Master Pump Station 130
Refurbishment Plans
Located in City of Bonita Springs, Lee County
Section 28, Township 47 South, Range 25 East

Plans Prepared For:

Bonita Springs Utilities, Inc.

Bonita Springs Utilities, Inc.
11900 E. Terry Street
Bonita Springs, FL 34135
Telephone: (239) 992-0711
Fax: (239) 992-9223

Property Data:

Site Location: 26301 Siena Dr., Bonita Springs, FL 34134
Latitude: 26° 21' 35.5" N
Longitude: 81° 48' 54.8" W
Folio ID No.: 10555577
Strap No.: 28-47-25-B1-0160C.00CE & 28-47-25-B1-0120B.00CE

Legal Description:

Bonita Bay U-17 P.B. 50, Pgs. 42 Thru 44, Tract C Buffer

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

DESIGN TICKET No.:

Location Map
N.T.S.

Index of Drawings

ORIGINAL SHEET SIZE: 11"x17"

ATTENTION IS DIRECTED TO THE FACT THAT THESE PLANS MAY HAVE BEEN REDUCED OR ENLARGED IN SIZE BY REPRODUCTIONS. THIS MUST BE CONSIDERED WHEN OBTAINING SCALED DATA.

Revisions

REV	DATE	DESCRIPTION	BY

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

ALEXANDER PAUL DUNKO, P.E.
Q. GRADY MINOR & ASSOC., P.A.
3800 VIA DEL REY
BONITA SPRINGS, FL 34134
FLORIDA P.E. LICENSE NO. 88695
EB/LB 0005151

SUBMITTAL: 100% PLANS
DATE: JANUARY, 2024
FILE NAME: BSU20-COVER(SHEET 1-2).DWG
JOB CODE: BSU20
DRAWING NUMBER 1 OF 12

Master Pump Station 130
Refurbishment Plans

GradyMinor

G:\ENGINEERING\PROJ-ENG\LB\BSU20\01DWGS\SUBMITTALTYPE\CONST\BSU20-COVER(SHEET 1-2).DWG 2/13/2025 11:17 AM

GENERAL NOTES:

1. ALL WORK SHALL CONFORM TO BONITA SPRINGS UTILITIES (B.S.U.) STANDARD SPECIFICATIONS AND DETAILS. IF A CONTRADICTION IS DISCOVERED BETWEEN B.S.U. STANDARDS, THE PROJECT DRAWINGS, AND/OR THE PROJECT SPECIFICATIONS, THE STRICTER REQUIREMENT SHALL BE ASSUMED.
2. EROSION CONTROL STRUCTURES, SEDIMENT SUMPS, AND OTHER BMP FEATURES REQUIRED SHALL BE INSTALLED BEFORE CONSTRUCTION BEGINS.
3. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. ANY DEVIATION IN PLAN INFORMATION SHALL BE REPORTED TO THE ENGINEER AND OWNER.
4. CONTRACTOR IS REQUIRED TO OBTAIN FROM THE ENGINEER AND OWNER WRITTEN APPROVAL FOR ANY DEVIATION IN PLANS AND/OR SPECIFICATIONS.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING TRAFFIC AND USAGE OF THE EXISTING STREETS ADJACENT TO THE PROJECT. ALL TRAFFIC MAINTENANCE CONTROL SHALL BE IN ACCORDANCE WITH FLORIDA MANUAL OF TRAFFIC CONTROL AND SAFE PRACTICES FOR STREET CONSTRUCTION, MAINTENANCE, AND UTILITY OPERATIONS. TRAFFIC CONTROL OPERATION PROCEDURES SHALL BE SUBMITTED TO OWNER FOR APPROVAL PRIOR TO BEGINNING CONSTRUCTION.
6. CONTRACTOR SHALL ATTEND PRE-CONSTRUCTION MEETING WITH OWNER AND ENGINEER PRIOR TO START OF CONSTRUCTION.
7. ALL FILL SLOPES SHALL BE PROPERLY COMPACTED AS REQUIRED PER B.S.U. STANDARDS AND SHALL BE SODDED AS DIRECTED BY OWNER WITHIN 24 HOURS OF FINAL GRADING.
8. THE CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT OF ALL DAMAGED LANDSCAPE MATERIAL. THE CONTRACTOR SHALL PROTECT ALL TREES, BUSHES, AND IRRIGATION SYSTEMS DURING CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPLACE ANY EXISTING LANDSCAPING (I.E. SOD, BUSHES, TREES, ETC.) AND IRRIGATION PIPE, SPRINKLER HEADS, AND ALL IMPROVEMENTS THAT MAY HAVE TO BE REMOVED OR HAVE BEEN DAMAGED OR INJURED DURING CONSTRUCTION. THE CONTRACTOR IS REQUIRED TO COORDINATE WITH BONITA BAY FOR SURROUNDING AREA LANDSCAPE REPAIRS.
9. THE CONTRACTOR SHALL REPLACE OR REPAIR ANY DAMAGED PROPERTY OR IMPROVEMENTS TO A CONDITION EQUAL TO OR BETTER THAN EXISTED PRIOR TO CONSTRUCTION AT THE CONTRACTOR'S EXPENSE.
10. CONTRACTOR SHALL OBTAIN ALL STATE, COUNTY, AND LOCAL PERMITS NEEDED TO PERFORM THE WORK.
11. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATION, DEPTH, SIZE, QUANTITY, AND MATERIAL TYPE OF ALL UNDERGROUND UTILITIES IN THE WORK AREA PRIOR TO CONSTRUCTION USING PROCEDURES AND METHODS AS REQUIRED BY THE CONTRACT DOCUMENTS. THE LOCATION, TYPE, AND QUANTITY OF EXISTING UTILITIES SHOWN ON THIS PLAN IS APPROXIMATE AND SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO BEGINNING CONSTRUCTION.
12. THE CONTRACTOR IS REQUIRED TO FULLY INVESTIGATE THE SITE PRIOR TO SCHEDULING OR COMMENCING THE WORK.
13. THE CONTRACTOR IS RESPONSIBLE FOR BACKFILLING AND GRADING ALL DISTURBED AREAS.
14. THE CONTRACTOR SHALL ACCURATELY PLOT THE LOCATIONS AND ELEVATIONS OF ALL IMPROVEMENTS INSTALLED ON A FINAL SET OF RECORD DRAWINGS WHICH SHALL BE DELIVERED TO THE ENGINEER IMMEDIATELY.
15. DRIVEWAYS, SIDEWALKS, AND OTHER RIGHT-OF-WAY OR EASEMENT ENCROACHMENTS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITIONS OR BETTER, AND TO THE SATISFACTION OF THE ENGINEER.
16. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO SAFEGUARD ALL EXISTING STRUCTURES, UTILITIES, AND SURVEY MARKERS IN THE AREA.
17. GRAVITY MAINS AND FITTINGS SHALL BE SDR26 P.V.C.
18. THE CONTRACTOR SHALL COMPLY WITH ALL NPDES REGULATIONS INCLUDING SILT FENCE AND STORMWATER INLET PROTECTION, AND SHALL OBTAIN A DEWATERING PERMIT IF REQUIRED.
19. PRIOR TO DEMOLITION AND DISPOSAL, CONTRACTOR TO COORDINATE WITH BSU STAFF FOR ITEMS TO BE SALVAGED AND RETURNED.

TRAFFIC CONTROL NOTES:

1. ACCESS ONTO EXISTING STREETS AND DRIVES SHALL BE MAINTAINED TO LOCAL TRAFFIC, DELIVERY VEHICLES, POSTAL VEHICLES, EMERGENCY VEHICLES, PUBLIC TRANSPORTATION, SOLID WASTE & RECYCLING VEHICLES, AND PROPERTY OWNERS, RESCPECTIVELY. CONTRACTOR SHALL LIMIT CONSTRUCTION ACTIVITIES ON PUBLIC OR PRIVATE ROADWAYS
2. THE IMPLEMENTATION OF THE TRAFFIC CONTROL PLAN FOR THIS PROJECT SHALL BE IN ACCORDANCE WITH THE 2009 EDITION WITH REVISION NUMBERS 1 AND 2 INCORPORATED. DATED MAY 2012 OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD PART VI. TRAFFIC CONTROLS FOR STREET AND HIGHWAY CONSTRUCTION AS REVISED TO DATE), FOR GENERAL TRAFFIC CONTROL ZONE REQUIREMENTS AND ADDITIONAL INFORMATION, REFER TO THE STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION BOOKLET "DESIGN STANDARDS" DATED 2020-21 AND INDEX REFERENCES TO 102-100 THROUGH 102-670 PER CURRENT FDOT STANDARDS.
3. WHERE FLAGGER AND WORKER SIGNS ARE USED, THE SIGNS SHALL BE COVERED OR REMOVED DURING PERIODS WHEN CONSTRUCTION OPERATIONS ARE SUSPENDED SUCH AS NIGHTS, WEEKENDS, AND HOLIDAYS.
4. PLACEMENT OF ALL CONSTRUCTION SIGNS SHALL BE FIELD LOCATED TO NOT BE IN CONFLICT WITH EXISTING SIGNS. EXISTING SIGNS NOT IN USE OR IN CONFLICT WITH LANE OR ROAD CLOSURE SHALL BE COVERED TEMPORARILY.
5. LANE CLOSURES SHALL BE SCHEDULED AS FOLLOWS:
   a. ONE TRAVEL LANE SHALL BE KEPT OPEN FOR EACH DIRECTION WITHIN THE WORK AREA THROUGHOUT THE DURATION OF CONSTRUCTION, EXCEPT WHEN A ROAD CLOSURE IS PERMITTED BY THE CITY.
   b. THE LOCATION AND DURATION OF EACH LANE CLOSURE INCLUDING TURN LANES, SHALL BE APPROVED BY THE COUNTY PRIOR TO IMPLEMENTATION OF THE CLOSURE.
   c. NO WORK SHALL BE DONE REQUIRING A LANE CLOSURE BETWEEN THE FOLLOWING HOURS:
      i. FROM 7:00 AM TO 9:00 AM, AND 3:30-6:30 PM , MONDAY THROUGH FRIDAY,UNLESS APPROVED BY THE CITY.
      ii. WEEKENDS, HOLIDAYS. AND SPECIAL EVENT DAYS. AS PERMITTED BY THE CITY.
      iii. EMERGENCIES AS DEEMED NECESSARY BY LEE COUNTY EMERGENCY MANAGEMENT, LAW ENFORCEMENT AUTHORITIES OR THE CITY.
6. THE MINIMUM WIDTH OF ANY TRAVEL LANE AT ANY TIME SHALL BE 10 FEET.
7. UTILITY RELOCATION WORK SHALL BE COORDINATED BY THE CONTRACTOR TO AVOID ANY CONFLICT WITH THE VARIOUS PHASES OF THE TRAFFIC CONTROL PLAN.

Bonita Springs Utilities, Inc.

Revision	Date	Description	By

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: BSU20
SCALE: N/A

GradyMinor
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3800 Via Del Rey
Bonita Springs, Florida 34134

MASTER PUMP STATION 130

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: BONITA SPRINGS
SEC/TWN/RGE: 28/47S/25E
DATE: JANUARY, 2024
SUBMITTAL TYPE: 100% PLANS

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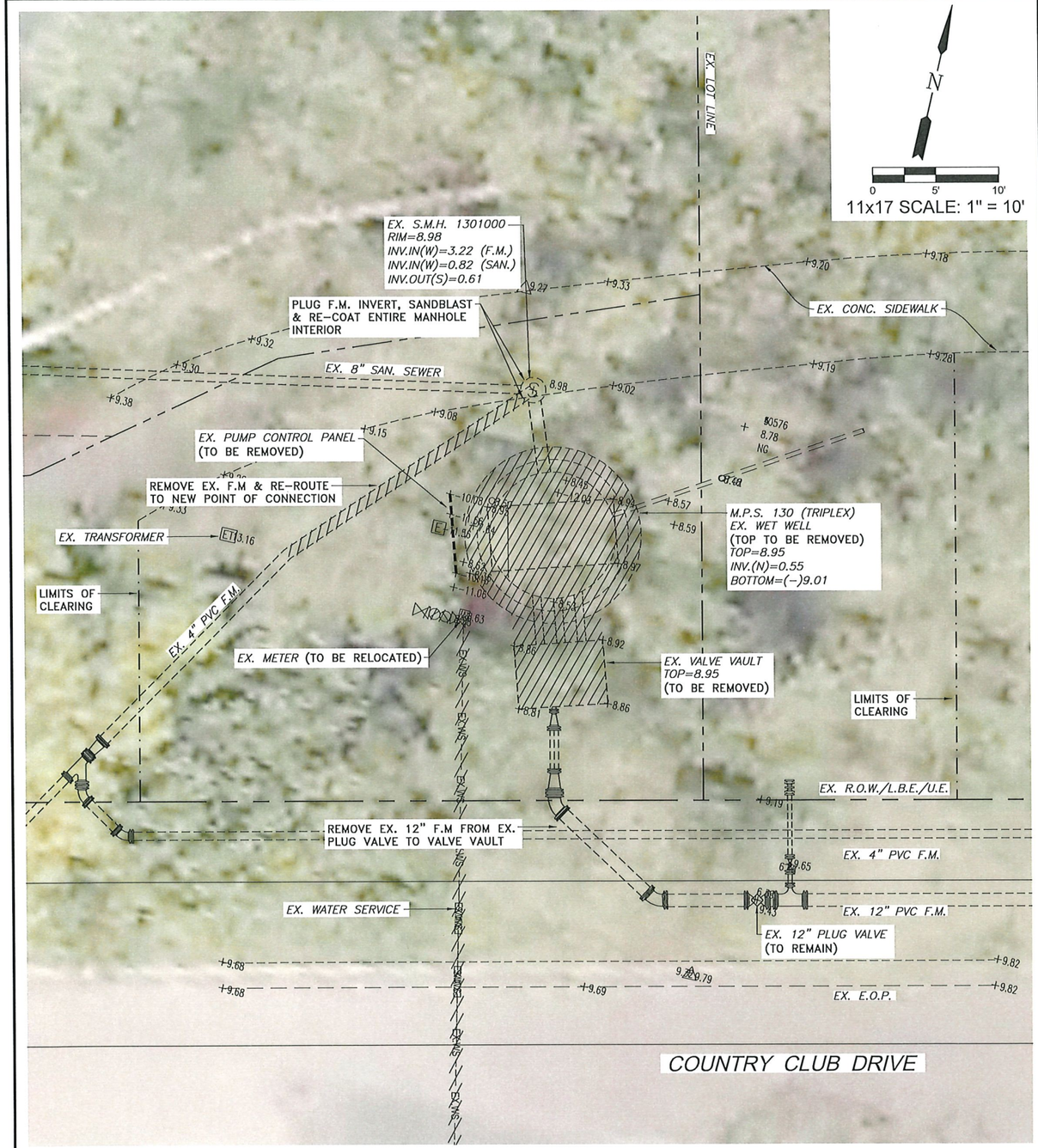
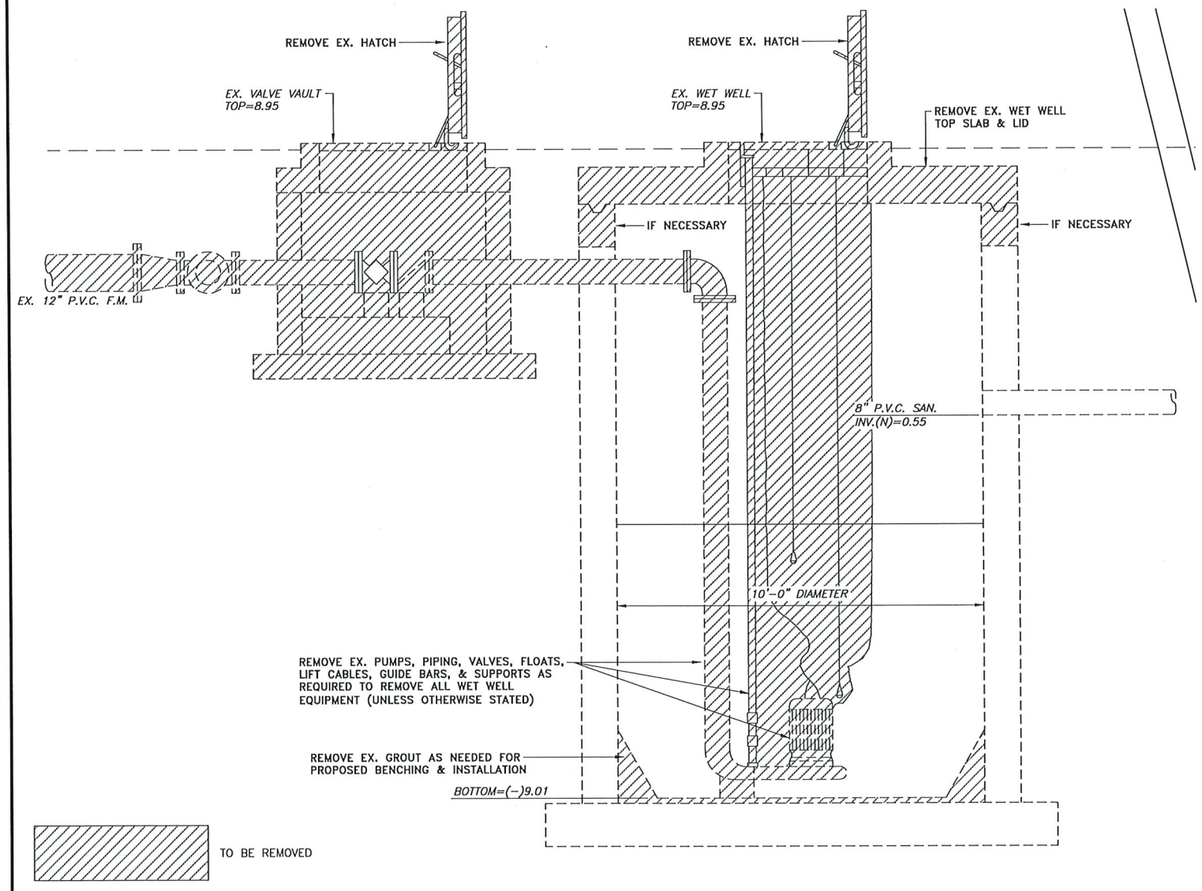


AERIAL PHOTOGRAPH and DEMOLITION PLAN

SCALE: 1"=10'

NOTES:

1. REMOVE EX. CONTROL PANEL & ALL ASSOCIATED ELECTRICAL CONDUITS.
2. REMOVE ALL EX. DUCTILE IRON PIPING, VALVES, & APPURTENANCES OF VALVE VAULT. DUCTILE IRON PIPING BEYOND VALVE VAULT SHALL BE REMOVED UP TO PVC/D.I. ADAPTOR AS NECESSARY.
3. CONTRACTOR SHALL COORDINATE w/F.P.L. FOR REPOSITIONING OF ELECTRICAL METER & ASSOCIATED ELECTRICAL CONDUIT.
4. CONTRACTOR SHALL PLUG ALL EX. PENETRATIONS INTO THE WETWELL THAT WILL NO LONGER BE USED & GROUT FILL. CONTRACTOR SHALL REMOVE ABANDONED PIPE AS NECESSARY.
5. ALL EQUIPMENT REMOVED SHALL REMAIN THE PROPERTY OF B.S.U.



EXISTING EQUIPMENT and PIPING DEMOLITION

NOT TO SCALE

Bonita Springs Utilities, Inc.

Revision	Date	Description	By

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: BSU20
SCALE: AS NOTED

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Bonita Springs, Florida 34134

MASTER PUMP STATION 130

AERIAL PHOTOGRAPH, EXISTING CONDITIONS, AND DEMOLITION 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 (+)

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

MUNICIPALITY: BONITA SPRINGS
SEC/TWN/RGE: 28/47S/25E
DATE: JANUARY, 2024
SUBMITTAL TYPE: 100% PLANS

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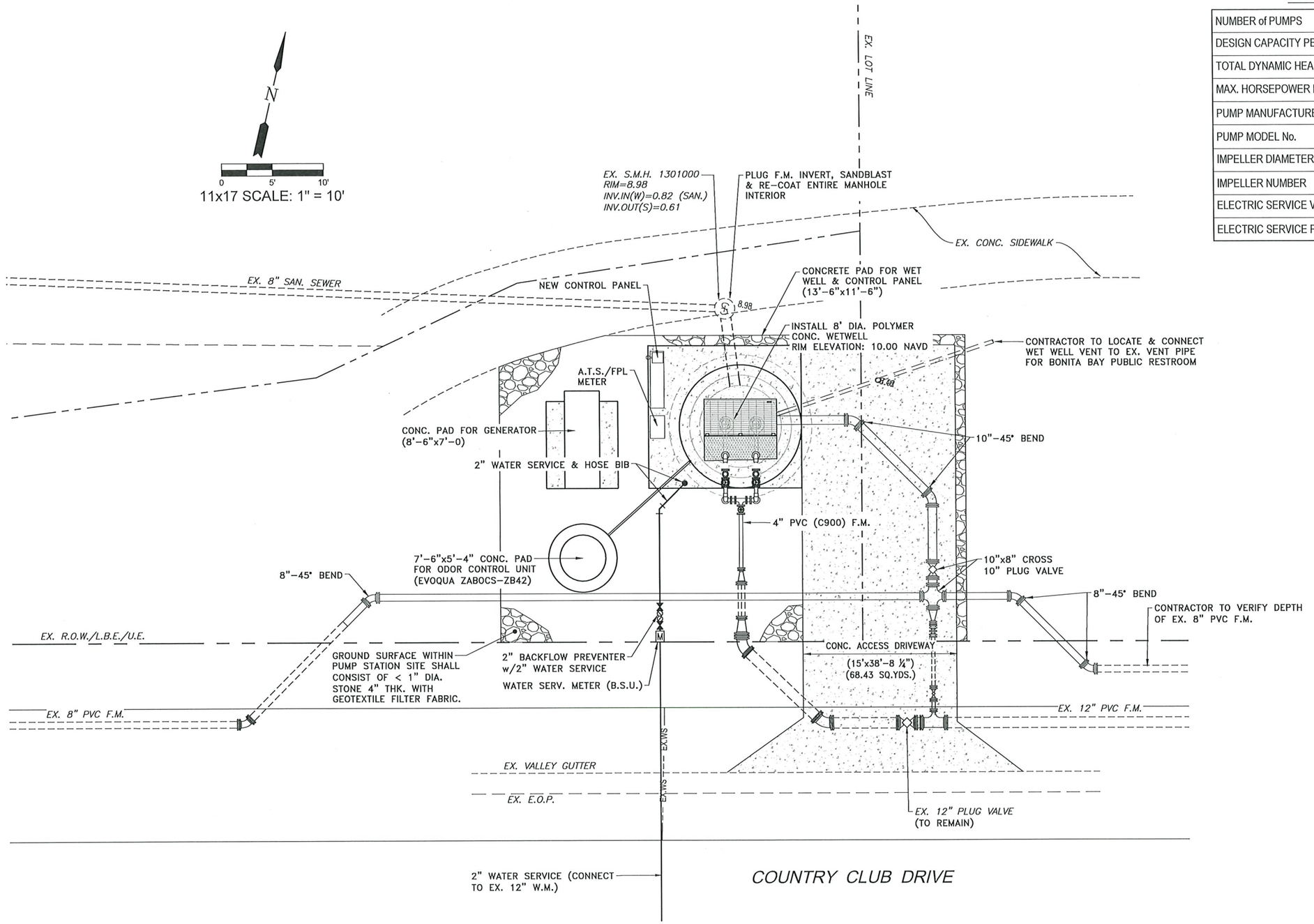
PUMP DATA (M.P.S. 130)

NUMBER of PUMPS	2
DESIGN CAPACITY PER PUMP (g.p.m.)	450
TOTAL DYNAMIC HEAD (ft.)	49
MAX. HORSEPOWER PER PUMP (h.p.)	10
PUMP MANUFACTURER	FLYGT
PUMP MODEL No.	NP 3127 HT 3~ ADAPTIVE
IMPELLER DIAMETER (mm.)	215
IMPELLER NUMBER	488
ELECTRIC SERVICE VOLTAGE (v)	460
ELECTRIC SERVICE PHASE	3

N

0 5' 10'

11x17 SCALE: 1" = 10'



Bonita Springs Utilities, Inc.

Revision	Date	Description	By

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: BSU20
SCALE: 1"=10'

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Bonita Springs, Florida 34134

MASTER PUMP STATION 130

PROPOSED SITE 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 (+)

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

MUNICIPALITY: BONITA SPRINGS
SEC/TWN/RGE: 28/47S/25E
DATE: JANUARY, 2024
SUBMITTAL TYPE: 100% PLANS
SHEET 4 OF 12

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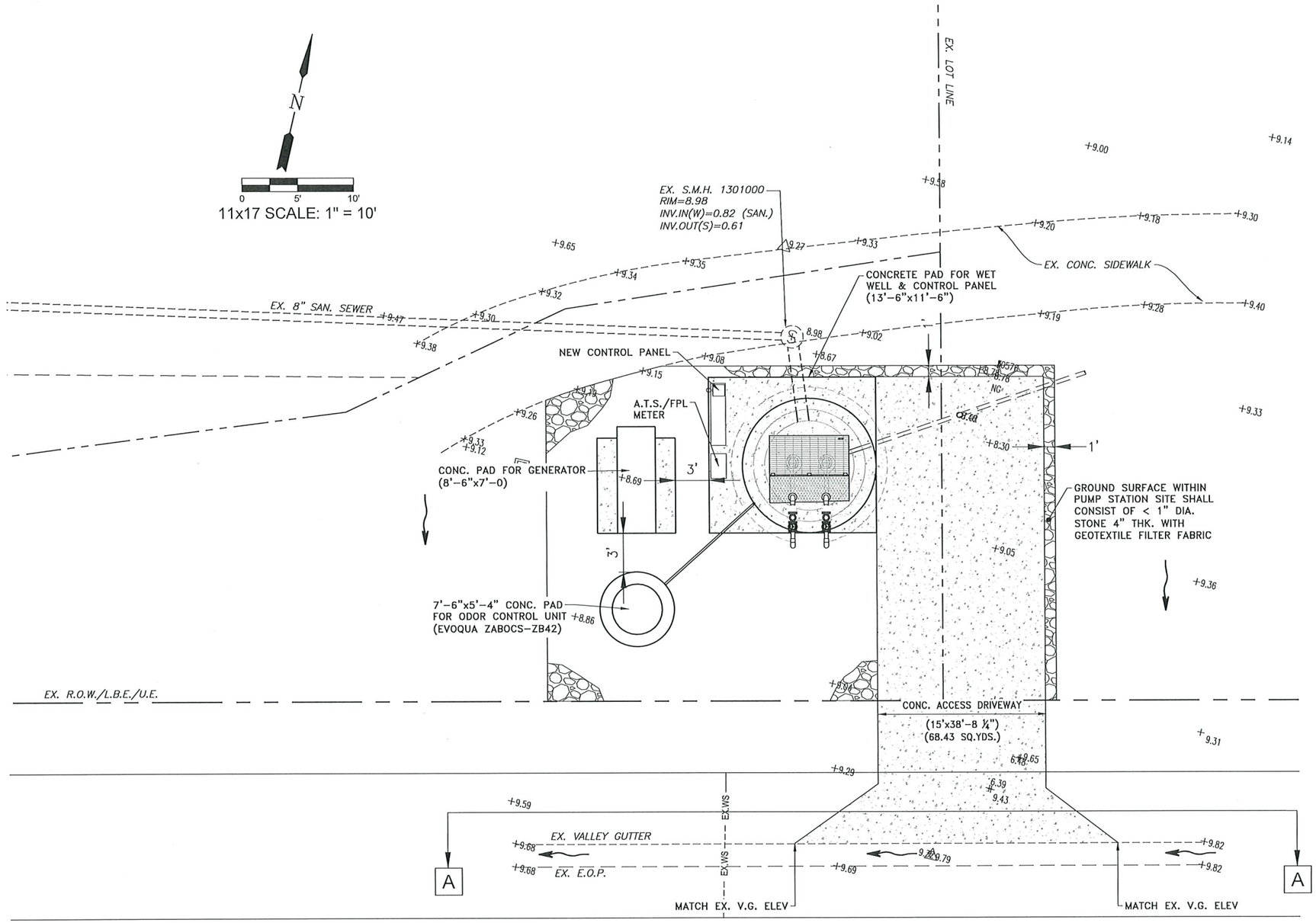

Revision	Date	Description	By

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: BSU20
SCALE: 1"=10'

Bonita Springs Utilities, Inc.

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Bonita Springs, Florida 34134

MASTER PUMP STATION 130

PAVING, GRADING, AND DRAINAGE PLAN

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

MUNICIPALITY: BONITA SPRINGS
SEC/TWN/RGE: 28/47S/25E
DATE: JANUARY, 2024
SUBMITTAL TYPE: 100% PLANS
SHEET 5 OF 12

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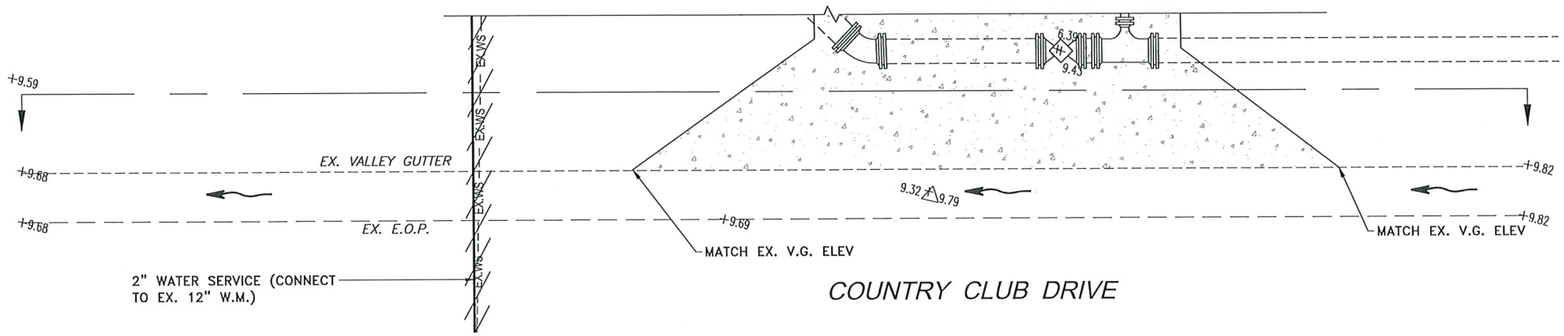
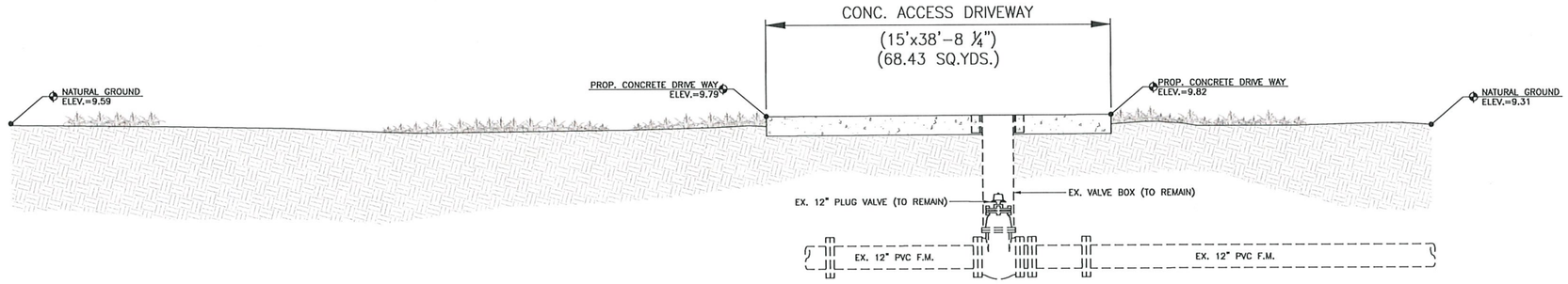


PLAN



SECTION A

Bonita Springs Utilities, Inc.

Revision	Date	Description	By

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: BSU20
SCALE: 1"=10'

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MASTER PUMP STATION 130

DRIVEWAY CROSS SECTION

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: BONITA SPRINGS
SEC/TWN/RGE: 28/47S/25E
DATE: JANUARY, 2024
SUBMITTAL TYPE: 100% PLANS

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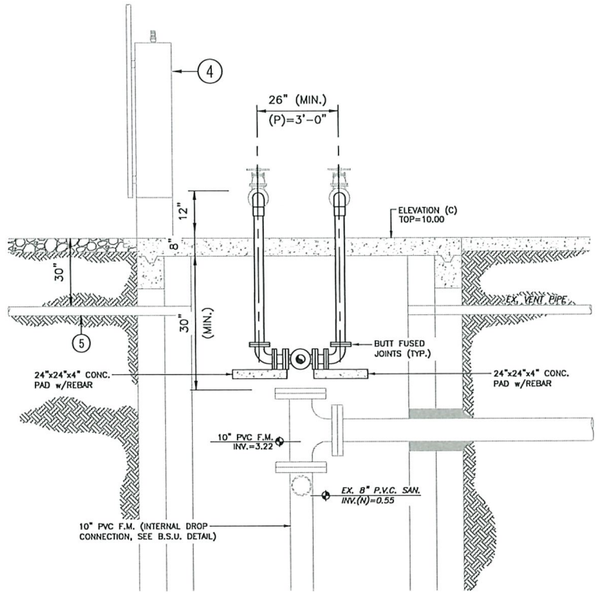
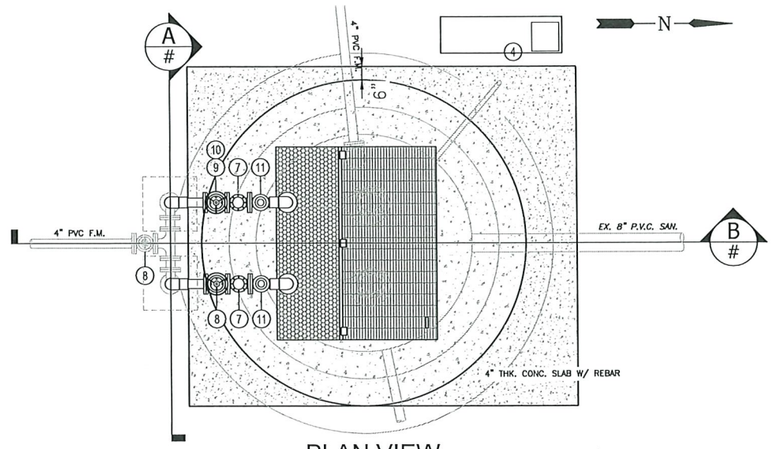


SECTION A

NOT TO SCALE



PLAN VIEW

NOT TO SCALE

EQUIPMENT SPECIFICATIONS

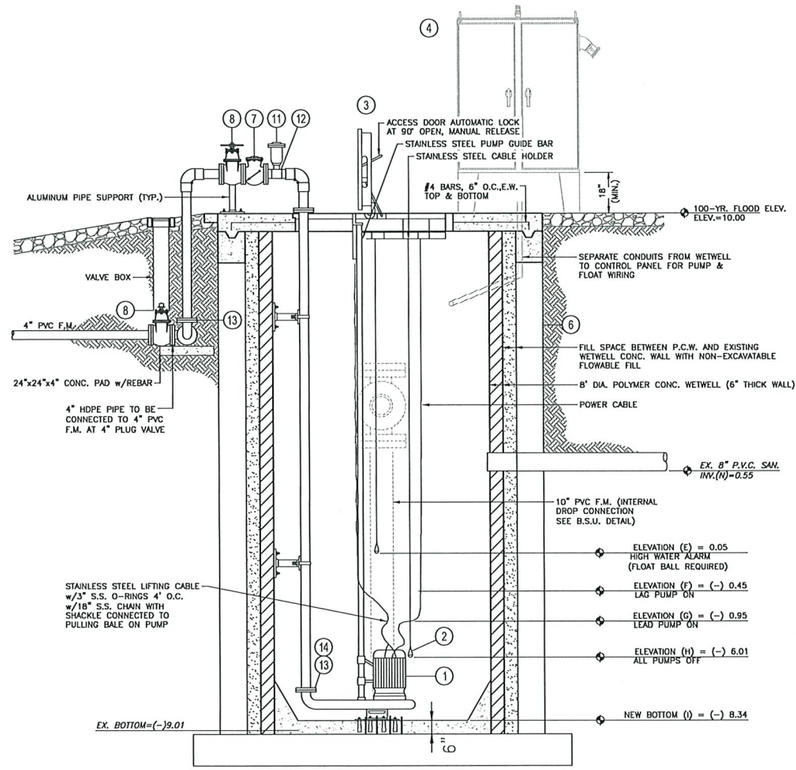
MARK	QTY.	DESCRIPTION
(1)	2	DISCHARGE SUBMERSIBLE SEWAGE PUMPS
(2)	2	LIQUID LEVEL REGULATORS (FLOAT BALLS)
(3)	1	H-20 ACCESS HATCH
(4)	1	CONTROL PANEL
(5)	1	4" PVC VENT PIPE FOR 8' WET WELL (FINAL DETERMINATION BY B.S.U.)
(6)	1	WETWELL, REINFORCED CONCRETE
(7)	2	4" CHECK VALVE
(8)	1	4" PLUG VALVE
(9)	1	3-WAY 4" PLUG VALVE-3 PORT (EMERGENCY PORT TO BE 3", FACING THE OUTSIDE-OPERATING NUT TO BE LOCATED ON TOP)
(10)	1	3" QUICK-COUPLING UNIT COMPLETE. CONNECT TO THIRD PORT 3-WAY VALVE WITH A BRONZE MALE THREAD ADAPTOR
(11)	2	AIR RELEASE VALVE, ARI MODEL No. ARI-D-040
(12)	2	316 ss STAINLESS STEEL SADDLE
(13)	2	HDPE BUTT FUSED MJ ADAPTER w/ AN MJ ACCESSORY KIT
(14)	2	MECHANICAL JOINT FLANGED COUPLING ADAPTERS
(15)	1	ULTRA SONIC LEVEL INDICATOR (TRANSDUCER) - 1ft. ABOVE WETWELL BOTTOM

NOTES:

1. ALL DISCHARGE PIPING TO BE CONTINUOUS PRE-ENGINEERED HDPE PIPE WITH DUCTILE IRON O.D.
2. HDPE BUTT FUSED M.J. ADAPTER WITH M.J. ACCESSORY KIT TO BE PROVIDED AT THE END OF THE HDPE HEADER PIPE FOR CONNECTION TO VALVE

FDEP REQUIREMENTS:

CONTROL PANEL SHALL BE (3 PHASE) WITH ALL COMPONENTS FOR OPERATING TWO PUMPS AND LIQUID LEVEL REGULATORS, ALTERNATOR RELAYS, GENERATOR RECEPTACLE, ANGLE ADAPTER, AND NEMA 4X STAINLESS STEEL ENCLOSURE (WITH PHASE MONITORING AND LIGHTING ARRESTORS)



SECTION B

NOT TO SCALE

Bonita Springs Utilities, Inc.

Revision	Date	Description	By

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: BSU20
SCALE: AS NOTED

GradyMinor

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3800 Via Del Rey
Bonita Springs, Florida 34134

MASTER PUMP STATION 130

PROPOSED SECTIONS AND 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 (+)

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

MUNICIPALITY: BONITA SPRINGS
SEC/TWN/RGE: 28/47S/25E
DATE: JANUARY, 2024
SUBMITTAL TYPE: 100% PLANS

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PUMP STATION WETWELL DATA

PS#	DIMENSIONS AND ELEVATIONS A	B	C	D	E	F	G	H	I	J	PIPE DIA K	L	HATCH DIM M	N	P
130	8"	15'-4"	10.00	0.55	0.05	-0.45	-0.95	-6.01	-8.34	28"	4" (MIN)	17'	32"	48"	26"
											4" (MIN)		32"	48"	26"
											4" (MIN)		32"	48"	26"
											4" (MIN)		32"	48"	26"

PS#	PUMP DESIGN DATA MODEL #	IMPELLER #	H.P.	RPM	PHASE ϕ / VOLTAGE V	DESIGN FLOW DATA DWELLING UNITS SERVED	AVERAGE DAILY FLOW (GPM)	PEAK DESIGN FLOW (GPM)	FLOOD ELEV. DATA 25 YR FL. ELE.	100 YR FL. ELE.
1	**	488	10	1,750	3/460	N/A	N/A	450	N/A	10.00
2	**	488	10	1,750	3/460	N/A	N/A	450	N/A	10.00

**NP 3127 HT3-ADAPTIVE
**NP 3127 HT3-ADAPTIVE

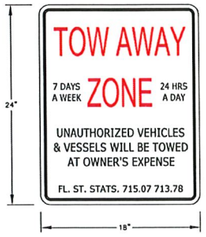
NETWORK/SYSTEM CALCULATIONS AND WET WELL STORAGE CALCULATIONS TO BE SUBMITTED TO B.S.U.

PS-10

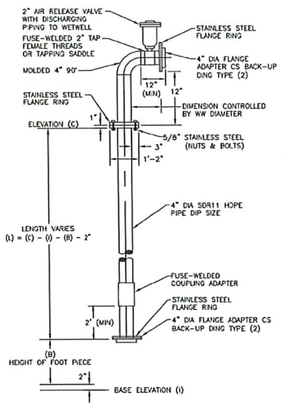
GENERAL NOTES

1. INSTALLATION OF COVER, PUMP ANCHOR BOLTS, GUIDE RAILS, ETC. MUST BE COORDINATED WITH THE DETAILS AND SPECIFICATIONS AS RECOMMENDED BY THE MANUFACTURER.
2. ALL ELEVATIONS ARE BASED ON N.A.V.D. 88 (NORTH AMERICAN VERTICAL DATUM).
3. PUMP STATION SHALL INCLUDE WETWELL COMPLETE WITH WALL AND SLAB CONSTRUCTION, ACCESS FRAMES AND DOORS AND ALL OTHER APPURTENANT CONSTRUCTION ITEMS AND MATERIALS.
4. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CLEARANCES FOR CONSTRUCTION AND MAINTENANCE OF ALL EQUIPMENT AND PARTS, INCLUDING BOLT AND ARM REMOVAL.
5. ALL WIRING INCLUDING ELECTRIC SERVICE SHALL BE COPPER.
6. ELECTRICAL COMPONENTS SHALL BE EQUIPPED WITH NATIONAL ELECTRIC CODE AND BUILDING DEPARTMENT APPROVED CONDUIT PIPE "SEAL-OFF" BETWEEN CONTROL PANEL AND WETWELL.
7. ALL HARDWARE FOR INTERIOR WETWELL (NUTS, BOLTS ETC.) SHALL BE STAINLESS STEEL.
8. THE ELECTRIC SERVICE WIRING TO THE PUMP STATION CONTROL PANEL SHALL BE SIZED BY THE ELECTRICAL CONTRACTOR TO PROVIDE A VOLTAGE DROP NOT GREATER THAN 5% OF THE LINE VOLTAGE FROM POWER COMPANY WHEN ALL PUMPS ARE AT MAXIMUM START-UP LOAD.
9. THE CONTRACTOR SHALL SUBMIT THE FINAL LOCATIONS OF TRANSFORMER, ELECTRICAL, SERVICE CONDUITS, PUMP STATION PIPING AND CONTROL PANEL LOCATIONS ON THE PLAN SET PRIOR TO CONSTRUCTION. FINAL APPROVAL REQUIRED BY BSU.
10. CHECK VALVES, PLUG VALVES, 3 WAY PLUG VALVES 6" OR LARGER TO MATCH PUMP DISCHARGE.
11. PATCH LEAKS, CRACKS AND JOINTS WITH PORTLAND CEMENT OR EQUIVALENT.
12. SHOP DRAWING SUBMITTALS REQUIRED FOR EACH PUMP STATION TO BSU.
13. ALL ABOVE GROUND PIPING WILL BE PAINTED WITH A UL RATED PAINT (REFER TO SPECIFICATIONS).
14. A REDUCED-PRESURE PRINCIPLE ASSEMBLY (RP2) AND WATER SERVICE IS REQUIRED.
15. 10' COPPER GROUNDING ROD – GROUNDING SYSTEM REQUIRED FOR ALL MASTER PUMP STATIONS WITH GENERATORS. MORE MAY BE REQUIRED IF NO GROUND SHOWN ON METER.

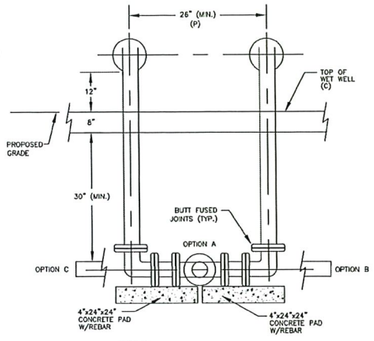
PS-11



PUMP STATION SIGNAGE
PS-14

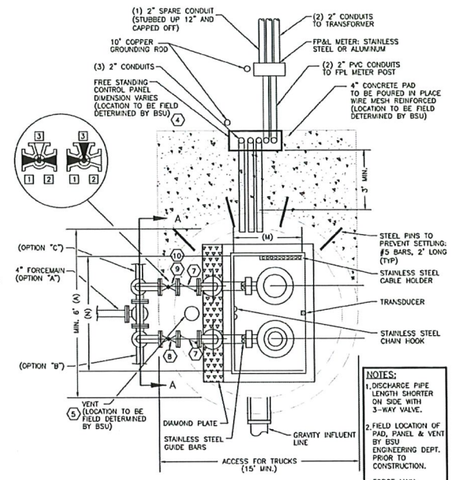


HEADER PIPES – DETAIL 1
4" (TYPICAL) PS-7



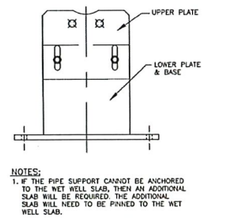
NOTES:
1) SEE PUMP STATION DESIGN TO DETERMINE WHICH OPTION TO USE FOR DISCHARGE PIPING
2) ALL DISCHARGE PIPING TO BE CONTINUOUS PRE-ENGINEERED HDPE PIPE WITH DUCTILE IRON O.D.
3) HDPE BUTT FUSED MJ ADAPTER WITH MJ ACCESSORY KIT TO BE PROVIDED AT THE END OF THE HDPE HEADER PIPE FOR CONNECTION TO VALVE

HEADER PIPES – DETAIL 2
4" (TYPICAL) PS-8



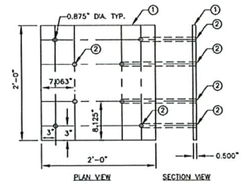
NOTES:
1. DISCHARGE PIPE LENGTH SHORTER ON SIDE WITH 3-WAY VALVE.
2. FIELD LOCATION OF PAD, PANEL & VENT BY BSU ENGINEERING DEPT. PRIOR TO CONSTRUCTION.
3. FORCE MAIN ORIENTATION OPTION "A", "B" OR "C" BY BSU ENGINEERING DEPT.

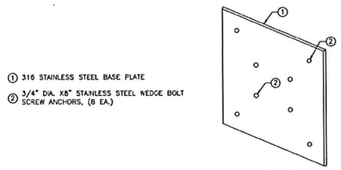
PUMP STATION DETAIL
PS-2

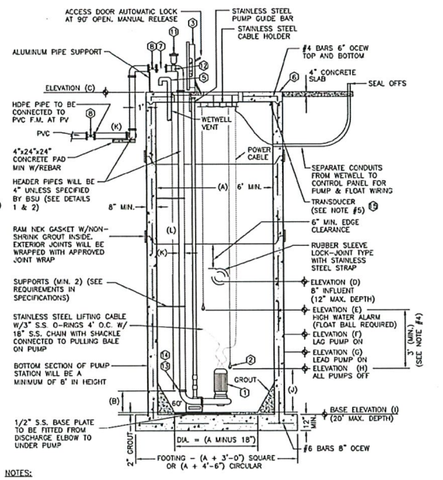


NOTES:
1. IF THE PIPE SUPPORT CANNOT BE ANCHORED TO THE WET WELL SLAB, THEN AN ADDITIONAL SLAB WILL BE REQUIRED. THE ADDITIONAL SLAB WILL NEED TO BE PINNED TO THE WET WELL SLAB.
2. CAN BE USED FOR LARGE METER ASSEMBLIES AND BACKFLOW PREVENTERS

PIPE SUPPORT
PS-13





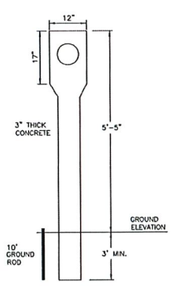


NOTES:
1. PRIOR AUTHORIZATION REQUIRED BY BSU FOR ANY WET WELL SIZE OTHER THAN 6'
2. ALL SURFACES WILL BE PREPARED BY SAND BLASTING PRIOR TO PAINTING OR COATING
3. STAINLESS STEEL U-BOLT AND BRACKET PIPE SUPPORTS SHALL BE REQUIRED TO SUPPORT ALL HEADER PIPES
4. LIQUID LEVEL REGULATORS (FLOAT BALLS) ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY (HIGH LEVEL FLOAT BALL REQUIRED)
5. ULTRA SONIC LEVEL INDICATOR (TRANSDUCER) WILL BE MOUNTED AND POSITIONED SO AS TO NOT READ THE TOP OF THE PUMPS. MOUNTING BRACKETS WILL BE SUPPLIED BY BSU.

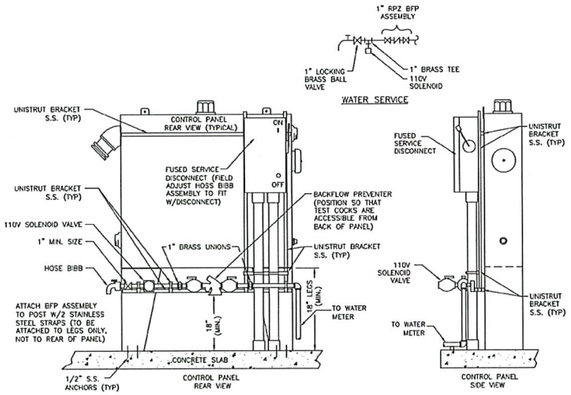
6' WET WELL
PS-6

CONSULTANTS COMMENTS:

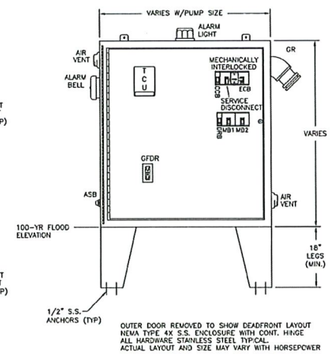
B.S.U. DETAIL SHEETS MUST REMAIN AS IS (NO ALTERATIONS)
IF ADDITIONAL DETAILS ARE REQUIRED SUBMIT ON SEPERATE SHEET



ELECTRIC METER POST
PS-9

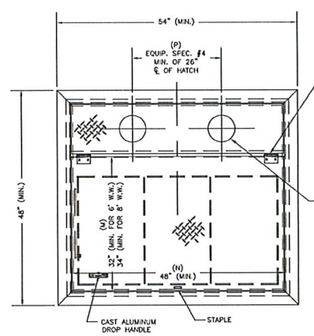


CONTROL PANEL (REAR)
PS-3



CONTROL PANEL (FRONT)
(FREE STANDING)
PS-4

4" DIAMETER PUMP DISCHARGE BASE PLATE
PS-16



54" x 48" ALUMINUM ACCESS HATCH
PS-1

DETAIL PS-5 DELETED
DETAIL PS-12 DELETED
DETAIL PS-15 DELETED

Bonita Springs Utilities, Inc.

Revision	Date	Description	By

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: BSU20
SCALE: NOT TO SCALE

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

MASTER PUMP STATION 130

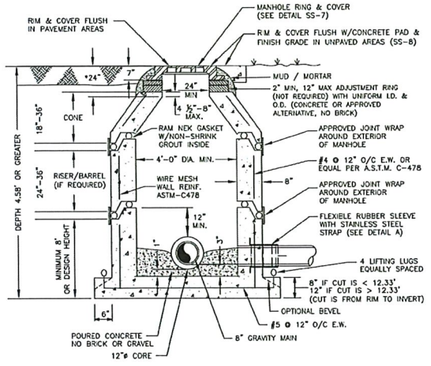
PUMP STATION DETAILS

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

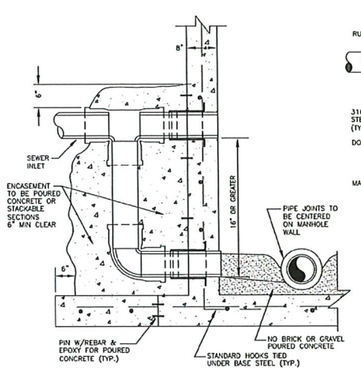
ALEXANDER PAUL DUNKO, P.E.
FLORIDA P.E. LICENSE NO. 88695

MUNICIPALITY: BONITA SPRINGS
SEC/TWN/RGE: 28/47S/25E
DATE: JANUARY, 2024
SUBMITTAL TYPE: 100% PLANS
SHEET 8 OF 12

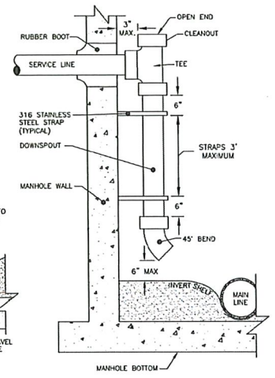
G:\ENGINEERING\PROJ-ENG\BSU\BSU20\01DWGS\SUBMITTALTYPE\CONST\BSU20-DETAILS.DWG, 8.5-12:1 2/13/2025 11:17 AM



PRECAST MANHOLE – CONCENTRIC
SS-1

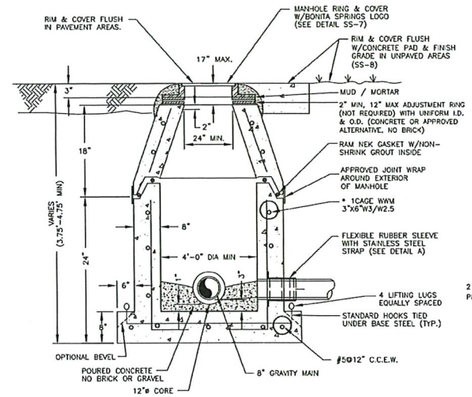


EXTERNAL DROP MANHOLE CONNECTION

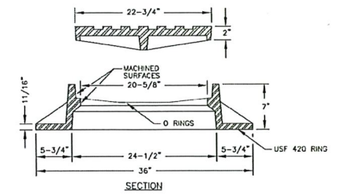


INTERNAL DROP MANHOLE CONNECTION
(WITH WRITTEN BSU APPROVAL ONLY)

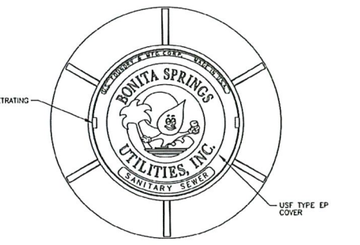
DROP MANHOLE CONNECTIONS
SS-3



SHALLOW MANHOLE
SS-4



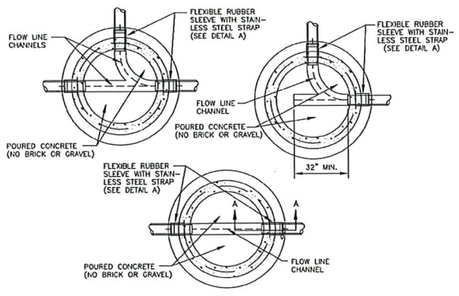
SECTION

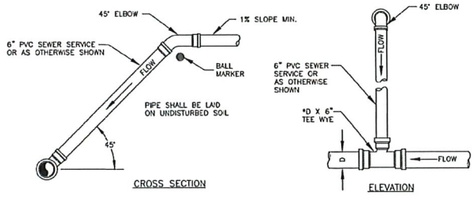


PLAN

MANHOLE RING & COVER DETAIL
SS-7

* COVER W/BSU CASTING NOT TO BE USED FOR GREASE INTERCEPTORS; GREASE INTERCEPTOR COVERS TO BE LABELLED "GREASE".

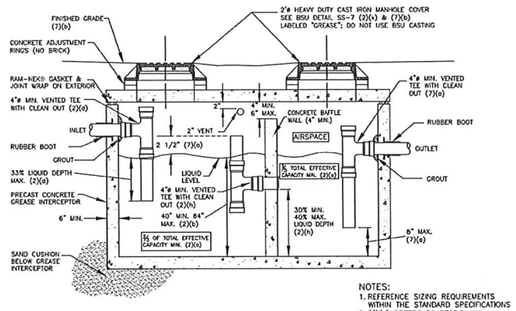




CROSS SECTION ELEVATION

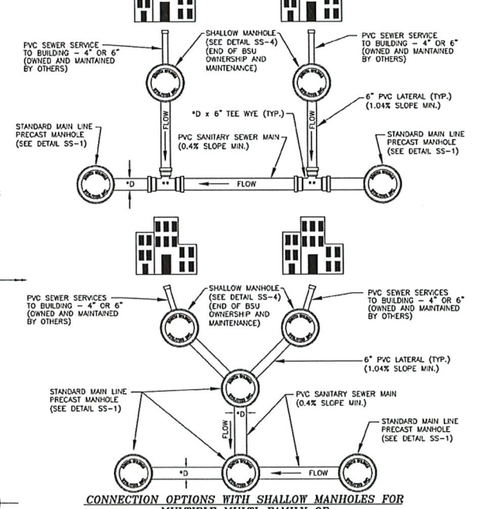
* D IS 8" MIN. ø

SEWER CONNECTION FOR DEPTHS OVER 8 FEET
SS-10



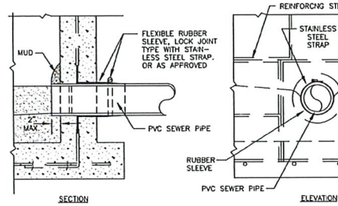
GRAVITY GREASE INTERCEPTOR
SS-11

NOTES:
1. REFERENCE SIZING REQUIREMENTS WITHIN THE STANDARD SPECIFICATIONS
2. (#)(x) REFERS TO SECTION IN FLORIDA ADMINISTRATIVE CODE CHAPTER 64E-6.013
3. TRAFFIC RATED PER F.A.C. 64E-6.013 (1)(f)



CONNECTION OPTIONS WITH SHALLOW MANHOLES FOR MULTIPLE MULTI-FAMILY OR MULTI-UNIT/MULTI STORY COMMERCIAL BUILDINGS
SS-25

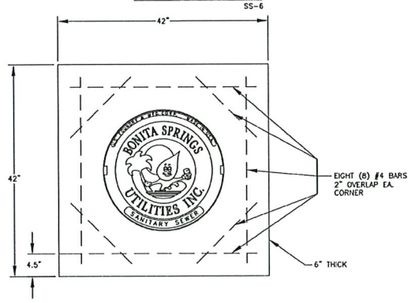
* D IS 8" MIN. ø
** CAN ALSO CONNECT DIRECTLY TO A M.H. WITH A 6" LATERAL



SECTION ELEVATION

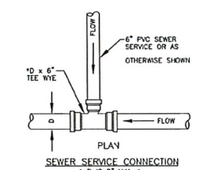
DETAIL A

FLOW LINE CHANNELS
SS-6



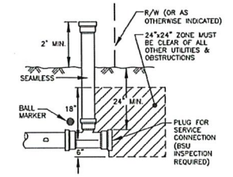
MANHOLE CONCRETE COLLAR
SS-8

*FOR USE IN UNPAVED AREAS AND/OR AT THE DISCRETION OF BSU

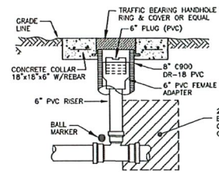


PLAN

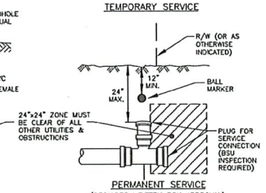
SEWER SERVICE CONNECTION
* D IS 8" MIN. ø



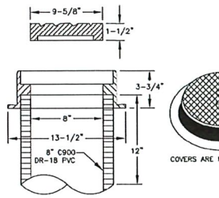
TEMPORARY SERVICE



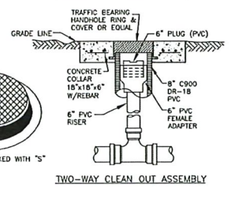
PERMANENT SERVICE



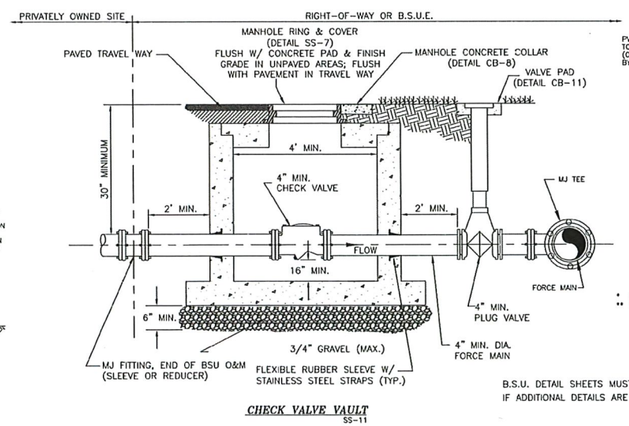
PERMANENT SERVICE
(REQUIRES WRITTEN BSU APPROVAL)



CLEANOUT ASSEMBLY
SS-9



TWO-WAY CLEAN OUT ASSEMBLY



CHECK VALVE VAULT
SS-11

DETAIL SS-5 DELETED
DETAIL SS-2 DELETED

B.S.U. DETAIL SHEETS MUST REMAIN AS IS (NO ALTERATIONS)
IF ADDITIONAL DETAILS ARE REQUIRED SUBMIT ON SEPERATE SHEET

CONSULTANTS COMMENTS:

Bonita Springs Utilities, Inc.

Revision	Date	Description	By

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: BSU20
SCALE: NOT TO SCALE

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

MASTER PUMP STATION 130

WASTEWATER 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 (+)

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

MUNICIPALITY: BONITA SPRINGS
SEC/TWN/RGE: 28/47S/25E
DATE: JANUARY, 2024
SUBMITTAL TYPE: 100% PLANS
SHEET 9 OF 12

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RESTRAINT TABLE

PIPE SIZE	HORIZONTAL BENDS				VERTICAL OFFSETS		DEAD ENDS Lr (FT.)
	90° BENDS Lr (FT.)	45° BENDS Lr (FT.)	22.5° BENDS Lr (FT.)	11.25° BENDS Lr (FT.)	45° BENDS (SEE NOTE 2) Lhs (FT.)	Lrs (FT.)	
4"	27	11	5	3	31	8	60
6"	37	15	7	4	43	11	84
8"	48	20	10	5	57	15	110
10"	57	24	11	6	68	17	131
12"	57	24	11	6	68	19	131
16"	58	24	12	6	55	19	106
20"	70	29	14	7	67	23	129
24"	81	33	16	8	78	27	150

TEES			
RUN SIZE	BRANCH SIZE	Lrs (FT.)	Lbr (FT.)
4"	4"	10	11
6"	6"	10	34
	4" OR LESS	10	FITTING ONLY
8"	8"	10	59
	6"	10	17
	4" OR LESS	10	FITTING ONLY
10"	10"	10	80
	8"	10	45
	6" OR LESS	10	FITTING ONLY
12"	12"	10	79
	10"	10	49
	6" OR LESS	10	15
		10	FITTING ONLY
16"	16"	10	73
	12"	10	38
	10"	10	16
	8" OR LESS	10	FITTING ONLY
20"	20"	10	95
	16"	10	63
	12"	10	24
	10" OR LESS	10	FITTING ONLY
24"	24"	10	116
	20"	10	87
	16"	10	53
	12"	10	10
	10" OR LESS	10	FITTING ONLY

REDUCERS (SEE NOTES)		
SIZE	L(A) (FT.)	L(B) (FT.)
6 x 4	64	43
8 x 6	60	46
8 x 4	153	79
10 x 8	55	44
10 x 6	133	81
12 x 10	46	38
12 x 8	104	69
16 x 12	61	45
16 x 10	103	63
20 x 16	58	45
20 X 12	139	81
24 x 20	55	45
24 x 16	128	82

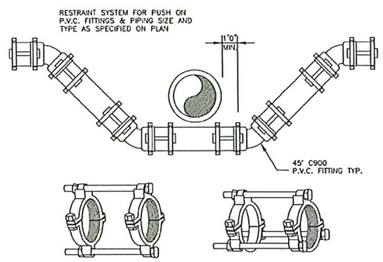
NOTES:

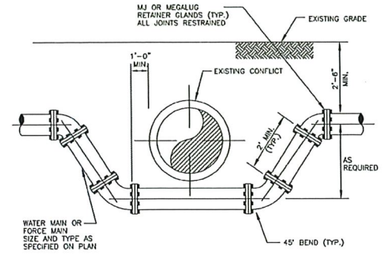
1. LENGTHS SHOWN ON THIS TABLE ARE TO BE INTERPRETED FOLLOWS :
   Lhs = RESTRAINED LENGTH FROM HIGH SIDE FITTING OF A VERT. BEND
   Lls = RESTRAINED LENGTH FROM LOW SIDE FITTING OF VERT. BEND
   Lr = RESTRAINED LENGTH ON BOTH SIDES FROM FITTING
   Lrn = MINIMUM LENGTH TO FIRST JOINT OF RUN ON BOTH SIDES
   Lbr = RESTRAINED LENGTH REQUIRED ON BRANCH FROM FITTING
   L(A) = LENGTH OF PIPE ON SMALL SIDE FREE OF FITTING
   L(B) = RESTRAINED LENGTH ON LARGE SIDE OF REDUCER
2. A SAFETY FACTOR = 2.5 IS USED FOR VERTICAL OFFSETS TO COMPENSATE FOR SATURATED SOIL CONDITIONS. A SAFETY FACTOR = 2.0 IS USED FOR ALL OTHER CASES.
3. L(A) AND L(B) ABOVE ARE TWO OPTIONS FOR PROVIDING THE REQUIRED THRUST RESTRAINT FOR THE FITTING. EITHER L(A) LENGTH OF PIPE FREE OF FITTINGS (BENDS, TEES, REDUCERS OR VALVES) ON THE SMALL SIDE OF THE REDUCER WILL PROVIDE THE REQUIRED RESTRAINT OR L(B) LENGTH CAN BE RESTRAINED ON THE LARGE SIDE OF THE FITTING.
4. THE FOLLOWING ARE ASSUMED :
   4" – 10" PIPE HAS 30" MIN. COVER
   12" – 24" PIPE HAS 36" MIN. COVER
   4" – 24" PIPE IS PVC
5. VALVES SHALL BE RESTRAINED ON EITHER SIDE OF THE FITTING AS A MINIMUM. IN LINE VALVES SHALL HAVE NO FITTINGS WITHIN THE LENGTHS SHOWN ON THIS TABLE FOR THE SAME SIZE DEAD END. IN CASES WHERE THIS LENGTH CAN NOT BE PROVIDED FREE OF FITTINGS, ADDITIONAL RESTRAINT SHALL BE REQUIRED AS APPROVED BY ENGINEER.
6. ALL DEAD END LINES, PERMANENT OR TEMPORARY, SHALL BE RESTRAINED PER THE ABOVE RESTRAINT TABLE.
7. ALL VALVES SHALL BE RESTRAINED AS DEAD ENDS, IN BOTH FLOW DIRECTIONS, PER THIS TABLE.

LOCATION OF PUBLIC WATER SYSTEM MAINS IN ACCORDANCE WITH F.A.C. RULE 62-555.314

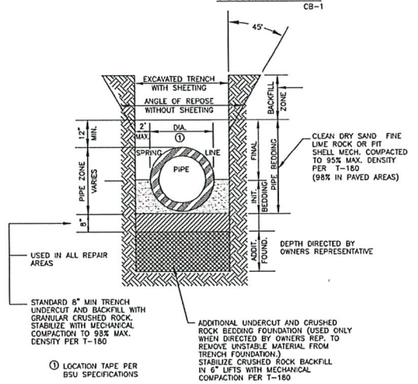
Other Pipe	Horizontal Separation	Crossings (1)	Joint Spacing @ Crossings (Full Joint Centered)
Storm Sewer, Stormwater Force Main, Reclaimed Water (2)	Water Main 3 ft. minimum	Water Main 12 inches is the minimum, except for storm sewer, then 6 inches is the minimum and 12 inches is the preferred	Alternate 3 ft. minimum Water Main
Vacuum Sanitary Sewer	Water Main 10 ft. preferred 3 ft. minimum	Water Main 12 inches preferred 6 inches minimum	Alternate 3 ft. minimum Water Main
Gravity or Pressure Sanitary Sewer Sanitary Sewer Force Main, Reclaimed Water (4)	Water Main 10 ft. preferred 6 ft. minimum (3)	Water Main 12 inches is the minimum, except for gravity sewer, then 6 inches is the minimum and 12 inches is the preferred	Alternate 6 ft. minimum Water Main
Sanitary Sewer Force Main, Reclaimed Water (4)	10 ft. minimum	---	---

(1) Water main (both) cross above other pipe. When water main must be below other pipe, the minimum separation is 12 inches.
(2) Reclaimed water regulated under Part III of Chapter 62-610, F.A.C.
(3) 3 ft. for gravity sanitary sewer where the bottom of the water main is laid at least 6 inches above the top of the gravity sanitary sewer.
(4) Reclaimed water not regulated under Part III of Chapter 62-610, F.A.C.

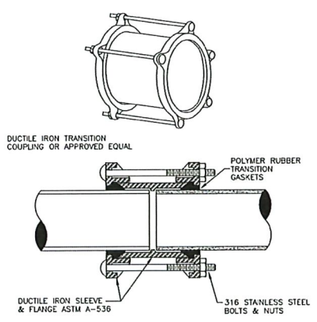




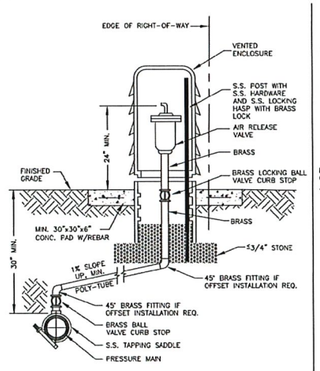
RESTRAINT TABLE
CB-1



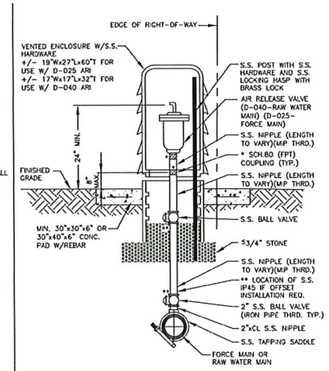
TRENCH CROSS SECTION
CB-9



DUCTILE IRON TRANSITION COUPLING
CB-5

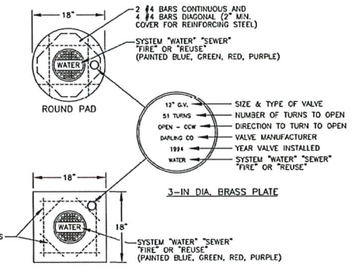


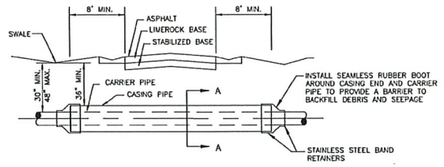
AIR RELEASE VALVE (WATER)
(2" ONLY)
CB-4



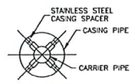
AIR RELEASE VALVE (RAW WATER/SEWER)
(2" ONLY)
CB-4

CROSSING DETAIL
CB-7

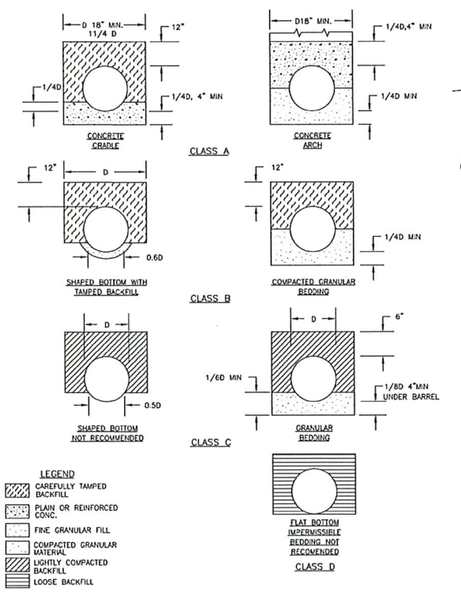




NOTE:
UNDERGROUND CROSSING REQUIRES A MINIMUM VERTICAL CLEARANCE OF 48" BELOW PAVEMENT SURFACE FOR FREEWAYS, 36" FOR OTHER HIGHWAYS OR 30" BELOW UNPAVED GROUND INCLUDING DITCH GRADE PER F.D.O.T.



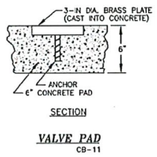
JACK AND BORE
CB-10



LEGEND
- CAREFULLY TAMPED BACKFILL
- PLAIN OR REINFORCED CONC.
- FINE GRANULAR FILL
- COMPACTED GRANULAR MATERIAL
- LIGHTLY COMPACTED BACKFILL
- LOOSE BACKFILL

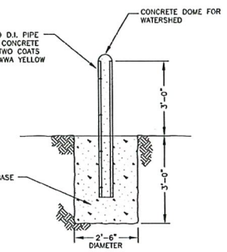
SOURCE: ASCE MANUAL NO.37 (WPCF MANUAL OF PRACTICE NO.37)

PIPE BEDDING
CB-3



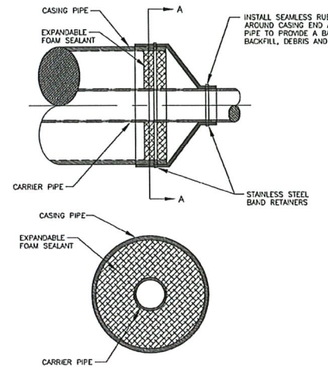
VALVE PAD
CB-11

PVC PRESSURE LINE CONFLICT ADJUSTMENT FITTINGS
CB-6

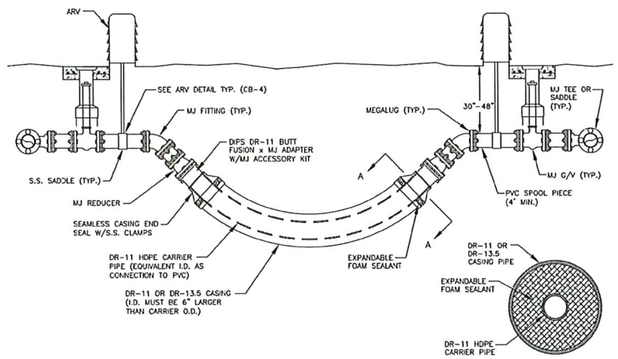


GUARD POST DETAIL
CB-12

CONFLICT ADJUSTMENT MJ
CB-8



END SEAL/CASING PIPE
CB-13



DIRECTIONAL DRILL
CB-14

CONSULTANTS COMMENTS:

B.S.U. DETAIL SHEETS MUST REMAIN AS IS (NO ALTERATIONS)
IF ADDITIONAL DETAILS ARE REQUIRED SUBMIT ON SEPERATE SHEET

DETAIL CB-2 DELETED

Bonita Springs Utilities, Inc.

Revision	Date	Description	By

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: BSU20
SCALE: NOT TO SCALE

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

MASTER PUMP STATION 130

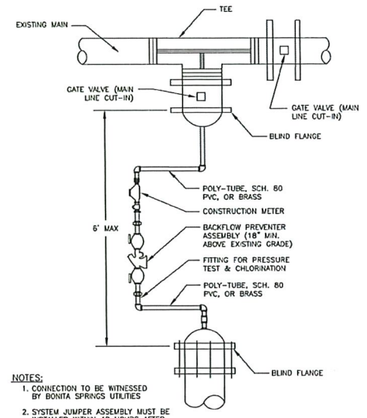
COMBINATION WATER/WASTEWATER DETAILS

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

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

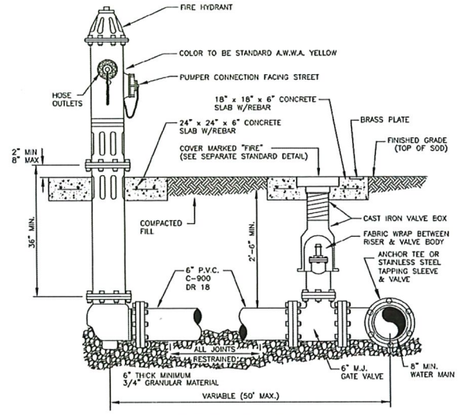
MUNICIPALITY: BONITA SPRINGS
SEC/TWN/RGE: 28/47S/25E
DATE: JANUARY, 2024
SUBMITTAL TYPE: 100% PLANS
SHEET 10 OF 12

G:\ENGINEERING\PROJ-ENG\BSU\20\01\DWGS\SUBMITTALTYPE\CONST\BSU20-DETAILSSHEET 8-12) 2/13/2025 11:17 AM

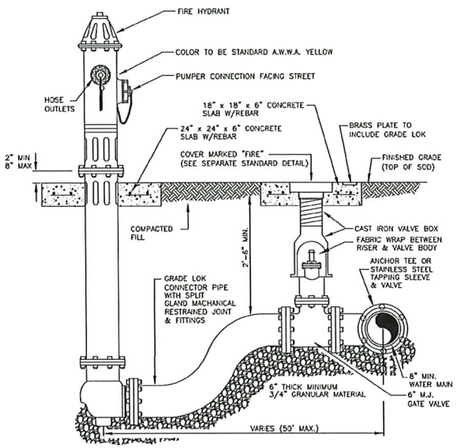


NOTES:
1. CONNECTION TO BE WITNESSED BY BONITA SPRINGS UTILITIES
2. SYSTEM JUMPER ASSEMBLY MUST BE INSTALLED WITHIN 48 HOURS AFTER FULL BORE FLUSH

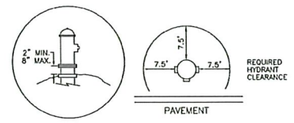
CONSTRUCTION JUMPER ASSEMBLY
W-1



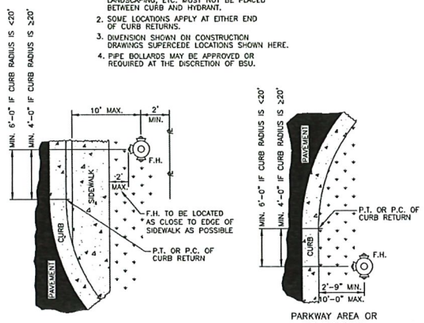
FIRE HYDRANT ASSEMBLY
W-2



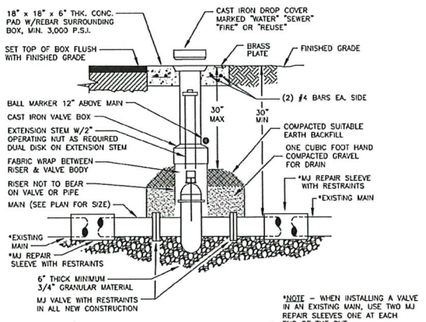
FIRE HYDRANT ASSEMBLY WITH GRADE-LOK ADAPTOR
W-3



NOTES
1. OBSTRUCTIONS SUCH AS UTILITY POLES, STREET SIGNS, IRRIGATION BOXES, FENCES, LANDSCAPING, ETC., MUST NOT BE PLACED BETWEEN CURB AND HYDRANT.
2. SOME LOCATIONS APPLY AT EITHER END OF CURB RETURNS.
3. DIMENSION SHOWN ON CONSTRUCTION DRAWINGS SUPERCEDE LOCATIONS SHOWN HERE.
4. PIPE BOLLARDS MAY BE APPROVED OR REQUIRED AT THE DISCRETION OF BSU.

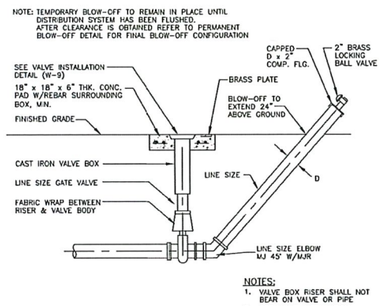


FIRE HYDRANT LOCATIONS/CLEARANCE
W-4



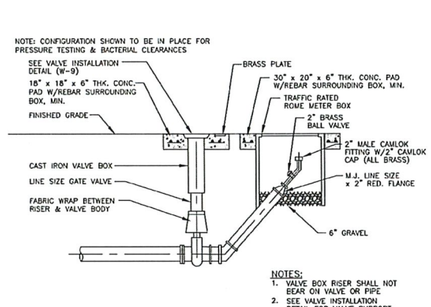
*NOTE – WHEN INSTALLING A VALVE IN AN EXISTING MAIN, USE TWO MJ REPAIR SLEEVES ONE AT EACH END OF THE CUT.

VALVE INSTALLATION
W-9



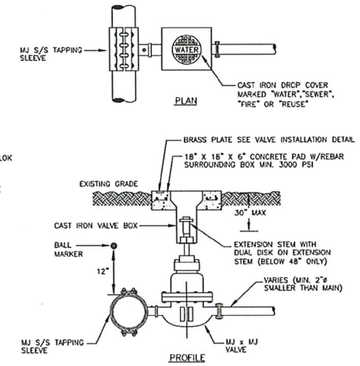
NOTES:
1. VALVE BOX RISER SHALL NOT BEAR ON VALVE OR PIPE
2. SEE VALVE INSTALLATION DETAIL FOR VALVE SUPPORT

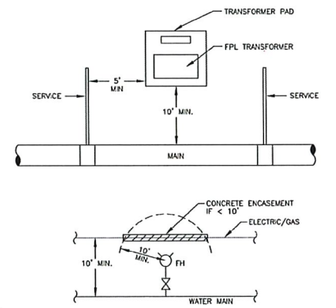
TEMPORARY BLOW-OFF ASSEMBLY DETAIL
W-6



NOTES:
1. VALVE BOX RISER SHALL NOT BEAR ON VALVE OR PIPE
2. SEE VALVE INSTALLATION DETAIL FOR VALVE SUPPORT

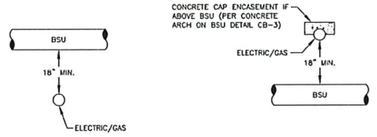
PERMANENT BLOW-OFF ASSEMBLY DETAIL
W-5



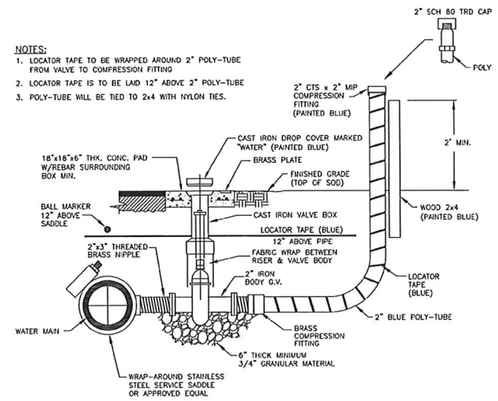


NOTES:
1. SEE VALVE INSTALLATION DETAIL FOR VALVE SUPPORT
2. REQUIRES WRITTEN BSU APPROVAL

TAPPING SLEEVE AND VALVE
W-11

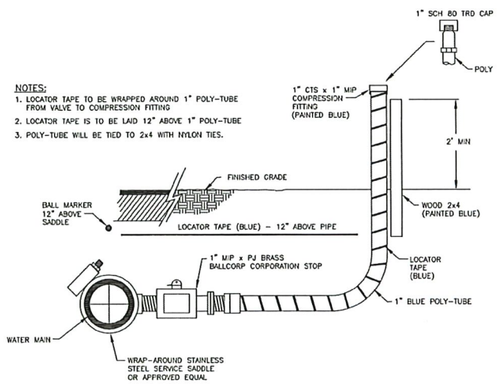


ELECTRICAL / GAS CLEARANCE
W-15



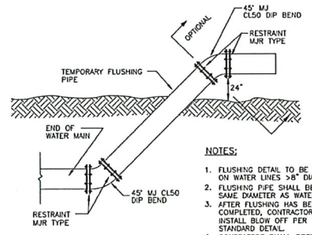
NOTES:
1. LOCATOR TAPE TO BE WRAPPED AROUND 2" POLY-TUBE FROM VALVE TO COMPRESSION FITTING
2. LOCATOR TAPE IS TO BE LAID 12" ABOVE 2" POLY-TUBE
3. POLY-TUBE WILL BE TIED TO 2x4 WITH NYLON TIES.

2" POTABLE WATER SERVICE
W-12



NOTES:
1. LOCATOR TAPE TO BE WRAPPED AROUND 1" POLY-TUBE FROM VALVE TO COMPRESSION FITTING
2. LOCATOR TAPE IS TO BE LAID 12" ABOVE 1" POLY-TUBE
3. POLY-TUBE WILL BE TIED TO 2x4 WITH NYLON TIES.

1" POTABLE WATER SERVICE
W-13



NOTES:
1. FLUSHING DETAIL TO BE USED ON WATER LINES >8" DIAMETER.
2. FLUSHING PIPE SHALL BE THE SAME DIAMETER AS WATER MAIN.
3. AFTER FLUSHING HAS BEEN COMPLETED, CONTRACTOR SHALL INSTALL BLOW OFF PER STANDARD DETAIL.
4. CONTRACTOR SHALL PROVIDE ADEQUATE DRAINAGE FOR FLUSHED WATER.

WATER MAIN FLUSHING DETAIL
W-8

CONSULTANTS COMMENTS:

B.S.U. DETAIL SHEETS MUST REMAIN AS IS (NO ALTERATIONS)
IF ADDITIONAL DETAILS ARE REQUIRED SUBMIT ON SEPERATE SHEET

DETAIL W-7 DELETED
DETAIL W-10 DELETED
DETAIL W-14 DELETED

Bonita Springs Utilities, Inc.

Revision	Date	Description	By

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: BSU20
SCALE: NOT TO SCALE

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

MASTER PUMP STATION 130

WATER 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 (+)

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

MUNICIPALITY: BONITA SPRINGS
SEC/TWN/RGE: 28/47S/25E
DATE: JANUARY, 2024
SUBMITTAL TYPE: 100% PLANS
SHEET 11 OF 12

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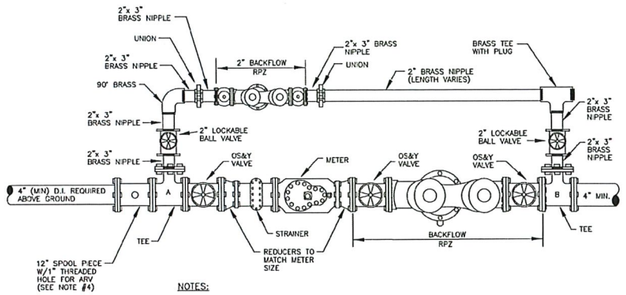
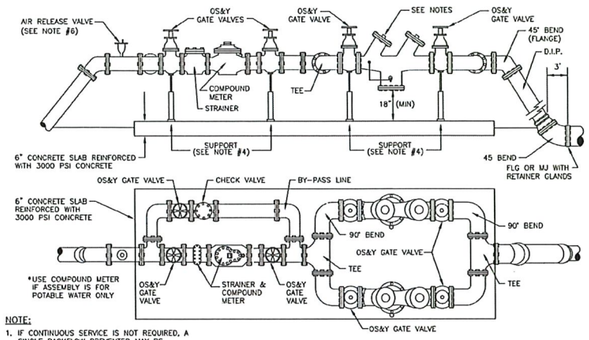


NOTES:

1. METER SIZE DETERMINES CONFIGURATION SIZE BETWEEN TEE "A" & "B".
2. ENTIRE APPARATUS TO BE PAINTED WITH UV RATED PAINT (EXCEPT METER).
3. CONSULT BSU "BACKFLOW PREVENTION CROSS CONNECTION CONTROL PROGRAM" FOR APPROVED SIZES, MODEL NUMBERS & MANUFACTURERS.
4. "N" STYLE BACKFLOWS REQUIRE A LOCATION FOR AN AIR RELEASE VALVE.

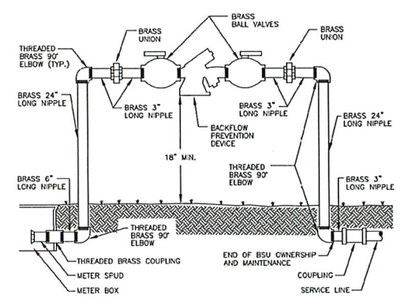
STANDARD METER/BACKFLOW ASSEMBLY DETAIL
(3" OR LARGER)
BF-1



NOTE:

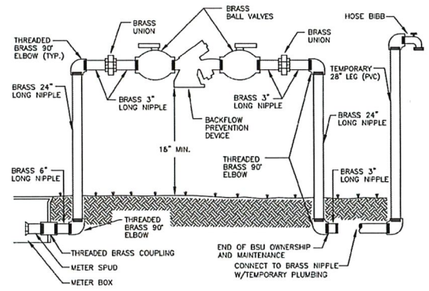
1. IF CONTINUOUS SERVICE IS NOT REQUIRED, A SINGLE BACKFLOW PREVENTER MAY BE INSTALLED. AND TEES AND BENDS ELIMINATED
2. DEVICE DEPENDENT ON DEGREE OF HAZARD.
3. METER BYPASS LINE OPTIONAL. DEPENDENT ON CUSTOMER NEEDS/CONTINUOUS SUPPLY DURING METER REPAIR.
4. SUPPORT TO BE STAINLESS STEEL.
5. CONSULT BSU "BACKFLOW PREVENTION CROSS CONNECTION CONTROL PROGRAM" FOR APPROVED SIZES, MODEL NUMBERS & MANUFACTURERS.
6. "N" STYLE BACKFLOWS REQUIRE A LOCATION FOR AN AIR RELEASE VALVE.

3" OR LARGER COMPOUND METER AND BACKFLOW PREVENTER
(ONLY WITH BSU PRIOR APPROVAL)
BF-2



NOTE:
DEVICE DEPENDENT ON DEGREE OF HAZARD.

BACKFLOW PREVENTION DEVICE 3/4", 1", 2"
(NEW INSTALLATIONS BY BSU, EXCEPT FOR BACKFLOWS ON FIRE LINES)
BF-3



NOTE:
DEVICE DEPENDENT ON DEGREE OF HAZARD.

CONTRACTOR'S TEMPORARY HOSE BIBB BACKFLOW PREVENTION DEVICE 3/4", 1", 2"
(INSTALLED BY BUILDER)
BF-5

CONSULTANTS COMMENTS:

B.S.U. DETAIL SHEETS MUST REMAIN AS IS (NO ALTERATIONS)
IF ADDITIONAL DETAILS ARE REQUIRED SUBMIT ON SEPERATE SHEET

DETAIL BF-4 DELETED

Bonita Springs Utilities, Inc.

Revision	Date	Description	By

DESIGNED BY: A.P.D.
DRAWN BY: E.M.N.
APPROVED: A.P.D.
JOB CODE: BSU20
SCALE: NOT TO SCALE

GradyMinor
Civil Engineers • Land Surveyors • Planners • Landscape Architects
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Bonita Springs, Florida 34134

MASTER PUMP STATION 130

BACKFLOW 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 (+)

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

MUNICIPALITY: BONITA SPRINGS
SEC/TWN/RGE: 28/47S/25E
DATE: JANUARY, 2024
SUBMITTAL TYPE: 100% PLANS
SHEET 12 OF 12

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