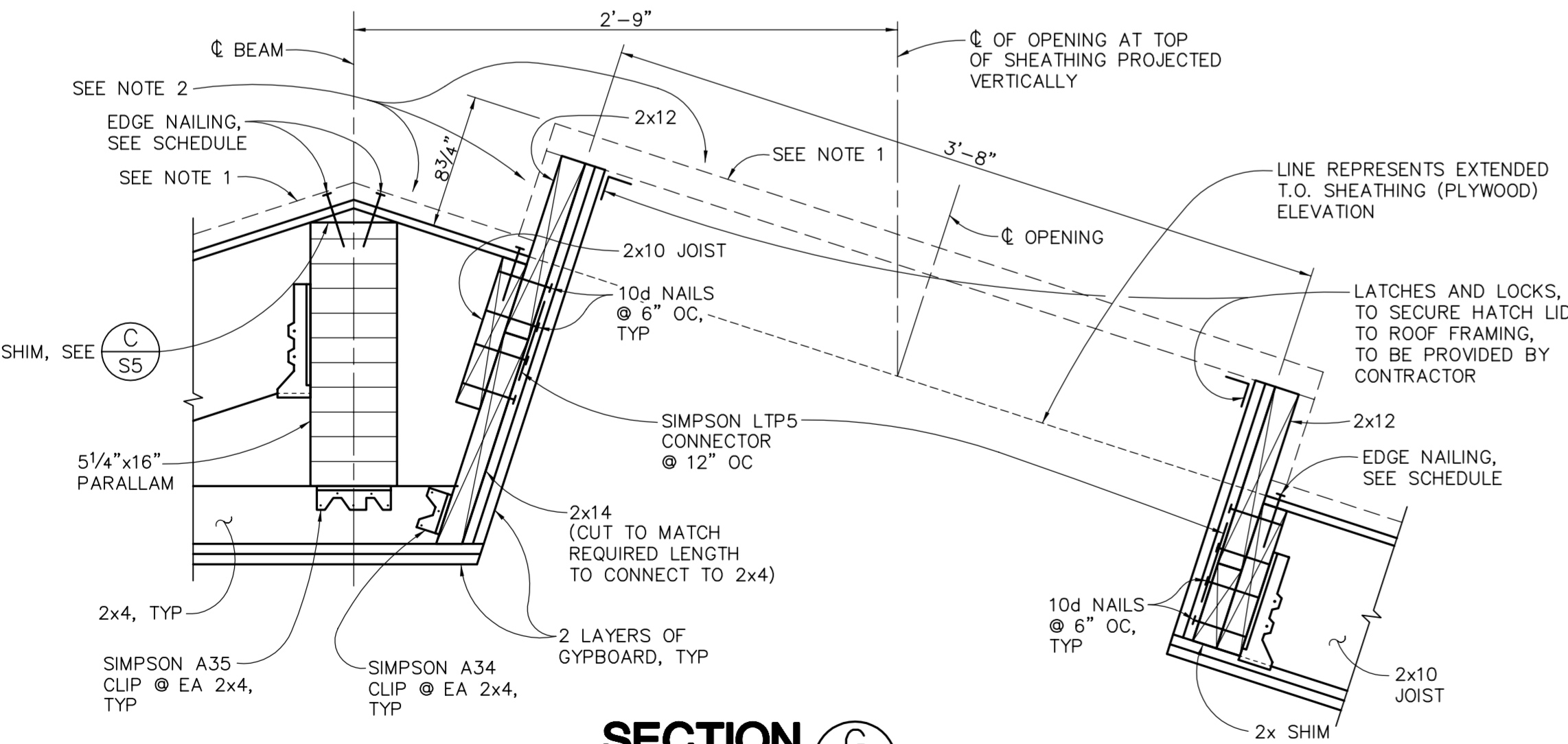
SECTION D
3/4" = 1'-0"



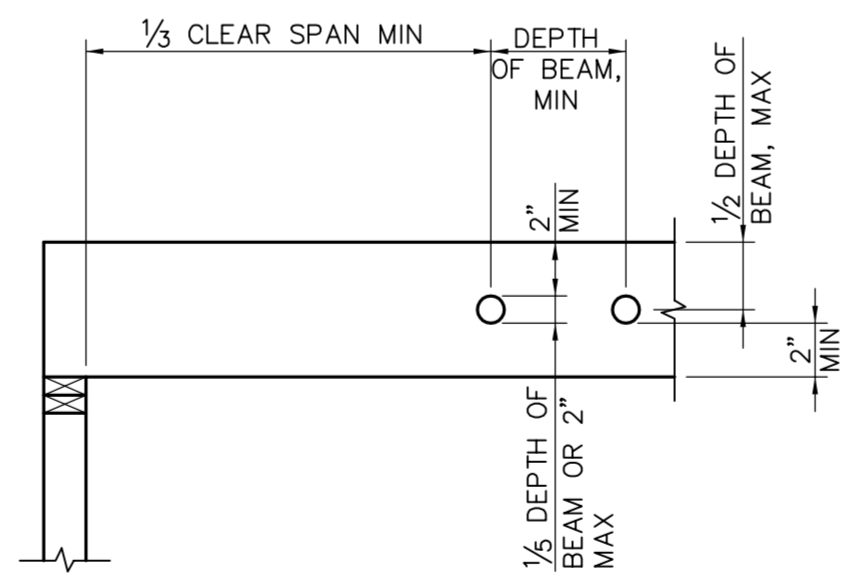
SECTION E
NO SCALE



SECTION F
3/4" = 1'-0"



SECTION G
1 1/2" = 1'-0"



TYPICAL NOTCH/HOLE IN FRAMING
3/4" = 1'-0"

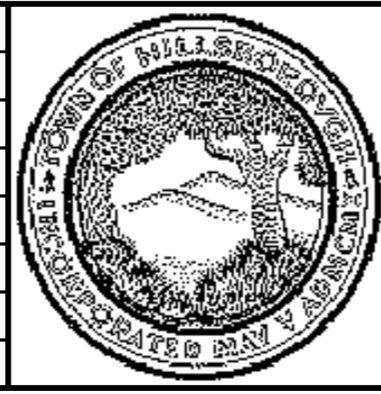
- NOTES:**
- NO HOLES OR NOTCHES ARE PERMITTED IN BOTTOM OF BEAMS OR JOISTS. NO HOLES OR NOTCHES ARE PERMITTED WHERE DEPTH OF BEAM IS 5 1/2" OR LESS.
 - NO NOTCHES ARE PERMITTED WHERE ONE OR BOTH ENDS ARE CANTILEVERED.

HOLES & NOTCHES IN SAWN LUMBER BEAMS & JOISTS

- NOTES:**
- STANDING SEAM ROOF. SEE SPECIFICATIONS FOR FURTHER INFORMATION.
 - ALL WATERPROOFING AND FLASHING NEEDED AT ROOF LEVEL, INCLUDING ROOF PENETRATIONS, TO BE PROVIDED BY THE CONTRACTOR AND WATERPROOFING MATERIAL MANUFACTURER.

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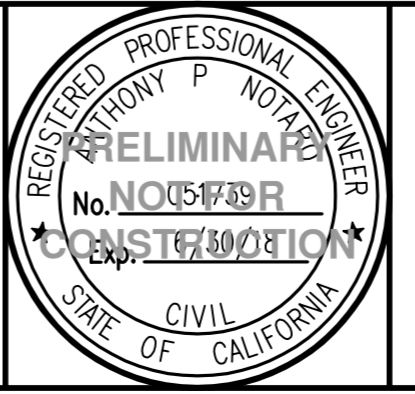
NO	REVISIONS	DATE	APPR



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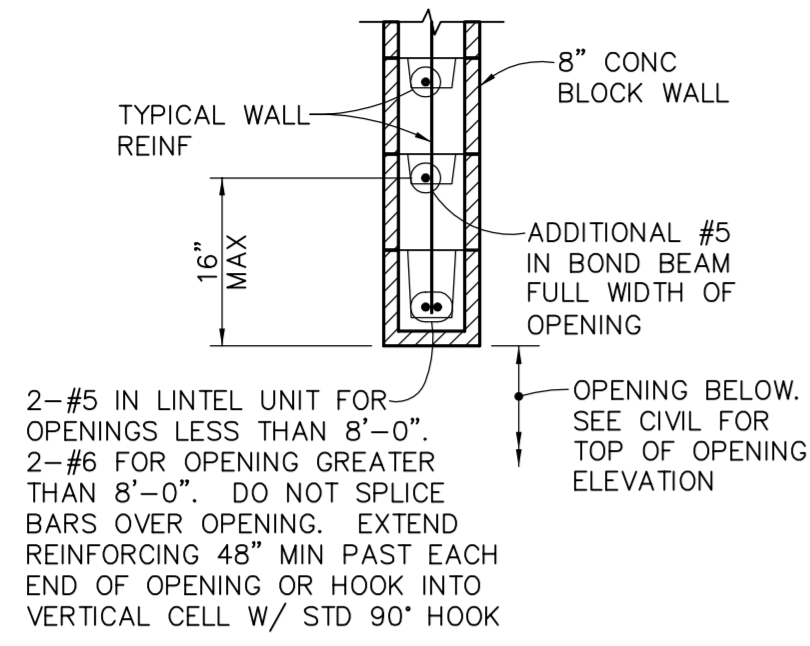
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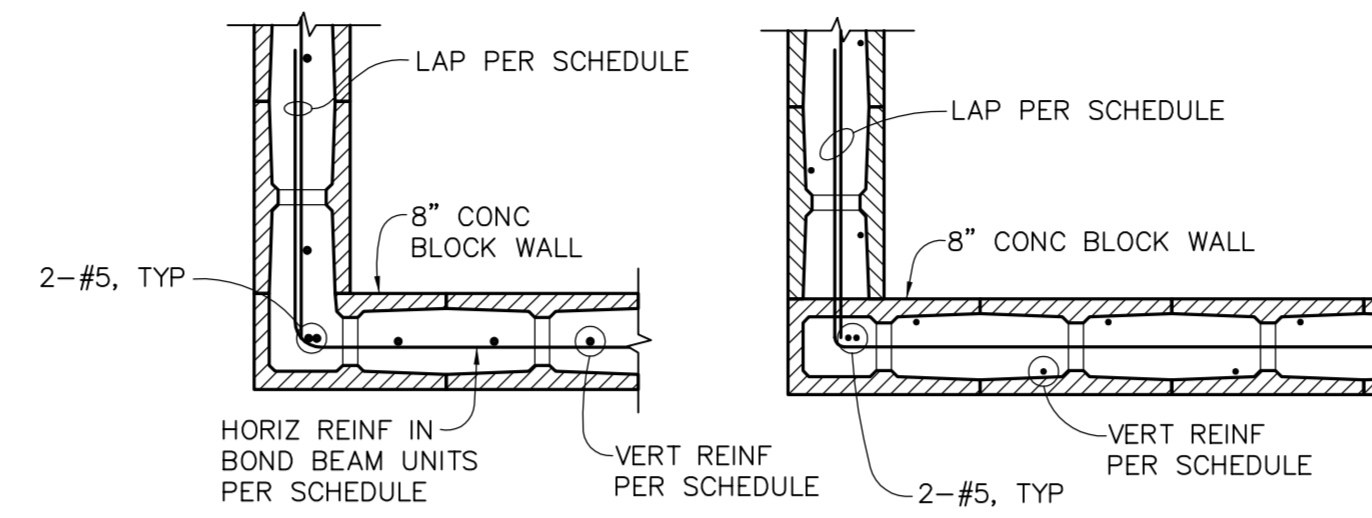


TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
ROOF FRAMING SECTIONS AND DETAILS

DATE:	11/17/17	SHEET S5 15 OF 34
SCALE:	AS SHOWN	
DESIGN:	FJC	
DRAWN:	RLQ	
CHECKED:		



TYPICAL LINTEL (A) S6
3/4" = 1'-0"

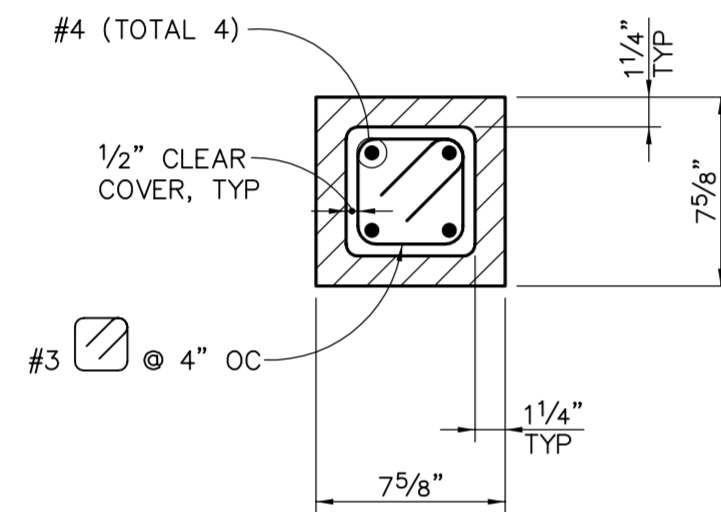


CORNER CONDITIONS

TYPICAL CONCRETE BLOCK WALL INTERSECTION (B) S6
3/4" = 1'-0"

REINFORCED STRUCTURAL MASONRY NOTES:

- ALL CELLS IN CONCRETE BLOCK CONSTRUCTION SHALL BE FULLY GROUTED.
- SEE SHEET S8 FOR WALL REINF.
- ALL VERTICAL STEEL IN WALLS AND COLUMNS SHALL BE LAPPED WITH DOWELS OF THE SAME SIZE AND SPACING INTO THE FOOTING UNLESS NOTED OTHERWISE. DOWELS SHALL BE DETAILED SIMILAR TO TYPICAL WALL DOWELS.
- ALL BOLTS EMBEDDED IN CONCRETE BLOCK SHALL HAVE A MINIMUM OF 1" OF GROUT BETWEEN THE BOLT AND THE CONCRETE BLOCK ON ALL SIDES. BOLTS SHALL HAVE A 5" MINIMUM EMBEDMENT UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- TYPICAL VERTICAL WALL REINFORCEMENT SHALL BE INSTALLED EACH SIDE OF ALL WALL OPENINGS AND SHALL EXTEND THE FULL HEIGHT OF THE WALL UNLESS NOTED OTHERWISE ON THE DRAWINGS.
- TYPICAL HORIZONTAL WALL REINFORCEMENT SHALL BE INSTALLED ABOVE AND BELOW ALL OPENINGS UNLESS NOTED OTHERWISE ON THE DRAWINGS. REINFORCEMENT SHALL EXTEND PAST OPENINGS 30", MINIMUM. IF REINFORCEMENT CANNOT EXTEND A FULL 30" PAST THE OPENING, THEN THE REINFORCING IS TO EXTEND AS FAR AS POSSIBLE AND THE REST OF THE BAR IS TO BE BENT 90 DEGREES, EITHER UP OR DOWN.
- SPLICES OF REINFORCING STEEL IN CONCRETE BLOCK CONSTRUCTION SHALL BE CONTACT LAP SPLICES AS SHOWN ON THE DRAWINGS. ALL PROPOSED SPLICE LOCATIONS NOT SHOWN ON THE DRAWINGS SHALL BE REVIEWED BY THE ENGINEER.
- MECHANICAL COUPLERS WHICH DEVELOP 125% OF THE BARS' YIELD STRENGTH OR SPECIFIED TENSILE STRENGTH MAY BE SUBSTITUTED FOR LAP SPLICES UPON SUBMITTAL AND REVIEW BY THE ENGINEER. WHEN A LAP SPLICE CANNOT BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CALIFORNIA BUILDING CODE, THE ENGINEER MAY SPECIFY A MECHANICAL SPLICE AT NO ADDITIONAL COST TO THE OWNER.
- CONCRETE BLOCK WALLS SHALL HAVE VERTICAL CONTROL JOINTS AT A SPACING APPROXIMATELY EQUAL TO 1.5 TIMES THE WALL HEIGHT BUT NO GREATER THAN 25 FEET ON CENTER, UNLESS NOTED OTHERWISE ON THE PLANS. CONTROL JOINTS ARE NOT TO BE PLACED WITHIN 4'-0" FROM ANY DOOR OR WINDOW OPENING OR JOIST GIRDER SUPPORT POCKET. CONTROL JOINT AT WALLS WITH STEEL JOISTS ARE TO BE PLACED APPROX MID-WAY BETWEEN TWO ADJACENT JOISTS. COORDINATE ALL CONTROL JOINT LOCATIONS WITH ARCHITECT PRIOR TO CONSTRUCTION.
- CLEANOUTS SHALL BE PROVIDED AT THE BOTTOM COURSE OF EVERY GROUT POUR AT EACH VERTICAL BAR.
- THE STANDARD WIDTH OF BOTH HORIZONTAL AND VERTICAL MORTAR JOINTS SHALL BE 3/8"
- CONCRETE BLOCK CONSTRUCTION SHALL BE RUNNING BOND WITH OPEN ENDED BLOCK.



SECTION C (C) S6
1 1/2" = 1'-0"

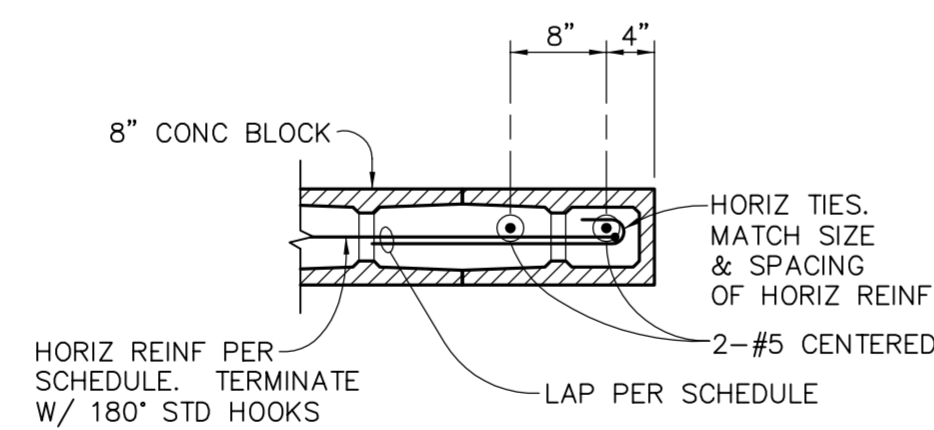
LAP SPLICE SCHEDULE - MASONRY

BAR SIZE	CLEAR COVER < 2.5"	CLEAR COVER > 2.5"
#3	14"	12"
#4	34"	20"
#5	45"	32"
#6	54"	46"
#7	63"	63"
#8	72"	72"

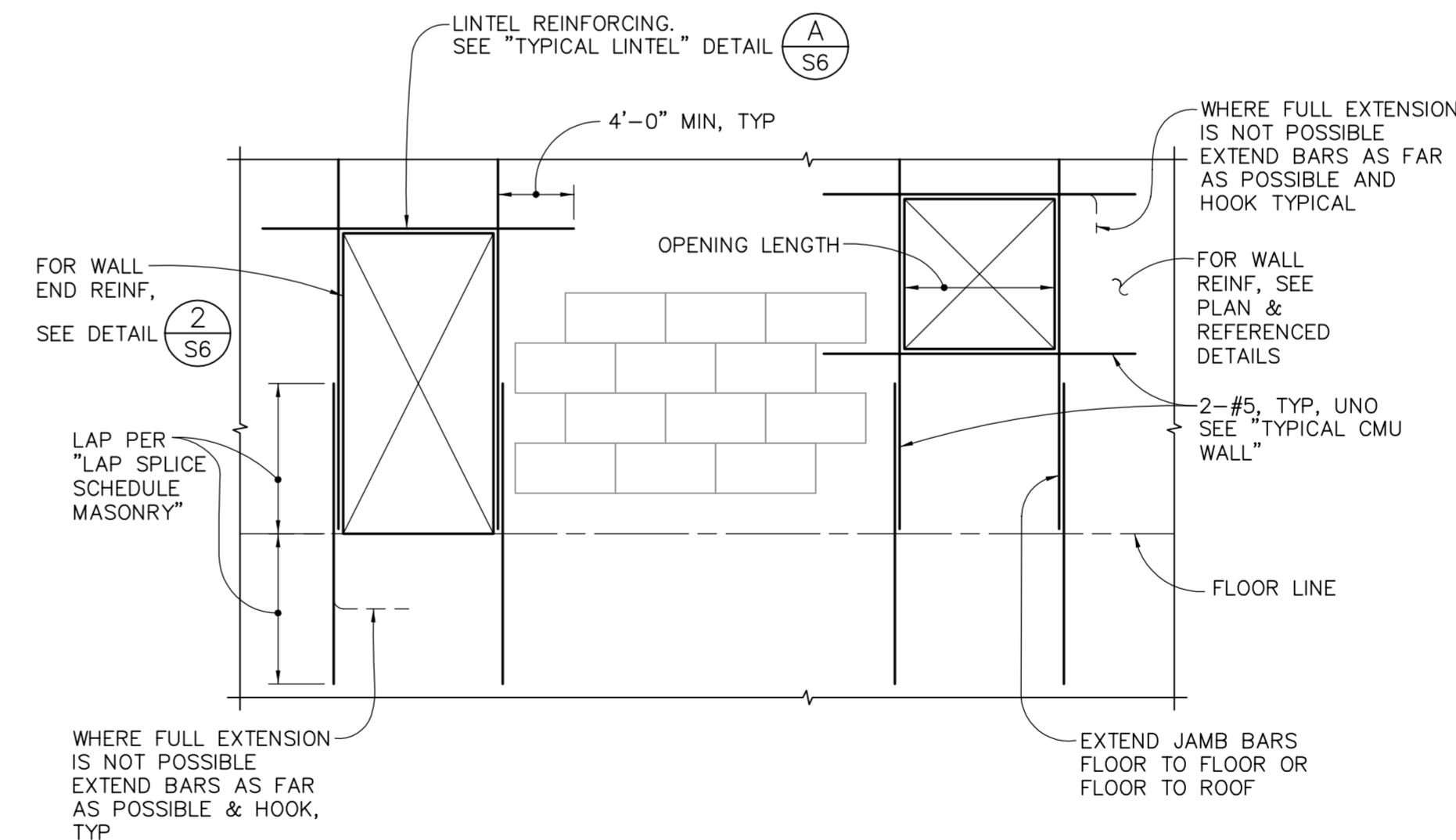
NOTES:

- STAGGER LAP SPLICES OF ADJACENT BARS BY 24".
- MINIMUM CENTER TO CENTER BAR SPACING IS 8".

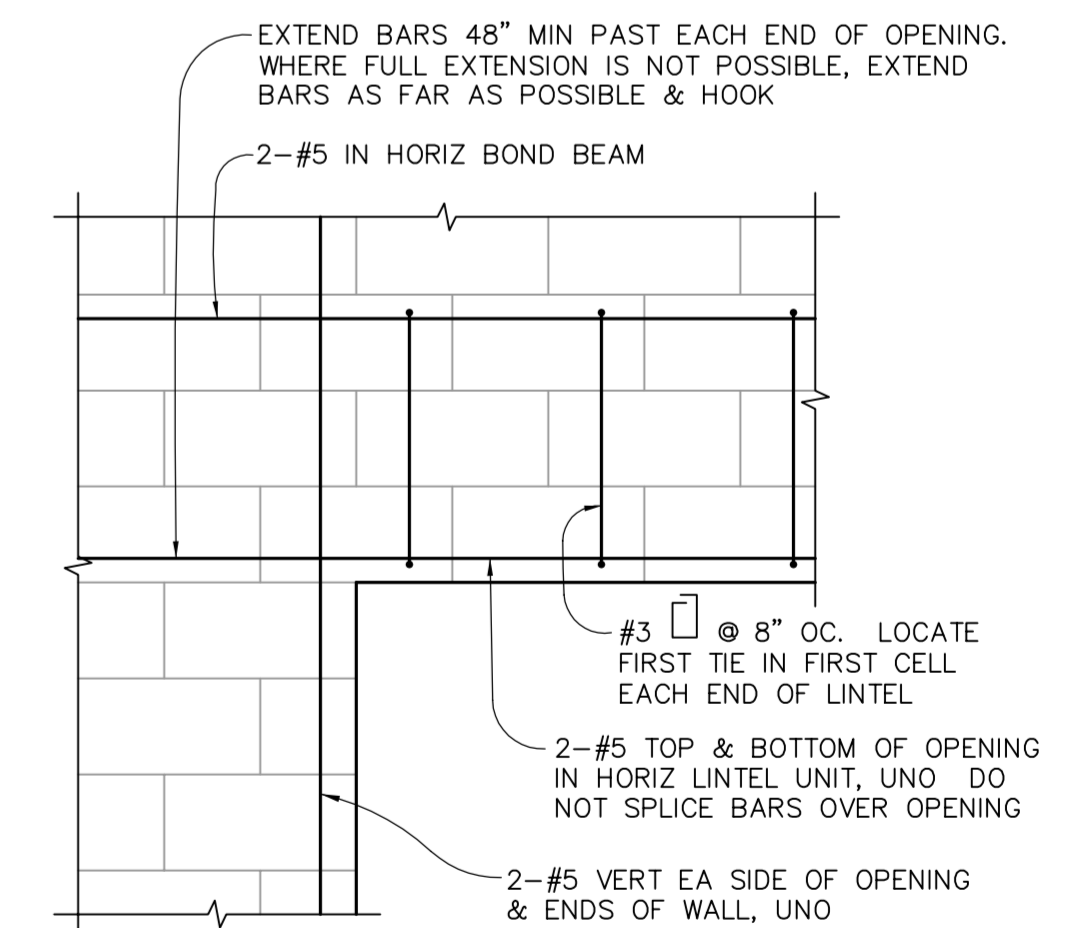
LAP SPLICE SCHEDULE (1) S6
NO SCALE



TYPICAL CONCRETE BLOCK WALL END (2) S6
3/4" = 1'-0"



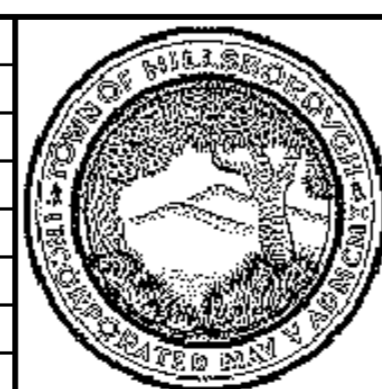
CONCRETE BLOCK WALL OPENINGS (3) S6
1/2" = 1'-0"



DETAIL (4) S6
3/4" = 1'-0"

NOT FOR CONSTRUCTION (11/21/17) 90% SUBMITTAL

NO	REVISIONS	DATE	APPR

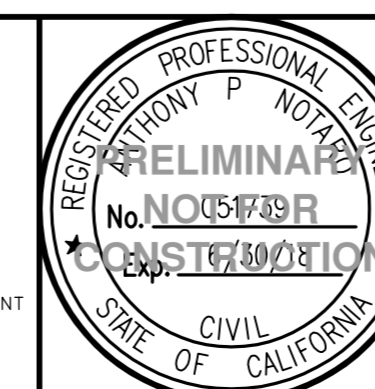


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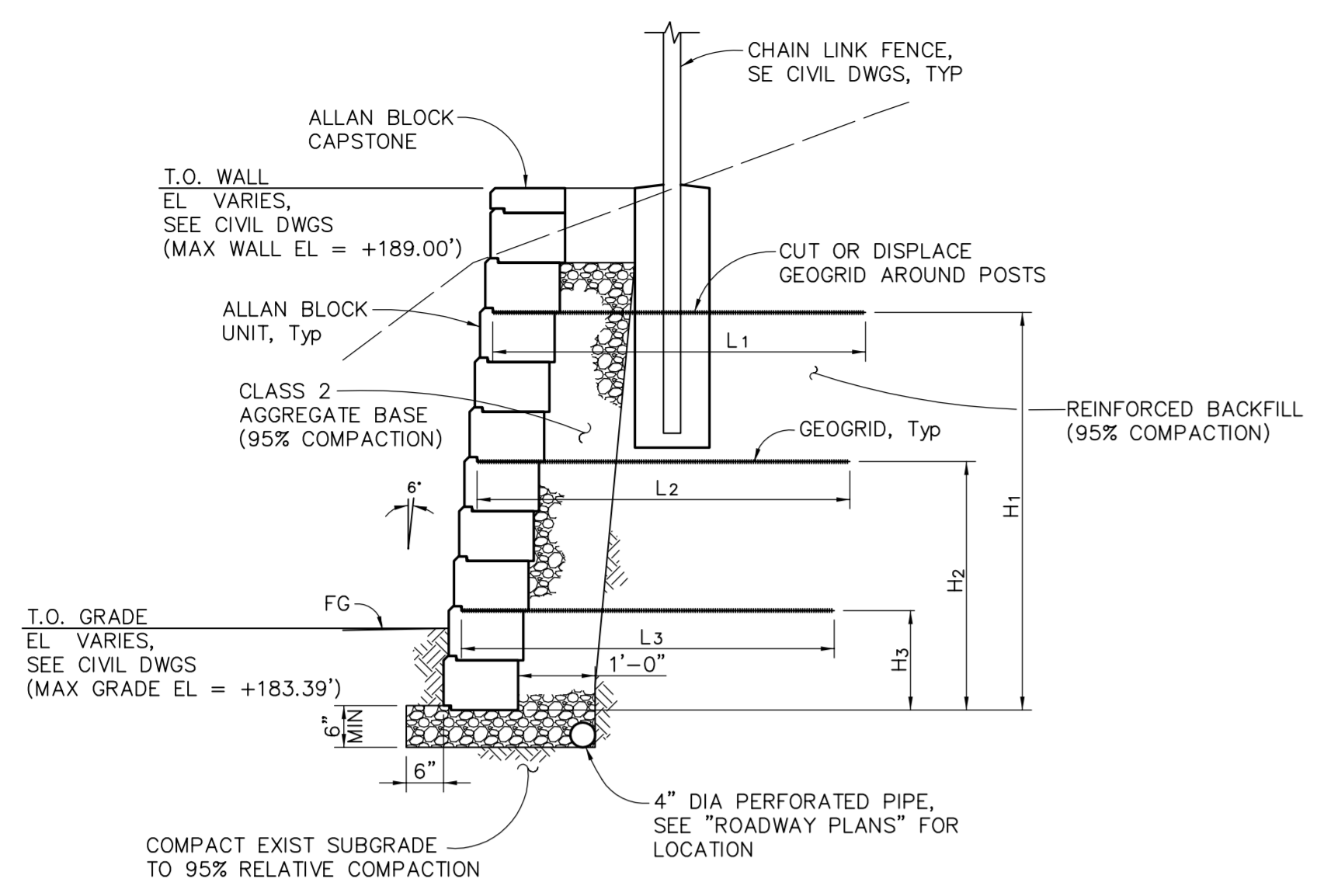
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TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
MASONRY DETAILS

DATE:	11/17/17	SHEET
SCALE:	AS SHOWN	
DESIGN:	FJC	S6
DRAWN:	RLQ	16 OF 34
CHECKED:		

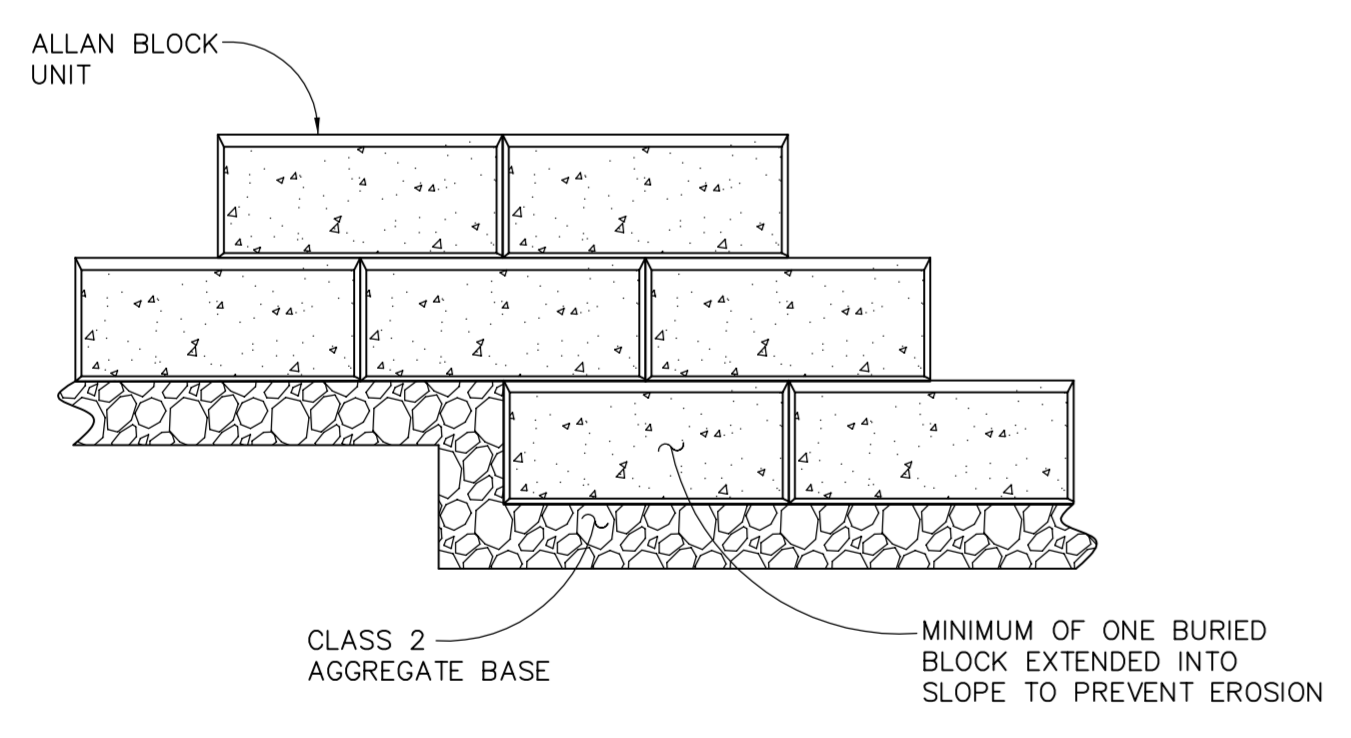


GEOGRID LAYER LENGTH (Ft) *		GEOGRID LAYER HEIGHT (Ft) +	
L1	7'-0"	H1	5'-4"
L2	6'-0"	H2	3'-4"
L3	6'-0"	H3	1'-4"

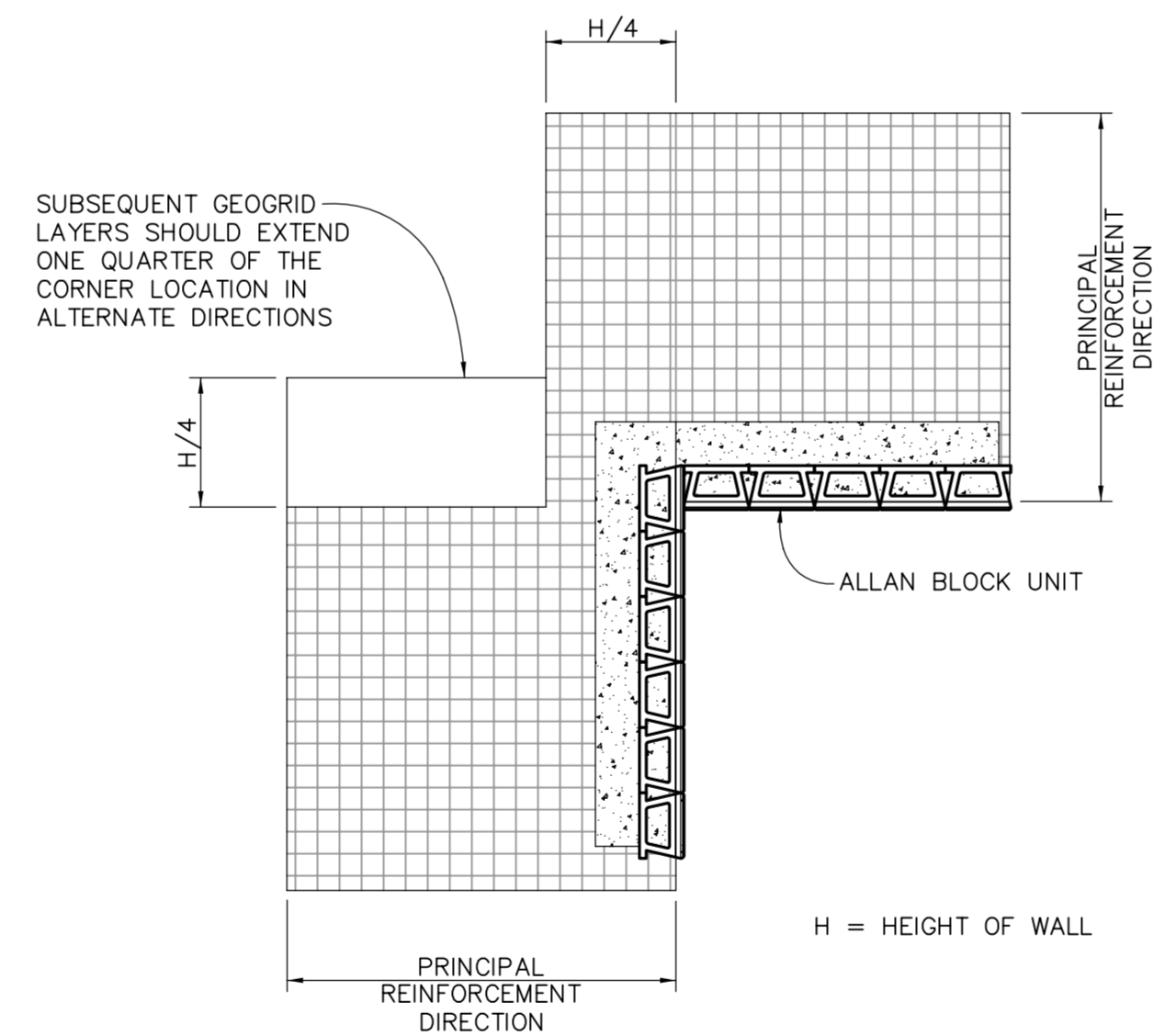
* LENGTH IS MEASURED FROM OUTSIDE FACE OF WALL
 + HEIGHT IS MEASURED FROM BOTTOM OF WALL

ALLAN BLOCK WALL TYPICAL SECTION (A/S7)
 NO SCALE

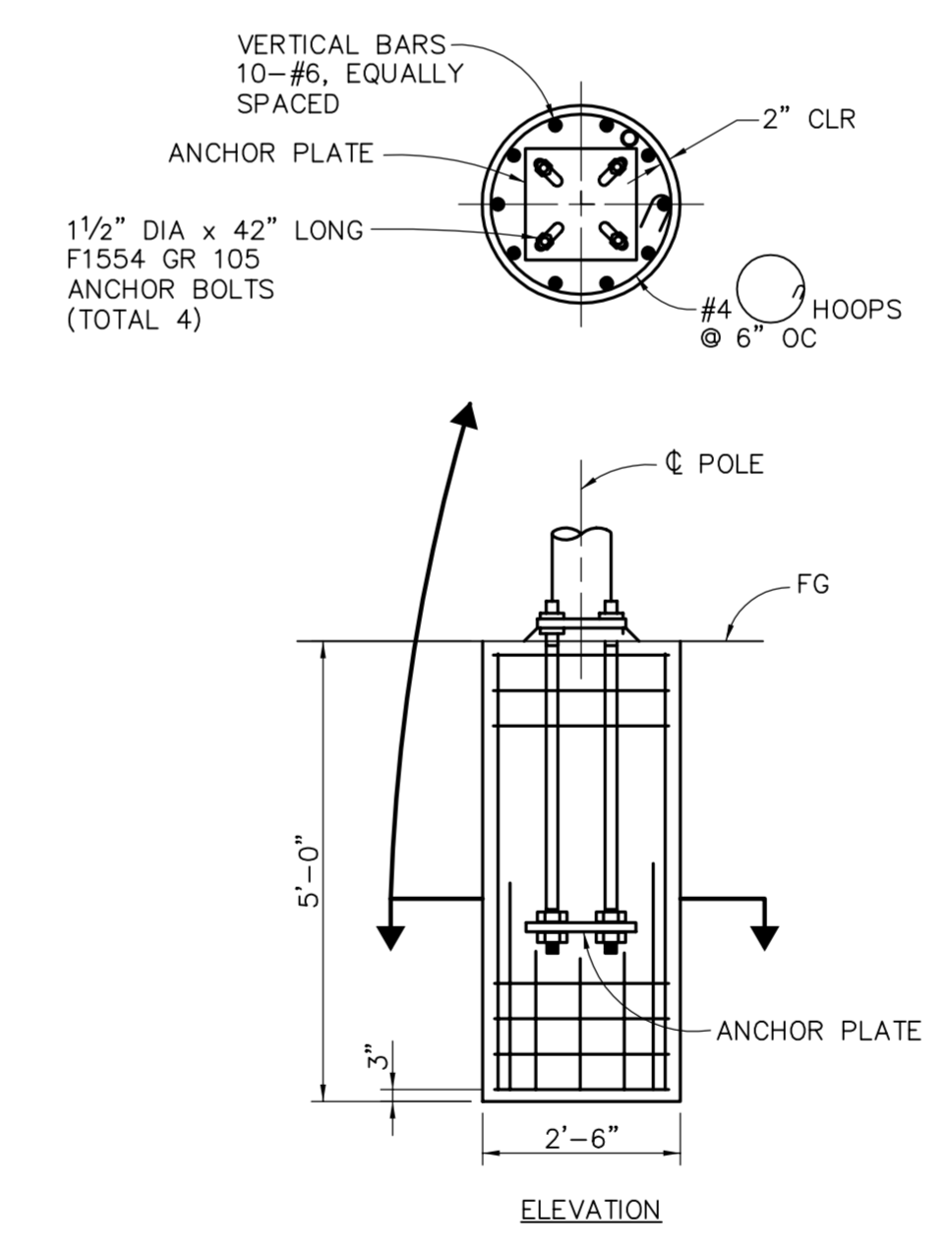
- RETAINING WALL NOTES:**
- GENERAL**
 ALL WORK MUST CONFORM TO THE REQUIREMENTS OF THE CURRENT GOVERNING EDITION OF THE UNIFORM BUILDING CODE.
- ALLAN BLOCKS**
 BLOCKS MUST BE TYPE "S" AND COMPLY WITH ICBO REPORT #4528.
- CONSTRUCTION SEQUENCE**
- EXCAVATE TO LINES AND GRADES SHOWN.
 - COMPACT SUBGRADE TO MIN 95% RELATIVE COMPACTION. BACKFILL WITH CLASS 2 AGGREGATE BASE BELOW AND AROUND FOUNDATION BLOCK TO WITHIN 4" OF FINAL GRADE AND COMPACT TO MIN 95% RELATIVE COMPACTION.
 - THE TOP COURSE AND THE BOTTOM FOUR COURSES THAT FORM THE FOOTING MUST BE CLOSED ASSEMBLY AND SET IN MORTAR OR EPOXY ADHESIVE APPROVED BY THE ENGINEER. THE UNITS MUST BE CHECKED FOR ANGLE AND ALIGNMENT AS THEY ARE PLACED.
 - BACKFILL MATERIAL MUST BE PLACED IN LIFTS NOT TO EXCEED 12 INCHES THICKNESS AND CONSOLIDATED IN-PLACE USING VIBRATORY EQUIPMENT UNDER OBSERVATION BY THE GEOTECHNICAL ENGINEER. ONLY HAND-OPERATED COMPACTION EQUIPMENT MUST BE ALLOWED WITHIN 3 FT OF THE WALL FACE.
 - FOLLOW ALL RECOMMENDATIONS FROM GEOTECHNICAL ENGINEERING REPORT.
- GEOGRID**
 GEOGRID MUST BE "STRATAGRID-SG200" BY STRATA SYSTEMS OR APPROVED EQUIVALENT.
- EPOXY ADHESIVE**
 EPOXY ADHESIVE MUST BE HILTI HY 200.
- REINFORCED BACKFILL**
 UNIT WEIGHT 125 PCF
 FRICTION ANGLE 32 DEGREES
 COHESION 100 PSF



SECTION 1 (S7)
 NO SCALE



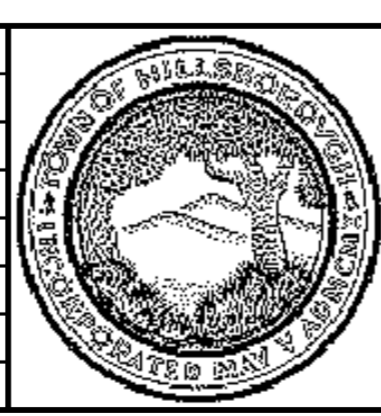
SECTION 2 (S7)
 NO SCALE



DETAIL 3 (S7)
 NO SCALE

NOT FOR CONSTRUCTION (11/21/17) **90% SUBMITTAL**

NO	REVISIONS	DATE	APPR
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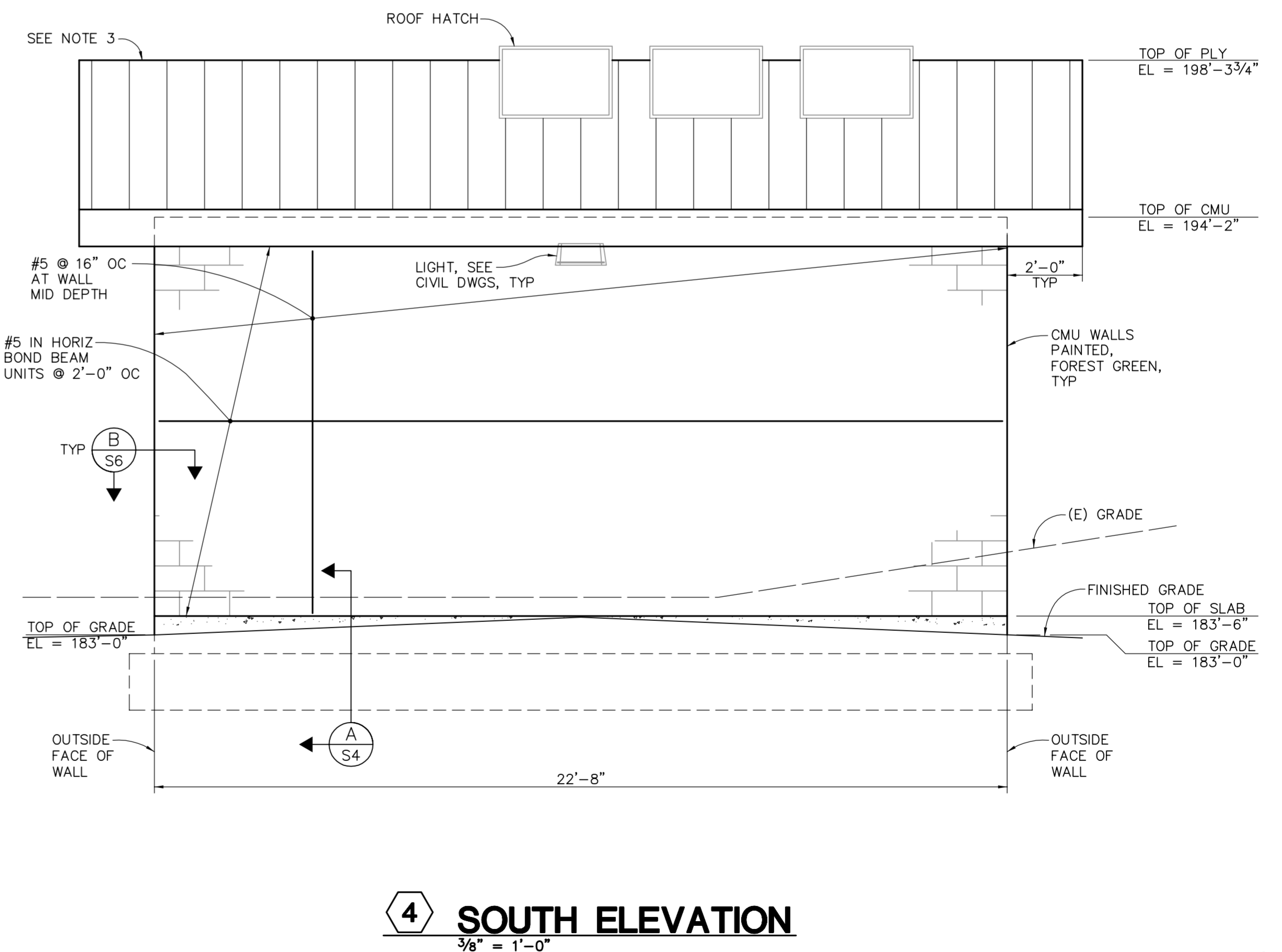
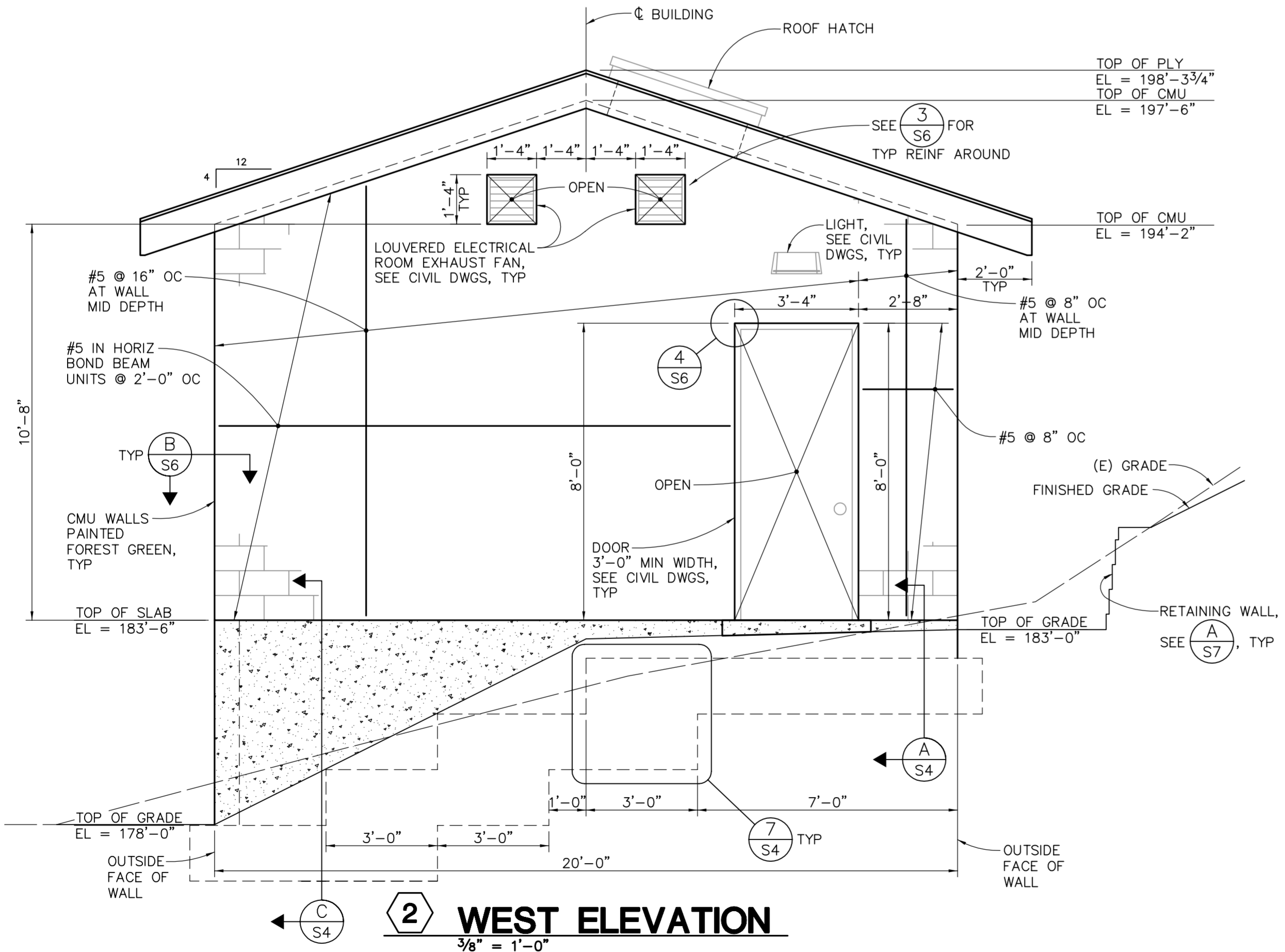
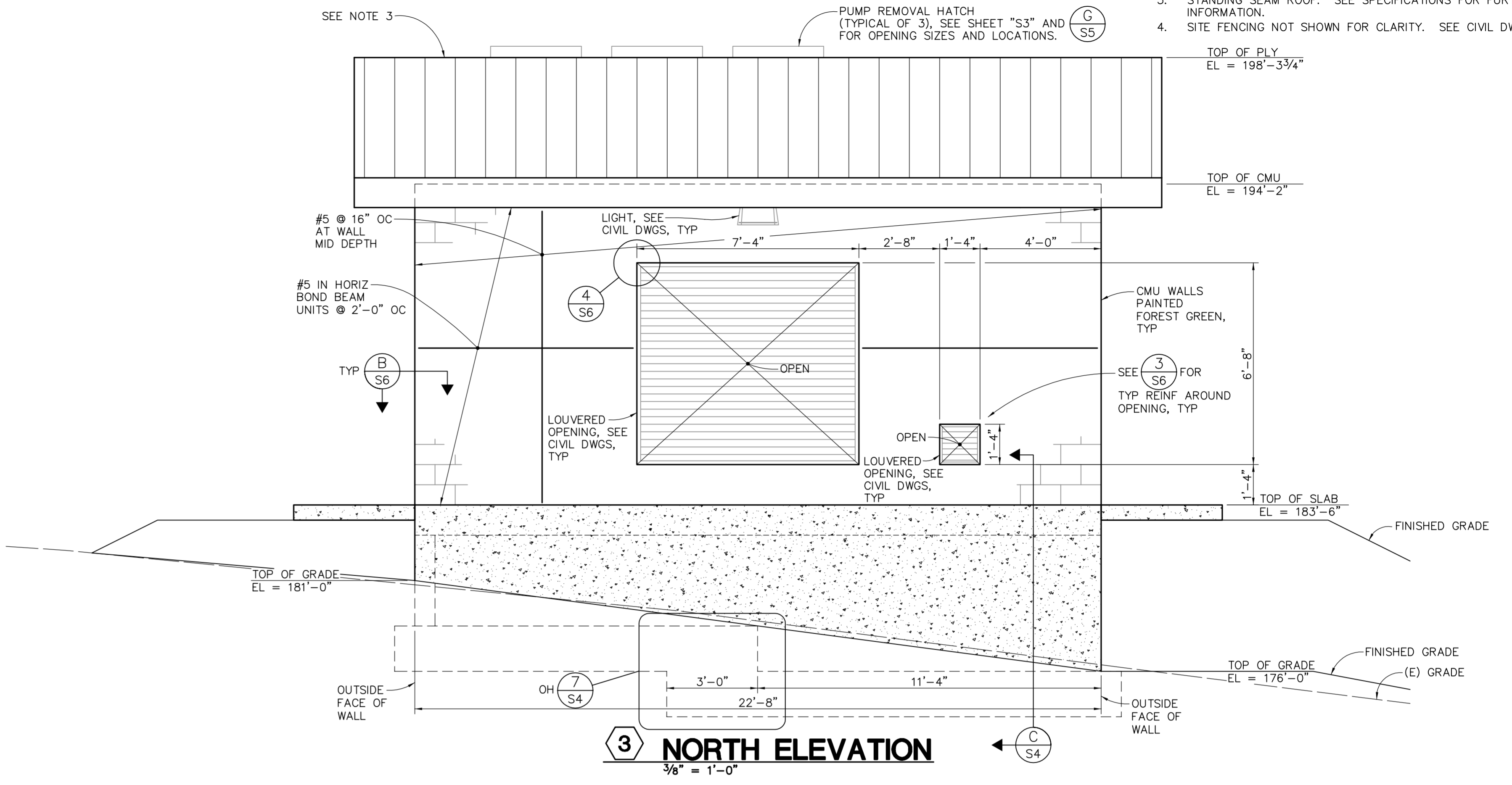
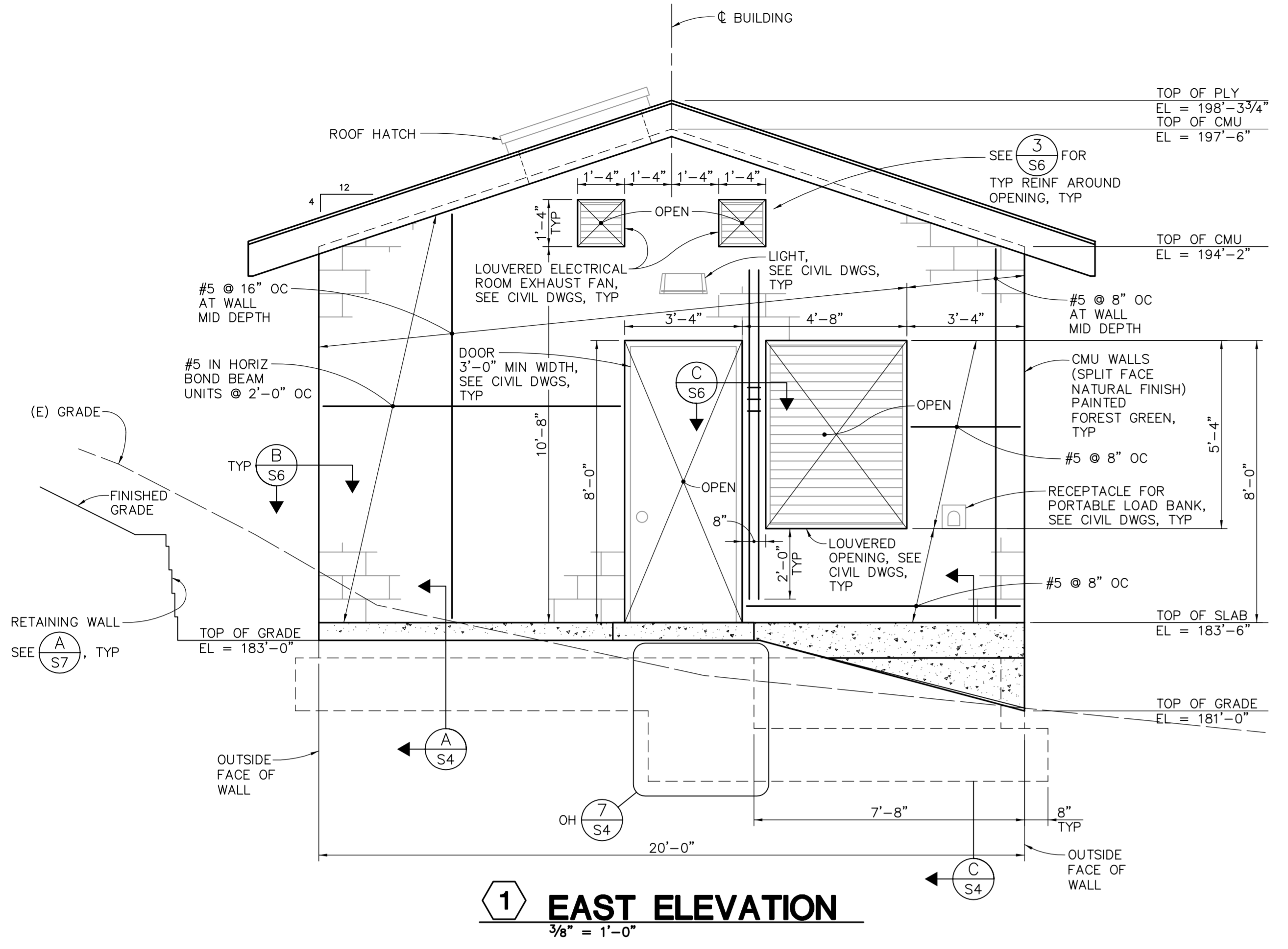
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TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
RETAINING WALL CROSS-SECTION
AND MISCELLANEOUS DETAILS

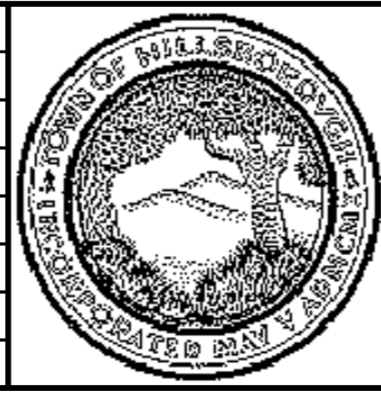
DATE:	11/17/17	SHEET S7 17 OF 34
SCALE:	AS SHOWN	
DESIGN:	FJC	
DRAWN:	RLQ	
CHECKED:		

- NOTE:**
1. ALL WALLS ARE 8" CONCRETE BLOCK WALLS.
 2. VERIFY ALL DIMENSIONS WITH CIVIL DRAWINGS.
 3. STANDING SEAM ROOF. SEE SPECIFICATIONS FOR FURTHER INFORMATION.
 4. SITE FENCING NOT SHOWN FOR CLARITY. SEE CIVIL DWGS.



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TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
MASONRY WALL ELEVATIONS

DATE:	11/17/17	SHEET S8 18 OF 34
SCALE:	AS SHOWN	
DESIGN:	FJC	
DRAWN:	RLQ	
CHECKED:		

File: M:\17687-03 Cherry Creek Pump Station Memo Park\03E-1.dwg, 12/1/2017 10:17 AM, Last saved: Vuong, PlotDate: 12/14/2017 11:48 AM, Plot Size: ARCH expand D (36.00 x 24.00 inches), Plot Scale: 1:1, Plot By: Vuong Mai

LEGEND FOR PLANS

	EXPOSED CONDUIT(S)
	CONCEALED CONDUIT RUN(S) (FLOOR, WALL, CEILING & UNDERGROUND)
	CONDUIT(S) UP
	CONDUIT(S) DOWN
	HOME RUN TO PANEL
	CROSSHATCHES INDICATE NUMBER OF CONDUCTORS (TWO HOT, NEUTRAL, & GROUND). NO DESIGNATION OR CROSSHATCH INDICATES 2 #12 & #12 GND IN 3/4" CONDUIT, APPLICABLE ONLY TO LIGHTING & RECEPTACLE CIRCUITS. A-5, 7 INDICATES LIGHTING PANEL CIRCUIT NUMBERS
	EXISTING CONDUIT(S)
	EXISTING CONDUIT & CONDUCTORS WHICH SHALL BE REMOVED
	EXISTING CONDUIT WHICH SHALL BE ABANDONED. DISCONNECT AND REMOVE EXISTING CONDUCTORS
	EXISTING CONDUIT WHICH SHALL BE REUSED. REMOVE EXISTING CONDUCTORS & INSTALL NEW CONDUCTORS AS INDICATED.
	JUNCTION BOX, CEILING, WALL MOUNTED
	CONDUIT SEAL FITTING FOR CLASS 1, DIVISION 1, GROUPS C & D HAZARDOUS (CLASSIFIED) LOCATIONS
	POLE-MOUNTED HID OR LED TYPE LIGHTING FIXTURE (LOWER CASE LETTER INDICATES CIRCUIT OR LAMPS CONTROLLED BY SWITCH)
	POLE-MOUNTED FLOOD HID OR LED TYPE LIGHTING FIXTURE (LOWER CASE LETTER INDICATES CIRCUIT OR LAMPS CONTROLLED BY SWITCH)
	FLUORESCENT OR LED LIGHTING FIXTURE (LOWER CASE LETTER INDICATES CIRCUIT OR LAMPS CONTROLLED BY SWITCH)
	WALL PACK LIGHT FIXTURE (LOWER CASE LETTER INDICATES CIRCUIT OR LAMPS CONTROLLED BY SWITCH)
	EXIT OR DIRECTIONAL SIGN (LOWER CASE LETTER INDICATES CIRCUIT OR LAMPS CONTROLLED BY SWITCH)
	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD IN AN ENCLOSURE.
	SINGLE POLE SWITCH AND BOX, 20A/120-277V, LOWER CASE LETTER INDICATES CIRCUIT OR LAMPS CONTROLLED BY SWITCH, +48"
	TWO POLE TOGGLE SWITCH
	THREE-POSITION TOGGLE SWITCH WITH HAND-OFF-AUTO ENGRAVED PLATE
	THREE WAY TOGGLE SWITCH
	FOUR WAY TOGGLE SWITCH
	DIMMING SWITCH 120-277V, +48"
	THREE WAY DIMMING SWITCH 120-277V, +48"
	DUPLEX RECEPTACLE, FLUSH MOUNTED, NEMA 5-20R, 20AMP, 125V, +18" AFF U.O.N.
	SINGLE RECEPTACLE, FLUSH MOUNTED, NEMA 5-20R, 20AMP, 125V, +18" AFF U.O.N.
	SPECIAL RECEPTACLE. NEMA TYPE AS INDICATED ON THE DRAWINGS.
	PROCESS OR CONTROL INSTRUMENT
	ELECTRIC MOTOR. NUMBER INDICATES HORSEPOWER
	WOUND ROTOR MOTOR. NUMBER INDICATES HORSEPOWER
	FRACTIONAL SINGLE PHASE ELECTRIC MOTOR
	UNLESS OTHERWISE INDICATED, CONTROL STATION AS REQUIRED BY THE SCHEMATIC DIAGRAM IN NEMA 1 ENCLOSURE. UNLESS OTHERWISE NOTED.
	DISCONNECT SWITCH, HEAVY DUTY 600 VAC 3 POLE, NON-FUSIBLE; IN NEMA 1 ENCLOSURE, UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
	DISCONNECT SWITCH, HEAVY DUTY 600 VAC 3 POLE, FUSIBLE; IN NEMA 1 ENCLOSURE, UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
	COMBINATION 480 VAC, 3 POLE CIRCUIT BREAKER OR MCP MAGNETIC STARTER WITH CONTROL TRANSFORMER, RELAYS, DEVICES AS REQUIRED BY THE SCHEMATIC DIAGRAM IN NEMA 1 ENCLOSURE UNLESS OTHERWISE INDICATES ON THE DRAWINGS.
	ALARM BELL
	GENERATOR
	GROUND ROD
	GROUND ROD IN GROUND ROD BOX
	BARE COPPER GROUND CONDUCTOR
	THERMOSTAT
	COMBINATION EMERGENCY LIGHT/EXIT SIGN
	REMOTE BATTERY-POWERED LAMPHEAD
	EXISTING EQUIPMENT WHICH SHALL BE DISCONNECTED AND REMOVED.
	HEAT DETECTOR
	SMOKE DETECTOR

LEGEND FOR SINGLE LINE AND SCHEMATIC DIAGRAMS

	MOLDED CASE CIRCUIT BREAKER, SOLID-STATE OR THERMAL MAGNETIC
	POWER CIRCUIT BREAKER, 600 V, DRAW-OUT TYPE WITH CARRIAGES E - ELECTRICALLY OPERATED M - MANUALLY OPERATED
	UNLESS OTHERWISE NOTED, COMBINATION MOTOR CIRCUIT PROTECTOR, FUSELESS CURRENT LIMITING TYPE AND FULL VOLTAGE NON-REVERSING MAGNETIC STARTER WITH OVERLOAD PROTECTION AND 480-120 VOLT CONTROL TRANSFORMER. NUMBER INDICATES NEMA STARTER SIZE
	SAME AS ABOVE, EXCEPT SOLID-STATE STARTER AND THERMAL MAGNETIC CIRCUIT BREAKER
	VARIABLE FREQUENCY DRIVE UNIT
	SOLID-STAGE REDUCED VOLTAGE STARTER WITH INTERNAL BYPASS. NUMBER IN PARENTHESIS INDICATES AMPACITY RATING.
	COMBINATION THERMAL MAGNETIC CIRCUIT BREAKER AND CONTACTOR WITH 480-120 VOLT CONTROL TRANSFORMER. NUMBER INDICATES NEMA CONTACTOR SIZE
	HEAVY DUTY, NON-FUSIBLE DISCONNECT (SAFETY) SWITCH, 600V FUSE
	CAPACITORS
	POWER TRANSFORMER - DELTA - GROUNDED STAR - DELTA WITH MIDPOINT GROUNDED
	CURRENT TRANSFORMERS (CT), THREE CT'S, RATIO AS INDICATED
	VOLTAGE TRANSFORMERS (VT), THREE VT'S, RATIO AS INDICATED
	SURGE OR LIGHTNING ARRESTORS
	HEAVY DUTY, FUSIBLE DISCONNECT (SAFETY) SWITCH, 600V
	MECHANICAL INTERLOCK
	KEY INTERLOCK
	METAL OXIDE VARISTORS (MOV) OR SURGE SUPPRESSOR
	FUSES WITH BLOWN FUSE NEON LIGHT INDICATORS
	ELECTRONIC DISPLAY MULTI-METER
	SURGE PROTECTIVE DEVICE
	POWER FAILURE RELAY
	CONTROL RELAY COIL. SIMILAR FOR TIME DELAY RELAY AND TIME CLOCK.
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	NORMALLY OPEN MOMENTARY PUSHBUTTON
	NORMALLY CLOSED MOMENTARY PUSHBUTTON
	SELECTOR SWITCH
	KEY OPERATED SELECTOR SWITCH
	EMERGENCY-STOP
	LOCKOUT SWITCH
	TOGGLE SWITCH
	CONTROL TRANSFORMER
	GROUND
	LED TYPE INDICATING LIGHT. LETTER INDICATES LENS COLOR.
	PUSH-TO-TEST LED TYPE INDICATING LIGHT. LETTER INDICATES LENS COLOR.
	SOLENOID
	FLOW SWITCH, NORMALLY OPEN-CLOSES ON INCREASE (TYP.)
	FLOW SWITCH, NORMALLY CLOSED-CLOSES ON DECREASE (TYP.)
	LEVEL SWITCH, NORMALLY OPEN
	SURGE SUPPRESSOR

LEGEND FOR SINGLE LINE AND SCHEMATIC DIAGRAMS

	LEVEL SWITCH, NORMALLY CLOSED
	PRESSURE OR VACUUM SWITCH, NORMALLY OPEN
	PRESSURE OR VACUUM SWITCH, NORMALLY CLOSED
	TEMPERATURE SWITCH, NORMALLY OPEN
	TEMPERATURE SWITCH, NORMALLY CLOSED
	LIMIT, POSITION OR TORQUE SWITCH, NORMALLY OPEN
	LIMIT, POSITION OR TORQUE SWITCH, NORMALLY CLOSED
	LOCATED REMOTE FROM MCC, PANEL, ETC. AT MOTOR OR PROCESS EQUIPMENT

ABBREVIATIONS

A	A	AMPERE
	A.C.	ALTERNATING CURRENT
	ANN	ANNUNCIATOR
	AS	AMMETER SWITCH
	ATS	AUTOMATIC TRANSFER SWITCH
	AUX.	AUXILIARY
	AWG	AMERICAN WIRE GAUGE
B	BAL	BALANCE
	BATT.	BATTERY
	B.C.W.	BARE COPPER WIRE
	BKR	BREAKER
	BLDG.	BUILDING
	BOT	BOTTOM
C	C	CONDUIT
	CB	CIRCUIT BREAKER
	CAB	CABINET
	CAP	CAPACITOR
	CHF	CONTROLLED DENSITY FILL
	CHGR.	CHARGER
	CKT	CIRCUIT
	CL, CLE	CURRENT LIMITING, CURRENT LIMITING "E" FUSE
	COL	COLUMN
	COMP	COMPARTMENT
	CONT.	CONTROL
	CONTR.	CONTROLLER
	CONC	CONCRETE
	COND.	CONDUCTOR
	CPT	CONTROL POWER TRANSFORMER
	C.S.	CONTROL SWITCH
	CP	CONTROL PANEL
	CR	CONTROL RELAY
	CT	CURRENT TRANSFORMER
	CU	COPPER
	CUB	CUBICLE
D	D	DEEP
	DB	DUCT BANK
	DC	DIRECT CURRENT
	D.E.	DEAD END
	DIA	DIAMETER
	DIAG	DIAGRAM
	DIM	DIMENSION
	DISC	DISCONNECT
	DIST.	DISTRIBUTION
	DWG	DRAWING
E	EA	EACH
	EDM	ELECTRONIC DISPLAY MULTI-METER
	ELECT	ELECTRICAL
	ELEV	ELEVATION
	EPR	ETHYLENE PROPYLENE RUBBER
	EQUIP	EQUIPMENT
	ETM	ELAPSED TIME METER
	EXIST. (E)	EXISTING
F	FACP	FIRE ALARM CONTROL PANEL
	FDR	FEEDER
	FLD	FIELD
	FT	FOOT, FEET
	FUT.	FUTURE
	F, FU	FUSE
G	GAL	GALLONS
	GALV	GALVANIZED
	G.L.	GRADE LEVEL
	GND	GROUND
	GFCI	GROUND FAULT CIRCUIT INTERRUPTER

ABBREVIATIONS (CONTINUED)

H	HOA	HAND-OFF-AUTOMATIC
	HP	HORSE POWER
	HTR	HEATER
	HT	HEIGHT
	HV	HIGH VOLTAGE
	HZ	HERTZ
I	IC	INTERRUPTING CAPACITY
	IDP	INTRUSION DETECTION PANEL
	IN	INCH
	INST	INSTANTANEOUS
	INSTR	INSTRUMENT, INSTRUMENTATION
	I/O	INPUT/OUTPUT
J	JB	JUNCTION BOX
	JWH	JACKET WATER HEATER

K	KCM	THOUSAND CIRCULAR MILS
	KV	KILOVOLT
	KVA	KILOVOLT AMPERE
	KVAR	KILOVOLT AMPERE REACTIVE
		KILOWATT
L	L	LONG, LENGTH
	L.A.	LIGHTNING ARRESTER
	LBS	POUNDS
	L-L	LINE TO LINE
	L-N	LINE TO NEUTRAL
	LSIG	LONG TIME DELAY, SHORT TIME DELAY
	L.T.C.	INSTANTANEOUS, GROUND
	LTG	LOAD TAP CHANGER
	LOS	LIGHTING
	LxWxH	LOCK-OUT-STOP
	LPS	LENGTH, WIDTH AND HEIGHT
	LV	LOW PRESSURE SODIUM
		LOW VOLTAGE

M	MAX	MAXIMUM
	MCC	MOTOR CONTROL CENTER
	MCCB	MOLDED CASE CIRCUIT BREAKER
	MED	MEDIUM
	MFR.	MANUFACTURER
	MH	MANHOLE
	MI	MECHANICAL INTERLOCK
	MIN	MINIMUM
	MISC	MISCELLANEOUS
	MO	MANUALLY OPERATED
	MR	MULTI-RATIO
	MSB	MAIN SWITCHBOARD
	MTD	MOUNTED
	MV	MEDIUM VOLTAGE
	MVA	MEGA-VOLT AMPERE
	MW	MEGAWATT

N	(N)	NEW
	NEC	NATIONAL ELECTRICAL CODE
	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
	NEUT	NEUTRAL
	N.C.	NORMALLY CLOSED
	N.I.C.	NOT IN CONTRACT
	N.O.	NORMALLY OPEN
	N.T.S.	NOT TO SCALE
	NP	NAMEPLATE
O	O.C.	ON CENTER
	O/C	OVERCURRENT
	O.H.	OVERHEAD
	OL	OVERLOAD
	OPER.	OPERATING

P	P.B.	PULL BOX
	PCB	POLYCHLORINATED BIPHENYLS
	PCC	PORTLAND CEMENT CONCRETE
	P.F.	POWER FACTOR
	PFR	POWER FAILURE RELAY
	PFCC	POWER FACTOR CORRECTION CAPACITOR
	PH	PHASE
	PLC	PROGRAMMABLE LOGIC CONTROLLER
	PTT	PUSH-TO-TEST
	PNL	PANEL
	PTN.	PROTECTION
	PVC	POLYVINYL CHLORIDE
	PWR	POWER
	PG&E	PACIFIC GAS & ELECTRIC

R	R	RADIUS, RED
	RECEPT	RECEPTACLE
	REM	REMOTE
	REQ'D	REQUIRED
	RMS	ROOT MEAN SQUARE
	RSC	RIGID STEEL CONDUIT, GALVANIZED

ABBREVIATIONS (CONTINUED)

S	S.A.	SURGE ARRESTERS
	SB	SHORTING BLOCK
	SCH	SCHEDULE
	SD	SMOKE DETECTOR
	SEC	SECONDARY
	SHLD.	SHIELDED
	SHT	SHEET
	SN	SOLID NEUTRAL
	SOL	SOLENOID
	SPD	SURGE PROTECTIVE DEVICE
	SPDT	SINGLE POLE, DOUBLE THROW
	SFR	SPARE
	SS	STAINLESS STEEL
	SSRVS	SOLID STATE REDUCED VOLTAGE STARTER

	ST	SHUNT TRIP
	STA.	STATION
	STB	SHORT CIRCUITING TERMINAL BLOCK
	STD	STANDARD
	SUB	SUBSTATION
	SVCE	SERVICE
	SW	SWITCH
	SWBD	SWITCHBOARD
	SWGR	SWITCHGEAR
	SYM	SYMMETRICAL

T	TCD	TIME TO CLOSE ON DEENERGIZATION
	TCE	TIME TO CLOSE ON ENERGIIZATION
	TD	TIME DELAY RELAY
	TEL	TELEPHONE
	TELEM	TELEMETERING
	TEMP	TEMPORARY
	TERM	TERMINAL
	TOC	TOP OF CONCRETE
	TOD	TIME TO OPEN ON DEENERGIZATION
	TOE	TIME TO OPEN ON ENERGIIZATION
	TS	TEST SWITCH
	TSP	TWISTED SHIELDED PAIR
	TYP.	TYPICAL

U	U.G.	UNDERGROUND
	U.O.N.	UNLESS OTHERWISE NOTED
	UL	UNDERWRITER LABORATORIES
	UV	UNDERVOLTAGE

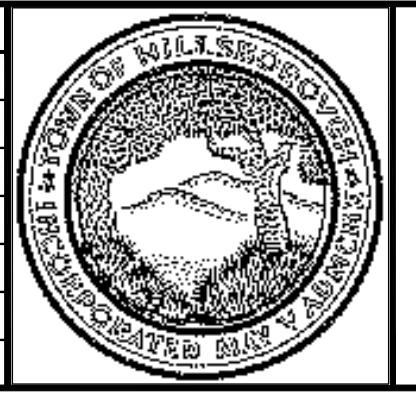
V	V	VOLT
	V.C.B.	VACUUM CIRCUIT BREAKER
	VS	VOLTMETER SWITCH
	V.T.	VOLTAGE TRANSFORMER

X	XFMR	TRANSFORMER
	XFR	TRANSFER
	XMTR	TRANSMITTER

W	WP	WEATHERPROOF
	XDCR	TRANSDUCER
	W/	WITH
	WT	WEIGHT

90% SUBMITTAL

NO		REVISIONS	DATE	APPR
1				
2				
3				
4				
5				
6				
7				



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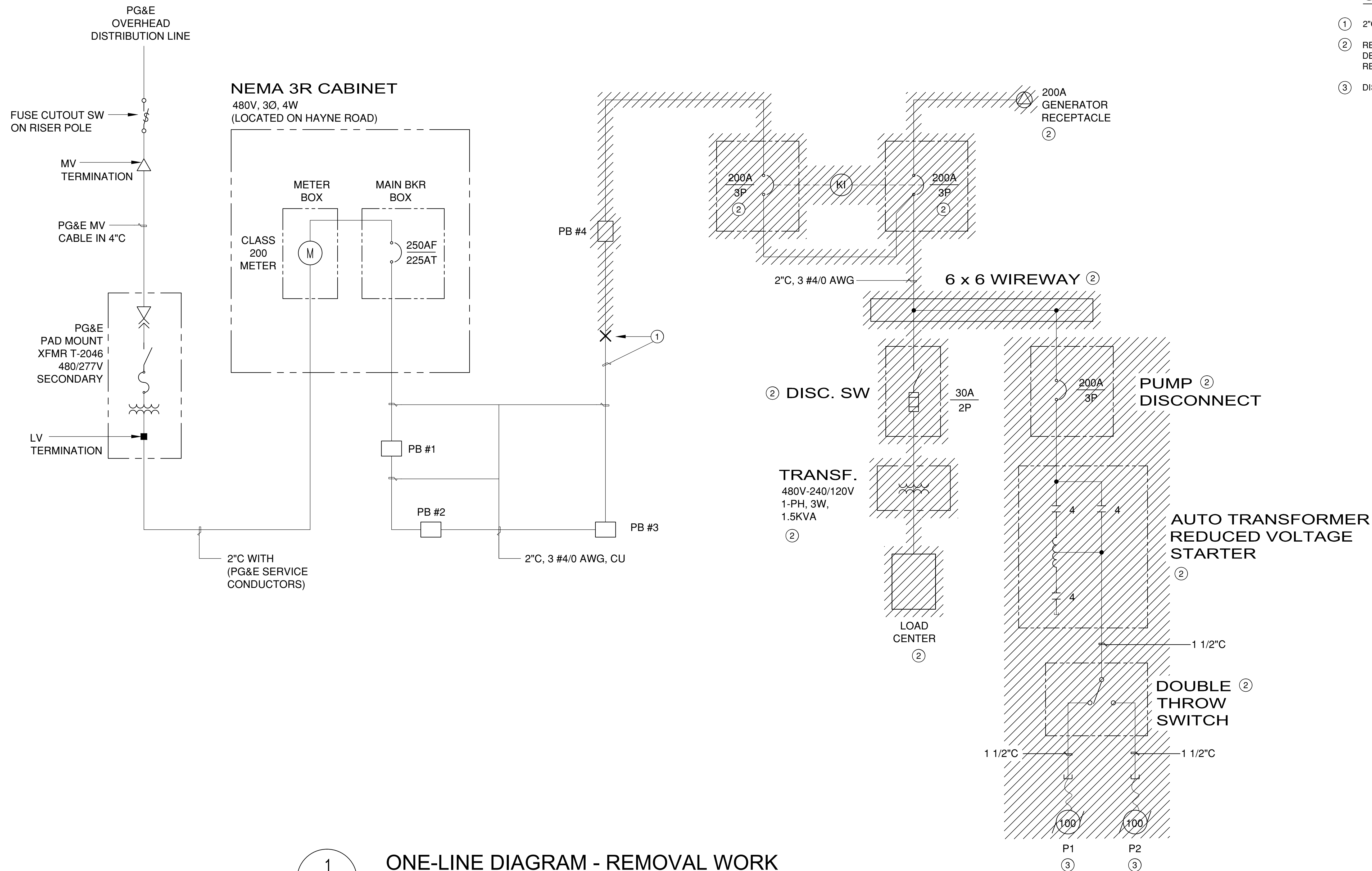
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TOWN OF HILLSBOROUGH CHERRY CREEK PUMP STATION ELECTRICAL LEGEND AND ABBREVIATIONS

DATE:	12/04/17
SCALE:	AS SHOWN
DESIGN:	JCH
DRAWN:	VDM
CHECKED:	JCH

SHEET NOTES:

- ① 2"C, 3 #4/0 AWG, CU (FEEDER TO PUMP STATION, 480V)
- ② REMOVE ELECTRICAL EQUIPMENT INCLUDING ALL ENCLOSED EQUIPMENT AND DEVICES. VERIFY CONNECTIONS AND EXISTING CONDITIONS TO THE EXTENT REQUIRED TO SAFELY REMOVE EQUIPMENT.
- ③ DISCONNECT AND REMOVE PUMPS.



1 ONE-LINE DIAGRAM - REMOVAL WORK
SCHEMATIC

90% SUBMITTAL

NO	REVISIONS	DATE	APPR



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**TOWN OF HILLSBOROUGH
 CHERRY CREEK PUMP STATION
 ONE-LINE DIAGRAM
 REMOVAL WORK**

DATE:	12/04/17
SCALE:	AS SHOWN
DESIGN:	JCH
DRAWN:	VDM
CHECKED:	JCH

**SHEET
 E-2R
 20 OF 38**

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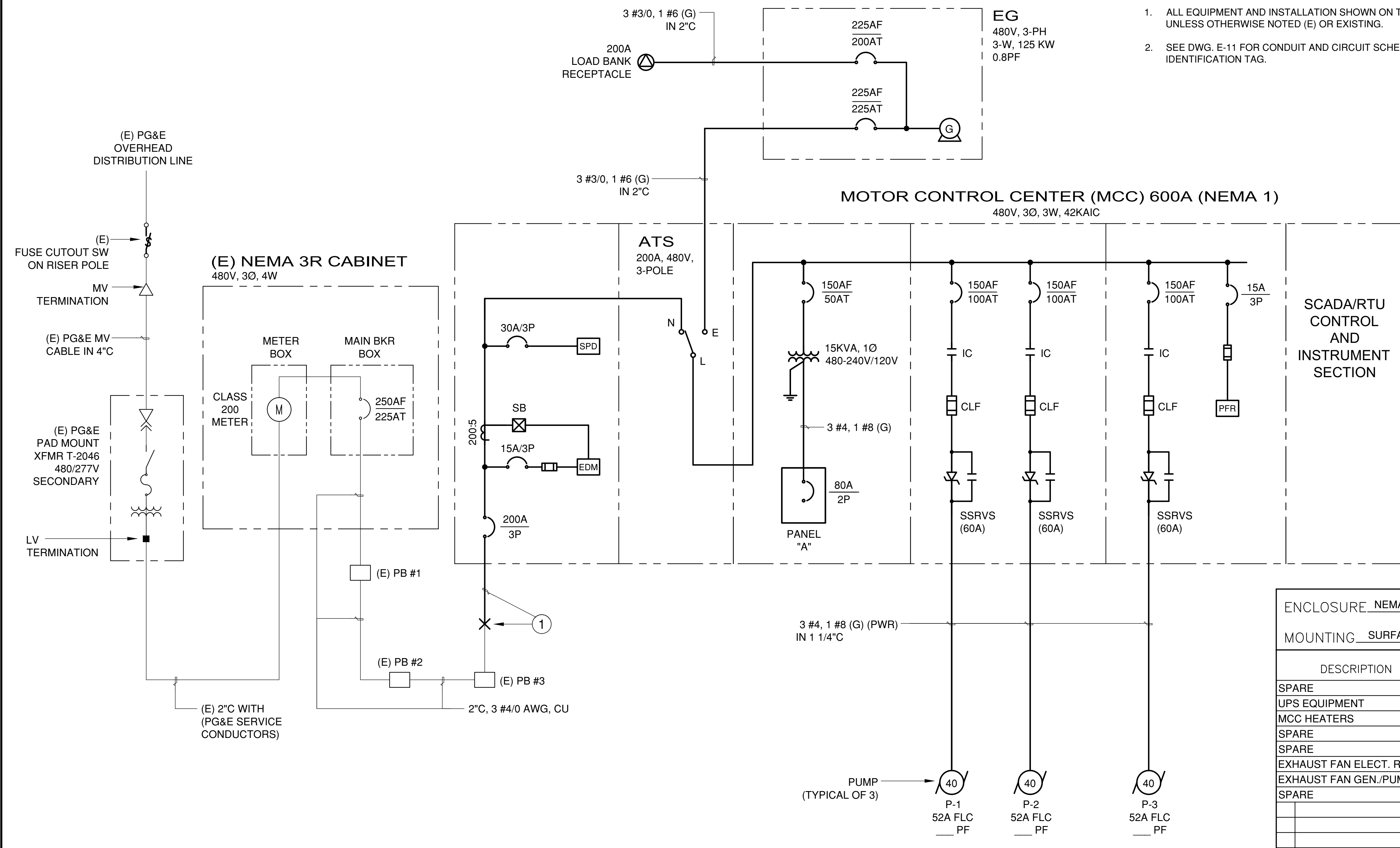
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 Xrefs: Cherry_Creek_PS Title Block_MTH

GENERAL NOTES:

- ALL EQUIPMENT AND INSTALLATION SHOWN ON THIS DRAWING IS NEW UNLESS OTHERWISE NOTED (E) OR EXISTING.
- SEE DWG. E-11 FOR CONDUIT AND CIRCUIT SCHEDULE AND EQUIPMENT IDENTIFICATION TAG.

SHEET NOTES:

- EXTEND 2" C FEEDER CONDUIT TO (N) 200A/3P MAIN BREAKER LOCATED IN MCC. PROVIDE (N) 3 #4/0 AWG AND SPLICE TO (E) FEEDER CONDUCTORS IN (E) PB #3.



LOAD DESCRIPTION	POWER (KVA)
PUMP P-1 (40 HP)	43.2
PUMP P-2 (40 HP)	43.2
PUMP P-3 (40 HP)	43.2
CONTROL PANEL "A"	7.96
SUBTOTAL	
25% LARGEST MOTOR	10.8
25% CONTINUOUS	2.24
TOTAL	150.64
480V, 3 PHASE	
	181.2 (AMP)

ENCLOSURE NEMA 1, INTERRUPTING DUTY 240/120V VOLT, 1 PHASE, 3 WIRE
 MOUNTING SURFACE, BREAKER 10KAIC, 80 A. MAIN BREAKER, 150 A. BUS

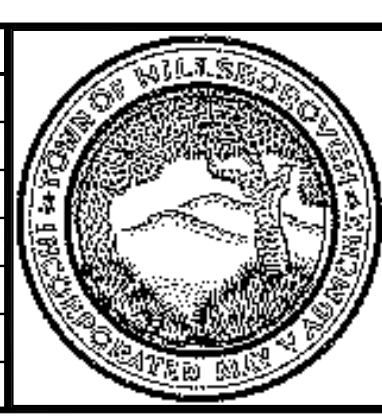
DESCRIPTION	LOADS/VA		BKR. POLE	CKT. NO.	PHASE A B	BKR. POLE	LOADS/VA		DESCRIPTION
	A	B					A	B	
SPARE	-	-	20/1	1	●	2	1500	1100	GENERATOR JACKET HEATER
UPS EQUIPMENT	-	1500		3	●	4			BATTERY CHARGER
MCC HEATERS	750			5	●	6	90		ELECTRICAL RM. LIGHTS
SPARE	-	-		7	●	8		130	GENERATOR RM. LIGHTS
SPARE	-	-		9	●	10		50	EXTERIOR LIGHTS
EXHAUST FAN ELECT. RM.		700		11	●	12		720	ELECTRICAL RM. RECPTS
EXHAUST FAN GEN./PUMP RM.	700			13	●	14		720	GENERATOR RM. RECPTS
SPARE	-	-		15	●	16		-	SPARE
	-	-		17	●	18		-	
	-	-		19	●	20		-	
	-	-		21	●	22		-	
	-	-		23	●	24		-	
	-	-		25	●	26		-	
	-	-		27	●	28		-	
	-	-		29	●	30		-	
	-	-		31	●	32		-	
	-	-		33	●	34		-	
	-	-		35	●	36		-	
	-	-		37	●	38		-	
	-	-		39	●	40		-	
	-	-		41	●	42		-	
TOTAL:	1450	2200					2360	1950	

SEE ONE-LINE DIAGRAM

1 ONE-LINE DIAGRAM - NEW WORK
SCHEMATIC

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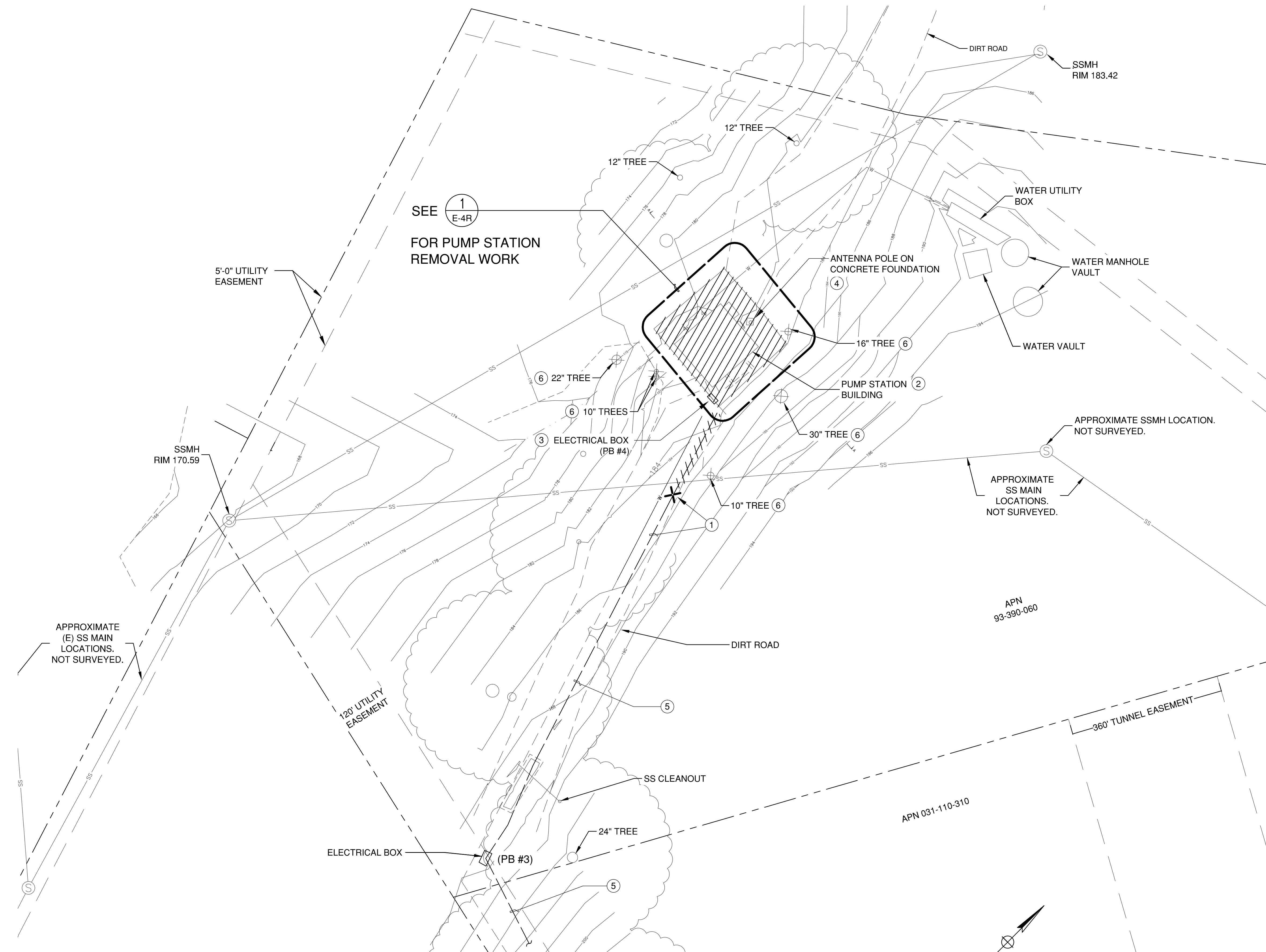
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**TOWN OF HILLSBOROUGH
 CHERRY CREEK PUMP STATION
 ONE-LINE DIAGRAM
 NEW WORK**

DATE:	12/04/17
SCALE:	AS SHOWN
DESIGN:	JCH
DRAWN:	VDM
CHECKED:	JCH

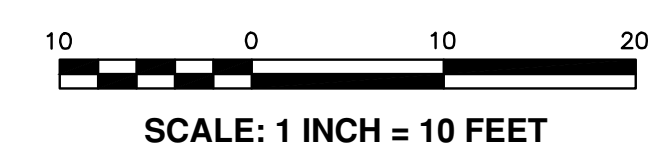
SHEET NOTES:

- ① REMOVE CONDUCTORS FROM PB #3 TO PUMP STATION MAIN BREAKERS VIA PB #4. SEE DWG. E-3 FOR NEW WORK REQUIREMENTS.
- ② REMOVE ALL CONDUIT, JUNCTION BOXES, WIRING AND DEVICES INCLUDING MAIN BREAKERS, WIREWAY, PUMP DISCONNECT SWITCHES, AUTO TRANSFORMER REDUCED VOLTAGE STARTER, DOUBLE THROW SWITCH, AND OTHER MISCELLANEOUS ELECTRICAL MATERIALS THAT MAY EXIST FROM PUMP STATION.
- ③ PULL BOX (PB#4) TO BE REMOVED.
- ④ ANTENNA POLE ON CONCRETE FOUNDATION. SEE DWG. E-4R FOR REMOVAL WORK REQUIREMENTS.
- ⑤ 2" C WITH 3 #4/0 AWG, CU FEEDER CONDUCTORS TO HAYNE ROAD SERVICE DISCONNECT EQUIPMENT.
- ⑥ FOR TREE REMOVAL WORK, SEE CIVIL DRAWINGS.



SEE ①
E-4R
FOR PUMP STATION
REMOVAL WORK

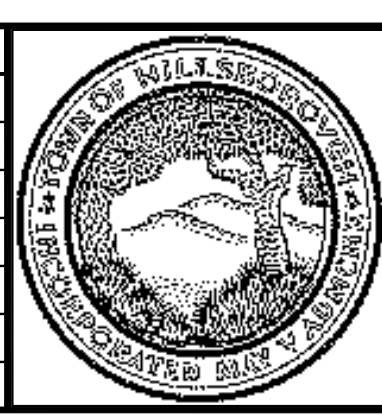
①
E-3R
ELECTRICAL SITE PLAN - REMOVAL WORK
SCALE: 1" = 10'-0"

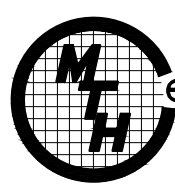


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 Xrefs: Cherry Creek PS Title Block_MtH; Cherry Creek Pump Station 8-11-2017 survey

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TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
ELECTRICAL SITE PLAN
REMOVAL WORK

DATE:	12/04/17
SCALE:	AS SHOWN
DESIGN:	JCH
DRAWN:	VDM
CHECKED:	JCH

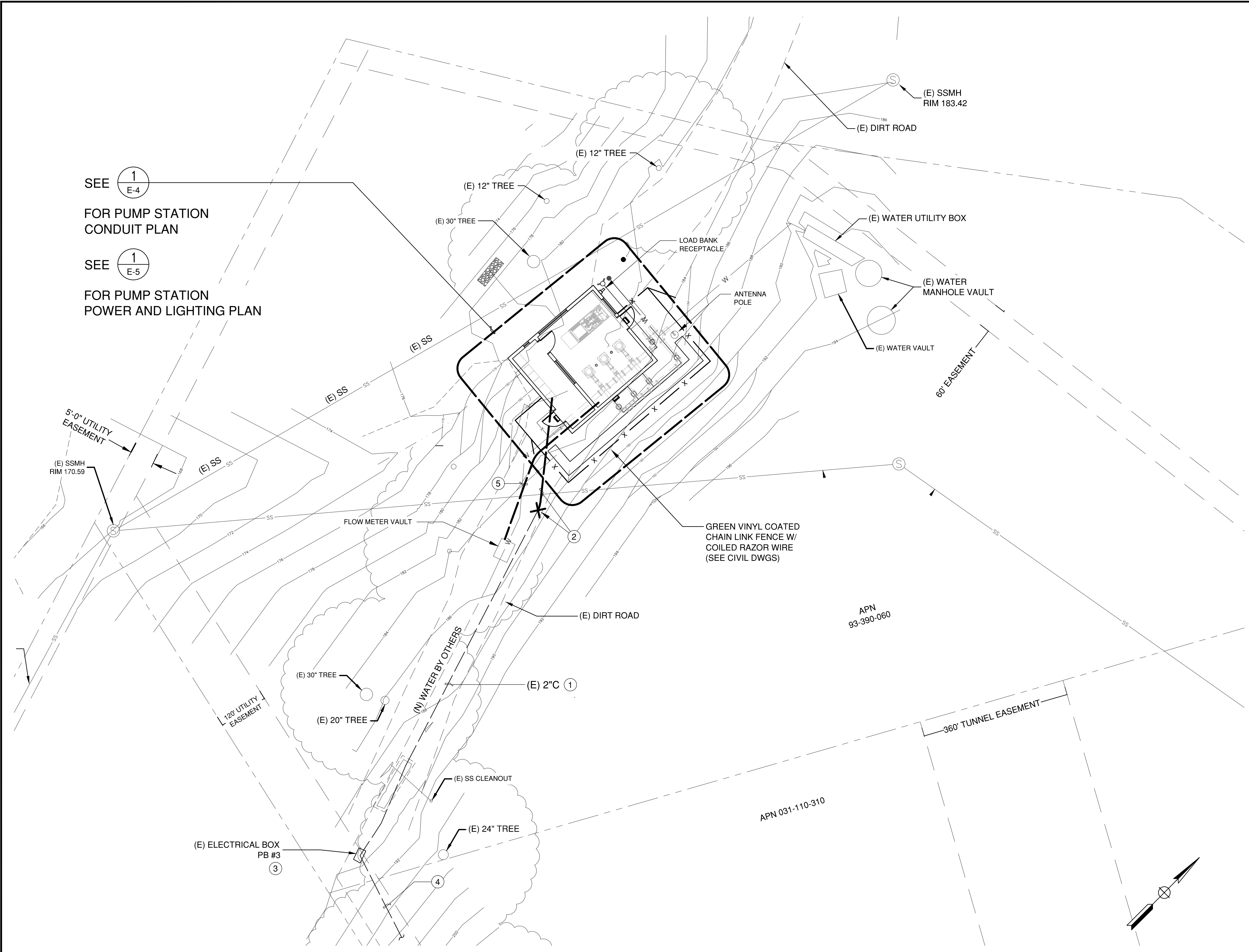
SHEET
E-3R
22 OF 38

GENERAL NOTES:

1. ALL EQUIPMENT AND INSTALLATION SHOWN ON THIS DRAWING IS NEW UNLESS OTHERWISE NOTED (E) OR EXISTING.

SHEET NOTES:

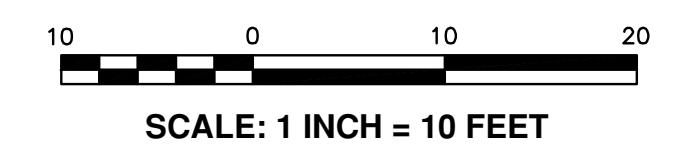
- 1 (E) 2"C WITH (N) CONDUCTORS. SEE ONE-LINE DIAGRAM FOR CONDUCTOR SIZE.
- 2 EXTEND 2"C FEEDER CONDUIT TO (N) MOTOR CONTROL CENTER (MCC) LOCATED IN ELECTRICAL ROOM. CONTRACTOR TO INSTALL (N) CONDUCTORS FROM (E) PB #3 TO (N) 200A/3P MAN BREAKER LOCATED IN MCC. SEE ONE-LINE DIAGRAM FOR CONDUCTOR SIZE.
- 3 PROVIDE WATERPROOF SPLICES TO CONNECT (E) FEEDER CONDUCTORS TO (N) CONDUCTORS.
- 4 (E) 2"C WITH (E) FEEDER CONDUCTORS TO HAYNE ROAD SERVICE DISCONNECT SWITCH.
- 5 PROVIDE 1 1/2"C FROM FLOW METER VAULT TO FLOW TRANSMITTER IN PUMP STATION BUILDING. SEE DWG. E-4 FOR CONTINUATION.



SEE 1
E-4
FOR PUMP STATION
CONDUIT PLAN

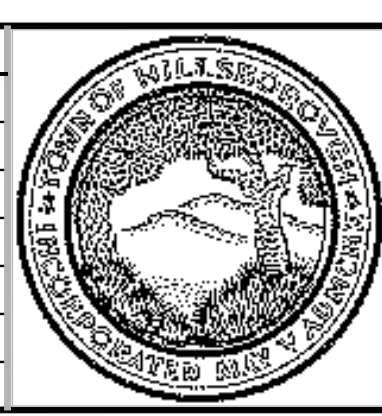
SEE 1
E-5
FOR PUMP STATION
POWER AND LIGHTING PLAN

1
E-3
ELECTRICAL SITE PLAN - NEW WORK
SCALE: 1" = 10'-0"



90% SUBMITTAL

NO	REVISIONS	DATE	APPR
1			
2			
3			
4			
5			



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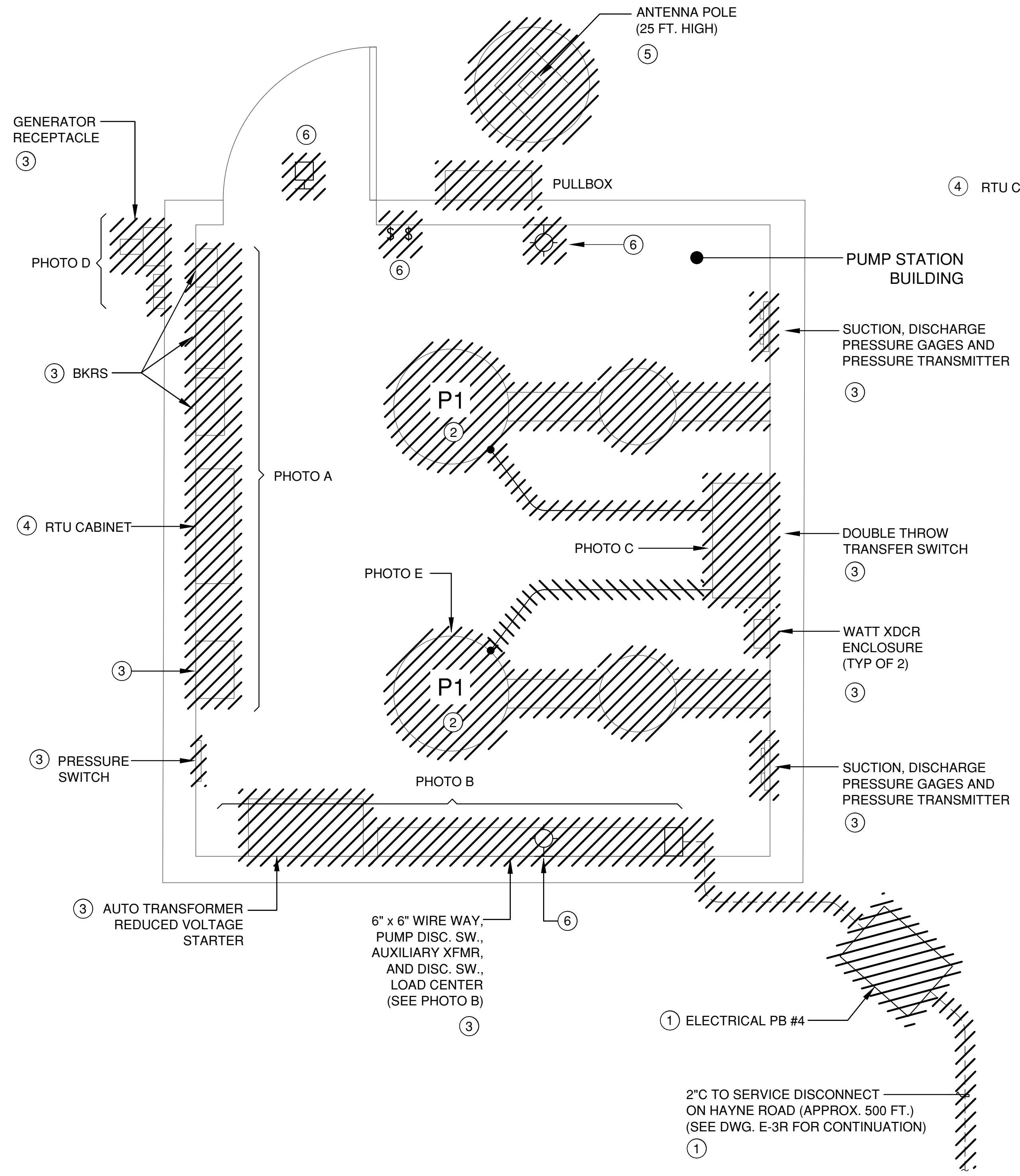
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**TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
ELECTRICAL SITE PLAN
NEW WORK**

DATE:	12/04/17
SCALE:	AS SHOWN
DESIGN:	JCH
DRAWN:	VDM
CHECKED:	JCH

**SHEET
E-3
23 OF 38**

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 Xref: Cherry Creek Pump Station B-11-2017 Survey, E-1-Cherry Creek, PS-Demolition



1 PUMP BUILDING - REMOVAL WORK
 E-4R SCALE: 3/4" = 1'-0"

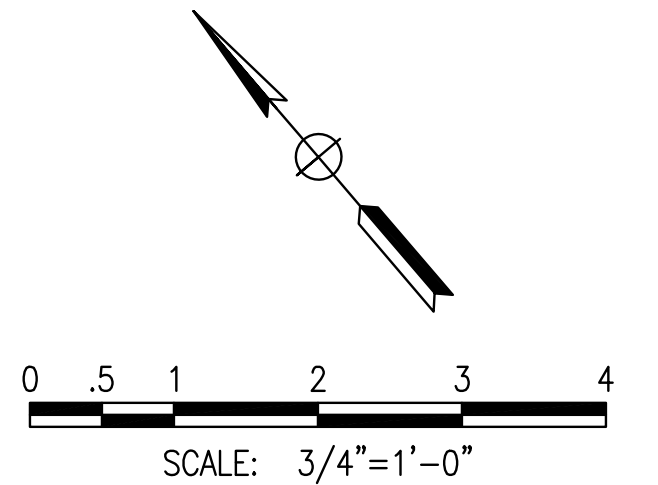


PHOTO A
NO SCALE



PHOTO B
NO SCALE

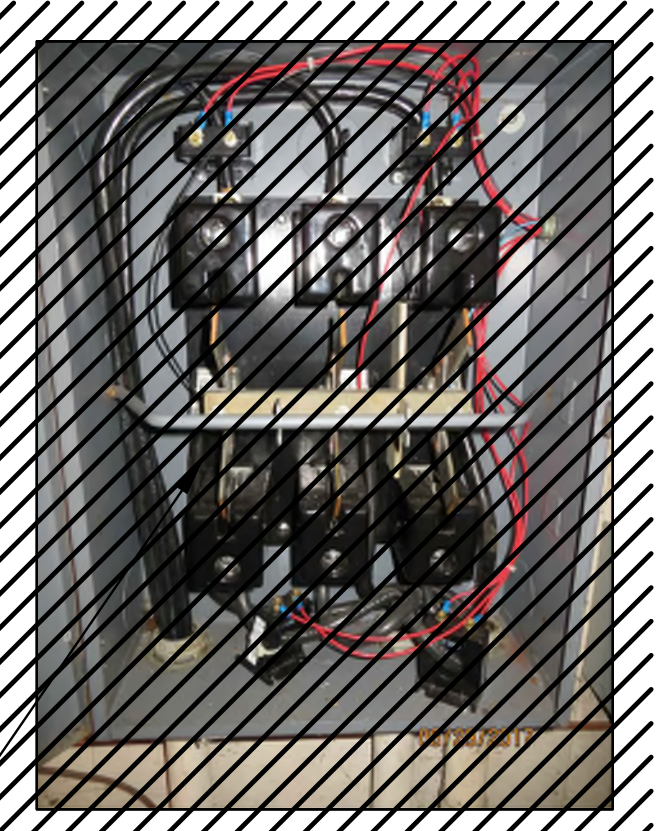


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NO SCALE



PHOTO D
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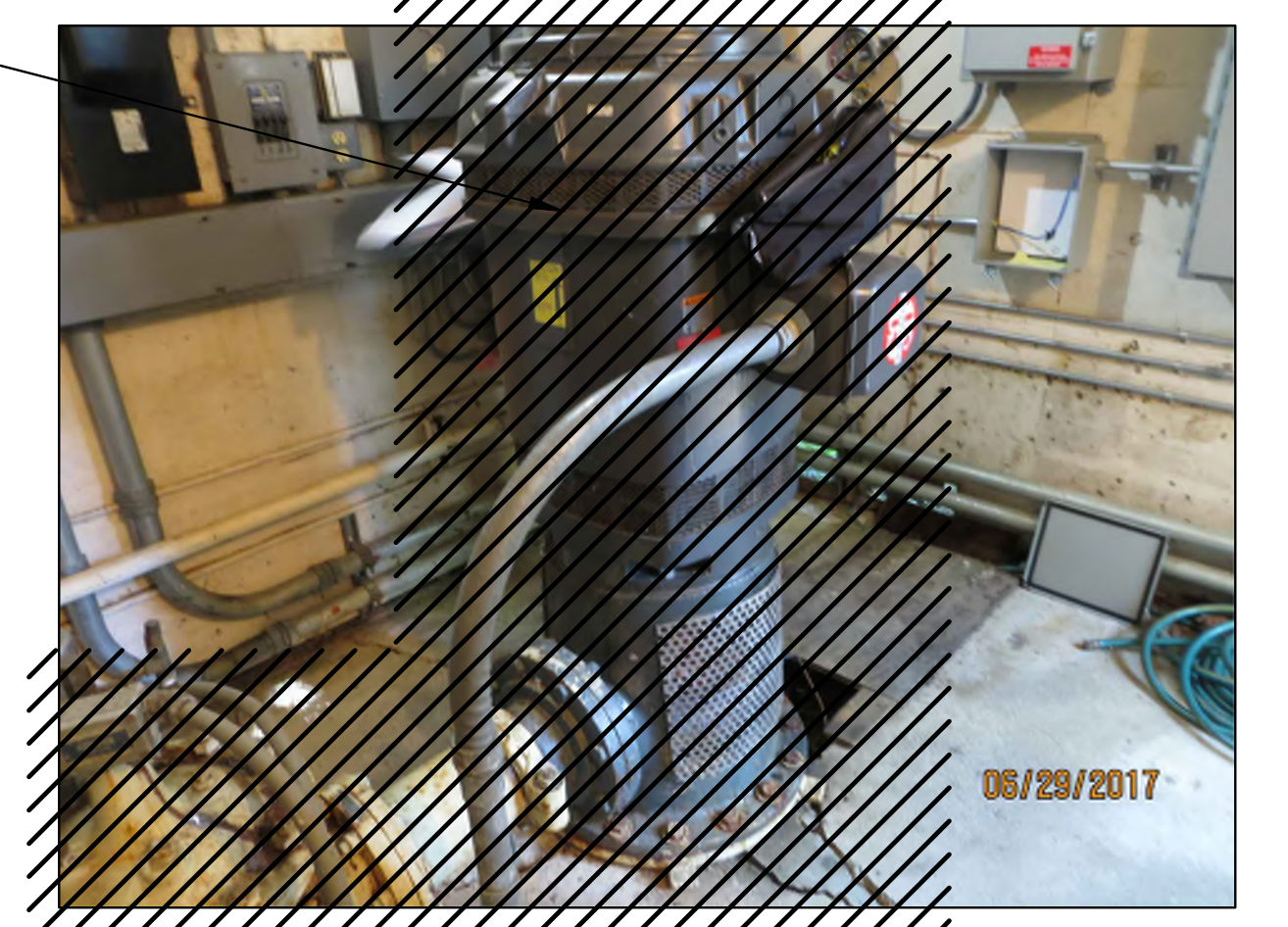


PHOTO E
NO SCALE

GENERAL NOTES:

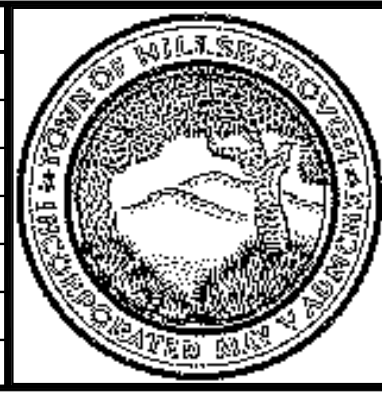
1. TOWN RESERVES THE RIGHT OF REFUSAL ON ANY OF THE EXISTING EQUIPMENT AND DEVICES BEING REMOVED IN THIS PROJECT. ANY EQUIPMENT OR DEVICES NOT WANTED BY THE TOWN SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE PROJECT SITE.

SHEET NOTES:

1. REMOVE PORTION OF 2°C FEEDER CONDUIT TO FACILITATE NEW CONSTRUCTION. SEE DWG. E-3R AND E-3 FOR NEW WORK REQUIREMENTS.
2. DISCONNECT AND REMOVE (E) PUMPS.
3. REMOVE ALL ELECTRICAL COMPONENT, DEVICES, PULLBOX, CONDUITS, DOUBLE THROW TRANSFER SWITCH, GENERATOR RECEPTACLES, ETC. FROM PUMP STATION BUILDING.
4. REMOVE SCADA SYSTEM AND RETAIN FOR RE-USE IN THE NEW CONSTRUCTION.
5. DISCONNECT AND REMOVE ANTENNA AND ANTENNA CABLE. REMOVE ANTENNA POLE AND CONCRETE FOUNDATION.
6. DISCONNECT AND REMOVE LIGHT FIXTURES, LIGHT SWITCH, INCLUDING CONDUIT AND WIRING BACK TO THE SOURCE. DISCONNECT AND REMOVE KEY SWITCH FOR INTRUSION ALARM.

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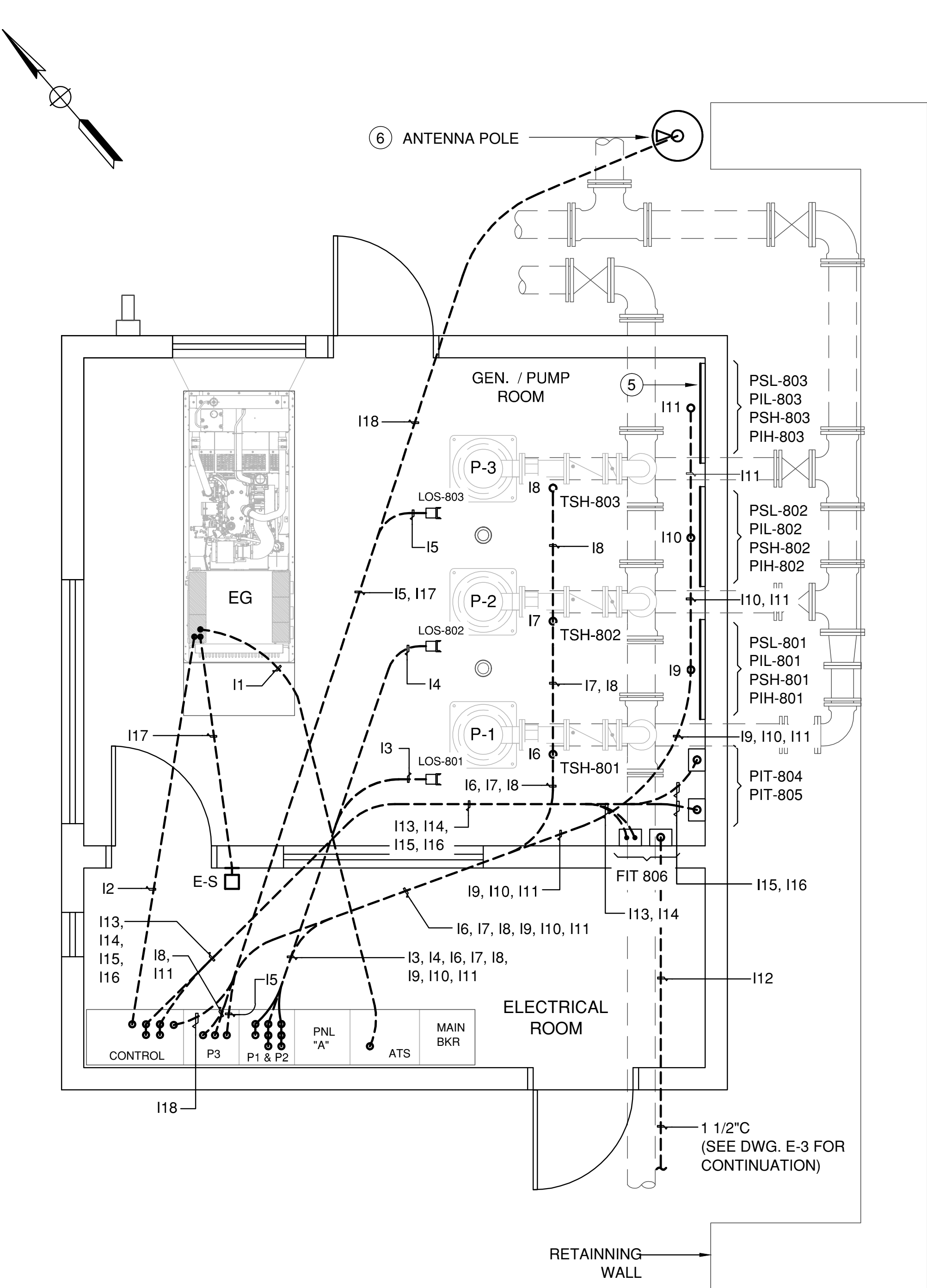
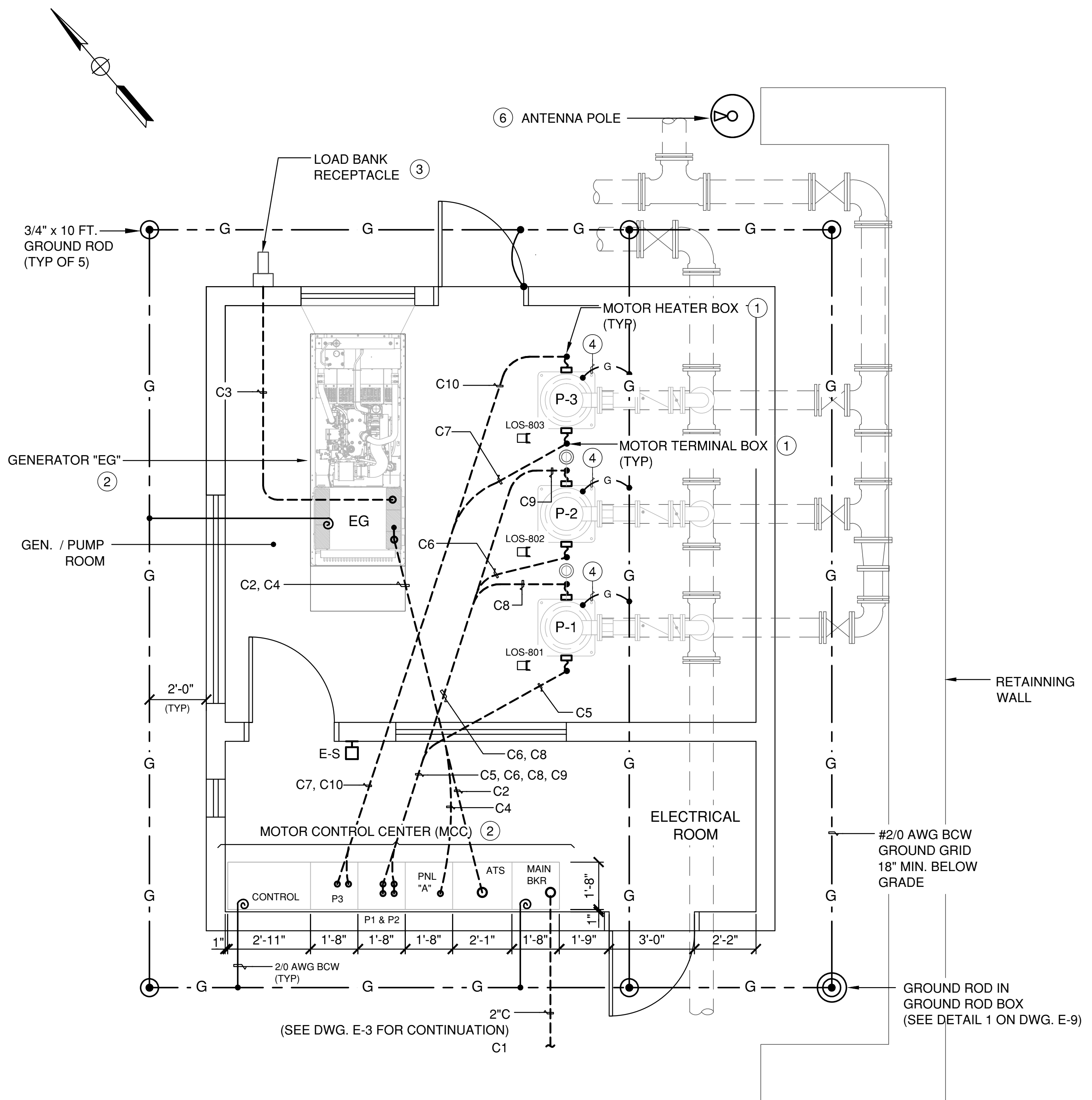
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**TOWN OF HILLSBOROUGH
 CHERRY CREEK PUMP STATION
 PUMP BUILDING
 REMOVAL WORK**

DATE:	12/04/17
SCALE:	AS SHOWN
DESIGN:	JCH
DRAWN:	VDM
CHECKED:	JCH

**SHEET
 E-4R
 24 OF 38**

File: W:\17697-03 Cherry Creek Pump Station\03E-4z.dwg, 12/4/2017 11:22 AM, Last saved: Vuong, Mo, Plot scale: 1:1, Plot Size: ARCH expand D (36.00 x 24.00 inches)
 Xrefs: Cherry Creek PS Title Block_MTH.survey, Cherry Creek Pump Station 8-11-2017



GENERAL NOTES:

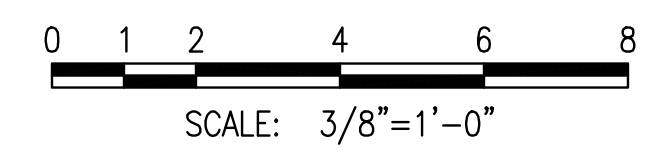
1. ALL UNDERGROUND CONDUITS UNDER THE PUMP BUILDING FLOOR SLAB SHALL BE RIGIDSTEEL CONDUIT (RSC) EXCEPT AS OTHERWISE NOTED.
2. SEE ONE LINE DIAGRAM FOR FEEDER SIZES.
3. SEE DWG. E-11 FOR CONDUIT AND CIRCUIT SCHEDULE.

SHEET NOTES:

- ① TRANSITION TO LIQUID TIGHT FLEX CONDUIT (MIN. 24" LONG) FOR CONNECTION TO MOTOR TERMINAL BOXES.
- ② COORDINATE EXACT CONDUIT STUB-UP LOCATIONS WITH EQUIPMENT MANUFACTURER SHOP DRAWING.
- ③ 200A LOAD BANK RECEPTACLE. APPLETON ELECTRIC CAT.#
- ④ #2 AWG SOLID BCW.
- ⑤ PROVIDE 36" x 26" x 1/4" THICK GALVANIZED STEEL PLATE PAINTED ANSI 61 GRAY.
- ⑥ SEE DETAILS 4 AND 5 ON DWG. E-10 FOR (R) ANTENNA AND ANTENNA POLE INSTALLATION.

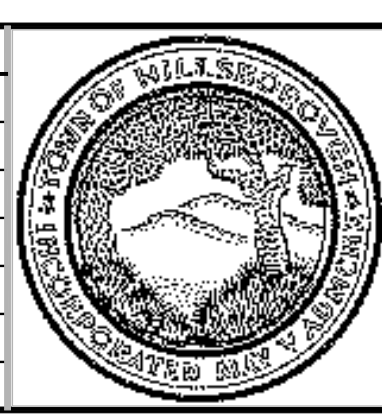
1
PUMP BUILDING - EQUIPMENT LAYOUT,
POWER U/G CONDUIT PLAN, AND GROUNDING PLAN
SCALE: 3/8" = 1'-0"

2
PUMP BUILDING - INSTRUMENTATION CONDUIT PLAN
SCALE: 3/8" = 1'-0"



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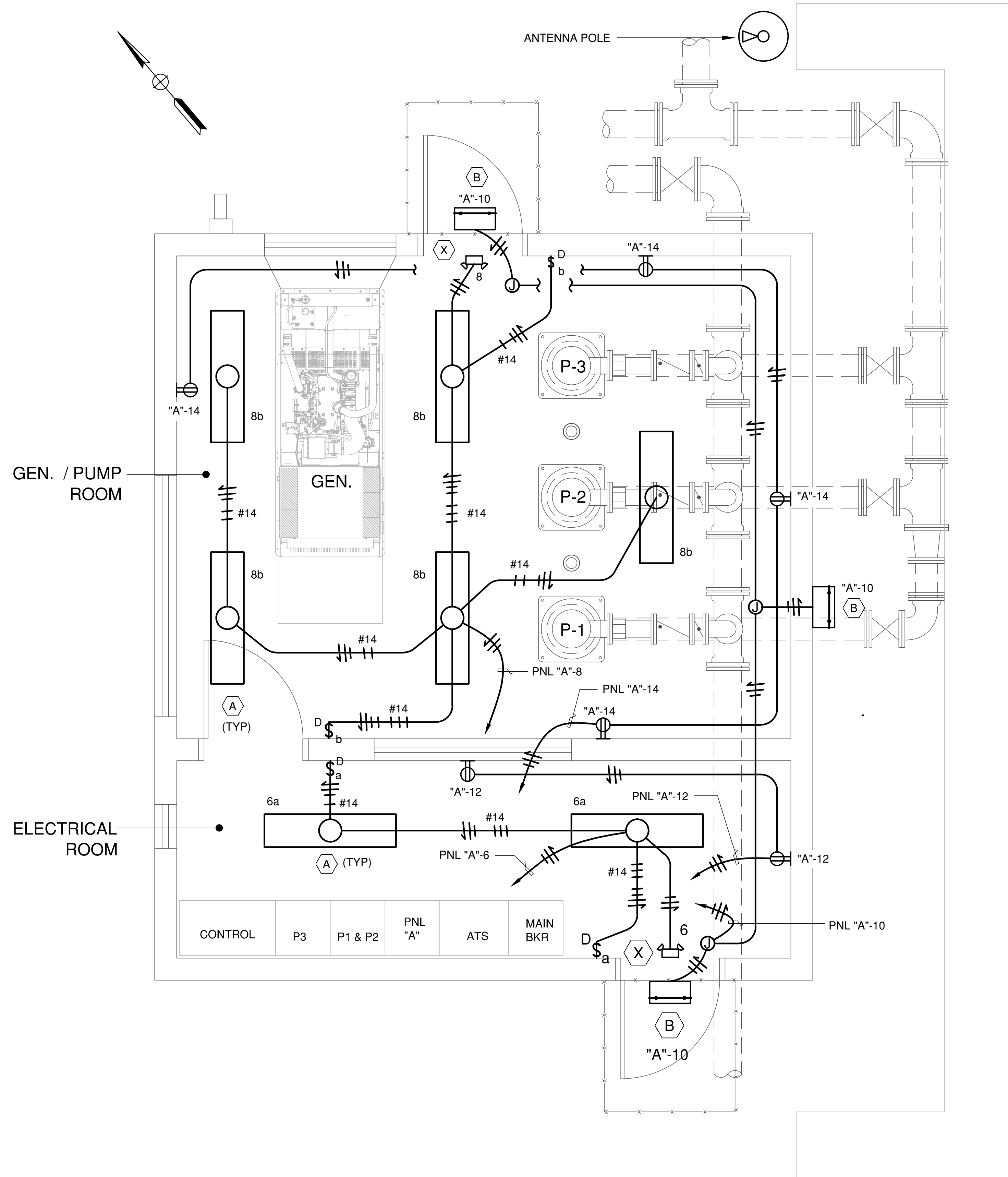
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**TOWN OF HILLSBOROUGH
 CHERRY CREEK PUMP STATION
 PUMP BUILDING
 EQUIPMENT LAYOUT, U/G CONDUIT, AND GROUNDING PLAN**

DATE:	12/04/17
SCALE:	AS SHOWN
DESIGN:	JCH
DRAWN:	VDM
CHECKED:	JCH

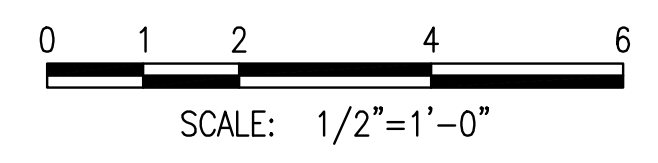
**SHEET
 E-4
 25 OF 38**

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 Xrefs: Cherry Creek PS title block.dwg, Cherry Creek Pump Station 8-11-2017 - Cherry-Creek-Exp1-Layout 39-Elect-Exp1-Layout



1
E-5

PUMP BUILDING - POWER AND LIGHTING PLAN
 SCALE: 1/2" = 1'-0"



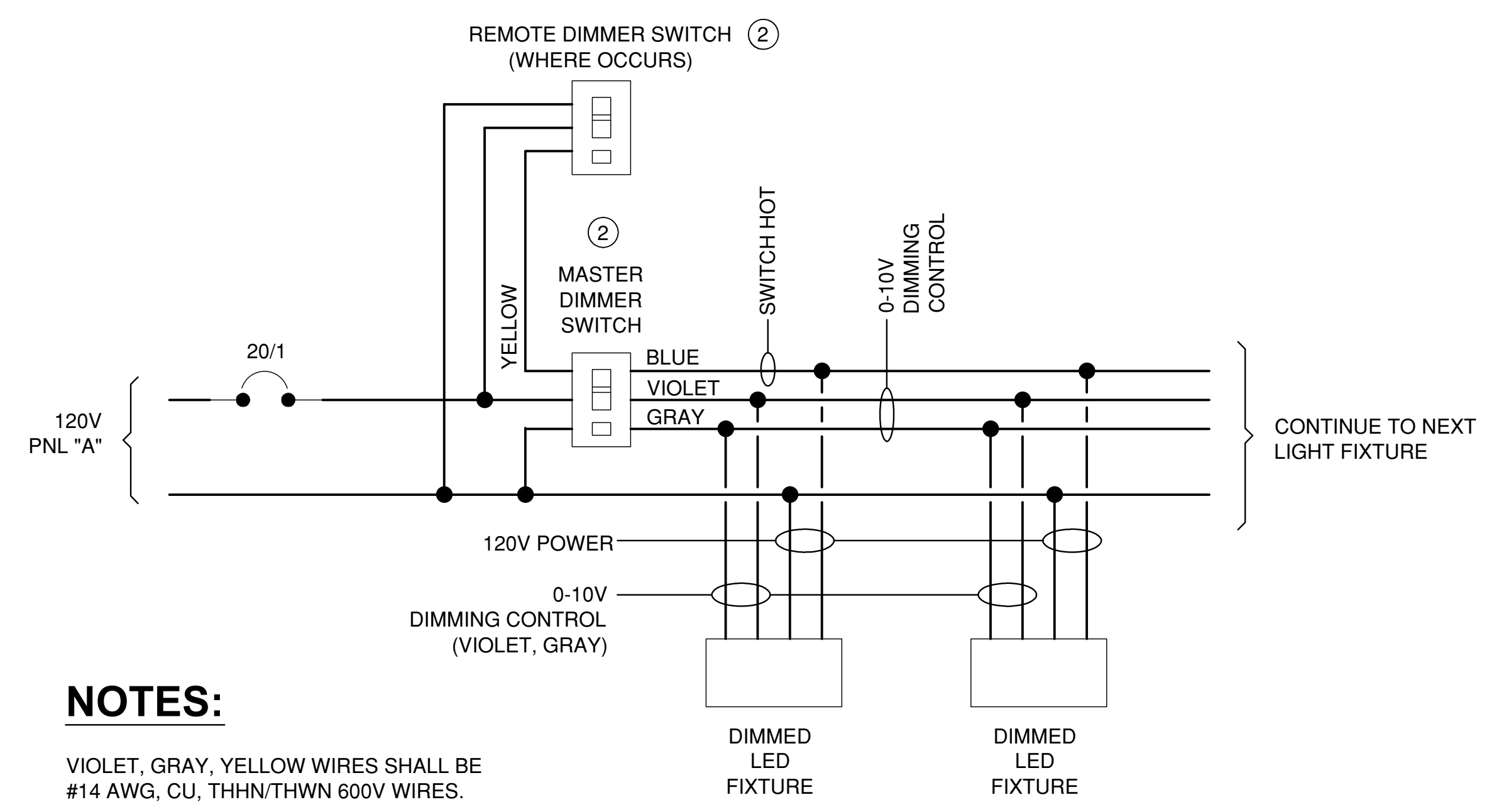
GENERAL NOTES:

- LED LINEAR LIGHT FIXTURES SHALL BE SUPPORTED FROM ROOF JOISTS.

SHEET NOTES:

- MOUNT THE LIGHT FIXTURES IN THE ELECTRICAL ROOM AT 9'-0" ABOVE FINISH FLOOR. MOUNT THE LIGHT FIXTURES IN THE GEN/PUMP ROOM AT 9'-0" ABOVE FINISH FLOOR.
- DIMMER SWITCH, 0-10V, 120-277V, SINKING CONTROL, LEVITON "REMOIR II" SERIES.
 - MASTER DIMMER SWITCH, CAT. No. AWSMT-7DW
 - REMOTE DIMMER SWITCH CAT No. AWSRT-W

MARK	MANUFACTURER'S MODEL NO.	LAMPS		TOTAL WATTS	VOLTS	MOUNTING	DESCRIPTION AND REMARKS
		QTY.	TYPE				
A	ENVOY LIGHTING #WNA10-LED-SS-NW-UE-DIM-EJC10, ESH2	1	LED	33	120	JACK CHAINS HANG ①	4' LONG, LED LIGHT FIXTURE, WIDE EVEN LIGHT DISTRIBUTION FROSTED LENS, IMPACT-RESISTANT ACRYLIC, 0-10V DIMMING, ALL REFLECTIVE SURFACES FINISHED WITH A HIGH REFLECTANCE, WHITE POLYESTER POWDER. UL LISTED, SUITABLE FOR DAMP LOCATIONS.
B	GARDCO 101 PERFORMANCE SCONE LED #101L-16L-700-WW-G1-3-UNV -PCB-IMR12-F1-BZ	16	LED	37	120	WALL MOUNTED MH + 9'-0"	TRAPEZOIDAL WEDGE HIGH PERFORMANCE LED WALL SCONE WITH WARM WHITE LED'S. PHOTOCELL AND INFRARED MOTION.
X	ENVOY LIGHTING #LEDEXC2-1-R-W-HL	12	LED	3.8	120	SURFACE MOUNTED ABOVE DOOR	COMBINATION EMERGENCY LIGHT/EXIT SIGN, RED LETTERS WITH WHITE BACKGROUND, LED EXIT LAMPS AND TWO SIDE MOUNTED ADJUSTABLE LAMP HEADS. UL LISTED FOR WET LOCATIONS



NOTES:

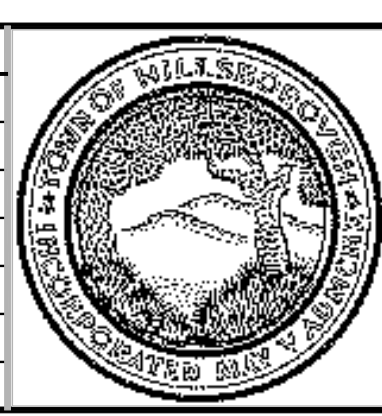
VIOLET, GRAY, YELLOW WIRES SHALL BE #14 AWG, CU, THHN/THWN 600V WIRES.

2
E-5

DIMMABLE LIGHTING CONTROL DIAGRAM
 SCHEMATIC

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NO	REVISIONS	DATE	APPR



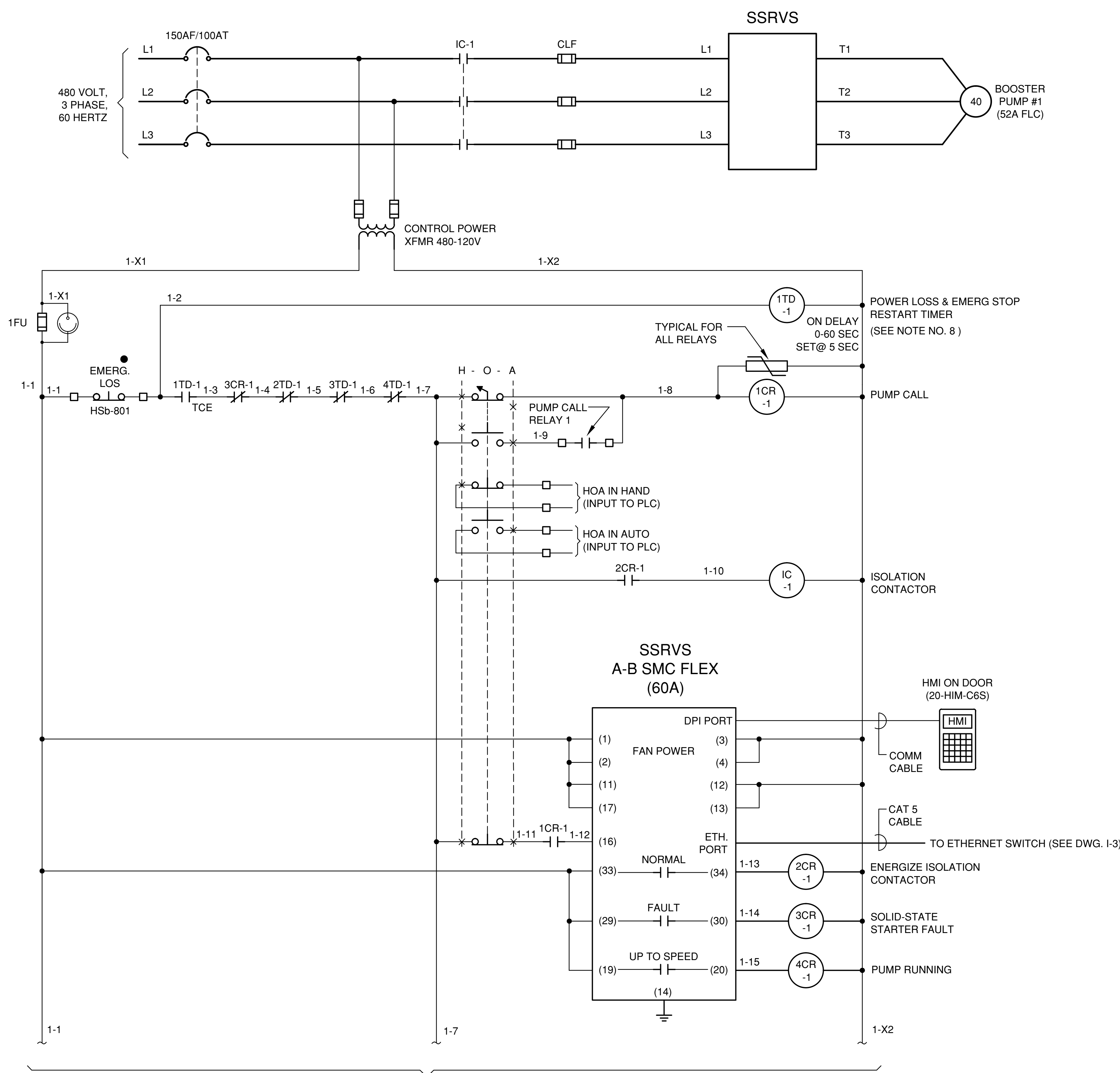
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TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
PUMP BUILDING
POWER AND LIGHTING PLAN

DATE:	12/04/17
SCALE:	AS SHOWN
DESIGN:	JCH
DRAWN:	VDM
CHECKED:	JCH

SHEET
E-5
26 OF **38**



GENERAL NOTES FOR SCHEMATIC DIAGRAMS

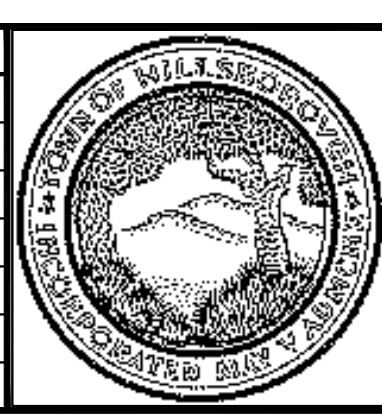
1. UNLESS OTHERWISE NOTED, COMPONENTS SHOWN ON THE SCHEMATIC DIAGRAMS SHALL BE LOCATED IN THE MOTOR CONTROL CENTER (MCC).
2. CONTROL WIRES SHALL BE IDENTIFIED AT BOTH ENDS WITH W. H. BRADY HSA, RAYCHEM TMS, OR EQUAL HEAT SHRINK SLEEVE MARKERS WITH CUSTOM TYPED CHARACTERS IN ACCORDANCE WITH WIRE DESIGNATIONS SHOWN ON THE SCHEMATIC DIAGRAMS.
3. TERMINAL BLOCKS SHALL BE IDENTIFIED WITH THE WIRE NUMBERS IDENTICAL TO THOSE OF THE TERMINATING WIRES.
4. FUSE(S) FOR THE CONTROL CIRCUITS SHALL BE SIZED BY THE SUPPLIERS OF THE MCC AND PANELS.
5. CONTROL RELAY SHALL BE THE NEMA INDUSTRIAL TYPE WITH CONVERTIBLE CONTACTS.
6. THE PUMP MOTOR PROTECTION MODULE OR SYSTEM FURNISHED BY THE PUMP MANUFACTURER SHALL BE INSTALLED AND CONNECTED IN THE MCC BY THE MCC SUPPLIER IN ACCORDANCE WITH THE PUMP MANUFACTURER'S INSTRUCTIONS.
7. THIS SCHEMATIC DIAGRAM SHOWS THE GENERAL SCHEME ONLY. ADDITIONAL RELAYS, ACCESSORIES, INTERLOCKS, ETC., REQUIRED BY THE MCC MANUFACTURER SHALL BE PROVIDED.
8. TIME DELAY 15 SEC AND 30 SEC FOR PUMP P-2 AND PUMP P-3 RESPECTIVELY.

FOR CONTINUATION, SEE DWG. E-7

BOOSTER PUMP P-1
 (SIMILAR FOR PUMPS P-2 AND P-3,
 EXCEPT PREFIX AND SUFFIX TO CONFORM TO PUMP NUMBER)

90% SUBMITTAL

NO	REVISIONS	DATE	APPR
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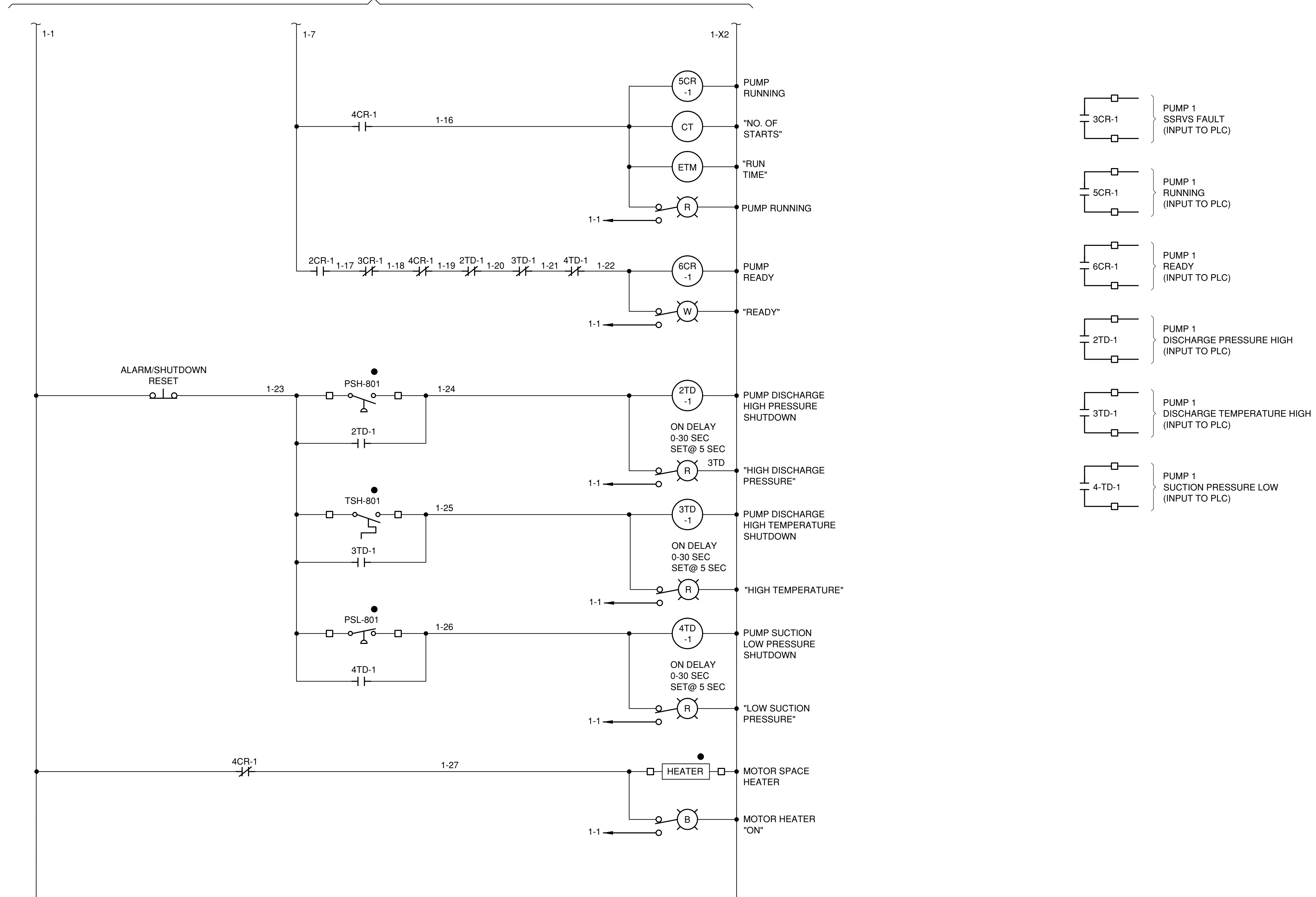
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**TOWN OF HILLSBOROUGH
 CHERRY CREEK PUMP STATION
 BOOSTER PUMP P-1
 CONTROL SCHEMATIC DIAGRAM - SHEET 1**

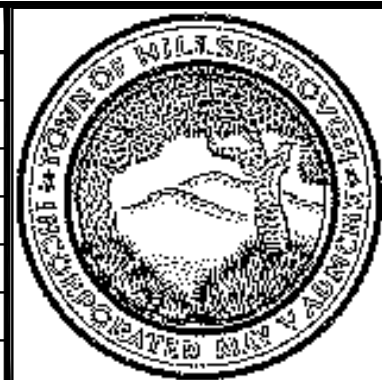
DATE:	12/04/17
SCALE:	AS SHOWN
DESIGN:	JCH
DRAWN:	VDM
CHECKED:	JCH

FOR CONTINUATION, SEE DWG. E-6



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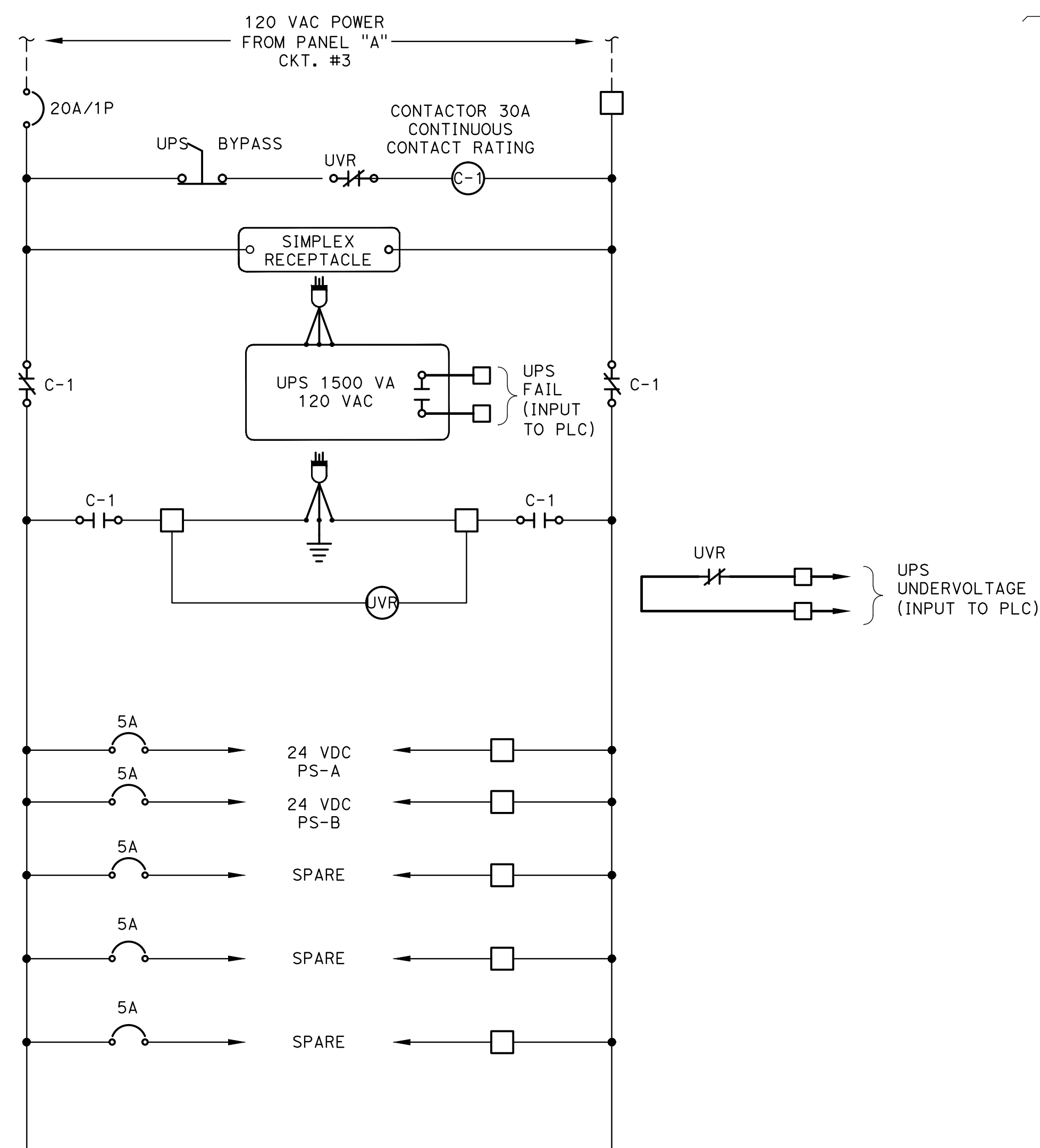
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**TOWN OF HILLSBOROUGH
 CHERRY CREEK PUMP STATION
 BOOSTER PUMP P-1
 CONTROL SCHEMATIC DIAGRAM - SHEET 2**

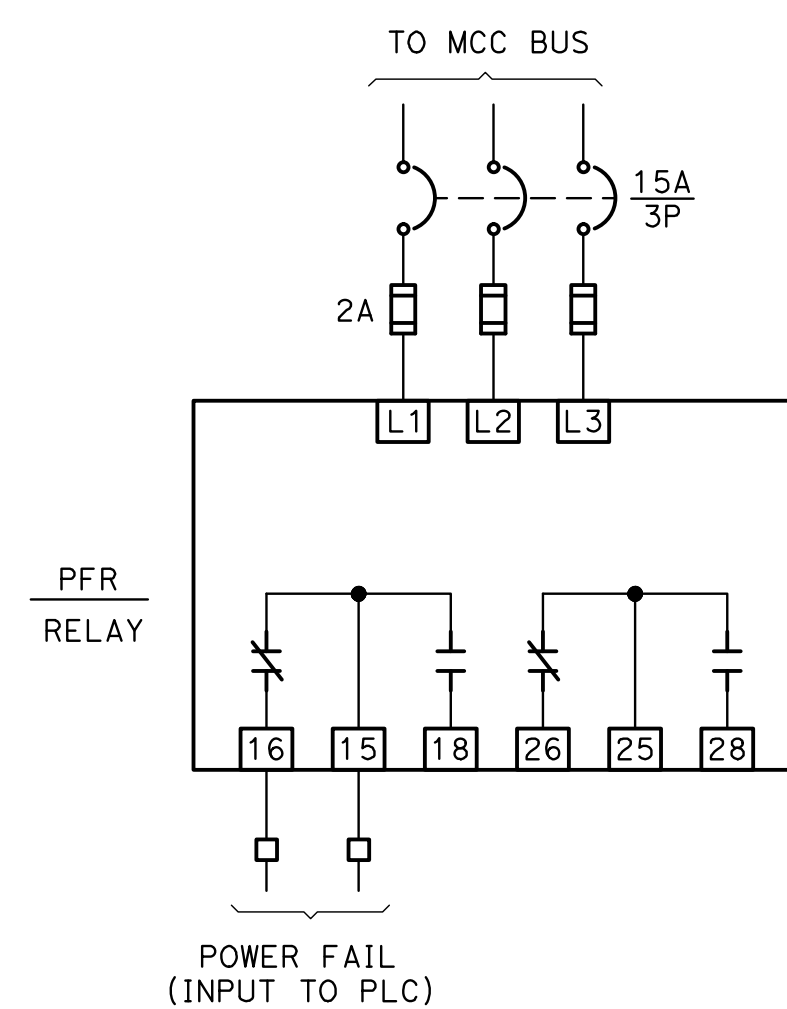
DATE: 12/04/17
 SCALE: AS SHOWN
 DESIGN: JCH
 DRAWN: VDM
 CHECKED: JCH

**SHEET
 E-7
 28 OF 38**

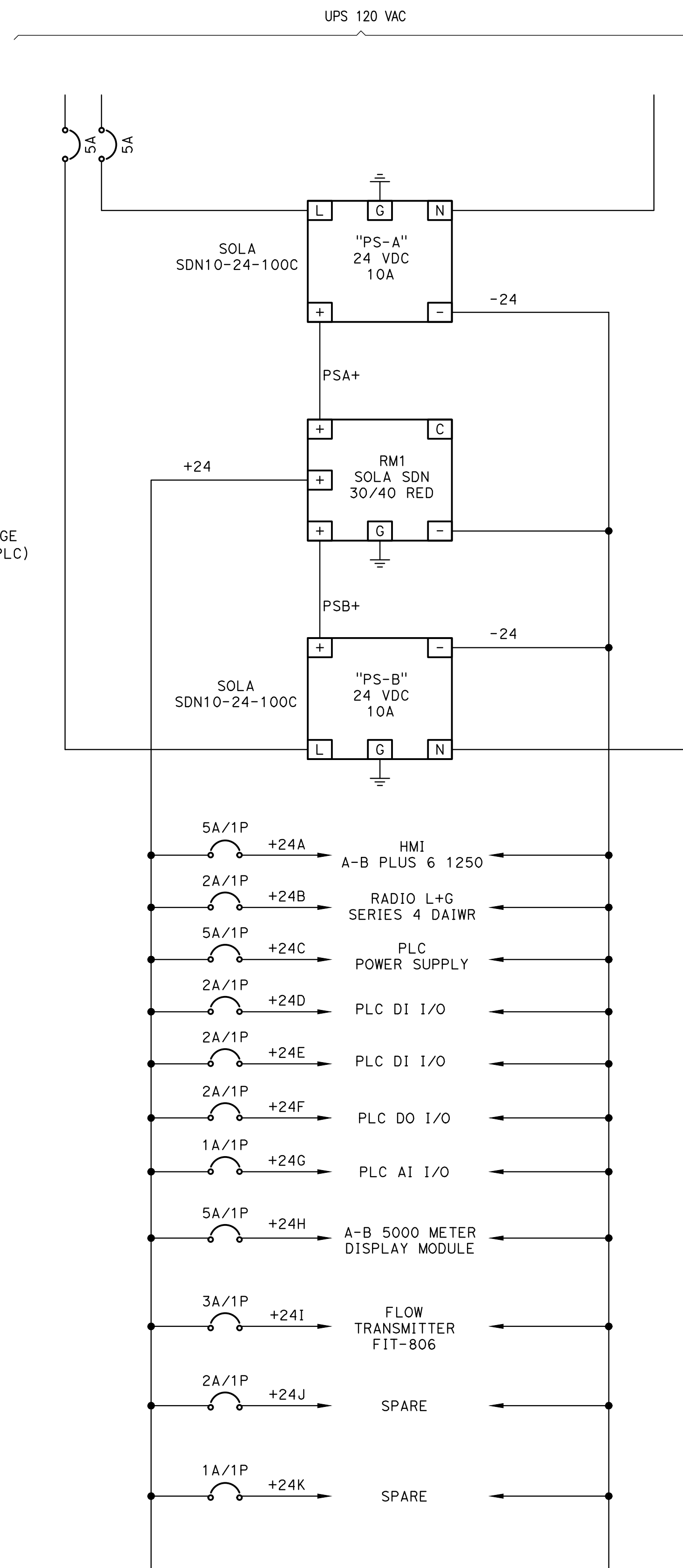
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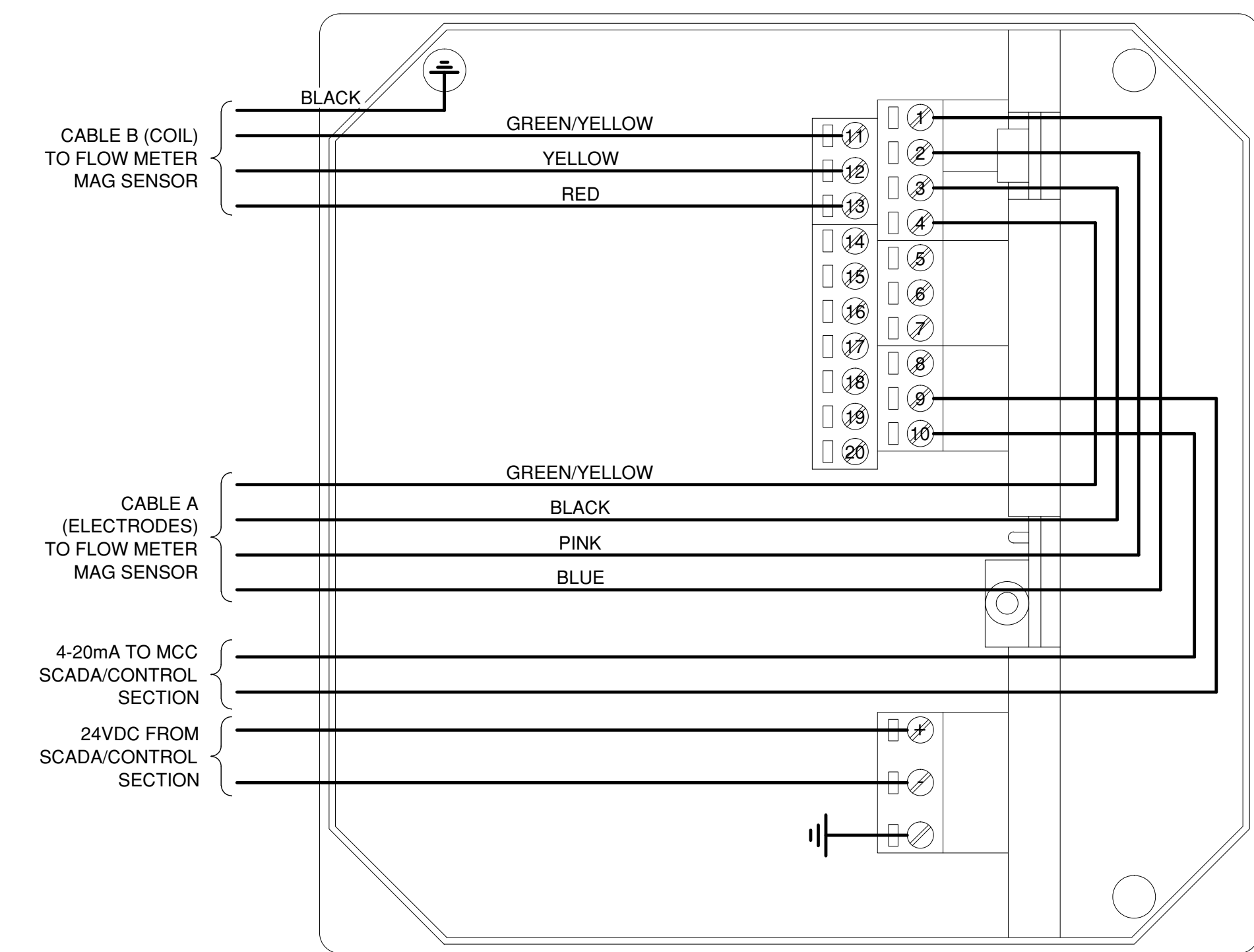
UPS POWER SUPPLY SCHEMATIC



POWER FAILURE RELAY SCHEMATIC "MCC"



24V DC POWER SUPPLY SCHEMATIC



FIT-806 McCROMETER FLOWMETER CONVERTER
(INSTALL ON PUMP ROOM WALL)

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NO	REVISIONS	DATE	APPR
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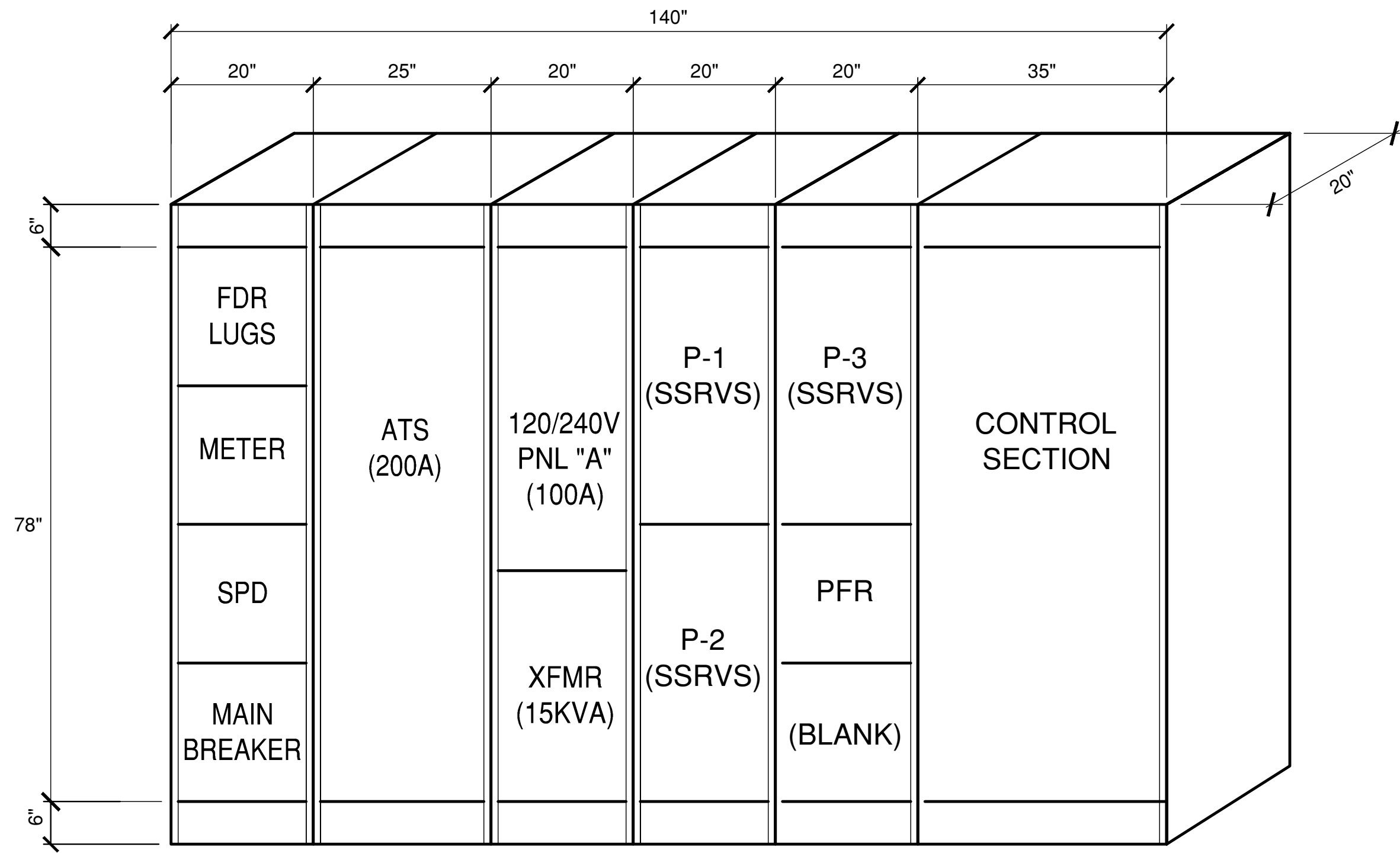
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**TOWN OF HILLSBOROUGH
 CHERRY CREEK PUMP STATION
 MISCELLANEOUS CONTROL DIAGRAMS**

DATE: 12/04/17
 SCALE: AS SHOWN
 DESIGN: JCH
 DRAWN: VDM
 CHECKED: JCH

**SHEET
 E-8
 29 OF 38**

XX/XX/XX



1 MOTOR CONTROL CENTER "MCC" ELEVATION
 NOT TO SCALE

90% SUBMITTAL

NO	REVISIONS	DATE	APPR
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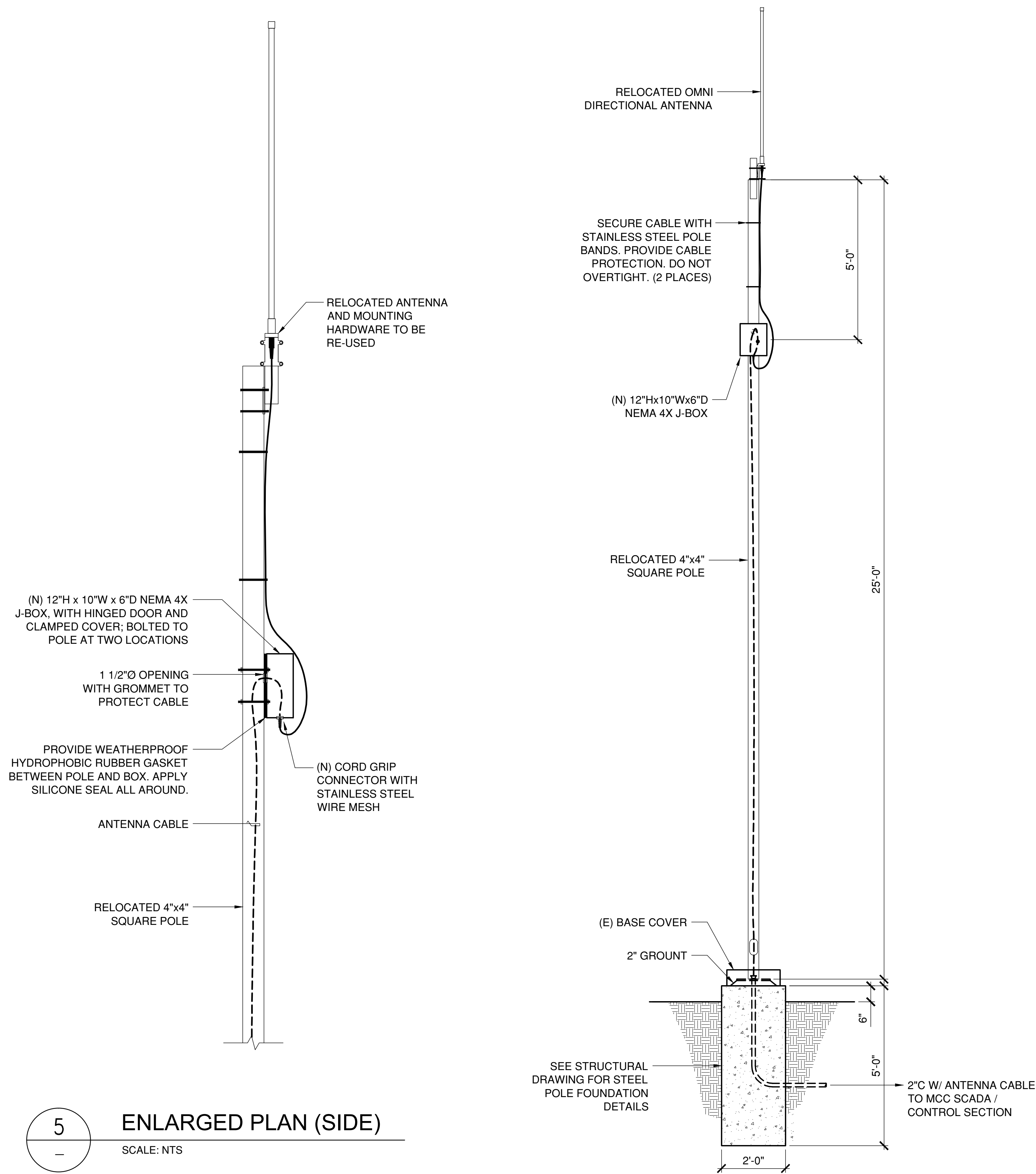
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**TOWN OF HILLSBOROUGH
 CHERRY CREEK PUMP STATION
 MOTOR CONTROL CENTER (MCC)
 ELEVATION**

DATE: 12/04/17
 SCALE: AS SHOWN
 DESIGN: JCH
 DRAWN: VDM
 CHECKED: JCH

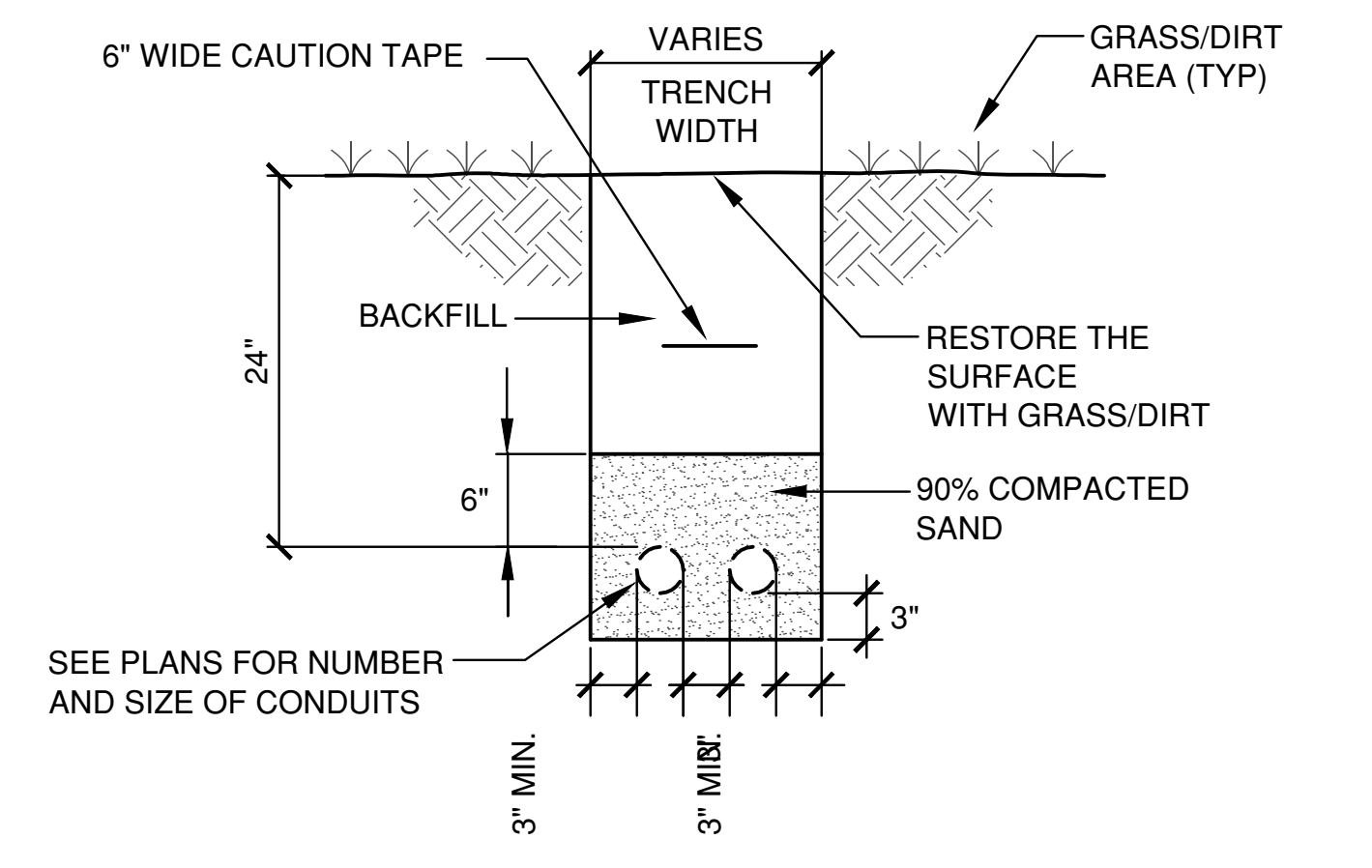
**SHEET
 E-9
 30 OF 38**

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 Xrefs: Cherry Creek PS Title Block_MTH

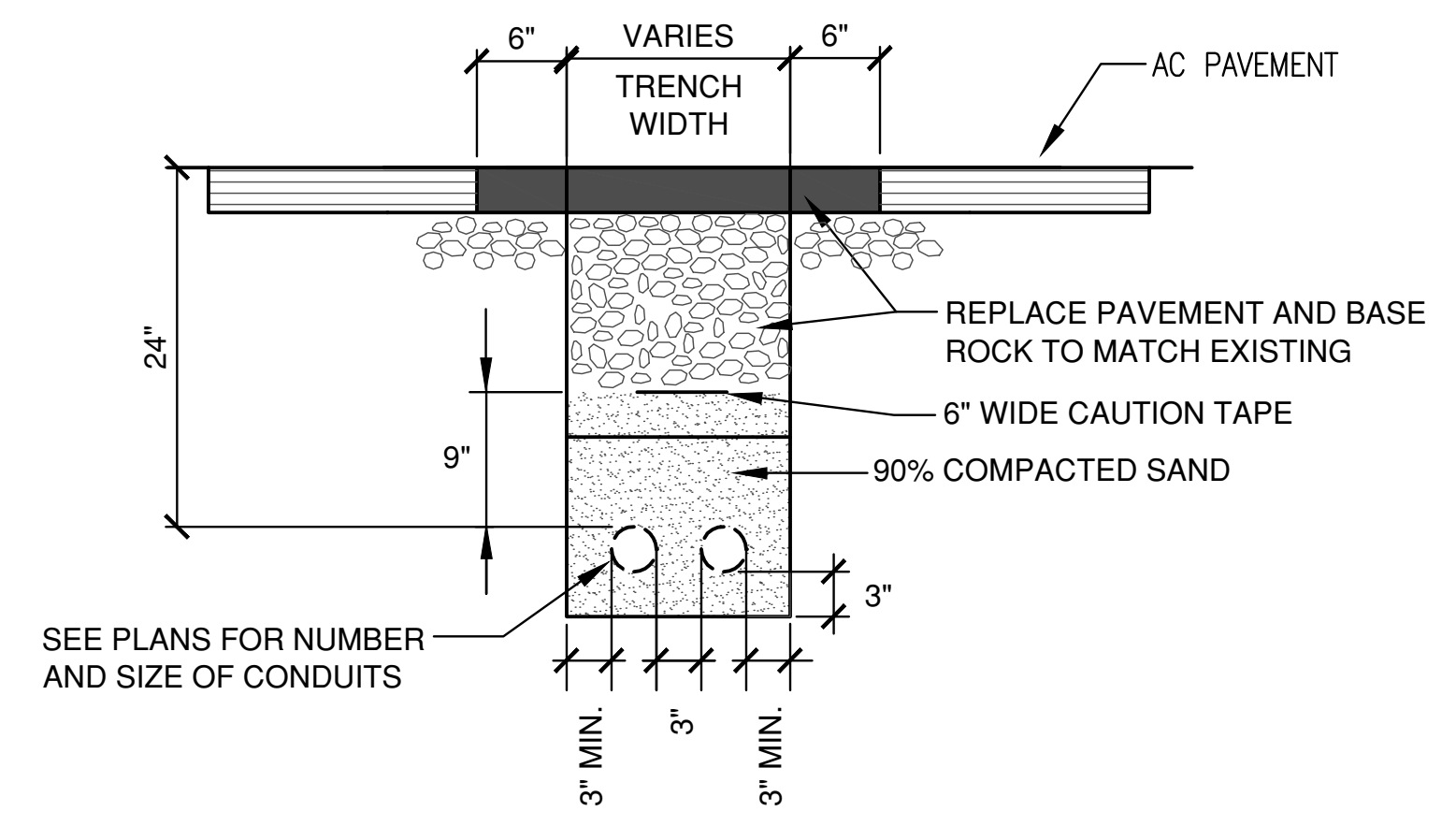


5 ENLARGED PLAN (SIDE)
SCALE: NTS

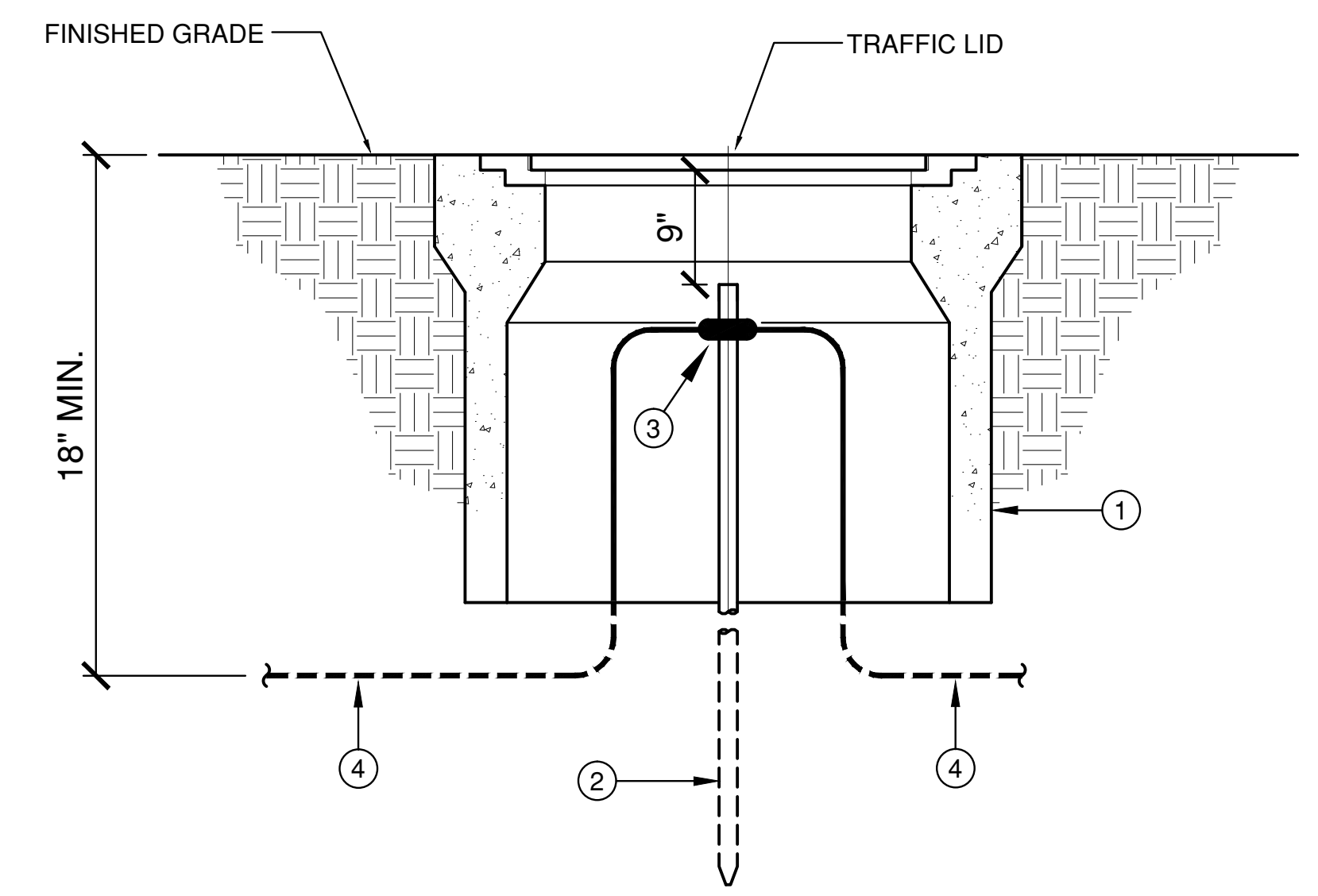
4 RELOCATED ANTENNA POLE DETAIL
SCALE: NTS



2 TYPICAL TRENCH DETAIL GRASS/DIRT/GRAVEL AREA
SCALE: NTS



3 TYPICAL TRENCH DETAIL PAVED AREA
SCALE: NTS

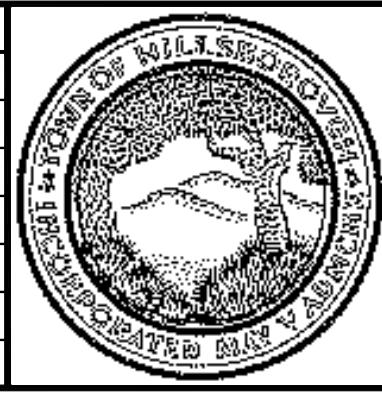


1 GROUND ROD IN GROUND ROD BOX
SCALE: NTS

DETAIL NOTES:

- CHRISTY #G8 GROUND ROD BOX WITH CAST IRON COVER INSCRIBED "GROUND ROD".
- 3/4" DIA. x 10'-0" COPPER WELD GROUND ROD.
- EXOTHERMIC WELD, CABLE TO GROUND ROD.
- BARE COPPER STRANDED CABLE TO GROUND GRID.

NO	REVISIONS	DATE	APPR
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**TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
MISCELLANEOUS ELECTRICAL DETAILS**

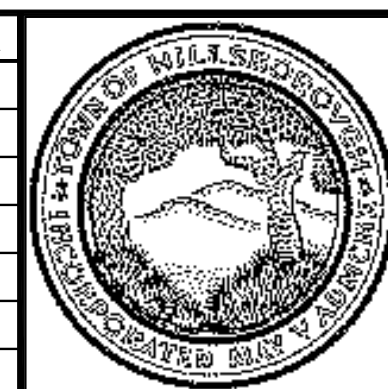
DATE:	12/04/17
SCALE:	AS SHOWN
DESIGN:	JCH
DRAWN:	VDM
CHECKED:	JCH

CONDUIT AND CIRCUIT SCHEDULE

RACEWAY DATA					CABLE DATA					
CKT. NO	FROM	TO	TYPE	SIZE	TYPE	QTY	SIZE	GND	VOLTS	NOTES
C1	PB #3	MCC / MAIN BKR	RSC	2"	XHHW-2	3	#4/0 AWG	#4	600	FEEDER TO PUMP STATION
C2	MCC / ATS	GENERATOR "EG"	RSC/FLEX	2"	XHHW-2	3	#4/0 AWG	#4	600	EMERGENCY POWER TO ATS
C3	GENERATOR "EG"	LOAD BANK RECEPTACLE	RSC/FLEX	2"	XHHW-2	3	#3/0 AWG	#6	600	FEEDER TO LOAD BANK RECEPT.
C4	GENERATOR "EG"	MCC / PANEL "A", (CKTS. 2, 4)	RSC/FLEX	1"	XHHW-2	4	#10 AWG	#10	600	FEEDER JACKET WATER HEATER AND BATTERY CHARGER
C5	MCC PUMP P-1 STARTER	P-1 / MOTOR TERMINAL BOX	RSC/FLEX	1 1/4"	XHHW-2	3	#4 AWG	#8	600	FEEDER TO PUMP P-1
C6	MCC PUMP P-2 STARTER	P-2 / MOTOR TERMINAL BOX	RSC/FLEX	1 1/4"	XHHW-2	3	#4 AWG	#8	600	FEEDER TO PUMP P-2
C7	MCC PUMP P-3 STARTER	P-3 / MOTOR TERMINAL BOX	RSC/FLEX	1 1/4"	XHHW-2	3	#4 AWG	#8	600	FEEDER TO PUMP P-3
C8	MCC PUMP P-1 STARTER	P-1 / MOTOR HEATER BOX	RSC/FLEX	1"	XHHW-2	2	#12 AWG	#12	600	PUMP P-1 120V HEATER CKT.
C9	MCC PUMP P-2 STARTER	P-2 / MOTOR HEATER BOX	RSC/FLEX	1"	XHHW-2	2	#12 AWG	#12	600	PUMP P-2 120V HEATER CKT.
C10	MCC PUMP P-3 STARTER	P-3 / MOTOR HEATER BOX	RSC/FLEX	1"	XHHW-2	2	#12 AWG	#12	600	PUMP P-3 120V HEATER CKT.
I1	GENERATOR "EG"	MCC / ATS	RSC/FLEX	1"	XHHW-2	2	#12 AWG	#12	600	GENERATOR START SIGNAL
I2	GENERATOR "EG"	MCC CONTROL PANEL	RSC/FLEX	1 1/2"	XHHW-2	16	#14 AWG	#14	600	GENERATOR "EG" STATUS/INDICATION/ALARMS/ FUEL LEVEL
					TSP	1	#16 AWG	-	600	
I3	MCC PUMP P-1 STARTER	PUMP P-1 LOS-801	RSC	1"	XHHW-2	2	#14 AWG	#14	600	PUMP P-1 LOS-801
I4	MCC PUMP P-2 STARTER	PUMP P-2 LOS-802	RSC	1"	XHHW-2	2	#14 AWG	#14	600	PUMP P-2 LOS-802
I5	MCC PUMP P-3 STARTER	PUMP P-3 LOS-803	RSC	1"	XHHW-2	2	#14 AWG	#14	600	PUMP P-3 LOS-803
I6	MCC PUMP P-1 STARTER	TSH-801	RSC/FLEX	3/4"	XHHW-2	2	#14 AWG	#14	600	PUMP P-1 TSH-801
I7	MCC PUMP P-2 STARTER	TSH-802	RSC/FLEX	3/4"	XHHW-2	2	#14 AWG	#14	600	PUMP P-2 TSH-802
I8	MCC PUMP P-3 STARTER	TSH-803	RSC/FLEX	3/4"	XHHW-2	2	#14 AWG	#14	600	PUMP P-3 TSH-803
I9	MCC PUMP P-1 STARTER	PSL-801 / PSH-801	RSC	1"	XHHW-2	4	#14 AWG	#14	600	PUMP P-1 PSL-801 / PSH-801
I10	MCC PUMP P-2 STARTER	PSL-802 / PSH-802	RSC	1"	XHHW-2	4	#14 AWG	#14	600	PUMP P-2 PSL-802 / PSH-802
I11	MCC PUMP P-3 STARTER	PSL-803 / PSH-803	RSC	1"	XHHW-2	4	#14 AWG	#14	600	PUMP P-3 PSL-803 / PSH-803
I12	FIT-806	FE-806	RSC	1 1/2"		2	MFR SUPPLIED CABLE			FE-806 COIL DRIVE AND SENSOR CABLES
I13	MCC CONTROL PANEL	FIT-806	RSC	3/4"	XHHW-2	2	#14 AWG	#14	600	FIT-806 24VDC POWER
I14	MCC CONTROL PANEL	FIT-806	RSC	3/4"	TSP	1	#16 AWG	-	600	FIT-806 4-20mA SIGNAL
I15	MCC CONTROL PANEL	PIT-805	RSC	3/4"	TSP	1	#16 AWG	-	600	PIT-805 4-20mA SIGNAL
I16	MCC CONTROL PANEL	PIT-804	RSC	3/4"	TSP	1	#16 AWG	-	600	PIT-804 4-20mA SIGNAL
I17	GENERATOR "EG"	EMERGENCY-STOP SWITCH	RSC	3/4"	XHHW-2	2	#14 AWG	#14	600	GENERATOR EMERGENCY-STOP
I18	MCC CONTROL PANEL	ANTENNA POLE	PVC	2"	COAX CABLE	1	-	-	-	SCADA SYSTEM TO SCADA ANTENNA ON POLE

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 PROJECT NO. 17697-03

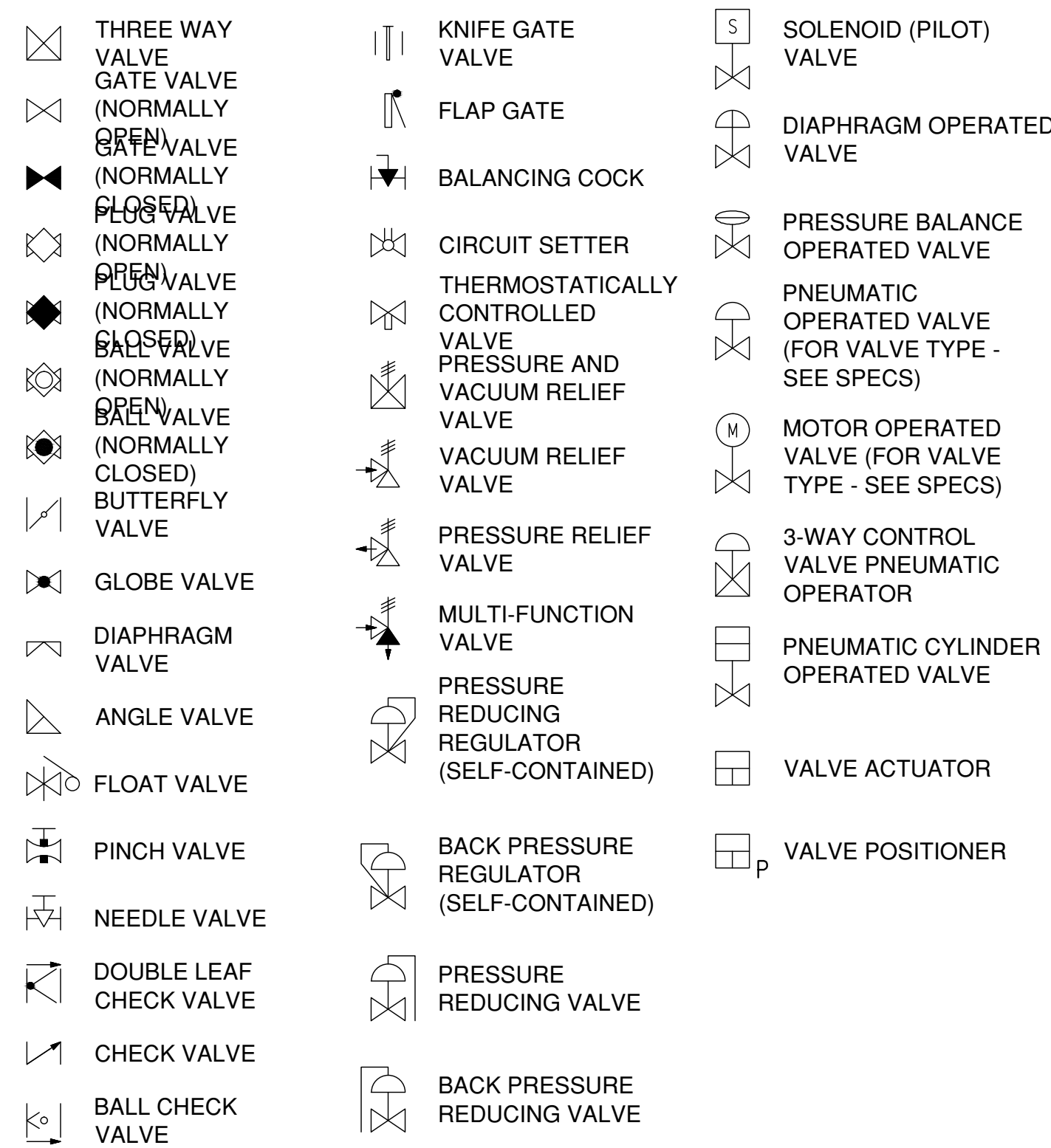
PRELIMINARY
 NOT FOR
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**TOWN OF HILLSBOROUGH
 CHERRY CREEK PUMP STATION
 CONDUIT AND CIRCUIT SCHEDULE**

DATE:	12/04/17
SCALE:	AS SHOWN
DESIGN:	JCH
DRAWN:	VDM
CHECKED:	JCH

**SHEET
 E-11
 32 OF 38**

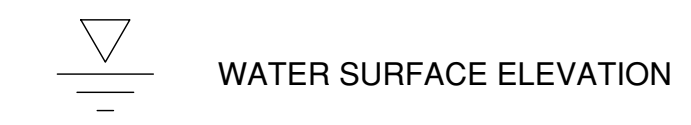
VALVE AND ACTUATOR SYMBOLS



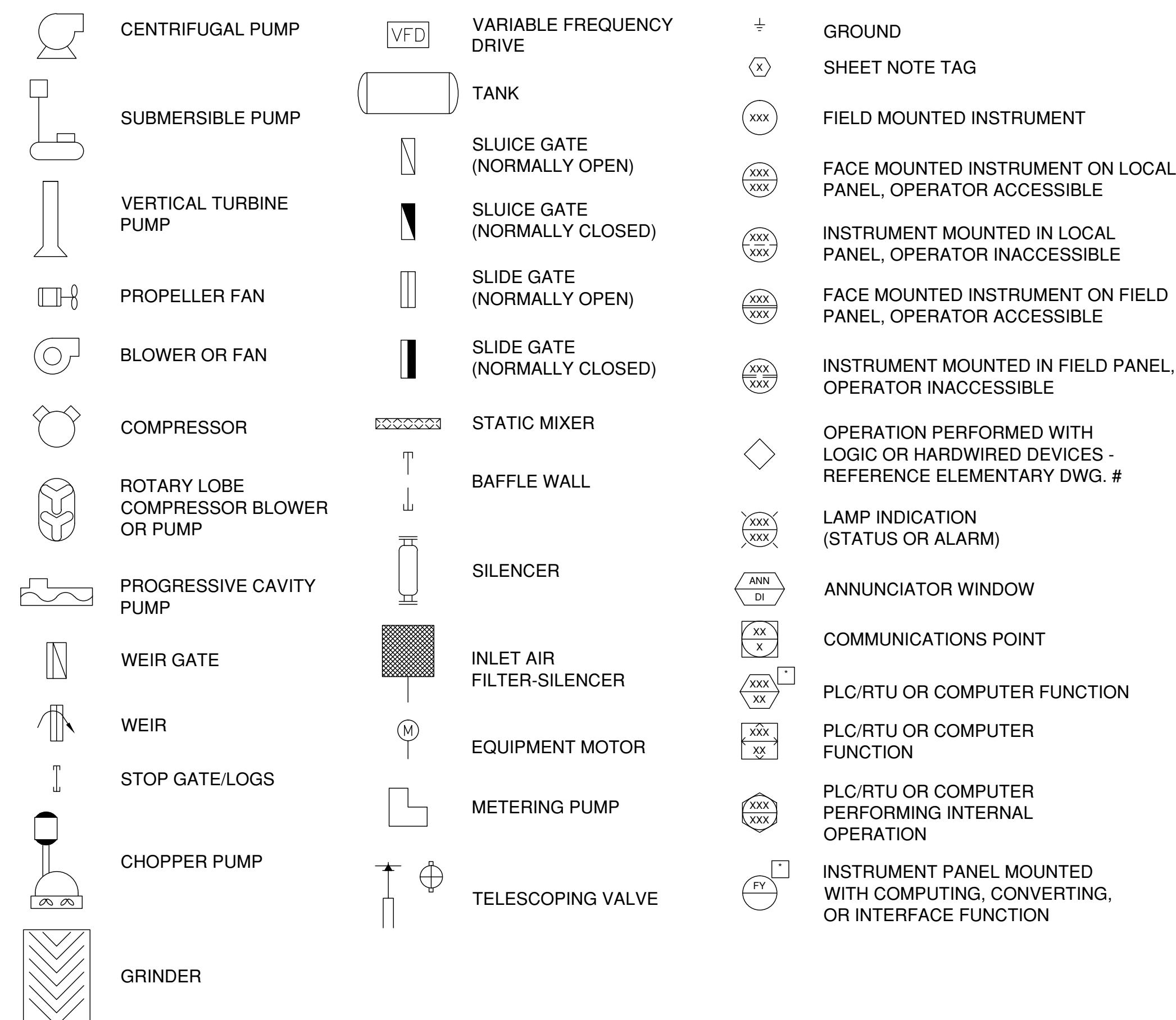
INSTRUMENTATION ABBREVIATIONS

CODE LETTER	FIRST LETTER(S)		SUCCEEDING LETTER		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		AUTO/LAG
B	BURNER FLAME				
C	CHLORINE			CONTROL	CLOSE
D	DENSITY	DIFFERENTIAL			
E	VOLTAGE		ELEMENT, SENSOR		LEAD
F	FLOW	RATIO	FUEL		FAILURE
G	GAUGING		VIEWING DEVICE		
H	HAND				HIGH/HAND
I	CURRENT		INDICATE		
J	POWER	SCAN			
K	TIME	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		PILOT LIGHT		LOW/LOCAL
M	MOISTURE/MOTOR	MOMENTARY	MOTOR		MIDDLE/MANUAL
N	STATUS				
O	OPERATOR		ORIFICE		OPEN/OVERLOAD
P	PRESSURE		POINT		
Q	EVENT	TOTALIZE	TOTAL		
R	RESET		RECORD		RUNNING/REMOTE
S	SPEED	SAFETY		SWITCH	STOP/SPEED
T	TEMPERATURE		TEST	TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION		
V	VIBRATION			VALVE	
W	FORCE, WEIGHT		WELL		
X	TELEMETRY INTERFACE		UNCLASSIFIED (+)	UNCLASSIFIED (+)	UNCLASSIFIED
Y	COMPUTER INTERFACE			COMPUTE/RELAY/CONVERTER	
Z	POSITION			ACTUATE	POSITION

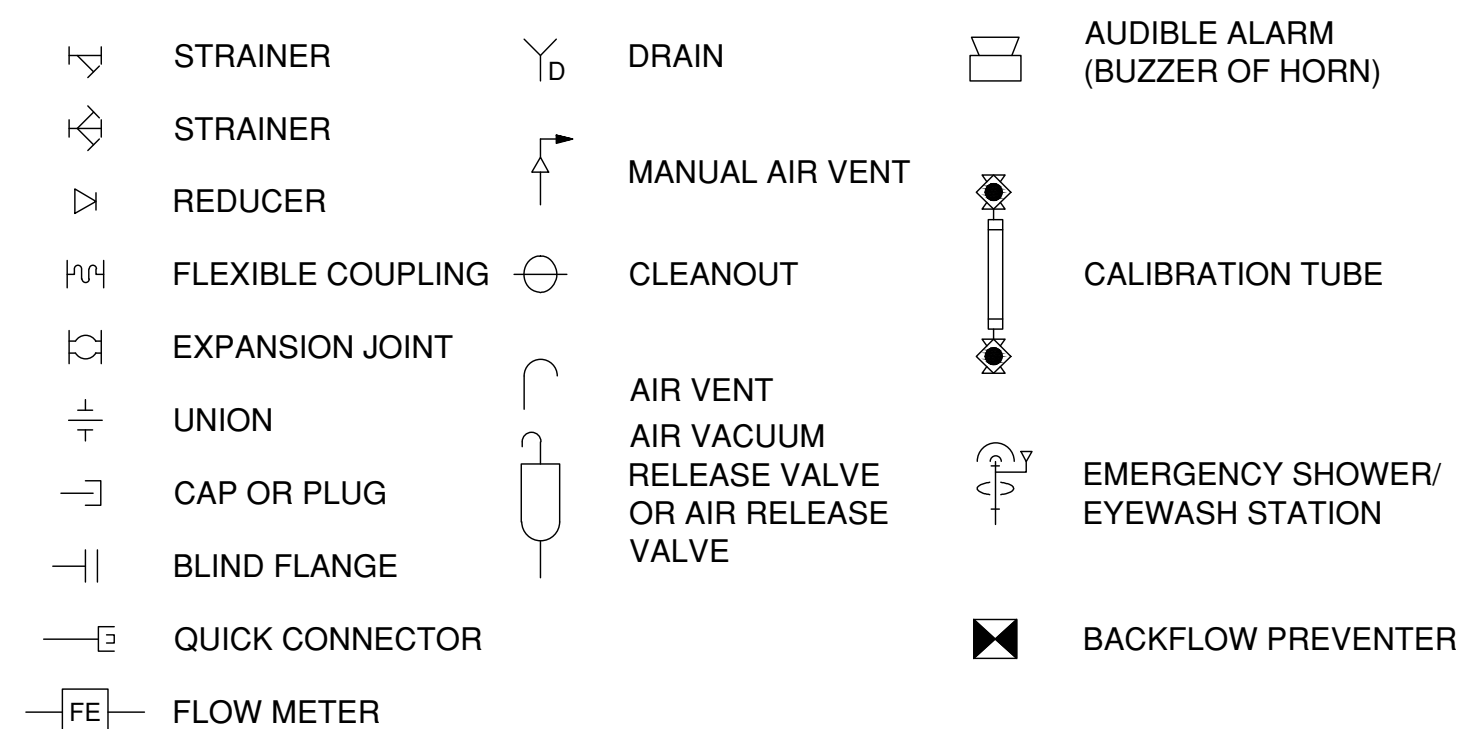
IDENTIFICATION AND REFERENCE SYMBOLS



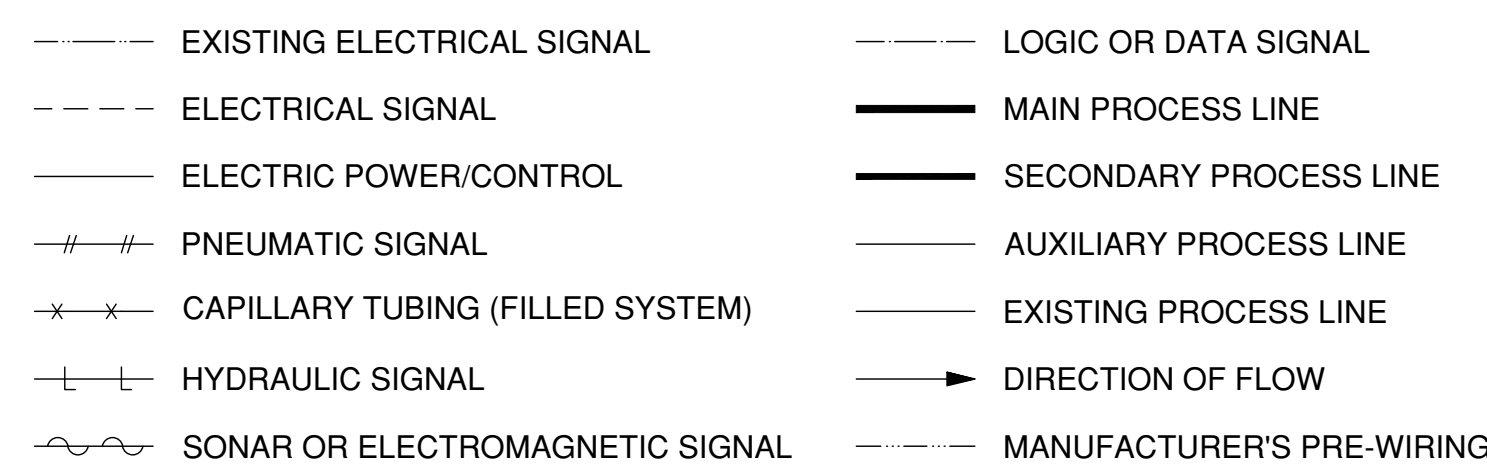
MISCELLANEOUS MECHANICAL EQUIPMENT SYMBOLS



PIPE LINE DEVICE SYMBOLS



PROCESS FLOW LINES



EQUIPMENT ABBREVIATIONS	DESCRIPTION
ARV	AIR RELIEF VALVE
BLDG	BUILDING
CHV	CHECK VALVE
GR	GRINDER
LVR	LOUVER
MF	MOTOR FIXED
P	PUMP
PNL	PANEL
TK	TANK
WW	WET WELL

PIPELINE ABBREVIATIONS	DESCRIPTION
D	DRAIN
FA	FOUL AIR
G	GAS
SFM	SEWER FORCE MAIN
SS	SANITARY SEWER
W	WATER

- NOTES:
- THE PROCESS SCHEMATICS ARE PRESENTED IN DIAGRAMMATIC FORM TO SHOW PROCESS FLOWS CONTROL CONCEPTS AND UNIT OPERATING PARAMETERS, AND AS SUCH ARE NOT INTENDED TO SHOW ALL VALVING, PIPING AND INSTRUMENTATION SYSTEMS.
 - PROCESS SYMBOLS ARE FOR REFERENCE ONLY. NOT ALL SYMBOLS ARE USED IN THESE CONTRACT DRAWINGS.
 - SEE ELECTRICAL LEGEND E-1 FOR ELECTRICAL SYMBOLS.

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NO	REVISIONS	DATE	APPR



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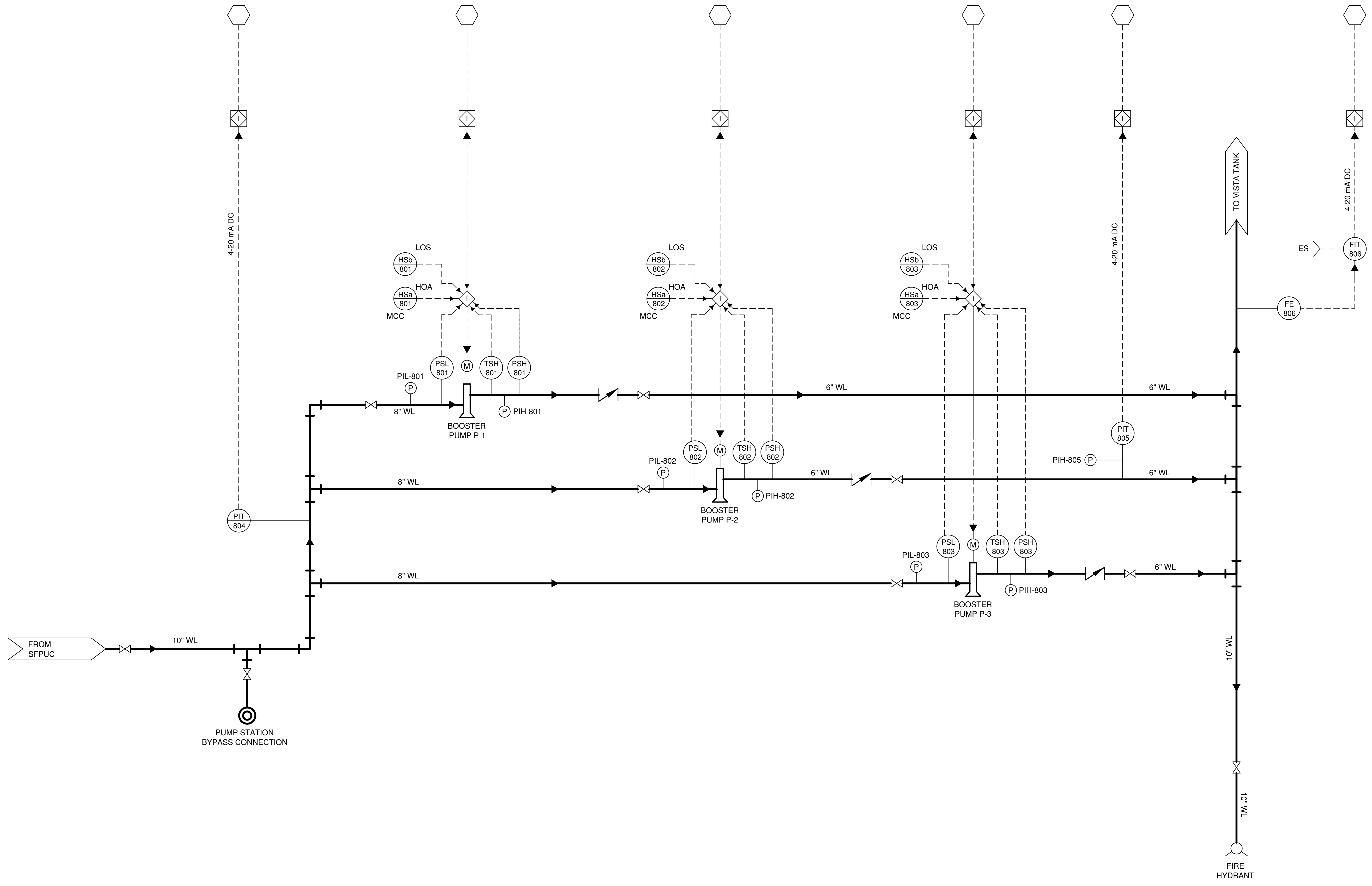
XX/XX/XX

**TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
INSTRUMENTATION
SYMBOLS AND ABBREVIATIONS**

DATE:	12/04/17
SCALE:	AS SHOWN
DESIGN:	JCH
DRAWN:	VDM
CHECKED:	JCH

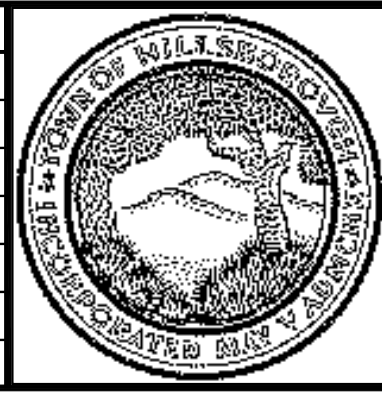
**SHEET
I-1
33 OF 38**

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 Xrefs: Cherry Creek PS Title Block_MTH



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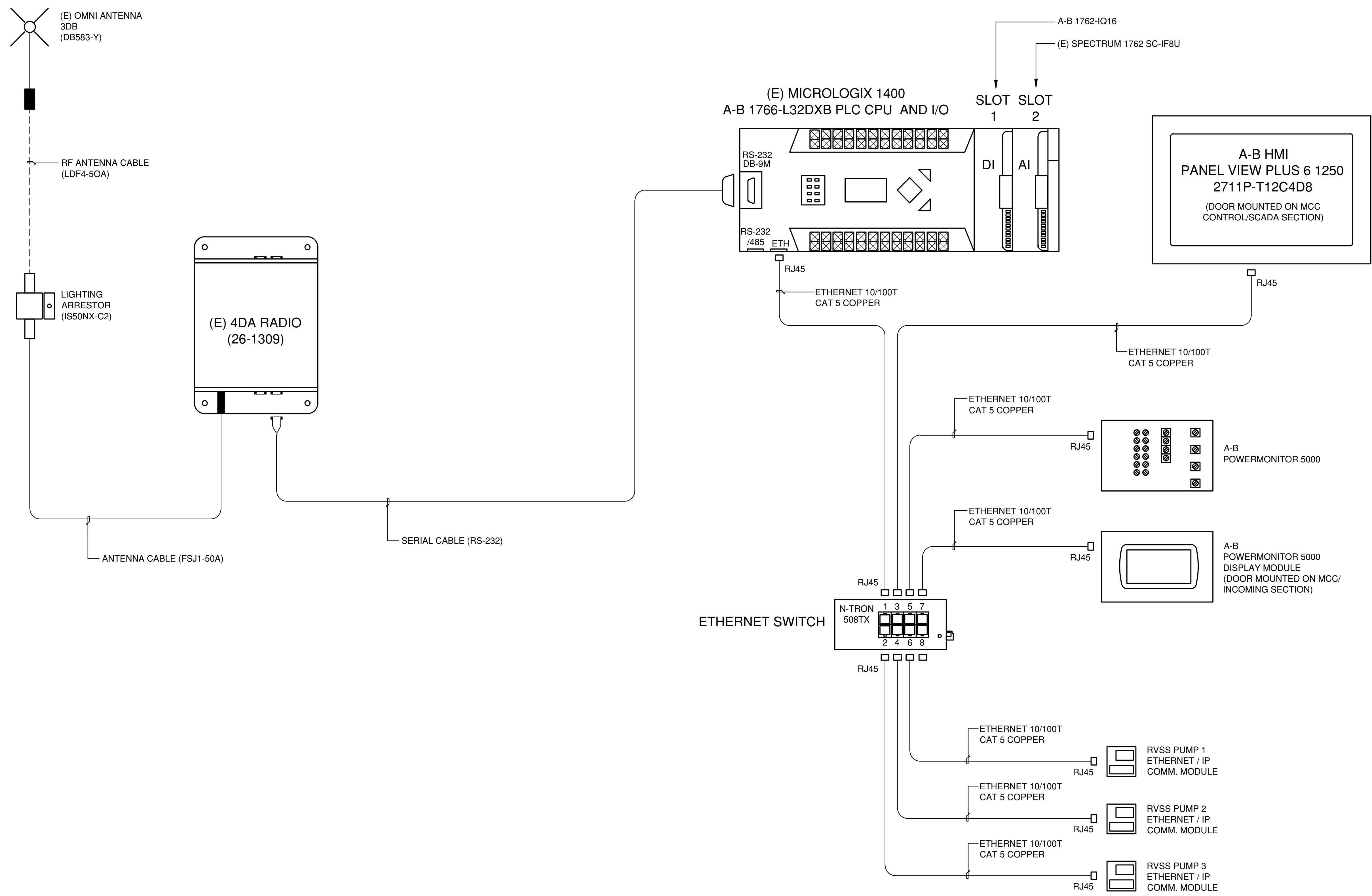
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TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
PROCESS AND INSTRUMENTATION DIAGRAM

DATE:	12/04/17
SCALE:	AS SHOWN
DESIGN:	JCH
DRAWN:	VDM
CHECKED:	JCH

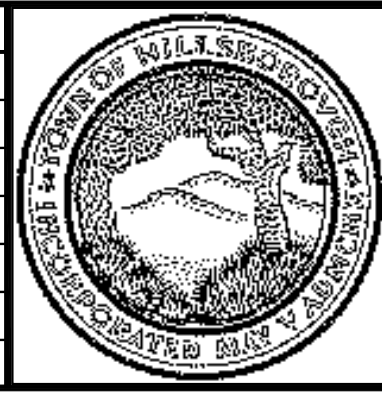
SHEET
I-2
34 OF **38**



SCADA / RTU CONFIGURATION

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NO	REVISIONS	DATE	APPR
1			
2			
3			
4			
5			
6			



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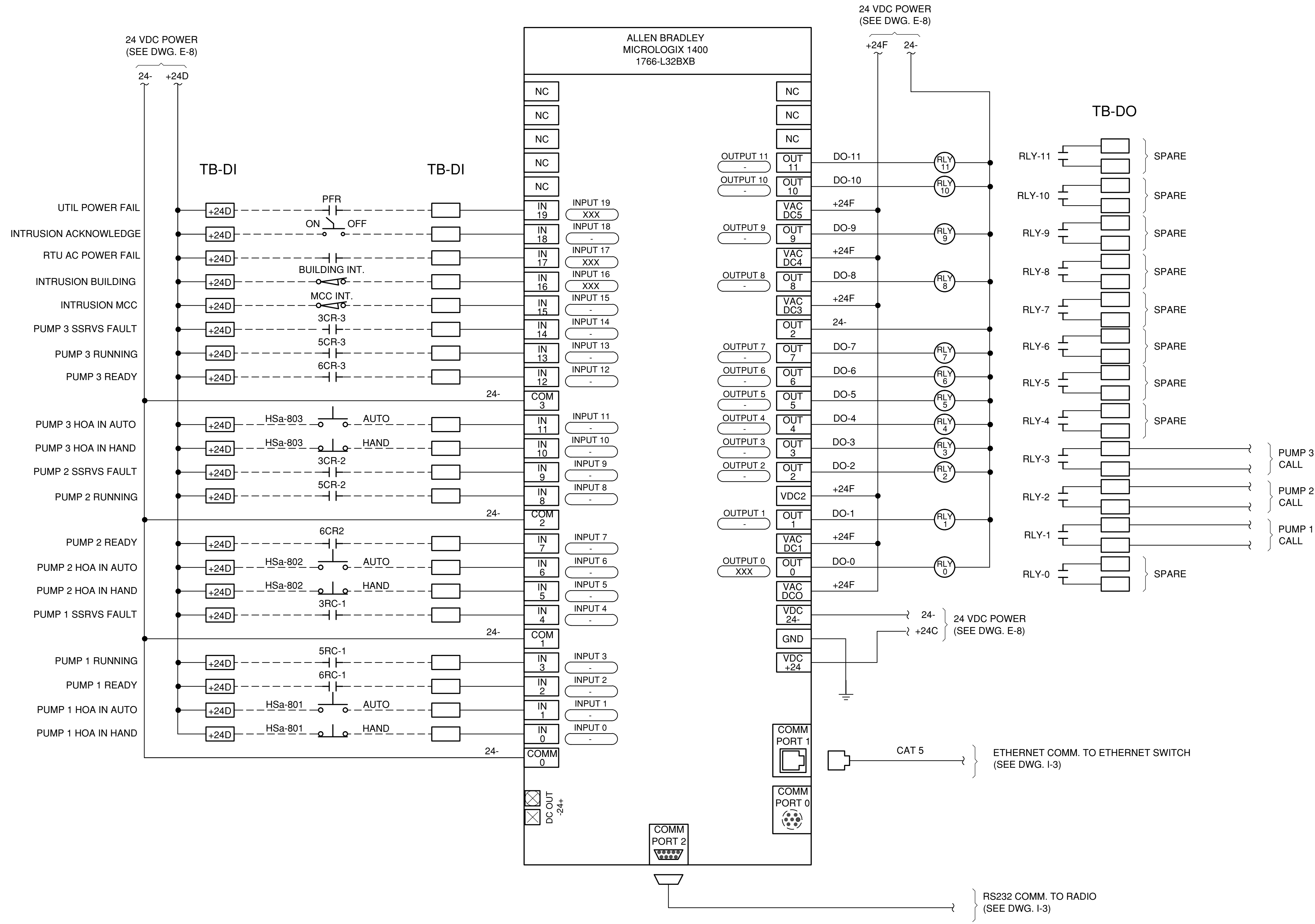
**TOWN OF HILLSBOROUGH
 CHERRY CREEK PUMP STATION
 SCADA / RTU CONFIGURATION**

DATE:	12/04/17
SCALE:	AS SHOWN
DESIGN:	JCH
DRAWN:	VDM
CHECKED:	JCH

**SHEET
 I-3
 35 OF 38**

File: N:\17697-03_Cherry_Creek_Pump_Station_Memo_Park\03-3.dwg, 12/1/2017 10:40 AM, Last saved: Vuong, Plot scale: 1:1, Plot Size: ARCH expand D (36.00 x 24.00 inches)
 Xrefs: Cherry_Creek_PS Title Block_MTH

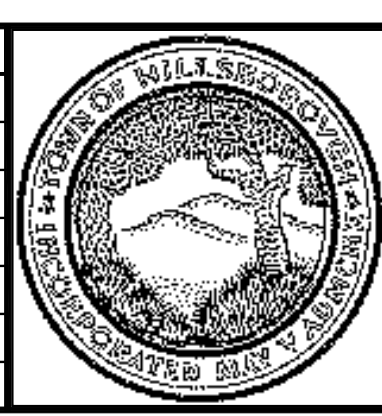
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 Xrefs: Cherry_Creek_PS_Tile_Block_MTH

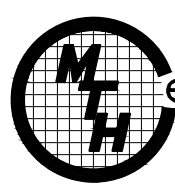


SCADA / RTU SCHEMATIC DIAGRAM

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**TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
SCADA / RTU SCHEMATIC DIAGRAM
SHEET 1**

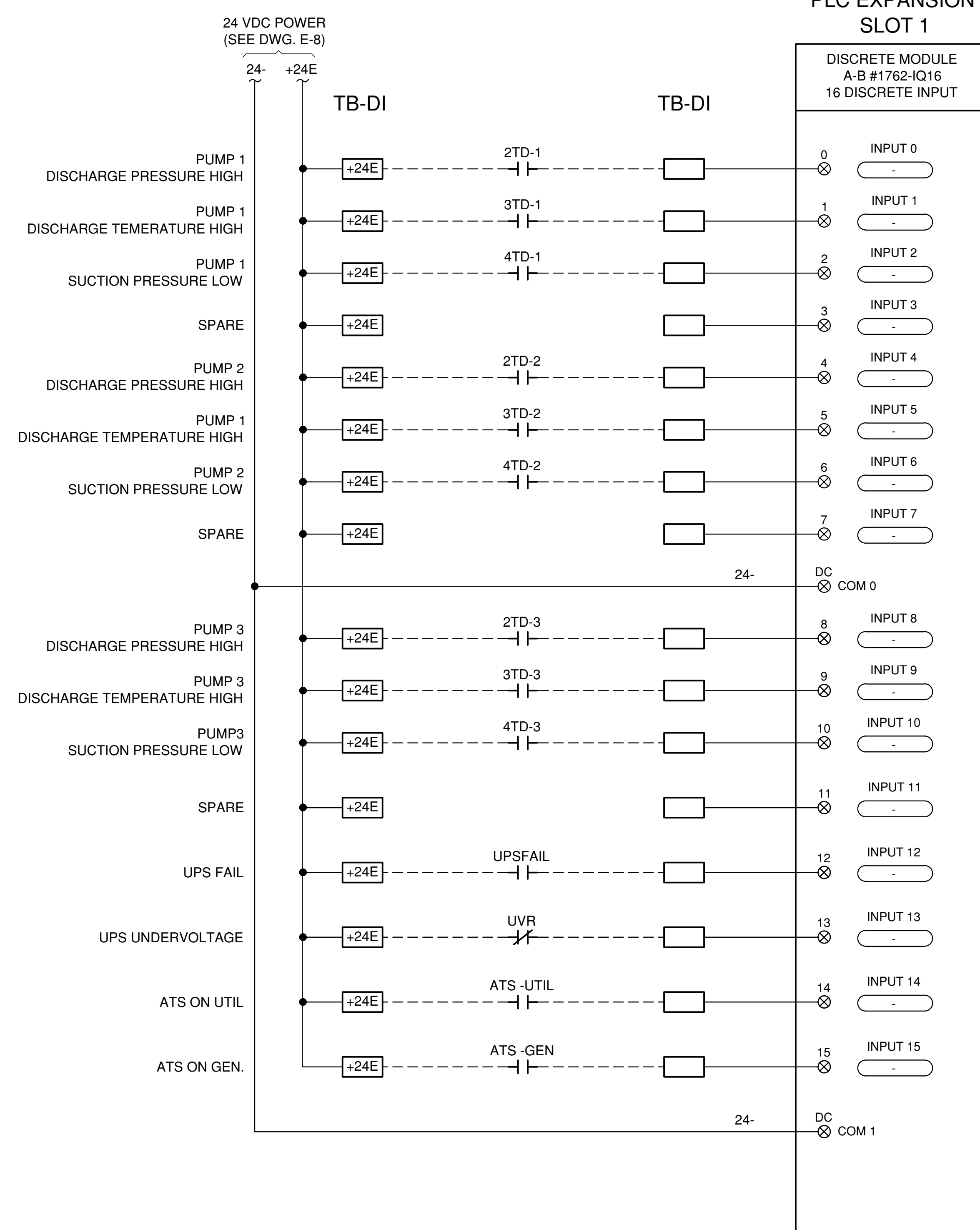
DATE:	12/04/17
SCALE:	AS SHOWN
DESIGN:	JCH
DRAWN:	VDM
CHECKED:	JCH

**SHEET
I-4
36 OF 38**

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 Xrefs: Cherry Creek PS Title Block_MTH

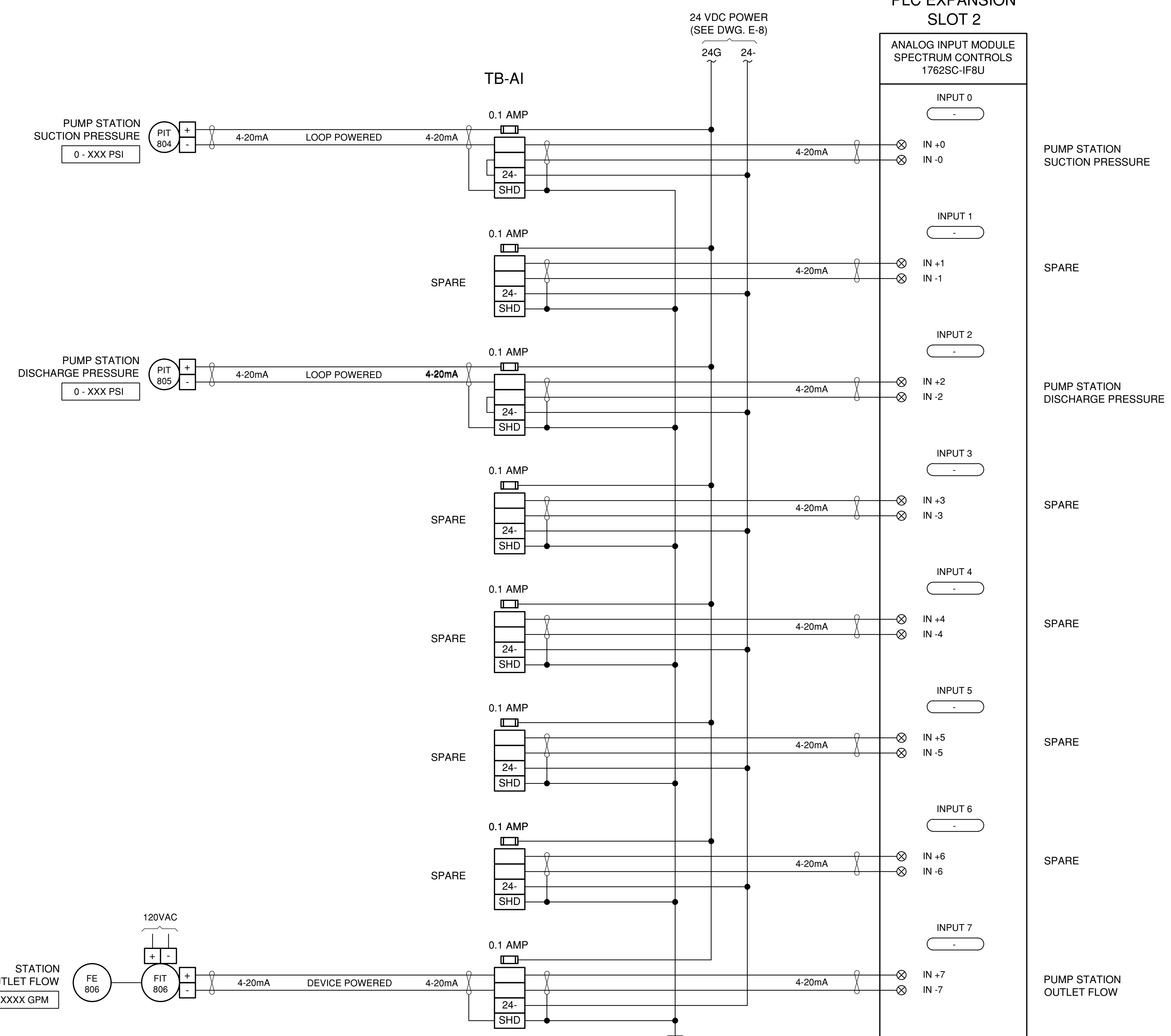
PLC EXPANSION SLOT 1

DISCRETE MODULE
A-B #1762-IQ16
16 DISCRETE INPUT



PLC EXPANSION SLOT 2

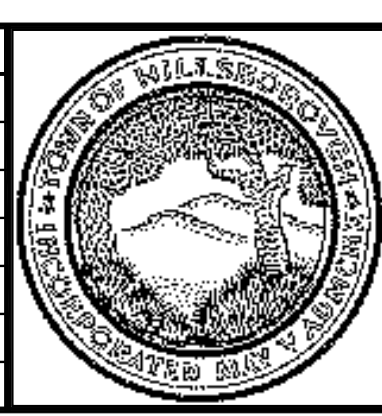
ANALOG INPUT MODULE
SPECTRUM CONTROLS
1762SC-IF8U



SCADA / RTU SCHEMATIC DIAGRAM

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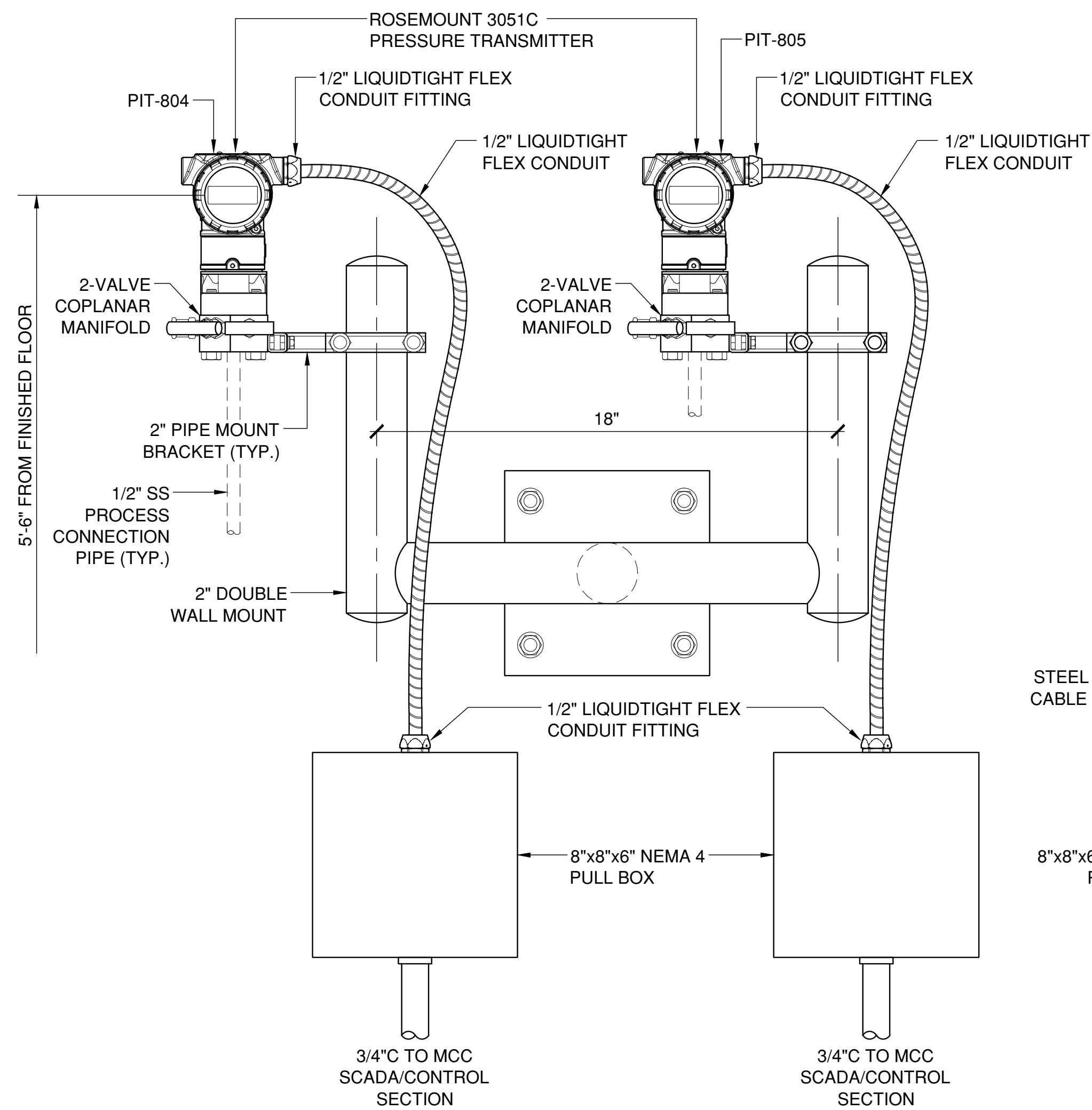
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CONSTRUCTION**

**TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
SCADA / RTU SCHEMATIC DIAGRAM
SHEET 2**

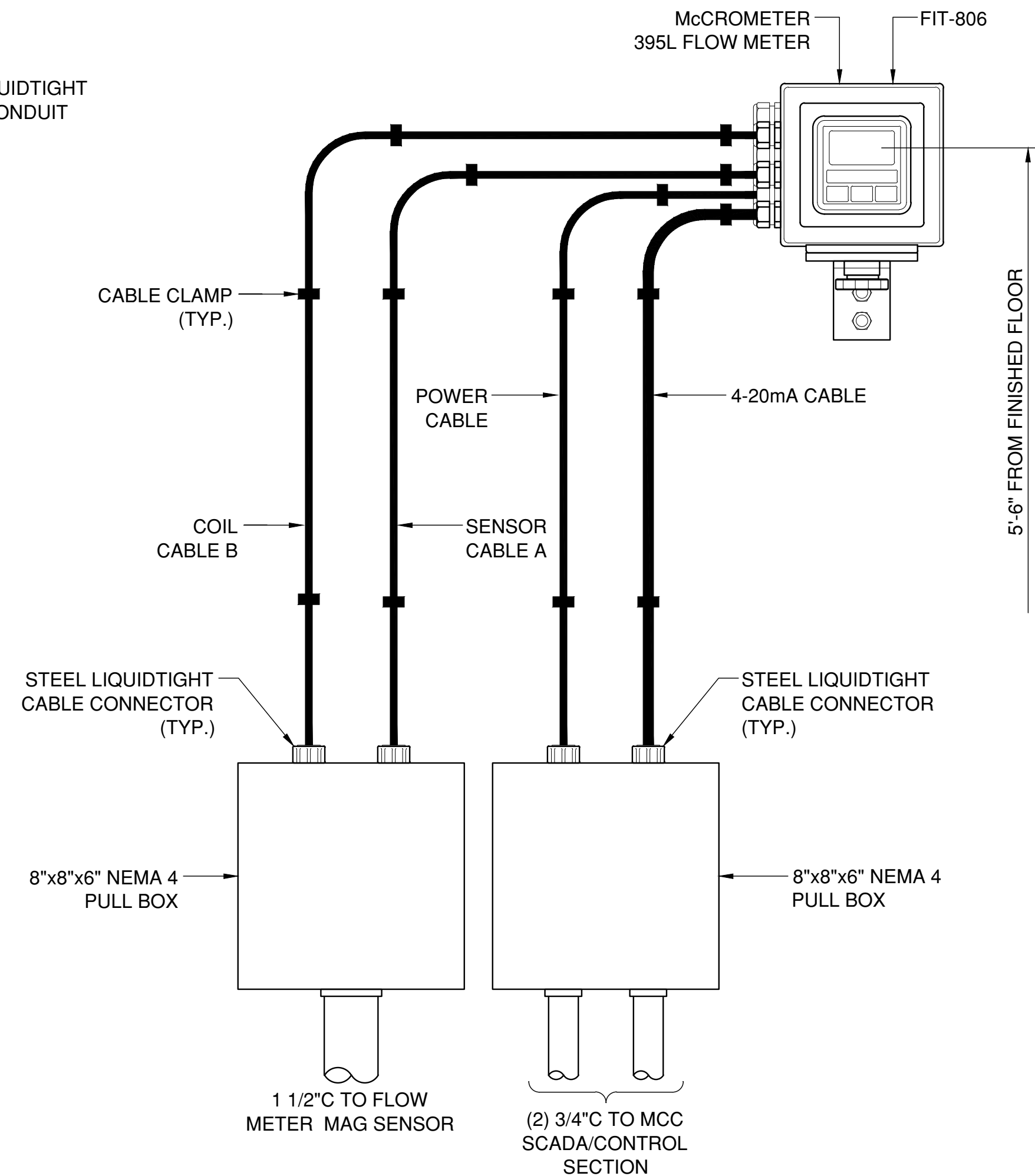
DATE:	12/04/17
SCALE:	AS SHOWN
DESIGN:	JCH
DRAWN:	VDM
CHECKED:	JCH

**SHEET
I-5
37 OF 38**

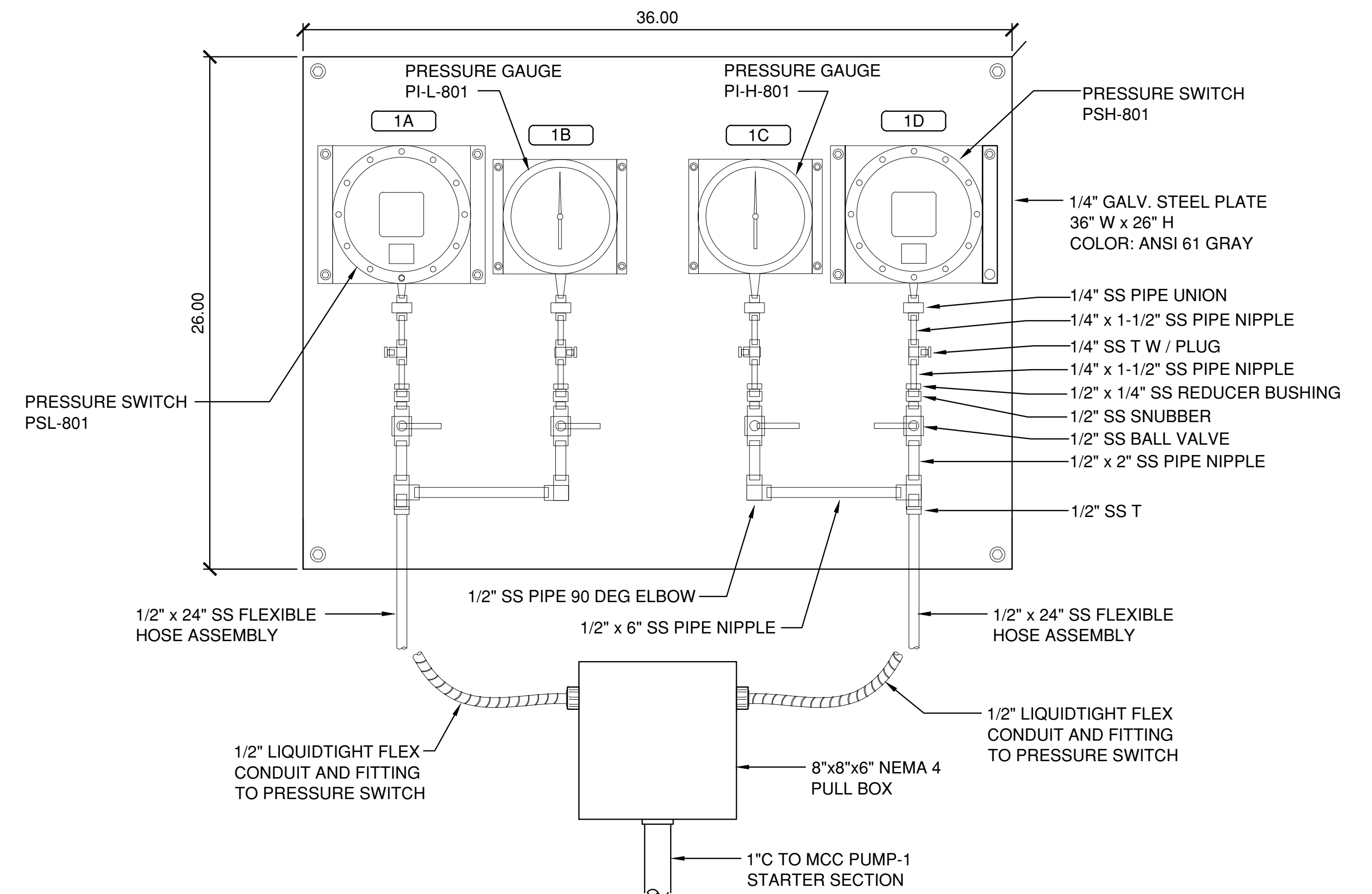
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3 PRESSURE TRANSMITTERS INSTALLATION DETAIL
NO SCALE



2 FLOW METER INSTALLATION DETAIL
NO SCALE



1 PUMP P- 1 - PRESSURE SWITCH BACK PAN DETAIL
NOT TO SCALE
(SIMILAR FOR PUMPS P-2 AND P-3)

NAME PLATE SCHEDULE (PUMP P-1)				
TAG #	QTY	TYPE	SIZE	INSCRIPTION
1A	1	PLATE	3/4 x 3	PUMP No. 1 LOW PRESSURE SWITCH PSL-801
1B	1	PLATE	3/4 x 3	PUMP No. 1 LOW PRESSURE GAUGE PI-L-801
1C	1	PLATE	3/4 x 3	PUMP No. 1 HIGH PRESSURE GAUGE PI-H-801
1D	1	PLATE	3/4 x 3	PUMP No. 1 HIGH PRESSURE SWITCH PSH-801

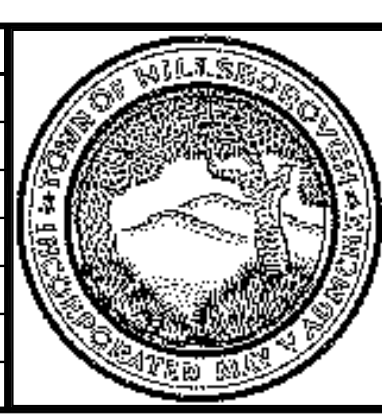
NAME PLATE SCHEDULE (PUMP P-2)				
TAG #	QTY	TYPE	SIZE	INSCRIPTION
2A	1	PLATE	3/4 x 3	PUMP No. 2 LOW PRESSURE SWITCH PSL-802
2B	1	PLATE	3/4 x 3	PUMP No. 2 LOW PRESSURE GAUGE PI-L-802
2C	1	PLATE	3/4 x 3	PUMP No. 2 HIGH PRESSURE GAUGE PI-H-802
2D	1	PLATE	3/4 x 3	PUMP No. 2 HIGH PRESSURE SWITCH PSH-802

NAME PLATE SCHEDULE (PUMP P-3)				
TAG #	QTY	TYPE	SIZE	INSCRIPTION
3A	1	PLATE	3/4 x 3	PUMP No. 3 LOW PRESSURE SWITCH PSL-803
3B	1	PLATE	3/4 x 3	PUMP No. 3 LOW PRESSURE GAUGE PI-L-803
3C	1	PLATE	3/4 x 3	PUMP No. 3 HIGH PRESSURE GAUGE PI-H-803
3D	1	PLATE	3/4 x 3	PUMP No. 3 HIGH PRESSURE SWITCH PSH-803

- NOTES:**
1. DEVICE NAMEPLATE WITH 3/16" ENGRAVED LETTERING.
 2. NAMEPLATES SHALL BE BLACK WITH WHITE ENGRAVED LETTERING.

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**TOWN OF HILLSBOROUGH
CHERRY CREEK PUMP STATION
PRESSURE SWITCH BACK PAN AND
TRANSMITTERS INSTALLATION DETAILS**

DATE: 12/04/17
SCALE: AS SHOWN
DESIGN: JCH
DRAWN: VDM
CHECKED: JCH

**SHEET
I-6
38 OF 38**