GOLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS

CONSTRUCTION PLANS

Located in Collier County
Sections 27 and 28, Township 49 South, Range 26 East

Plans Prepared For:

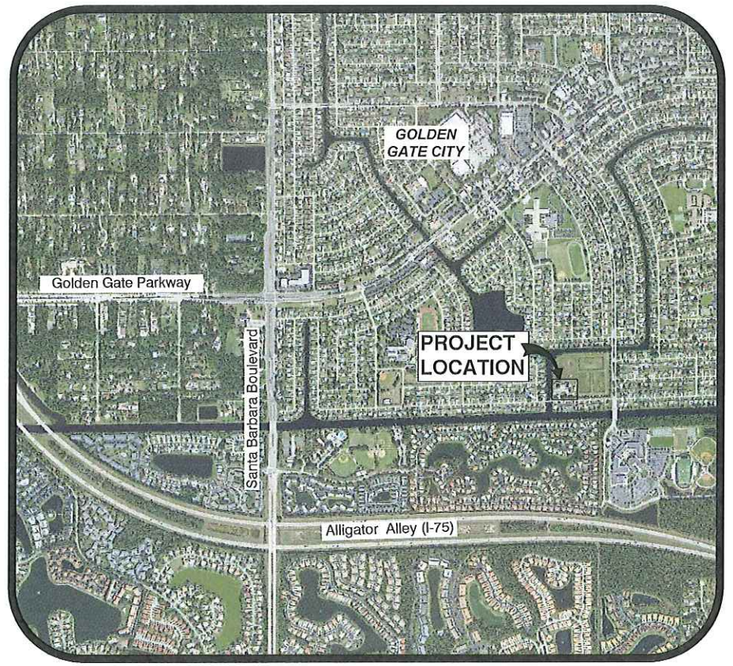
Collier County

ENGINEERING AND PROJECT MANAGEMENT DIVISION
PUBLIC UTILITIES DEPARTMENT
PROJECT MANAGER: CORINNE TRTAN
3339 TAMIAMI TRAIL E
SUITE 303
NAPLES, FL 34112
TEL: (239) 252-4233
FAX: (239) 252-3989

PROPERTY DATA:
SITE ADDRESS: 4931 32nd AVE S.W.
PARCEL NO: 36450440006
STRAP NO: 324700 257 14B28

LEGAL DESCRIPTION:
GOLDEN GATE UNIT 7 ALL OF BLK 255, BLK 258+ALL VACATED LOTS, ROADS, ALLEY WAYS, & EASEMENTS IN SAID BLOCKS O.R. 1270, PG's 2130-40.

ORIGINAL SHEET SIZE: 11x17



Location Map
N.T.S.

Revisions

Revision	Date	Description	By
1	10/2024	ADDENDUM NO. 2	D.C.M.

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

DESIGN TICKET:

Prepared by:

GradyMinor
Q. Grady Minor and Associates, P.A.
3800 Via Del Rey
Bonita Springs, Florida 34134
Civil Engineers • Land Surveyors • Planners • Landscape Architects
Cert. of Auth. EB 0005151 • Cert. of Auth. LB 0005151 • Business LC 26000266
Bonita Springs: 239.947.1144 www.GradyMinor.com Fort Myers: 239.690.4380

DATE: FEBRUARY, 2024
FILE NAME: GGMPS_COVER.DWG
JOB CODE: GGMPS
DRAWING NUMBER 1

SUBMITTAL
PHASE 1 BID

Golden Gate Master Pump Station
PHASE 1 BID PLANS

GradyMinor

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ALEXANDER PAUL DUNKO, P.E.
LICENSE #88695
Grady Minor & Assoc.
3800 Via Del Rey
Bonita Springs, Florida 34134

DATE _____

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY:

Digitally signed by Alexander P. Dunko, P.E.
Date: 2024.10.22 14:47:50 -04'00'

ON THE DATE ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

GRADY MINOR AND ASSOC.
3800 VIA DEL REY
BONITA SPRINGS, FL 34134
ALEXANDER PAUL DUNKO, P.E. 88695

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

SHEET NO.	SHEET DESCRIPTION
1	KEY SHEET
2	SIGNATURE SHEET
3	SIGNATURE SHEET
4	GENERAL NOTES
5	GENERAL NOTES
6	AERIAL PHOTOGRAPH AND EXISTING CONDITIONS PLAN
7	SITE PLAN AND UTILITY PLAN
8	PUMP STATION SITE PLAN
9	GRADING, PAVING, AND DRAINAGE PLAN
10	PLAN VIEW-EQUIPMENT SECTIONS
11	EQUIPMENT SECTIONS
12	EQUIPMENT SECTIONS
13	EQUIPMENT SECTIONS
14	STRUCTURAL DETAILS
15	MISCELLANEOUS DETAILS
16	MISCELLANEOUS DETAILS
17	MISCELLANEOUS DETAILS
18	MISCELLANEOUS DETAILS

TYLER WAINRIGHT, P.E.
LICENSE #80476
Tetra Tech Inc.
10600 Chevrolet Way, Ste. 102
Estero, Florida 33928
Engineering Business No. 2429

DATE _____

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY:

Digitally signed by Tyler C Wainright
Date: 2024.10.22 17:13:04 -04'00'

ON THE DATE ADJACENT TO THE SEAL

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TETRA TECH
10600 CHEVROLET WAY, STE 102
ESTERO, FL 33928
TYLER WAINRIGHT, P.E. 80476

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

SHEET NO.	SHEET DESCRIPTION
E-001	ELECTRICAL NOTES & SYMBOLS
E-002	ELECTRICAL NOTES & SYMBOLS
E-003	ELECTRICAL NOTES & SYMBOLS
E-101	ELECTRICAL SITE PLAN
E-201	ENLARGED POWER PLAN
E-202	ENLARGED GROUNDING PLAN
E-301	SINGLE-LINE DIAGRAM
E-401	PANELBOARD SCHEDULES
E-501	ELECTRICAL DETAILS
E-502	ELECTRICAL DETAILS

Collier County

Revision	Date	Description	By

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: GGMPS
SCALE: 11x17 N.T.S.

GradyMinor
Civil Engineers • Land Surveyors • Planners • Landscape Architects
Cert. of Auth. EB 0005151 Cert. of Auth. LB 0005151 Business LC 26000266
Bonita Springs: 239.947.1144 www.GradyMinor.com Fort Myers: 239.690.4380

Q. Grady Minor and Associates, P.A.
3800 Via Del Rey
Bonita Springs, Florida 34134

GOLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS

SIGNATURE SHEET

ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)

MUNICIPALITY: COLLIER COUNTY
SEC/TWN/RGE: 27 AND 28/49S/26E
DATE: FEBRUARY, 2024
SUBMITTAL TYPE: PHASE 1 BID
SHEET 2

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THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY:

John D. Reed, P.E.
P.E. No. 73082, FL

201 East Pine Street, Suite 1000
Orlando, Florida 32801
Engineering Business No. 2429

ON THE DATE ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

DATE _____

JOHN R. REED LICENSE No. 73082 STATE OF FLORIDA PROFESSIONAL ENGINEER

John Reed
THIS DOCUMENT HAS BEEN DIGITALLY SIGNED AND SEALED BY JOHN R REED ON THE DATE LISTED NEXT TO THE SIGNATURE. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.
2024.10.23 07:36:53 -04'00'

TETRA TECH
5621 2nd STREET WEST
ORLANDO, FL 32801
JOHN D. REED, P.E. 73082

THE ABOVE NAMED PROFESSIONAL ENGINEER SHALL BE RESPONSIBLE FOR THE FOLLOWING SHEETS IN ACCORDANCE WITH RULE 61G15-23.004, F.A.C.

SHEET NO.	SHEET DESCRIPTION
I-001	INSTRUMENTATION LEGEND AND ABBREVIATIONS
I-002	INSTRUMENTATION LEGEND AND ABBREVIATIONS
I-101	PLANT NETWORK ARCHITECTURE
I-201	PUMP STATION P&ID
I-301	MPS CP LAYOUT
I-302	TRANSMITTER TO FIBER PANEL
I-501	INSTRUMENTATION DETAILS
I-502	INSTRUMENTATION DETAILS

Collier County

Revision	Date	Description	By

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
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MUNICIPALITY: COLLIER COUNTY
SEC/TWN/RGE: 27 AND 28/49S/26E
DATE: FEBRUARY, 2024
SUBMITTAL TYPE: PHASE 1 BID
SHEET 3

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GENERAL NOTES:

1. ALL ELEVATIONS REFER TO NATIONAL AMERICAN VERTICAL DATUM OF 1988 (NAVD-88). THE CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD-29) IS +1.270'.

2. THE CONTRACTOR SHALL POT HOLE TO LOCATE (HORIZONTALLY AND VERTICALLY) ALL EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND PROVIDE IN WRITING ANY DISCREPANCIES TO THE COUNTY. EXTREME CAUTION TO BE USED WHEN EXCAVATING, AS NUMBER AND LOCATION OF EXISTING UTILITIES ARE BASED ON RECORD INFORMATION THAT HAS NOT BEEN FIELD VERIFIED.

3. IT IS THE CONTRACTOR'S RESPONSIBILITY DURING CONSTRUCTION TO PROTECT ANY EXISTING UTILITIES. DAMAGE TO EXISTING UTILITIES AND PROPERTY DURING CONSTRUCTION SHALL BE REPAIRED AND/OR REPLACED AT CONTRACTOR'S EXPENSE.

4. THE CONTRACTOR IS REQUIRED TO CONTACT ALL UTILITY OWNERS PRIOR TO THE BEGINNING OF CONSTRUCTION AND COORDINATE WITH UTILITY OWNERS DURING CONSTRUCTION. THE PRESENCE OF THE UTILITIES ARE LIKELY IN THE PROJECT AREA. CONTRACTOR TO COORDINATE WITH, BUT NOT LIMITED TO, THESE UTILITIES PRIOR TO AND DURING CONSTRUCTION:

SERVICE PROVIDER	UTILITY COMPANY	TELEPHONE
ELECTRIC	FLORIDA POWER & LIGHT (24 HOUR EMERGENCY)	239-353-6010
TELEPHONE	CENTURY LINK	1-800-339-1811
CABLE T.V.	COMCAST	(239) 432-1850
UNDERGROUND FACILITY LOCATION SERVICES	SUNSHINE ONE CALL	811 or 1-800-432-4770
WASTEWATER	COLLIER COUNTY	(239) 252-6886
WATER	COLLIER COUNTY	(239) 252-6245
GAS	TECO ENERGY	1-877-832-6747
COMMUNICATIONS	CROWN CASTLE FIBER	1-866-787-2637
COMMUNICATIONS	SUMMIT BROADBAND	(239) 444-0400
STORMWATER	COLLIER COUNTY	(239) 252-8192

5. EXISTING FACILITIES INCLUDING DRIVEWAYS, SIDEWALK, UTILITIES AND OTHER EXISTING FACILITIES SHALL BE RESTORED TO A CONDITION EQUAL OR BETTER THAN WHAT EXISTED PRIOR TO COMMENCING CONSTRUCTION, AT NO ADDITIONAL COST TO THE OWNER, TO THE SATISFACTION OF THE COUNTY.

6. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPLACE/REPAIR ANY EXISTING LANDSCAPING/PRIVATE IMPROVEMENTS WITHIN THE ROW, E.G. SOD, SPRINKLER PIPING, SPRINKLER HEADS, IRRIGATION SYSTEMS, AND FENCING THAT MAY HAVE BEEN DAMAGED DURING CONSTRUCTION AT NO ADDITIONAL COSTS TO THE OWNER. CONTRACTOR TO REPLACE OR REPAIR DAMAGED PROPERTY OR IMPROVEMENTS TO A CONDITION EQUAL TO OR BETTER THAN EXISTED PRIOR TO CONSTRUCTION. CONTRACTOR SHALL TEMPORARILY CONNECT IRRIGATION COMPONENTS DURING CONSTRUCTION TO ENSURE IRRIGATION SYSTEMS CONTINUED USE DURING CONSTRUCTION.

7. ANY SURVEY MONUMENTS INCLUDING PROPERTY CORNER WITHIN THE LIMITS OF CONSTRUCTION IS TO BE PROTECTED. IF A MONUMENT IS IN DANGER OF BEING DISTURBED, THE CONTRACTOR SHALL PROPERLY REFERENCE ITS LOCATION AND RESET THE MONUMENT AS REQUIRED BY THE CONTRACTOR'S FLORIDA LICENSED SURVEYOR, AT NO ADDITIONAL COST TO THE OWNER.

8. CONTRACTOR TO PROVIDE SILT FENCE, STACKED SYNTHETIC BALES AND OTHER APPROPRIATE MEASURES TO EFFECT THE FILTRATION OF SURFACE WATER FLOWS AND TO PROVIDE EROSION PROTECTION DURING CONSTRUCTION ACTIVITIES. PROTECTION IS TO BE MAINTAINED DURING THE CONSTRUCTION PERIOD UNTIL DISTURBED SOILS HAVE BEEN STABILIZED WITH GRASS OR SUITABLE EROSION PROTECTION TREATMENT.

9. EXISTING OFF-SITE DRAINAGE PATTERNS SHALL BE MAINTAINED DURING CONSTRUCTION.

10. SHOP DRAWINGS FOR ANY EQUIPMENT AND MATERIAL MUST BE APPROVED PRIOR TO FABRICATION AND INSTALLATION.

11. CONTRACTOR SHALL RETAIN, ON THE WORK SITE, COPIES OF ALL PERMITS NECESSARY FOR CONSTRUCTION.

12. CONTRACTOR IS REQUIRED TO OBTAIN FROM THE ENGINEER OF RECORD AND COUNTY PROJECT MANAGER WRITTEN APPROVAL FOR ANY DEVIATIONS FROM THE PLANS AND/OR SPECIFICATIONS.

13. CONTRACTOR SHALL PROMPTLY REPORT ALL FIELD CHANGES TO THE ENGINEER OF RECORD, CEI REPRESENTATIVE, AND COUNTY PROJECT MANAGER.

14. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING ALL AREAS DISTURBED BY THEIR WORK. ALL DISTURBED AREAS SHALL BE SODDED TO MATCH EXISTING CONDITIONS WITH SOD SET NO MORE THAN ½" BELOW ADJACENT DRIVEWAYS. NEWLY INSTALLED SOD SHALL BE WATERED UNTIL ESTABLISHED/ROOTED. IF SOD IS REQUIRED TO BE REINSTALLED DURING THE COURSE OF CONSTRUCTION FOR WHATEVER REASON, CONTRACTOR SHALL BE REQUIRED TO WATER REINSTALLED SECTIONS UNTIL THEY ARE ESTABLISHED/ROOTED.

15. AFTER SUBSTANTIAL COMPLETION AND PRIOR TO FINAL COMPLETION, THE CONTRACTOR SHALL ACCURATELY RECORD AND PLOT THE LOCATIONS AND DEPTHS OF ALL IMPROVEMENTS INSTALLED ON A FINAL SET OF RECORD DRAWINGS WHICH SHALL BE DELIVERED TO THE ENGINEER OF RECORD, AND COLLIER COUNTY.

16. SURVEY LAYOUT AND RECORD DRAWINGS ARE TO BE PERFORMED BY A FLORIDA LICENSED LAND SURVEYOR PROVIDED BY THE CONTRACTOR AND SHALL INCLUDE PROPERTY CORNERS AND RIGHT-OF-WAY LINES. ALL ELEVATIONS MUST REFER TO NAVD-88.

17. CONTRACTORS WILL BE RESPONSIBLE FOR STORING ALL MATERIALS FOR THE PROJECT, INCLUDING ALL MATERIALS PURCHASED BY COLLIER COUNTY IN A SECURED, FENCED IN STORAGE AREA.

18. DAMAGE TO EXISTING UTILITIES AND PROPERTY DURING CONSTRUCTION SHALL BE REPAIRED AND/OR REPLACED AT CONTRACTOR EXPENSE.

19. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING UTILITY SERVICE AT ALL TIMES DURING CONSTRUCTION WITHIN THE PROJECT LIMITS. THIS INCLUDES HAVING A SUPPLY OF REPAIR MATERIALS ONSITE THAT MATCHES EXISTING IN THE EVENT OF A BREAK.

20. CONTRACTOR WILL BE EXPECTED TO PROVIDE A TWO (2) WEEK LOOK AHEAD FOR ALL CONSTRUCTION ACTIVITIES EVERY TWO (2) WEEKS AND ATTEND ALL MEETINGS AT THE COUNTY'S DISCRETION.

21. CONTRACTOR SHALL NOT LEAVE TRENCHES OR HOLES OPEN OVER NIGHT OR OVER WEEKENDS/HOLIDAYS.

22. ALL CONSTRUCTION DEBRIS AND OTHER WASTE MATERIAL SHALL BE DISPOSED OF OFFSITE IN ACCORDANCE WITH APPLICABLE REGULATIONS.

23. WORK AREAS ARE TO BE CLEANED ON A DAILY BASIS INCLUDING, BUT NOT LIMITED TO SWEEPING STREETS AND DAILY WATERING.

24. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING RIGHT-OF-WAY, TREE REMOVAL, AND DEWATERING PERMITS AS APPLICABLE.

25. ALL CONTRACTORS AND REPRESENTATIVES ON-SITE MUST HAVE COLLIER COUNTY CONTRACTOR IDENTIFICATION BADGES ON THEIR PERSON, CLEARLY DISPLAYED, AT ALL TIMES.

26. THE APPROVAL OF THESE CONSTRUCTION PLANS DOES NOT AUTHORIZE CONSTRUCTION OF REQUIRED IMPROVEMENTS WHICH ARE INCONSISTENT WITH EASEMENT OF RECORD.

27. COLLIER COUNTY PUBLIC UTILITIES DEPARTMENT IS RESPONSIBLE FOR THE MAINTENANCE OF THE INFRASTRUCTURE ON THIS SITE.

28. ALL PROHIBITED EXOTIC VEGETATION SHALL BE REMOVED FROM THE SITE AND IT SHALL BE MAINTAINED FREE OF EXOTICS IN PERPETUITY. (LDC 3.05.08)

29. A SEPARATE PERMIT IS REQUIRED FOR THE INSTALLATION OF ANY GATES (I.E. SLIDING, MANUAL ROLLING, MOTORIZED OR OTHER) THAT PREVENT ACCESS BY FIRE APPARATUS. ACCESS BOXES FOR MANUAL GATES AND EVAC SYSTEMS FOR ELECTRONIC GATES WILL BE REQUIRED. (FLORIDA FIRE PREVENTION CODE 6TH ED. 1: 18.2.2.2.)

30. COUNTY PERMIT TO PERFORM WORK AND/OR MAINTENANCE IN PUBLIC RIGHT-OF-WAY IS REQUIRED FOR WORK WITHIN THE PUBLIC ROAD ROW.

31. COLLIER COUNTY PUBLIC UTILITIES IS RESPONSIBLE FOR THE MAINTENANCE OF THE WATER MANAGEMENT FACILITIES ON THIS SITE.

1

STORMWATER NOTES:

1. FDOT MANUAL OF UNIFORM MINIMUM STANDARD FOR DESIGN, CONSTRUCTION AND MAINTENANCE FOR STREETS AND HIGHWAYS (FLORIDA GREENBOOK).

2. THE CONTRACTOR SHALL PERFORM THE WORK IN ACCORDANCE WITH THE FDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, DATED 2018, AS REVISED TO DATE.

3. THE OWNER HAS OBTAINED THE F.D.E.P. ENVIRONMENTAL RESOURCE PERMIT AND COLLIER COUNTY SITE DEVELOPMENT PLAN INSUBSTANTIAL CHANGE PERMIT AS REQUIRED FOR CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AN F.D.E.P. GENERIC STORMWATER NOI PERMIT FOR THE PROJECT. COPIES OF ALL PERMITS SHALL BE PROVIDED TO THE OWNER.

4. ALL SWALE GRADES ARE FINISHED, SODDED GRADES.

5. ALL CATCH BASINS WILL INCLUDE A ONE (1) FOOT DEEP SUMP, UNLESS OTHERWISE DEPICTED.

6. ALL CATCH BASIN GRATES WILL BE CAST IRON (UNLESS OTHERWISE SPECIFIED) WITH LOCKING CHAINS, IN ACCORDANCE WITH FDOT INDEX 425.

7. EXISTING DRAINAGE SWALES SHALL BE REGRADED AS INDICATED ON THESE PLANS & AS NECESSARY AS A RESULT OF THE UTILITY PLANS OR AS SPECIFIED BY THE ENGINEER. CARE SHALL BE TAKEN IN ALL WORK NEAR EXISTING FACILITIES.

Collier County

Revision	Date	Description	By
1	10/2024	ADDENDUN NO. 2	D.C.M.

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: GGMPS
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COLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS

GENERAL NOTES

ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)

ALEXANDER PAUL DUNKO, P.E.
FLORIDA P.E. LICENSE NO. 88695

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SHEET 4

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WATER and WASTEWATER NOTES:

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STATE OF FLORIDA, DEPARTMENT OF TRANSPORTATION, ROADWAY AND TRAFFIC STANDARDS, (LATEST EDITION), COLLIER COUNTY'S DEVELOPMENT STANDARDS AND SPECIFICATIONS, AND COLLIER COUNTY WATER-SEWER DISTRICT UTILITIES STANDARDS MANUAL.

2. OWNER HAS OBTAINED ALL FDEP WATER AND WASTEWATER CONSTRUCTION PERMITS.

3. ALL COLLIER COUNTY WATER-SEWER DISTRICT UTILITIES (DESIGN CRITERIA, SPECIFICATIONS, AND DETAILS) ARE APPLICABLE TO THIS PROJECT AND ARE MADE PART OF THE CONTRACT DOCUMENTS BY REFERENCE TO CURRENT COUNTY UTILITY STANDARDS, LOCATED AT THE FOLLOWING WEB ADDRESS: HTTPS://WWW.COLLIERCOUNTYFL.GOV/GOVERNMENT/PUBLIC-UTILITIES/WATER-SEWER-DISTRICT/ENGINEERING-AND-PROJECT-MANAGEMENT/RESOURCES IN THE EVENT OF CONFLICT BETWEEN THE COUNTY UTILITY STANDARDS AND THESE SPECIFICATIONS AND DRAWINGS, THE MORE STRINGENT REQUIREMENT SHALL APPLY.

4. DESIGN IS BASED UPON SURVEY PERFORMED BY GRADYMINOR IN 2021. DESIGN IS ALSO BASED ON RECORD DRAWINGS PROVIDED BY COLLIER COUNTY.

5. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL LOCATE BY POTHOLING OR SOFT DIGGING ALL UTILITIES WITHIN THE LIMITS OF THE PROJECT AND PROVIDE THE COUNTY, EOR, AND CEI A REPORT (BEFORE CONSTRUCTION) OF THE FINDINGS AT EACH LOCATION THAT INCLUDES THE STATION AND OFFSET, LOCATION, UTILITY TYPE, DEPTH FROM GRADE, SIZE, MATERIAL, DATE, TIME, AND A MINIMUM OF (2) PICTURES (AN OVERALL SITE PICTURE AND A PICTURE OF THE UTILITY FOUND). THE CONTRACTOR SHALL MARK THE FOUND UTILITY WITH A WOODEN LATH AND RIBBON, WITH THE UTILITY TYPE FOUND, SIZE, AND DEPTH WRITTEN ON THE LATH.

6. THE CONTRACTOR SHALL NOTIFY COLLIER COUNTY UTILITIES DEPARTMENT AT LEAST 10 CALENDAR DAYS IN ADVANCE OF ALL PLANNED SERVICE INTERRUPTIONS & REQUESTS FOR VALVE OPERATION, AND RECEIVE COUNTY PROJECT MANAGER'S APPROVAL BEFORE PROCEEDING WITH PLANNED INTERRUPTIONS. ONLY COUNTY EMPLOYEES ARE PERMITTED TO OPERATE VALVES.

7. THE CONTRACTOR SHALL PROVIDE 10 DAYS WRITTEN NOTICE TO THE ENGINEER OF RECORD, OWNER'S CEI REPRESENTATIVE, AND COLLIER COUNTY PROJECT MANAGER PRIOR TO THE FOLLOWING ACTIVITIES:
   a. COMMENCEMENT
   b. CHANGES TO APPROVED SCHEDULES, SUBCONTRACTORS, AND RESIDENT SUPERINTENDENT
   c. WATER SYSTEM
      i. HOT TAPS
      ii. PRESSURE TESTS
      iii. CHLORINATION OF WATER MAINS
      iv. FLUSHING
      v. BACTERIOLOGICAL SAMPLING
      vi. FINAL CONNECTION OF NEW MAINS
      vii. BEGINNING AC PIPE REMOVAL
      viii. FINAL ABANDONMENT OF EXISTING MAINS
      ix. WATER SERVICE AND WATER METER SWITCH OVER
      x. BACKFLOW DEVICE INSTALLATION
   d. WASTEWATER SYSTEM
      i. TESTING OF BYPASS PUMP STATION
      ii. INFILTRATION/EXFILTRATION TESTS
      iii. LAMPING OF SEWER LINE
      iv. TELEVISING AND INSPECTION OF SEWER LINES

8. CONTRACTOR SHALL USE 45° BENDS WITH MEGALUGS AT CONFLICTS WITH RESTRAINTS PER COLLIER COUNTY DETAIL G-4.

9. NOT ALL PROPOSED BENDS ARE SHOWN IN THE PLANS. ADDITIONAL FITTINGS MAY BE REQUIRED TO BEND THE WATER MAIN OR FORCE MAIN AS REQUIRED.

10. THE TOP OF ALL WATER AND FORCE MAINS SHALL BE INSTALLED A MINIMUM OF 30" AND A MAXIMUM OF 48" BELOW FINISHED GRADE, UNLESS OTHERWISE NOTED.

11. IN CASE OF ANY SERVICE INTERRUPTION DUE TO THE CONTRACTOR'S ACTIVITIES, COLLIER COUNTY WILL CALL THE CONTRACTOR, AND IF THEY DO NOT RESPOND VIA PHONE WITHIN 1 HOUR AND ARRIVE ONSITE WITHIN THE SECOND HOUR, THE COUNTY WILL COMPLETE THE REPAIR AND INVOICE THE CONTRACTOR. THE CONTRACTOR WILL BE INVOICED ON A TIME AND MATERIAL (T&M) BASIS, WITH A MINIMUM OF 2 HOURS AT $82 AN HOUR. PRIVATE WATER CHARGES AS A RESULT OF THE CONTRACTOR'S WORK SHALL BE PAID FOR BY THE CONTRACTOR.

12. LOCATION MARKERS ARE TO BE PLACED AT THE FOLLOWING LOCATIONS:
   a. EVERY ONE HUNDRED (100) FEET ALONG THE PROPOSED WATER MAIN AND FORCE MAIN
   b. ONE (1) AT EVERY SERVICE LATERAL END
   c. ONE (1) AT EVERY FITTING, BEND, OR CHANGE IN ALIGNMENT, AND VALVES
   d. TWO (2) ON LONG SERVICES, ONE AT MAIN AND ONE NEAR ROAD
   e. ONE (1) ON SHORT SERVICES, NEAR THE ROAD

13. CONTRACTOR TO UTILIZE METALIZED TAPE AND MARKER BALLS FOR ALL UNDERGROUND PIPING PER COUNTY STANDARDS. ADDITIONALLY, TRACKING/LOCATING WIRE SHALL BE USED FOR HORIZONTAL DIRECTIONAL DRILLS PER COUNTY STANDARDS.

14. CONTRACTOR SHALL ASSUME ALL EXISTING MAINS ARE UNRESTRAINED AT THE CONNECTION POINTS AND SHALL RESTRAIN THE MAINS IN ACCORDANCE WITH THE COLLIER COUNTY WATER-SEWER DISTRICT UTILITIES STANDARDS MANUAL.

SURVEY KEY DESCRIPTIONS

CODE	DESCRIPTION
AC_	AIR CONDITIONING UNIT
ARL_	ARROW LEFT
ARR_	ARROW RIGHT
ARS_	ARROW STRAIGHT
ARV_	AIR RELEASE VALVE
_BM_	BENCHMARK (START w/BM or FOLLOWS MON. CODE)
BC_	BUILDING CORNER
BFP_	BACK FLOW PREVENTOR
BKR_	BIKE RACK
BOC_	BACK OF CURB_TYPE (A, D, E, F, VG)
BOL_	BOLLARD_TYPE
BPL_	BLUE PAINT LINE
BPR_	BRICK PAVER
BRA_	BRIDGE ABUTTMENT
BS_	BACK SITE_POINT #
BTS_	BOTTOM OF STEP
BUF	BURIED UTILITY FLAG
BW_	BOTTOM OF WALL
CALC_	CALCULATED COORDINATE POINT
CB_	CATCH BASIN_PIPE SIZE_INVERT
CHW_	CONCRETE HEADWALL
CLH_	CENTERLINE HEDGE_WIDTH
CMP_	CORRUGATED METAL PIPE_SIZE
CNP_	CONCRETE PAD
CO_	CLEANOUT
CPP_	CORRUGATED PLASTIC PIPE_SIZE
CS_	CONTROL STRUCTURE
DCK_	DOCK OR DECK
DEAD_	DEAD TREE_SIZE_#(IF CLUSTER)
DKP_	DOCK OR DECK PILING OR POLE
DP_	DUMPSTER PAD
ER_	ELECTRIC BOX(IN GROUND)
ELC_	ELECTRIC LINE
ELR_	ELECTRIC RISER
EM_	ELECTRIC METER
EOC_	EDGE OF CONCRETE
EOG_	EDGE OF GRAVEL
EOP_	EDGE OF PAVEMENT
EOW_	EDGE OF WATER
ERCP_	ELLIPTICAL RCP_SIZE
ESW_	EDGE SIDEWALK
ETP_	ELECTRIC TRANSFORMER PAD
FCL_	FENCE CHAIN LINK
FCM_	FOUND CONCRETE MONUMENT_SIZE_LB# OR NOID
FCR_	FENCE CORNER
FDC_	FIRE DEPARTMENT CONTROL
FDH_	FOUND DRILL HOLE
FFE_	FINISHED FLOOR ELEVATION
FGE_	FINISHED GARAGE FLOOR
FGP_	FENCE GATE/GATE POST
FH_	FIRE HYDRANT
FIP_	FOUND IRON PIPE_SIZE_LB# OR NOID
FIR_	FOUND IRON ROD_SIZE_LB# OR NOID
FLGP_	FLAG POLE
FML_	FOUND MAG NAIL_SIZE_LB# OR NOID
FNL_	FOUND NAIL_SIZE_LB# OR NOID
FOC_	FACE OF CURB_TYPE (A, D, E, F, VG)
FPK_	FOUND PK NAIL_SIZE_LB# OR NOID
FPL_	FLORIDA POWER AND LIGHT
FRM_	FORCE MAIN_U(UNDERGROUND), A(ABOVE GROUND)
FSE_	FINISH SECOND FLOOR ELEVATION
FWD_	FENCE WOOD
GA_	GUY ANCHOR
GB_	GRADE BREAK
GMM_	GAS MAIN MARKER
GP_	GENERATOR PAD
GR_	GUIDE RAIL
GSL_	UNDERGROUND GAS LINE
GSM_	GAS METER
GT_	GREASE TRAP
GUMB_	GUMBO TREE_SIZE_#(IF CLUSTER)
GV_	GAS VALVE
HH_	HAND HOLE
HPM_	HANDICAP MAN SYMBOL
IRR_	IRRIGATION METER
IRV_	IRRIGATION VALVE
LDA_	LANDSCAPE PLANTING AREA
LIT_	LITTORAL SHELF
LP_	LIGHT POLE_TYPE (WOOD, METAL, FIBERGLASS, CONCRETE)
LA_	LANDSCAPE LIGHT
MAL_	MAULLKA TREE_SIZE_#(IF CLUSTER)
MB_	MAILBOX
MES_	MITERED END SECTION_PIPE SIZE (SHOT AT END OF PIPE AT INVERT)
MHD_	DRAINAGE MANHOLE_DEPTH
MHE_	ELECTRIC MANHOLE
MHS_	SANITARY MANHOLE_DEPTH
MHT_	TELEPHONE MANHOLE
MHWL_	MEAN HIGH WATER LINE
MHWT_	MAN HOLE WATER
MNGO	MANGO TREE_SIZE_#(IF CLUSTER)
MPL	MAPLE TREE_SIZE_#(IF CLUSTER)
NG_	NATURAL GRADE (DIRT, GRASS, ETC.)
OAK_	OAK TREE_SIZE_#(IF CLUSTER)
OHW_	OVERHEAD WIRES
PALM_	PALM TREE_SIZE_#(IF CLUSTER)
PBID_	PELICAN BAY IMPROVEMENT DISTRICT
PINE_	PINE TREE_SIZE_#(IF CLUSTER)
POL_	POINT ON LINE
PPR_	PAPER TREE
RCP_	REINFORCED CONCRETE PIPE_SIZE
RMP_	HANDICAP RAMP
SB_	STOP BAR STRIPING
SCM_	SET CONCRETE MONUMENT
SDH_	SET DRILL HOLE
SFB_	FEATURE SIGN
SG_	SPOT GRADE (ON VARIOUS TYPES OF PAVEMENT)
SIGN_	SIGN_TYPE (DONOT ENTER, HANDICAP, STOP, #MPH, 1WAY, NO PARKING, TRAFFIC-GENERAL, ETC)
SHT_	SET HUB TACK
SIR_	SET IRON ROD_SIZE
SL_	SET LATHE_X (GRADE) OR C# (MARKED CUT) OR F# (MARKED FILL)
SNL_	SET NAIL_SIZE
SPK_	SET PARKER KALON NAIL_SIZE
STL_	STEEL PIPE_SIZE
SV_	SEWER VALVE
SWB_	SEA WALL BOTTOM
SWL_	SWALE/FLOW LINE
SWT_	SEA WALL TOP
TBX_	TELEPHONE BOX (IN GROUND)
TCP_	TERRA COTTA PIPE_SIZE
TLC_	COND. TRAFFIC POLE
TLM_	METAL TRAFFIC POLE
TLW_	WOOD TRAFFIC POLE
TOB_	TOP OF BANK
TOS_	TOE OF SLOPE
TOW_	TOP OF WALL
TP_	TRAVERSE POINT
TREE_	TREE_TYPE_SIZE_#(IF CLUSTER)
TRS_	TELEPHONE RISER
TST_	TOP OF STEP
TVB_	CABLE TELEVISION BOX (IN GROUND)
TVR_	CABLE TELEVISION RISER
UGTP_	UNDERGROUND TELEPHONE LINE
UGTV_	UNDERGROUND TELEVISION LINE
UMKR_	UNDERGROUND BURIED CABLE MARKER
UPC_	CONCRETE UTILITY POLE
UPM_	METAL UTILITY POLE
UPW_	WOOD UTILITY POLE
VGL_	VEGETATION LINE
WBSP_	WATER BACTERIAL SAMPLE POINT
WDL_	WOODS LINE
WELL_	WATER WELL
WLC_	WALL CONCRETE
WLM_	WATER LINE_U(UNDERGROUND), A(ABOVE GROUND)
WLW_	WALL WOOD
WM_	WATER METER
WPL_	WHITE PAINTED LINE
WS_	WHEEL STOP
WTL_	WETLAND MARKER_DESIGNATION & NUMBER
WV_	WATER VALVE
YD_	YARD DRAIN
YPL_	YELLOW PAINTED LINE

_ DENOTES A SPACE AFTER CODE AND PRIOR TO ADDITIONAL INFORMATION

GRADY MINOR STANDARD ABBREVIATIONS

AC	ASBESTOS CEMENT	LME	LAKE MAINTENANCE EASEMENT
ARV	AIR RELEASE VALVE	MES	MITERED END SECTION
BFW	BUTT FUSION WELD	MJ	MECHANICAL JOINT
BL	BASELINE	MIN.	MINIMUM
BLVD.	BOULEVARD	NFPA	NATIONAL FIRE PROTECTION AGENCY
BOC	BACK OF CURB	NGVD	NATIONAL GEODETIC VERTICAL DATUM
BSP	BACTERIAL SAMPLE POINT	NIC	NOT IN CONTRACT
CATV	CABLE TELEVISION	NOI	NOTICE OF INTENT
CB	CATCH BASIN	OFF.	OFFSET
CEI	CONSTRUCTION ENGINEERING AND INSPECTION	OR	OFFICIAL RECORD
CL	CENTERLINE	PB	PLAT BOOK
CMP	CORRUGATED METAL PIPE	PBSP	PERMANENT BACTERIAL SAMPLE POINT
CO	CLEAN OUT	PG	PAGE
CONC.	CONCRETE	PL	PROPERTY LINE
CUE	COUNTY UTILITY EASEMENT	POT.	POTABLE
DE	DRAINAGE EASEMENT	PROP.	PROPOSED
DIP	DUCTILE IRON PIPE	PVC	POLYVINYL CHLORIDE PIPE
EL. OR ELEV.	ELEVATION	PVI	POINT OF VERTICAL INTERSECTION
EOP	EDGE OF PAVEMENT	PVMT.	PAVEMENT
ERCP	ELLIPTICAL REINFORCED CONCRETE PIPE	P.S.	PUMP STATION
EXIST. or EX	EXISTING	RED.	REDUCER
FDC	FIRE DEPARTMENT CONNECTION	RCP	REINFORCED CONCRETE PIPE
FDEP	FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION	ROW	RIGHT-OF-WAY
FDOT	FLORIDA DEPARTMENT OF TRANSPORTATION	SAN.	SANITARY
FE	FLARED END	SB	SOD BORING
FEMA	FEDERAL EMERGENCY MANAGEMENT AGENCY	SFWMD	SOUTH FLORIDA WATER MANAGEMENT DISTRICT
FFE	FINISHED FLOOR ELEVATION	ST.	STREET
FH	FIRE HYDRANT	STA.	STATION
FLG	FLANGED FITTING	SWK.	SIDEWALK
FM	FORCE MAIN	SWR.	SEWER
FPL OR FP&L	FLORIDA POWER & LIGHT	TBSP	TEMPORARY BACTERIAL SAMPLE POINT
GE	GENERAL ELECTRIC	TEMP.	TEMPORARY
GV	GATE VALVE	TOB	TOP OF BANK
HDPE	HIGH DENSITY POLYETHYLENE	TOS	TOE OF SLOPE
HORIZ.	HORIZONTAL	TYP.	TYPICAL
HW	HEADWALL	UE	UTILITY EASEMENT
INC.	INCORPORATED	VCT	VITRIFIED CLAY PIPE
INV.	INVERT	VERT.	VERTICAL
IRR.	IRRIGATION	VG	VALLEY GUTTER
JB	JUNCTION BOX	W/	WITH
LBR	LANDSCAPE BUFFER EASEMENT	WCS	WATER CONTROL STRUCTURE
LD	INLINE DRAIN	WM	WATER MAIN
LF	LINEAR FEET	YD	YARD DRAIN

LEGEND:

- EX. MITERED END SECTION
- EX. CATCH BASIN
- PROPOSED YARD DRAIN
- PROPOSED CATCH BASIN
- PROPOSED MITERED END SECTION
- PROPOSED JUCTION BOX
- PROPOSED INLINE YARD DRAIN
- PROPOSED WATER METER
- PROPOSED FIRE HYDRANT & TEE
- PROPOSED SAN. SEWER LATERAL & CO
- PROPOSED FUTURE SIDEWALK
- PROPOSED BURIED FIBER OPTIC (APPROXIMATE)
- EX-FM — EX. FORCEMAIN
- EX-SAN — EX. SANITARY SEWER
- EX-WM — EX. WATERMAIN
- EX. STORM SEWER
- FM — FM — PROPOSED FORCEMAIN & GATE VALVES
- PROPOSED SANITARY SEWER & MANHOLE
- WM — WM — PROPOSED WATERMAIN & GATE VALVES
- PROPOSED STORM SEWER
- RIGHT-OF-WAY (ROW)
- PROPOSED TOP OF BANK
- PROPOSED TOE OF SLOPE
- PROPOSED W.M./F.M. DEFLECTION

PAVEMENT PATTERNS:

- CONCRETE
- STAMPED/DECORATIVE CONCRETE
- PAINTED CONCRETE
- PAVERS
- ASPHALT OVERLAY
- MILLING & RESURFACING

Collier County

Revision	Date	Description	By

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: GGMPS
SCALE: 11x17 N.T.S.

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Bonita Springs, Florida 34134

GOLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS

GENERAL NOTES

ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)

ALEXANDER PAUL DUNKO, P.E.
FLORIDA P.E. LICENSE NO. 88695

MUNICIPALITY: COLLIER COUNTY
SEC/TWN/RGE: 27 AND 28/49S/26E
DATE: FEBRUARY, 2024
SUBMITTAL TYPE: PHASE 1 BID
SHEET 5

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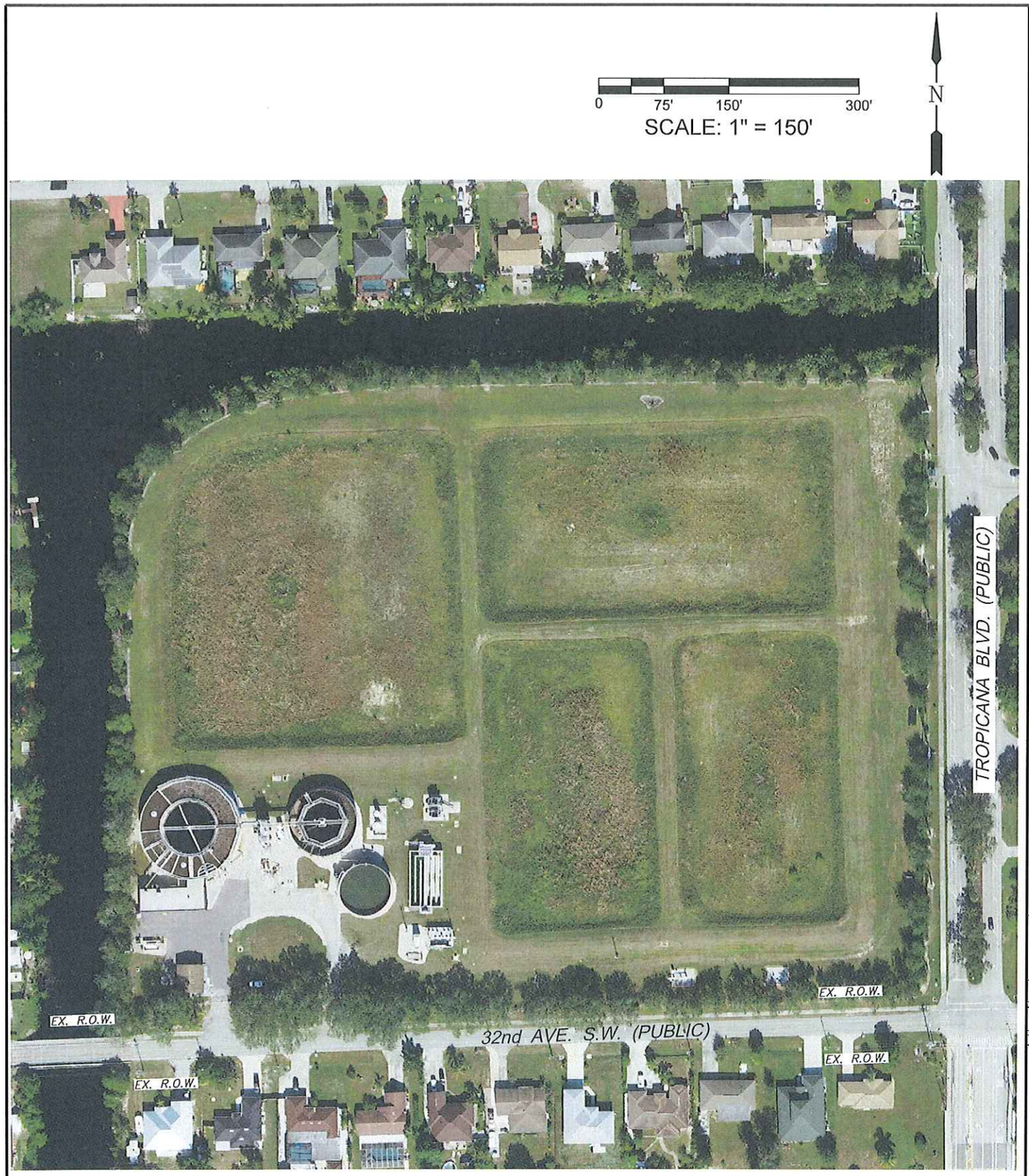
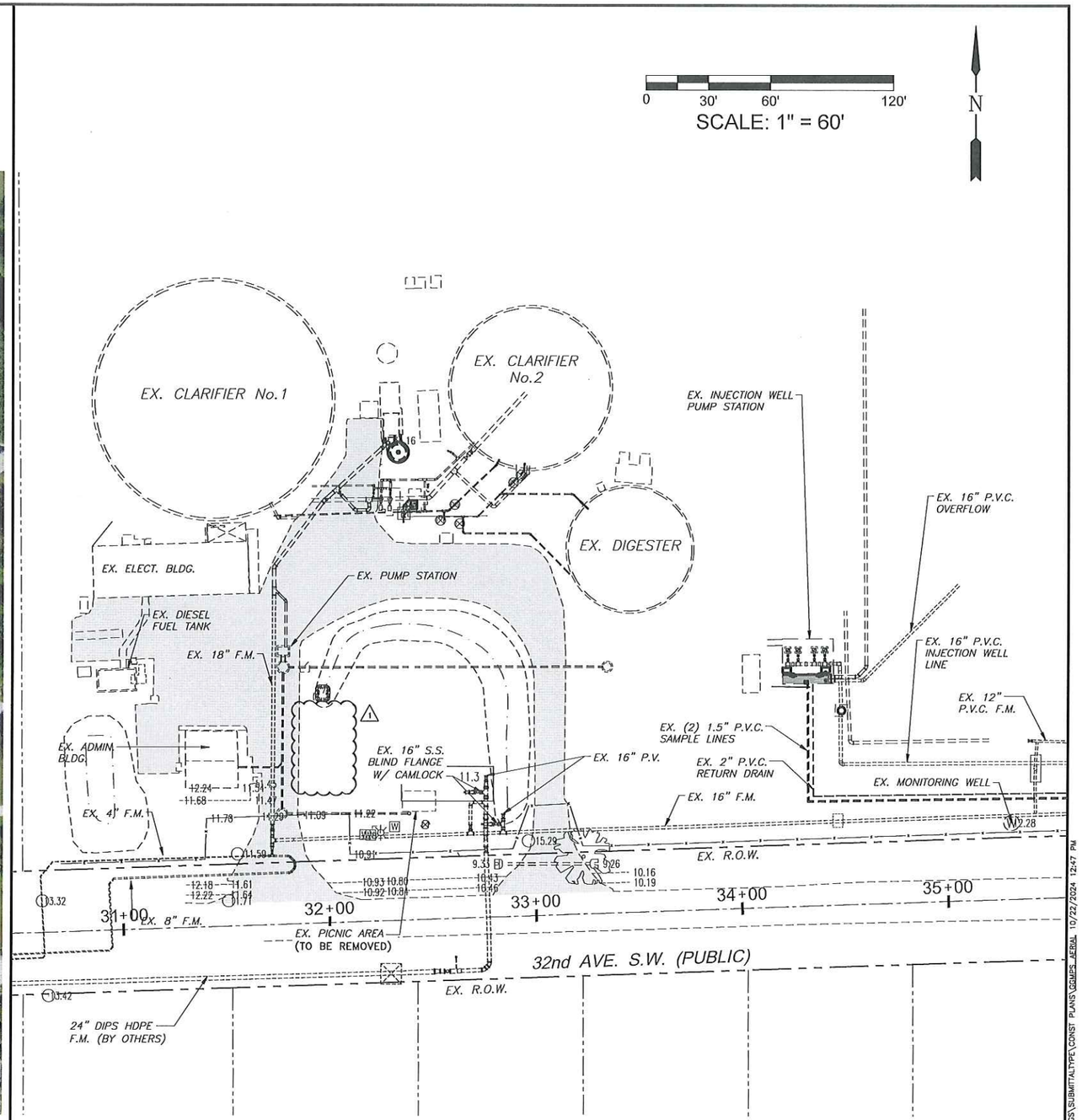


AERIAL PHOTOGRAPH
SCALE: 1"=150'



EXISTING CONDITIONS PLAN
SCALE: 1"=60'

Collier County

Revision	Date	Description	D.C.M. By
1	10/2024	ADDENDUM NO. 2	

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: GGMPS
SCALE: 11x17 AS NOTED

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GOLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS

AERIAL PHOTOGRAPH AND EXISTING CONDITIONS PLAN

ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)1.270'

ALEXANDER PAUL DUNKO, P.E.
FLORIDA P.E. LICENSE NO. 88695

MUNICIPALITY: COLLIER COUNTY
SEC/TWN/RGE: 27 AND 28/49S/26E
DATE: FEBRUARY, 2024
SUBMITTAL TYPE: PHASE 1 BID
SHEET 6

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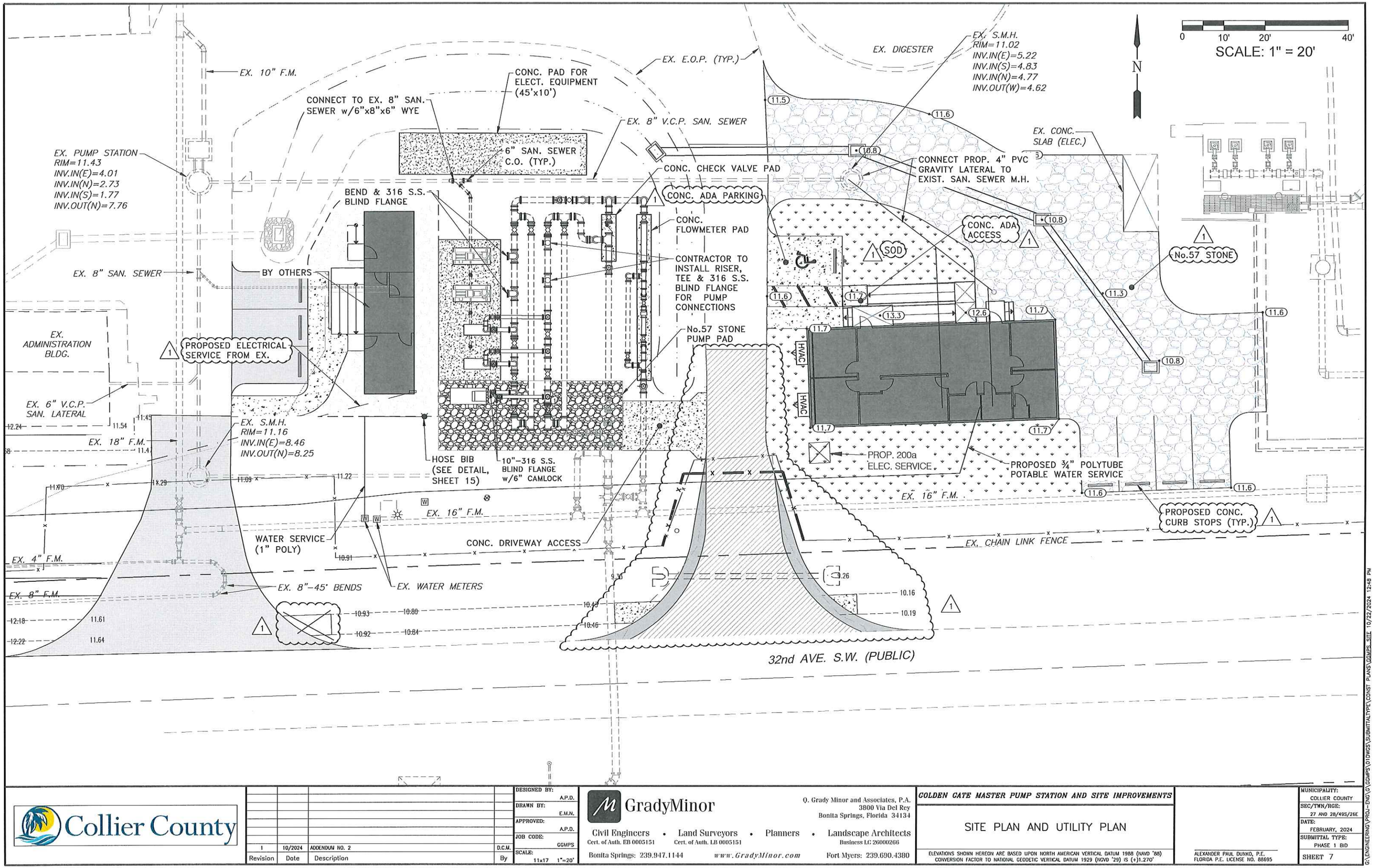

Collier County

Revision	Date	Description	By
1	10/2024	ADDENDUM NO. 2	D.C.M.

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: GGMPS
SCALE: 11x17 1"=20'

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GOLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS

SITE PLAN AND UTILITY PLAN

ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)1.270'

ALEXANDER PAUL DUNKO, P.E.
FLORIDA P.E. LICENSE NO. 88695

MUNICIPALITY: COLLIER COUNTY
SEC/TWN/RGE: 27 AND 28/49S/26E
DATE: FEBRUARY, 2024
SUBMITTAL TYPE: PHASE 1 BID
SHEET 7

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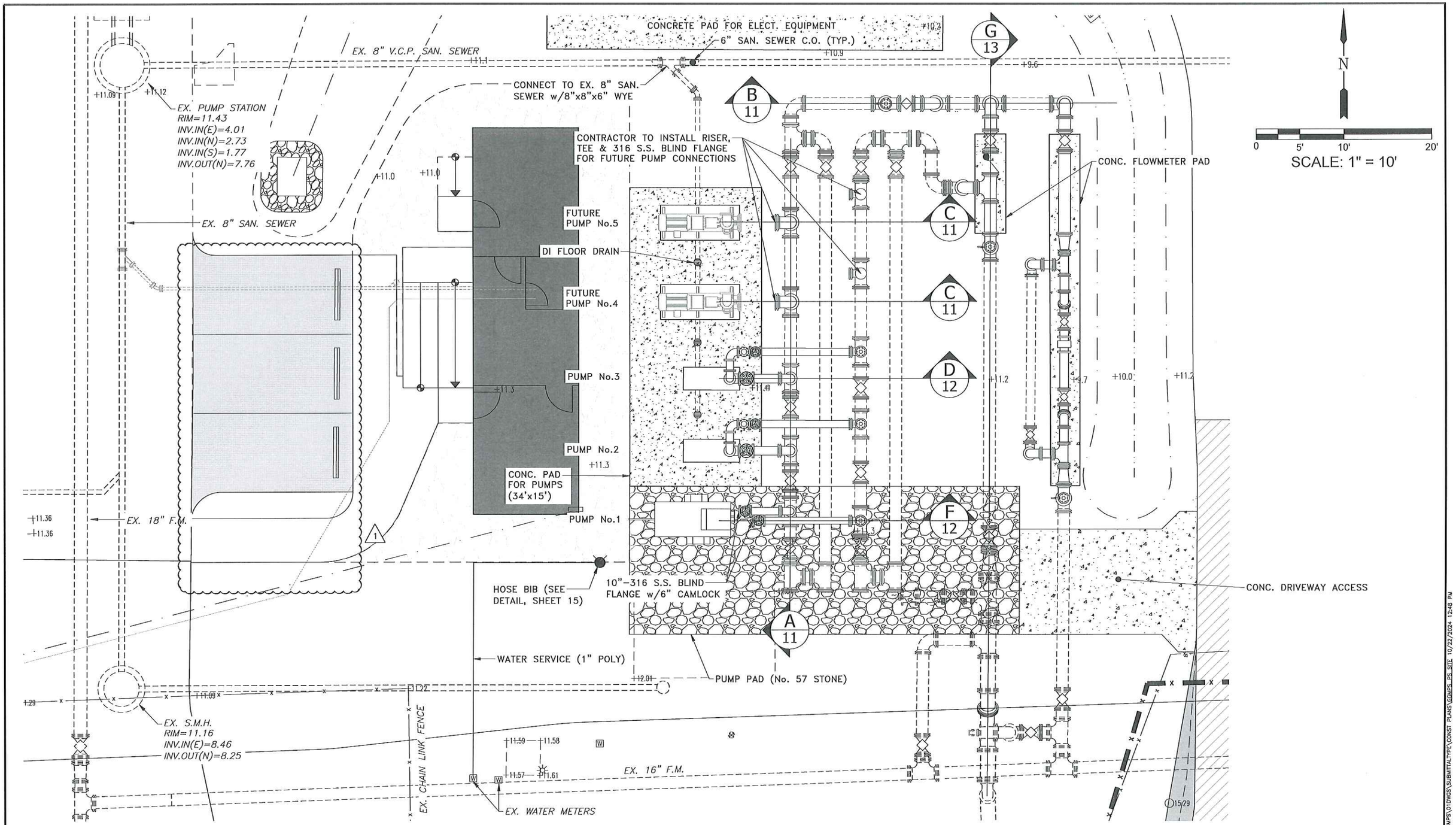

Collier County

Revision	Date	Description	By
1	10/2024	ADDENDUM NO. 2	D.C.M.

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: GGMPS
SCALE: 11x17 1"=10'

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Bonita Springs, Florida 34134

GOLDEN GATE MASTER PUMP STATION ANS SITE IMPROVEMENTS

PUMP STATION SITE PLAN

ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)1.270'

ALEXANDER PAUL DUNKO, P.E.
FLORIDA P.E. LICENSE NO. 88695

MUNICIPALITY: COLLIER COUNTY
SEC/TWN/RGE: 27 AND 28/49S/26E
DATE: FEBRUARY, 2024
SUBMITTAL TYPE: 90% PLANS
SHEET 8

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EX. ELECTRICAL BUILDING

EX. E.O.P. (TYP.)

EX. DIGESTER

0 10' 20' 40'

SCALE: 1" = 20'

N

PROPOSED T.O.B. (TYP.)

PROPOSED T.O.S. (TYP.)

DS-1
DBI TYPE C
G.E.:10.00
INV.:6.00(E)

DS-2
DBI TYPE C
G.E.:10.80
INV.:6.00(W)
INV.:6.00(E)

EX. S.M.H.
RIM=11.02
INV.IN (E)=5.22
INV.IN (S)=4.83
INV.IN (N)=4.77
INV.OUT (W)=4.62

16" THICK CONC. PAD
FOR ELECT. EQUIPMENT
45'x10' (22.34 C.Y.)

16" THICK CONC. CHECK PAD
11.0'x3'-6"(6.95 C.Y.)

48 LF 18"

48 LF 18"

EX. C.B.-1
TYPE: C.B.
G.E.: 9.50
INV.(W): 3.50

EX. C.B.-2
TYPE: C.B.
G.E.: 11.20
INV.(E): 3.50
INV.(SW): 3.50

EX. 15" RCP

DS-3
DBI TYPE C
G.E.:10.80
INV.:6.00(W)
INV.:6.00(SE)

CONC. ADA PARKING &
CONC. ADA ACCESS

ADA RAMP

STAIRS

44 LF 18"

#57 STONE

16" THICK CONC.
FLOWMETER PAD
40.0'x3'-6"
(6.95 C.Y.)

TIE INTO
EXISTING DWY
CONDITIONS

FFE:
13.3'

EX.
ADMINISTRATION
BLDG.

OFFICE TRAILER
FFE: 13.3'

HVAC

HVAC

DS-3A
DBI TYPE C
G.E.:10.80
INV.:6.00(NW)

MILL AND
RESURFACE

16" THICK CONC. PAD
FOR ELECT. EQUIPMENT
34'x15' (25.31 C.Y.)

12' CONC. ACCESS
DRIVE (27.22 S.Y.)

REMOVE & REPLACE
MOTORIZED CANTILEVER GATE

DWY TO BE EXTENDED

BUMPER GUARD

SOD

REMOVE & INSTALL 60 L.F.
OF 6' CHAIN LINK FENCING

6" THICK No. 57 STONE
PUMP PAD 44.0'x17.0'
(83.11 S.Y.)

EX. CHAIN LINK FENCE

PROPOSED KEYPAD
LOCATION

REPLACE MES

REPLACE MES

TIE INTO EXISTING
CONDITIONS

TIE INTO EXISTING
CONDITIONS

PROPOSED DWY
IMPROVEMENTS

PROPOSED DWY
IMPROVEMENTS

REPLACE SIDEWALK
TO CLOSEST JOINT

32nd AVE. S.W. (PUBLIC)

LEGEND

PROPOSED CONCRETE DRIVEWAY

PROP. ROADWAY CONSTRUCTION

PROP. MILLING & RESURFACING

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Collier County

Revision	Date	Description	By
1	10/2024	ADDENDUM NO. 2	D.C.M.

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: GGMPS
SCALE: 11x17 1"=20'

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Bonita Springs, Florida 34134

Bonita Springs: 239.947.1144 www.GradyMinor.com Fort Myers: 239.690.4380

GOLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS

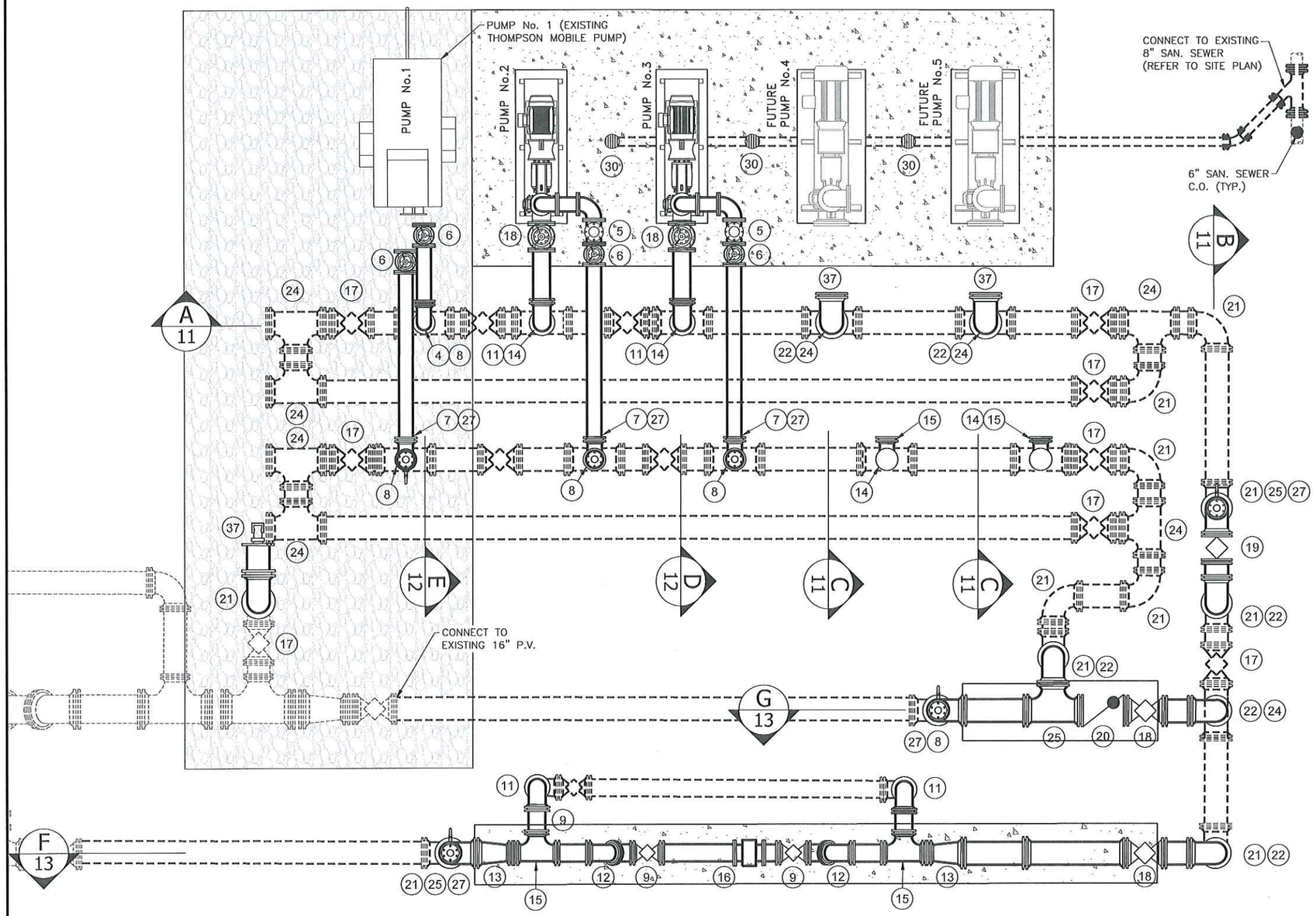
GRADING, PAVING, AND DRAINAGE PLAN

ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88)
CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)1.270'

ALEXANDER PAUL DUNKO, P.E.
FLORIDA P.E. LICENSE NO. 88695

MUNICIPALITY: COLLIER COUNTY
SEC/TWN/RGE: 27 AND 28/49S/26E
DATE: FEBRUARY, 2024
SUBMITTAL TYPE: PHASE 1 BID

SHEET 9



FITTINGS and VALVES TAG LIST

TAG No.	DESCRIPTION	COMMENTS
1	10"x6" REDUCER	D.I., FLANGED
2	6" PLUG VALVE	D.I., FLANGED
3	6" CHECK VALVE	D.I., FLANGED
4	10"-90° BEND	D.I., FLANGED
5	10" CHECK VALVE	D.I., FLANGED
6	10" PLUG VALVE	D.I., FLANGED
7	10"x10"x10" TEE	D.I.,FLANGED w/ S.S. BLIND FLANGE
8	16"x16"x10 TEE	D.I., M.J., RESTRAINED
9	12" PLUG VALVE	D.I., FLANGED
10	12" CHECK VALVE	D.I., FLANGED
11	12"-90° BEND	D.I., FLANGED
12	12"-45° BEND	D.I., FLANGED
13	16"x12" REDUCER	D.I., FLANGED
14	16"x16"x12" TEE	D.I., M.J., RESTRAINED
15	12"x12"x12" TEE	D.I., FLANGED
16	12" FLOW METER	D.I., FLANGED
17	16" PLUG VALVE	D.I., M.J., RESTRAINED
18	16" PLUG VALVE	D.I., FLANGED
19	16" ACTUATED PLUG VALVE	D.I., M.J.
20	16" CHECK VALVE	D.I., M.J. RESTRAINED
21	16"-90° BEND	D.I., M.J. RESTRAINED
22	16"-90° BEND	D.I., FLANGED
23	16"-45° BEND	D.I., MJ., RESTRAINED
24	16"x16"x16" TEE	D.I., M.J., RESTRAINED
25	16"x16"x16" TEE	D.I., FLANGED
26	18"x16" REDUCER	D.I., FLANGED
27	AIR RELEASE VALVE	STAINLESS STEEL
28	6"x6"x6" TEE	PVC
29	6"-90° BEND	PVC
30	D.I. FLOOR DRAIN	D.I. GRATE, 12" SQ. HEAVY-DUTY TOP
31	PIPE SUPPORT	PER COLLIER Co. DETAIL WW-7C
32	12" BLIND FLANGE	WITH 6" CAMLOCK
33	10" BLIND FLANGE	WITH 6" CAMLOCK
34	20" - 45° BEND	D.I., M.J., RESTRAINED
35	20" x 16" TEE	D.I., M.J., RESTRAINED
36	20" x 16" REDUCER	D.I., M.J., RESTRAINED
37	16" BLIND FLANGE	WITH 4" CAMLOCK

Collier County

Revision	Date	Description	By

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: GGMPS
SCALE: 3/16"=1'-0"

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Bonita Springs, Florida 34134

GOLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS

PLAN VIEW–EQUIPMENT SECTIONS

ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)1.270'

ALEXANDER PAUL DUNKO, P.E.
FLORIDA P.E. LICENSE NO. 88695

MUNICIPALITY: COLLIER COUNTY
SEC/TWN/RGE: 27 AND 28/49S/26E
DATE: FEBRUARY, 2024
SUBMITTAL TYPE: PHASE 1 BID
SHEET 10

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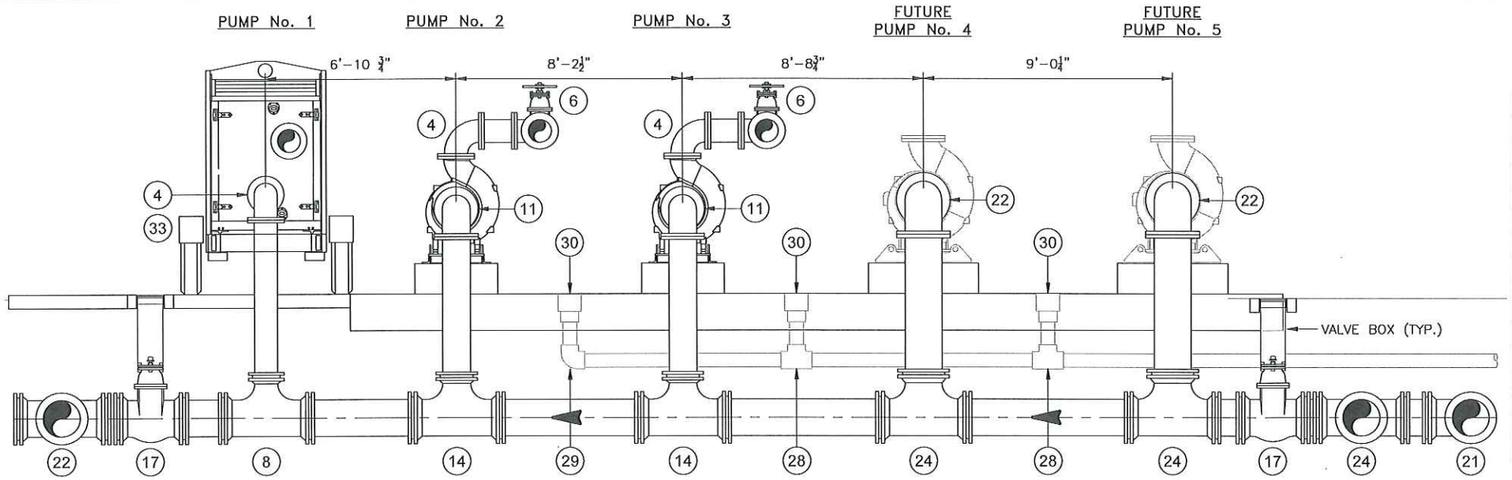


SECTION A

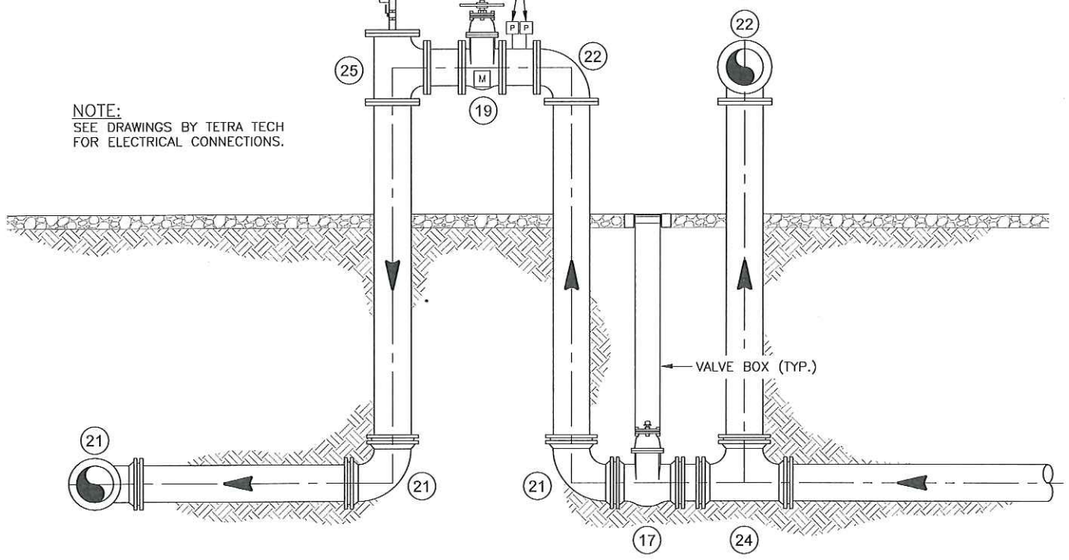
SCALE: 3/16"=1'-0"

FITTINGS and VALVES TAG LIST

TAG No.	DESCRIPTION	COMMENTS
1	10"x6" REDUCER	D.I., FLANGED
2	6" PLUG VALVE	D.I., FLANGED
3	6" CHECK VALVE	D.I., FLANGED
4	10"-90° BEND	D.I., FLANGED
5	10" CHECK VALVE	D.I., FLANGED
6	10" PLUG VALVE	D.I., FLANGED
7	10"x10"x10" TEE	D.I.,FLANGED w/ S.S. BLIND FLANGE
8	16"x16"x10 TEE	D.I., M.J., RESTRAINED
9	12" PLUG VALVE	D.I., FLANGED
10	12" CHECK VALVE	D.I., FLANGED
11	12"-90° BEND	D.I., FLANGED
12	12"-45° BEND	D.I., FLANGED
13	16"x12" REDUCER	D.I., FLANGED
14	16"x16"x12" TEE	D.I., M.J., RESTRAINED
15	12"x12"x12" TEE	D.I., FLANGED

FITTINGS and VALVES TAG LIST

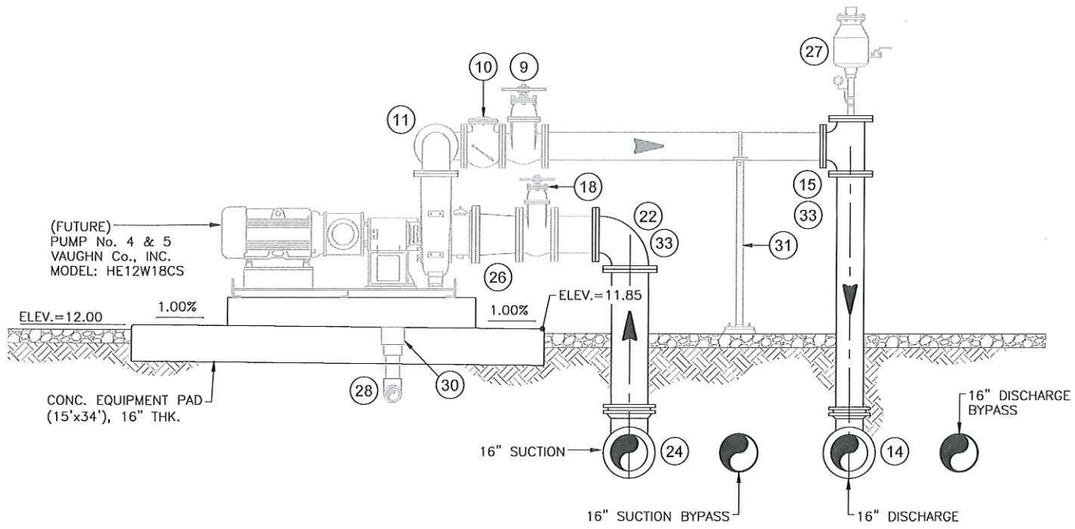
TAG No.	DESCRIPTION	COMMENTS
16	12" FLOW METER	D.I., FLANGED
17	16" PLUG VALVE	D.I., M.J., RESTRAINED
18	16" PLUG VALVE	D.I., FLANGED
19	16" ACTUATED PLUG VALVE	D.I., M.J.
20	16" CHECK VALVE	D.I., M.J. RESTRAINED
21	16"-90° BEND	D.I., M.J. RESTRAINED
22	16"-90° BEND	D.I., FLANGED
23	16"-45° BEND	D.I., MJ., RESTRAINED
24	16"x16"x16" TEE	D.I., M.J., RESTRAINED
25	16"x16"x16" TEE	D.I., FLANGED
26	18"x16" REDUCER	D.I., FLANGED
27	AIR RELEASE VALVE	STAINLESS STEEL
28	6"x6"x6" TEE	PVC
29	6"-90° BEND	PVC
30	D.I. FLOOR DRAIN	D.I. GRATE, 12" SQ. HEAVY-DUTY TOP
31	PIPE SUPPORT	PER COLLIER Co. DETAIL WW-7C
32	12" BLIND FLANGE	WITH 6" CAMLOCK
33	10" BLIND FLANGE	WITH 6" CAMLOCK



NOTE:
SEE DRAWINGS BY TETRA TECH FOR ELECTRICAL CONNECTIONS.

SECTION B

SCALE: 3/16"=1'-0"



SECTION C

SCALE: 3/16"=1'-0"

Revision	Date	Description	By

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: GGMPS
SCALE: AS NOTED

Collier County

GradyMinor
Civil Engineers • Land Surveyors • Planners • Landscape Architects
Cert. of Auth. EB 0005151 • Cert. of Auth. LB 0005151 • Business LC 26000266
Bonita Springs: 239.947.1144 www.GradyMinor.com Fort Myers: 239.690.4380

Q. Grady Minor and Associates, P.A.
3800 Via Del Rey
Bonita Springs, Florida 34134

GOLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS

EQUIPMENT SECTIONS

ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)1.270'

ALEXANDER PAUL DUNKO, P.E.
FLORIDA P.E. LICENSE NO. 88695

MUNICIPALITY: COLLIER COUNTY
SEC/TWN/RGE: 27 AND 28/49S/26E
DATE: FEBRUARY, 2024
SUBMITTAL TYPE: PHASE 1 BID
SHEET 11

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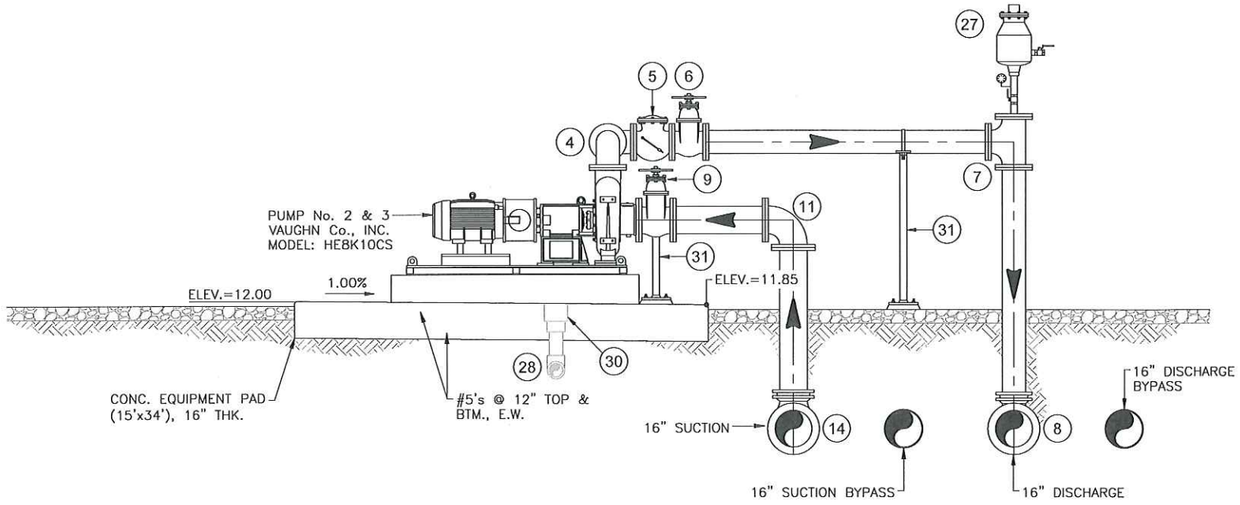
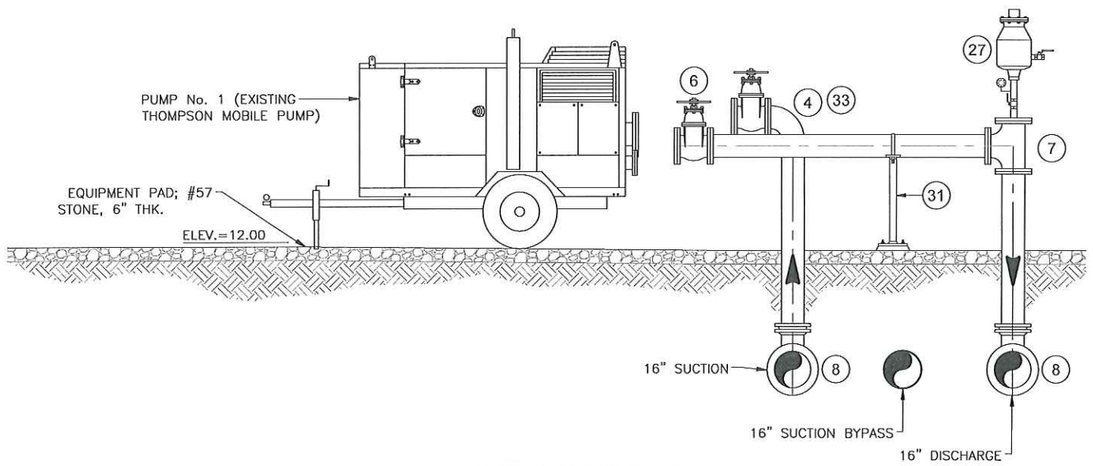


SECTION D

SCALE: 3/16"=1'-0"



SECTION E

SCALE: 3/16"=1'-0"

FITTINGS and VALVES TAG LIST

TAG No.	DESCRIPTION	COMMENTS
1	10"x6" REDUCER	D.I., FLANGED
2	6" PLUG VALVE	D.I., FLANGED
3	6" CHECK VALVE	D.I., FLANGED
4	10"-90° BEND	D.I., FLANGED
5	10" CHECK VALVE	D.I., FLANGED
6	10" PLUG VALVE	D.I., FLANGED
7	10"x10"x10" TEE	D.I.,FLANGED w/ S.S. BLIND FLANGE
8	16"x16"x10 TEE	D.I., M.J., RESTRAINED
9	12" PLUG VALVE	D.I., FLANGED
10	12" CHECK VALVE	D.I., FLANGED
11	12"-90° BEND	D.I., FLANGED
12	12"-45° BEND	D.I., FLANGED
13	16"x12" REDUCER	D.I., FLANGED
14	16"x16"x12" TEE	D.I., M.J., RESTRAINED
15	12"x12"x12" TEE	D.I., FLANGED
16	12" FLOW METER	D.I., FLANGED
17	16" PLUG VALVE	D.I., M.J., RESTRAINED
18	16" PLUG VALVE	D.I., FLANGED
19	16" ACTUATED PLUG VALVE	D.I., M.J.
20	16" CHECK VALVE	D.I., M.J. RESTRAINED
21	16"-90° BEND	D.I., M.J. RESTRAINED
22	16"-90° BEND	D.I., FLANGED
23	16"-45° BEND	D.I., MJ., RESTRAINED
24	16"x16"x16" TEE	D.I., M.J., RESTRAINED
25	16"x16"x16" TEE	D.I., FLANGED
26	18"x16" REDUCER	D.I., FLANGED
27	AIR RELEASE VALVE	STAINLESS STEEL
28	6"x6"x6" TEE	PVC
29	6"-90° BEND	PVC
30	D.I. FLOOR DRAIN	D.I. GRATE, 12" SQ. HEAVY-DUTY TOP
31	PIPE SUPPORT	PER COLLIER Co. DETAIL WW-7C
32	12" BLIND FLANGE	WITH 6" CAMLOCK
33	10" BLIND FLANGE	WITH 6" CAMLOCK

Collier County

Revision	Date	Description	By

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: GGMPS
SCALE: AS NOTED

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Q. Grady Minor and Associates, P.A.
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Bonita Springs, Florida 34134

GOLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS

EQUIPMENT SECTIONS

ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)1.270'

ALEXANDER PAUL DUNKO, P.E.
FLORIDA P.E. LICENSE NO. 88695

MUNICIPALITY: COLLIER COUNTY
SEC/TWN/RGE: 27 AND 28/49S/26E
DATE: FEBRUARY, 2024
SUBMITTAL TYPE: PHASE 1 BID
SHEET 12

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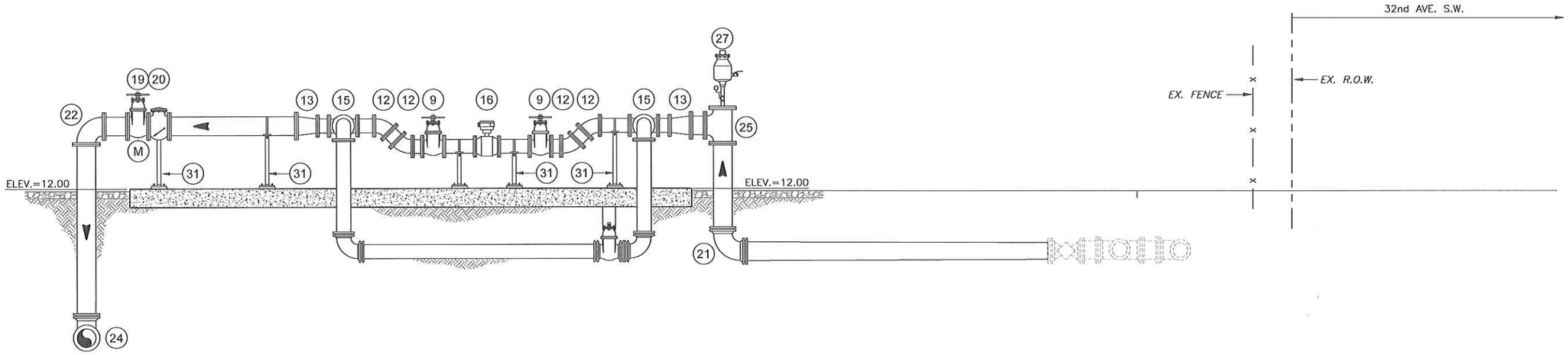
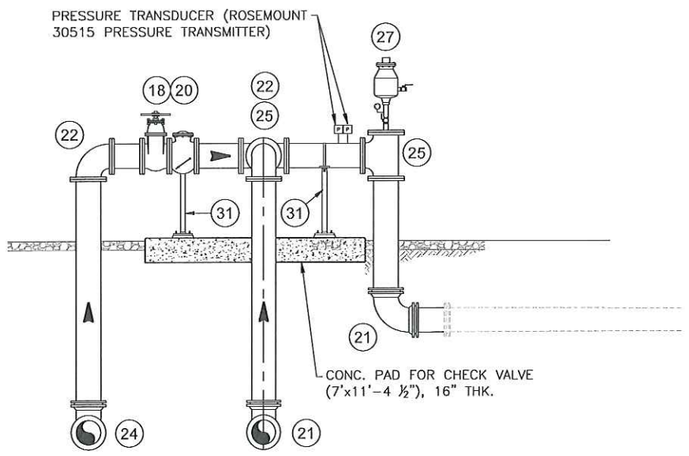
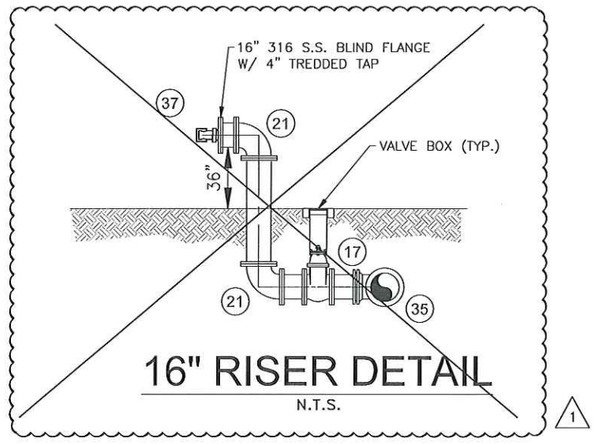


NOTE:
SEE DRAWINGS BY TETRA TECH
FOR ELECTRICAL CONNECTIONS.

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



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



16" RISER DETAIL
N.T.S.

1

FITTINGS and VALVES TAG LIST

TAG No.	DESCRIPTION	COMMENTS
1	10"x6" REDUCER	D.I., FLANGED
2	6" PLUG VALVE	D.I., FLANGED
3	6" CHECK VALVE	D.I., FLANGED
4	10"-90° BEND	D.I., FLANGED
5	10" CHECK VALVE	D.I., FLANGED
6	10" PLUG VALVE	D.I., FLANGED
7	10"x10"x10" TEE	D.I.,FLANGED w/ S.S. BLIND FLANGE
8	16"x16"x10 TEE	D.I., M.J., RESTRAINED
9	12" PLUG VALVE	D.I., FLANGED
10	12" CHECK VALVE	D.I., FLANGED
11	12"-90° BEND	D.I., FLANGED
12	12"-45° BEND	D.I., FLANGED
13	16"x12" REDUCER	D.I., FLANGED
14	16"x16"x12" TEE	D.I., M.J., RESTRAINED
15	12"x12"x12" TEE	D.I., FLANGED
16	12" FLOW METER	D.I., FLANGED
18	16" PLUG VALVE	D.I., FLANGED

FITTINGS and VALVES TAG LIST

TAG No.	DESCRIPTION	COMMENTS
19	16" ACTUATED PLUG VALVE	D.I., M.J.
20	16" CHECK VALVE	D.I., M.J. RESTRAINED
21	16"-90° BEND	D.I., M.J. RESTRAINED
22	16"-90° BEND	D.I., FLANGED
23	16"-45° BEND	D.I., MJ., RESTRAINED
24	16"x16"x16" TEE	D.I., M.J., RESTRAINED
25	16"x16"x16" TEE	D.I., FLANGED
26	18"x16" REDUCER	D.I., FLANGED
27	AIR RELEASE VALVE	STAINLESS STEEL
28	6"x6"x6" TEE	PVC
29	6"-90° BEND	PVC
30	D.I. FLOOR DRAIN	D.I. GRATE, 12" SQ. HEAVY-DUTY TOP
31	PIPE SUPPORT	PER COLLIER Co. DETAIL WW-7C
32	12" BLIND FLANGE	WITH 6" CAMLOCK
33	10" BLIND FLANGE	WITH 6" CAMLOCK
34	20" - 45° BEND	D.I., M.J., RESTRAINED

Collier County

Revision	Date	Description	By
1	10/2024	ADDENDUM NO. 1	D.C.M.

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: GGMPS
SCALE: AS NOTED

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Bonita Springs, Florida 34134

GOLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS

EQUIPMENT SECTIONS

ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88)
CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)1.270'

ALEXANDER PAUL DUNKO, P.E.
FLORIDA P.E. LICENSE NO. 88695

MUNICIPALITY: COLLIER COUNTY
SEC/TWN/RGE: 27 AND 28/49S/26E
DATE: FEBRUARY, 2024
SUBMITTAL TYPE: PHASE 1 BID
SHEET 13

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GENERAL NOTES

FOUNDATIONS

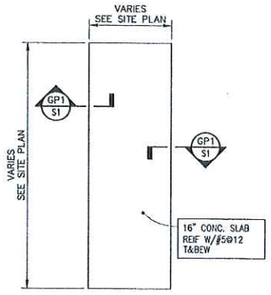
1. NO CONCRETE SHALL BE PLACED IN WATER OR ON FROZEN GROUND.
2. IN GENERAL, EXTERIOR CONSTRUCTION SHALL BE CARRIED DOWN A MINIMUM OF 2'-0" BELOW FINISHED EXTERIOR GRADE.
3. ALL FOUNDATIONS SHALL BEAR ON 12• OF COMPACTED GRAVEL ON UNDISTURBED SOIL WITH A BEARING CAPACITY OF NOT LESS THAN 2500 PSF.
4. ALL FINISHED EXCAVATIONS SHALL BE INSPECTED AND APPROVED BY THE ENGINEER OR HIS DESIGNEE BEFORE ANY CONCRETE IS PLACED.
5. ALL BACKFILL UNDER OR ADJACENT TO ANY PORTION OF THE STRUCTURES SHALL BE COMPACTED IN 12" LIFTS. SEE SPECIFICATIONS.
6. PROVIDE 6" GRAVEL, COMPACTED TO 90% MODIFIED PROCTOR DENSITY, UNDER All SLABS ON GRADE AND WHERE INDICATED ON THE DRAWINGS OVER WELL COMPACTED STRUCTURAL FILL

CONCRETE

1. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF THE SPECIFICATIONS, THE LATEST EDITION OF THE ACI BUILDING CODE (AC! 318) AND AC! 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS, AND TO THE FLORIDA BUILDING CODE. IN CASE OF CONFLICT, THE MORE STRINGENT REQUIREMENTS SHALL GOVERN.
2. All CONCRETE SHALL BE READY-MIXED IN ACCORDANCE WITH ASTM C94.
3. VERTICAL CONSTRUCTION JOINTS AND STOPS IN THE CONCRETE WORK SHALL BE MADE AT MIDSPAN. PROVIDE DOWELS AT CONSTRUCTION JOINTS OF AREA EQUAL TO 0.5% OF THE VERTICAL CONCRETE AREA. SEE SPECIFICATIONS. PROVIDE BEVELED KEYWAYS AT All CONSTRUCTION JOINTS.
4. AT LEAST 48 HOURS SHALL ELAPSE BEFORE DEPOSITING NEW CONCRETE• AGAINST PREVIOUSLY PLACED CONCRETE.
5. All CONCRETE SHALL ATTAIN THE FOLLOWING MINIMUM COMPRESSIVE STRENGTHS AT 28 DAYS AGE: FOOTINGS AND INTERIOR CONCRETE SLABS - 4,000 PSI., CONCRETE EXPOSED TO THE ELEMENTS (EXTERIOR SLABS) CONCRETE EXPOSED TO SEWAGE - 4,000 PSI. REFER TO SPECIFICATIONS AND AC! 301 FOR DESIGN STRENGTHS REQUIRED FOR SELECTING MIX PROPORTIONS.
6. ALL SLABS ON GRADE SHALL BE PLACED IN ALTERNATE PANELS NOT EXCEEDING 900 S.F.

REINFORCING

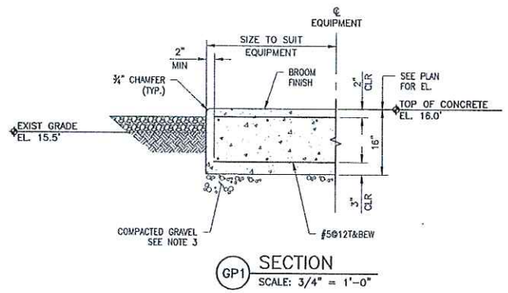
1. ALL REINFORCING BAR DETAILS SHALL CONFORM TO THE LATEST ACI CODE AND DETAILING MANUAL, EXCEPT AS OTHERWISE SPECIFIED.
2. ALL REINFORCING BARS SHALL CONFORM TO ASTM A615 GRADE 60 EXCEPT TIES AND STIRRUPS GRADE 40. ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 AND SHALL BE PROVIDED IN FLAT SHEETS. LAPS SHALL BE STAGGERED AND SHALL BE 1-1/2 FULL MESH MIN.
3. SCHEDULE WITH THE SHOP DRAWINGS ALL NECESSARY ACCESSORIES TO HOLD REINFORCING SECURELY IN POSITION. MINIMUM REQUIREMENTS SHALL BE: HIGH CHAIRS - 4 FEET ON CENTERS; SLAB BOLSTERS - 3'-6" ON CENTERS; SUPPORT BARS FOR HIGH CHAIRS - #5.
4. All BARS, EXCEPT AS OTHERWISE NOTED, SHALL BE CONTINUOUS AND SHALL BE RUN CONTINUOUSLY AROUND CORNERS, LAPPED AT NECESSARY SPLICES, AND HOOKED AT DISCONTINUOUS ENDS. LAPS SHALL BE 30-BAR DIAMETER MINIMUM, UNLESS OTHERWISE NOTED.
5. THE CONCRETE PROTECTIVE COVERING FOR MAIN REINFORCEMENT SHALL BE, UNLESS SHOWN OTHERWISE:
   A FOOTING BOTTOMS...3 INCHES.
   B. COLUMNS, BEAMS AND FORMED SURFACES IN DIRECT CONTACT WITH SOIL OR EXPOSED TO THE WEATHER (EXCEPT SLABS)...2 INCHES.
   C. SLABS EXPOSED TO THE WEATHER... 1 INCH.
   D. INTERIOR SLABS...3/4 INCH.
6. ALL CONCRETE, UNLESS SPECIFICALLY NOTED TO BE PLAIN CONCRETE, SHALL BE REINFORCED.
7. All REINFORCING SHALL BE INSPECTED AND APPROVED BY THE ENGINEER OR HIS DESIGNEE BEFORE CONCRETE IS PLACED.



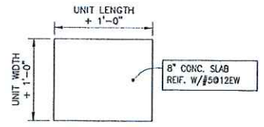
CONCRETE PAD SCHEDULE			
	X	Y	Z
EQUIPMENT PAD	13'-0"	22'-0"	16"
TRANSFORMER PAD	6'-0"	8'-0"	16"
FLOW METER PAD	7'-6"	38'-0"	16"

1

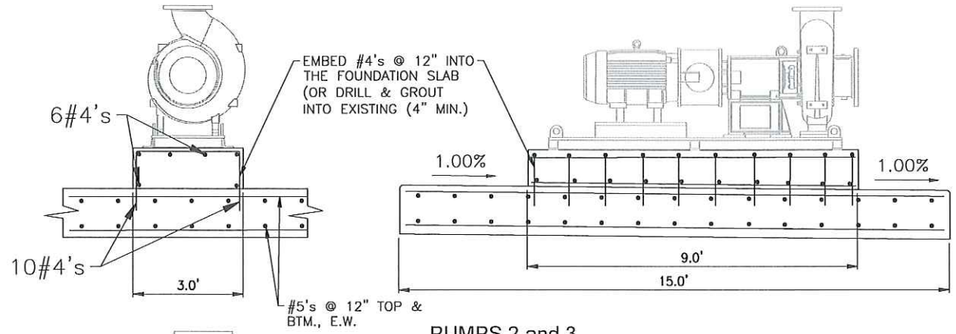
EQUIPMENT PAD, FLOW METER PAD, AND TRANSFORMER PAD
SCALE: 1/8" = 1'-0"



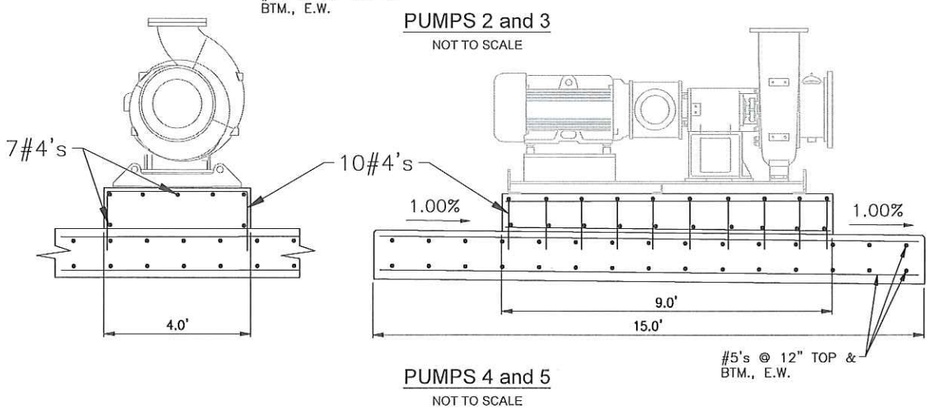
GP1 SECTION
SCALE: 3/4" = 1'-0"



3 PIPE SUPPORT
1/8" = 1'-0"

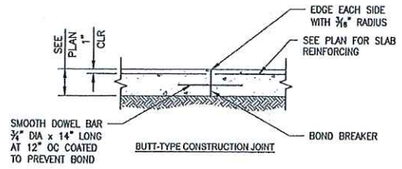


PUMPS 2 and 3
NOT TO SCALE



PUMPS 4 and 5
NOT TO SCALE

PUMP PEDESTAL DETAIL
NOT TO SCALE



1 SLAB ON GRADE DETAILS
SCALE: 3/4" = 1'-0"

LEGEND

Collier County

Revision	Date	Description	By
1	10/2024	ADDENDUM NO. 2	D.C.M.

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: GGMPS
SCALE: N.T.S.

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GOLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS

STRUCTURAL DETAILS

ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)1.270'

ALEXANDER PAUL DUNKO, P.E.
FLORIDA P.E. LICENSE NO. 88695

MUNICIPALITY: COLLIER COUNTY
SEC/TWN/RGE: 27 AND 28/49S/26E
DATE: FEBRUARY, 2024
SUBMITTAL TYPE: PHASE-1 BID
SHEET 14

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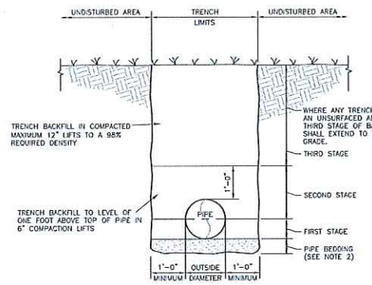


NOTES:

1. BACKFILL SHALL BE OF SUITABLE MATERIAL REMOVED FROM EXCAVATION EXCEPT WHERE OTHER MATERIAL IS SPECIFIED. BACKFILL MATERIAL SHALL CONSIST OF EARTH, LOAM, SANDY CLAY, GRAVEL, CRUSHED LIMESTONE, OR OTHER APPROVED MATERIAL. REFER TO TECHNICAL SPECIFICATIONS FOR DETAIL REQUIREMENTS.
2. IF TRENCH BOTTOM CONTAINS ROCK, THEN A MINIMUM OF A 6" PIPE BEDDING SHALL BE USED.

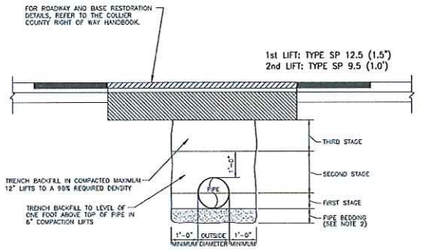
UNPAVED AREA TRENCH BACKFILL DETAIL

NTS

G-1

REVISED: APRIL 2006

PAVING WITHIN THE PUBLIC R.O.W. IS PER F.D.O.T. FLEXIBLE PAVEMENT DESIGN MANUAL, 2015 TABLE 5-5



NOTES:

1. BACKFILL SHALL BE OF SUITABLE MATERIAL REMOVED FROM EXCAVATION EXCEPT WHERE OTHER MATERIAL IS SPECIFIED. BACKFILL MATERIAL SHALL CONSIST OF EARTH, LOAM, SANDY CLAY, GRAVEL, CRUSHED LIMESTONE, OR OTHER APPROVED MATERIAL. REFER TO TECHNICAL SPECIFICATIONS FOR DETAIL REQUIREMENTS.
2. IF TRENCH BOTTOM CONTAINS ROCK, THEN A MINIMUM OF A 6" PIPE BEDDING SHALL BE USED.

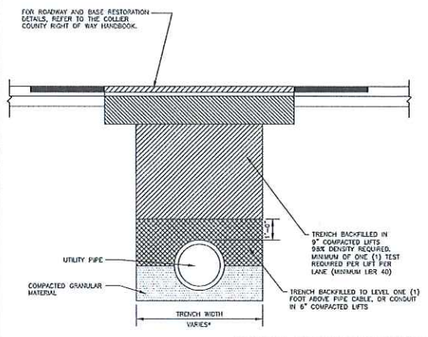
PAVED AREA TRENCH RESTORATION DETAIL FOR PRIVATE ROADS

NTS

REVISION	DATE: JULY 2018

Collier County Public Utilities Division

SHEET NO. G-2



*TRENCH WIDTH = PIPE OUTSIDE DIAMETER PLUS 2 FEET

NOTES:

1. ALL MODIFIED PROCTOR AND DENSITY TESTS SHALL BE TAKEN BY A CERTIFIED LABORATORY.
2. ALL TESTS SHALL BE COMPLETED AND SHALL MEET MINIMUM DENSITY REQUIREMENTS PRIOR TO ADDITIONAL BACKFILLING.
3. RIGHT-OF-WAY PERMIT STIPULATIONS OVERRIDE THIS DETAIL WHERE TRENCH IS LOCATED WITHIN A COUNTY RIGHT-OF-WAY.
4. ASPHALT PATCH AND TAPERS MUST BE FLUSH WITH ADJACENT ASPHALT AND CURBING.

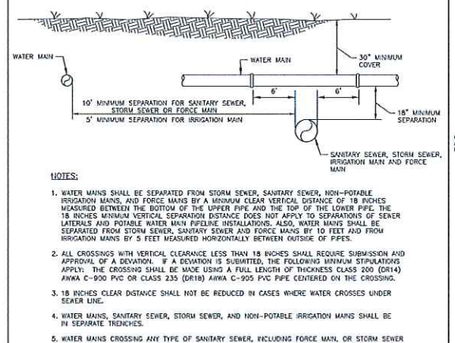
ROAD AND TRENCH RESTORATION FOR LOCAL ROADS

NTS

REVISION	DATE: JULY 2018

Collier County Public Utilities Division

SHEET NO. G-2B



NOTES:

1. WATER MAINS SHALL BE SEPARATED FROM STORM SEWER, SANITARY SEWER, NON-POTABLE IRRIGATION MAINS, AND FORCE MAINS BY A MINIMUM CLEAR VERTICAL DISTANCE OF 18 INCHES MEASURED BETWEEN THE BOTTOM OF THE UPPER PIPE AND THE TOP OF THE LOWER PIPE. THE 18 INCHES MINIMUM VERTICAL SEPARATION DISTANCE DOES NOT APPLY TO SEPARATIONS OF SEWER LATERALS AND POTABLE WATER MAIN PIPELINE INSTALLATIONS. ALSO, WATER MAINS SHALL BE SEPARATED FROM STORM SEWER, SANITARY SEWER AND FORCE MAINS BY 10 FEET AND FROM IRRIGATION MAINS BY 5 FEET MEASURED HORIZONTALLY BETWEEN OUTSIDE OF PIPES.
2. ALL CROSSINGS WITH VERTICAL CLEARANCE LESS THAN 18 INCHES SHALL REQUIRE SUBMISSION AND APPROVAL OF A DEVIATION. IF A DEVIATION IS SUBMITTED, THE FOLLOWING MINIMUM STIPULATIONS APPLY: THE CROSSING SHALL BE MADE USING A FULL LENGTH OF THICKNESS CLASS 200 (DR14) AWWA C-900 PVC OR CLASS 235 (DR18) AWWA C-905 PVC PIPE CENTERED ON THE CROSSING.
3. 18 INCHES CLEAR DISTANCE SHALL NOT BE REDUCED IN CASES WHERE WATER CROSSES UNDER SEWER LINE.
4. WATER MAINS, SANITARY SEWER, STORM SEWER, AND NON-POTABLE IRRIGATION MAINS SHALL BE IN SEPARATE TRENCHES.
5. WATER MAINS CROSSING ANY TYPE OF SANITARY SEWER, INCLUDING FORCE MAIN, OR STORM SEWER SHALL HAVE THE ONE FULL LENGTH OF WATER MAIN CENTERED ABOVE OR BELOW THE OTHER PIPELINE SO THAT THE WATER JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE. ALTERNATIVELY, AT SUCH CROSSINGS, THE PIPES SHALL BE ARRANGED SO THAT ALL WATER MAIN JOINTS ARE AT LEAST THREE FEET FROM ALL JOINTS IN VACUUM-TYPE SANITARY SEWERS, STORM SEWERS, STORMWATER FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER REGULATED UNDER PART III OF CHAPTER 62-610, FAC, AND AT LEAST SIX FEET FROM ALL JOINTS IN GRAVITY- OR PRESSURE-TYPE SANITARY SEWERS, FORCE MAINS, OR PIPELINES CONVEYING RECLAIMED WATER NOT REGULATED UNDER PART III OF CHAPTER 62-610.
6. IF THE VERTICAL SEPARATION BETWEEN GRAVITY SANITARY SEWER AND STORMWATER LINES IS LESS THAN 18 INCHES, THEN 57 STONE SHALL BE UTILIZED BETWEEN THE TWO LINES.
7. SEE SECTION 1- DESIGN CRITERIA FOR ADDITIONAL REQUIREMENTS.

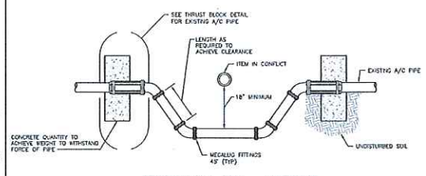
PIPE SEPARATION DETAIL

NTS

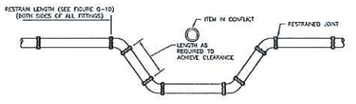
REVISION	DATE: JULY 2018

Collier County Public Utilities Division

SHEET NO. G-3



EXISTING A/C PIPE - HEADWALL



NEW & EXISTING PIPE - RESTRAINED JOINT

NOTES

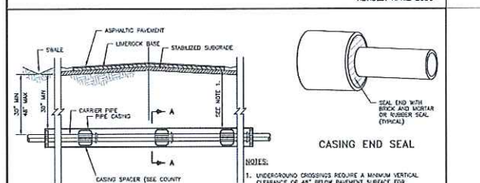
1. SEE SECTION 1 - DESIGN CRITERIA FOR AIR RELEASE VALVE REQUIREMENTS.

PIPE CONFLICT DETAILS

NTS

G-4

REVISED: APRIL 2006



CASING END SEAL

NOTES:

1. UNDERGROUND CROSSINGS REQUIRE A MINIMUM VERTICAL CLEARANCE OF 48" BELOW PAVEMENT SURFACE FOR FREEWAYS, 36" FOR OTHER HIGHWAYS AND SUBAQUEOUS CROSSINGS OR 30" BELOW UNPAVED GROUND INCLUDING DITCH GRADE PER FLORIDA D.O.T.
2. SEE TECHNICAL SPECIFICATIONS FOR CARRIER PIPE AND CASING PIPE REQUIREMENTS.

STAINLESS STEEL SPACERS:

1. SPACERS SHALL BE BOLT-ON STYLE WITH A TWO PIECE SOLID SHELL MADE FROM T-304 STAINLESS STEEL OF A MINIMUM 14 GAUGE THICKNESS. THE SHELL SHALL BE LINED WITH A RIBBED PVC SHEET OF A 0.090" THICKNESS THAT OVERLAPS THE EDGES. RUNNERS MADE FROM UHMW POLYMER SHALL BE ATTACHED TO RIDERS AT APPROPRIATE POSITIONS TO PROPERLY LOCATE THE CARRIER WITHIN THE CASING AND TO EASE INSTALLATION. RIDERS SHALL BE MADE FROM T-304 STAINLESS STEEL OF A MINIMUM 14 GAUGE THICKNESS AND SHALL BE ATTACHED TO THE SHELL BY MIG WELDING. ALL WELDS SHALL BE FULLY PASSIVATED. ALL FASTENERS SHALL BE MADE FROM T-304 STAINLESS STEEL. CASING SPACERS (SEE COUNTY APPROVED PRODUCT LIST, APPENDIX F).

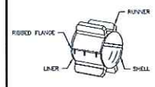
PLACEMENT OF SPACERS ON CARRIER PIPE:

1. GENERAL - ONE SPACER SHALL BE PLACED NOT MORE THAN TWO FEET FROM EACH END OF CASING. SUBSEQUENT SPACERS SHALL BE PLACED AT 6' TO 10' INTERVALS WITHIN THE CASING, OR IN ACCORDANCE WITH PIPE MANUFACTURER'S RECOMMENDATIONS.
2. PVC CARRIER - ONE SPACER SHALL BE PLACED ON THE SPIGOT END OF EACH SEGMENT AT THE LINE MARKING THE LIMIT OF INSERTION INTO THE BELL. WHEN THE JOINT IS COMPLETE, THE SPACER SHALL BE IN CONTACT WITH THE BELL OF THE JOINT SO THAT THE SPACER PUSHES THE JOINT AND REDUCES COMPRESSION WITHIN THE JOINT. SUBSEQUENT SPACERS SHALL BE PLACED AT 6' TO 10' INTERVALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

CARRIER PIPE:

1. CARRIER PIPE SHALL BE CENTERED WITHIN CASING BY USE OF STAINLESS STEEL CASING SPACERS (SEE COUNTY APPROVED PRODUCT LIST, APPENDIX F).

SECTION A-A



SPACER

STANDARD NUMBER OF RUNNERS REQUIRED

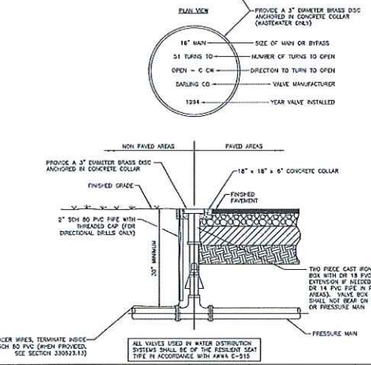
UP TO 14" CARRIER PIPE	- 4 REQUIRED
OVER 14" THROUGH 36" CARRIER PIPE	- 6 REQUIRED
OVER 36" THROUGH 48" CARRIER PIPE	- 7 REQUIRED

JACK AND BORE DETAIL

NTS

G-5

REVISED: AUGUST 2008



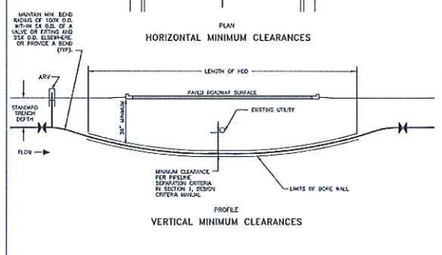
TYPICAL VALVE SETTING DETAIL

NTS

REVISION	DATE: JULY 2018

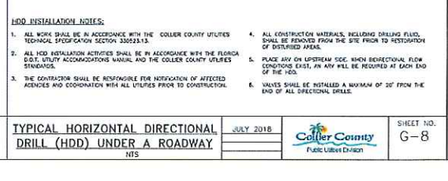
Collier County Public Utilities Division

SHEET NO. G-7



PLAN

HORIZONTAL MINIMUM CLEARANCES



PROFILE

VERTICAL MINIMUM CLEARANCES

HDD INSTALLATION NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE COLLIER COUNTY UTILITIES TECHNICAL SPECIFICATION SECTION 330523.13.
2. ALL HDD INSTALLATION ACTIVITIES SHALL BE IN ACCORDANCE WITH THE FLORIDA D.O.T. UTILITY ACCOMMODATIONS MANUAL AND THE COLLIER COUNTY UTILITIES STANDARDS.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF AFFECTED AGENCIES AND COORDINATION WITH ALL UTILITIES PRIOR TO CONSTRUCTION.
4. ALL CONSTRUCTION MATERIALS, INCLUDING DRILLING FLUID, SHALL BE REMOVED FROM THE SITE PRIOR TO RESTORATION OF DISTURBED AREAS.
5. PLACE ARV ON UPSTREAM SIDE, WHEN BIDIRECTIONAL FLOW CONDITIONS EXIST, AN ARV WILL BE REQUIRED AT EACH END OF THE HDD.
6. VALVES SHALL BE INSTALLED A MAXIMUM OF 20' FROM THE END OF ALL DIRECTIONAL DRILLS.

TYPICAL HORIZONTAL DIRECTIONAL DRILL (HDD) UNDER A ROADWAY

NTS

REVISION	DATE: JULY 2018

Collier County Public Utilities Division

SHEET NO. G-8

PIPE SIZE IN INCHES	RESTRAINED PIPE LENGTH IN FEET (1)						
	HORIZONTAL BENDS				DEAD ENDS (2)	45° VERTICAL BENDS	
	90°	45°	22-1/2°	11-1/4°		UPPER	LOWER
4	23	9	5	2	55	23	8
6	32	13	6	3	77	32	11
8	40	17	8	4	100	41	14
10	48	20	10	5	120	50	17
12	56	23	11	6	141	58	20
16	71	29	14	7	181	75	25
18	77	32	15	8	200	83	28
20	84	35	17	8	218	90	30
24	96	40	19	10	253	105	35
30	112	47	22	11	303	125	41
36	127	53	25	13	350	145	47

PIPE SIZE IN INCHES	RESTRAINED PIPE LENGTH IN FEET (1)	
	TEE (3)	REDUCER (4)
6 x 4	0	40
6 x 6	34	
8 x 4	0	72
8 x 8	55	
10 x 6	3	74
10 x 10	75	
12 x 4	0	122
12 x 8	31	75
12 x 12	93	
16 x 6	0	153
16 x 10	44	107
16 x 16	134	
18 x 8	0	157
18 x 12	68	108
18 x 18	152	
20 x 10	20	161
20 x 16	120	77
20 x 20	170	
24 x 12	37	187
24 x 18	132	109
24 x 24	204	
30 x 16	78	213
30 x 20	138	165
30 x 30	252	
36 x 18	84	259
36 x 24	170	191
36 x 36	298	

NOTES:

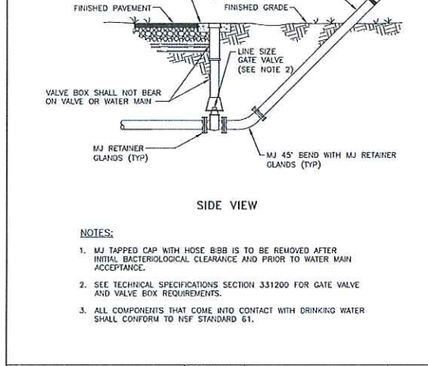
1. RESTRAIN ALL PIPE JOINTS WITHIN THE DISTANCE SHOWN ON THE TABLES MEASURED FROM THE POINT OF CONNECTION.
2. ISOLATION VALVES SHALL BE TREATED AS DEAD ENDS WITH RESTRAINT ON BOTH SIDES OF THE VALVE.
3. RESTRAINT IS FOR BRANCH OF TEE. IF BRANCH SIZE IS NOT ON TABLE, USE NEXT LARGEST BRANCH.
4. RESTRAINT IS FOR LARGE DIAMETER SIDE OF REDUCER. IF REDUCER SIZE IS NOT ON TABLE, USE NEXT SMALLER REDUCER (SMALL END).
5. THIS SCHEDULE IS TO BE USED FOR DUCTILE IRON AND PVC PIPE.

PIPE RESTRAINT SCHEDULE

NTS

G-10

REVISED: APRIL 2006



SIDE VIEW

NOTES:

1. MJ TAPPED CAP WITH HOSE BIBB IS TO BE REMOVED AFTER INITIAL BACTERIOLOGICAL CLEARANCE AND PRIOR TO WATER MAIN ACCEPTANCE.
2. SEE TECHNICAL SPECIFICATIONS SECTION 331200 FOR GATE VALVE AND VALVE BOX REQUIREMENTS.
3. ALL COMPONENTS THAT COME INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO NSF STANDARD 61.

TEMPORARY BLOWOFF ASSEMBLY WITH BACTERIAL SAMPLING POINT DETAIL

NTS

REVISION	DATE: MAY 2013

Collier County Public Utilities Division — COLLIER COUNTY BOARD OF COUNTY COMMISSIONERS

SHEET NO. W-1

Collier County

Revision	Date	Description	By

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: GGMPS
SCALE: 11x17 1"=20'

GradyMinor

Civil Engineers • Land Surveyors • Planners • Landscape Architects
Cert. of Auth. EB 0005151 • Cert. of Auth. LB 0005151 • Business LC 26000266

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Bonita Springs, Florida 34134

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GOLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS

MISCELLANEOUS DETAILS

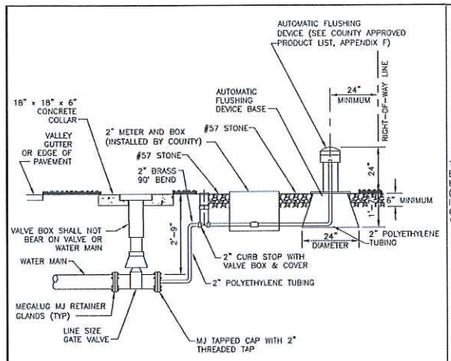
ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)1.270'

ALEXANDER PAUL DURKO, P.E.
FLORIDA P.E. LICENSE NO. 88695

MUNICIPALITY: COLLIER COUNTY
SEC/TWN/RGE: 27 AND 28/49S/26E
DATE: FEBRUARY, 2024
SUBMITTAL TYPE: PHASE 1 BID

SHEET 15

G:\ENGINEERING\PROJ-ENG\GCMPS\01DWGS\SUBMITTALTYPE\CONST PLANS\GCMPS DETAILS 10/22/2024 12:50 PM

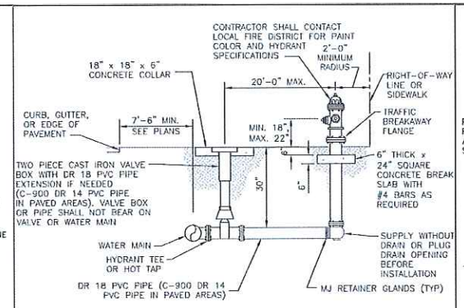


NOTES:

1. PIPING SHALL BE INSTALLED UP TO 2" CURB STOP WITH VALVE BOX AND COVER AT TIME OF MAIN INSTALLATION.
2. AUTOMATIC FLUSHING DEVICE SHALL BE SHUT OFF UNTIL MAIN LINE HAS BEEN BACTERIOLOGICALLY TESTED.
3. SEE TECHNICAL SPECIFICATIONS SECTION 331200 FOR GATE VALVE AND VALVE BOX REQUIREMENTS.
4. AT TIME OF ACCEPTANCE, WATER DEPARTMENT WILL INSTALL 2" METER.
5. ALL COMPONENTS THAT COME INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO NSF STANDARD 61.

AUTOMATIC WATER MAIN FLUSHING DEVICE DETAIL
NTS

REVISION DATE:	SHEET NO.
MAY 2013	W-2

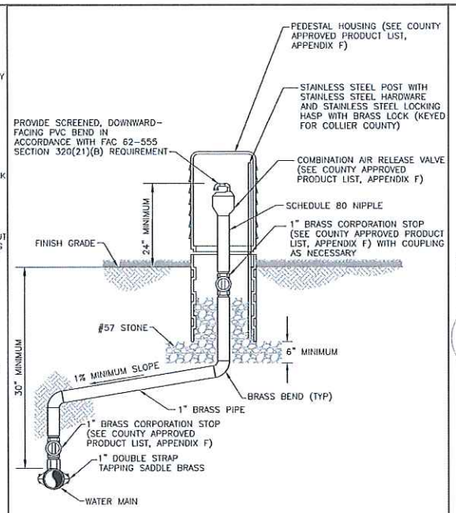


NOTES:

1. HYDRANT MUST BE CURRENT YEAR MANUFACTURE AND YEAR OF MANUFACTURE MUST BE CAST ON BARREL.
2. ALL EXISTING MAINS WHERE FIRE HYDRANTS ARE TO BE INSTALLED SHALL BE HOT TAPPED.
3. TAPPING SADDLES MAY BE EITHER STAINLESS STEEL OR DUCTILE IRON. ALL TAPPING SADDLES FOR ASBESTOS CEMENT PIPE SHALL BE STAINLESS STEEL.
4. ALL FIRE HYDRANT BARRELS SHALL BE A MINIMUM 5-1/4" IN DIAMETER.
5. ALL FIRE HYDRANTS INSTALLED SHALL BE OF THE BREAK AWAY FLANGE TYPE AND SHALL MEET THE REQUIREMENTS OF THE LOCAL FIRE CONTROL DISTRICT.
6. HYDRANT SHALL CONFORM WITH AWWA C-502.
7. THRUST RESTRAINT SHALL BE BY MJ RETAINER GLANDS.
8. ALL COMPONENTS THAT COME INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO NSF STANDARD 61.

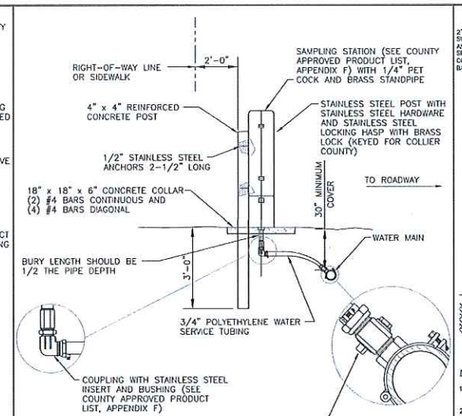
FIRE HYDRANT DETAIL
NTS

REVISION DATE:	SHEET NO.
JULY 2015	W-3



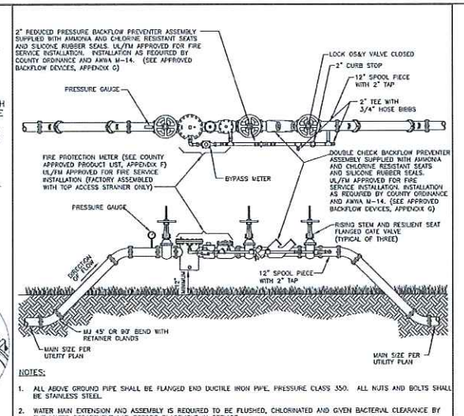
POTABLE WATER AIR RELEASE VALVE DETAIL
NTS

W-5
REVISED: AUGUST 2008



PERMANENT BACTERIAL SAMPLE POINT DETAIL
NTS

W-6
REVISED: AUGUST 2008



NOTES:

1. ALL ABOVE GROUND PIPE SHALL BE FLANGED END DUCTILE IRON PIPE, PRESSURE CLASS 350. ALL NUTS AND BOLTS SHALL BE STAINLESS STEEL.
2. WATER MAIN EXTENSION AND ASSEMBLY IS REQUIRED TO BE FLUSHED, CHLORINATED AND GIVEN BACTERIAL CLEARANCE BY THE WATER DEPARTMENT LAB BEFORE PLACEMENT IN SERVICE.
3. BACKFLOW UNIT AND METER REQUIRES INITIAL CERTIFICATION FOR OPERATION AND ACCURACY WITH RESULTS AND ANNUAL TESTS SUBMITTED TO THE COLLIER COUNTY WATER DEPARTMENT.
4. INSPECTIONS ARE REQUIRED FOR SYSTEM TIE-IN AND ASSEMBLY CONNECTION.
5. THIS ASSEMBLY SHALL BE PAINTED WITH RED EPOXY PAINT.
6. ALL COMPONENTS THAT COME INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO NSF STANDARD 61.
7. A 4'X8' SIGN WITH 3" LETTERS OR BIGGER SHALL READ: "IN CASE OF FIRE, OPEN VALVE."
8. A REDUCED PRESSURE DETECTOR BACKFLOW ASSEMBLY SHALL BE USED WHEN HIGH HAZARDS, AS DEFINED BY AWWA M-14 (e.g., RISK OF CHEMICAL ADDITION, MEDICAL FACILITIES, INDUSTRIAL FACILITIES, PROPERTIES USING RECLAIMED WATER, ETC.), EXIST.

TEMPORARY BACKFLOW PREVENTER AND FIRE PROTECTION METER TIE-IN ASSEMBLY
NTS

W-9
REVISED: JULY 2011

NOTES:

1. ALL ABOVE GROUND PIPE SHALL BE FLANGED END DUCTILE IRON PIPE, PRESSURE CLASS 350. ALL NUTS AND BOLTS SHALL BE STAINLESS STEEL.
2. WATER MAIN EXTENSION AND ASSEMBLY IS REQUIRED TO BE FLUSHED, CHLORINATED AND GIVEN BACTERIAL CLEARANCE BY THE WATER DEPARTMENT LAB BEFORE PLACEMENT IN SERVICE.
3. BACKFLOW UNIT AND METER REQUIRES INITIAL CERTIFICATION FOR OPERATION AND ACCURACY WITH RESULTS AND ANNUAL TESTS SUBMITTED TO THE COLLIER COUNTY WATER DEPARTMENT.
4. INSPECTIONS ARE REQUIRED FOR SYSTEM TIE-IN AND ASSEMBLY CONNECTION.
5. THIS ASSEMBLY SHALL BE PAINTED WITH RED EPOXY PAINT.
6. ALL COMPONENTS THAT COME INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO NSF STANDARD 61.
7. A 4'X8' SIGN WITH 3" LETTERS OR BIGGER SHALL READ: "IN CASE OF FIRE, OPEN VALVE."
8. A REDUCED PRESSURE DETECTOR BACKFLOW ASSEMBLY SHALL BE USED WHEN HIGH HAZARDS, AS DEFINED BY AWWA M-14 (e.g., RISK OF CHEMICAL ADDITION, MEDICAL FACILITIES, INDUSTRIAL FACILITIES, PROPERTIES USING RECLAIMED WATER, ETC.), EXIST.

ALTERNATE TEMPORARY BACKFLOW PREVENTER AND FIRE PROTECTION METER TIE-IN ASSEMBLY
NTS

W-9A
REVISED: JULY 2011

ELEVATION

SEWER CLEAN-OUT DETAIL NON PAVED AREAS
NTS

REVISION DATE:	SHEET NO.
MAY 2013	WW-12

SERVICE CONNECTION SIZING CHART				
SINGLE SERVICE	CONNECTION TO MAIN	DOUBLE SERVICE	CONNECTION TO MAIN	BRANCH SIZE
¾" METER	1-¼"	(2) ¾" METERS	1-½"	1"
1" METER	1-¼"	(2) 1" METERS	1-½"	1"
1-½" METER	1-½"			
2" METER	2"			

NOTES:

1. 1-½" AND LARGER METERS SHALL BE SERVED BY SINGLE SERVICES ONLY.
2. WYE CONNECTORS (SEE COUNTY APPROVED PRODUCT LIST, APPENDIX F) SHALL BE USED FOR MULTI-SERVICE. SUCCESSIVE TAPS INTO WATER MAIN WILL BE NO CLOSER THAN 24" APART.
3. ALL CASING PIPE SHALL EXTEND A MINIMUM OF 5' BEYOND THE EDGE OF PAVEMENT, WITH A CASING DIAMETER TO BE NO LESS THAN 4". CONDUIT SHALL BE MARKED WITH A ELECTRONIC MARKER (SEE COUNTY APPROVED PRODUCT LIST, APPENDIX F).
4. TAPPING SADDLE, CORPORATION STOP, POLY TUBING, CURB STOP, AND METER BOXES SHALL BE INSTALLED BY UNDERGROUND UTILITY CONTRACTOR AT THE TIME OF WATER MAIN INSTALLATION.
5. MATERIAL SPECIFICATIONS:
   A. TAPPING SADDLES SHALL BE DOUBLE STRAP BRASS OR DUCTILE IRON (SEE COUNTY APPROVED PRODUCT LIST, APPENDIX F).
   B. CORPORATION STOPS (SEE COUNTY APPROVED PRODUCT LIST, APPENDIX F) SHALL BE BALL TYPE AND MADE OF RED BRASS. OUTLET SHALL BE COMPRESSION PIPE POLYETHYLENE TUBE. COMPRESSION RISERS SHALL BE STAINLESS STEEL.
   C. CURB STOPS (SEE COUNTY APPROVED PRODUCT LIST, APPENDIX F) SHALL BE BALL TYPE AND MADE OF RED BRASS. INLET SHALL BE COMPRESSION JOINT. OUTLET SHALL BE SWIVEL NUT FOR METER CONNECTION.
   D. TUBING SHALL BE POLYETHYLENE, PE4710, (IAWWA C-901, DR 9) AND BLUE IN COLOR.
6. ALL PLASTICS SHALL BE A MINIMUM 3" FROM METER BOX, AND SHALL PROVIDE A 3" ACCESS OPENING.
7. ALL COMPONENTS THAT COME INTO CONTACT WITH DRINKING WATER SHALL CONFORM TO NSF STANDARD 61 AND THE REDUCTION OF LEAD IN DRINKING WATER ACT AMENDING THE SAFE DRINKING WATER ACT.

SERVICE CONNECTION SIZING CHART AND NOTES

REVISION DATE:	SHEET NO.
JULY 2016	W-12A

PRECAST REINFORCED CONCRETE MANHOLE DETAIL
NTS

REVISION DATE:	SHEET NO.
JULY 2016	WW-3

SHALLOW MANHOLE DETAIL
NTS

WW-4
REVISED: AUGUST 2008

Collier County

Revision	Date	Description	By

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: GGMPS
SCALE: 11x17 1"=20'

GradyMinor
Civil Engineers • Land Surveyors • Planners • Landscape Architects
Cert. of Auth. EB 0005151 Cert. of Auth. LB 0005151 Business LC 26000266
Bonita Springs: 239.947.1144 www.GradyMinor.com Fort Myers: 239.690.4380
Q. Grady Minor and Associates, P.A.
3800 Via Del Rey
Bonita Springs, Florida 34134

GOLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS

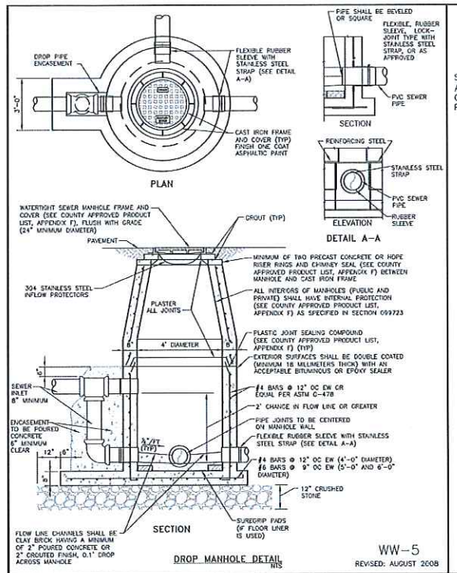
MISCELLANEOUS DETAILS

ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)1.270'

ALEXANDER PAUL DUNKO, P.E.
FLORIDA P.E. LICENSE NO. 88695

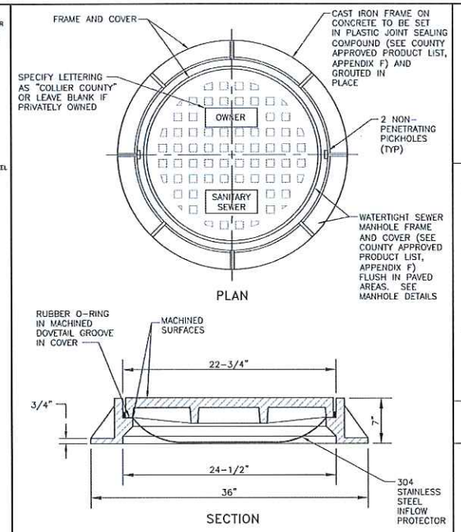
MUNICIPALITY: COLLIER COUNTY
SEC/TWN/RGE: 27 AND 28/49S/26E
DATE: FEBRUARY, 2024
SUBMITTAL TYPE: PHASE 1 BID
SHEET 16

G:\ENGINEERING\PROJ-ENG\GGMPS\10 DWGS\SUBMITTALTYPE\CONST PLANS\GGMPS_DETAILS 10/22/2024 12:50 PM



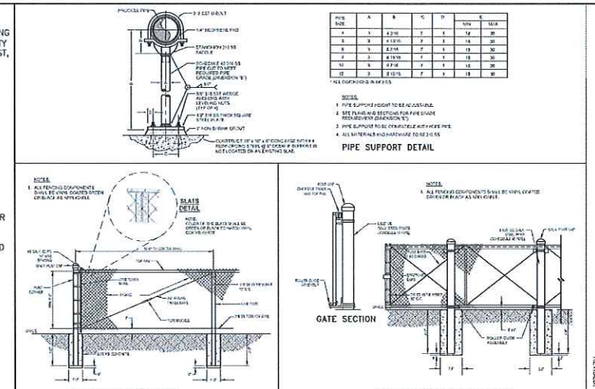
DROP MANHOLE DETAIL
NTS

WW-5
REVISED: AUGUST 2008



MANHOLE RING AND COVER DETAIL
NTS

WW-6
REVISED: AUGUST 2008

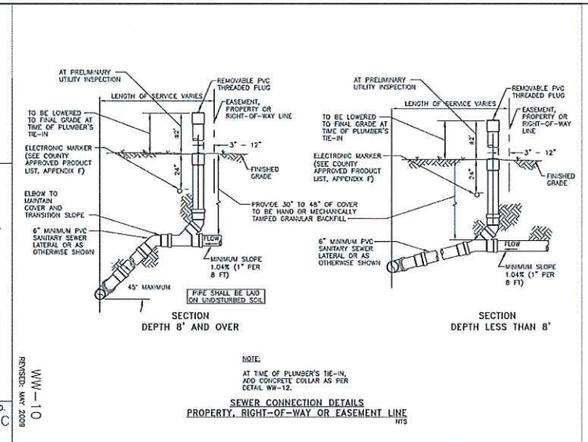


PUMP STATION AND WASTEWATER DETAILS
NTS

REVISION DATE:
JULY 2018

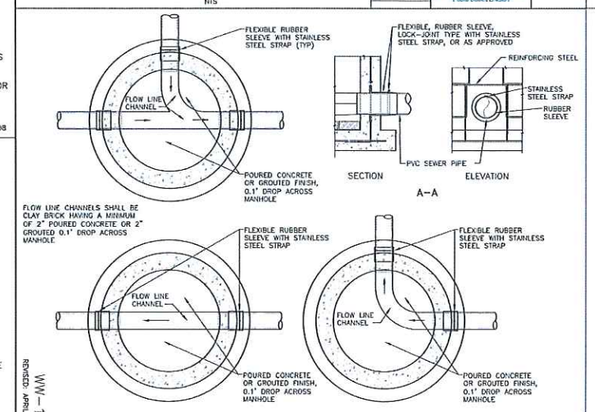
Collier County Public Utilities Division

SHEET NO. WW-7C



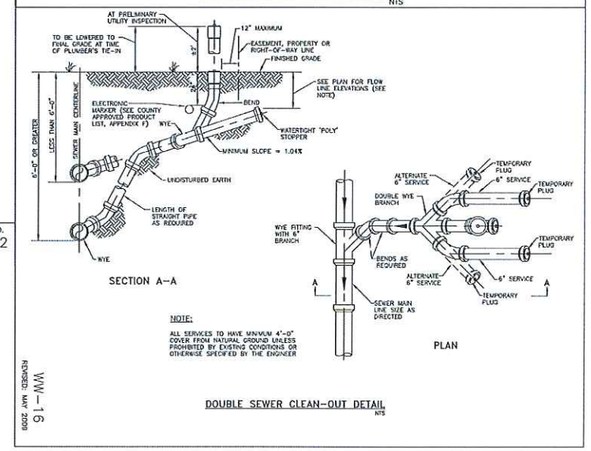
SEWER CONNECTION DETAILS
PROPERTY, RIGHT-OF-WAY OR EASEMENT LINE
NTS

WW-10
REVISED: JAN 2009



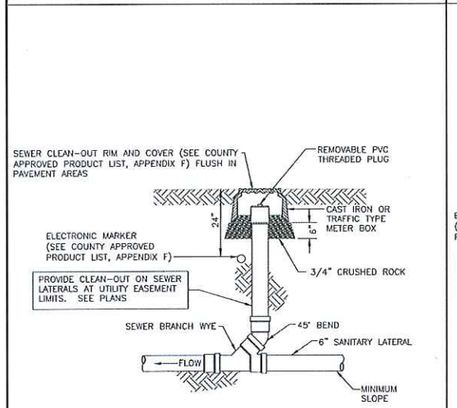
TYPICAL FLOW LINE CHANNELS DETAIL
NTS

WW-15
REVISED: MAY 2008



DOUBLE SEWER CLEAN-OUT DETAIL
NTS

WW-16
REVISED: MAY 2008

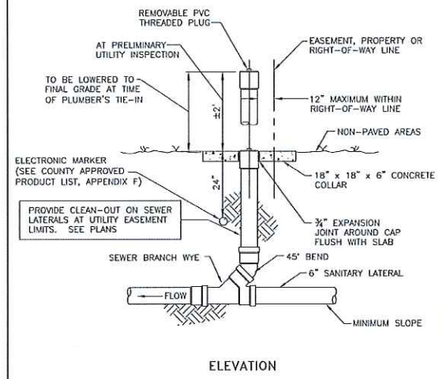


SEWER CLEAN-OUT DETAIL
PAVED AREAS
NTS

REVISION DATE:
JULY 2018

Collier County Public Utilities Division

SHEET NO. WW-11



SEWER CLEAN-OUT DETAIL
NON PAVED AREAS
NTS

REVISION DATE:
MAY 2013

Collier County Public Utilities Division, 3301 E. Tamiami Trail, Naples, Florida 34112

SHEET NO. WW-12

HOSE BIBB DETAIL
NOT TO SCALE

Collier County

Revision	Date	Description	By

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: GGMPS
SCALE: 11x17 1"=20'

GradyMinor

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Cert. of Auth. EB 0005151 • Cert. of Auth. LB 0005151 • Business LC 26000266

Bonita Springs: 239.947.1144 www.GradyMinor.com Fort Myers: 239.690.4380

Q. Grady Minor and Associates, P.A.
3800 Via Del Rey
Bonita Springs, Florida 34134

GOLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS

MISCELLANEOUS DETAILS

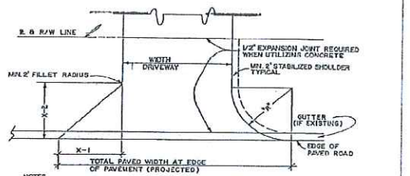
ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)1.270'

ALEXANDER PAUL DUNKO, P.E.
FLORIDA P.E. LICENSE NO. 88695

MUNICIPALITY: COLLIER COUNTY
SEC/TWN/RGE: 27 AND 28/49S/26E
DATE: FEBRUARY, 2024
SUBMITTAL TYPE: PHASE 1 BID
SHEET 17

G:\ENGINEERING\PROJ-ENG\GGMPS\01 DWGS\SUBMITTALTYPE\CONST PLANS\GGMPS_DETAILS 10/22/2024 12:50 PM

SINGLE FAMILY & DUPLEX DRIVEWAY

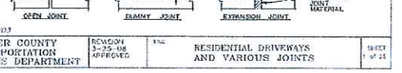


NOTES:
1. TURNOUT DIMENSIONS X-1&X-2) SHALL BE REQUIRED WHEN USING CONCRETE UNLESS OTHERWISE APPROVED.
2. WHERE GUTTER IS USED THE DIMENSIONS SHOWN SHALL BE AS PROJECTED FROM EDGE OF PAVEMENT.
3. FLORIDA DOT, PRIMARY AND SECONDARY AND COUNTY ARTERIAL STREETS REQUIRE MINIMUM DIMENSIONS OF 15 FOOT EDGE WIDTH WITH A MINIMUM RADIUS OF 15 FOOT. (REGARDLESS OF DRIVE WIDTH — A 15 FOOT RADIUS WILL BE REQUIRED)

MINIMUM DRIVEWAY DIMENSION COMBINATION

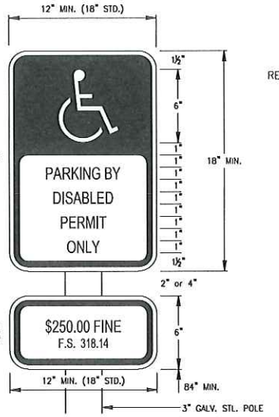
DRIVEWAY WIDTH	RADIUS FILLET	TOTAL WIDTH	TURNOUT X-1	TURNOUT X-2	TOTAL WIDTH
10'	10'	30'	10'	8'	30'
11'	9'	30'	9'	7'	30'
12'	8.5'	30'	8.5'	6.5'	30'
14'	8	30'	8'	6'	30'
15'	7.5'	30'	7.5'	6.5'	30'
16'	7'	30'	7'	5'	30'
17'	6.5'	30'	6.5'	4.5'	30'
18'	6'	30'	6'	4'	30'
19'	5.5'	30'	5.5'	4'	30'
20'	5'	30'	5'	4'	30'
21'	4.5'	30'	4.5'	3'	30'
22'	4'	30'	4'	3'	30'
23'	3'	30'	3'	3'	30'

NOTES:
THESE DIMENSION ARE NOT APPLICABLE TO DRIVEWAYS CONSTRUCTED ADJOINED OLD DO, SHARP AND SHARP RADIUS. CONTACT THE ENGINEERING DEPARTMENT FOR DETAILS CONCERNING VARIANCES.



gh/date 04/15/03

COLLIER COUNTY TRANSPORTATION OPERATIONS DEPARTMENT	REVISION 3-25-08 APPROVED	TITLE RESIDENTIAL DRIVEWAYS AND VARIOUS JOINTS	SHEET 1 OF 25

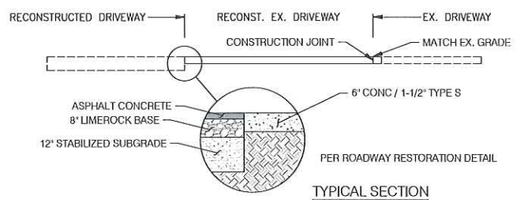


NOTES:

SIGNS FTP-21-06 & FTP-22-06 SHALL BE IN ACCORDANCE WITH FDOT PLANS INDEX 700-102 AND SHALL MEET THE REQUIREMENTS OF FLORIDA STATUTES 316.1955

* SUPPLEMENTAL PANEL TO BE USED AS PER LOCAL REQUIREMENTS WHEN NEEDED.

ACCESSIBLE SIGN DETAILS R7-8-FL & R7-8-250 N.T.S. 1

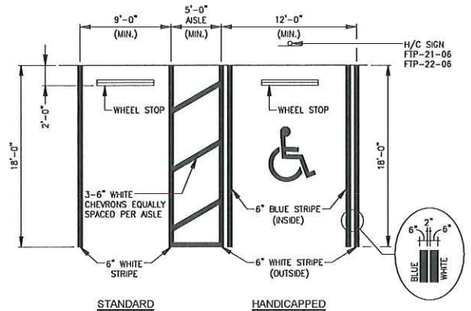


TYPICAL SECTION

ASPHALT DRIVEWAY CONSTRUCTION NOTES:

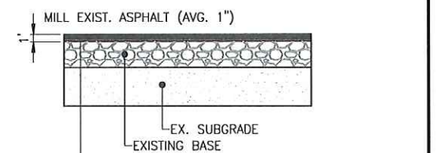
1. SAW CUT IN A STRAIGHT LINE THE EXISTING EDGE OF PAVEMENT & EXISTING DRIVEWAY (WHERE APPLICABLE) AT MATCH LINE.
2. DRIVEWAYS FOR RESIDENTIAL USE SHALL BE CONSTRUCTED ON A STABILIZED SUBGRADE USING A MINIMUM OF SIX INCHES OF COMPACTED LIMEROCK BASE OR FOUR INCHES OF ABC-3 ('BLACK BASE') WITH ONE AND ONE-HALF INCHES OF ASPHALT CONCRETE SURFACE COURSE, CONFORMING TO F.D.O.T. SPECIFICATIONS FOR TYPE S.
3. DRIVEWAYS FOR MULTI-FAMILY, COMMERCIAL OR INDUSTRIAL USE SHALL BE CONSTRUCTED ON A STABILIZED SUBGRADE, USING A MINIMUM OF EIGHT INCHES OF COMPACTED LIMEROCK BASE (LBR-100) OR SIX INCHES OF ABC-3 ('BLACK BASE') WITH TWO INCHES OF ASPHALT CONCRETE SURFACE COURSE CONFORMING TO F.D.O.T. SPECIFICATIONS FOR TYPE S.
4. FOR GRAVEL DRIVEWAYS, BLEND IN EXISTING DRIVEWAY AT TERMINATION OF NEW APRON WITH LIKE MATERIAL (GRAVEL) AT PROPERTY LINE.

DRIVEWAY RESTORATION DETAIL
N.T.S.

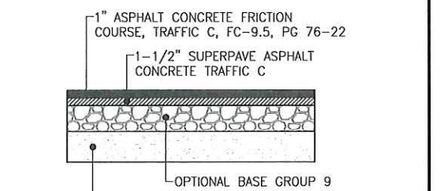


NOTES:
1. DIMENSIONS ARE TO CENTERLINE OF MARKINGS.
2. BLUE PAVEMENT MARKINGS SHALL BE TINTED TO MATCH 15180 OF FEDERAL STANDARDS 595a.
3. THE FTP-22-06 PANEL SHALL BE MOUNTED BELOW THE FTP-21-06 SIGN.
4. STRIPING PER FDOT PLANS INDEX 711-001

TYPICAL PARKING SPACES DETAIL N.T.S. 1



TYPICAL TURNOUT MILLING & RESURFACING SECTION N.T.S. 1

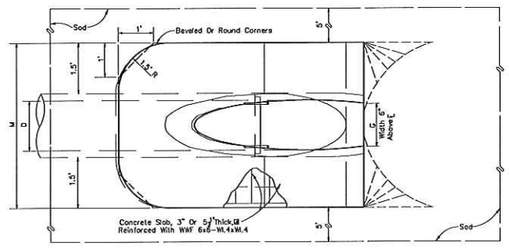


1. LIMEROCK BASE MUST EXTEND 4" BEYOND EDGE OF PAVEMENT.
2. STABILIZED SUBGRADE MUST EXTEND 12" BEYOND EDGE OF PAVEMENT.

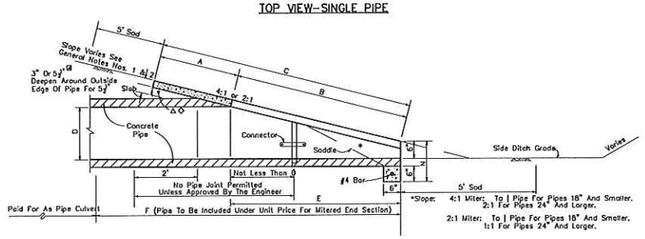
TYPICAL DRIVEWAY WIDENING SECTION N.T.S. 1

DIMENSIONS AND QUANTITIES

	D	X	A	B	C	E	F	G	M Single Pipe	M Double Pipe	M Triple Pipe	M Quad. Pipe	N	5½" CONCRETE SLAB (CY) Single Pipe	5½" CONCRETE SLAB (CY) Double Pipe	5½" CONCRETE SLAB (CY) Triple Pipe	5½" CONCRETE SLAB (CY) Quad. Pipe	SODDING (SQ. YDS.) Single Pipe	SODDING (SQ. YDS.) Double Pipe	SODDING (SQ. YDS.) Triple Pipe	SODDING (SQ. YDS.) Quad. Pipe
2:1 Slope	15"	2'-1"	1.92	2.18'	4.10'	2.08'	5'	1.22'	4.63'	7.21'	9.79'	12.37'	1.19'	0.38	0.58	0.77	0.96	21	24	27	30
	18"	2'-10"	1.87'	2.74'	4.71'	2.58'	5'	1.41'	4.92'	7.75'	10.58'	13.42'	1.21'	0.44	0.65	0.87	1.09	22	25	28	31
	24"	3'-6"	2.06'	3.85'	5.91'	3.56'	5'	1.73'	5.50'	8.92'	12.33'	15.75'	1.25'	0.54	0.83	1.12	1.42	24	28	32	35
	30"	4'-3"	2.19'	4.93'	7.11'	4.63'	5'	2.00'	6.08'	10.13'	14.20'	18.83'	1.29'	0.66	1.09	1.60	1.91	26	31	35	40
	36"	5'-1"	2.25'	6.08'	8.33'	5.55'	5'	2.24'	6.67'	11.75'	16.83'	21.92'	1.33'	0.81	1.38	1.95	2.51	28	34	39	45
	42"	6'-0"	2.43'	7.25'	9.58'	6.53'	10'	2.45'	7.25'	13.29'	19.33'	25.37'	1.38'	0.97	1.70	2.43	3.16	30	37	43	50
	48"	6'-9"	2.43'	8.31'	10.76'	7.58'	11'	2.65'	7.83'	14.58'	21.33'	28.08'	1.42'	1.13	2.04	2.93	3.84	32	39	47	54
	54"	7'-8"	2.62'	9.44'	11.98'	8.58'	12'	3.00'	8.50'	16.00'	23.50'	31.00'	1.50'	1.31	2.43	3.58	4.68	34	42	51	59
	60"	8'-5"	2.82'	10.59'	13.18'	9.62'	13'	3.00'	9.08'	17.08'	25.08'	33.08'	1.50'	1.51	2.89	4.28	5.66	36	45	55	64
	66"	9'-2"	2.71'	11.68'	14.39'	10.56'	15'	3.16'	9.58'	18.75'	27.92'	37.08'	1.54'	1.68	3.25	4.84	6.45	38	48	58	68
	72"	10'-0"	2.80'	12.66'	15.60'	11.59'	16'	3.30'	10.16'	20.16'	30.16'	40.16'	1.58'	1.89	3.74	5.60	7.45	40	51	62	73
4:1 Slope	15"	2'-1"	2.27'	4.09'	6.36'	4.03'	8'	1.22'	4.63'	7.21'	9.79'	12.37'	1.19'	0.57	0.87	1.15	1.44	23	26	29	32
	18"	2'-10"	2.30'	5.12'	7.48'	5.03'	9'	1.41'	4.92'	7.75'	10.58'	13.42'	1.21'	0.66	0.99	1.31	1.65	25	28	31	35
	24"	3'-6"	2.53'	6.19'	8.71'	7.03'	9'	1.73'	5.50'	8.92'	12.33'	15.75'	1.25'	0.85	1.30	1.75	2.20	28	32	36	40
	30"	4'-3"	2.70'	9.25'	11.05'	8.03'	10'	2.00'	6.08'	10.13'	14.20'	18.83'	1.29'	1.10	1.74	2.39	3.05	31	36	41	46
	36"	5'-1"	2.87'	11.39'	14.18'	11.03'	11'	2.24'	6.67'	11.75'	16.83'	21.92'	1.33'	1.32	2.21	3.08	3.96	34	40	46	52
	42"	6'-0"	3.05'	13.29'	16.42'	13.03'	12'	2.45'	7.25'	13.29'	19.33'	25.37'	1.38'	1.58	2.76	3.91	5.09	36	44	51	58
	48"	6'-9"	3.22'	15.41'	18.85'	15.03'	13'	2.65'	7.83'	14.58'	21.33'	28.08'	1.42'	1.85	3.19	4.53	6.17	41	48	56	63
	54"	7'-8"	3.39'	17.59'	20.88'	17.03'	14'	2.83'	8.42'	16.08'	23.75'	31.42'	1.46'	2.14	3.65	5.17	6.68	44	52	61	69
	60"	8'-5"	3.56'	19.85'	23.11'	19.03'	15'	3.00'	9.00'	17.50'	26.00'	34.50'	1.50'	2.43	4.09	6.87	9.07	47	56	66	75
	66"	9'-2"	3.73'	21.62'	25.35'	21.03'	16'	3.16'	9.58'	18.75'	27.92'	37.08'	1.54'	2.68	4.54	8.16	10.84	49	59	69	80
	72"	10'-0"	3.91'	22.68'	26.59'	23.03'	17'	3.30'	10.16'	20.16'	30.16'	40.16'	1.58'	3.54	6.01	9.87	13.13	52	63	74	85

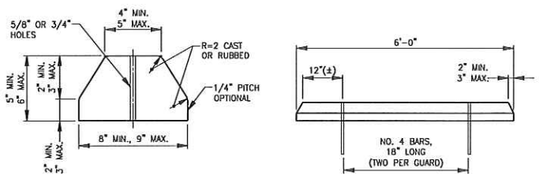


TOP VIEW-SINGLE PIPE

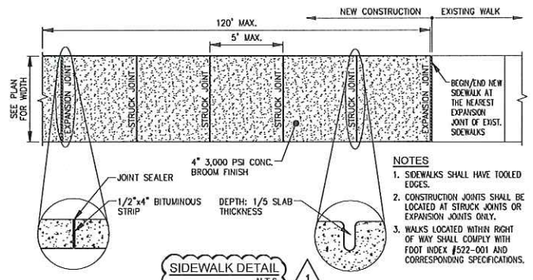


SECTION

MITERED END SECTION DETAIL N.T.S. 1

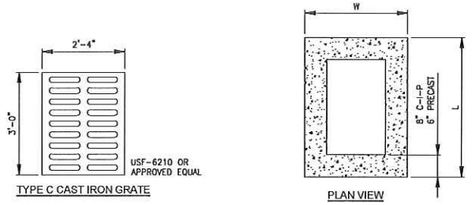


CONCRETE BUMPER GUARD N.T.S. 1



NOTES
1. SIDEWALKS SHALL HAVE TOOLED EDGES.
2. CONSTRUCTION JOINTS SHALL BE LOCATED AT STRUCK JOINTS OR EXPANSION JOINTS ONLY.
3. WALKS LOCATED WITHIN RIGHT OF WAY SHALL COMPLY WITH FDOT INDEX #522-001 AND CORRESPONDING SPECIFICATIONS.

SIDEWALK DETAIL N.T.S. 1



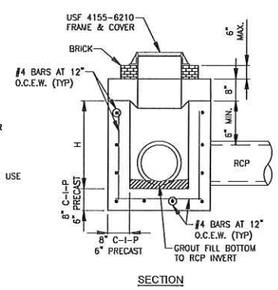
TYPE C CAST IRON GRATE

PLAN VIEW

BASIN DIMENSIONS

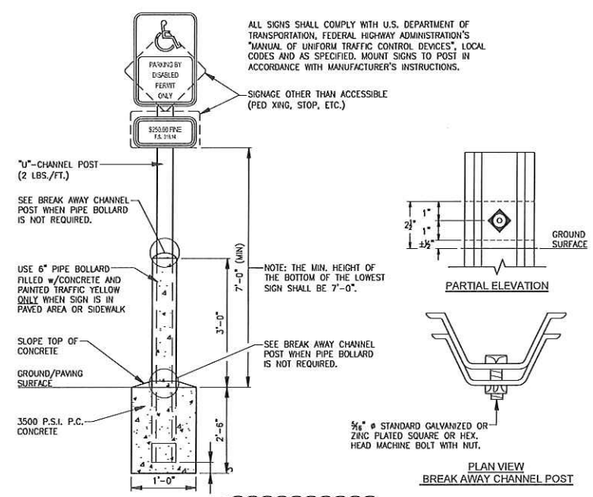
TYPE	C-I-P L	C-I-P W	PRECAST L	PRECAST W	H
C	4'-5"	3'-4"	4'-1"	3'-0"	VARIES
D	4'-5"	5'-5"	4'-1"	5'-1"	VARIES
E	5'-10"	4'-4"	5'-6"	4'-0"	VARIES

NOTES:
1. ALL CATCH BASINS TO BE POURED IN PLACE OR PRECAST.
2. ALL CONCRETE TO BE 4,000 PSI.
3. WHERE TOP SLAB CONSTRUCTION IS NECESSARY, USE 8" THICK SLAB W/#5 BARS AT 4" ON CENTER CONTINUOUS INTO CATCH BASIN WALLS.
4. WHERE "H" DIMENSION EXCEEDS 5 FEET, SHOP DRAWINGS FOR WALL REINFORCEMENT MUST BE SUBMITTED FOR APPROVAL BEFORE CASTING.
5. CATCH BASINS TO BE CONSTRUCTED PER FDOT STANDARDS



SECTION

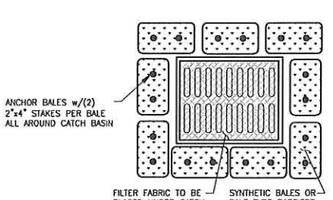
CATCH BASIN DETAIL N.T.S. 1



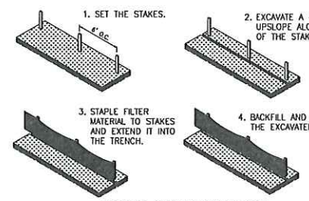
SITE SIGN BASE DETAILS N.T.S. 1

PARTIAL ELEVATION

PLAN VIEW
BREAK AWAY CHANNEL POST



CATCH BASIN PROTECTION DETAIL
N.T.S.



TYPICAL SILT FENCE DETAIL
N.T.S.

Collier County

Revision	Date	Description	By
1	10/2024	ADDENDUM NO. 2	D.C.M.

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: GGMPS
SCALE: 11x17 1"=20'

GradyMinor
Civil Engineers • Land Surveyors • Planners • Landscape Architects
Cert. of Auth. EB 0005151 Cert. of Auth. LB 0005151 Business LC 26000266
Bonita Springs: 239.947.1144 www.GradyMinor.com Fort Myers: 239.690.4380
Q. Grady Minor and Associates, P.A.
3800 Via Del Rey
Bonita Springs, Florida 34134

GOLDEN GATE MASTER PUMP STATION AND SITE IMPROVEMENTS

MISCELLANEOUS DETAILS

ELEVATIONS SHOWN HEREON ARE BASED UPON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD '88) CONVERSION FACTOR TO NATIONAL GEODETIC VERTICAL DATUM 1929 (NGVD '29) IS (+)1.270'

ALEXANDER PAUL DUNKO, P.E.
FLORIDA P.E. LICENSE NO. 88695

MUNICIPALITY: COLLIER COUNTY
SEC/TWN/RGE: 27 AND 28/49S/26E
DATE: FEBRUARY, 2024
SUBMITTAL TYPE: PHASE 1 BID
SHEET 18

G:\ENGINEERING\PROJ-ENG\G\GGMPS\01DWGS\SUBMITTALTYPE\CONST PLANS\GGMPS_DETAILS 10/22/2024 12:50 PM

GENERAL AND ANNOTATIVE SYMBOLS

SYMBOL	DESCRIPTION
P-ABC-123456X	CALLOUT - CONDUIT PREFIX: P = POWER C = CONTROLS S = SIGNAL X = SUFFIX (VARIABLE) M = MEDIUM VOLTAGE
PMP-040101	CALLOUT - EQUIPMENT
LI 101	CALLOUT - INSTRUMENT
#	CONSTRUCTION NOTE
#	KEYED NOTE REFERENCE
A SHT #	OFF-SHEET REFERENCE FOR WIRING AND CIRCUITS
	LIGHT LINE INDICATED EXISTING ELECTRICAL OR EXISTING EQUIPMENT. LIGHT LINE MAY ALSO BE USED FOR DETAIL DRAWING CLARITY.
	HEAVY LINE INDICATES NEW WORK TO BE PROVIDED
	HATCH INDICATES EXISTING WORK TO BE REMOVED
	LINE-BREAK
	CONDUCTORS CONNECTED
	CONDUCTORS NOT CONNECTED
	CONTINUATION

GENERAL AND ANNOTATIVE SYMBOLS

SYMBOL	DESCRIPTION
	EXPOSED CONDUIT
	BRANCH CIRCUIT, CONCEALED ABOVE CEILING OR IN WALL WHERE POSSIBLE. WHERE EXPOSED ROUTE PARALLEL AND PERPENDICULAR TO STRUCTURE.
	CONDUIT IN SLAB OR BELOW GRADE
—UE—	UNDEGROUND ELECTRICAL PRIMARY CONDUCTOR
—UG—	DIRECT BURIED CABLE
—DB—	UNDERGROUND CONCRETE ENCASED DUCT BANK
—E—	DIRECT BURIED CONDUIT
—OE—	OVERHEAD NON-RIGID LINE
	CONDUIT WITH CONDUIT SEAL FITTING
	NON-RIGID CONDUIT
	CONDUIT TO CABLE GLAND SEAL
	CONDUIT BENDS TOWARD OBSERVER
	CONDUIT BENDS AWAY FROM OBSERVER
	CONDUIT STUB AND CAPPED
P1:X,Y,Z	BRANCH CIRCUIT HOME RUN. 3/4"C(#12 AWG MIN) U.N.O. P1 - PANELBOARD X,Y,Z - CIRCUIT NUMBERS
	BELOW-GRADE PENETRATION CONDUIT SEAL
	WALL CONDUIT FIRE-RATED WALL PENETRATION

LIGHTING SYMBOLS

SYMBOL	DESCRIPTION
XX	CEILING MOUNTED EXIT SIGN. ARROW IF INDICATED DENOTES ARROWS ON EXIT FACE PLACE. HATCH INDICATES NUMBER OF EXIT FACES. XX - DENOTES TYPE. SEE FIXTURE SCHEDULE
	WALL MOUNTED EXIT SIGN.
	EMERGENCY UNIT LIGHT FIXTURE WITH 2 HEADS
P1:10 XX a	CEILING LIGHT FIXTURE. SIZED PER PHYSICAL DIMENSIONS OF FIXTURE XX - DENOTES TYPE. SEE FIXTURE SCHEDULE a - DENOTES CONTROLLED BY SWITCH IF INDICATED P1:10 - DENOTES SOURCE PANEL AND BRANCH CIRCUIT NUMBER NOTE: FIXTURE MODIFIERS APPLICABLE TO ALL FIXTURE TYPES.
	CEILING LIGHT FIXTURE HATCH DENOTES EQUIPPED WITH EMERGENCY BATTERY BACKUP UNIT
	WALL MOUNTED LIGHT FIXTURE
	RECESSED DOWN LIGHT FIXTURE
	HIGH MAST LIGHT FIXTURE
	POLE MOUNTED LIGHT FIXTURE
	POLE MOUNTED LIGHT FIXTURE WITH NUMBER OF ARMS OR HEADS AS SHOWN
	HANDRAIL MOUNTED LIGHT FIXTURE

POWER PLAN SYMBOLS

SYMBOL	DESCRIPTION
3P/30A 4X X	DISCONNECT SWITCH (SIZE MAY VARY AND MAY DENOTE ACTUAL EQUIPMENT DIMENSIONS) X - DENOTES TYPE F - FUSED NF - NON-FUSED (OR LEFT BLANK) CB - ENCLOSED CIRCUIT BREAKER 3P - NUMBER OF POLES 30A - AMP RATING 4X - NEMA RATING 3R - PAINTED STEEL 4X - 316 STAINLESS STEEL N1 - INTERIOR RATED N12 - INTERIOR WITH DUST GASKET 4XP - NON-METALLIC NEMA 4X N7 - EXPLOSION PROOF
1X	COMBINATION TYPE STARTER AND DISCONNECT X - NEMA STARTER SIZE M - MAGNETIC TYPE E - ELECTRONIC TYPE
	FULL VOLTAGE NON-REVERSING (FVNR) STARTER
100AF / 80AT	TOP NUMBER DENOTES FRAME SIZE BOTTOM NUMBER DENOTES TRIP OR FUSE SIZE
J	JUNCTION BOX - GENERAL-PURPOSE
J HxWxD	EXTERIOR JUNCTION BOX XX DENOTES NEMA RATING HxWxD DENOTES DIMENSIONS
PB	PULL-BOX
HH	HAND HOLE
MH	MAN HOLE
TB	TERMINAL BOX
M	UTILITY METER
T	DRY-TYP TRANSFORMER (U.N.O). SIZE MAY VARY ON PLAN SHEETS TO DENOTE ACTUAL TRANSFORMER DIMENSIONS
	ELECTRICAL EQUIPMENT AS NOTED ON PLANS. SURFACE MOUNTED.
	ELECTRICAL EQUIPMENT AS NOTED ON PLANS. FLUSH OR RECESSED MOUNTED.
X	MOTOR OR MOTOR CONNECTION POINT X - DENOTES HP
E	PROVIDE ELECTRICAL CONNECTION TO EQUIPMENT FURNISHED BY OTHERS
	CONTROL SWITCH OR STATION FOR MOTORS
SPD C3	SURGE PROTECTION DEVICE C3 = SERVICE ENTRANCE DEVICE (TYPE 1) B3 = DISTRIBUTION DEVICE (TYPE 2) A3 = POINT OF USE DEVICE (TYPE 3)
ST	SHUNT-TRIP BUTTON. FLUSH MOUNTED NEMA 4X FOR EXTERIOR LOCATIONS
VFD	VARIABLE FREQUENCY DRIVE
RVSS	REDUCED VOLTAGE SOFT STARTER
ATS	AUTOMATIC TRANSFER SWITCH
	GENERATOR
T	THERMOSTAT
LC	LIGHTING CONTACTOR
	UTILITY POLE
	FLOAT SWITCH

GENERAL AND ANNOTATIVE SYMBOLS

SYMBOL	DESCRIPTION
XX	5-20R DUPLEX RECEPTACLE, 20 AMP, 5-20R, 125V - 18" AFF INTERIOR, 48" AFG EXTERIOR, U.N.O. XX - MOUNTING HEIGHT GFCI - GROUND FAULT PROTECTION WP - WEATHERPROOF COVER WPU - WEATHERPROOF WHILE IN USE COVER IG - ISOLATED GROUND NOTE: RECEPTACLE MODIFIERS APPLICABLE TO ALL RECEPTACLE TYPES.
	FLOOR MOUNT DUPLEX RECEPTACLE
	QUADPLEX RECEPTACLE
	CEILING MOUNT DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE - POWERED FROM UPS
	HALF SWITCHED DUPLEX RECEPTACLE
	DUPLEX RECEPTACLE - MOUNT 6" ABOVE COUNTER
	RECEPTACLE - DUPLEX OUTDOOR WP/GFCI w/ IN-USE COVER
T	RECEPTACLE - SPECIAL (AS INDICATED ON PLANS) T - TWIST LOCK
	RECEPTACLE - WELDING
	RECEPTACLE - PLUG STRIP
FB	FURNITURE SYSTEM CONNECTION BOX
P:X-Y	NUMBERS ADJACENT TO RECEPTACLE INDICATED SOURCE PANEL ("P:X") AND CIRCUIT NUMBER ("Y") FEEDING BRANCH CIRCUIT.

SWITCH SYMBOLS

SYMBOL	DESCRIPTION
a S X	120/277V, SINGLE TOGGLE, LIGHT SWITCH. 48" AFF X - DENOTES TYPE 3 - 3 WAY 4 - 4 WAY D - DIMMING (1500 WATT U.N.O.) OS - OCCUPANCY SENSOR WITH MANUAL OVERRIDE OSD - OCCUPANCY SENSOR WITH DIMMING AND MANUAL OVERRIDE M - MOTOR RATED LOCKABLE TOGGLE SWITCH LV - LOW VOLTAGE DIGITAL LV2 - LOW VOLTAGE DIGITAL WITH DIMMING WP - WEATHERPROOF COVER HOA - HAND-OFF-AUTO a - DENOTES FIXTURES CONTROLLED
M	VACANCY/OCCUPANCY SENSOR, CEILING MOUNTED
PC	PHOTOCELL (MOUNT EXTERIOR OF BUILDING FACING NORTH U.N.O)
LC	LIGHTING CONTACTOR.

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Collier County

MARK	DATE	DESCRIPTION	BY

COLLIER COUNTY UTILITIES
GOLDEN GATE WWTP
MASTER PUMP STATION

ELECTRICAL NOTES & SYMBOLS

Project No.:	200-08486-20013
Designed By:	JAS
Drawn By:	JAS
Checked By:	TW

E-001

Bar Measures 1 inch

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LIGHTNING PROTECTION SYMBOLS

SYMBOL	DESCRIPTION
F	AIR TERMINAL - ROOF MOUNTED (3/8"Ø X 12" U.N.O) F = ADHESIVE SECURED
	AIR TERMINAL - MOUNTED TO SIDE OF EQUIPMENT/PARAPET
	AIR TERMINAL - MULTIPOINT
H	AIR TERMINAL - ELEVATED HEIGHT WITH DIAGONAL BRACING H = OVERALL HEIGHT ABOVE MOUNTING SURFACE
	CROSS CONDUCTOR
CI	CLASS I LIGHTNING PROTECTION CABLE
CII	CLASS II LIGHTNING PROTECTION CABLE
	THROUGH-ROOF PENETRATION SEAL
	CONDUCTOR BONDING CONNECTION
	EQUIPMENT/BUILDING BONDING CONNECTION
DN	DOWN-LEAD CONDUCTOR (TO EARTH ELECTRODE SYSTEM) PROVIDE BI-METALLIC CONNECTION IN JUNCTION BOX BETWEEN LIGHTNING PROTECTION CABLE AND GROUNDING CABLE

GROUNDING SYMBOLS

SYMBOL	DESCRIPTION
G	GROUND CONDUCTOR, BARE COPPER GROUND COUNTERPOISE. (4/0 TINNED COPPER)
G	GROUND CONDUCTOR BURIED 30" BELOW GRADE
G	GROUND CONDUCTOR WITH EXOTHERMIC CONNECTION. PIGTAIL 18" ABOVE FINISHED FLOOR.
G	GROUND CONDUCTOR WITH MECHANICAL CONNECTION.
	GROUND BAR - SEE PLANS AND SPECS FOR DIMENSIONS AND REQUIREMENTS
	GROUND ROD WITH INSPECTION WELL
	GROUND ROD (3/4"Ø X 10' COPPER-CLAD U.N.O)
	CONCRETE ENCASED ELECTRODE OR INDICATES BONDING TO CONCRETE REBAR

ACCESS CONTROL / SECURITY SYMBOLS

SYMBOL	DESCRIPTION
DC	DOOR CONTACT
RX	REQUEST TO EXIT
CR	CARD READER
CRP	CARD READER WITH PINPAD
DL	DOOR LATCH - ELECTRIC STRIKE
IDP	INTRUSION DETECTION PANEL. PROVIDE 120VAC BRANCH CIRCUIT
ACP	ACCESS CONTROL PANEL. PROVIDE 120VAC BRANCH CIRCUIT
HS	INTERCOM HANDSET
	INTERCOM SPEAKER

FIRE PROTECTION SYMBOLS

SYMBOL	DESCRIPTION
FD XX	FLAME DETECTOR XX-DENOTES TYPE UV/IR - COMBINATION UV - ULTRAVIOLET IR - INFRARED VR - VISIBLE RADIATION
HD XX	HEAT DETECTOR XX-DENOTES TYPE F - FIXED R - RATE OF RISE
GD XX	GAS DETECTOR XX- GAS TYPE
SD XX	SMOKE DETECTOR XX-DENOTES TYPE ID - IN DUCT I - IONIZATION P - PHOTO ELECTRIC IP - DUAL RATED R - RETURN S - SUPPLY
F	FIRE ALARM SYSTEM CONDUIT AND WIRING
F	FIRE ALARM STROBE LIGHT WALL MOUNTED
H	FIRE ALARM HORN ONLY
F CD	FIRE ALARM HORN/STROBE LIGHT COMBINATION WALL MOUNTED CD = CANDELA RATING
SP	MASS NOTIFICATION SPEAKER/STROBE LIGHT COMBINATION WALL MOUNTED
F	FIRE ALARM SPEAKER/STROBE LIGHT COMBINATION CEILING MOUNT
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
GAP	GRAPHIC ANNUNCIATOR
ANN	REMOTE ANNUCIATOR PANEL
RL	OUTPUT RELAY
VS	VALVE SUPERVISOR SWITCH
PS	PRESSURE SWITCH
DH	DOOR HOLDER
F	FIRE ALARM MANUAL PULL STATION
R	FIRE ALARM RELAY
FS	FIRE ALARM FLOW SWITCH
FE	FIRE EXTINGUISHER
TS	FIRE ALARM TAMPER SWITCH

TELECOMMUNICATIONS SYMBOLS

SYMBOL	DESCRIPTION
	TELECOMMUNICATIONS JACK. PROVIDE CAT-6 IN 1" CONDUIT TO SOURCE AS INDICATED ON PLANS. IN AREAS WITH DROP CEILING PROVIDE 1" CONDUIT TO ABOVE CEILING AND THEN UTILIZE CABLE TRAY OR "J" HOOKS TO ROUTE CAT-6 TO SOURCE
	COMBINATION TELECOMMUNICATIONS JACK. PROVIDE TWO CAT-6
	CEILING MOUNTED
WAP	WIRELESS ACCESS POINT
	FLOOR MOUTED
TV	TELEVISION OUTLET, HEIGHT AS NOTED ON PLANS. PROVIDE 1" CONDUIT TO SOURCE SHOWN
AV	A/V BOX, PROVIDE 2" CONDUIT TO SOURCE SHOWN
	BASKET TYPE CABLE TRAY
	LADDER TYPE CABLE TRAY

SINGLE-LINE DIAGRAM SYMBOLS

SYMBOL	DESCRIPTION
R XX K YY	TRANSFORMER XX - DENOTES SIZE IN KVA YY - DENOTES VOLTAGE AND PHASE R - DENOTE IMPEDANCE (PROVIDE STANDARD IF BLANK) K - DENOTES K-FACTOR
	DELTA CONFIGURED WINDING
	WYE CONFIGURED WINDING
	GROUND ELECTRODE (3/4"Ø X 10') COPPER-CLAD U.N.O.
SPD	SURGE PROTECTION DEVICE
	DISCONNECT SWITCH
HTR 75KW	HEATER w/ SIZE INDICATED
	SOLENOID VALVE
	TRANSFER SWITCH
	LOW VOLTAGE DISCONNECT SWITCH
	HIGH VOLTAGE FUSE (ABOVE 600 V)
XX:A	LOW VOLTAGE FUSE XX DENOTES AMP RATING
	CIRCUIT BREAKER
	DRAW OUT BREAKER
X	MOTOR WITH ASSUMED HORSEPOWER. ACTUAL HORSEPOWER MAY DIFFER - INCREASE AS REQUIRED
ST	SHUNT TRIP
	UTILITY CONNECTION
CT M	CT ENCLOSURE WITH SEPARATE METER
G XX:KW YY:V	GENERATOR XX: DENOTES SIZE IN KW YY: DENOTES VOLTAGE AND PHASE
	FLOAT SWITCH
3 (3)	CURRENT TRANSFORMER, (3) INDICATES QUANTITY
2	M-MAGNETIC MOTOR STARTER, C-GENERAL USE CONTACTOR (NUMBER INDICATED NEMA SIZE)
	MOTOR OVERLOAD DEVICE
	CAPACITOR, 3 PHASE, SIZE AS INDICATED
	MAGNETIC STARTER (BACKGROUND DRAWINGS ONLY)
	COMBINATION STARTER FUSED UNLESS NOTED (CIRCUIT BREAKER)
M	UTILITY METER
I	INTERLOCK FUNCTION
K	MECHANICAL KEYED INTERLOCK
	INTERLOCK ASSOCIATION
VFD	VARIABLE FREQUENCY DRIVE
SPD	SURGE PROTECTION DEVICE
PQM	POWER QUALITY MONITOR
SSRV	SOLID STATE REDUCED VOLTAGE STARTER
SST	SOLID STATE TRIP
RVSS	REDUCED VOLTAGE SOFT STARTER
N	BUS CONNECTION

CONTROL CIRCUIT & PILOT DEVICE LEGEND

SYMBOL	DESCRIPTION
	PRESS. ACTUATED SWITCH
	FLOAT ACTUATED SWITCH
	FLOW ACTUATED SWITCH
	TEMP. ACTUATED SWITCH
	LIMIT SWITCH - NORMALLY OPEN
	LIMIT SWITCH - NORMALLY CLOSED
	LIGHT SWITCH - NORMALLY CLOSED HELD OPEN
	LIGHT SWITCH - NORMALLY OPEN HELD CLOSED
	FUSE
CR 1	CONTROL RELAY COIL
	CONTROL RELAY CONTACT-NORMALLY OPEN
	CONTROL RELAY CONTACT-NORMALLY CLOSED
CR L CR U	TWO COIL LATCHING RELAY
T	TIMING RELAY COIL
	TIMED CLOSED CONTACT ON ENERGIZATION
	TIMED OPEN CONTACT ON ENERGIZATION
	TIMED OPEN CONTACT ON DE-ENERGIZATION
	TIMED CLOSED CONTACT ON DE-ENERGIZATION
	MOMENTARY PUSHBUTTON OPERATOR-NORMALLY OPEN
	MOMENTARY PUSHBUTTON OPERATOR-NORMALLY CLOSED
	PUSHBUTTON OPERATOR WITH MUSHROOM HEAD
(F)	FIELD LOCATED STOP BUTTON
	MAINTAINED PUSH-PULL OPERATOR
	MAINTAINED STOP-START PUSHBUTTON OPERATOR
	SOLENOID OR CLUTCH
R 1	PUSH-TO-TEST INDICATING LIGHT R = COLOR RED Y = COLOR YELLOW G = COLOR GREEN
	MAINTAINED STOP MOMENTARY START PUSHBUTTON (JOG)
	ZERO SPEED OR ANTI-PLUGGING SWITCH
	LOCAL TERMINALS WITH EXTERNAL WIRING
ET	ELAPSED TIME INDICATOR
RET.	TIMING RELAY INSTANTANEOUS CONTACTS NORMALLY OPEN
INST.	TIMING RELAY INSTANTANEOUS CONTACTS NORMALLY CLOSED
X1 X2	120 VAC TRANSFORMER
H A	SELECTOR SWITCH OPERATOR WITH FUNCTION SHOWN

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E-002

Bar Measures 1 inch

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GENERAL NOTES

1. PERFORM WORK IN COMPLIANCE WITH CODES AND ORDINANCES APPLICABLE TO AUTHORITIES HAVING JURISDICTION, INCLUDING BUT NOT LIMITED TO; NATIONAL ELECTRICAL CODE, NATIONAL FIRE PROTECTION CODES, BUILDING CODES, ENERGY CODES, HEALTH AND SAFETY CODES, LOCAL LAWS AND REGULATIONS, AND ACCESSIBILITY REQUIREMENTS. ADJUST WORK REQUIRED BY THIS CONTRACT WHERE NECESSARY FOR COMPLIANCE.
2. ADHERE TO THE LATEST VERSION OF APPLICABLE INDUSTRY STANDARDS, INCLUDING BUT NOT LIMITED TO; ISA - INSTRUMENT SOCIETY OF AUTOMATION, IES HANDBOOK AND RECOMMENDED PRACTICES FOR LIGHTING, NETA ACCEPTANCE TESTING STANDARDS (ATS), INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE), ANSI, ELECTRONIC INDUSTRY ALLIANCE / TELECOMMUNICATIONS INDUSTRY ASSOCIATION (EIA / TIA), AND BUILDING INDUSTRY CONSULTING SERVICES INTERNATIONAL (BICSI.)
3. PROVIDE EQUIPMENT AND MATERIALS LISTED AND LABELED BY A NATIONALLY RECOGNIZED TESTING LABORATORY ACCEPTABLE TO THE AUTHORITIES HAVING JURISDICTION. CONTROL PANELS SHALL BE UL 508A LISTED AND LABELED. ANY PLC PANEL, UL 508A CONTROL PANEL, MCC, SWITCHGEAR, STANDALONE MOTOR CONTROLLERS, OR OTHER LISTED ELECTRICAL EQUIPMENT MODIFIED IN THE FIELD AFTER IT HAS LEFT THE FACTORY SHALL BE EVALUATED BY AN NRTL TO PROVIDE A FIELD LISTING.
4. ADHERE TO OWNER'S SITE-SPECIFIC PROTOCOLS INCLUDING, BUT NOT LIMITED TO; SYSTEM OPERATIONS, HEALTH AND SAFETY, SITE ACCESS RESTRICTIONS, AND LOCK-OUT / TAG-OUT PROCEDURES.
5. PERFORM ELECTRICAL WORK IN ADHERENCE TO NECA 1 - STANDARD FOR GOOD WORKMANSHIP IN ELECTRICAL CONSTRUCTION.
6. COORDINATE WORK WITH OTHER TRADES, AND WITH OWNER'S THIRD-PARTY CONTRACTORS AS APPLICABLE.
7. THE CONTRACTOR IS RESPONSIBLE FOR MEANS AND METHODS OF CONSTRUCTION, INCLUDING BUT NOT LIMITED TO; TEMPORARY PROVISIONS TO MAINTAIN FACILITY USE, TEMPORARY CONSTRUCTION POWER AND COMMUNICATIONS, TOOLS / EQUIPMENT / AND MATERIALS REQUIRED FOR EXECUTION OF THEIR WORK, WORKFORCE SUPERVISION AND STAFFING, SITE HEALTH AND SAFETY, CONSTRUCTION SCHEDULING, SEQUENCE OF CONSTRUCTION, AND PLANNING AND COORDINATION OF WORK.
8. PREPARE AND SUBMIT COORDINATION DRAWINGS FOR ELECTRICAL EQUIPMENT PLACEMENT, UNDERGROUND DUCT BANKS, AND OVERHEAD CONDUIT RACKS AND CABLE TRAYS. ILLUSTRATE CONDUIT STUB-UPS AND ENTRY LOCATIONS INTO EQUIPMENT ENCLOSURES. COORDINATE WITH ADJACENT ITEMS FOR CODE-REQUIRED CLEARANCES, AND ACCESS AS REQUIRED FOR OPERATIONS AND MAINTENANCE. (COORDINATION DRAWINGS ARE REQUIRED PRIOR TO EQUIPMENT SHOP DRAWING APPROVAL.)
9. PLAN, PERMIT AND EXECUTE TRAFFIC CONTROL MEASURES AS REQUIRED TO PERFORM WORK IN STREETS AND PUBLIC RIGHT-OF-WAY.
10. PROTECT NEW AND EXISTING EQUIPMENT AND MATERIALS FROM DAMAGE AND DETERIORATION DURING CONSTRUCTION. REPAIR OR REPLACE ITEMS DAMAGED DURING CONSTRUCTION TO THE EXTENT THEIR DAMAGE IS UNNOTICEABLE AND IN A MANNER THAT DOES NOT AFFECT FUNCTION, USE, OR LONGEVITY (AT NO COST TO THE OWNER). WARRANTIES SHALL NOT BE AFFECTED BY ANY REPAIRS MADE IN THE FIELD.
11. THE OWNER HAS THE RIGHT TO RETAIN OR REFUSE ANY AND REMOVED MATERIALS. COORDINATE WITH THE OWNER ON RETAINED ITEMS AND EXERCISE CARE IN REMOVAL, HANDLING AND STORAGE. ITEMS NOT RETAINED BY THE OWNER SHALL BE RECYCLED WHERE SUCH PROGRAMS EXIST, NON-RECYCLABLE ITEMS SHALL BE LAWFULLY DISPOSED OF BY THE CONTRACTOR.
12. FACILITY OPERATIONS AND USE SHALL BE MAINTAINED, EXCEPT AS EXPLICITLY IDENTIFIED FOR DECOMMISSIONING. PROVIDE TEMPORARY FACILITIES AND SERVICES NECESSARY TO MAINTAIN FACILITY OPERATIONS DURING CONSTRUCTION. COORDINATE SCHEDULING AND TEMPORARY PROVISIONS FOR SYSTEM OUTAGES WITH THE OWNER A MINIMUM OF TWO WEEKS IN ADVANCE OF WORK WHICH MAY AFFECT FACILITY OPERATIONS. THIS MAY INCLUDE TEMPORARY LIFE SAFETY SYSTEMS, TEMPORARY POWER, TEMPORARY COMMUNICATION NETWORKS, TEMPORARY CONTROLS SOFTWARE AND HARDWARE. THESE ITEMS ARE TO BE INCLUDED IN THE CONTRACTOR'S BID AND SHALL NOT BE A BASIS FOR CLAIMS OF ADDITIONAL COST OR TIME.
13. WHERE NEW UTILITIES ARE INCLUDED IN THE SCOPE OF WORK, COORDINATE EXACT DIVISION OF UTILITY WORK WITH LOCAL UTILITY COMPANIES PROVIDING SERVICES. WHERE CONTRACT REQUIREMENTS EXCEED THIS COORDINATED RESPONSIBILITY, PROVIDE SUITABLE CREDIT FOR WORK BEING PERFORMED BY OTHERS.
14. THE CONTRACT DOCUMENTS ARE DIAGRAMMATIC IN NATURE AND REPRESENT SYSTEMS THAT ARE COMPLETE AND FUNCTIONAL FOR THEIR INTENDED USE. PROVIDE SUPPLEMENTAL MATERIALS, LABOR AND OTHER ANCILLARY ITEMS REQUIRED FOR COMPLETE INSTALLATION. THESE ITEMS ARE TO BE INCLUDED IN THE CONTRACTOR'S BID AND SHALL NOT BE A BASIS FOR CLAIMS OF ADDITIONAL COST OR TIME.
15. THE CONTRACTOR SHALL COORDINATE WITH THE HVAC AND PROCESS EQUIPMENT SUPPLIERS. THE INTENT OF THE ELECTRICAL DRAWINGS IS TO PROVIDE A FULLY FUNCTIONAL HVAC AND PROCESS TREATMENT SYSTEM. AS SUCH, THE CONTRACTOR MAY BE REQUIRED TO MODIFY ELECTRICAL INSTALLATION INDICATED ON PLANS OR PROVIDE SUPPLEMENTAL MATERIALS, LABOR AND OTHER ANCILLARY ITEMS REQUIRED FOR COMPLETE INSTALLATION. THESE ITEMS ARE TO BE INCLUDED IN THE CONTRACTOR'S BID AND SHALL NOT BE A BASIS FOR CLAIMS OF ADDITIONAL COST OR TIME
16. PROVIDE ADDITIONAL JUNCTION BOXES, PULL BOXES AND HANDHOLES NECESSARY TO LIMIT INSTALLED CONDUIT BENDS TO NO MORE THAN 360-DEGREES FOR OVERHEAD WORK, AND 270-DEGREES FOR UNDERGROUND WORK. LOCATE BOXES BASED OF CABLE PULLING TENSION AND ACCESSIBILITY. SIZE BOXES PER CABLE MANUFACTURES BENDING RADIUS REQUIREMENTS AND THE NEC. THESE ITEMS ARE TO BE INCLUDED IN THE CONTRACTOR'S BID AND SHALL NOT BE A BASIS FOR CLAIMS OF ADDITIONAL COST OR TIME. INSTALLATION OF NETWORK CABLING AND EQUIPMENT SHALL COMPLY WITH APPLICABLE EIA/TIA AND BICSI REQUIREMENTS.
17. CONVENIENCE OUTLETS SHOWN WITHOUT DESIGNATED CIRCUITRY SHALL INCLUDE CONDUIT AND WIRE BACK TO THE NEAREST 120V BRANCH CIRCUIT PANELBOARD USING WIRING METHODS CONSISTENT WITH SIMILAR CIRCUITS WITHIN THAT AREA. THIS WORK SHALL BE INCLUDED IN THE CONTRACTOR'S BID AND SHALL NOT BE A BASIS FOR CLAIMS OF ADDITIONAL COST OR TIME.
18. PROVIDE BRANCH CIRCUIT WIRING AND CONTROLS FOR INSTALLED LIGHTING SYSTEMS. THIS WORK IS TO BE INCLUDED IN THE CONTRACTOR'S BID AND SHALL NOT BE A BASIS FOR CLAIMS OF ADDITIONAL COST OR TIME.
19. ADJUST BRANCH CIRCUIT CONDUCTOR SIZES TO COMPENSATE FOR VOLTAGE DROP AND DERATING OF AMPACITY BASED ON THE NUMBER OF CONDUCTORS CONTAINED WITHIN A SUBJECT RACEWAY. FOR 20-AMPERE BRANCH CIRCUITS EXCEEDING 75-FEET IN OVERALL LENGTH, INCREASE CONDUCTORS TO #10AWG SIZE (OR GREATER) AS REQUIRED TO REDUCE VOLTAGE DROP TO NO MORE THAN THREE PERCENT LINE-TO-NEUTRAL. THESE ADJUSTMENTS ARE TO BE INCLUDED IN THE CONTRACTOR'S BID AND SHALL NOT BE A BASIS FOR CLAIMS OF ADDITIONAL COST OR TIME.
20. DIMENSIONAL TOLERANCES ARE NOT SPECIFICALLY INDICATED IN PLANS, DETAILS AND SPECIFICATIONS. ALIGN ABUTTING HORIZONTAL ITEMS WITHIN +/- 1/64", AND WALL-MOUNTED OR SUSPENDED ITEMS SEPARATED BY 12" OR MORE TO A TOLERANCE OF 1/16". PLUMB ITEMS SHALL NOT DEVIATE FROM TRUE VERTICAL BY MORE THAN 1/8" IN 10'-0". LEVEL EQUIPMENT TO WITHIN 1/32" ACROSS ITS HORIZONTAL SURFACE IN EACH DIRECTION.
21. ALL CONDUITS SHALL BE MINIMUM ¾ INCH RGS (ABOVE GRADE) AND 1" PVC (BELOW GRADE) UNLESS OTHERWISE NOTED AND INCLUDE AN INSULATED GREEN GROUNDING CONDUCTOR SIZED PER THE NEC. MINIMUM WIRE SIZE SHALL BE #12 AWG UNLESS OTHERWISE NOTED. THIS GROUND WIRE SHALL BE CONNECTED AT EACH END TO THE EQUIPMENT GROUND. THIS ALSO INCLUDES INSTRUMENTATION DEVICES SUCH AS LEVEL, PRESSURE, FLOW TRANSMITTERS, LIMIT SWITCHES, CONDUITS, NETWORK AND I/O CABLES.
22. COMPLETELY CONCEAL POLY-VINYL CHLORIDE (PVC) CONDUITS WITHIN CONCRETE OR BELOW GRADE (UNLESS SPECIFICALLY INDICATED OTHERWISE.) PROVIDE RIGID GALVANIZED STEEL RISERS AND ELBOWS (WITH OR WITHOUT PVC COATING AS SPECIFIED) FOR EMBEDDED / UNDERGROUND PVC CONDUIT RUNS.
23. SECURELY FASTEN EQUIPMENT AND MATERIALS INTO PLACE TO PROVIDE RESTRAINT AGAINST MOVEMENT AND SEPARATION DURING CONDITIONS OF REGULAR USE AND DURING SEISMIC EVENTS. PROVIDE AND SUBMIT FOR APPROVAL STRUCTURAL DESIGN AND CALCULATIONS BY A REGISTERED PROFESSIONAL ENGINEER FOR SEISMIC RESTRAINT.
24. UNDERGROUND POWER AND CONTROL CONDUIT SYSTEMS SHALL BE SEPARATED BY 12" MINIMUM AND SHALL BE RUN THROUGH SEPARATE JUNCTION BOXES AND MANHOLES.
25. ALL EXTERIOR AREAS SHALL BE CONSIDERED WET AND CORROSIVE. EXTERIOR ELECTRICAL ENCLOSURES SHALL BE NEMA 4X STAINLESS STEEL UNLESS SPECIFICALLY NOTED OTHERWISE.
26. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A COORDINATED ELECTRICAL POWER DISTRIBUTION SYSTEM IN ACCORDANCE WITH NEC ARTICLE 240.12 AND ARTICLE 700.27 COORDINATION STUDIES SHALL BE APPROVED PRIOR TO ORDERING ELECTRICAL DISTRIBUTION EQUIPMENT AND BREAKERS.
27. ELECTRICAL SYSTEM INSTALLED IN HAZARDOUS LOCATIONS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CHAPTER 5, ARTICLE 500 OF THE NEC. EQUIPMENT SHALL BE RATED FOR THE HAZARDOUS AREA IN WHICH IT IS PLACED. CONDUITS LEAVING HAZARDOUS AREAS SHALL BE SEALED PER THE NEC. STANDARDS SUCH AS NFPA 820 AND API 500 SHALL BE USED IN ACCORDANCE WITH CHAPTER 5 OF THE NEC.
28. THE CONTRACTOR SHALL SIZE WIRING NOT EXPLICITLY SHOWN ON THE DRAWINGS ACCORDING TO THE REQUIREMENT OF THE NEC FOR THE SPECIFIC APPLICATION AND CONDITIONS. THE INSTALLATION SHALL BE IN ACCORDANCE WITH THE CONTRACT REQUIREMENTS.
29. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING UNDERGROUND UTILITIES AND PROTECTING SAID UTILITIES DURING THE INSTALLATION OF THE ELECTRICAL SYSTEM.
30. WHERE SELECTIVE DEMOLITION TO EXISTING PAVEMENTS AND SIDEWALKS ARE REQUIRED TO PERFORM CONSTRUCTION ACTIVITIES, NEATLY SAW-CUT SURFACES ALONG EDGES OF WORK AREA.
31. CORE-DRILLING SHALL BE UTILIZED FOR CONCRETE WALLS AND FLOORS WHERE PENETRATIONS ARE REQUIRED. LOCATE REINFORCING STEEL PRIOR TO CORE DRILLING AND AVOID CUTTING STEEL WHERE POSSIBLE. WHERE CUTTING OF REINFORCING STEEL IS UNAVOIDABLE, SUBMIT AN RFI AND OBTAIN STRUCTURAL APPROVAL FOR THE NECESSARY REPAIRS ASSOCIATED WITH CUTTING REINFORCING STEEL.
32. VERIFY VOLTAGE AND PHASE PRIOR TO ORDERING AND AGAIN PRIOR TO TERMINATION OF CONDUCTORS ON EQUIPMENT AND DEVICES. DAMAGES RESULTING FROM LACK OF VERIFICATION SHALL BE BORNE BY THE CONTRACTOR.
33. SECURE SURFACE-MOUNTED ELECTRICAL EQUIPMENT AND RACEWAYS WITH CHANNEL STRUT. MINIMUM STRUT LENGTH TO BE 12 INCHES, WHERE POSSIBLE.
34. APPLY DUCT SEAL TO CONDUITS ENTERING CONTROL PANELS AND ELECTRICAL EQUIPMENT ENCLOSURES.
35. ADJUST EQUIPMENT RATINGS AND CAPACITIES TO COMPENSATE FOR SITE-SPECIFIC AMBIENT TEMPERATURE CONDITIONS AND ELEVATIONS. SIZE EQUIPMENT AS HEAVY DUTY WHERE CONDITIONS OF USE WARRANT.
36. PERFORM FINAL POWER STUDIES AND ARC-FLASH EVALUATION AFTER EQUIPMENT HAS BEEN SELECTED, BUT PRIOR TO ORDERING, ALLOWING FOR ADJUSTMENTS TO OVERCURRENT DEVICE SELECTION AND EQUIPMENT RATINGS AS DETERMINED BY THE STUDY. UNSUITABLE EQUIPMENT ORDERED PRIOR TO PERFORMING THESE STUDIES SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
37. WIRE STARTERS IN ACCORDANCE WITH NEMA STANDARD ICS 18-2001 (CURRENT VERSION), CLASS IIB WIRING. SUBMIT ENGINEERED SHOP DRAWINGS FOR STARTERS SHOWN TO BE WIRED.
38. MAINTAIN A COMPREHENSIVE SET OF UP TO DATE AS-CONSTRUCTED RECORD DOCUMENTS, WHICH SHALL BE KEPT AND AVAILABLE FOR ON-SITE REVIEW AT ALL TIMES. USING CONFORMED DOCUMENTS AS A BASE, UTILIZE COLOR-CODED MARKUPS TO INDICATE FIELD MODIFICATIONS; RED TO INDICATE ADDED WORK OR REVISED LOCATIONS OF NEW WORK, GREEN FOR DELETED CONTENT, PURPLE FOR EXISTING CONDITIONS, AND BLUE FOR NON-TECHNICAL EXPLANATORY NOTES. YELLOW HIGHLIGHTING MAY BE USED TO INDICATE WORK COMPLETED AND IN FULL COMPLIANCE WITH THE CONFORMED SET.

ABBREVIATIONS

%	PERCENTAGE
2P	TWO POLE
A	AMPERES OR AMBER, OR AERATOR
AC	ABOVE COUNTER
ACS	ACCESS CONTROL STATION
AF	AMPERE FUSE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AI	ANALOG INPUT
AIC	AMPERES INTERRUPTING CURRENT
AIL	AMBER INDICATING LIGHT
AIR	ANALYSIS INDICATING RECORDER
AIT	ANALYSIS INDICATING TRANSMITTER
AL	ALUMINUM
ALT	ALTERNATE OR ALTERNATOR
AM	AMMETER
AMP	AMPERE
ANN	ANNUNCIATOR
AO	ANALOG OUTPUT
AS	AMPERE SWITCH
ATS	AUTOMATIC TRANSFER SWITCH
AUTO	AUTOMATIC
AUX	AUXILIARY
AWG	AMERICAN WIRE GAUGE
BAS	BUILDING AUTOMATION SYSTEM
BC	BARE COPPER
BKR	CIRCUIT BREAKER
BLDG	BUILDING
C	CONDUIT
CAT	CATEGORY
CB	CIRCUIT BREAKER
CH	COUNTER HEIGHT
CHG	CHARGER-BATTERY
CKT	CIRCUIT OR CIRCUIT BREAKER
CNTL	CONTROL
CP	CONTROL PANEL
CR	CONTROL RELAY OR CORROSION RESISTANT
CSI	CONTROL SYSTEM INTEGRATOR
CT	CURRENT TRANSFORMER
CU	COPPER OR CONDENSING UNIT
DB	DUCT BANK
DCMA	DIRECT CURRENT MILLIAMPERES
DI	DISCRETE INPUT
DIAG	DIAGRAM
DISC	DISCONNECT
DN	DOWN
DO	DISCRETE OUTPUT
DP	DISTRIBUTION PANEL
DS	DISCONNECT SWITCH
DWG(S)	DRAWING(S)
EC	ELECTRICAL CONTRACTOR
ECU	ENERGY CONTROL UNIT
EF	EXHAUST FAN
EH	ELECTRIC HEATER
EL	ELEVATION
EMER	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
ENET	ETHERNET
EP OR E	EXPLOSION PROOF
EQUIP	EQUIPMENT
ETM	ELAPSED TIME METER
ETR	EXISTING TO REMAIN
EUH	ELECTRIC UNIT HEATER
EWH	ELECTRIC WATER HEATER
EXDR	EXISTING DEVICE TO REMAIN
EXST	EXISTING
EXT	EXTERIOR
EXTN	EXTENSION
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FAH	FLOW ALARM HIGH
FBC	FLORIDA BUILDING CODE
FCV	FLOW CONTROL VALVE
FDR	FEEDER
FE	FLOW ELEMENT
FI	FLOW INDICATOR
FIT	FLOW INDICATING TRANSMITTER
FMCP	FIRE ALARM & MASS NOTIFICATION CONTROL PANEL
FO	FIBER OPTIC
FQI	FLOW TOTALIZER
FT	FLOW TRANSMITTER
FV	FLOW VALVE
FVR	FULL VOLTAGE REVERSING
GB	GROUND BUS
GC	GENERAL CONTRACTOR
GEN	GENERATOR
GFCI	GROUND-FAULT CIRCUIT INTERRUPTER
GFI	GROUND-FAULT INTERRUPTING
GFP	GROUND-FAULT PROTECTION OF EQUIPMENT
GIL	GREEN INDICATING LIGHT
GND	GROUND
GRP	GROUP
GRS	GALVANIZED RIGID STEEL
H	HORN OR HIGH
HC	HAND CONTROL
HH	HANDHOLE
HOA	HAND-OFF-AUTO
HP	HORSEPOWER
HPS	HIGH PRESSURE SWITCH
HR	HAND RESET OR HOUR
HS	HAND SWITCH
HTR	HEATER
HZ	HERTZ
I	INTERLOCK
I/O	INPUT/OUTPUT
IC	ISOLATION CONTACTOR
IDS	INTRUSION DETECTION SYSTEM
IG	ISOLATED GROUND
INST	INSTANTANEOUS
INT	INTERVAL TIMER
INTLK	INTERLOCK
ISP	INSTRUMENT AND SAMPLE PANEL
JB	JUNCTION BOX
K	KEY
KCMIL	THOUSAND CIRCULAR MILS
KV	KILOVOLTS
KVA	KILOVOLT-AMPERES
KVAR	KILOVARS (REACTIVE KILOVOLT-AMPERES)
KW	KILOWATTS
KWH	KILOWATT HOUR
KY	TIME RELAY
LAH	HIGH LEVEL ALARM
LAL	LOW LEVEL ALARM
LC/C	LIGHTING CONTROL / CONTACTOR
LCP	LOCAL CONTROL PANEL
LCV	LEVEL CONTROL VALVE
LET	LEVEL ELEMENT TRANSMITTER
LF	LINEAR FEET
LI	LEVEL INDICATOR
LIC	LEVEL INDICATING CONTROLLER
LIR	LEVEL INDICATING RECORDER
LLH	LEVEL LAMP HIGH
LM	LUMEN
LOR	LOCAL-OFF-REMOTE
LOS	LOCK-OUT STOP
LP	LIGHTING PANEL
LR & L	LATCHING RELAY
LS	LEVEL SWITCH
LSH	LEVEL SWITCH HIGH
LSHL	LEVEL SWITCH HIGH/LOW
LSIG	LONG, SHORT, INSTANTANEOUS, GROUND
LSL	LEVEL SWITCH LOW
LT	LEVEL TRANSMITTER
LT	LEVEL TRANSMITTER OR LIGHT
LTFMC	LIQUID TIGHT FLEXIBLE METAL CONDUIT
LTG	LIGHTING
LTS	LIGHTING AND LIGHTS
LV	LOW VOLTAGE
LYR	LEVEL RELAY
M	MOTOR STARTER COIL OR CYCLE TIMER
mA	MILLIAMPERES
MAN	MANUAL
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
MCP	MAIN CONTROL PANEL
MCP	MOTOR CIRCUIT PROTECTOR
MDP	MAIN DISTRIBUTION PANEL
MH	MANHOLE
MIN	MINUTE, MINIMUM
MIN	MINUTES OR MINIMUM
MLO	MAIN LUGS ONLY
MM	MULTIMODE
MPC	MINI POWER CENTER
MS	MAGNETIC STARTER
MS	MANUAL MOTOR STARTER
MTR	MOTOR
MTS	MANUAL TRANSFER SWITCH
mV	MILLIVOLTS
N	NEUTRAL
N/A	NOT APPLICABLE
N1	NEMA 1 ENCLOSURE
N12	NEMA 12 ENCLOSURE
N3R	NEMA 3R ENCLOSURE
NA	NON-AUTO
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NEUT	NEUTRAL
NF	NON-FUSED
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NO	NORMALLY OPEN
NU	NUMBER
NP	NAMEPLATE
NTS	NOT TO SCALE
OC	OPEN/CLOSE
OL	OVERLOAD
OLR	OVERLOAD RELAY
OO	ON-OFF
OOR	ON-OFF RESET
OUT	OUTPUT
P&ID	PROCESS & INSTRUMENTATION DIAGRAM
PC	PHOTOELECTRIC CELL
PCV	PRESSURE CONTROL VALVE
PDT	PRESSURE DIFFERENTIAL TRANSMITTER
PC	PHOTOELECTRIC CELL
PE	PRESSURE ELEMENT
PH	PHASE
PI	PRESSURE INDICATOR
PIT	PRESSURE INDICATING TRANSMITTER
PLC	PROGRAMMABLE LOGIC CONTROLLER
PM	PHASE MONITOR
PMP	PUMP
PNL	PANEL
POE	POWER OVER ETHERNET
PP	POWER PANEL
PR	SHIELDED PAIR
PRI	PRIMARY
PSH	PRESSURE SWITCH HIGH
PSI	POUNDS PER SQUARE INCH
PSL	PRESSURE SWITCH LOW
PVC	POLYVINYL CHLORIDE CONDUIT
R	RED, RELAY, OR RUN
RCP	REFLECTED CEILING PLAN
RE	RELOCATE
RECEPT	RECEPTACLE
REF	REFERENCE
RGA	RIGID GALVANIZED ALUMINUM
RGS	RIGID GALVANIZED STEEL
RIL	RED INDICATING LIGHT
RIO	REMOTE I/O PANEL
RM	ROOM
RP	REPLACE
RTD	RESISTANCE TEMPERATURE DETECTOR
RTM	RUNNING TIME METER
RTU	REMOTE TELEMETRY UNIT
RVNR	REDUCED VOLTAGE, NON REVERSING
RVS	REDUCED VOLTAGE STARTER
RVSS	REDUCED VOLTAGE SOFT STARTER
S	START CONTACTOR
S, SEC	SECOND
S2	NEMA SIZE 2 STARTER
SC	SPEED CONTROL;
SEC	SECONDARY OR SECONDS
SEL	SELECTOR
SER	SERVICE ENTRANCE RATED
SH	SHEET OR SHIELDED
SM	SINGLE MODE
SPD	SURGE PROTECTION DEVICE
SPEC	SPECIFICATION
SS	SELECTOR SWITCH OR STAINLESS STEEL
SSSS	SOLID STATE SOFT START
STP	SHIELDED TWISTED PAIR
SV	SOLENOID VALVE
SWBD	SWITCHBOARD
T	THERMOSTAT
TB	TERMINAL BOX, TERMINAL BLOCK
TDR	TIME DELAY RELAY
TEL	TELEPHONE
TI	TEMPERATURE INDICATOR
TO	TIME DELAY OPENING CONTACT OR THERMAL OVERLOAD
TOA	TEST-OFF-AUTO
TSP	TWISTED SHIELDED PAIR
TYP	TYPICAL
UA	COMMON ALARM
UE	UNDERGROUND ELECTRIC
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORIES
UNO	UNLESS NOTED OTHERWISE
UP	UTILITY POWER
UPS	UNINTERRUPTIBLE POWER SUPPLY
UT	UNDERGROUND TELECOMMUNICATIONS
V	VOLTS
VA	VOLT AMPS
VAC	VOLTS ALTERNATING CURRENT
VDC	VOLTS DIRECT CURRENT
VFD	VARIABLE FREQUENCY DRIVE
VM	VOLTMETER
W	WIRE, WATTS
W/	WITH
W/O	WITHOUT
WAP	WIRELESS ACCESS PORT
WI	WEIGHT INDICATOR
WP	WEATHERPROOF
XFMR	TRANSFORMER
XLP	CROSS-LINKED POLYETHYLENE
XP	EXPLOSION-PROOF
YC	STATUS CONTROL
YL	STATUS INDICATION
ZS	POSITION SWITCH
ZSC	POSITION SWITCH CLOSED
ZSO	POSITION SWITCH OPEN

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Collier County

MARK	DATE	DESCRIPTION	BY

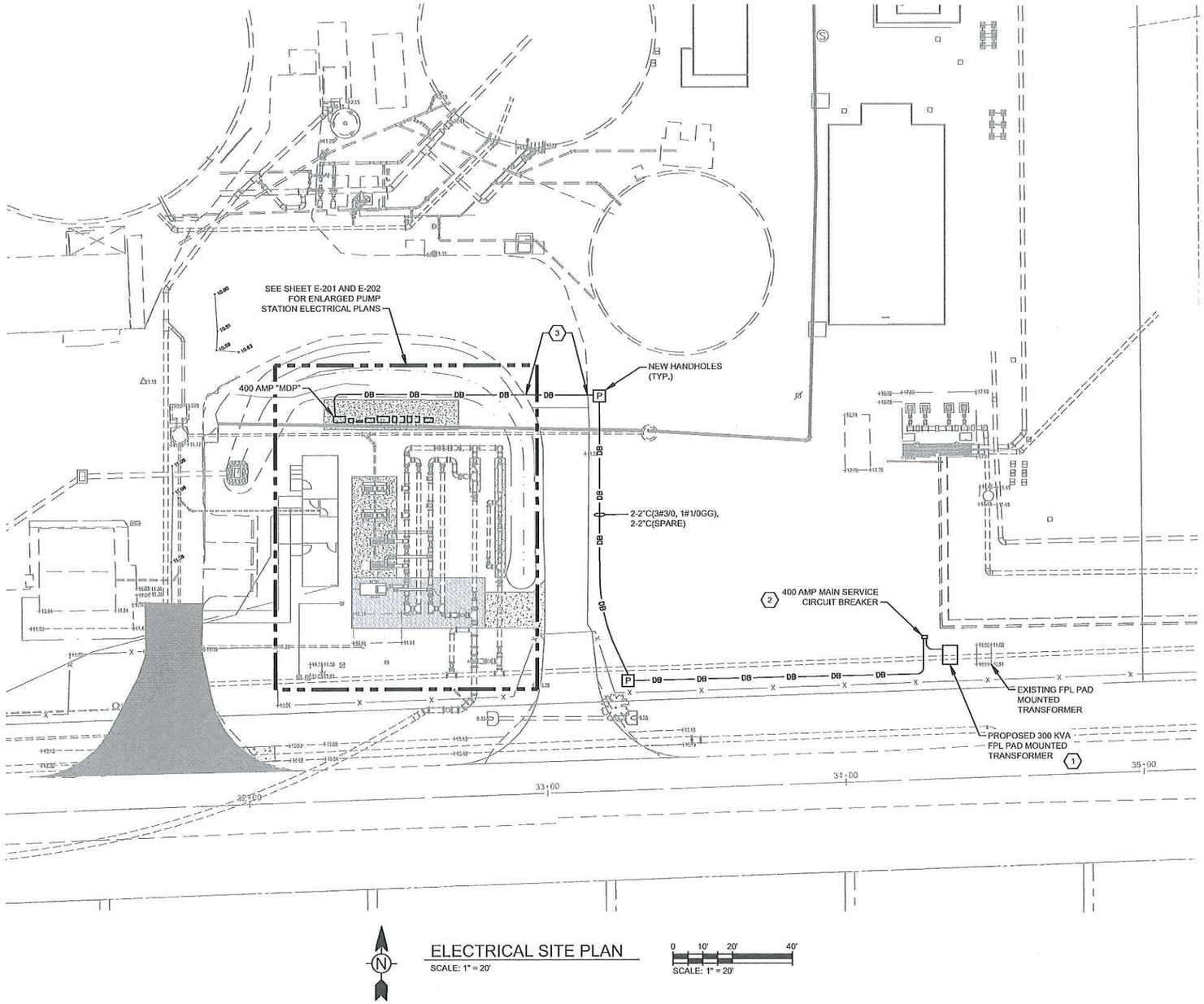
COLLIER COUNTY UTILITIES
GOLDEN GATE WWTP
MASTER PUMP STATION
ELECTRICAL NOTES & SYMBOLS

Project No.:	200-08486-20013
Designed By:	JAS
Drawn By:	JAS
Checked By:	TW

E-003

Bar Measures 1 inch

5/17/2024 11:11:34 AM - O:\PROJECTS\ORLANDO\ER\08486\200-08486-20013\CAD\SHEETFILES\MASTER PUMP STATION\E-001 ELECTRICAL NOTES & SYMBOLS.DWG - SEIGNORET, JASON



ELECTRICAL SITE PLAN
SCALE: 1" = 20'

0 10' 20' 40'
SCALE: 1" = 20'

KEY NOTES:

1. NEW 300 KVA PAD MOUNTED FPL UTILITY TRANSFORMER. CONTRACTOR SHALL COORDINATE WITH FPL TO PROVIDE TRANSFORMER. CONTRACTOR SHALL PROVIDE TRANSFORMER PAD PER FPL SPECIFICATIONS OR PRE-CAST TRANSFORMER PAD FROM AN APPROVED FPL VENDOR. CONTRACTOR SHALL COORDINATE WITH FPL FOR CONNECTION OF TRANSFORMER.
2. PROVIDE SUPPORT POSTS TO SUPPORT 400 AMP, MAIN SERVICE CIRCUIT BREAKER.
3. CONTRACTOR SHALL CUT AND PATCH DRIVEWAY FOR CONDUIT INSTALLATION.

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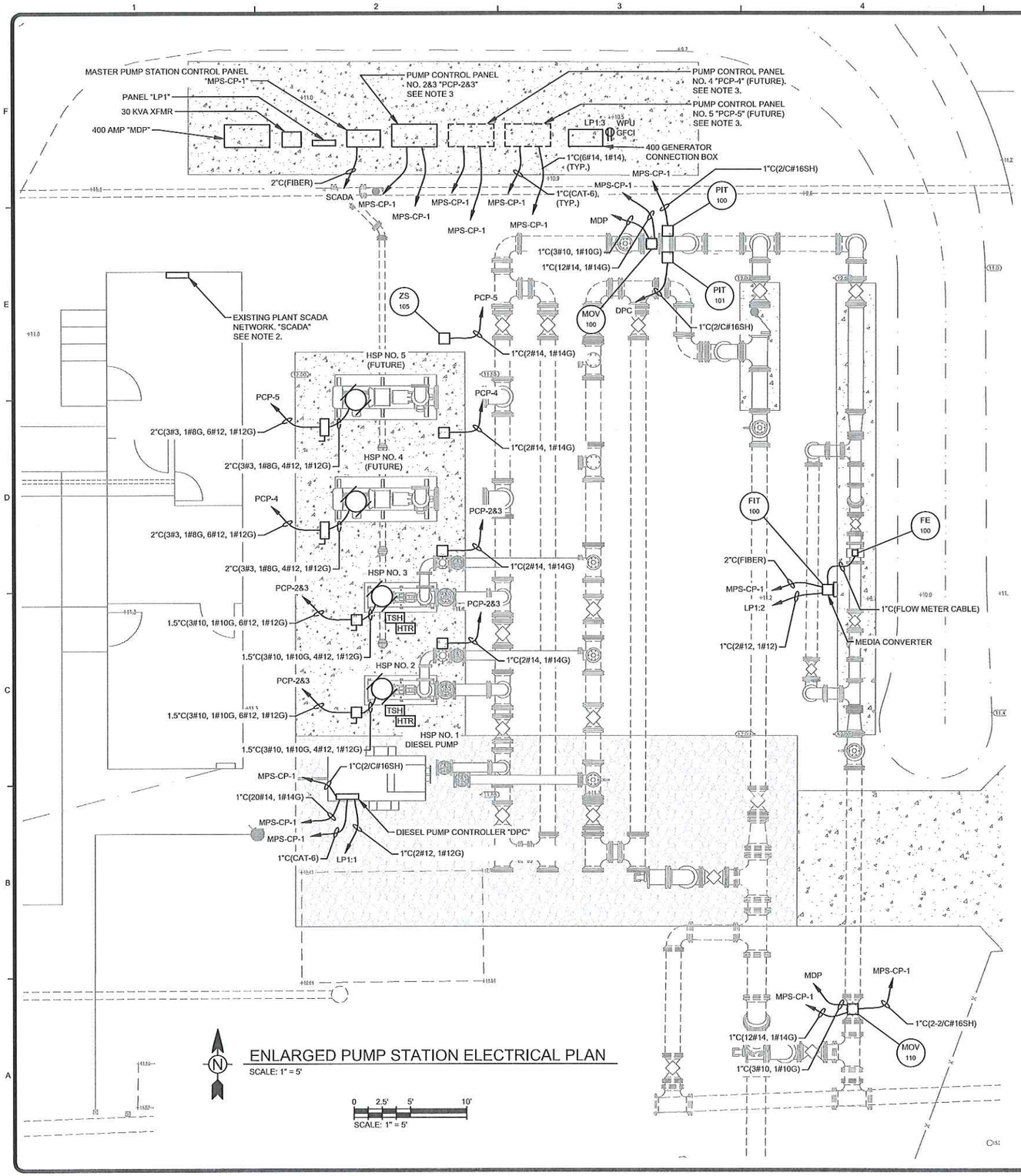
COLLIER COUNTY UTILITIES
GOLDEN GATE WWTP
MASTER PUMP STATION
ELECTRICAL SITE PLAN

Project No.:	200-08486-20013
Designed By:	JAS
Drawn By:	JAS
Checked By:	TW

E-101

Bar Measures 1 inch

5/17/2024 11:11:35 AM - O:\PROJECTS\ORLANDO\ER\08486\200-08486-20013\CAD\SHEETFILES\MASTER PUMP STATION\E-101 PROPOSED ELECTRICAL PLAN.DWG - SEIGNORET, JASON



NOTES:

1. PROVIDE CONDUITS WITH PULL-STRINGS FOR FUTURE EQUIPMENT. CAP CONDUITS ABOVE GRADE.
2. CONTRACTOR SHALL COORDINATE EXACT LOCATION OF EXISTING PLANT SCADA NETWORK SWITCHES LOCATION WITHIN THE BUILDING.
3. PUMP CONTROL PANEL PROVIDED BY PUMP VENDOR.
4. FACE CONTROL PANEL AND VFD'S NORTH.

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MARK	DATE	DESCRIPTION	BY

COLLIER COUNTY UTILITIES
GOLDEN GATE WWTP
MASTER PUMP STATION

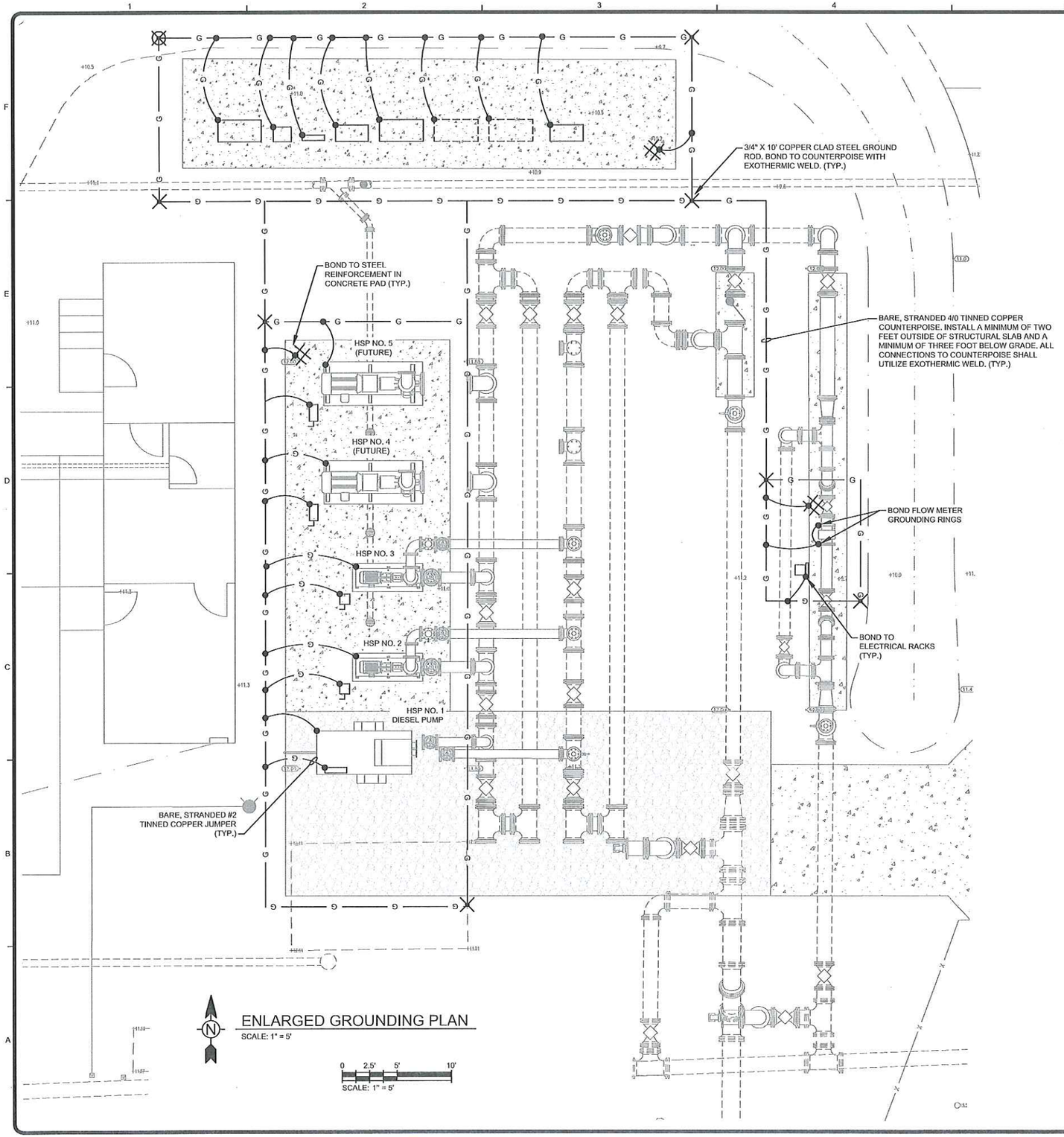
ENLARGED POWER PLAN

Project No.:	200-08486-20013
Designed By:	JAS
Drawn By:	JAS
Checked By:	TW

E-201

Bar Measures 1 inch

5/17/2024 11:11:25 AM - O:\PROJECTS\ORLANDO\ER\08486\200-08486-20013\CAD\SHEETFILES\MASTER PUMP STATION\E-102 ENLARGED ELECTRICAL PLAN.DWG - SEIGNORET, JASON



ENLARGED GROUNDING PLAN
SCALE: 1" = 5'

0 2.5' 5' 10'
SCALE: 1" = 5'

NOTES :

1. UNIONS BELOW GRADE SHALL BE EXOTHERMICALLY CONNECTED. UNIONS ABOVE GRADE SHALL BE MECHANICALLY CONNECTED, APPLY SILICON SPRAY TO PROTECT MECHANICAL CONNECTIONS.
2. CONDUCTORS SHALL BE ROUTED AS INCONSPICUOUSLY AS POSSIBLE.
3. BOND ELECTRICAL EQUIPMENT TO NEAREST COUNTERPOISE VIA #2/0 WIRE.
4. STUB UP GROUND CONDUCTORS AND PROVIDE COILED UP BONDING CONDUCTOR FOR FUTURE EQUIPMENT.

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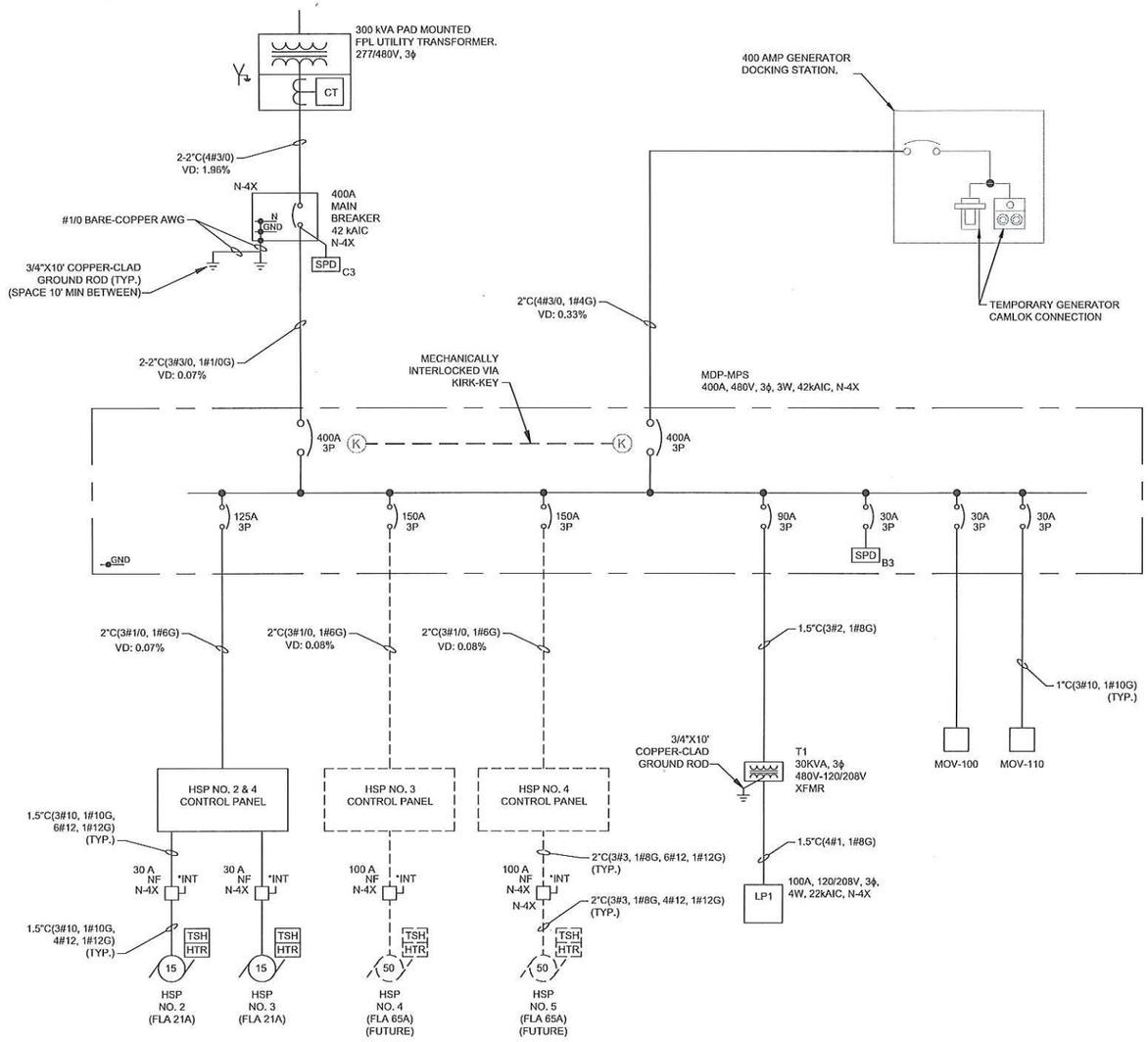
COLLIER COUNTY UTILITIES
GOLDEN GATE WWTP
MASTER PUMP STATION
ENLARGED GROUNDING PLAN

Project No.:	200-08486-20013
Designed By:	JAS
Drawn By:	JAS
Checked By:	TW

E-202

Bar Measures 1 inch

5/17/2024 11:11:54 AM - O:\PROJECTS\ORLANDO\ER\08486200-08486-20013\CAD\SHEETFILES\MASTER PUMP STATION\E-202 ENLARGED GROUNDING PLAN.DWG - SEIGNORET, JASON



SINGLE LINE DIAGRAM

SCALE: NONE

NOTES:

1. HSP NO. 2 & 4 CONTROL PANEL PROVIDED BY PUMP MANUFACTURER WITH TWO 20 HP VFD'S.
2. HSP NO. 3 AND HSP NO. 4 CONTROL PANELS PROVIDED BY PUMP MANUFACTURER WITH 60 HP VFD'S.
3. PROVIDE DISCONNECT SWITCHES FOR HSP NO. 2, 3, AND 4 WITH INTERLOCK SWITCHES.
4. CABLES BETWEEN VFD'S AND MOTORS SHALL BE VFD CABLE.

SERVICE CALCULATION	
LOAD NAME	CONNECTED LOAD
HSP #2 (15 HP)	21A
HSP #3 (15 HP)	21A
HSP # 4 (50 HP FUTURE)	65A
HSP #5 (50 HP FUTURE)	65A
30 kVA XFMR	36A
25% OF CONTINUOUS LOAD	52A
TOTAL	260A

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COLLIER COUNTY UTILITIES
GOLDEN GATE WWTP
MASTER PUMP STATION
SINGLE-LINE DIAGRAM

Project No.:	200-08486-20013
Designed By:	JAS
Drawn By:	JAS
Checked By:	TW

E-301

Bar Measures 1 inch

5/17/2024 11:11:45 AM - O:\PROJECTS\ORLANDO\ER\08486\200-08486-20013\CAD\SHEETFILES\MASTER PUMP STATION\E-301 ELECTRICAL SINGLE LINE DIAGRAM.DWG - SEIGNORET, JASON

PANELBOARD: LP1												
SERVICE: 208/120V, 3 PH, 4 W												
BUS SIZE: 100A			LOAD:				NOTES: PROVIDE WITH SURGE PROTECTION					
MAIN DEVICE: 100A			CONN 1.2 kVA									
SFC RATING: 22,000AIC			DEM. 1.2 kVA				LOCATION: NEMA 4X.					
MOUNTING: SURFACE			DEM. 3.3 Amps									
CKT #	TRIP/ POLE	NOTES	CIRCUIT DESCRIPTION	CONNECTED LOAD (VA) PHASE A		PHASE B		PHASE C		CIRCUIT DESCRIPTION	NOTES	TRIP/ POLE	CKT #
1	20A/1		DIESEL PUMP BATTERY CHARGER	600	420					FLOW METER/MEDIA CONVERTER		20A/3	2
3	20A/1	GFI	RECEPTACLE			180	-			SPARE		20/1	4
5	20A/1		SPARE					-	-	SPARE		20/1	6
7	20A/1		SPARE		-					SPARE		20/1	8
9	20A/1		SPARE	-		-	-			SPARE		20/1	10
11			SPACE					-	-	SPACE		20/1	12
13			SPACE		-					SPACE		30/1	14
15			SPACE	-		-	-			SPACE		20/1	16
17	20/1		SPACE					-	-	SPACE		20/1	18
19	20/1		SPACE	-	-					SPACE		20/1	20
21	20/1		SPACE			-	-			SPACE		20/1	22
23	20/1		SPACE					-	-	SPACE		20/1	24
25	20/1		SPACE	-	-					SURGE PROTECTION DEVICE		30A/3	26
27	20/1		SPACE			-	-			-------		-	28
29	20/1		SPACE					-	-	-		-	30
TOTAL CONNECTED LOADS:				600	420	180	0	0	0				

PANEL LP1 SCHEDULE

SCALE: NONE

PANELBOARD: MDP												
SERVICE: 480/277V, 3 PH, 3 W												
BUS SIZE: 400A			LOAD:				NOTES: Provide main with kirk-key					
MAIN DEVICE: 400A			CONN 190.4 kVA									
SFC RATING: 42,000AIC			DEM. 190.4 kVA				LOCATION: NEMA 4X					
MOUNTING: SURFACE			DEM. 229.2 Amps									
CKT #	TRIP/ POLE	NOTES	CIRCUIT DESCRIPTION	CONNECTED LOAD (VA) PHASE A		PHASE B		PHASE C		CIRCUIT DESCRIPTION	NOTES	TRIP/ POLE	CKT #
1	125A/3		HSP NO. 2&3 CONTROL PANEL	13,025	19,398					HSP NO. 5 CONTROL PANEL		150A/3	2
3	-		-			13,025	19,398			-		-	4
5	-		-					13,025	19,398	-		-	6
7	150A/3		HSP NO. 4 CONTROL PANEL	19,398	831					MOV-100		30A/3	8
9	-		-			19,398	831			-		-	10
11	-		-					19,398	831	-		-	12
13	90A/3		XFMR T1	10,000	831					MOV-110		30A/3	14
15	-		-			10,000	831			-		-	16
17	-		-					10,000	831	-		-	18
19	400A/3	KIRK-KEY	PORTABLE GENERATOR CONNECTION	-	-					SURGE PROTECTION DEVICE		30A/3	20
21	-		SPARE			-	-			-		-	22
23	-		SPARE					-	-	-		-	24
TOTAL CONNECTED LOADS:				42,423	21,061	42,423	21,060	42,423	21,060				

PANEL MDP SCHEDULE

SCALE: NONE

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Collier County

MARK	DATE	DESCRIPTION	BY

COLLIER COUNTY UTILITIES

GOLDEN GATE WWTP
MASTER PUMP STATION

PANELBOARD SCHEDULES

Project No.: 200-08486-20013
Designed By: JAS
Drawn By: JAS
Checked By: TW

E-401

Bar Measures 1 inch

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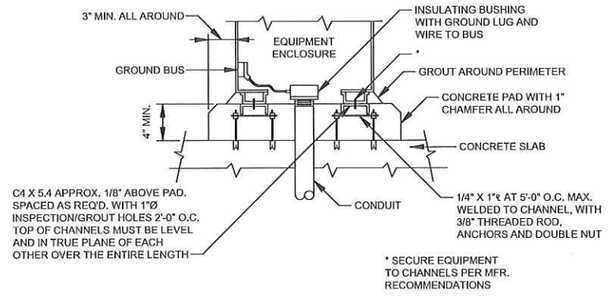
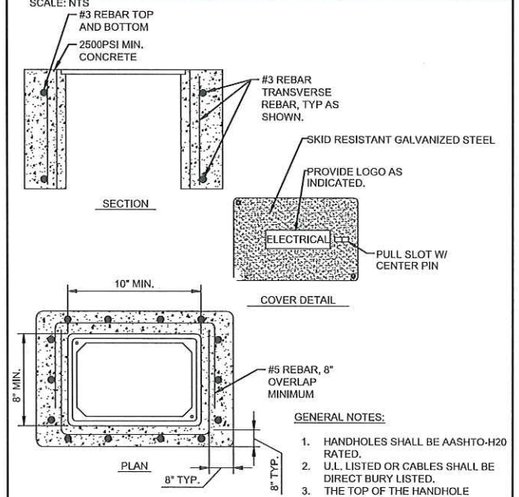
1 OUTDOOR PAD MOUNTED EQUIPMENT DETAIL

SCALE: NTS



2 HANDHOLE DETAIL

SCALE: NTS

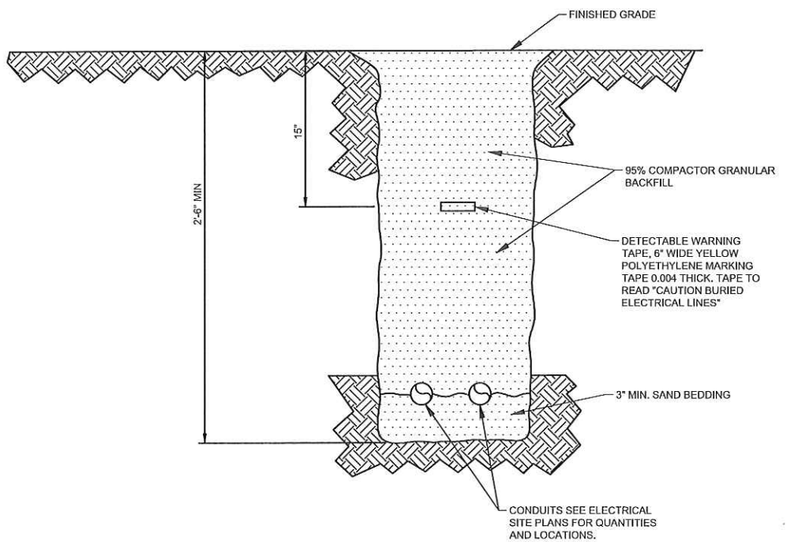


GENERAL NOTES:

1. HANDHOLES SHALL BE AASHTO-H20 RATED.
2. U.L. LISTED OR CABLES SHALL BE DIRECT BURY LISTED.
3. THE TOP OF THE HANDHOLE COVERS SHALL BE APPROXIMATELY 1/2" ABOVE FINISHED GRADE.
4. DO NOT LOCATE IN PAVED OR TRAFFIC AREA.
5. SIZE PULL BOXES PER NEC REQUIREMENTS, MINIMUM ALLOWABLE SIZE SHOWN IN DETAIL.
6. PROVIDE 6" OF COMPACTED ROCK BEDDING BEFORE INSTALLATION.
7. PROVIDE 8" CONCRETE ENCASEMENT.

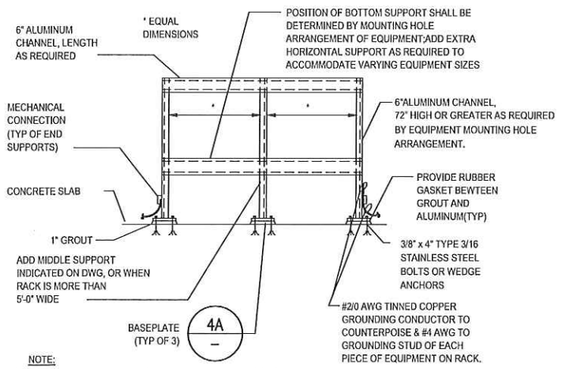
3 TRENCHING DETAIL

SCALE: NTS



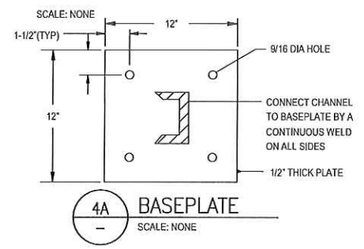
4 EQUIPMENT RACK DETAIL

SCALE: NTS



NOTE:

1. ENCLOSURES THAT ARE GREATER THAN 24" WIDE BY 6" DEEP SHALL BE PROVIDED WITH ADDITIONAL ENCLOSURE SUPPORTS. PROVIDE 1" ALUMINUM CONDUIT WITH ALUMINUM POST BASES AT EACH END AND SECURE THEM TO THE BASE OF THE ENCLOSURE AT EACH FRONT CORNER AND SECURE THE BOTTOM OF THE POST TO CONCRETE PAD OR STRUCTURE.
2. ALL HARDWARE TO ASSEMBLE RACK AND TO MOUNT EQUIPMENT SHALL BE 316 STAINLESS STEEL.



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100% SUBMITTAL

NOT FOR CONSTRUCTION

Collier County

MARK	DATE	DESCRIPTION	BY

COLLIER COUNTY UTILITIES
CENTRAL COUNTY WATER RECLAMATION FACILITY EXPANSION
ELECTRICAL DETAILS

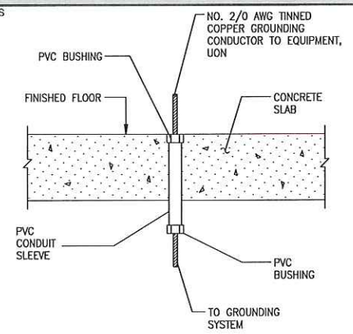
Project No.:	200-08486-20013
Designed By:	JAS
Drawn By:	JAS
Checked By:	TW

E-501

Bar Measures 1 inch

1 GROUNDING CONDUIT SLEEVE DETAIL

SCALE: NTS

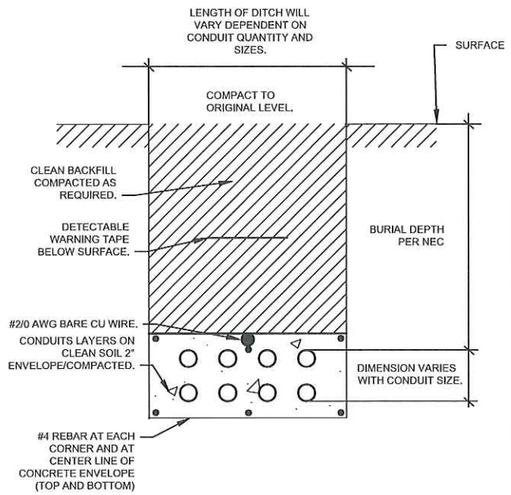


NOTES:

1. EXTEND PVC CONDUIT TO TOP OF BASE, OR PEDESTAL FOR BASE, OR PEDESTAL MOUNTED EQUIPMENT. SUPPORT AT (2) PLACES(MIN).

2 CONCRETE REINFORCED DUCT BANK SECTION DETAIL

SCALE: NTS

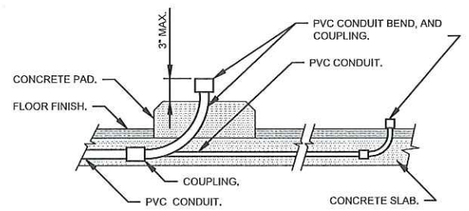


NOTES:

1. PROVIDE REBAR ONLY AT ROAD CROSSINGS AND OTHER AREAS SUBJECT TO VEHICULAR TRAFFIC.

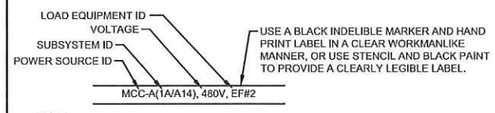
3 CONDUIT STUB-UP DETAIL

SCALE: NTS



4 FEEDER & BRANCH CIRCUIT RACEWAY LABELS

SCALE: NTS

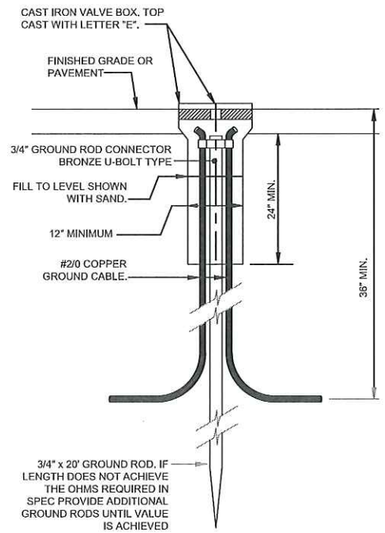


NOTE:

1. NO LABELING REQUIRED FOR RACEWAYS WITH READILY IDENTIFIABLE TERMINATIONS WITHIN THE SAME LOCATION.
2. IN ACCESSIBLE LOCATIONS AND EXPOSED IN PANELS AND PULLBOXES, LABEL CONDUIT WITH PANEL AND CIRCUIT NUMBERS OF CONDUCTORS ROUTED THROUGH THE CONDUIT. LABEL CONDUIT AT CONNECTIONS TO ALL PANELS, JUNCTION BOXES, AND EQUIPMENT SERVED.
3. LABEL ALL CABLES AND WIRE IN PULLBOXES.

5 GROUND ROD INSPECTION TEST WELL INSTALLATION

SCALE: NTS



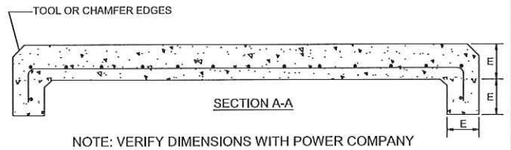
6 TRANSFORMER PAD DETAIL

SCALE: NTS

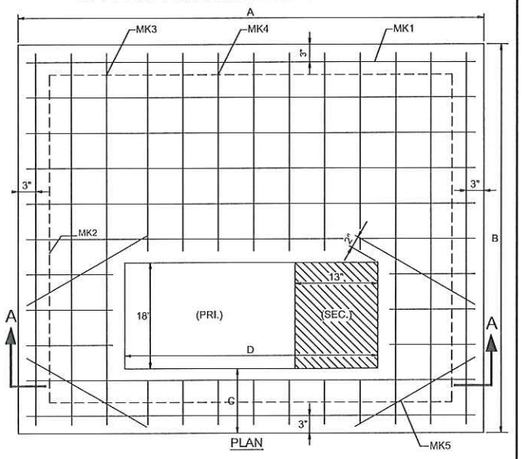
NOTES:

1. CONCRETE TESTING: 3000 LBS. MIN. PER SQ. INCH; 4% TO 6% ENTRAINED AIR, 3/4" MAXIMUM SIZE AGGREGATE.
2. REINFORCING STEEL: ASTM-A615 GRADE 60, PLACE APPROX. 6" O.C. EACH WAY AND SECURELY TIED TOGETHER.
3. MINIMUM CONCRETE COVER OVER REINFORCING STEEL 2" UNLESS OTHERWISE NOTED.
4. WOOD FLOAT FINISH, LEAVING NO DEPRESSIONS.

3Ø TRANSFORMER KVA	PAD DIMENSIONS					REINFORCING BARS				
	A	B	C	D	E	MK1	MK2	MK3	MK4	MK5
75, 112-1/2, 150, 225, 300, 500	6'-4"	5'-2"	10"	3'-6"	6"	7#4 70"	4#4 10"	6#4 57"	6#4 28"	4#4 26"
750, 1000, 1500, 2000	8'-10"	9'-4"	10"	4'-6"	8"	12#4 98"	6#4 19"	6#4 94"	7#4 66"	4#4 22"



NOTE: VERIFY DIMENSIONS WITH POWER COMPANY

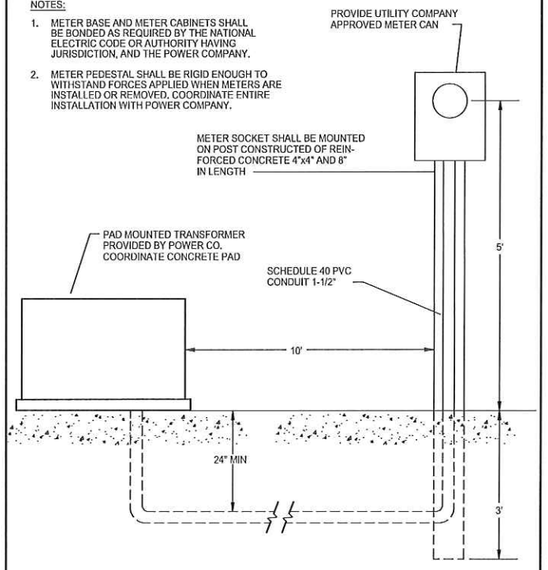


7 METER DETAIL

SCALE: NTS

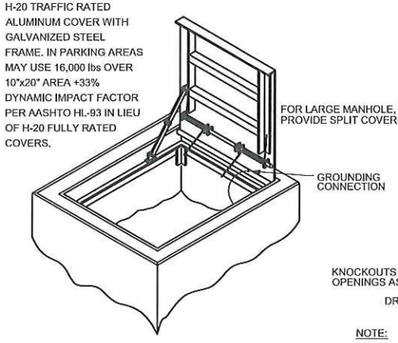
NOTES:

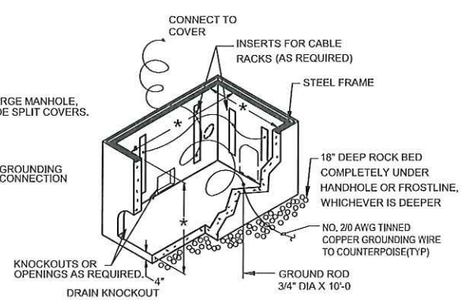
1. METER BASE AND METER CABINETS SHALL BE BONDED AS REQUIRED BY THE NATIONAL ELECTRIC CODE OR AUTHORITY HAVING JURISDICTION, AND THE POWER COMPANY.
2. METER PEDESTAL SHALL BE RIGID ENOUGH TO WITHSTAND FORCES APPLIED WHEN METERS ARE INSTALLED OR REMOVED. COORDINATE ENTIRE INSTALLATION WITH POWER COMPANY.



8 TYPICAL SINGLE PULLBOX DETAIL

SCALE: NTS





NOTE:
COVER AND STEEL FRAME SHALL BE GROUNDED.

* SEE PULL BOX SCHEDULE

NOTES FOR ALL MANHOLES:

CONTRACTOR SHALL PROVIDE REQUIRED END BELL LOCATIONS TO MANHOLE MANUFACTURER BEFORE MANUFACTURING.

ALL MANHOLES SHALL BE H-20 TRAFFIC RATED.

CONTACT LINDSEY PRECAST AND U.S.F. FABRICATION FOR ALUMINUM ACCESS HATCH.

CONTRACTOR SHALL COORDINATE CONDUIT ENTRY REQUIREMENTS WITH SITE PLAN, PRIOR TO ORDERING MANHOLE.

ALL COVERS SHALL BE RECESSED PADLOCK LOCKABLE.

PULL BOX SCHEDULE	
PULL BOX	INTERIOR PULL BOX DIMS
HH	24"x24"x48"H

MANHOLE DETAIL NOTES:

1. CABLE RACK, JOSLYN J-5126 OR EQUAL
   CABLE HOOKS, JOSLYN J-5131A OR EQUAL
   CABLE RACK INSULATORS, JOSLYN J-5120
2. PULLING-IN-IRONS INSTALL OPPOSITE CONDUIT ENTRANCE. POSITION BELOW LEVEL OF CONDUIT ENTRANCE. HUBBART & CO. CATALOG 9119 OR EQUAL.
3. TERMINATE ALL DUCTS IN MANHOLE WITH END BELLS.
4. MANHOLE COVERS SHALL BE MARKED "ELECTRICAL" OR "CONTROL" BY THE MANUFACTURER, WITH RAISED LETTERS. THE CONTRACTOR SHALL STAMP IN THE MANHOLE COVERS THE IDENTIFICATION NUMBER OF THE MANHOLE AS LISTED ON THE DRAWINGS. LETTERS AND NUMBERS TO BE 2" HIGH. AS AN ALTERNATE THE CONTRACTOR MAY INSTALL SS NAMEPLATES ATTACHED WITH FOUR SS BOLTS TO THE MANHOLE COVERS INDICATING THE MANHOLE NUMBER (NUMBER, LETTERS AND NUMBERS TO BE RAISED AND 2" HIGH. SUBMIT ONE SAMPLE NAMEPLATE FOR ENGINEER'S APPROVAL PRIOR TO INSTALLATION.
5. GROUND ROD, 3/4"X10'-0, COPPER CLAD AND #8 GREEN AAG.
6. BOND ALL METALLIC PARTS TO GROUNDING SYSTEM.
7. PRECAST CONCRETE MANHOLE, U.S. PRECAST CORP. OR APPROVED EQUAL.
8. U.S.F. FABRICATION, INC. HEAVY DUTY, ALUMINUM, H-20 LOADING, SINGLE OR DOUBLE DOOR WITH RECESSED STAPLE FOR PADLOCK AND SPRING LOADED HINGE OR APPROVED EQUAL.

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Collier County

MARK	DATE	DESCRIPTION	BY

COLLIER COUNTY UTILITIES
CENTRAL COUNTY WATER RECLAMATION FACILITY EXPANSION
ELECTRICAL DETAILS

Project No.:	200-08486-20013
Designed By:	JAS
Drawn By:	JAS
Checked By:	TW

E-502

Bar Measures 1 inch

5/17/2024 11:11:07 AM - O:\PROJECTS\ORLANDO\ER\08486200-08486-20013\CAD\SHEETFILES\MASTER PUMP STATION\E-502.DWG - SEIGNORET, JASON

INSTRUMENT TYPE IDENTIFICATION LETTERS

THIS TABLE APPLIES ONLY TO THE FUNCTIONAL IDENTIFICATION OF INSTRUMENTS

	FIRST LETTER		SUCCEEDING LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS	ANALOG	ALARM		AVAILABLE
B	BURNER FLAME		USER'S CHOICE	USER'S CHOICE	USER'S CHOICE
C	CONDUCTIVITY (ELECTRICAL)		CONTROL	CONTROL	CLOSE
D	DENSITY (MASS) OR SPECIFIC GRAVITY	DIFFERENTIAL OR DIGITAL			
E	VOLTAGE (EMF)	POWER	PRIMARY ELEMENT		
F	FLOW RATE	RATIO (FRACTION)			FORWARD
G	GAUGING (ELECTRICAL)		GLASS		
H	HAND (MANUALLY INITIATED)				HIGH
I	CURRENT (ELECTRICAL)		INDICATE OR INPUT	HYDRAULIC	
J	POWER	SCAN			
K	TIME OR TIME SCHEDULE			CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOISTURE OR HUMIDITY				MIDDLE OR INTERMEDIATE
N	VIBRATION		ECCENTRICITY	EXPANSION	ON/OPERATE
O	NETWORK COMS RTU		ORIFICE (RESTRICTION)		OPEN
P	PRESSURE OR VACUUM		POINT (TEST CONNECTION)		
Q	QUANTITY OR EVENT	INTEGRATE OR TOTALIZE			
R	RUN	RELIEF	RECORD OR PRINT		REVERSE
S	SPEED OR FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	UNIT		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VISCOSITY			VALVE, DAMPER OR LOUVER	
W	WEIGHT OR FORCE		WELL		
X	UNCLASSIFIED		UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT/STATE			RELAY OR COMPUTE	
Z	POSITION			DRIVE, ACTUATE UNCLASSIFIED FINAL CONTROL ELEMENT	

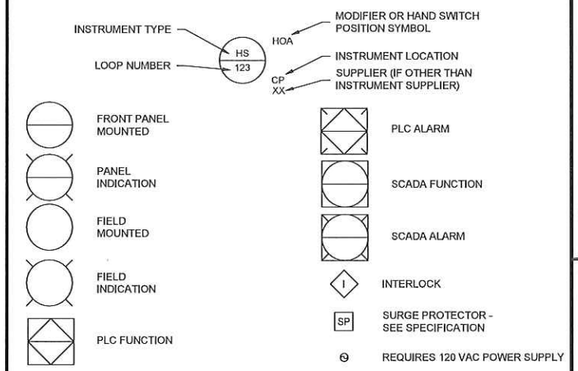
MISCELLANEOUS ABBREVIATIONS

Σ	ADD OR TOTALIZE	pH	HYDROGEN ION CONCENTRATION	NO	NORMALLY OPEN
AG	ABOVE GRADE	I/O	INPUT/OUTPUT	OR	OR SELECTION
UG	BELOW GRADE	∫	INTEGRAL CONTROL MODE	OVF	OVERFLOW
BF	BLIND FLANGE	I	INTERLOCK	ORP	OXIDATION/REDUCTION POTENTIAL
f(x)	CHARACTERISTIC	LP	LOCAL PANEL	O2	OXYGEN
COND	CONDUCTIVITY	<	LOW SELECT	PART. CT.	PARTICLE COUNT
D	DERIVATIVE	LEL	LOWER EXPLOSIVE LIMIT	P	PROPORTIONAL CONTROL MODE
	DIFFERENCE	MV	MEASURED VARIABLE	S.P.	SET POINT
DCS	DISTRIBUTED CONTROL SYSTEM	MIL	MOTOR INDICATING LIGHT		SQUARE ROOT
	DIVIDE	X	MULTIPLY	TURB	TURBIDITY
ER	ELECTRICAL ROOM	NIR	NOT IN REMOTE	VFD	VARIABLE FREQUENCY DRIVE
>	HIGH SELECT	NC	NORMALLY CLOSED	V	VENT
HP	HORSEPOWER OR HIGH PRESSURE			WW	WASTE WATER

EQUIPMENT CODE LIST

	LETTER COMBINATION	DESCRIPTION
A	AL	ALARM AUDIBLE
	A/M	AUTOMATIC-MANUAL STATION
	ANN	ANNUNICIATOR
	AOV	VALVE, AIR OPERATED
	ATV	VALVE, TRIP, AIR OPERATED
B	BLW	BLOWER
C	C	COMPRESSOR
	CLR	CLARIFIER
	CN	CENTRIFUGE
	CNV	CONVEYOR
	CTV	VALVE, CONTAINMENT, TRIP
D	DL	DELAY COIL
	DSPL	DISPLAY, CRT
E	E/E	REPEATER
	E/H	CONVERTER, VOLTAGE TO HYDRAULIC
	E/I	CONVERTER, VOLTAGE TO CURRENT
	E/P	CONVERTER, VOLTAGE TO PNEUMATIC
F	FCV	FLOW CONTROL VALVE
	FD	DETECTOR, FIRE OR HEAT
	FLT	FILTER
	FOP	FIBER OPTIC PATCH PANEL
G	GNDS	SWITCH, GROUND
H	HYV	VALVE, HYDRAULICALLY OPERATED
I	I/H	CONVERTER, CURRENT TO HYDRAULIC
	I/E	CONVERTER, CURRENT TO VOLTAGE
	I/I	REPEATER, CURRENT TO CURRENT
	I/P	CONVERTER, CURRENT TO PNEUMATIC
L	LMTS	SWITCH, LIMIT
M	MIX	MIXER
	MOG	MOTOR OPERATED GATE
	MOV	MOTOR OPERATED VALVE
N	NBA	ALARM, VIBRATION
	NBE	VIBRATION ELEMENT
	NBI	INDICATION, VIBRATION
	NBR	RECORDER, VIBRATION
	NBS	SWITCH, VIBRATION
	NBT	TRANSMITTER, VIBRATION
	NNA	ALARM, ECCENTRICITY
	NXA	ALARM EXPANSION
	NXE	EXPANSION ELEMENT
	NXI	INDICATOR, EXPANSION
	NXR	RECORDER, EXPANSION
	NXS	SWITCH, EXPANSION
	NXT	TRANSMITTER, EXPANSION
P	P	PUMP
	P/I	CONVERTER, PNEUMATIC TO CURRENT
	PSE	RUPTURE DISC
	PTR	PRINTER
R	RO	ORIFICE, RESTRICTION
	ROM	REVERSE OSMOSIS MEMBRANE
	RTD	RESISTANCE TERMPERATURE DETECTOR
	RV	VALVE, RELIEF
	RY	RETRANSMITTED OUTPUT
S	SCA	SCALE
	SD	DETECTOR, SMOKE
	SKIM	SKIMMER
	SOV	VALVE, SOLENOID
	STR	STRAINER
	STS	SCREEN
	STV	VALVE, TRIP SOLENOID
T	T/C	THERMOCOUPLE
	TK	TANK
	TQS	SWITCH, TORQUE
V	VM	VOLTMETER
	VSR	RELAY, VOLTAGE-SENSITIVE
W	WM	WATTMETER
	WMI	INDICATOR, WATT
	WMR	RECORDER, WATT
	WMS	SWITCH, WATT
	WMX	COUNTER, WATT
	WV	VALVE, WEIGHT
X	XFMR	TRANSFORMER
	XR	RECORDER
Z	ZU	DRIVE, CONTROL
	ZUM	DRIVE, CONTROL, MOTOR DRIVEN
	ZUP	DRIVE, CONTROL, PNEUMATIC

INSTRUMENT SYMBOLS



SUPPLIERS

PROVIDE ALL INSTRUMENTS AS PART OF THE INTEGRATOR UNLESS INDICATED BY;

(E) SPECIFIED BY ELECTRICAL

(X) EXISTING

(M) SPECIFIED BY MECHANICAL

(H) SPECIFIED BY HVAC

(F) FURNISHED WITH EQUIPMENT

(P) SPECIFIED BY PLUMBING

(D) SPECIFIED BY PROCESS

PROVIDE ALL INSTRUMENTS AS SPECIFIED ON DATA SHEETS ATTACHED TO SPECIFICATION.

GENERAL NOTES

1. INSTRUMENT SUFFIX:

   NUMERIC SUFFIXES IDENTIFY INSTRUMENTS WITH DIFFERENT FUNCTIONS (E.G., A L/R AND A O/S/C SWITCH) ARE PRECEDED BY - (E.G., HS-102-1, AND HS-102-2)

   ALPHABETIC SUFFIXES IDENTIFY MULTIPLE OCCURRENCES OF INSTRUMENTS WITH THE SAME FUNCTION (E.G.,TWO L/R SWITCHES FOR DIFFERENT MOTORS IN SAME PANEL (E.G. HS-103-1A, HS-103-2A)

PLC INPUT/OUTPUT SYMBOLS

HAND SWITCH POSITION SYMBOLS

(UNLABELLED SWITCHES ARE TO BE ON-OFF)

A	AUTOMATIC	O/O	ON/OFF	HOR	HAND-OFF-REMOTE
C	CLOSE	R	RUN OR REMOTE	HOA	HAND-OFF-AUTO
F	FAST OR FORWARD	S/S	START/STOP	D/R/A	DISCHARGE-RECIRCULATE-AUTO
H	HAND	E/S	EMERGENCY STOP	OSC	OPEN/STOP/CLOSE
J	JOG	SBY	STANDBY	FSR	FORWARD/STOP/REVERSE
L	LOCAL	F/R	FORWARD/REVERSE	TSM	THRU/STOP/MIX
M	MANUAL	L/R	LOCAL/REMOTE	OSF	OFF/SLOW/FAST
O	OPEN OR OFF	LOR	LOCAL-OFF-REMOTE	OTC	OPEN/TRAVEL/CLOSE

COMMUNICATION LINE TYPES

ENET — ENET	ETHERNET
FO-SM — FO-SM	SINGLE MODE FIBER
FO-MM — FO-MM	MULTIMODE FIBER
COAX — COAX	COAXIAL CABLE
	ELECTRICAL CONNECTION
	DATA CONNECTION

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Collier County

MARK	DATE	DESCRIPTION	BY

COLLIER COUNTY UTILITIES

GOLDEN GATE WWTP
MASTER PUMP STATION

INSTRUMENTATION LEGEND AND ABBREVIATIONS

Project No.:	200-08486-20013
Designed By:	REED
Drawn By:	REED
Checked By:	

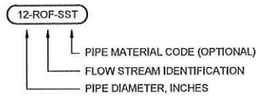
I-001

Bar Measures 1 inch

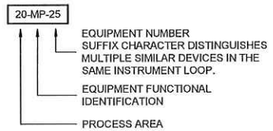
5/17/2024 1:00:55 PM - O:\PROJECTS\ORLANDO\ER\08486\200-08486-20013\CAD\SHEETFILES\MASTER PUMP STATION\I-001.DWG - REED, JOHN

ANNOTATION SYMBOLS

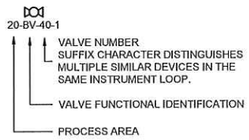
PIPE TAGS



EQUIPMENT TAGS



VALVE TAGS



PROCESS LINE TYPES

FLOW LINES

- PRIMARY FLOW
- SECONDARY FLOW
- EXST PRIMARY FLOW
- EXST SECONDARY FLOW
- FUTURE PRIMARY FLOW
- FUTURE SECONDARY FLOW
- AIR PROCESS FLOW

MISC. LINES

- EQUIPMENT
- EXISTING EQUIPMENT
- FUTURE EQUIPMENT
- VENDOR BOUNDARY
- BUILDING/FACILITY BOUNDARY

SINGLE LINE VALVE SYMBOLS

CLOSED	OPEN	
		GATE VALVE
		GLOBE VALVE
		BUTTERFLY VALVE
		CHECK VALVE
		BALL CHECK VALVE
		DUAL DISC CHECK VALVE
		DIAPHRAGM CHECK VALVE
		BALL VALVE
		PLUG VALVE
		3 WAY VALVE
		DIAPHRAGM VALVE
		4 WAY VALVE
		ROTARY VALVE
		ANGLE VALVE
		DIVERTER VALVE
		EXCESS FLOW VALVE
		GENERIC ROTARY VALVE
		NEEDLE VALVE
		PINCH VALVE
		STOP CHECK VALVE
		KNIFE GATE VALVE
		PRESSURE RELIEF VALVE
		PRESSURE & VACUUM RELIEF VALVE
		SAFETY VALVE
		PILOT OPERATED RELIEF VALVE
		PRESSURE RELIEF WITH SOLENOID
		RUPTURE DISC FOR PRESSURE RELIEF
		RUPTURE DISC FOR VACUUM RELIEF
		AIR/VACUUM RELIEF
		VACUUM BREAKER VALVE
		AIR VENT VALVE
		COMBINATION AIR VALVE

SINGLE LINE ACTUATOR SYMBOLS

- MANUAL ACTUATOR
- HAND WHEEL ACTUATOR
- SOLENOID
- DIGITAL
- PISTON / PNEUMATIC ACTUATOR
- MOTORIZED ACTUATOR
- DIAPHRAGM ACTUATOR
- THROTTLING ACTUATOR
- PRESSURE REDUCING REGULATOR
- BACKPRESSURE REGULATOR SELF CONTAINED
- PRESSURE REDUCING REGULATOR W/ INTEGRAL OUTLET
- PRESSURE REDUCING REGULATOR W/ EXTERNAL TAP
- BACKPRESSURE REGULATOR W/ EXTERNAL PRESSURE TAP
- PRESSURE BALANCED DIAPHRAGM ACTUATOR
- DIFFERENTIAL PRESSURE REDUCING REGULATOR
- SPRING
- DIAPHRAGM SPRING
- SOLENOID MANUAL RESET
- SOLENOID REMOTE RESET
- ROTARY MOTOR
- ELECTRO-HYDRAULIC
- SURGE ANTICIPATION RELIEF VALVE
- MOTOR OPERATED ACTUATOR WITH POSITIONER
- PISTON OPERATED ACTUATOR WITH POSITIONER
- PISTON ACTUATOR WITH STROKE POSITIONER

SINGLE LINE EQUIPMENT LEGEND

- BLOWER
- CENTRIFUGAL PUMP
- SUBMERSIBLE PUMP
- SUMP PUMP
- TURBINE
- VACUUM
- VERTICAL TURBINE PUMP
- PERISTALTIC METERING PUMP
- DIAPHRAGM PUMP
- ROTARY LOBE PUMP
- PROGRESSING CAVITY PUMP
- DIAPHRAGM METERING PUMP
- VORTEX SENSOR
- ELECTROMAGNETIC FLOW METER
- PROPELLER / TURBINE FLOW METER
- SONIC FLOW METER
- MASS FLOW METER
- PITOT TUBE
- VENTURI FLOW METER
- POSITIVE DISPLACEMENT FLOW METER
- TARGET
- ROTARY FEEDER
- MOTOR
- STATIC MIXER
- PROPELLER MIXER
- FLAME ARRESTOR
- FEEDER
- SCREW CONVEYOR
- VARIABLE AREA METER / ROTAMETER
- FLOW CONDITIONING DEVICE
- FLOAT TYPE LEVEL INDICATOR
- ULTRASONIC LEVEL SENSOR
- PRESSURE GAUGE
- PRESSURE GAUGE DIAPHRAGM SEAL
- SURFACE MOUNTED TEMPERATURE SENSOR
- INSTRUMENT WELL
- ORIFICE IN PLATE QUICK-CHANGE FITTING
- ORIFICE PLATE
- RESTRICTION ORIFICE
- UNION
- RESTRICTION ORIFICE DRILLED IN VALVE
- CAP
- QUICK COUPLING/HOSE CONNECTION
- REDUCER
- ECC REDUCER
- FLANGED NOZZLE
- CAMLOCK W/ DUST CAP
- RUPTURE DISK
- FLEX COUPLING
- FLEX CONNECTION
- CORNER TAP
- AVERAGING PITOT TUBE
- FLOW NOZZLE
- SAMPLE PORT
- PUMPOUT CONNECTION
- GAP / BREAK
- FLUME
- WEIR
- WYE STRAINER
- DIAPHRAGM SEAL
- ANNULAR SEAL
- PIPE INSULATION
- CONTAINMENT PIPING
- INJECTOR
- VENT
- CONTROL PANEL
- INLINE 2 CHARACTER
- INLINE 3 CHARACTER
- CONDENSATE TRAP
- TANK VENT
- VARIABLE FREQUENCY DRIVE
- STARTER
- CALIBRATION COLUMN
- PULSATION DAMPENER
- FILTER PRESS
- BAG FILTER
- STRAINER
- MISC EQUIP
- NORMAL LIQUID LEVEL
- PIPE MATERIAL CHANGE
- PIPE CROSSING
- OPEN DRAIN
- CLOSED DRAIN
- STREAM TO/FROM PI-4 — STREAM TO AND FROM
- STREAM TO/FROM PI-4 — STREAM TO AND FROM
- STREAM TO/FROM PI-4 — STREAM TO AND FROM
- INJECTION QUILL WITH CORP STOP

TANKS AND VESSELS

- STORAGE TANK AS IDENTIFIED
- STORAGE TANK AS IDENTIFIED
- STORAGE TANK AS IDENTIFIED
- TANK/PROCESS AS IDENTIFIED
- PRESSURIZED TANK/PROCESS AS IDENTIFIED
- CARTRIDGE FILTER

GATES

CLOSED	OPEN	
		GENERIC GATE
		SLIDE GATE
		SLUICE GATE

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GOLDEN GATE WWTP
MASTER PUMP STATION

INSTRUMENTATION LEGEND AND ABBREVIATIONS

Project No.:	200-08486-20013
Designed By:	REED
Drawn By:	REED
Checked By:	

I-002

Bar Measures 1 inch

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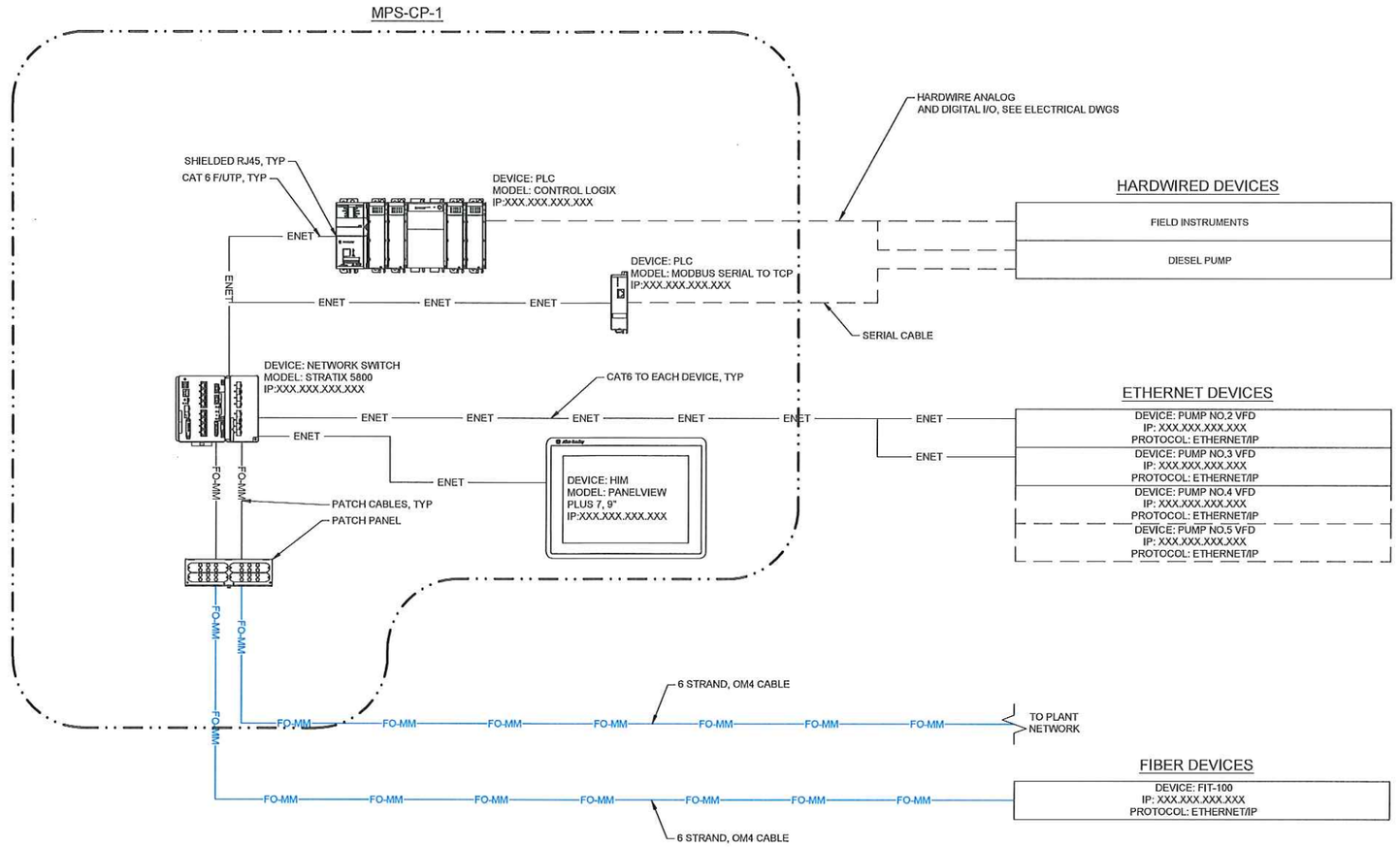

NOTES:
1. ALL PLC MONITORING AND CONTROL POINTS SHALL BE INTEGRATED INTO THE SCADA SYSTEM.
2. INTEGRATOR TO OBTAIN IP ADDRESS RANGE FROM CLIENT DURING CONSTRUCTION.
3. SCADA SOFTWARE SHALL INCLUDE PROPER DRIVER TO READ MODBUS TCP/IP DATA NATIVELY OVER THE PLANT NETWORK WITHOUT THE USE OF GATEWAYS.

MATERIAL NOTES:
A. SEE SECTION 406123 FOR PLC PN AND REQUIRED I/O MODULES.
B. STRATIX 5800, LAYER 3, PROVIDE EXPANSION MODULE AND/OR SECOND SWITCH BASED ON FIBER/COPPER LOAD FROM FIELD INSTRUMENTS AND VFD DRIVES.
C. CORNING WCH WITH CCH PANELS AND SC CONNECTORS, SIZE HOUSING BASED ON FIBER LOAD TO PANEL.

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MASTER PUMP STATION

PLANT NETWORK ARCHITECTURE

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Designed By:	REED
Drawn By:	REED
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I-101

Bar Measures 1 inch

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MASTER PUMP STATION

PUMP STATION P&ID

Project No.:	200-08486-20013
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Drawn By:	REED
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I-201

Bar Measures 1 inch

P-101
DIESEL PUMP
XXX GPM @ XXX TDH
XXX HP

P-102
ELECTRIC PUMP
1,500 GPM @ 7 TDH
15 HP

P-103
ELECTRIC PUMP
1,500 GPM @ 7 TDH
15 HP

P-104
FUTURE ELECTRIC PUMP
2,750GPM @ 42 TDH
50 HP

P-105
FUTURE ELECTRIC PUMP
2,750 GPM @ 42 TDH
50 HP

RUNNING YR 101
FAULT YA 101
FUEL LEVEL LIR 101
FUEL LOW LLA 101
FUEL LEAK LSA 101
OVER SPEED SI 101
LOW FUEL LEVEL LSL 101
HOUR METER KI 101
BAT VOLTAGE EI 101
RPM SI 101
OIL PRESSURE PI 101
COOLANT TEMP TI 101
FUEL LEVEL LIT 101
NOT IN AUTO EA 101
HOA HS 101
START HS 101
STOP HS 101
ADDITIONAL DATA FROM MODBUS REGISTERS
CP
DIESEL CONTROLLER PIC 101
ENGINE
FUEL TANK
LS 101 F
LSL 101 F
LE 101 F
XX-PW-DI
PV
P-101
BV
PI 101B
PI 101A
P-102
CV
ZS 102 F
ZS 102
TSH 102
PI 102B
PI 102A
P-103
ZS 103 F
ZS 103
TSH 103
PI 103B
PI 103A
I/O TYP PER P-103
SPEED SIR 103
SCR 103
HEATER O/O
SIC 103
HS 103
FA 103
YR 103
TAH 103
JA 103
JAH 103
YA 103
RST
HS 103
NO FLOW FA 103
DISC OPEN ZI 103
RUNNING YI 103
HIGH TEMP TSHA 103
UNDERLOAD EBA 103
OVERLOAD ESHA 103
DRIVE FAULT YA 103
VFD
HOA
XC 103
LOR
HS 103
SS
HS 103
NOT IN REMOTE
EA 103
PIT 100
PIC 100
PIT 101
OSCR
HS 100
EA 100
YA 100
ZCC 100
ZCO 100
ZIC 100
ZID 100
ZIC 100
ZID 100
FLOW
FIR 100
FIT 100
FE 100
12
OSCR
HS 110
EA 110
ZIC 110
ZIT 110
ZIR 110
YA 110
TO COLLECTION SYS
FROM COLLECTION SYS

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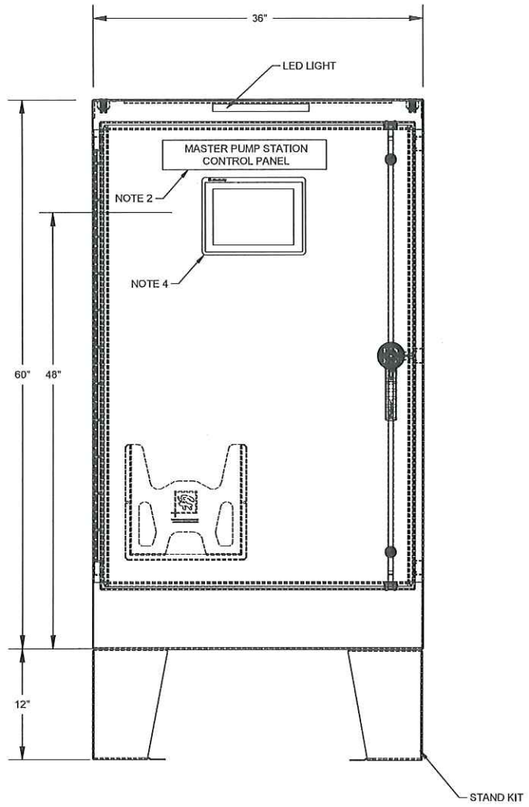
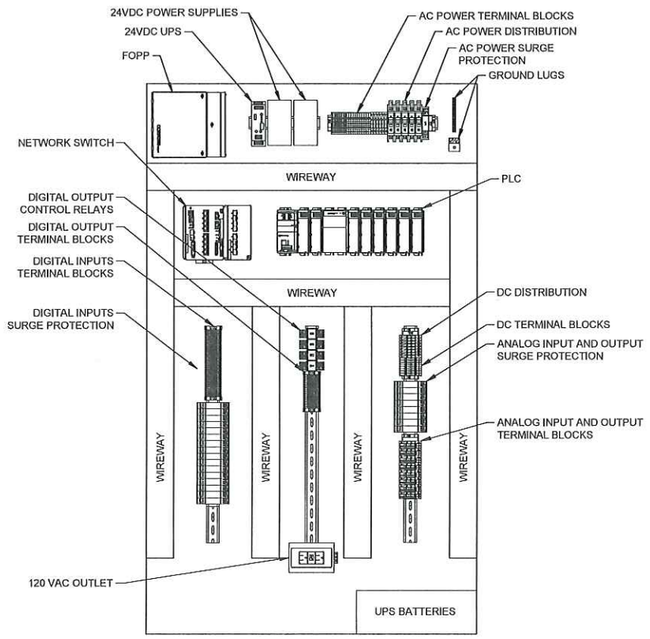


ENCLOSURE FRONT VIEW

SCALE: NTS (20 INCHES DEEP)



SUBPANEL LAYOUT

SCALE: NTS

NOTES:
1. SEE SECTION 406120 FOR PANEL REQUIREMENTS.
2. PROVIDE ENGRAVE TAG, BLACK 1" LETTERS ON WHITE FIELD.
3. PROVIDE FOLDING LAPTOP SHELF ON INSIDE OF DOOR, SHELF SHALL BE WELDED TO DOOR TO AVOID ANY RATING CHANGES TO ENCLOSURE.
4. PROVIDE HINGED METAL SUNSHIELD IN FRONT OF HMI.

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MASTER PUMP STATION
MPS CP LAYOUT

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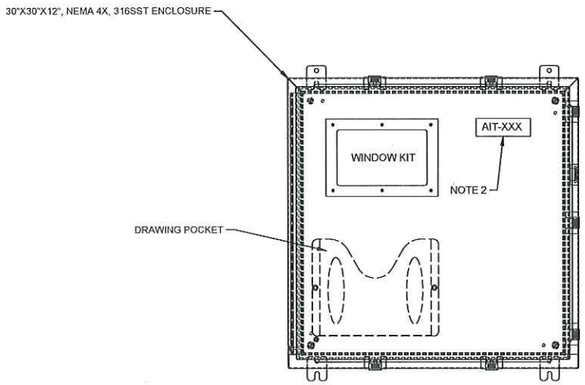
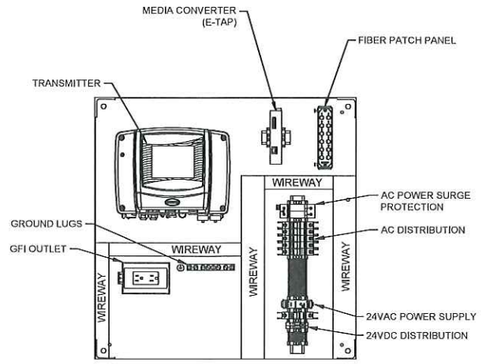
I-301
Sheet

Bar Measures 1 inch



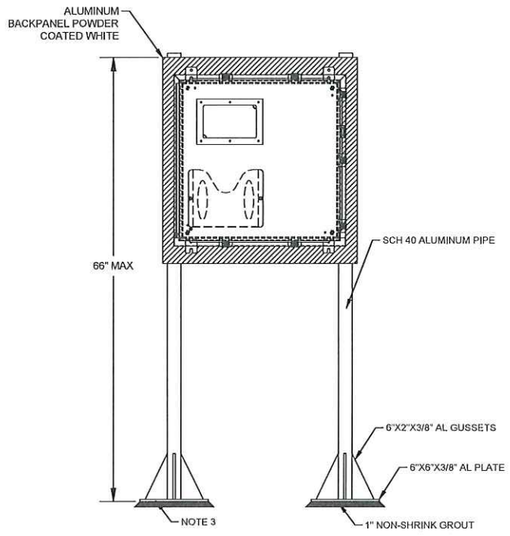
ENCLOSURE FRONT VIEW

SCALE: NTS (12 INCHES DEEP)



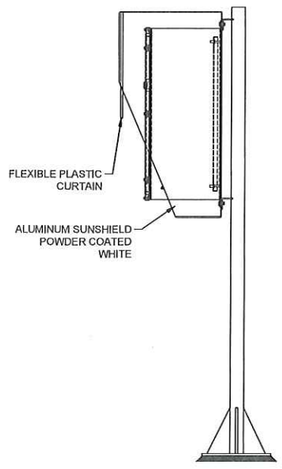
SUBPANEL LAYOUT

SCALE: NTS



ENCLOSURE ELEVATION VIEW

SCALE: NTS



ENCLOSURE SIDE ELEVATION VIEW

SCALE: NTS

NOTES:
1. SEE SECTION 406120 FOR PANEL REQUIREMENTS.
2. PROVIDE ENGRAVE TAG, BLACK 1" LETTERS ON WHITE FIELD.
3. ANCHOR TO FLOOR W/ 6"X$\frac{3}{8}$" 316 SST EXPANSION ANCHORS, 4 PER FOOT.
4. ALL NUTS AND BOLTS SHALL BE 316 SST.

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MASTER PUMP STATION

TRANSMITTER TO FIBER PANEL

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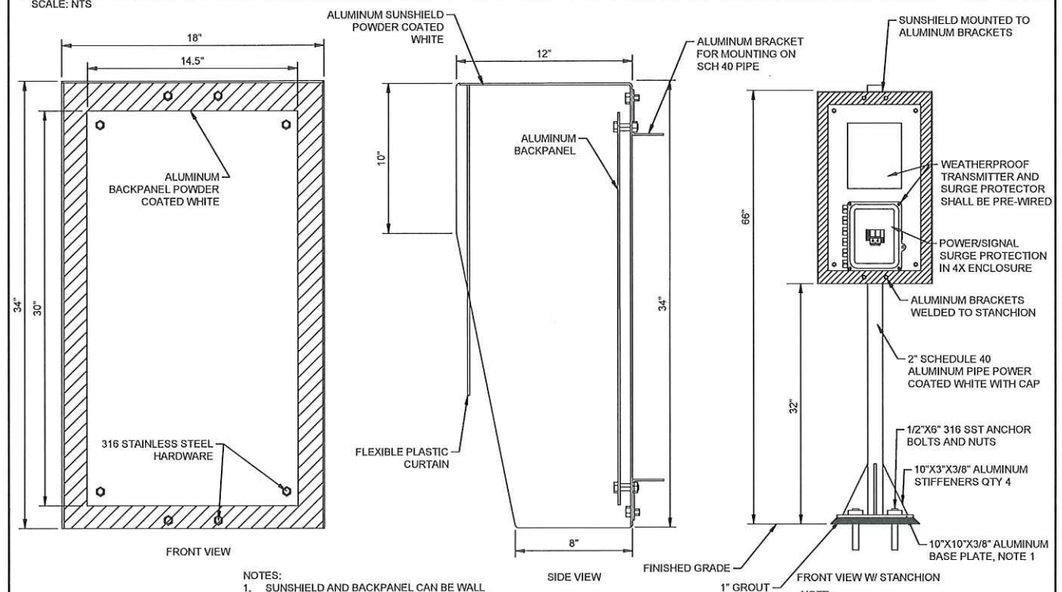
I-302
Sheet

Bar Measures 1 inch

1 BACK PANEL, SUNSHIELD AND STANCHION DETAIL

SCALE: NTS

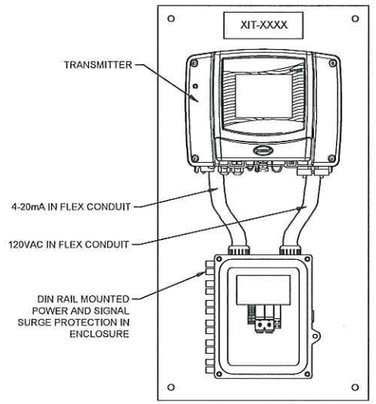


NOTES:
1. SUNSHIELD AND BACKPANEL CAN BE WALL MOUNTED IN LIEU OF FLOOR MOUNT WITH STANCHION

NOTE:
1. COAT BACKSIDE OF BASE PLATE WITH TWO COATS OF TNEMEC 46-465, MIN 12 MILS EACH

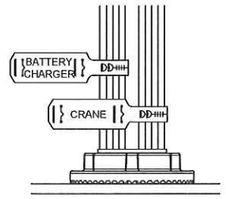
2 TRANSMITTER MOUNTING

SCALE: NTS



3 WIRE/CABLE BUNDLE TAG

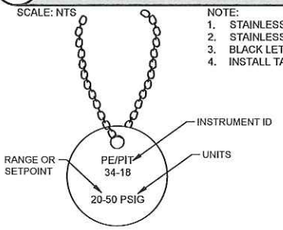
SCALE: NTS



NOTE:
1. BLACK LETTERING ON WHITE BACKGROUND (POWER)
2. BLACK LETTERING ON YELLOW BACKGROUND (SIGNAL)
3. BUNDLE AND LABEL WIRES/CABLES GOING TO A COMMON PANEL/EQUIPMENT/DEVICE
4. LABEL IN PANELS, MCC, MANHOLES, HAND HOLES, AND BOXES OVER 0.227 CUBIC METERS (8 CUBIC FEET).

6 INSTRUMENT TAG

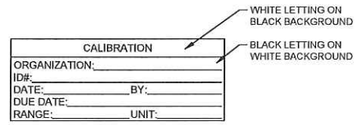
SCALE: NTS



NOTE:
1. STAINLESS STEEL TAG
2. STAINLESS STEEL CHAIN
3. BLACK LETTERING
4. INSTALL TAG ON ELEMENTS AND INSTRUMENTS.

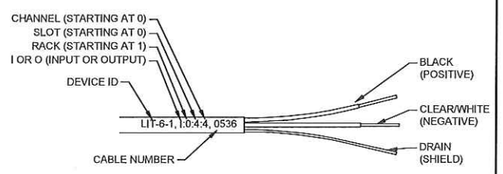
8 INSTRUMENT CALIBRATION

SCALE: NTS



7 TWO CONDUCTOR CABLE

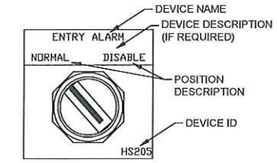
SCALE: NTS



NOTE:
1. BLACK LETTERING ON WHITE BACKGROUND

9 PANEL TAG PUSH BUTTON/SWITCH

SCALE: NTS



NOTE:
1. BLACK LETTERING ON WHITE BACKGROUND

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GOLDEN GATE WWTP
MASTER PUMP STATION

INSTRUMENTATION DETAILS

Project No.:	200-08486-20013
Designed By:	REED
Drawn By:	REED
Checked By:	

I-501

Bar Measures 1 inch

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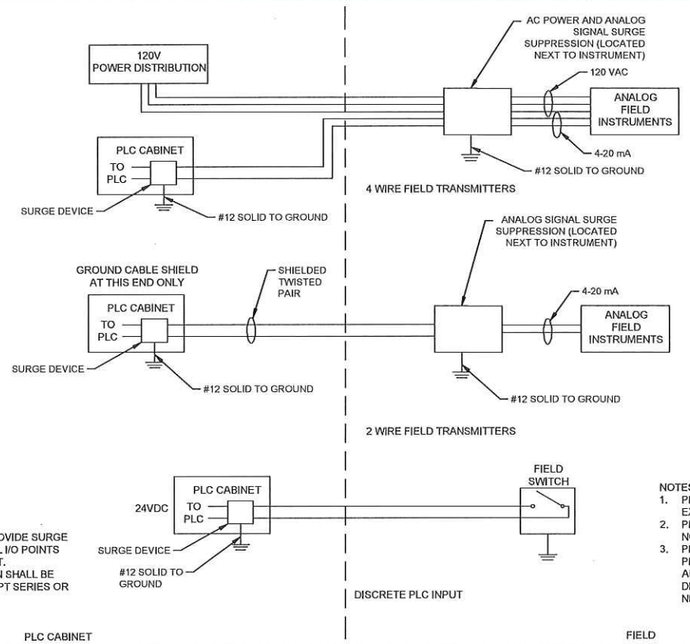
1 ANALOG GROUNDING AND SURGE PROTECTION

SCALE: NTS

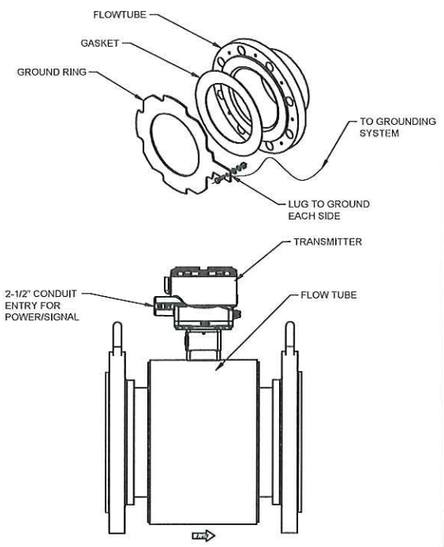


NOTES:
1. INTEGRATOR TO PROVIDE SURGE PROTECTION ON ALL I/O POINTS WITHIN PLC CABINET.
2. SURGE PROTECTION SHALL BE PHOENIX CONTACT PT SERIES OR EQUAL.

NOTES:
1. PROVIDE SURGE PROTECTION ON ALL EXTERIOR DEVICES.
2. PROVIDE SUNSHIELD ON DEVICES NOT COVERED BY CANOPIES.
3. PROVIDE DIN RAIL MOUNTED SURGE PROTECTION, PHOENIX CONTACT PT AND PLT OR EQUAL. MOUNT SURGE DEVICES IN 304SS NEMA 4X PANEL NEAR TRANSMITTER.

2 MAGNETIC FLOW METER

SCALE: NTS



NOTE:
1. PROVIDE REMOTE TRANSMITTER AND SUNSHIELD PER DETAIL 1/I-501.

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I-502

Bar Measures 1 inch

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