WATER / WASTEWATER

Basis

The standards set forth herein are intended to provide a basis for design and construction. Applicable Federal, State, County and local laws and regulations should be considered concurrently with this text. These standards complement the Palm Beach Park of Commerce Association Inc. Uniform Service Policy on Water, Wastewater and Fire Protection. In the case of conflict between these standards and the Uniform Service Policy, the requirements of the Uniform Service Policy shall prevail. Both these Design Standards and the Uniform Service Policy are subject to change without notice. It is the Engineer of Record's responsibility to assure that all protocols, procedures and submittals meet the requirements of the Design Standards and Uniform Service Policy in effect at the time of making submittal or implementing a protocol or procedure.

Preparation and Approval of Project Documents

It shall be the responsibility of the Owner's engineer to obtain record information for existing water and wastewater infrastructure and prepare plans in accordance with the minimum standards shown herein. Record information shall be field verified prior to design and confirmed prior to construction. All construction plans shall be approved by the PBPOC Land Development Review Board (LDRB), acting on behalf of the POA. The approval shall be valid for one year. This approval does not relieve the Owner of the responsibility of meeting the POA's minimum design and construction standards shown herein or the requirements of the PBPOC Uniform Service Policy. No changes shall be made on approved plans without specific written POA concurrence. Revisions which directly or indirectly impact water and/or wastewater design (e.g., changes in property use in whole or part, adding or deleting plumbing fixtures in buildings, site plan changes, etc.) void the plan approval. Revised plans are required for review and approval, subject to the prevailing PBPOC Uniform Service Policy and Design Standards as well as new plan review fees. No construction shall start prior to a pre-construction conference to be held at a location designated by the POA.

Utility Easement/Utility Location Guidelines

The location and size of utility easements shall be determined using the following guidelines:

(a) The Palm Beach County Health Department's requirements for design, construction, clearance and separation of water, wastewater and other facilities shall be strictly observed in addition to those outlined in these Standards.

(b) Water and wastewater mains shall be located a minimum of ten (10) feet horizontal from other public utilities or privately owned mains when installed parallel, unless specifically approved by POA. A minimum of ten (10) feet of horizontal separation is also required from structures, buildings, walls, and fences, unless specifically approved by the POA in writing. Phone lines shall cross the POA's water/wastewater facilities with a minimum of twelve (12) inch vertical clearance. Gas mains and electric power cables shall cross the POA's water/ wastewater facilities with a minimum of eighteen (18) inch vertical clearance.

(c) Structures and landscaping should be placed no closer than ten (10) feet to a water/wastewater pipe or facility. The POA may consent, on a case by case basis, to the location of trees closer than ten (10) feet to water/wastewater facilities if an approved root barrier system is installed a minimum distance of five (5) feet from the water/wastewater facilities by the Owner's landscaping contractor.

Approved Materials and Equipment

The materials and equipment set forth in Section III.I, Section IV.J and Exhibit "D" of the Seacoast Utility Authority (SUA) "Minimum Construction Standards and Specifications for Water Distribution Systems, Sewer Collection Systems, Reclaimed Water Systems," latest revision (hereafter, the "Specifications") are approved for use within the PBPOC POA potable water and wastewater systems. Any party constructing improvements to the PBPOC POA potable water and wastewater systems or which will become part of the PBPOC POA potable water and wastewater systems following construction shall utilize materials and equipment set forth in the Specifications. The POA may consent, on a case by case basis and upon written request with supporting documentation, to deviations from the materials and equipment required by the Specifications. Any references in the Specifications to the authorities and/or responsibilities of the "Authority" or the "Authority's" personnel, representatives or agents shall be interpreted to mean the PBPOC POA or its designated agent. Any references in the List to the authorities and/or responsibilities of the "Developer" or the "Developer's" personnel, representatives or agents shall be interpreted to mean the Owner or its designated agent.

Exceptions

1. Section III.I.1.a – The PBPOC Property Owners Association Public Water System (POAPWS) shall allow the use of SDR-18 (minimum) restrained joint polyvinyl chloride (PVC) pipe for sizes up to and including 12 inch for pressure pipe. The pipe shall conform to AWWA C-900 and NSF-61 and have a minimum 235 psi pressure rating.
2. Section III.I.1.a – The PBPOC POAPWS shall allow the use of high density polyethylene (HDPE) piping for pressure pipe installed via directional drill/bore method. The pipe shall be fusible HDPE, PE 4710, DR 11 minimum conforming to AWWA C-906 and NSF-61 and in minimum 40-foot standard lengths.
3. Section III.I.1.c – The use of thrust blocks is not allowed.
4. Section III.I.2.a – The minimum size for single services shall be ¾".
5. Section III.I.2.b – This section is removed in its entirety.
6. Section IV.J.5.a – The PBPOC POAPWS shall allow the use of SDR-18 (minimum) restrained joint polyvinyl chloride (PVC) pipe for sizes up to and including 12 inch for pressure pipe in all areas. The pipe shall conform to AWWA C-900 and NSF-61 and have a minimum 235 psi pressure rating.
7. Section IV.J.5.a – The PBPOC POAPWS shall allow the use of high density polyethylene (HDPE) piping for pressure pipe installed via directional drill/bore method. The pipe shall be fusible HDPE, PE 4710, DR 11 minimum conforming to AWWA C-906 and NSF-61 and in minimum 40-foot standard lengths.
8. Section IV.J.5.c – The use of thrust blocks is not allowed.
9. Exhibit "D" – All references to reclaimed water main(s) and reclaimed main(s) are not applicable.
10. Exhibit "D," Section A.1 – Sub-item "c" is added as follows: Push-on Joint PVC pipe, AWWA C-900, SDR-18 min., 235 psi min., NSF-61: 1. JM Manufacturing Company* 2. Diamond Plastic Corporation* 3. CertainTeed* 4. North American Pipe Corp.; NAPCO* 5, IPEX, Inc.** 6. National Pipe and Plastics** 7. Sanderson Pipe** [*No pipe deflection at the joint allowed. **Up to two (2) degrees deflection at pipe joint allowed.]
11. Exhibit "D," Section A.1 – Sub-item "d" is added as follows: Restrained Joint PVC pipe, AWWA C-900, SDR-18 min., NSF-61. D1. Non-metallic Modular Joint Restraint Design 1. CertainTeed Certalok D2. Belle Integrated Metallic Ring Restraint Design 1. JMM Eagle Lok
12. Exhibit "D," Section A.1 – Sub-item "e" is added as follows: HDPE pipe (Fusible HDPE, PE 4710, AWWA C-906); minimum 40 feet standard lengths, DR 11 minimum, 3" and larger 1. CP Chem 2. JM Manufacturing Company 3. IPEX, Inc. 4. Polypipe by Dura-Line 5. KWH Pipe by Uponor Infra Ltd.

13. Exhibit "D," Section A.2 – Sub-item "d" is added as follows: Push-on Joint PVC pipe, AWWA C-900, SDR-18 min., 235 psi min., NSF-61: 1. JM Manufacturing Company* 2. Diamond Plastic Corporation* 3. CertainTeed* 4. North American Pipe Corp.; NAPCO 5, IPEX, Inc.** 6. National Pipe and Plastics 7. Sanderson Pipe** [*No pipe deflection at the joint allowed. **Up to two (2) degrees deflection at pipe joint allowed.]
14. Exhibit "D," Section A.2 – Sub-item "e" is added as follows: Restrained Joint PVC pipe, AWWA C-900, SDR-18 min., NSF-61. D1. Non-metallic Modular Joint Restraint Design 1. CertainTeed Certalok D2. Belle Integrated Metallic Ring Restraint Design 1. JMM Eagle Lok
15. Exhibit "D," Section A.2 – Sub-item "f" is added as follows: HDPE pipe (Fusible HDPE, PE 4710, AWWA C-906); minimum 40 feet standard lengths, DR 11 minimum, 3" and larger 1. CP Chem 2. JM Manufacturing Company 3. IPEX, Inc. 4. Polypipe by Dura-Line 5. KWH Pipe by Uponor Infra Ltd.
16. Exhibit "D," Section B.5.a.1 – This section shall be amended to include PVC mains.
17. Exhibit "D," Section II.A.1 – This section shall be amended to include ¾".

Potable Water and Wastewater System Design and Construction Standards

Any party constructing improvements to the PBPOC POA potable water and/or wastewater systems or which will become part of the PBPOC POA potable water and/or wastewater systems following construction, shall comply with the SUA "Minimum Construction Standards and Specifications for Water Distribution Systems, Sewer Collection Systems, Reclaimed Water Systems," (hereafter, the "Standards"), as appropriate and as set forth in the SUA Service Policy, latest revision. Any references in the Standards to the authorities and/or responsibilities of the "Authority" or the "Authority's" personnel, representatives or agents shall be interpreted to mean the PBPOC POA or its designated agent. Any references in the List to the authorities and/or responsibilities of the "Developer" or the "Developer's" personnel, representatives or agents shall be interpreted to mean the Owner or its designated agent.

Notwithstanding anything to the contrary herein, the LDRB may authorize deviations from the Standards if, in the opinion of the LDRB, said deviations are necessary to protect the health, safety, or welfare of the public or to avoid an undue financial and/or maintenance burden on the PBPOC POA.

Exceptions

Section I – General

1. This section shall be replaced in its entirety by the corresponding prevailing PBPOC Uniform Service Policy and Design Standards requirements.

Section II – Design/Construction Plan Requirements

1. This section shall be replaced in its entirety by the corresponding prevailing PBPOC Uniform Service Policy and Design Standards requirements.

Section III - Water Distribution System

1. The requirements of this Section shall apply to the PBPOC POAPWS' non-transient, non-community water system.
2. All references to residential or multi-family dwelling requirements are not applicable and shall be removed from this Section.
3. Section A.5 shall be revised to read "Approved backflow prevention devices are required on each and every water service connection in accordance with specifications shown in Exhibit "I" in this manual. Backflow devices shall be installed on the outlet side of the water meter; no tees or other branch fittings are allowed between the water meter and backflow device. In the absence of special circumstances, which would cause a great degree for cross connections, the general backflow device required is as follows: (a) Potable water connection – reduced pressure zone device; (b) Dedicated process water connection – double check valve device; (c) Dedicated fire

line – Double detector check valve device; (d) Temporary water – reduced pressure zone device."

4. The last sentence of Section A.6 shall be stricken.
5. The first sentence of Section A.7.b shall be stricken.
6. The first sentence of Section A.7.c shall be revised to read "In commercial areas when…"
7. The first sentence of Section B shall be revised to read "Hydraulic designs shall be based on the prevailing minimum guaranteed water system pressure at the closest point of connection between the PBPOC POAPWS' water system and the Palm Beach County Water Utility Department's water system."
8. Section C.3 shall be revised to read "Any pavement cut shall be replaced in accordance with the requirements of Northern Palm Beach County Improvement District's (NPBCID) Pavement Replacement Detail as provided in their Engineering Standards Manual, latest revision."
9. The last sentence of Section C.6 shall be stricken.
10. Section E.2 shall be revised to read "…procedure outlined in ANSI/AWWA C-600 Latest Revision. Record drawings in accordance with the prevailing PBPOC Uniform Service Policy and Design Standards must be accepted prior…"
11. The last two sentences of Section H.3 shall be stricken.
12. Section I shall be amended described in the Water/Wastewater Approved Materials and Equipment section of these Design Standards.
13. Section J.2 shall be revised to read "Each fire hydrant shall be capable of delivering a flow as prescribed by Palm Beach County Fire Rescue with a residual pressure…"
14. Section L.3 shall be revised to read "The PBPOC POA shall furnish and have installed all meters."
15. Section L.4 shall be revised to read "The Developer/Customer shall be responsible for providing and resetting the meter box, if required, after the..."
16. Section M shall be amended to add the following language at the end of the section: "Backflow prevention devices will not be owned or maintained by the POAPWS. The initial required testing and certification of backflow prevention devices shall be scheduled with the POA prior to the installation of meter(s) and shall be the financial responsibility of the Owner or the Owner's utility contractor. Required subsequent annual testing and certification of backflow devices will be handled by the POAPWS; however, any required repairs are the responsibility of the Owner.
17. Section N.2 shall be removed in its entirety.

Section IV – Sanitary Sewer System

1. All references to residential or multi-family dwelling requirements are not applicable and shall be removed from this Section.
2. The last sentence of Section A.1shall be revised to read "Special allowance may be made for sewage from industrial facilities and other large projects."
3. Section A.3 shall be revised to read "Industrial wastes from any source shall not be connected…"
4. The last sentence of Section B.11.e shall be amended to add PVC force mains and fitting as acceptable materials.
5. Section D.9 shall be revised to read "…inverted crown roadways or parking lots), the PBPOC POAPWS may require watertight inserts…"
6. Sections E.12.h through m shall be removed in their entirety.
7. Section F.3 shall be revised to read "Any pavement cut shall be replaced in accordance with the requirements of Northern Palm Beach County Improvement District's (NPBCID) Pavement Replacement Detail as provided in their Engineering Standards Manual, latest revision."
8. The last sentence of Section F.7 shall be stricken.
9. Section F.13 shall be revised to read "All joints and conflicts in the force main…"
10. Section G shall be removed in its entirety.
11. Section H.2.a shall be removed in its entirety.
12. Section I.9 shall be revised to read "The minimum size pipe for service laterals shall be 6 inch; however, the POA may allow smaller service laterals on a case by case basis with the concurrence of the Palm beach County Health Department."

13. Section I.10 shall be revised to read “Sewer Tie-in connections “Flexible rubber type connectors are not permitted.”
14. Section J shall be amended described in the Water/Wastewater Approved Materials and Equipment section of these Design Standards.

Section V – Reclaimed Water System

1. This Section shall be removed in its entirety.

Exhibits

1. Exhibit “A” – This exhibit shall be replaced in its entirety by the corresponding prevailing PBPOC Uniform Service Policy and Design Standards requirements.
2. Exhibit “B” – This exhibit shall be replaced in its entirety by the corresponding prevailing PBPOC Uniform Service Policy and Design Standards requirements.
3. Exhibit “C” – This exhibit shall be replaced in its entirety by the corresponding prevailing PBPOC Uniform Service Policy and Design Standards requirements.
4. Exhibit “D” – This exhibit shall be amended described in the Water/Wastewater Approved Materials and Equipment section of these Design Standards.
5. Exhibit “E” – This exhibit shall be replaced in its entirety by the corresponding prevailing PBPOC Uniform Service Policy and Design Standards requirements.
6. Exhibit “F” – This exhibit shall be replaced in its entirety by the corresponding prevailing PBPOC Uniform Service Policy and Design Standards requirements.
7. Exhibit “G” – This exhibit shall be replaced in its entirety by the corresponding prevailing PBPOC Uniform Service Policy and Design Standards requirements.
8. Exhibit “H” – This exhibit shall be replaced in its entirety by the corresponding prevailing PBPOC Uniform Service Policy and Design Standards requirements.
9. Exhibit “I” – This exhibit shall be replaced in its entirety by Exhibit C (latest revision) of the PBPOC Uniform Service Policy. The standard details depicted in Exhibit C will be made available to the Engineer of Record for use on the design, permit, construction and record drawings. No modifications to the standard details will be allowed without specific written request from the Engineer of Record and written authorization of the PBPOC POAPWS.
    a. The “Pavement Replacement Detail,” Dr. No. N-006 from the NPBCID Engineering Standards Manual, latest revision shall be added to Exhibit C as Drawing No. 5.
    b. The “Subaqueous Crossing – Directional Bore” detail, Dr. No. N-008A from the NPBCID Engineering Standards Manual, latest revision shall be added to Exhibit C as Drawing No. 11A.

Project Representatives and Authority of Project Representatives

Project Representatives acting on behalf of the POA may examine all construction and materials and may also examine preparation, fabrication or manufacture of components, materials and supplies. The Project Representative is not authorized to revoke, alter or waive any requirements of the approved plans or these specifications unless approved by the POA. The Project Representative is authorized to call to the attention of the Owner's Engineer or Contractor any failure of work or materials to conform to the plans or specifications. The Project Representative shall have the authority to reject materials or suspend the work until questions of issue can be referred to and decided upon by the POA or its designated agent. The Project Representative shall also have the authority to suspend the work when questions of safety or potential liability to the Park arise or unsafe conditions that may affect the work present. The Project Representative shall in no case act as foreman or perform other duties for the Project Engineer and/or Contractor nor interfere with the management of the work. The advice which the Project Representative may give shall in no way be construed as binding to the POA or releasing the Owner, his Engineer or Contractor from performing according to the intent of the plans, specifications and the POA’s Minimum Design and Construction Standards.

Required inspections will be scheduled for regular working hours only, except when service interruptions are involved. Work will not be scheduled for weekends or holidays unless approved in advance by the POA. The POA shall be provided with at least three (3) full working days' notice for scheduled (required) inspections, and a minimum of seven (7) days' notice is required for construction with service interruptions. If requested by the Owner's Engineer or Contractor or under emergency conditions, the POA may be able to accommodate requests for inspections with notice given in a shorter time frame. These requests and/or conditions will be evaluated on a case by case basis. Project Representative(s) will make routine passes to examine such items as piping restraint, material on site and clearances between conflicting lines. Scheduled inspections are required for jack and bores and pipe slippage through same, directional drills/bores, filling and flushing of potable water mains, pressure testing, flow testing of hydrants, application of coatings to manholes and wet wells, setting of wet wells, installation of lift station grounding rods, installation of base elbow anchors, prior to pouring any concrete, field welding/fusion of HDPE pipe and fittings, lift station start-ups, and tie-ins and/or modifications to POA facilities. Density test results shall be submitted to the POA prior to pressure testing. The contractor shall keep a copy of the current approved plans on the project site at all times. Approved work schedules are required prior to the beginning of construction for main shutdowns or for modifications to operating pipe systems.

It shall be the Owner's Engineer's responsibility to schedule inspections, and their qualified representative shall be present at all scheduled inspections. A scheduled inspection will be canceled if said representative is not present. The Engineer's representative shall be present during the entire length of the inspection. The Owner's Engineer shall ensure that pre-test pressure tests are conducted to minimize inspection failures. The Owner's Engineer shall prepare accurate record drawings and same shall be submitted to the POA for review and approval before a pressure test is scheduled. In any case, record drawings must be submitted and approved prior to request of a conditional final/final inspection or service being provided to any phase of a project.

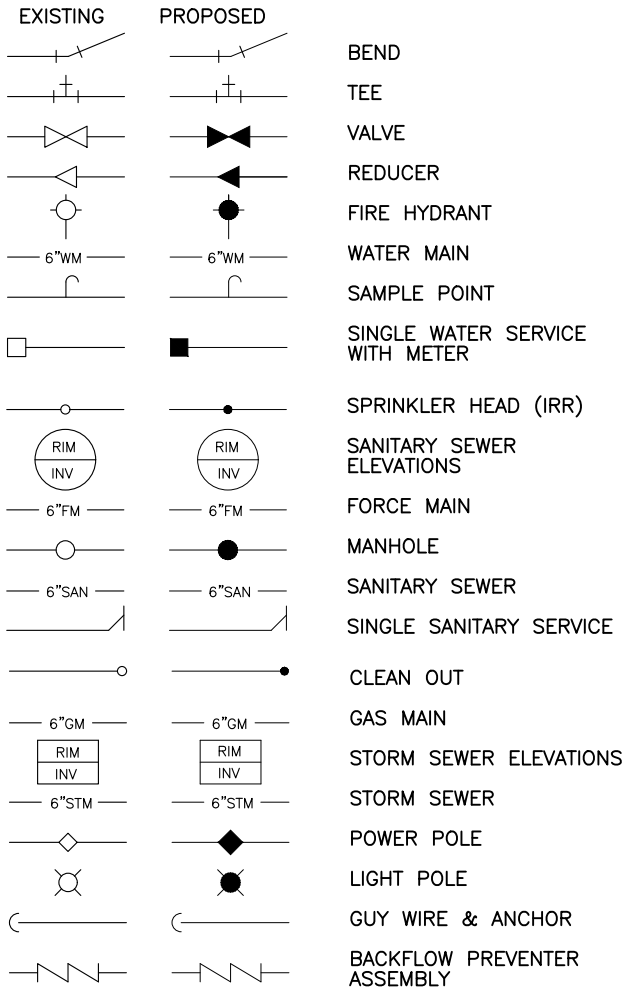
All POA-authorized representatives shall be permitted to enter upon any property without prior notification for the purposes of examination, observation, measurement, sampling, testing, review and/or photocopying of records, or investigation as maybe necessary for enforcement of the permit or ordinance. Entry shall be made during daylight or operating hours unless abnormal or emergency circumstances require otherwise.

Official Reporting

For all Permitting Applications, Testing Reports/Results and Laboratory Results that require the inclusion of information pertaining to the POAPWS, the following information is to be used:

Public Water System (PWS) Name: Palm Beach Park of Commerce Association, Inc.
PWS I.D. 4504516
PWS Address: 15132 Park of Commerce Blvd., Suite 101
City: Jupiter
PWS Phone# (561) 625-8027

Any permitting applications, test reports/results and/or lab results that contain erroneous information regarding the POAPWS, including reference to the Palm Beach County Water Utility Department or Seacoast Utility Authority as the PWS, will not be signed until all documentation reflects the correct PWS information.



PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

Symbols

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-1

STANDARD WATER AND SEWER SEPARATION STATEMENT

1. STORM SEWER, GRAVITY WASTEWATER AND FORCE MAINS CROSSING UNDER POTABLE WATER MAINS SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF TWELVE (12) INCHES BETWEEN THE OUTSIDE OF THE WATER MAIN AND THE CROWN OF THE LOWER PIPE. WHERE THIS MINIMUM SEPARATION CANNOT BE MAINTAINED BETWEEN GRAVITY SEWER OR STORM SEWER, THE CROSSING SHALL BE ARRANGED SO THAT THE STORM/GRAVITY SEWER PIPE JOINTS AND POTABLE WATER MAIN JOINTS ARE EQUIDISTANT FROM THE POINT OF CROSSING WITH NO LESS THAN SIX (6) FEET BETWEEN ANY TWO JOINTS, BOTH PIPES SHALL BE D.I.P., AND THE MINIMUM VERTICAL SEPARATION SHALL BE SIX (6) INCHES. WHERE THERE IS NO ALTERNATIVE TO STORM/WASTEWATER/FORCE MAIN MAINS CROSSING OVER A POTABLE WATER MAIN, THE CRITERIA FOR MINIMUM TWELVE (12) INCH VERTICAL SEPARATION BETWEEN LINES AND JOINT ARRANGEMENT, AS STATED ABOVE, SHALL BE REQUIRED, AND BOTH PIPES SHALL BE D.I.P. IRRESPECTIVE OF SEPARATION, IN ALL OF THE ABOVE CASES D.I.P. IS NOT REQUIRED FOR STORM SEWER PIPE.

2. FORCE MAINS CROSSING STORM SEWER SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL DISTANCE OF TWELVE (12) INCHES BETWEEN THE OUTSIDE OF THE FORCE MAIN AND THE OUTSIDE OF THE STORM SEWER.

3. AT THE UTILITY CROSSING DESCRIBED IN ITEMS 1 AND 2 ABOVE, ONE FULL LENGTH OF DUCTILE IRON WATER MAIN PIPE SHALL BE CENTERED SO THE WATER MAIN JOINTS WILL BE AS FAR AS POSSIBLE FROM THE OTHER PIPELINE JOINTS. WHERE THIS IS NOT POSSIBLE, JOINTS SHALL BE AT LEAST THREE (3) FEET FROM STORM SEWERS AND SIX (6) FEET FROM GRAVITY SEWER MAINS AND FORCE MAINS.

4. SEWER SERVICE LATERALS SHALL CROSS UNDER WATER MAINS WITH A MINIMUM VERTICAL SEPARATION OF TWELVE (12) INCHES. IF 12" VERTICAL SEPARATION CANNOT BE MAINTAINED, THEN THE WATER MAIN SHALL BE D.I.P. AND THE SEWER SERVICE LATERAL SHALL BE C-900 SDR 18 OR BETTER AND THE MINIMUM SEPARATION SHALL BE SIX (6) INCHES. WHEN IT IS NOT POSSIBLE FOR THE WATER MAIN TO CROSS OVER THE SEWER SERVICE LATERAL A MINIMUM VERTICAL SEPARATION OF AT LEAST TWELVE (12) INCHES MUST BE MAINTAINED, THE WATER MAIN SHALL BE D.I.P. AND THE SEWER LATERAL SHALL BE C-900 SDR 18 OR BETTER.

5. MAINTAIN MINIMUM TEN (10) FEET HORIZONTAL DISTANCE BETWEEN POTABLE WATER MAIN OR FORCE MAIN, STORM SEWER OR GRAVITY SEWER MAIN OR ON SITE SEWAGE DISPOSAL SYSTEMS. ADDITIONAL SEPARATION MAY BE REQUIRED AS DETERMINED BY THE LDRB.

Water and Sewer Separation Statement

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-2

NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. THIS METHOD SHALL BE COMPLIED WITH WHEN CONNECTING TO AN EXISTING WATER MAIN, (ONE THAT HAS ALREADY BEEN BACTERIOLOGICALLY CLEARED OR IS IN USE) WHETHER BY TEE AND VALVE OR BY CONTINUATION OF A PLUGGED STUB OUT WITH AN EXISTING GATE VALVE.

2. THESE REQUIREMENTS ARE BASED ON PALM BEACH COUNTY HEALTH DEPARTMENT REQUIREMENTS.

3. WHEN A TAPPING TEE AND VALVE IS INSTALLED, A PRESSURE/LEAKAGE TEST SHALL BE PERFORMED ON THE ASSEMBLY IN THE PRESENCE OF AN AUTHORIZED POAPWS REPRESENTATIVE PRIOR TO PERFORMING THE ACTUAL TAP.

4. ALL TAPS ON PIPE SIX (6) INCH IN DIAMETER AND LARGER SHALL BE INSTALLED AT THE CENTER/MIDDLE OF A LENGTH OF PIPE.

5. DOUBLE VALVING PERMITS PHYSICAL CONNECTION TO AN EXISTING WATER MAIN WHEN USED IN CONJUNCTION WITH A BYPASS LINE.

6. A 2" BYPASS LINE (MAXIMUM) SHALL BE INSTALLED AS SHOWN BELOW PRIOR TO CANNON FLUSHING.

7. THE 2" TEE SHALL BE USED FOR FEEDING CHLORINE SOLUTION AND FOR ATMOSPHERIC VENT DURING PRESSURE/LEAKAGE TESTS.

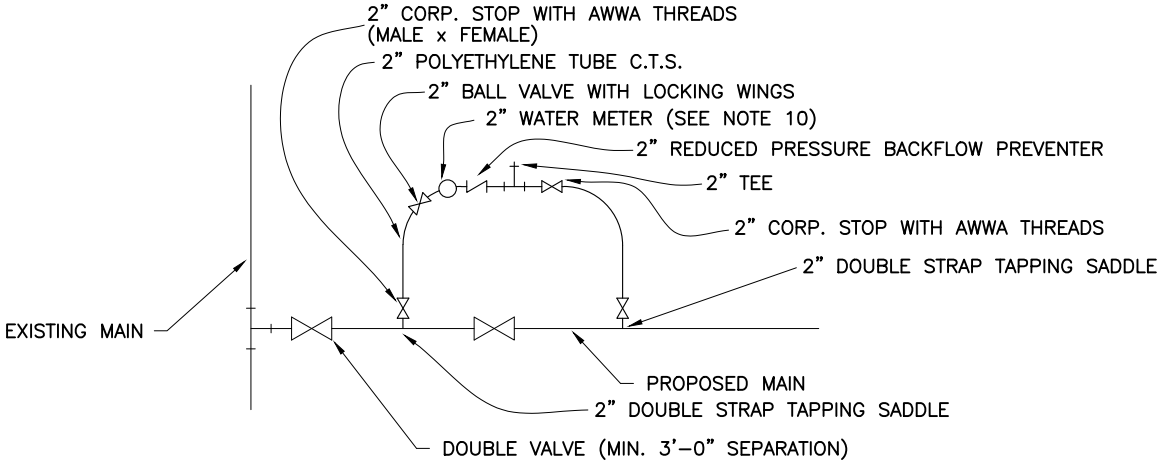
8. UNDER NO CIRCUMSTANCES SHALL VALVES BE OPERATED WITHOUT AN AUTHORIZED POAPWS REPRESENTATIVE PRESENT.

9. ALL WATER MAINS SHALL BE FILLED WITH WATER UTILIZING JUMPER METER AND THEN BE THOROUGHLY CANNON FLUSHED IN ACCORDANCE WITH PBPOC POA SPECIFICATIONS PRIOR TO PRESSURE/LEAKAGE TESTING. THE PROCEDURE SHALL BE DONE ONLY IN THE PRESENCE OF AN AUTHORIZED POAPWS REPRESENTATIVE.

10. FOLLOWING INITIAL CANNON FLUSHING, ALL WATER FOR PRESSURE/LEAKAGE TESTING AND BACTERIOLOGICAL CLEARANCES MUST BE DRAWN FROM THE BYPASS LINE WITH METER AND REDUCED PRESSURE BACKFLOW PREVENTER IN PLACE. THE WATER METER SHALL BE PROVIDED BY THE PBPOC POA. ALL WATER USED FOR CONSTRUCTION PURPOSES SHALL BE IN ACCORDANCE WITH THE PBPOC POA UNIFORM SERVICE POLICY. METER, BALL VALVE, REDUCED PRESSURE BACKFLOW PREVENTER AND TEE SHALL INSTALLED AT LEAST 18" ABOVE EXISTING GRADE, SUPPORTED, AND PROTECTED FROM DAMAGE. ANY DAMAGE SHALL BE APPLICANT'S RESPONSIBILITY AND SHALL BE CHARGED ACCORDINGLY.

11. EXCEPT DURING CANNON FLUSHING VALVES SHALL NOT BE OPENED UNTIL AFTER AN APPROVED PRESSURE/ LEAKAGE TEST, BACTERIOLOGICAL CLEARANCE, CERTIFICATION BY THE ENGINEER OF RECORD, RELEASE FROM THE PALM BEACH COUNTY HEALTH DEPARTMENT AND APPROVAL BY POAPWS.

12. DISINFECTION AND BACTERIOLOGICAL CLEARANCES SHALL COMPLY WITH CURRENT AWWA PROCEDURES, PALM BEACH COUNTY HEALTH DEPARTMENT, AND FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION REQUIREMENTS.



Tapping and Main Clearing Procedure

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

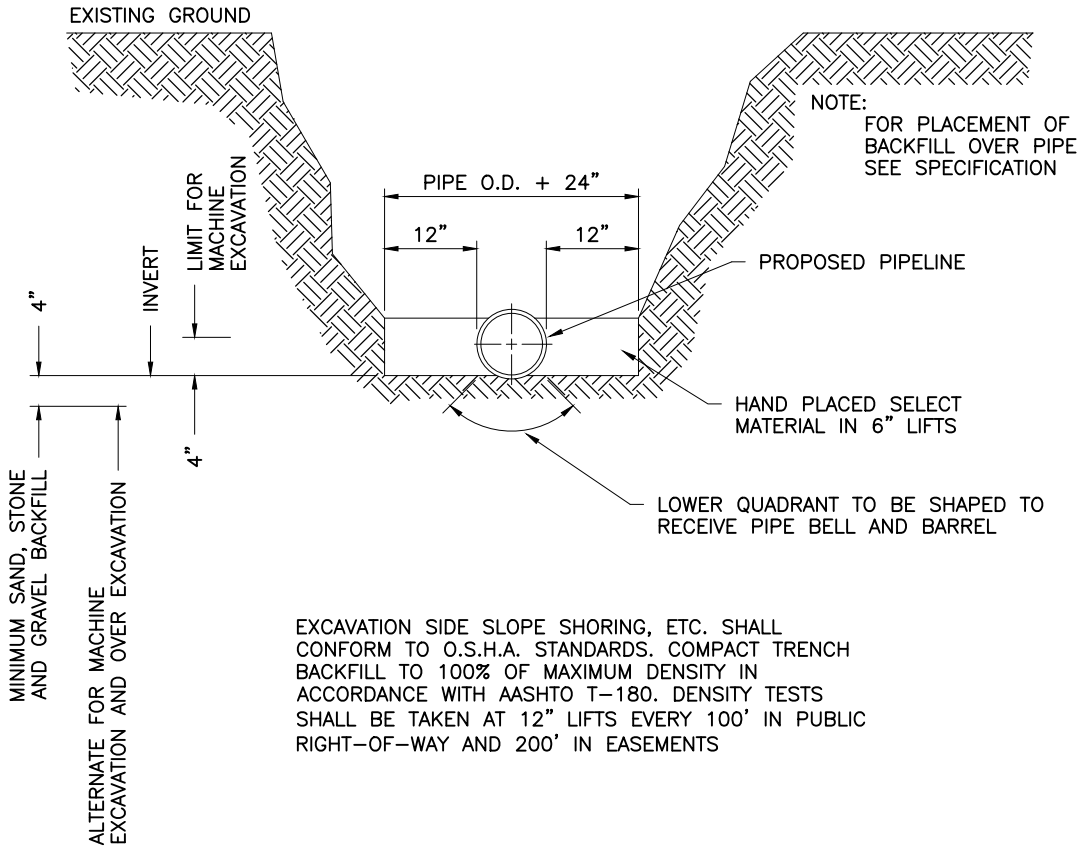
CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-3

(PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)



EXCAVATION SIDE SLOPE SHORING, ETC. SHALL CONFORM TO O.S.H.A. STANDARDS. COMPACT TRENCH BACKFILL TO 100% OF MAXIMUM DENSITY IN ACCORDANCE WITH AASHTO T-180. DENSITY TESTS SHALL BE TAKEN AT 12" LIFTS EVERY 100' IN PUBLIC RIGHT-OF-WAY AND 200' IN EASEMENTS

CONTRACTOR SHALL AT ALL TIMES COMPLY WITH THE REQUIREMENTS OF THE FLORIDA TRENCH SAFETY ACT.

Standard Trenching Procedure

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-4

PUSH ON JOINT PIPE RESTRAINT REQUIREMENTS AT FITTINGS, VALVES AND DEAD ENDS

PIPE SIZE	90° BEND	45° BEND	22½° BEND	11¼° BEND	REDUCER	VALVE	DEAD END	TEE
4"	54'	54'	36'	36'	54'	72'	72'	72'
6"	54'	54'	36'	36'	54'	72'	72'	72'
8"	54'	54'	36'	36'	54'	72'	72'	72'
10"	54'	54'	36'	36'	54'	108'	108'	108'
12"	72'	72'	54'	54'	72'	108'	108'	108'
14"	72'	72'	54'	54'	72'	108'	108'	108'
16"	72'	72'	54'	54'	72'	154'	154'	154'
18"	72'	72'	54'	54'	72'	154'	154'	154'
20"	90'	90'	54'	54'	90'	154'	154'	154'
24"	90'	90'	54'	54'	90'	172'	172'	172'
30"	90'	90'	54'	54'	90'	180'	180'	180'
36"	90'	90'	54'	54'	90'	270'	270'	270'
42"	108'	108'	54'	54'	108'	270'	270'	270'
48"	108'	108'	54'	54'	108'	270'	270'	270'
54"	108'	108'	54'	54'	108'	270'	270'	270'

MINIMUM LENGTH OF PUSH ON JOINT PIPE WITH SPECIAL RESTRAINING GASKETS

NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. ALL BURIED PRESSURE MAINS SHALL INCLUDE A RESTRAINED JOINT SYSTEM. THE CONTRACTOR SHALL USE A DUCTILE IRON RESTRAINING SYSTEM AS MANUFACTURED BY EBAA IRON, INC. (MEGALUG) OR APPROVED EQUAL FOR ALL MECHANICAL JOINT FITTINGS AND LOCKING GASKETS FOR PUSH–ON JOINT PIPE.

2. RESTRAINING LENGTHS SHOWN ARE THE MINIMUM LENGTH REQUIRED BASED ON A TEST PRESSURE OF 150 P.S.I.G. WITH A MINIMUM COVER OF 30".

3. IF LENGTH BETWEEN MECHANICAL JOINT FITTINGS AND/OR VALVES IS LESS THAN THE MINIMUM LENGTHS SHOWN IN THIS TABLE, THE CONTRACTOR SHALL RESTRAIN THE ENTIRE LENGTH.

Pipe Restraint Table

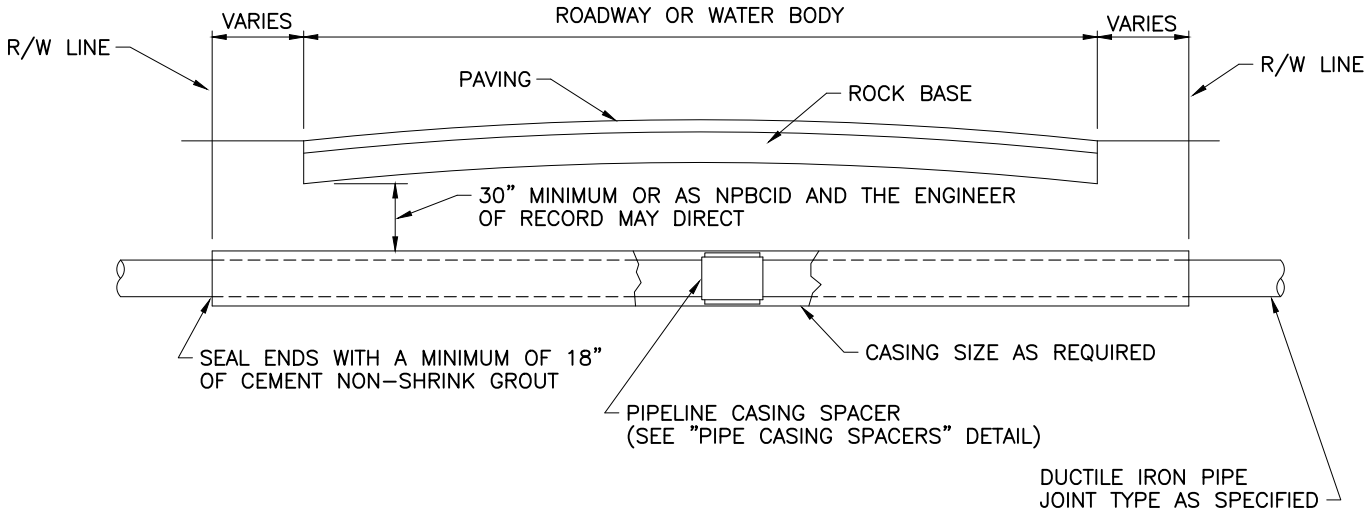
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-6



	NOMINAL PIPE SIZE	STEEL CASING	THICKNESS SCHEDULE
FAST GRIP OR FIELD LOK GASKET	4"	12"	.375
	6"	16"	.375
	8"	18"	.375
	10"	20"	.375
	12"	24"	.375
	14"	24"	.375
	16"	30"	.375
	18"	30"	.375
	20"	36"	.375
	24"	42"	.500
RESTRAINED MECHINICAL JOINT	30"	48"	.500
	36"	54"	.500
	42"	60"	.500
	48"	72"	.500

(PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

Steel Casing Installation

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

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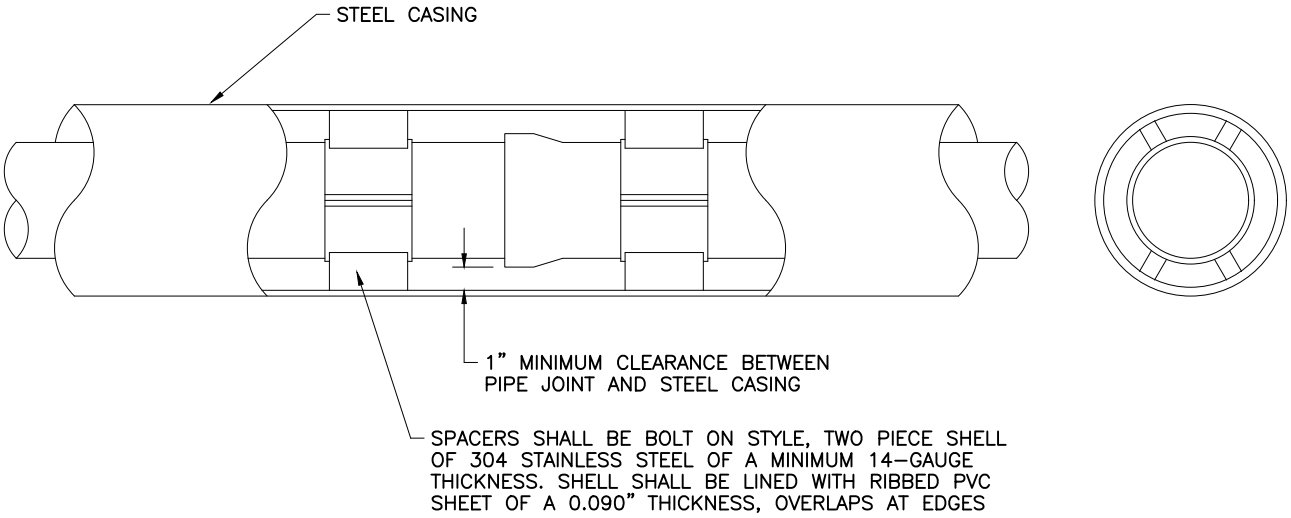

NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. CARRIER PIPE FOR 4" THROUGH 24" DIAMETER PIPE WITHIN CASING SHALL BE RESTRAINT GASKET.

2. RESTRAINED MECHANICAL JOINTS SHALL BE USED FOR PIPE 30" DIAMETER AND ABOVE AND SHALL HAVE FACTORY WELDED RETAINING RINGS. AMERICAN RESTRAINED JOINT PIPE OR APPROVED EQUAL MAY BE USED.

3. FOR PIPE DIAMETERS 4" THROUGH 12" INSTALL STAINLESS STEEL PIPE CASING SPACERS 5' OR LESS FROM EACH END OF PIPE BUT NOT MORE THAN 10' APART (2 PER PIPE). FOR PIPE DIAMETERS 14" AND LARGER INSTALL STAINLESS STEEL PIPE CASING SPACERS 5' OR LESS FROM EACH END OF PIPE AND ONE CENTERED ON PIPE (3 PER PIPE)(CASCADE MFG. CO. OR APPROVED EQUAL).

4. PIPE CASING SPACERS SHALL BE CENTER POSITIONED.

5. ALTERNATE METHODS OF PIPE SUPPORT WITHIN THE CASING MUST BE APPROVED BY POAPWS PRIOR TO INSTALLATION.

Pipe Casing Spacers

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

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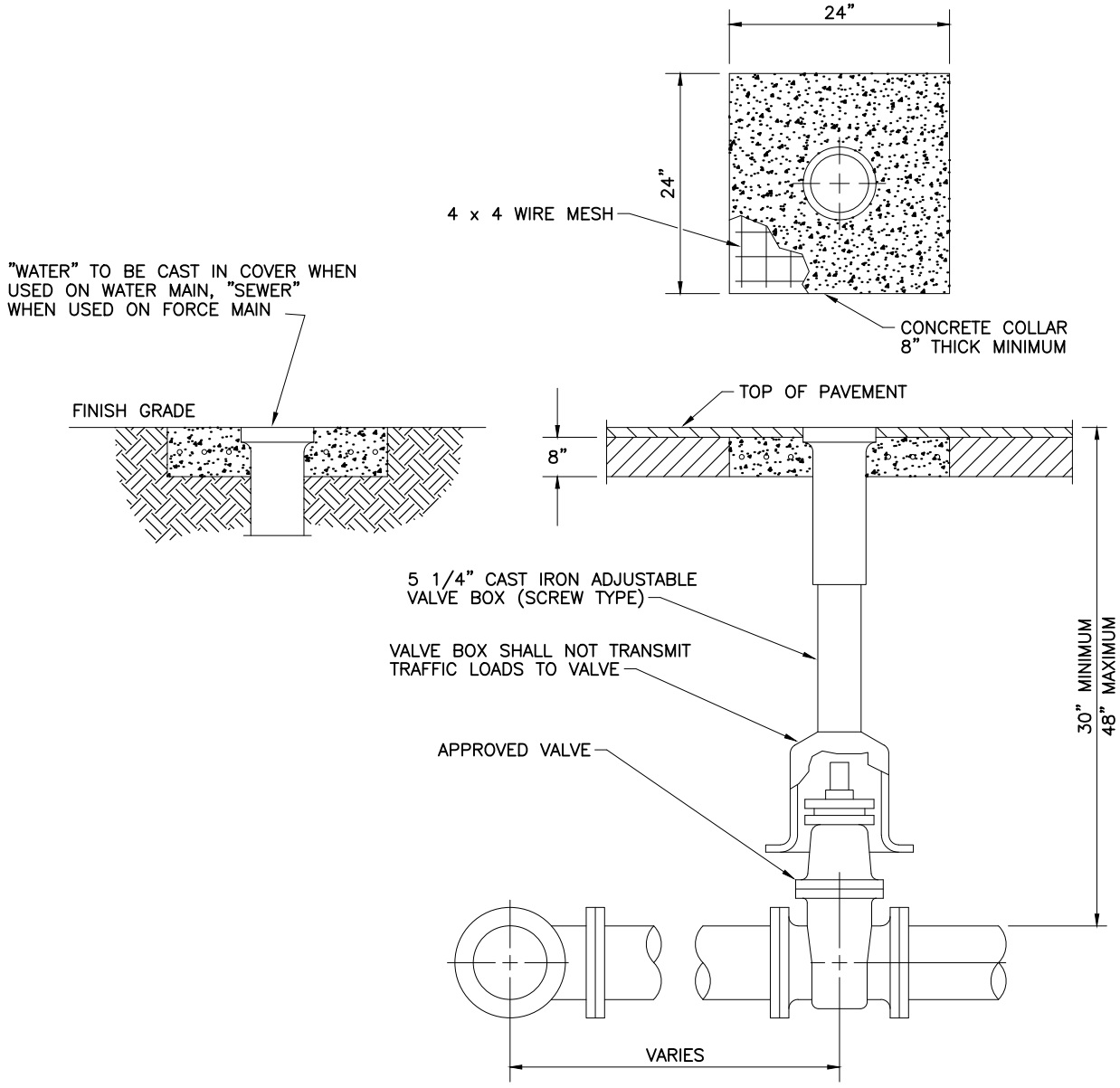

NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. CONCRETE COLLAR MAY NOT BE REQUIRED IN PAVED AREAS IF PAVEMENT SURFACE IS FINISHED PRIOR TO FINAL INSPECTION AND VALVE BOX LID IS AT FINISHED GRADE.

2. WHEN VALVE IS DEEPER THAN 48" AN EXTENSION WILL BE REQUIRED TO BRING OPERATING NUT TO 24" OF FINISHED GRADE.

3. TWO OF THE FOLLOWING FORMS OF RESTRAINT SHALL BE USED WHEN PIPE IS GREATER THAN 12".
   A) APPROVED MECHANICAL JOINT RESTRAINT (i.e. MEGALUG)
   B) TIE RODS AND NUTS EQUAL IN DIA. TO TEE BOLTS AND NUTS, COATED WITH KOP–COAT 300–M OR APPROVED EQUAL.

Typical Underground Valve Installation

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

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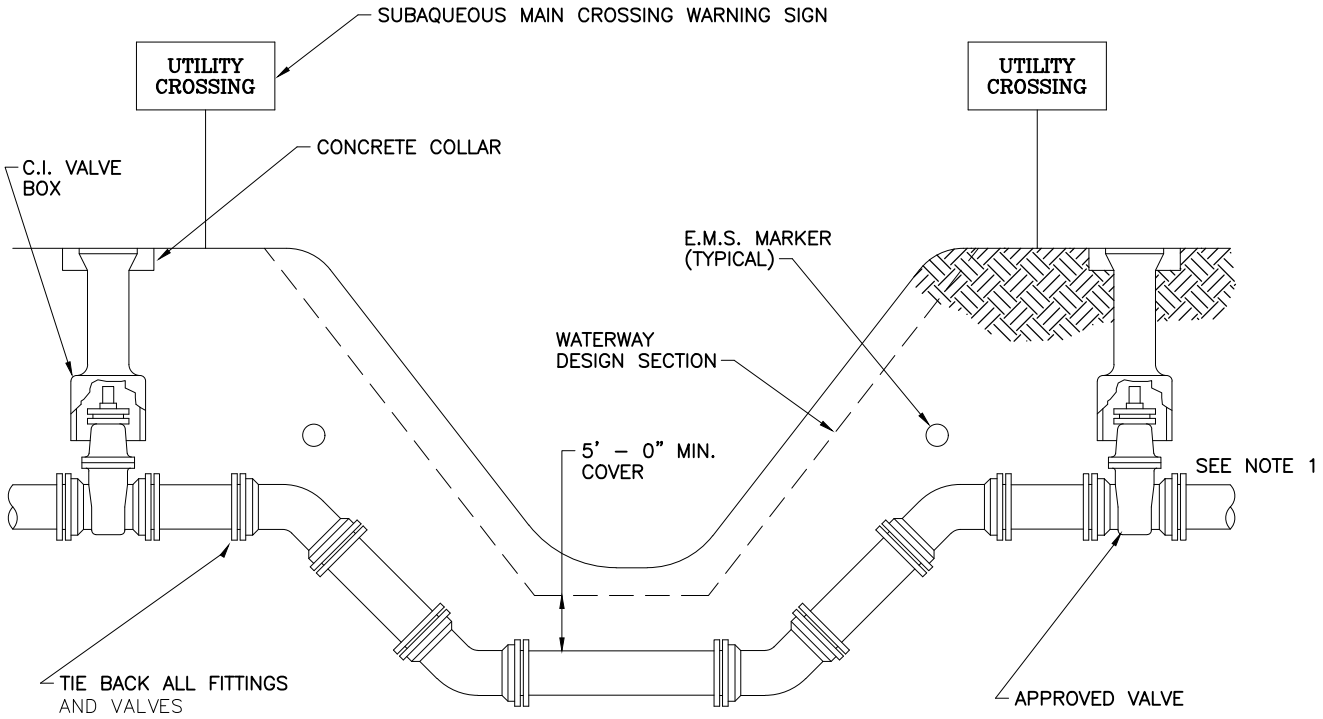

NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. DIRECT BURY ALLOWED ONLY IF DIRECTIONAL BORE METHOD IS NOT FEASIBLE.
2. VALVES TO BE TIED BACK TO NEAREST FITTING ONE EACH SIDE PER POAPWS STANDARDS. ALL TIE RODS AND BOTS SHALL BE COATED WITH KOPPERS 300–M OR APPROVED EQUAL.
3. VALVE EXTENSIONS AND BOXES SHOULD NOT BE LOCATED IN THE MAINTENANCE EASEMENT WITHOUT NPBCID APPROVAL.
4. MEGALUG RESTRAINTS REQUIRED. (TYPICAL)
5. FLOW THROUGH CANAL SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
6. FLOW DIVERSION WILL NOT BE PERMITTED DURING WET SEASON.
7. IN SOME CASES AIR RELIEF VALVES MAY BE REQUIRED.

Subaqueous Crossing - Direct Bury

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

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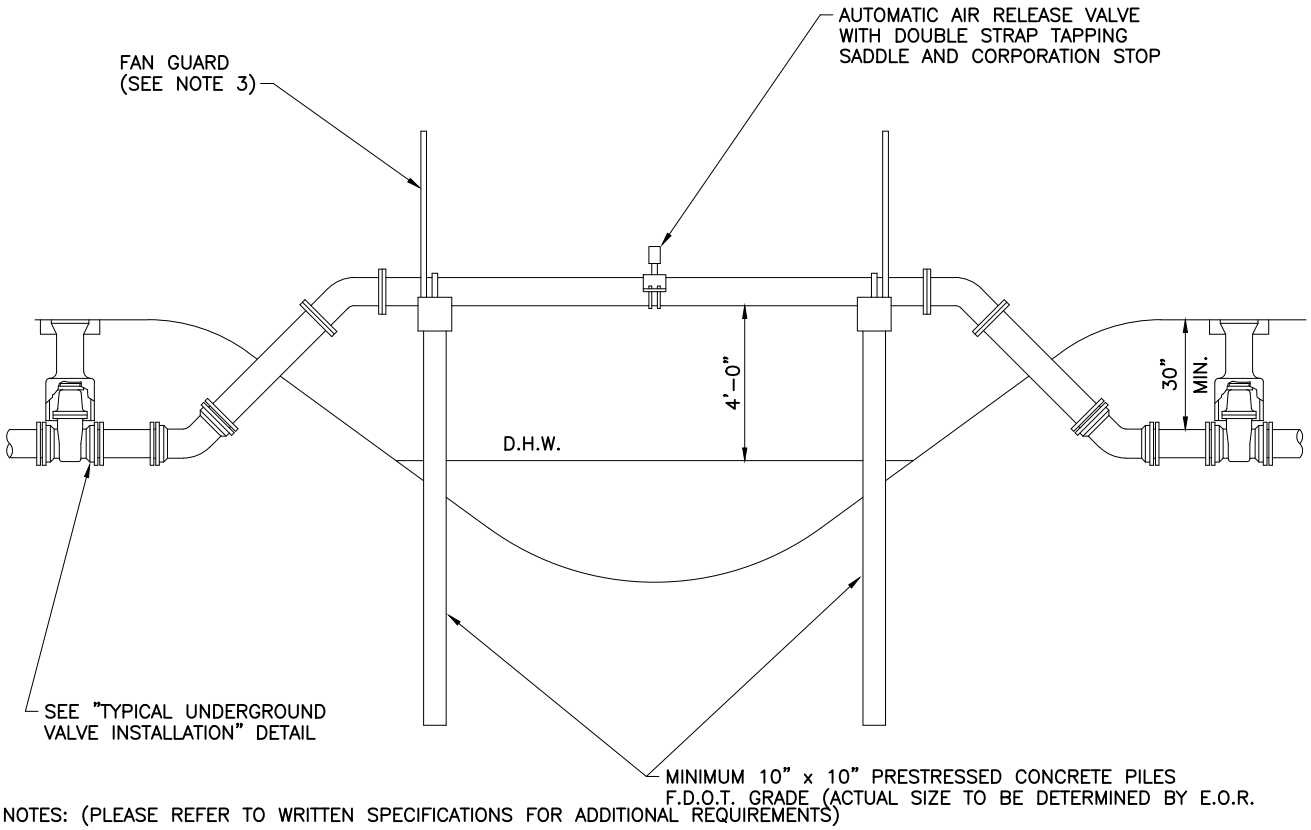

NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. ALL EXPOSED PIPE SHALL BE DUCTILE IRON WITH FLANGED FITTINGS. RETAINER GLANDS AND UNIFLANGE TYPE FITTINGS ARE NOT TO BE SUBSTITUTED FOR FLANGED FITTINGS.

2. SPAN LENGTHS AS REQUIRED BY PERMITTING AGENCY.

3. FAN GUARDS ARE REQUIRED. SEE "TYPICAL FAN GUARD" DETAIL.

4. PIPE SHALL BE CRADLED ON NEOPRENE, 1/2" THICK MINIMUM.

5. TIE-DOWN STRAPS SHALL FIT PROPERLY AND SECURE PIPE IN CRADLE.

6. PIPE CRADLE IN CAP SHALL CONTACT 1/2 CIRCUMFERENCE OF PIPE.

7. SHOW ULTIMATE CANAL SECTION AND RELEVANT ELEVATIONS AND DISTANCES ON PLANS.

8. PIPE SHALL BE RESTRAINED FOR A MINIMUM DISTANCE OF 60' FROM EACH BOTTOM DEFLECTION. SEE "PIPE RESTRAINT TABLE" DETAIL FOR ADDITIONAL RESTRAINT DISTANCES FOR PIPE 12" AND LARGER.

9. TWO OF THE FOLLOWING FORMS OF RESTRAINT SHALL BE USED ON ALL BELOW GRADE FITTINGS.
   A) APPROVED MECHANICAL JOINT RESTRAINT. (i.e. MEGALUG)
   B) TIE ROD AND NUTS EQUAL IN DIA. TO TEE BOLTS AND NUTS, COATED WITH KOP-COAT 300-M OR APPROVED EQUAL.

10. STAINLESS STEEL (316) REQUIRED FOR ALL STRAPS, SADDLES, FLANGE BOLTS, AND OTHER HARDWARE FOR INSTALLATIONS OVER BRACKISH OR MARINE WATERS (ANTI-GALL COMPOUND TO BE USED WHEN ASSEMBLING STAINLESS STEEL NUTS AND BOLTS.)

11. PILES SHALL BE SET A MINIMUM OF 10' INTO FIRM SOIL. LENGTH OF SPAN WILL DETERMINE NUMBER OF PILES REQUIRED.

12. AERIAL CROSSING TO BE FIELD COATED PER SPECIFICATIONS. COLOR SHALL BE PER SPECIFICATIONS.

13. ENGINEER SHALL BE REQUIRED TO DESIGN AND PROVIDE A DETAILED DRAWING OF PROPOSED PILE AND PILE CAP. THE DESIGN AND INSTALLATION SHALL MEET MANUFACTURERS RECOMMENDATION.

Canal Crossing

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

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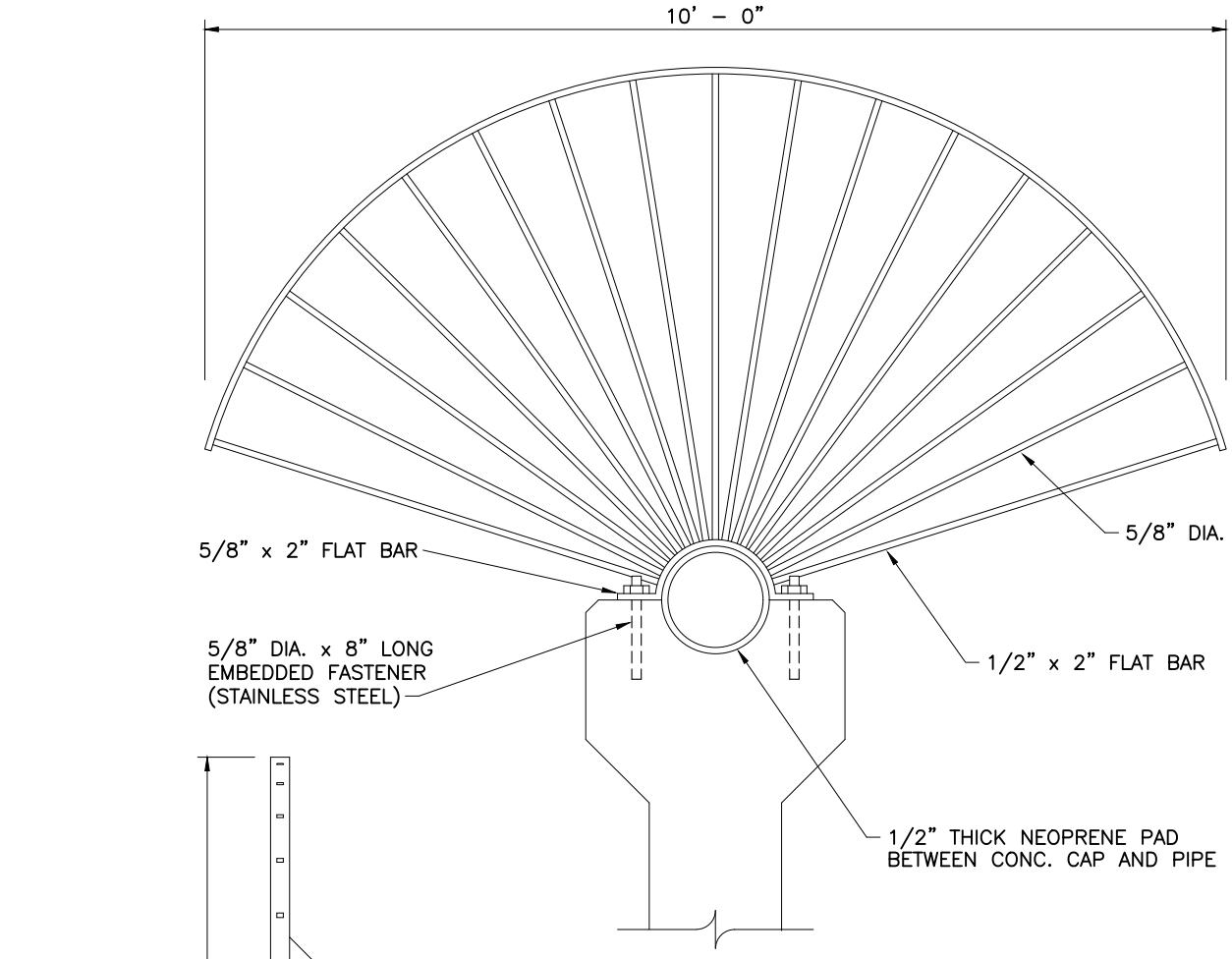

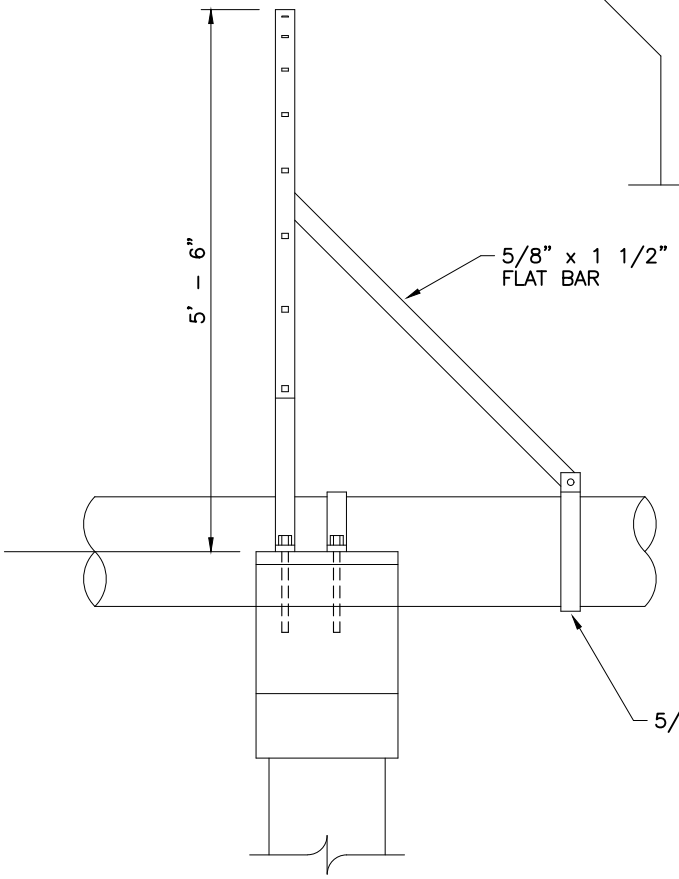

NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. FAN GUARDS SHALL BE PLACED AT EACH END OF CANAL CROSSING.

2. FAN GUARD AND ALL MOUNTING BRACKETS TO BE HOT DIP GALVANIZED AFTER FABRICATION AND MOUNTING HARDWARE TO BE STAINLESS STEEL.

3. 1/2" THICK NEOPRENE PAD TO INSULATE PIPE FROM CONTACT WITH ALL MOUNTING HARDWARE, FAN GUARD HARDWARE, AND CONCRETE SURFACES.

Typical Fan Guard

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

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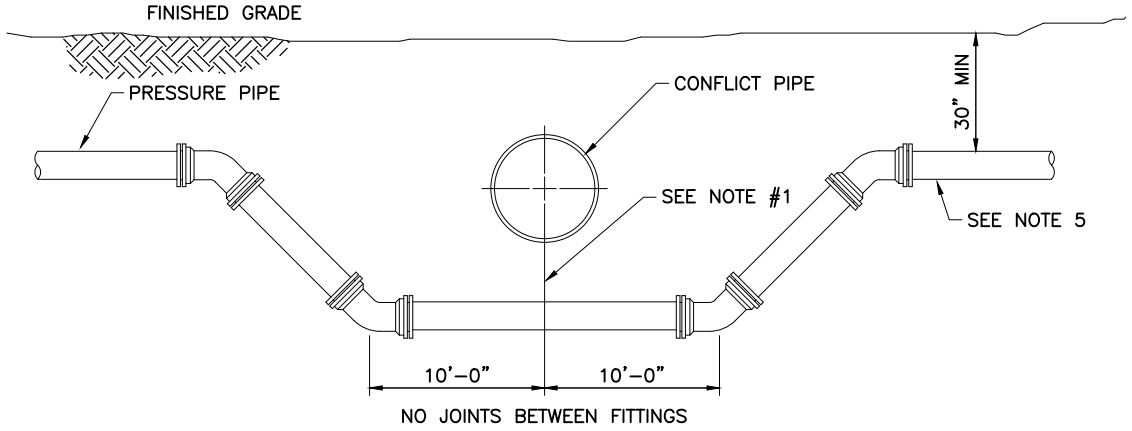

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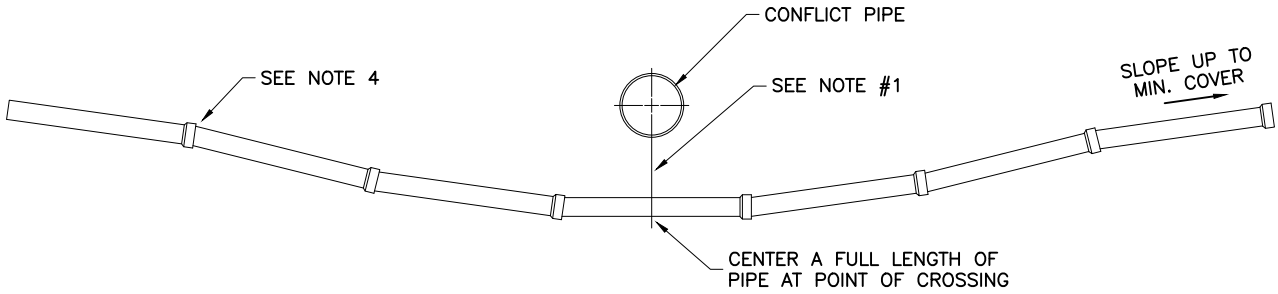

DEFLECTION TYPE

NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. FOR VERTICAL SEPARATION SEE "WATER AND SEWER SEPARATION STATEMENT" DETAIL.

2. ONE OF THE FOLLOWING FORMS OF RESTRAINT SHALL BE USED FROM FITTING TO FITTING FOR PIPE SIZES UP TO AND INCLUDING 12", FOR PIPE SIZES GREATER THAN 12" BOTH FORMS OF RESTRAINT SHALL BE USED.
   A) APPROVED MECHANICAL JOINT RESTRAINT. (i.e. MEGALUG)
   B) TIE RODS AND NUTS EQUAL IN DIA. TO TEE BOLTS AND NUTS, COATED WITH KOP-COAT 300-M OR APPROVED EQUAL.

3. THE DEFLECTION TYPE CROSSING IS PREFERRED, BUT IN INSTANCES WHERE THE FITTING TYPE DEFLECTION IS USED, 22 1/2° BENDS ARE PREFERRED.

4. DO NOT EXCEED 75% OF MANUFACTURERS RECOMMENDED MAXIMUM JOINT DEFLECTION.

5. PIPE SHALL BE RESTRAINED FOR A MINIMUM DISTANCE OF 60' FROM EACH TOP DEFLECTION. SEE "PIPE RESTRAINT TABLE" DETAIL FOR ADDITIONAL RESTRAINT DISTANCES FOR PIPE GREATER THAN 12".

Pressure Pipe Deflection

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

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INSTALLATION PROTOCOL

1. All pipe is to be laid in a clean dry trench.

2. All muck and unsuitable materials encountered in trench bottom shall be removed and replaced with compacted granular material to 100% of maximum density per AASHTO T–180. Proctor and density test results shall be submitted to EOR with a copy to PBPOC POA.

3. All backfill shall be placed in 12 inch lifts and compacted by mechanical means to 98% of maximum density per AASHTO T–180 or as otherwise required by the permitting agency.

4. Utilities crossing road right–of–way shall be installed prior to road construction and backfilled and compacted within right–of–way limits in strict accordance with the directions of the EOR and requirements of all agencies of jurisdiction.

5. Embedment materials below pipe shall conform to Unified Soil Classification System (U.S.C.S.) Soil Classification Class I or II as noted in ASTM D2321.

6. All lines under construction shall be plugged with a wing plug, and all pressure pipes are to be plugged with a mechanical plug or cap at the end of the working day to prevent ground water and potential contaminants from entering completed lines and lines under construction.

7. Above ground piping, including but not limited to, aerial crossings, lift station piping, fire lines, meter/backflow prevention device assemblies, etc. shall be flanged and be coated in the following manner:

Blast clean and remove all paint and any loose material in accordance with NADF 500–3. Blasting Cleaning shall be performed using non–silcia media. Paint all exterior ferrous metal surfaces. The manufacturer's recommendations for surface preparation, priming, recoating, etc. shall be strictly followed. Do not paint or coat any nameplates, brass or stainless steel surfaces. Contractor shall use the following paint system or approved equal.

TNEMEC

a. Primer: TNEMEC–MODIFIED POLYAMIDOAMINE EPOXY #135 (3.0 to 5.0 mils DFT) aluminum color
b. Intermediate Coat: TNEMEC–MODIFIED POLYAMIDOAMINE EPOXY (3.0 to 5.0 mils DFT) off white color
c. Finish Coat: Series 1074 Endura–Shield, DFT.

The finished coat of paint shall be green in color for sanitary sewer and blue for potable water appurtenances.

8. All flanged pipe shall be caulked between each flange and threads with Sika 1 A urethane caulk.

9. All tie rods, bolts, nuts, etc. installed underground must be Cor Ten and shall be painted with Koppers 300–M or an approved equal. Brass and stainless steel hardware is exempt from this requirement.

10. Coatings and linings damaged due mishandling or otherwise, must be replaced. Coating and linings damaged due to field cutting shall be repaired in strict accordance with the manufacturer's recommendations. This includes, but is not limited to, cement mortar and polyethylene pipe linings, Protecto 401, galvanized coatings, PVC fence coatings and other paint type coatings. Specific approval must be obtained from POAPWS prior to performing coating and lining repairs. The POAPWS will require inspections of all repairs.

11. All stainless steel nuts, bolts and hardware referenced in these standards, shall be SS 316 grade and shall be so stamped by the manufacturer to verify alloy. The use of any other stainless steel alloy will require specific approval by the POAPWS. In general, stainless steel nuts, bolts and hardware are required in and around lift stations and for facilities installed over or under brackish or marine waters. This requirement applies to flange bolts and nuts on flanged piping, mounting brackets, all thread rod, anchor bolts, washers, clamps and other miscellaneous hardware. Anti–galling compound anti–seize lubricant shall be applied to the threads of all stainless steel bolts prior to installation.

Anti–seize lubricant shall be graphite 50 anti–seize by Loctite Corporation, 1000 anti–seize paste by Dow Corning, 3M Lube and anti–seize by 3M.

12. All rubber and synthetic elastomeric components of products that come in contact with potable water shall be manufactured with chloramine resistant elastomers and shall bear NSF approval.

13. All main, including fittings, shall be easily identifiable as to their contents and shall be color coded or marked using the universal color code of blue for water and green for sewer. Pipe striped during manufacturing of the pipe shall have continuous stripes that run parallel to the axis of the pipe, that are located at no greater than 90–degree intervals around the pipe, and that will remain intact during and after installation of the pipe. If tape is used to stripe pipe during installation of the pipe, the tape shall be applied in a continuous line that runs parallel to the axis of the pipe and that is located along the top of the pipe; for pipes with an internal diameter of 24 inches or greater, tape shall be applied in continuous lines along each side of the pipe as well as along the top of the pipe.

Installation Protocol

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

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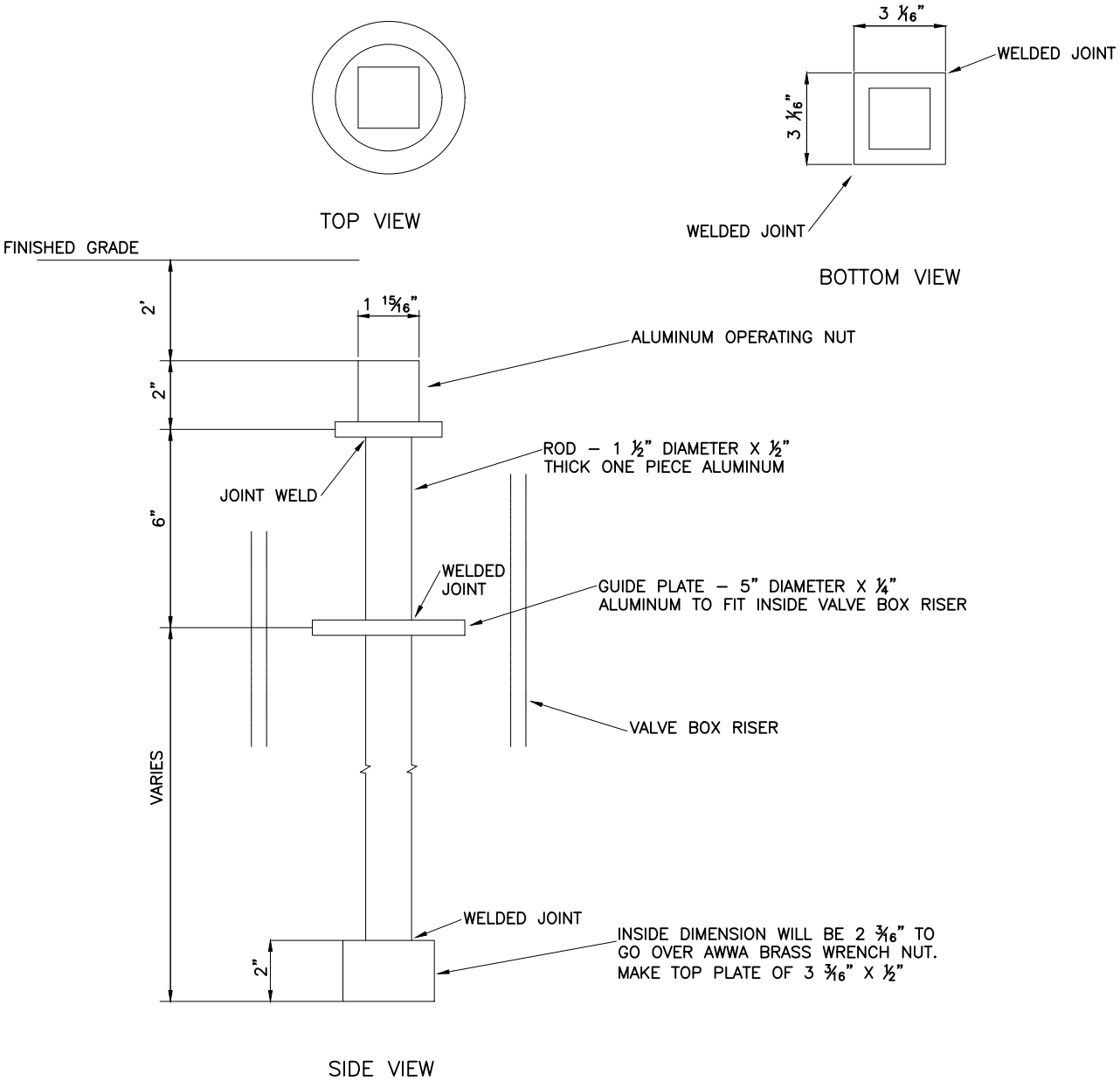

NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. EXTENSIONS ARE REQUIRED FOR VALVES EXTENDING FOR MORE THAN 4 FEET BELOW FINISHED GRADE.
2. ALL MATERIALS SHALL BE 6061 T–6 ALUMINUM.

Valve Extension

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

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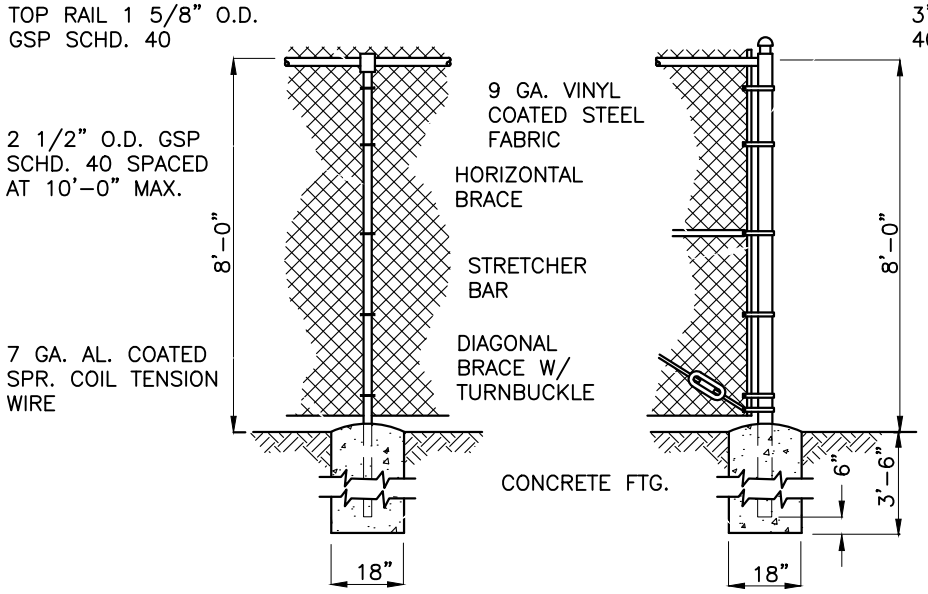
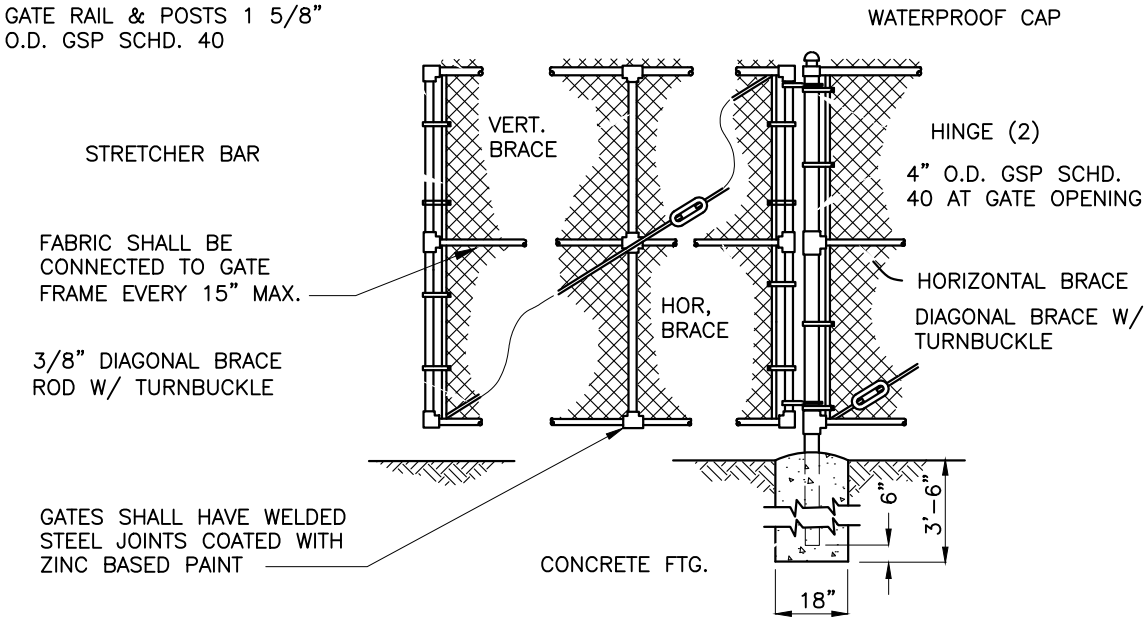


LINE POST

CORNER POST



GATE

GATE POST

NOTES:

1. GATE TO BE SIZED PER REQUIREMENTS
2. VINYL COATED STEEL WOVEN WIRE FABRIC TO BE STRETCHED TAUT W/ STRETCHER BARS AND STRAPS AND FASTENED TOP & BOTTOM AND AT LINE POSTS WITH GALV. PIG RING TIES.
3. GATE TO BE SECURED OPEN WITH GATE STOP SET IN CONCRETE.
4. ALL RAILS, POSTS AND HARDWARE TO BE BLACK VINYL COATED.
5. WHERE POSTS COME IN CONTACT WITH CONCRETE THEY SHALL BE COATED WITH KOPPERS 300M OR APPROVED EQUAL.
6. GA. CALL-OUTS ARE FOR WIRE BEFORE VINYL COATING.
7. VERTICAL BLACK PVC FENCE SLATS REQUIRED.

Fence Detail

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

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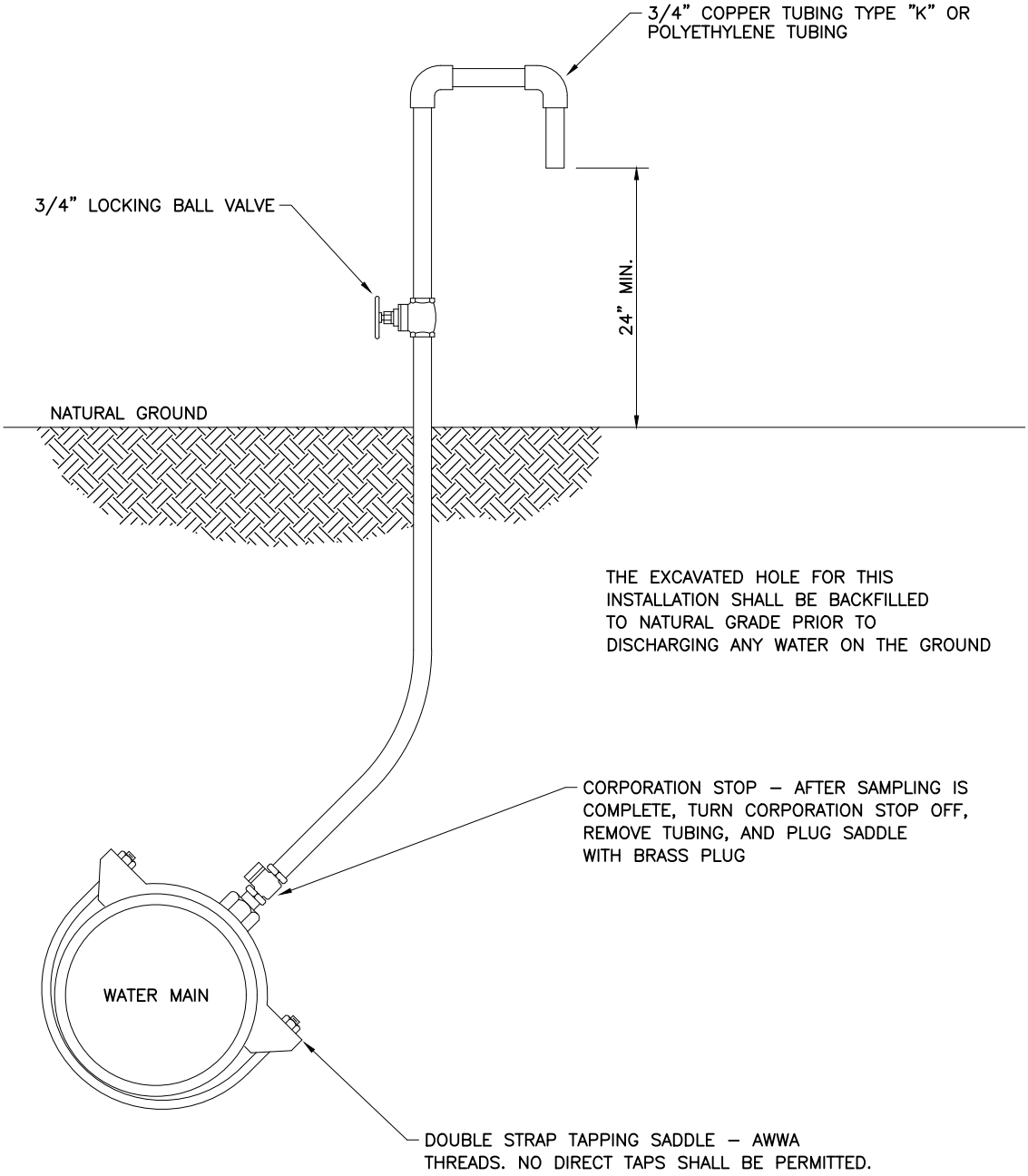

NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. WHERE POSSIBLE, SERVICE TAPS OR FIRE HYDRANTS (SEE "SAMPLE POINT – FIRE HYDRANT" DETAIL) SHALL BE USED AS SAMPLING POINTS.

Sample Point - In Line

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

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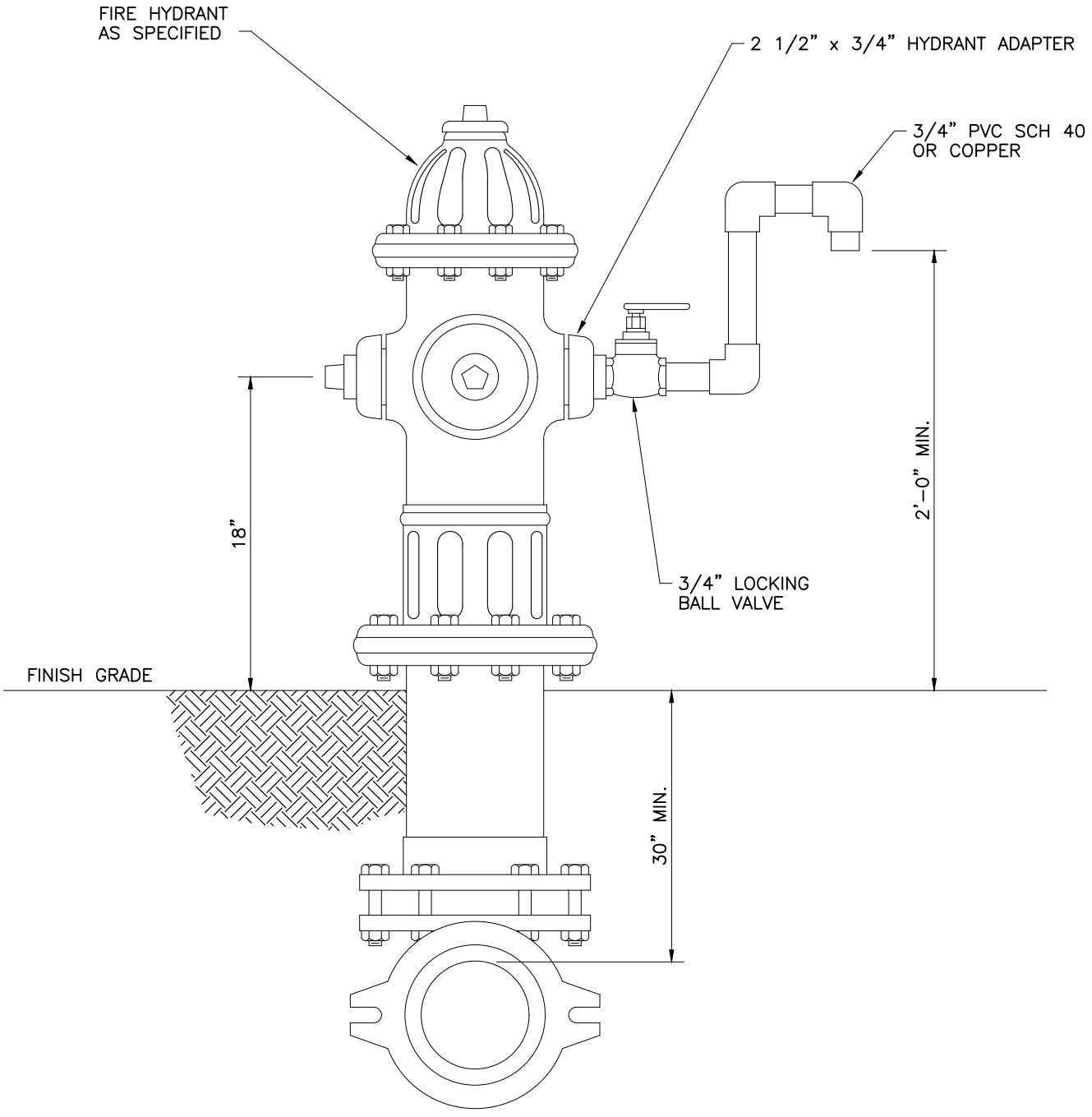

PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

Sample Point - Fire Hydrant

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

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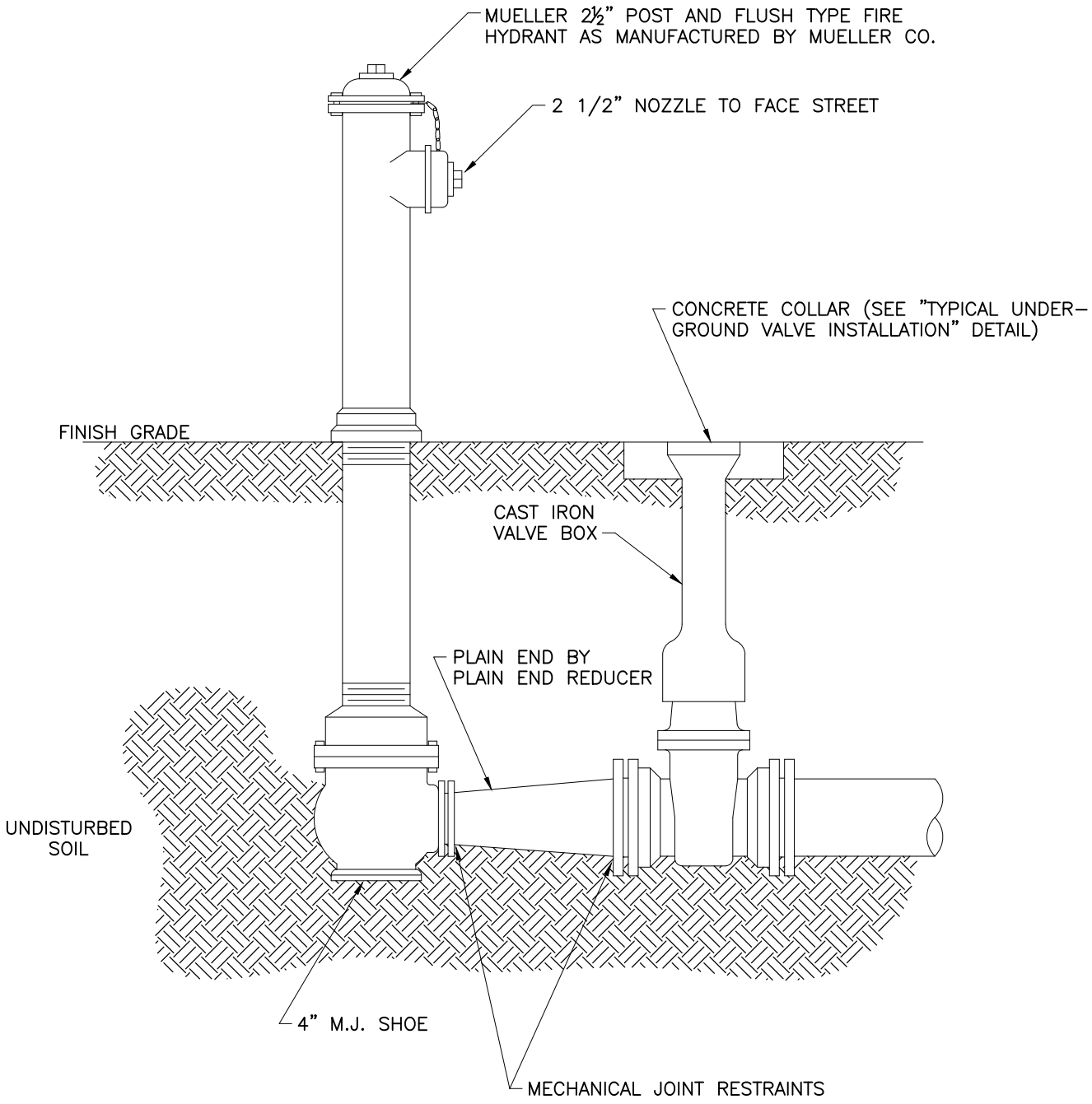

PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

Flushing Hydrant

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

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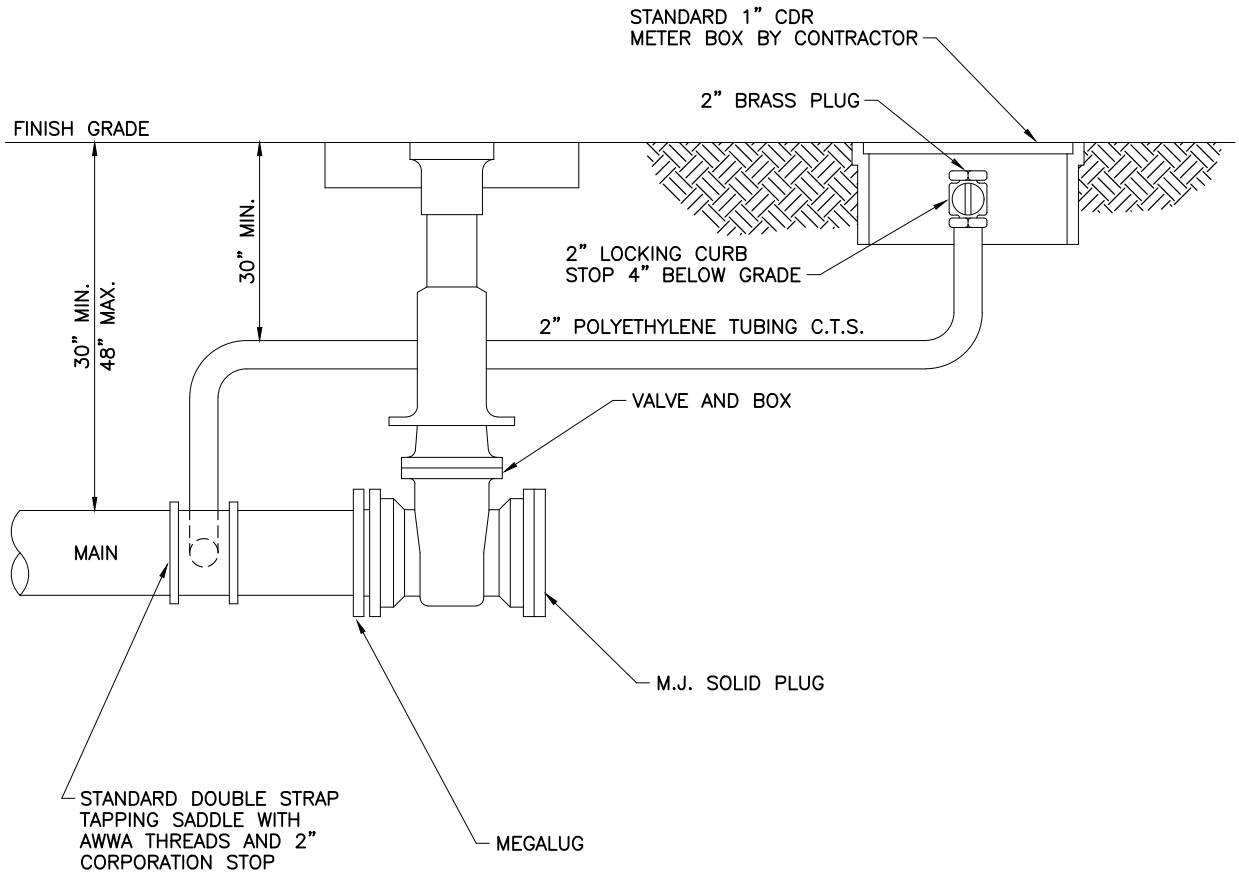

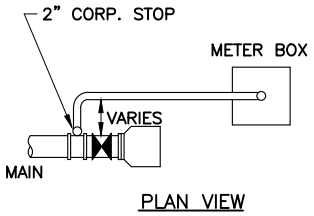

PLAN VIEW

NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. TRAFFIC BEARING METER BOXES WILL BE REQUIRED IN ALL PAVED AREAS AND AREAS WHICH MAY BE PAVED IN THE FUTURE.
2. TUBING SHALL BE CONTINUOUS FROM CORPORATION STOP TO CURB STOP, NO FITTINGS SHALL BE PERMITTED.
3. PREVIOUS JOINTS SHALL BE RESTRAINED IN ACCORDANCE WITH "PIPE RESTRAINT TABLE" DETAIL.

Temporary Blow Off

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

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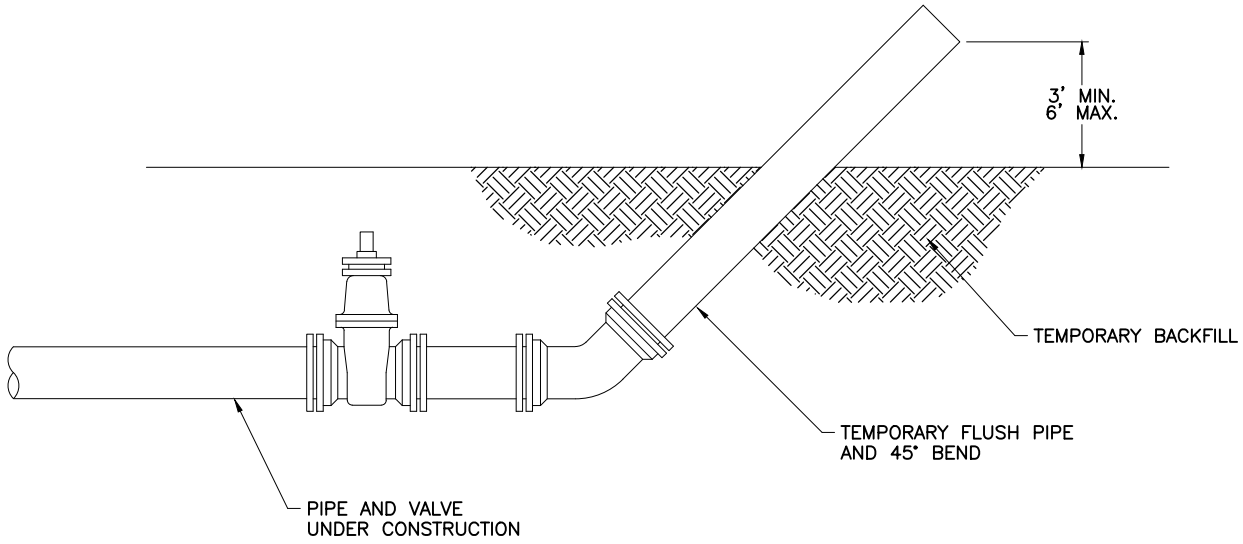

NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. UPON COMPLETION OF THE PIPE INSTALLATION FOR ANY SECTION, THE MAINS SHALL BE CANNON FLUSHED TO REMOVE DIRT AND ANY OTHER FOREIGN MATTER BY ACHIEVING A MINIMUM VELOCITY OF 2.5 FEET PER SECOND IN THE PIPE. TEMPORARY FITTINGS, PIPE, ETC. MAY BE NEEDED TO FACILITATE CANNON FLUSHING.

2. INSTALL A 45° BEND AND ASSOCIATED PIPING AS SHOWN TO DIRECT THE FLUSHING WATER AWAY FROM THE IMMEDIATE WORK AREA, EXERCISE DUE CARE TO ENSURE THAT THE WATER USED IN FLUSHING DOES NOT CAUSE A NUISANCE OR CAUSE PROPERTY DAMAGE.

3. BENDS AND PIPING SHALL BE THE SAME SIZE AS THE LINE TO BE FLUSHED.

4. PRIOR TO THE ACTUAL LINE FLUSHING OPERATION, THE CONTRACTOR SHALL PROPERLY NOTIFY PBPOC POA OF SUCH INTENDED WATER USE.

5. NO EXISTING VALVES SHALL BE TURNED ON OR OFF, EXCEPT BY AUTHORIZED POAPWS PERSONNEL.

6. FLUSHING SHALL NOT BE ACCOMPLISHED WITHOUT THE ACTUAL PRESENCE OF A POAPWS REPRESENTATIVE.

7. AFTER THE LINE UNDER CONSTRUCTION HAS BEEN SUCCESSFULLY FLUSHED THE CONTRACTOR SHALL REMOVE THE TEMPORARY PIPING ARRANGEMENT AND PROCEED WITH THE REMAINING CONSTRUCTION AS SPECIFIED.

8. THERE ARE SPECIAL REQUIREMENTS FOR CLEANING AND FLUSHING PIPE LARGER THAN 12".

Cannon Flushing Procedure

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

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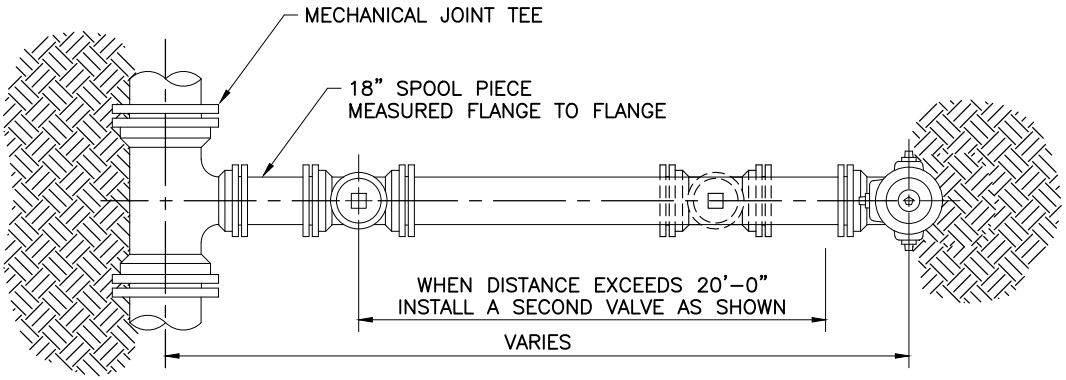
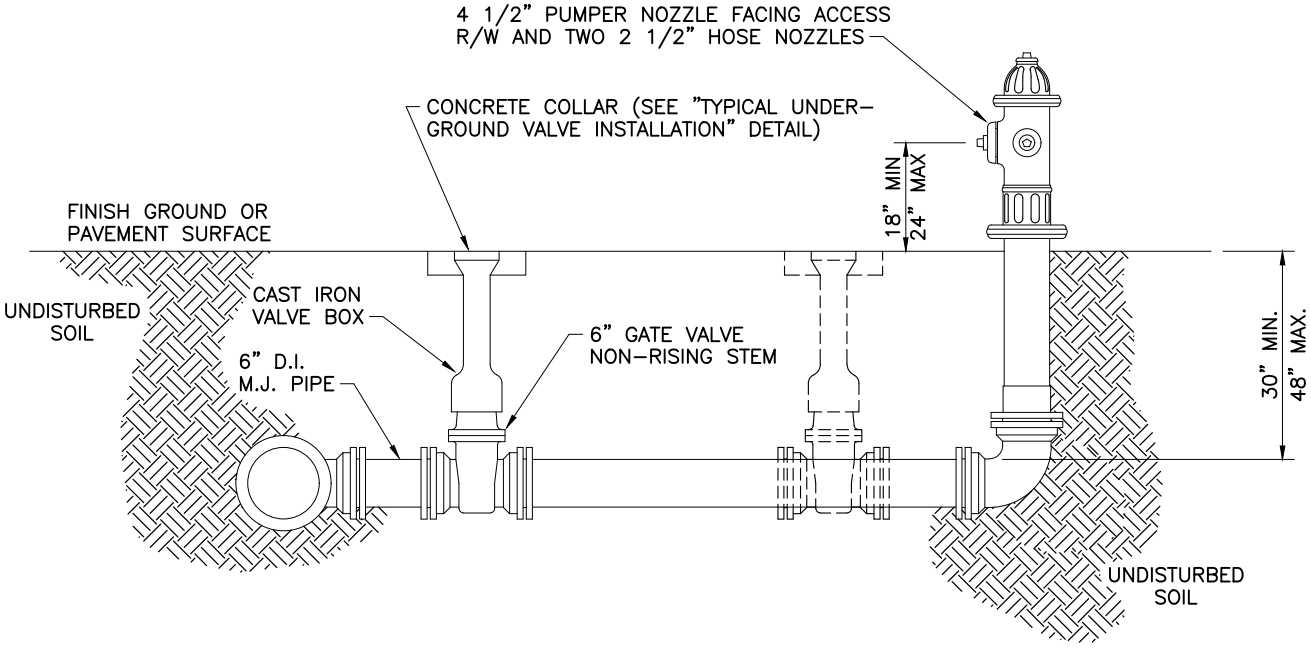




NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. DRAINS OR WEEP HOLES ON HYDRANT BARREL SHALL BE PLUGGED.
2. FIRE HYDRANT SHALL BE INSTALLED PLUMB AND TRUE.
3. REFER TO SHOP SPECIFICATION LIST FOR ACCEPTABLE FIRE HYDRANTS.
4. TWO OF THE FOLLOWING FORMS OF RESTRAINT SHALL BE USED WHEN PIPE IS GREATER THAN 12".
   A) APPROVED MECHANICAL JOINT RESTRAINT (i.e. MEGALUG)
   B) TIE RODS AND NUTS EQUAL IN DIA. TO TEE BOLTS AND NUTS, COATED WITH KOP-COAT 300-M OR APPROVED EQUAL.

Typical Fire Hydrant Installation

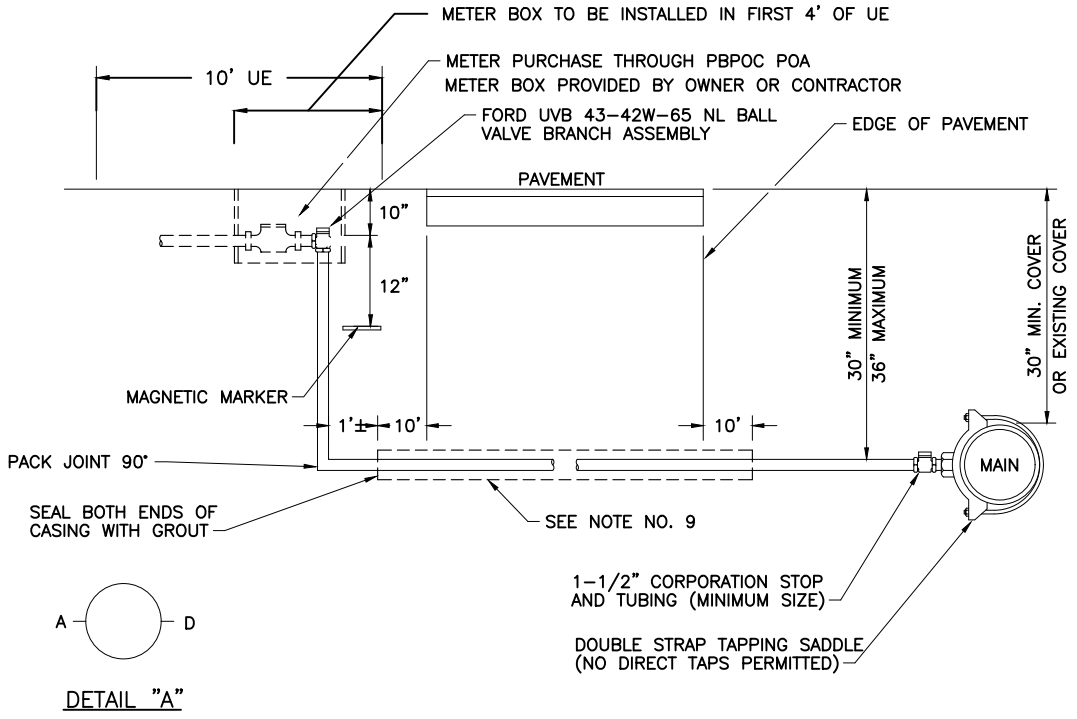
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-25



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. CASINGS SHALL BE REQUIRED FOR ALL LONG SIDE SERVICES.

2. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" OFFSET AND AT 90° FROM THE CENTERLINE AS SHOWN ON DETAIL "A".

3. WHERE NO SIDEWALK EXISTS, METER BOXES SHALL BE SET TO CONFORM TO FINISH GRADE.

4. COPPER TUBING SHALL BE TYPE "K" WITH COMPRESSION FITTINGS.

5. POLYETHYLENE TUBING SHALL BE SDR 9, COPPER TUBE SIZE.

8. TAPPING SADDLES AND CORPORATION STOPS SHALL HAVE AWWA INLET THREADS.

9. SERVICE CASING SHALL NOT BE INSTALLED BY WATER JETTING UNDER ROADWAY.

10. GALVANIZED SCHEDULE 40 CASING REQUIRED FOR ANY INSTALLATION REQUIRING A JACK AND BORE, SCHEDULE 40 PVC MAY BE USED FOR AN OPEN CUT INSTALLATION WITH THE APPROVAL OF PBPOC LDRB, CASING SHOULD EXTEND TEN (10) FEET BEYOND EDGE OF PAVEMENT AND SIZED AS FOLLOWS:

- 1 1/2" SERVICE USE 3" CASING

Water Service Installation - Angle Meter Stop

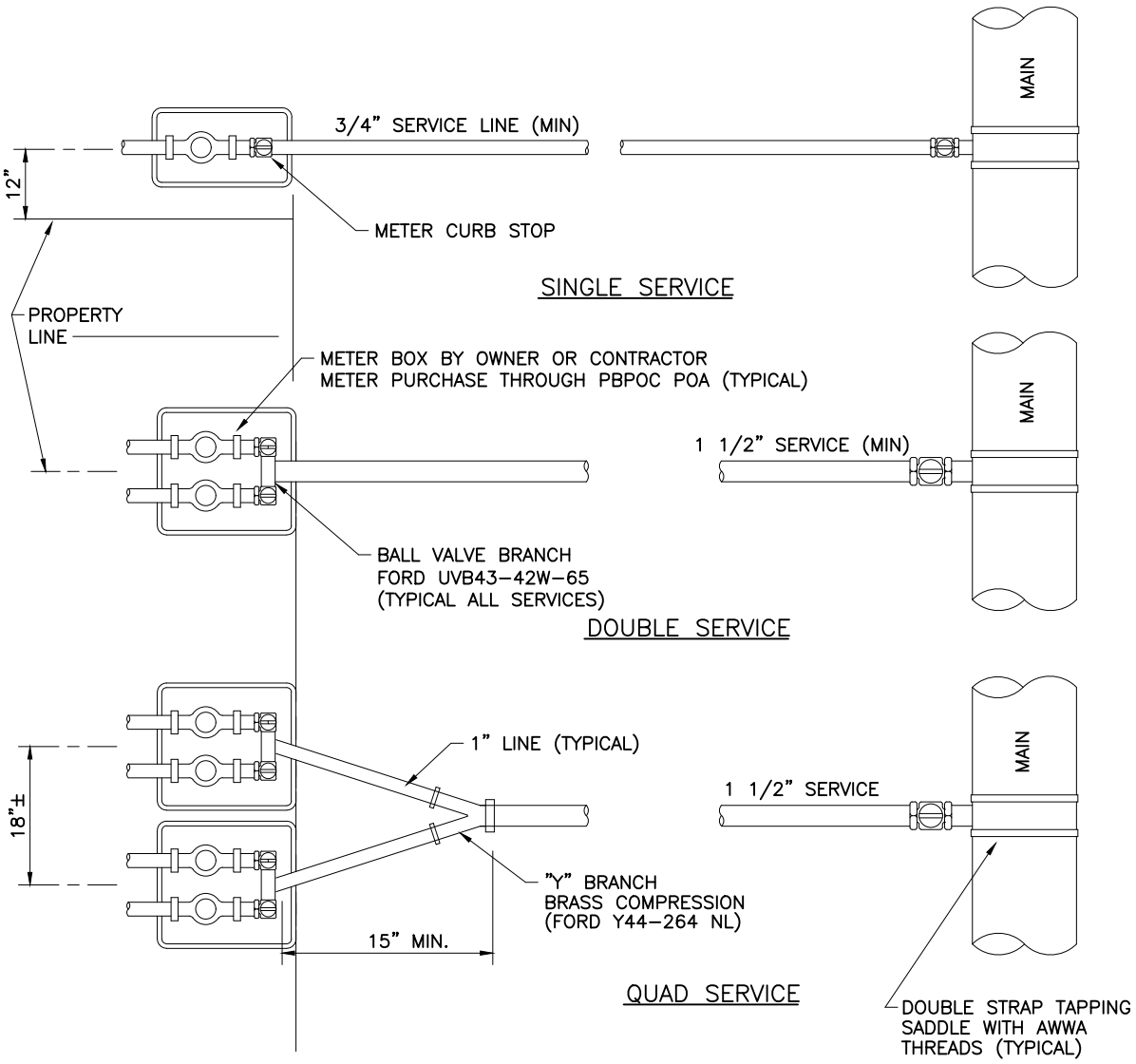
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-27



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. REQUIRED LOCATION OF METER AND METER BOX MAY VARY DEPENDENT UPON SITE CONDITIONS.

2. AUTHORIZED SERVICE LINE MATERIAL:
   A) TYPE "K" COPPER TUBING WITH COMPRESSION FITTINGS.
   B) POLYETHYLENE TUBING SDR 9, COPPER TUBE SIZE.

3. METER CURB STOP SHALL BE 1" MINIMUM.

4. 1" METER CURB STOPS WITH 3/4" VALVES SHALL NOT BE PERMITTED.

5. MULTIPLE SERVICE/METER INSTALLATIONS OF MORE THAN 4 METERS PER SERVICE AND SERVICE LINES LARGER THAN 2" IN DIAMETER SHALL BE HANDLED ON AN INDIVIDUAL BASIS.

6. METER CURB STOPS 1 1/2" AND 2" IN SIZE SHALL BE PROVIDED WITH BOTH A LOCKING CAP AND METER FLANGE.

7. NO FITTINGS BETWEEN CORP STOP AND METER CURB STOP ALLOWED WHEN USING POLYETHYLENE TUBING.

Typical Water Service

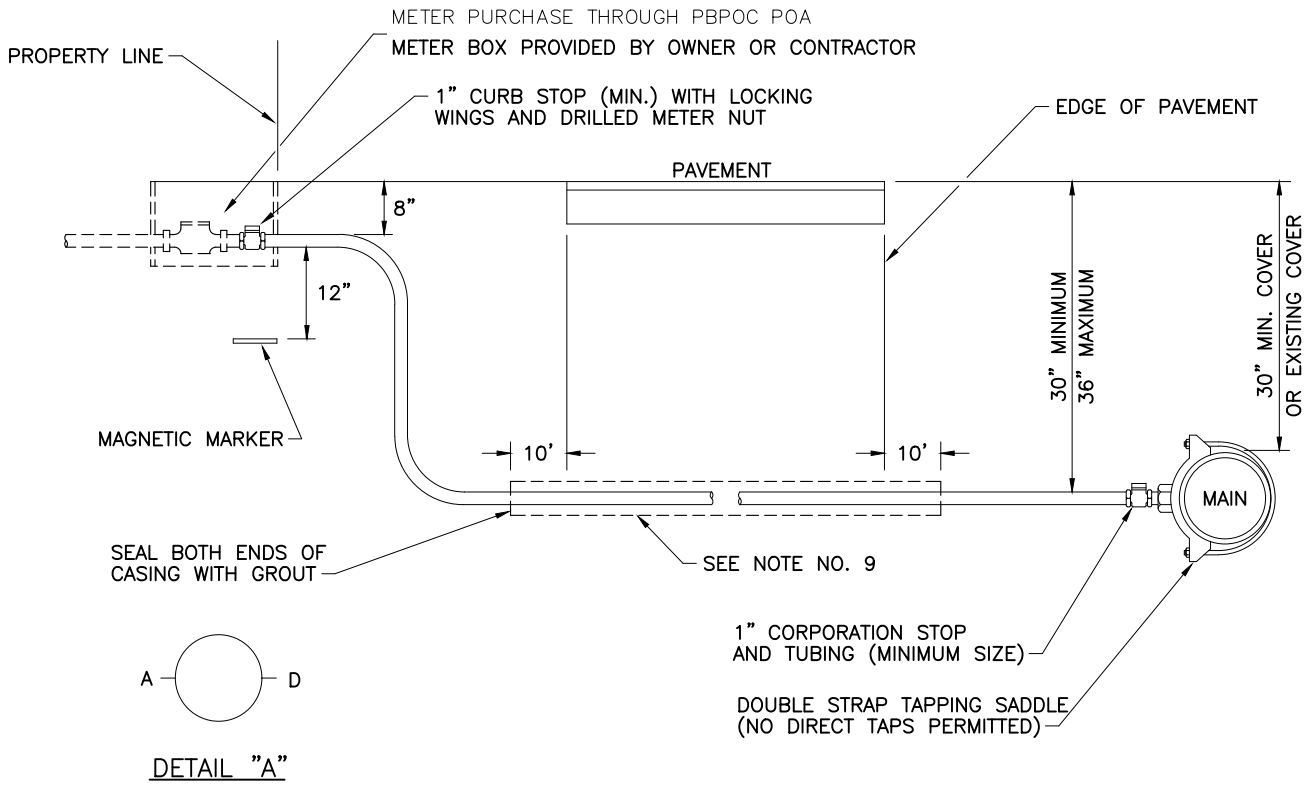
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-28



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. CASINGS SHALL BE REQUIRED FOR ALL LONG SIDE SERVICES.

2. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" OFFSET AND AT 90° FROM THE CENTERLINE AS SHOWN ON DETAIL "A".

3. WHERE NO SIDEWALK EXISTS, METER BOXES SHALL BE SET TO CONFORM TO FINISH GRADE.

4. COPPER TUBING SHALL BE TYPE "K" WITH COMPRESSION FITTINGS.

5. POLYETHYLENE TUBING SHALL BE SDR 9, COPPER TUBE SIZE.

6. ROTATE THE CORPORATION STOP SO THAT THE OPERATING NUT IS ACTUATED FROM THE VERTICAL POSITION RATHER THAN THE HORIZONTAL.

7. BOTH COPPER AND POLYETHYLENE TUBING SERVICE LINES SHALL BE CONTINUOUS FROM CORPORATION STOP TO CURB STOP WITH NO FITTINGS IN BETWEEN.

8. TAPPING SADDLES AND CORPORATION STOPS SHALL HAVE AWWA INLET THREADS.

9. SERVICE CASING SHALL NOT BE INSTALLED BY WATER JETTING UNDER ROADWAY.

10. GALVANIZED SCHEDULE 40 CASING REQUIRED FOR ANY INSTALLATION REQUIRING A JACK AND BORE , SCHEDULE 40 PVC MAY BE USED FOR AN OPEN CUT INSTALLATION WITH THE APPROVAL OF PBPOC LDRB, CASING SHOULD EXTEND TEN (10) FEET BEYOND EDGE OF PAVEMENT AND SIZED AS FOLLOWS:

A.) 1" SERVICE USE 2" CASING
B.) 1 1/2" SERVICE USE 3" CASING
C.) 2" SERVICE USE 4" CASING

Typical Water Service Installation

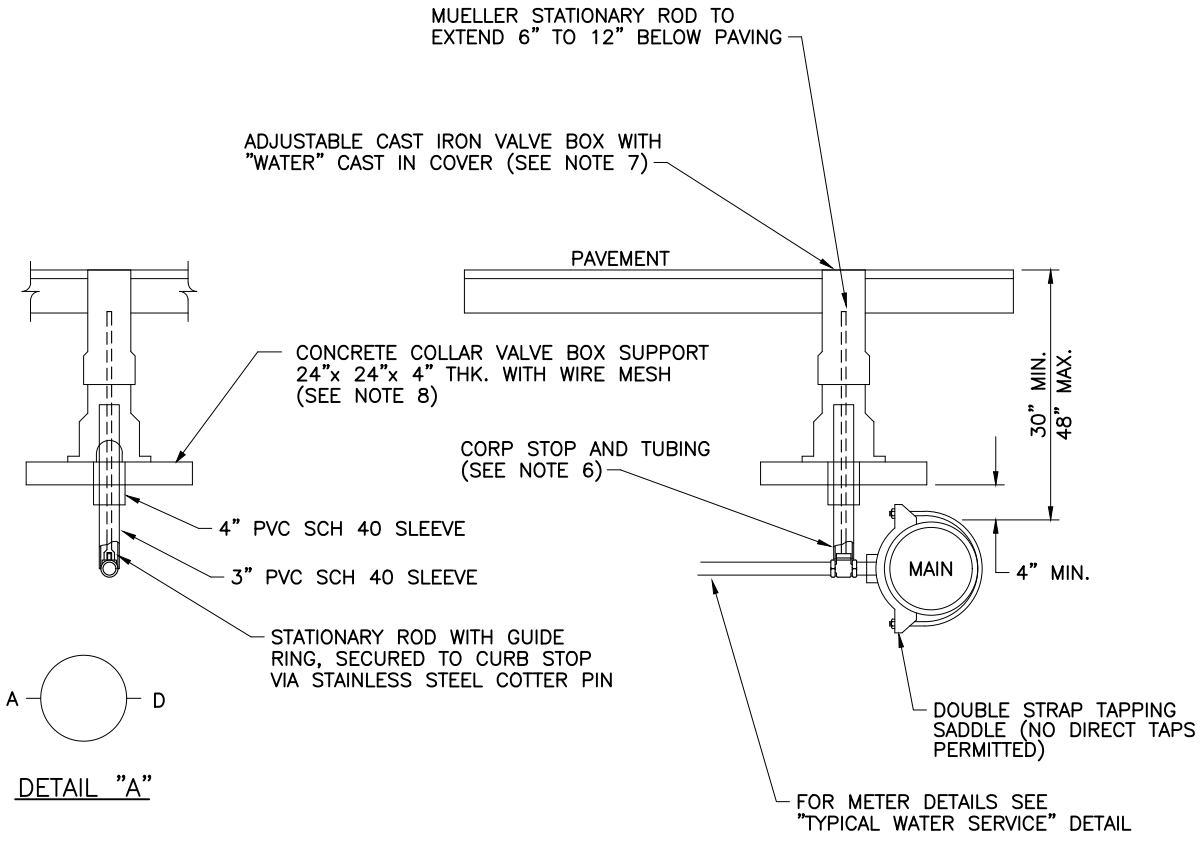
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-29



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. SUCCESSIVE TAPS INTO THE WATER MAIN SHALL BE SPACED A MINIMUM OF 18" OFFSET AND AT 90° FROM THE CENTERLINE AS SHOWN ON DETAIL "A".

2. COPPER TUBING SHALL BE TYPE "K" WITH COMPRESSION FITTINGS.

3. POLYETHYLENE TUBING SHALL BE SDR 9, COPPER TUBE SIZE.

4. BOTH COPPER AND POLYETHYLENE TUBING SERVICE LINES SHALL BE CONTINUOUS FROM CURB STOP TO ANGLE METER STOP WITH NO FITTINGS IN BETWEEN.

5. TAPPING SADDLES TO HAVE AWWA THREADS.

6. CORPORATION STOP AT THE MAIN TO HAVE MALE AWWA THREADS ON ONE SIDE AND BE COMPRESSION ON THE OTHER SIDE.

7. VALVE BOX SHALL BE 5 1/4" CAST IRON SCREW TYPE ADJUSTABLE.

8. CONCRETE COLLAR VALVE BOX SUPPORT TO BE PLACED ON COMPACTED SOIL TO SUPPORT VALVE BOX SO THAT A MINIMUM OF 4 INCHES EXISTS BETWEEN THE BOTTOM OF THE CONCRETE COLLAR AND THE TOP OF THE WATER MAIN.

Water Service Tap Under Pavement

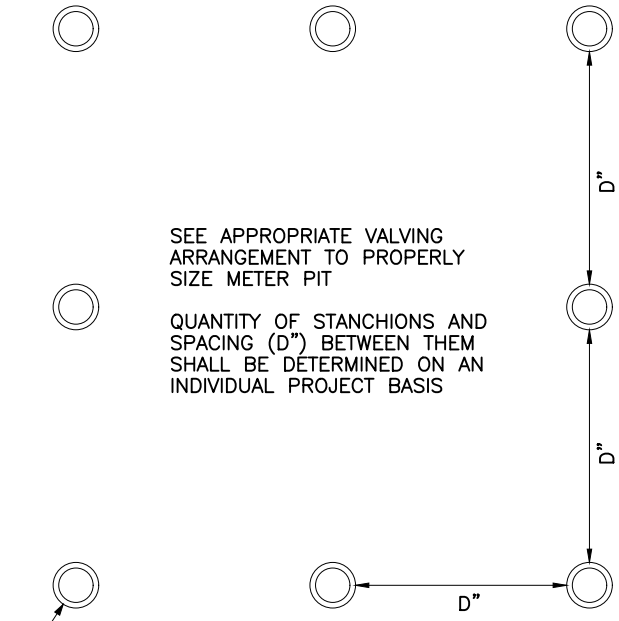
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

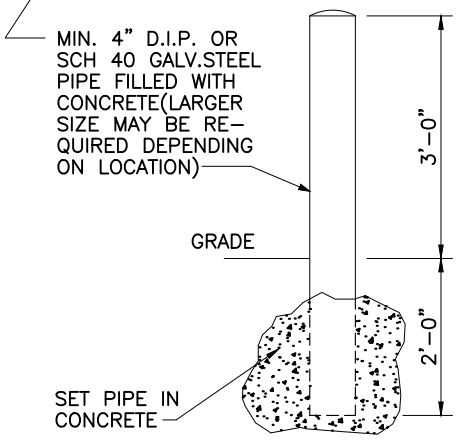
DATE APPROVED: January 26, 2018

DRAWING No. C-30



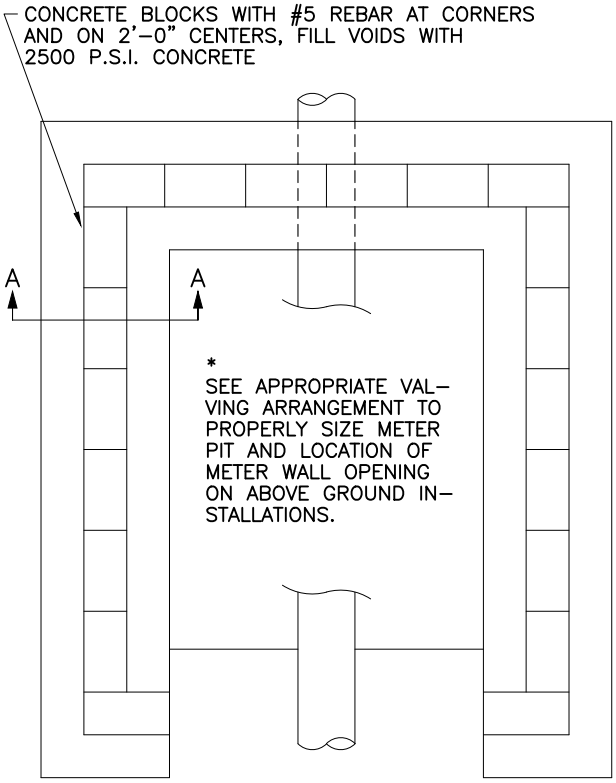
SEE APPROPRIATE VALVING ARRANGEMENT TO PROPERLY SIZE METER PIT

QUANTITY OF STANCHIONS AND SPACING (D") BETWEEN THEM SHALL BE DETERMINED ON AN INDIVIDUAL PROJECT BASIS

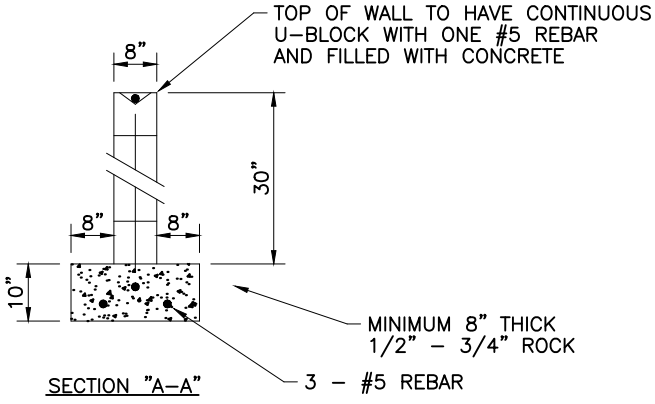


OPTION "A"

PROTECTIVE PIPE STANCHIONS



* SEE APPROPRIATE VAL-VING ARRANGEMENT TO PROPERLY SIZE METER PIT AND LOCATION OF METER WALL OPENING ON ABOVE GROUND IN-STALLATIONS.



OPTION "B"

SCREENING WALL

* BACK FOOTER TO BE A MINIMUM OF 12" FROM PIPE ASSEMBLY AND SIDE WALLS TO BE A MINIMUM OF 36" FROM PIPE ASSEMBLY

PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

Protective Enclosures for Above Ground Devices

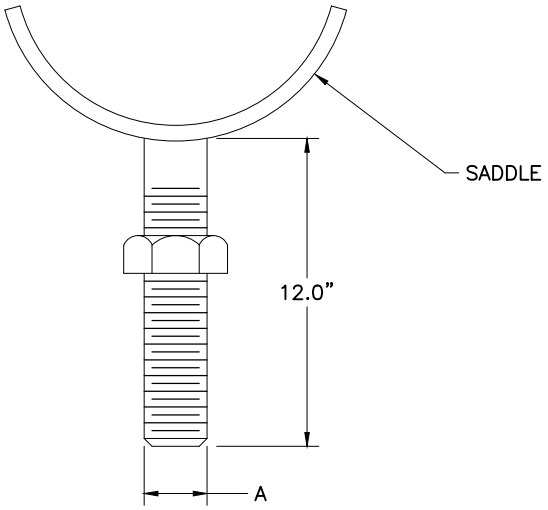
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

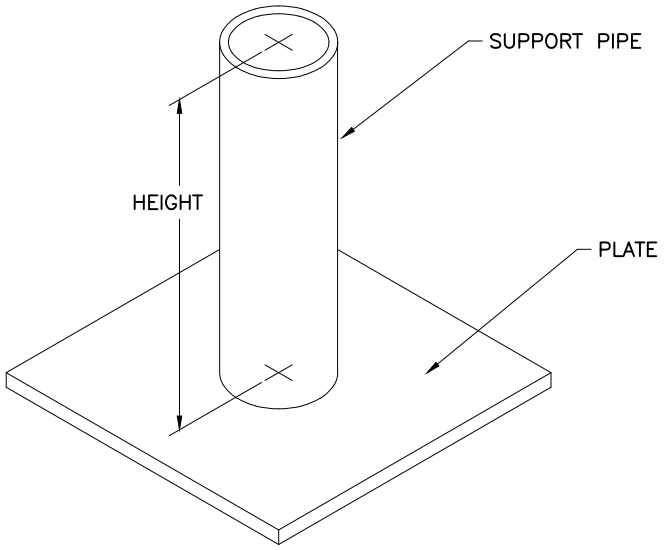
CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2016

DRAWING No. C-31





PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

PIPE SIZE	A	SUPPORT PIPE	SADDLE	PLATE	HEIGHT
3"	3/4"	1"	1/4" x 2"	4" x 4"	1' – 0"
4"	3/4"	1"	1/4" x 2"	4" x 4"	1' – 0"
6"	3/4"	1"	1/4" x 2"	4" x 4"	1' – 0"
8"	3/4"	1"	1/4" x 2"	4" x 4"	1' – 0"
10"	1"	1 1/4"	3/8" x 3"	6" x 6"	1' – 0"
12"	1"	1 1/4"	3/8" x 3"	6" x 6"	1' – 0"
14"	1"	1 1/4"	3/8" x 3"	6" x 6"	1' – 0"
16"	1 1/4"	1 1/2"	1/2" x 3"	6" x 6"	1' – 0"
18"	1 1/4"	1 1/2"	1/2" x 3"	6" x 6"	1' – 0"

NOTE: ALL MATERIAL SHALL BE 316 STAINLESS STEEL

Pipe Support

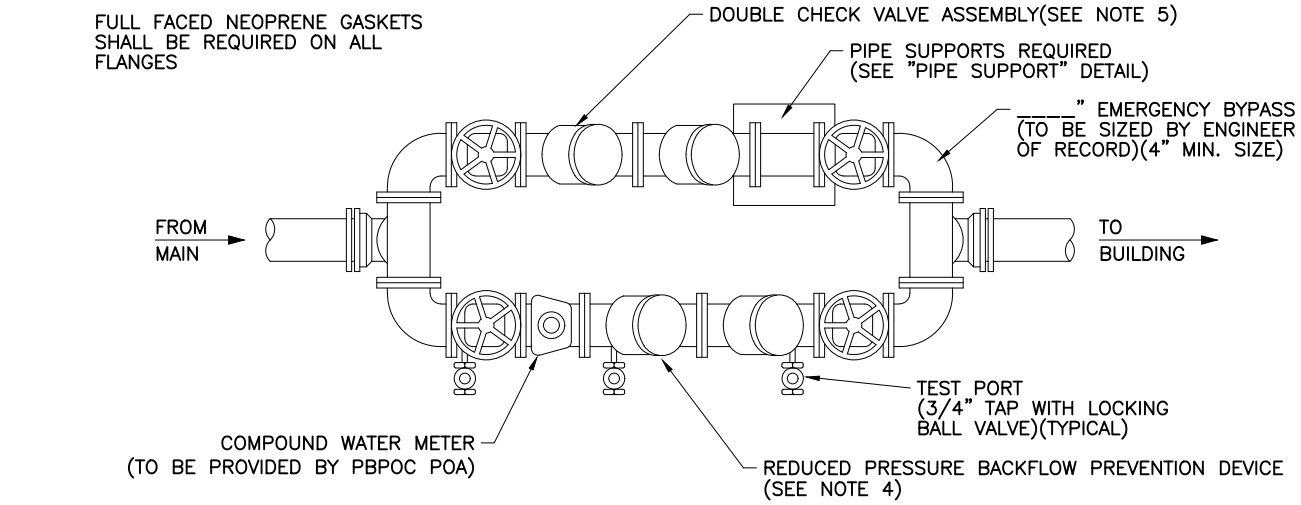
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

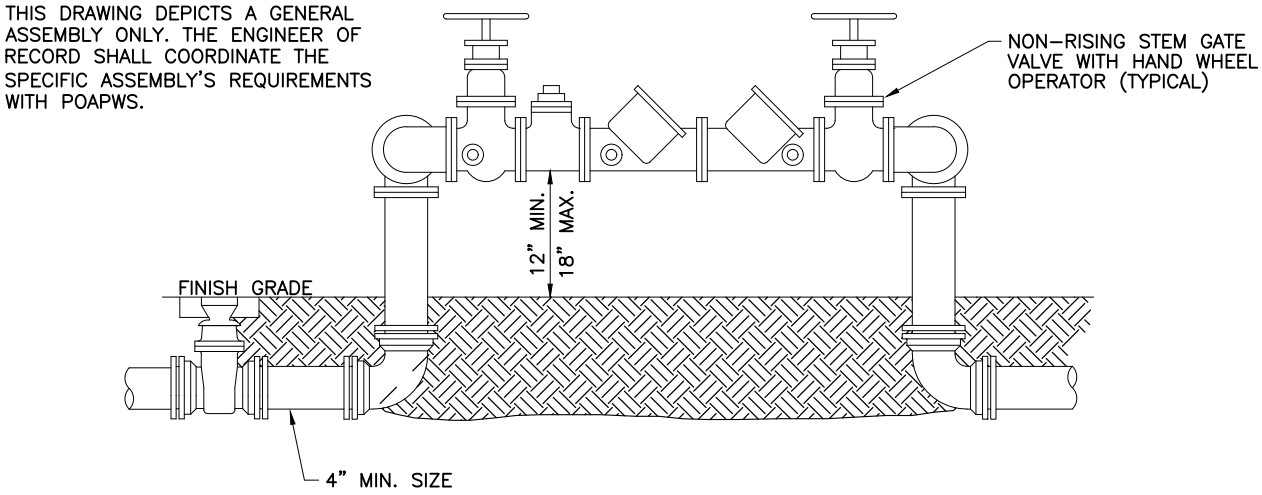
CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-32





NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. MECHANICAL JOINT FITTINGS SHALL BE REQUIRED UNDERGROUND AND FLANGED FITTINGS FOR ABOVE GROUND USE, NO UNIFLANGES PERMITTED.

2. PAINT THE ABOVE GROUND ASSEMBLY IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS, AFTER MANUFACTURERS RECOMMENDED SURFACE PREP IS COMPLETED. DO NOT PAINT OVER NAME/SERIAL PLATE, STAINLESS STEEL OR BRASS FITTINGS.

3. WHEN PROTECTIVE PIPE STANCHIONS OR A SCREEN WALL IS REQUIRED, SEE "PROTECTIVE ENCLOSURES FOR ABOVE GROUND DEVICES" DETAIL.

4. APPROVED REDUCED PRESSURE BACKFLOW PREVENTER WITH SILICONE RUBBER SEAL RINGS OR DISKS:
   A.) APOLLO MODEL RPL 4A, 4" TO 12"
   B.) AMES MODEL 4000 SSSR, 4" TO 10"
   C.) AMES MODEL 4000 SSI, 4" TO 10"

5. APPROVED DOUBLE CHECK VALVE ASSEMBLIES WITH SILICONE RUBBER SEAL RINGS OR DISKS.
   A.) AMES 2000 SS

6. 3" METER REQUIRES 4" BACKFLOW ASSEMBLY AND PIPING.

7. ALL TEST PORTS SHALL BE PLUGGED WITH BRASS PLUGS.

Meter and Backflow Assembly (3" and Larger)

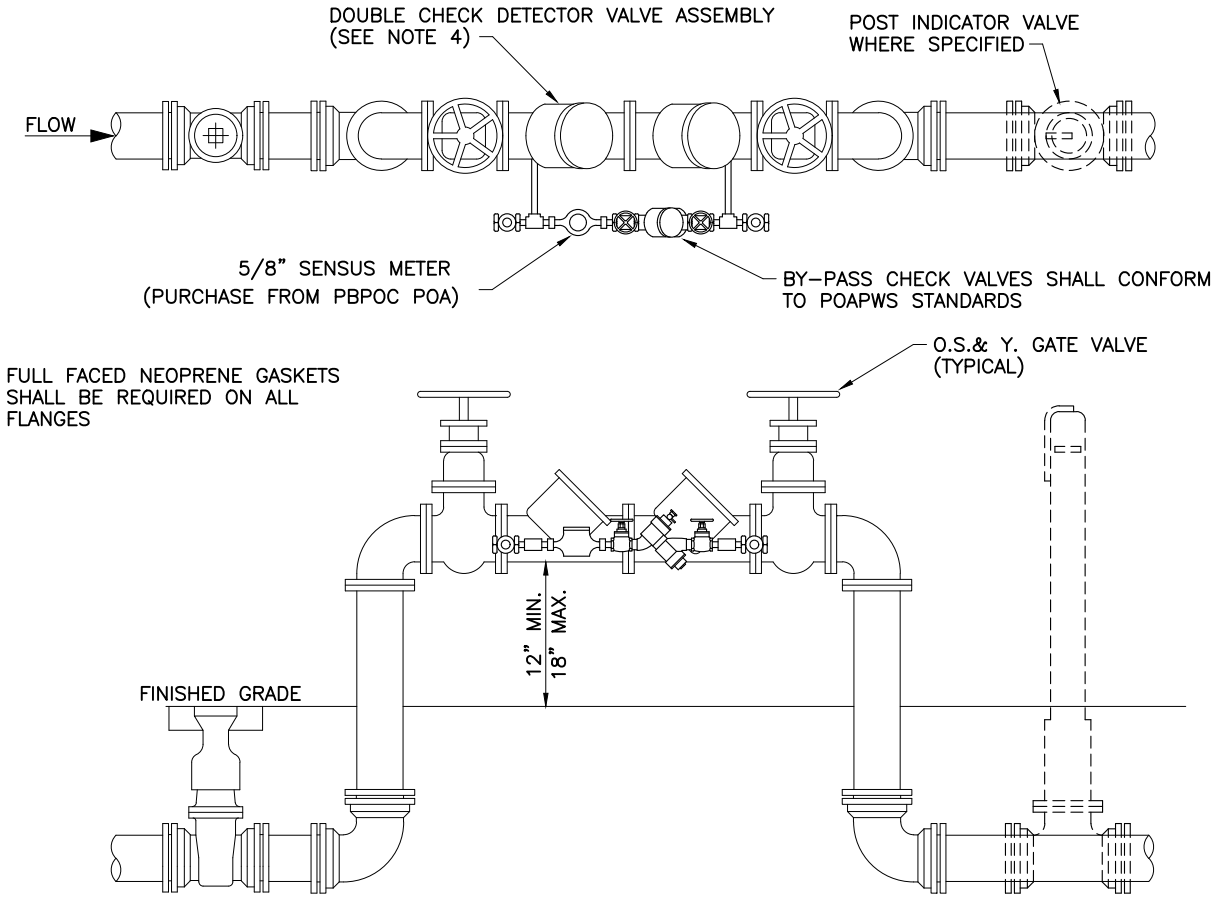
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-33



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. MECHANICAL JOINT FITTINGS SHALL BE REQUIRED UNDERGROUND AND FLANGED FITTINGS FOR ABOVE GROUND USE, NO UNIFLANGES PERMITTED.

2. PAINT THE ABOVE GROUND ASSEMBLY, INCLUDING ENTIRE LENGTH OF TIE RODS, IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS, AFTER MANUFACTURERS RECOMMENDED SURFACE PREP IS COMPLETED. DO NOT PAINT OVER NAME/SERIAL PLATE, STAINLESS STEEL OR BRASS FITTINGS.

3. WHEN PROTECTIVE PIPE STANCHIONS OR A SCREEN WALL IS REQUIRED, SEE "PROTECTIVE ENCLOSURES FOR ABOVE GROUND DEVICES" DETAIL.

4. APPROVED DOUBLE CHECK DETECTOR VALVE ASSEMBLIES WITH SILICONE RUBBER SEAL RINGS OR DISKS:
   A.) AMES MODEL 3000 SSI
   B.) AMES MODEL 3000 SSR
   C.) WATTS MODEL 774 DCDA SERIES 994
   D.) APOLLO MODEL DCDA LF4A

5. SPECIAL FIRE PROTECTION SYSTEMS USING INTERNAL PUMPS, TANKS, ETC. SHALL BE REQUIRED TO USE AN APPROVED REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY.

6. ALL TEST PORTS SHALL BE PLUGGED WITH BRASS PLUGS.

7. TWO OF THE FOLLOWING FORMS OF RESTRAINT SHALL BE USED WHEN PIPE IS GREATER THAN 12".
   A) APPROVED MECHANICAL JOINT RESTRAINT (i.e. MEGALUG)
   B) TIE RODS AND NUTS EQUAL IN DIA. TO TEE BOLTS AND NUTS, COATED WITH KOP-COAT 300-M OR APPROVED EQUAL.

Above Ground Fireline

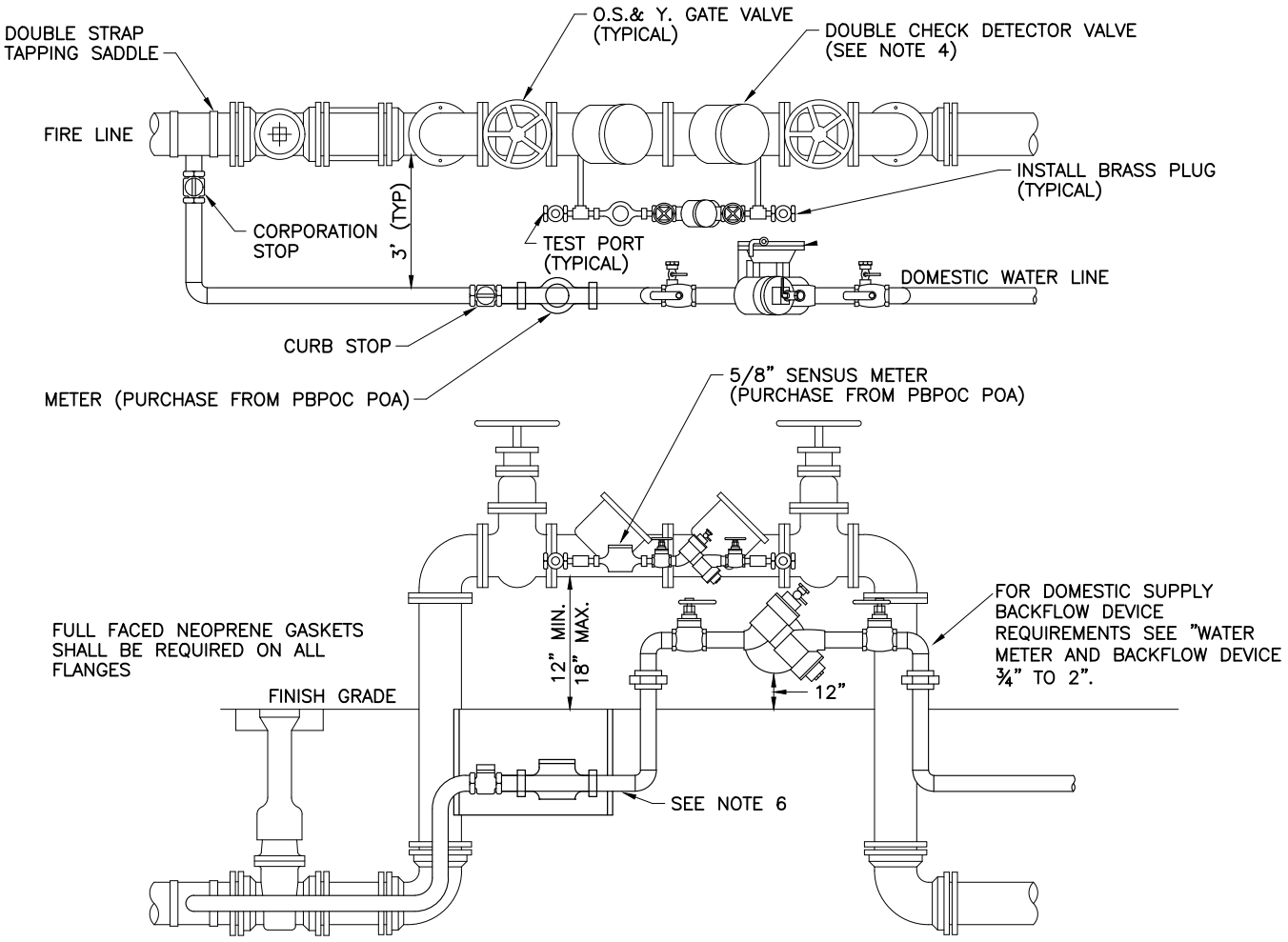
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-34



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. MECHANICAL JOINT FITTINGS SHALL BE REQUIRED UNDERGROUND AND FLANGED FITTINGS FOR ABOVE GROUND USE, NO UNIFLANGES PERMITTED.

2. PAINT THE ABOVE GROUND ASSEMBLY, INCLUDING ENTIRE LENGTH OF TIE RODS, IN ACCORDANCE WITH STANDARDS AND SPECIFICATIONS, AFTER MANUFACTURERS RECOMMENDED SURFACE PREP IS COMPLETED. DO NOT PAINT OVER NAME/SERIAL PLATE, STAINLESS STEEL OR BRASS FITTINGS.

3. WHEN PROTECTIVE PIPE STANCHIONS OR SCREEN WALL IS REQUIRED, SEE "PROTECTIVE ENCLOSURES FOR ABOVE GROUND DEVICES" DETAIL.

4. APPROVED DOUBLE CHECK DETECTOR VALVE ASSEMBLIES WITH SILICONE RUBBER SEAL RINGS OR DISKS:
   A.) AMES MODEL 3000 SSI
   B.) AMES MODEL 3000 SSR
   C.) WATTS MODEL 774 DCDA SERIES 994
   D.) APOLLO MODEL DCDA LF4A 4" – 12"

5. TYPE "K" COPPER TUBING (SOFT DRAWN) OR POLYETHYLENE TUBING SDR 9 COPPER TUBING SIZE. (UNDERGROUND USE ONLY) IF DISTANCE BETWEEN METER AND RISER IS LESS THAN 6 FEET ONLY COPPER TUBING SHALL BE PERMITTED.

6. TWO OF THE FOLLOWING FORMS OF RESTRAINT SHALL BE USED WHEN PIPE IS GREATER THAN 12".
   A) APPROVED MECHANICAL JOINT RESTRAINT (i.e. MEGALUG)
   B) TIE RODS AND NUTS EQUAL IN DIA. TO TEE BOLTS AND NUTS, COATED WITH KOP–COAT 300–M OR APPROVED EQUAL.

Fireline with 1" to 2" Domestic Supply

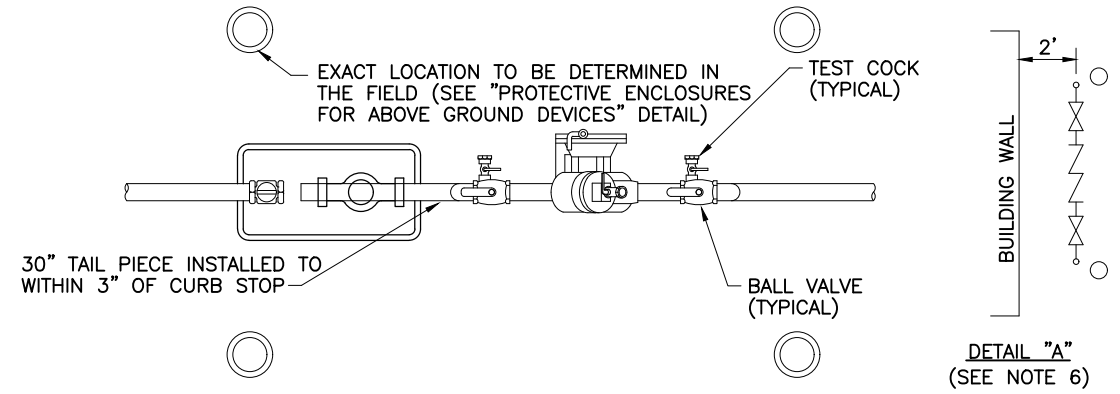
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

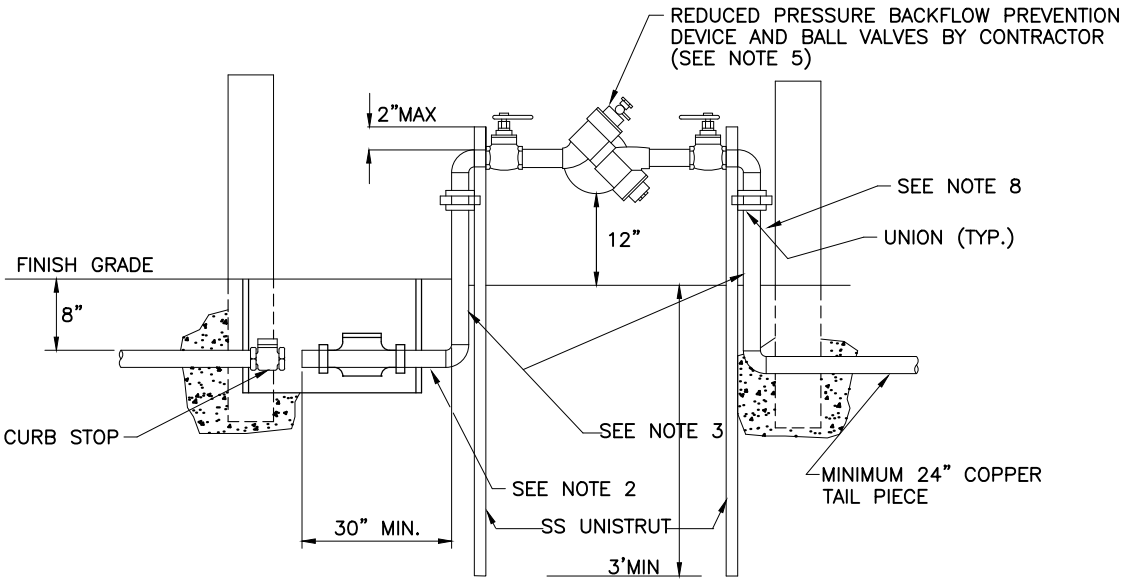
CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-35





NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. TYPE "K" COPPER TUBING (SOFT DRAWN) OR POLYETHYLENE TUBING SDR 9 COPPER TUBE SIZE.

2. IF THIS DISTANCE IS LESS THAN 6 FEET ONLY COPPER TUBING SHALL BE PERMITTED.

3. BOTH RISERS SHALL BE TYPE "K" COPPER TUBING (HARD DRAWN) WITH COPPER/BRASS SOLDER FITTINGS AND ADAPTERS. ONLY LEAD FREE SOLDER AND FLUX SHALL BE PERMITTED.

4. 1 1/2" AND 2" METER STOPS SHALL BE EQUIPPED WITH LOCKING CAPS AND METER FLANGES.

5. APPROVED BACKFLOW PREVENTION DEVICES WITH SILICONE RUBBER SEAL RINGS OR DISKS:
   A.) WATTS MODEL LF919 3/4" TO 2"
   B.) AMES MODEL LF400B 3/4" TO 2"
   C.) WILKINS 975 XL2 3/4" TO 2"
   D.) APOLLO MODEL RPLF 4A 3/4" TO 2"

6. WHEN THE DEVICE IS INSTALLED PARALLEL TO A BUILDING WALL THERE SHALL BE A MINIMUM OF 2' BETWEEN THE EDGE OF THE DEVICE AND THE BUILDING WALL.

7. BACKFLOW PREVENTION DEVICE SHALL BE EQUIPPED WITH BALL VALVES.

8. BACKFLOW PREVENTION DEVICE SHALL BE SUPPORTED AT BOTH RISERS WITH A MINIMUM OF 2 – 1⅝" STAINLESS STEEL UNISTRUTS. RISERS TO BE SECURED TO UNISTRUT WITH 304 STAINLESS STEEL MOUNTING HARDWARE AND ¼" NEOPRENE INSULATORS BETWEEN ALL DISSIMILAR METALS.

9. BACKFLOW DEVICES SHALL BE A MINIMUM OF 3' FROM BACK OF CURB.

Water Meter and Backflow Device 3/4" to 2"

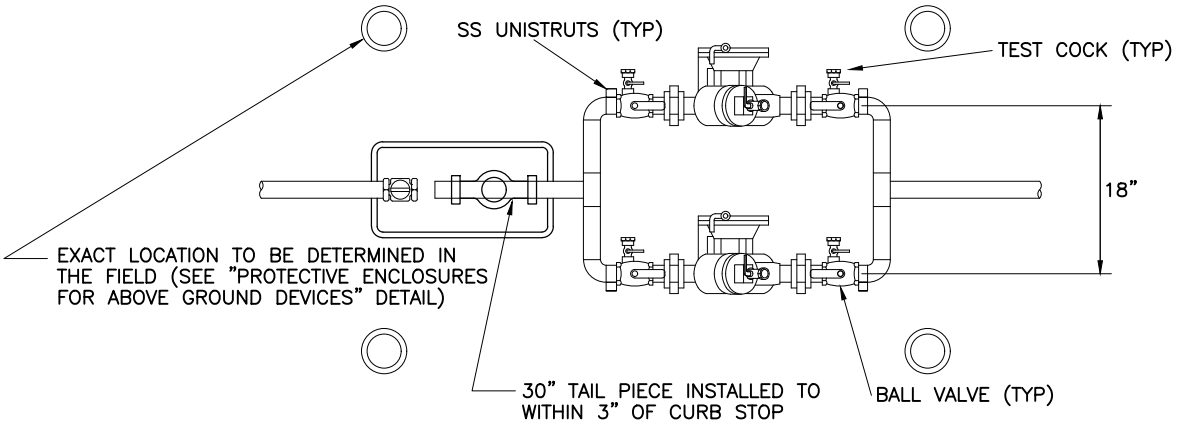
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

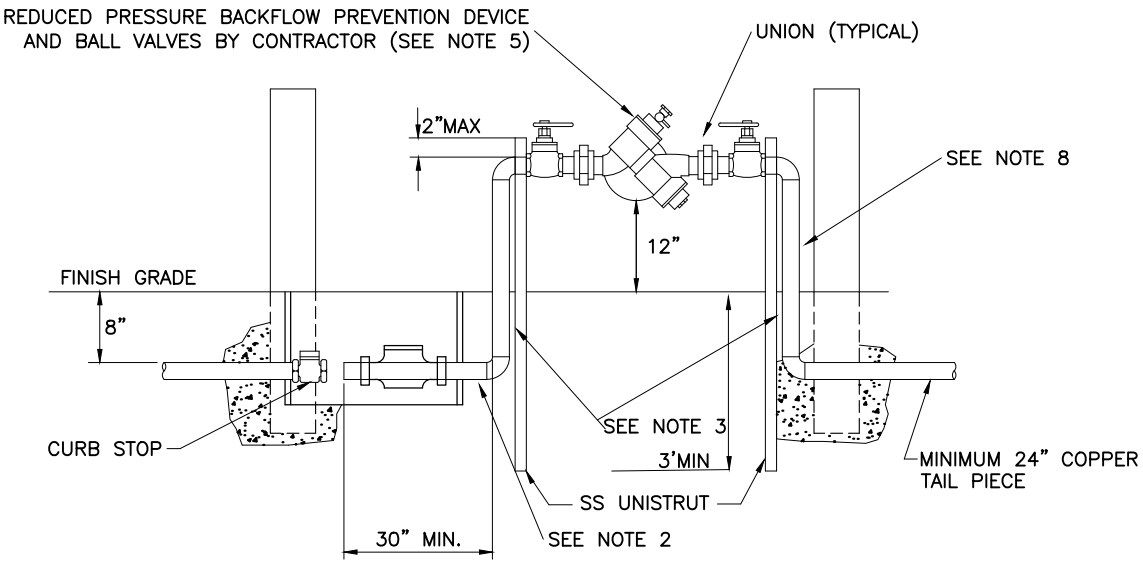
CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-36





NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. TYPE "K" COPPER TUBING (SOFT DRAWN) OR POLYETHYLENE TUBING SDR 9 COPPER TUBE SIZE.

2. IF THIS DISTANCE IS LESS THAN 6 FEET ONLY COPPER TUBING SHALL BE PERMITTED.

3. BOTH RISERS SHALL BE TYPE "K" COPPER TUBING (HARD DRAWN) WITH COPPER/BRASS SOLDER FITTINGS AND ADAPTERS. ONLY LEAD FREE SOLDER AND FLUX SHALL BE PERMITTED.

4. 1 1/2" AND 2" METER STOPS SHALL BE EQUIPPED WITH LOCKING CAPS AND METER FLANGES.

5. APPROVED BACKFLOW PREVENTION DEVICES WITH SILICONE RUBBER SEAL RINGS OR DISKS:
   A.) WATTS MODEL LF919 3/4" TO 2"
   B.) AMES MODEL LF400B 3/4" TO 2"
   C.) WILKINS 975 XL2 3/4" TO 2"
   D.) APOLLO MODEL RPLF 4A 3/4" TO 2"

6. WHEN THE DEVICE IS INSTALLED PARALLEL TO A BUILDING WALL THERE SHALL BE A MINIMUM OF 2' BETWEEN THE EDGE OF THE DEVICE AND THE BUILDING WALL.

7. BACKFLOW PREVENTION DEVICE SHALL BE EQUIPPED WITH BALL VALVES.

8. BACKFLOW PREVENTION DEVICE SHALL BE SUPPORTED AT BOTH RISERS WITH A MINIMUM OF 4 – 1⅝" STAINLESS STEEL UNISTRUTS. RISERS TO BE SECURED TO UNISTRUT WITH 304 STAINLESS STEEL MOUNTING HARDWARE AND ¼" NEOPRENE INSULATORS BETWEEN ALL DISSIMILAR METALS.

9. BACKFLOW DEVICES SHALL BE A MINIMUM OF 3' FROM BACK OF CURB.

Water Meter and Dual Backflow Device 3/4" to 2"

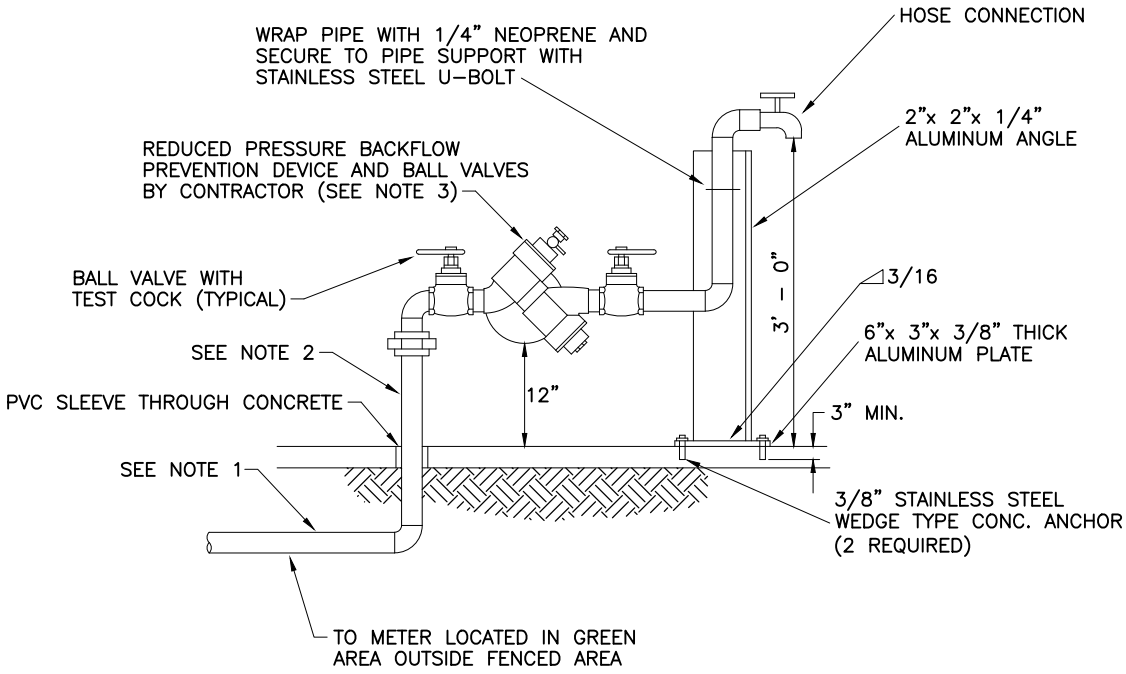
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-37



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. TYPE "K" COPPER TUBING (SOFT DRAWN).

2. BOTH RISERS SHALL BE TYPE "K" COPPER TUBING (HARD DRAWN) WITH COPPER/BRASS SOLDER FITTINGS AND ADAPTERS. ONLY LEAD FREE SOLDER AND FLUX SHALL BE PERMITTED.

3. APPROVED BACKFLOW PREVENTION DEVICES WITH SILICONE RUBBER SEAL RINGS OR DISKS:
   A.) WATTS MODEL LF919 3/4" TO 2"
   B.) AMES MODEL LF400B 3/4" TO 2"
   C.) WILKINS 975 XL2 3/4" TO 2"
   D.) APOLLO MODEL RPLF 4A

4. BACKFLOW PREVENTION DEVICE SHALL BE EQUIPPED WITH BALL VALVES.

5. FOR PLACEMENT OF BACKFLOW ASSEMBLY WITHIN FENCED AREA SEE "TYPICAL LIFT STATION SITE PLAN" DETAIL.

6. BACKFLOW PREVENTION DEVICE SHALL BE SUPPORTED AT BOTH RISERS WITH ALUMINUM ANGLE AS SHOWN ABOVE. RISERS TO BE SECURED TO ANGLE WITH TYPE 304 SST MOUNTING HARDWARE AND NEOPRENE INSULATORS BETWEEN ALL DISSIMILAR METALS.

Lift Station Backflow Preventer Assembly

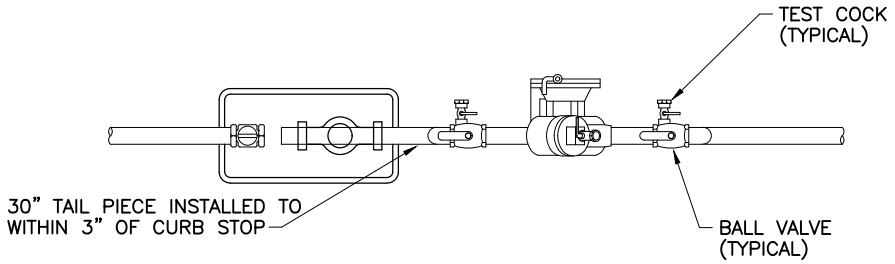
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

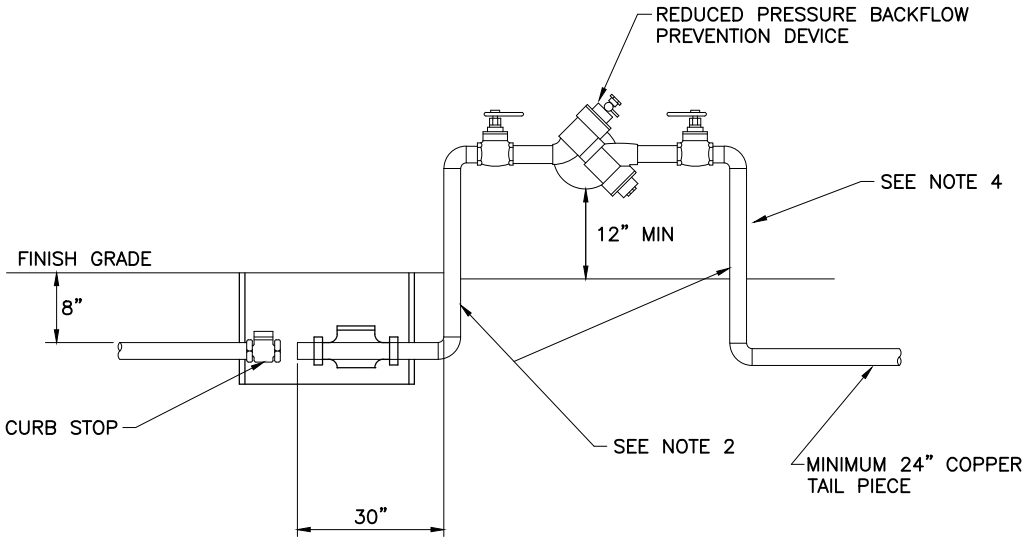
CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-38





NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. TYPE "K" COPPER TUBING (SOFT DRAWN) OR POLYETHYLENE TUBING SDR 9 COPPER TUBE SIZE.

2. BOTH RISERS SHALL BE TYPE "K" COPPER TUBING (HARD DRAWN) WITH COPPER/BRASS SOLDER FITTINGS AND ADAPTERS. ONLY LEAD FREE SOLDER AND FLUX SHALL BE PERMITTED.

3. BACKFLOW PREVENTION DEVICES SHALL BE USC APPROVED WITH SILICONE RUBBER SEAL RINGS OR DISKS:

4. BACKFLOW PREVENTION DEVICE SHALL BE SUPPORTED AT BOTH RISERS WITH STAINLESS STEEL UNISTRUT. RISERS TO BE SECURED TO UNISTRUT WITH 304 STAINLESS STEEL MOUNTING HARDWARE AND ¼" NEOPRENE INSULATORS BETWEEN ALL DISSIMILAR METALS.

5. BACKFLOW DEVICES SHALL BE A MINIMUM OF 3' FROM BACK OF CURB AND SIDEWALKS

Private Auxiliary Water Supply Backflow Device

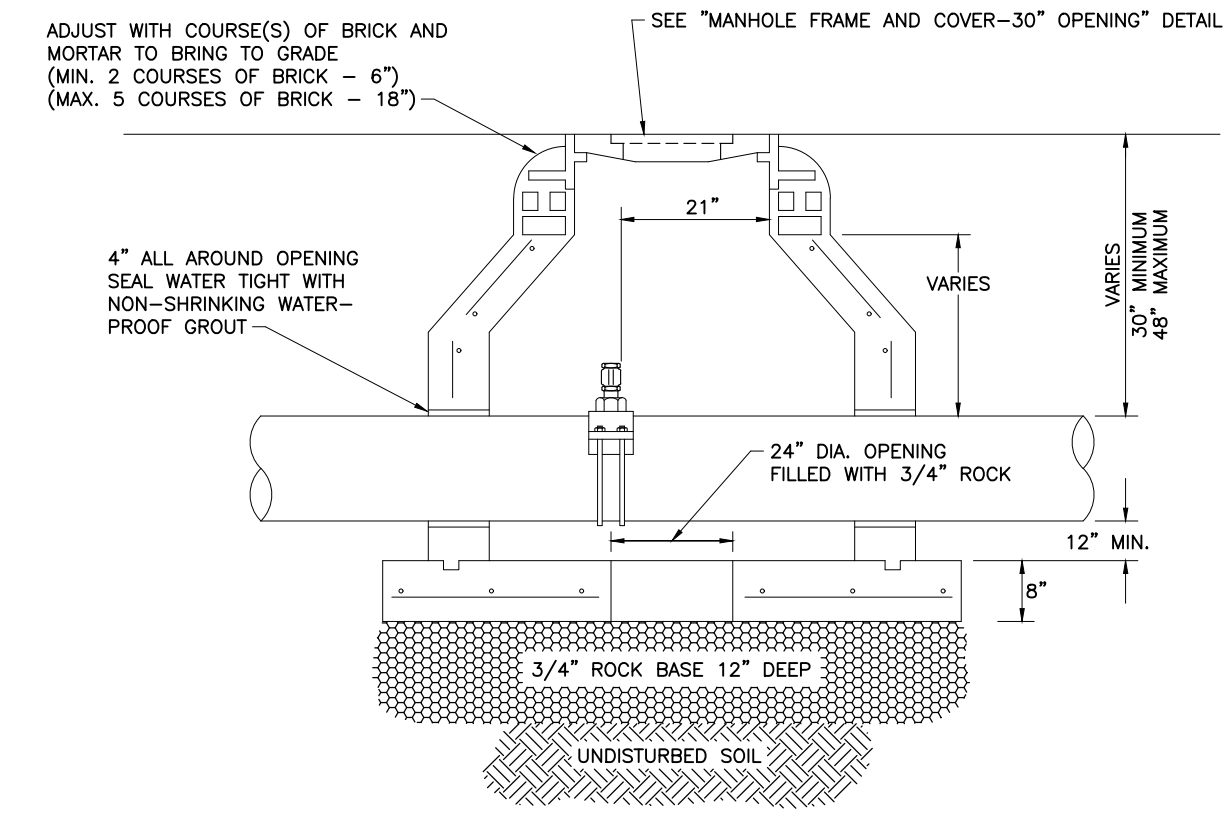
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

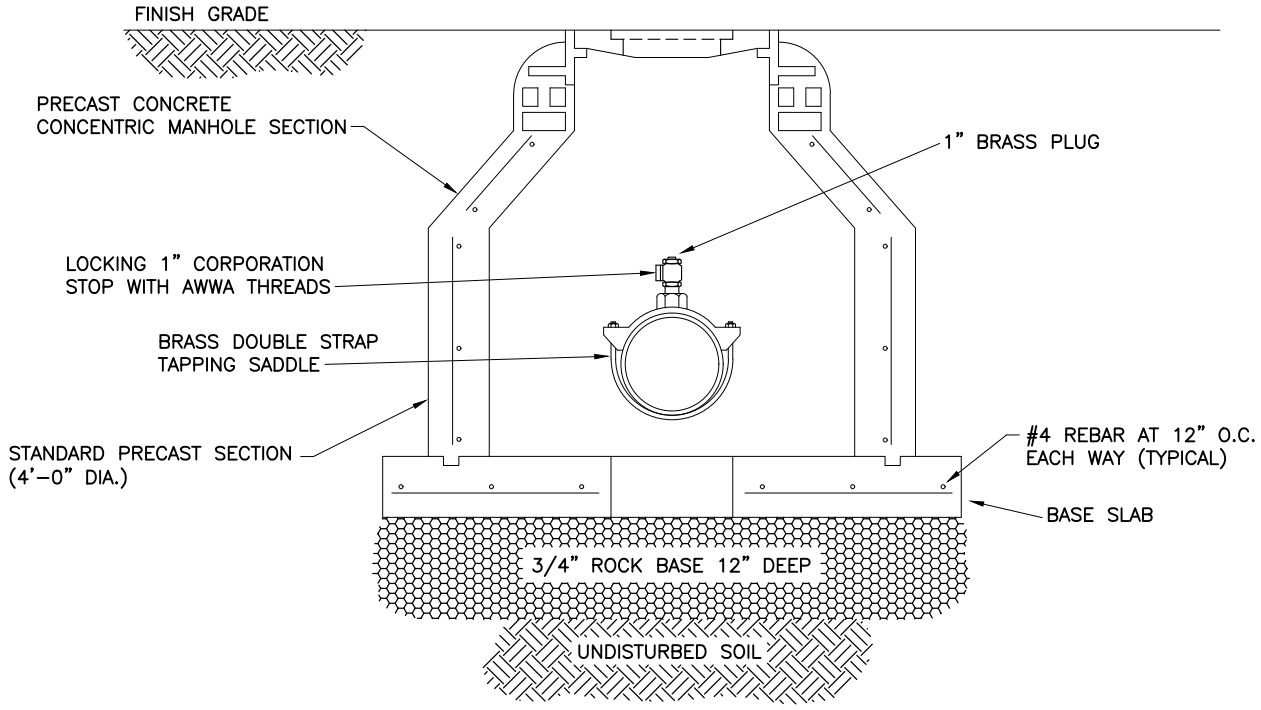
CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-39





PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

Manual Air Release Valve (Underground Water Main)

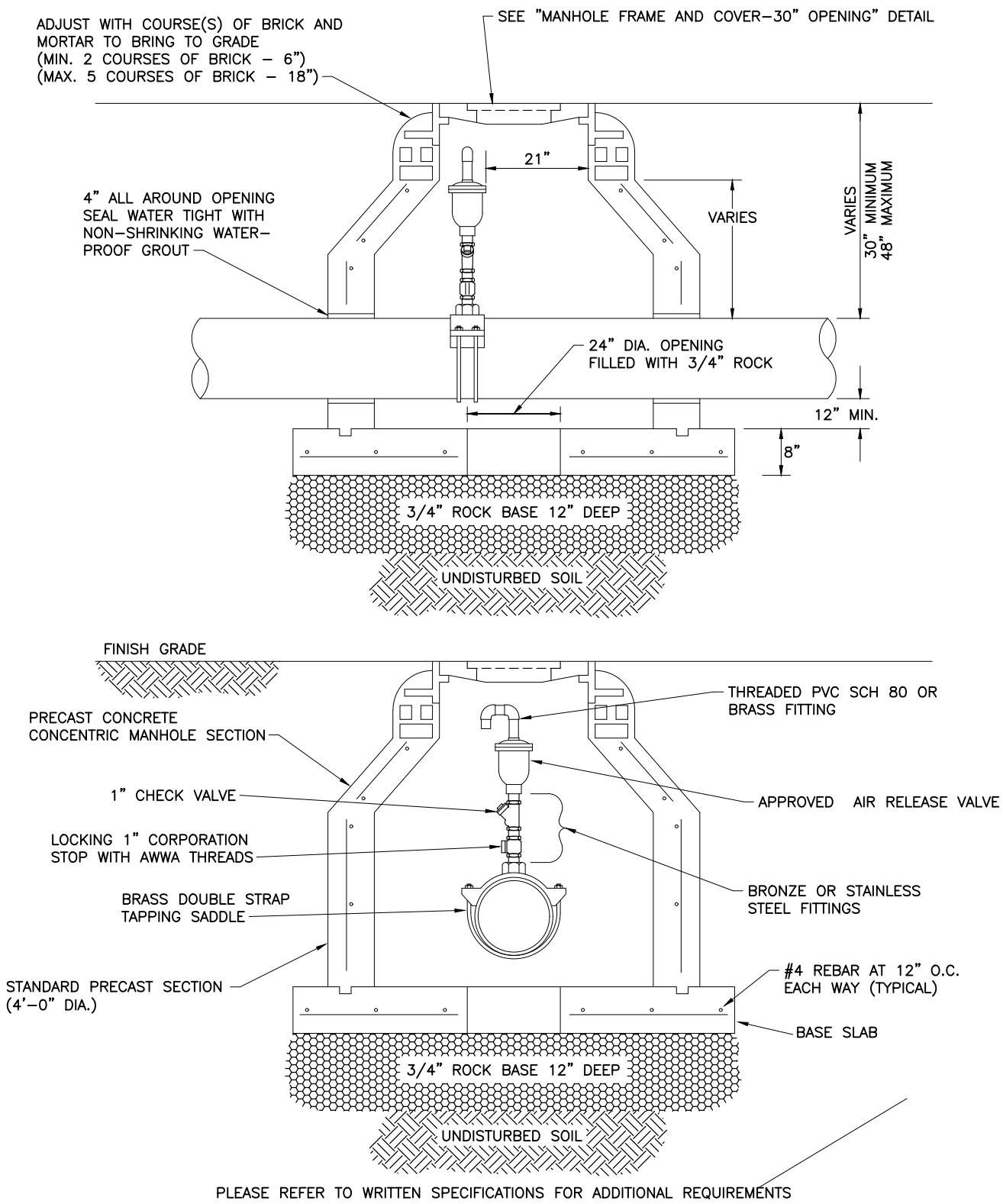
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-40



Automatic Air Release Valve (Underground Water Main)

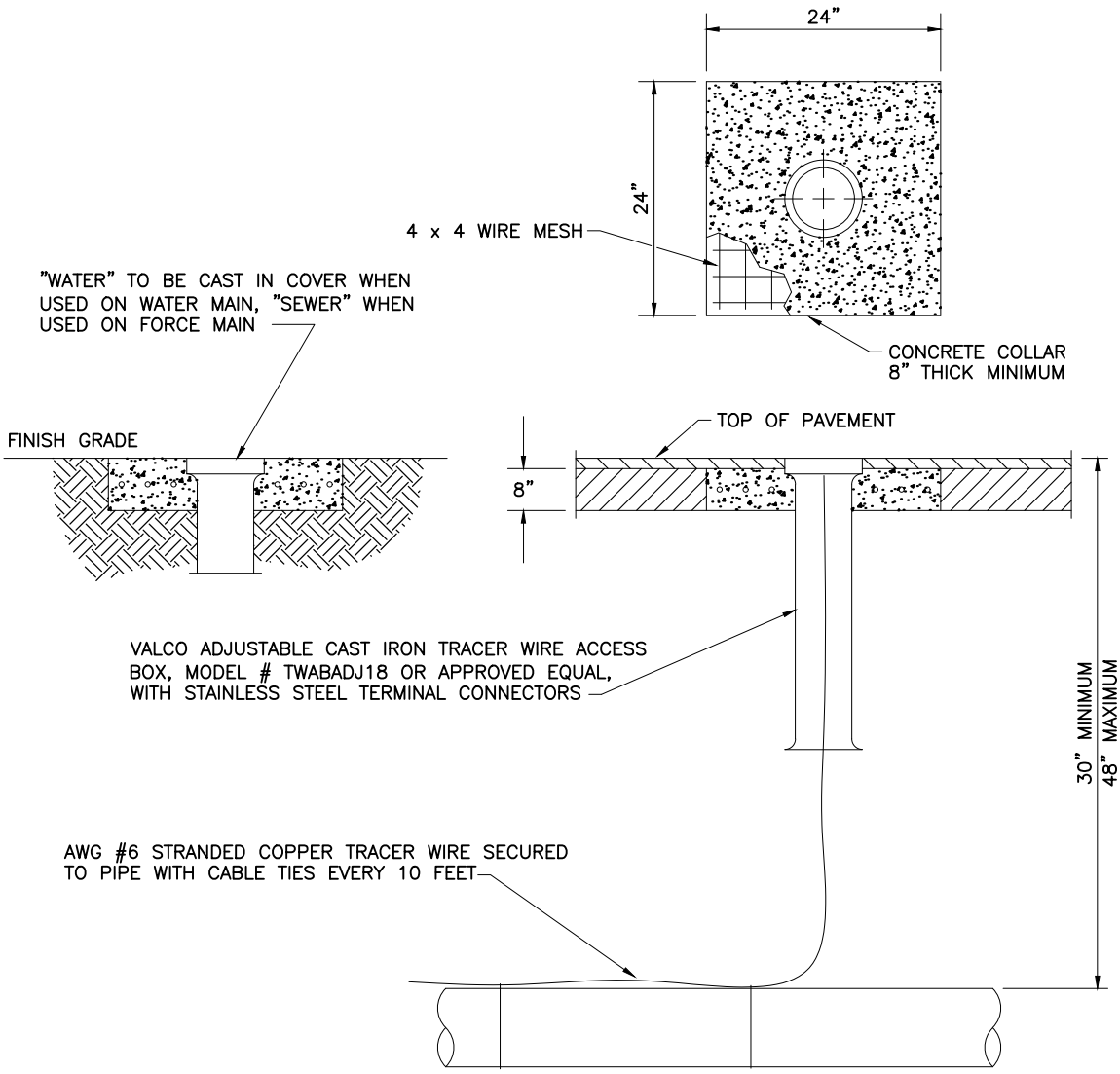
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-41



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. REQUIRED FOR HDD OR AS DIRECTED BY POAPWS.

Tracer Wire Access Box

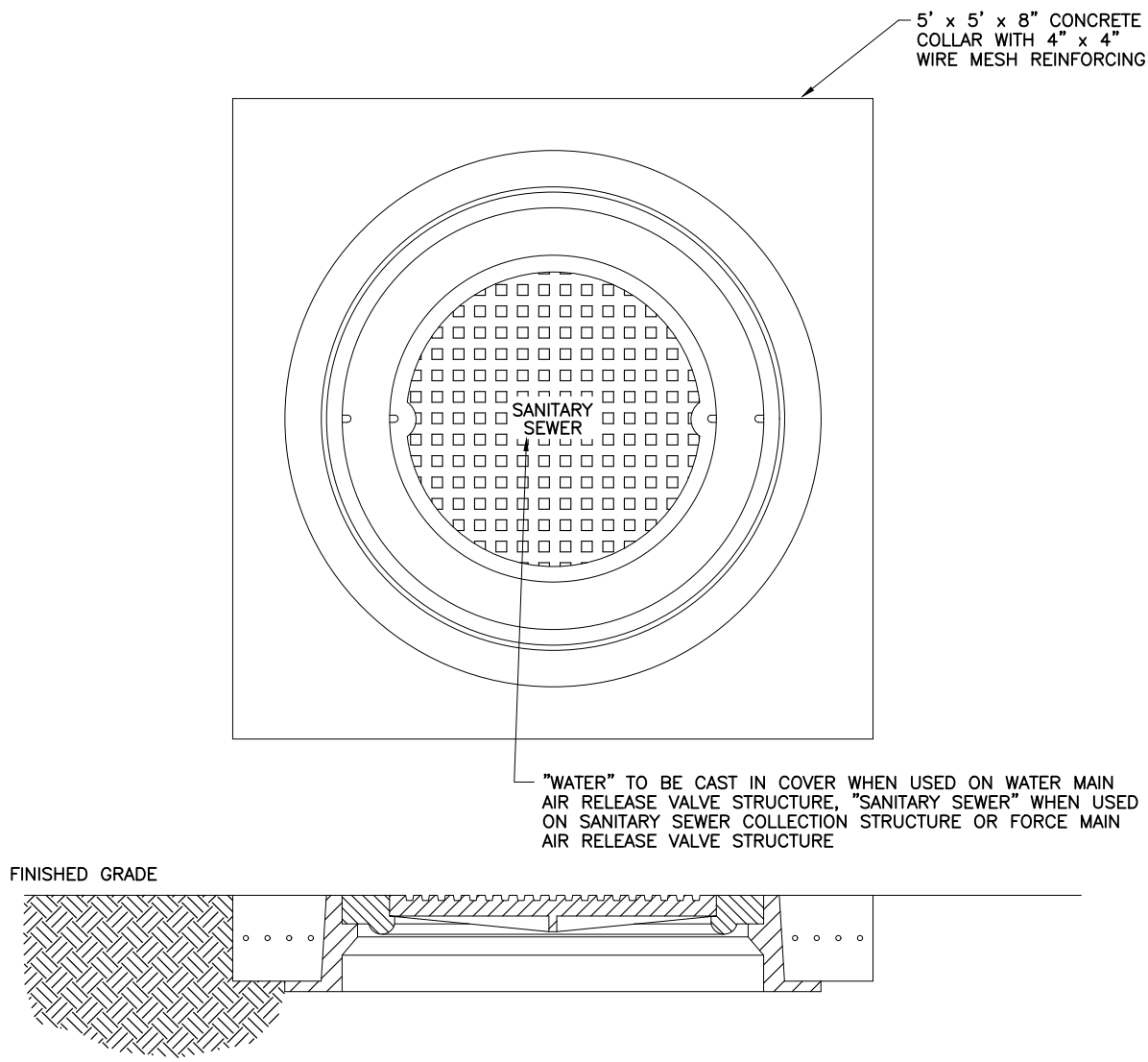
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-42



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. IN GREEN AREAS OR ANY AREA DEEMED TO HAVE QUESTIONABLE DRAINAGE, A WATER TIGHT MANHOLE INSERT SUCH AS "SEWER GUARD" OR APPROVED EQUAL WILL BE REQUIRED.

2. APPROVED MANHOLES (DOUBLE COVER TYPE):
   A) U.S. FOUNDRY MODEL No. 230-AB-M
   B) VULCAN FOUNDRY MODEL No. VM-101

3. CONCRETE COLLAR IS REQUIRED ONLY WHEN MANHOLE IS OUT OF PAVEMENT.

Manhole Frame and Cover (30" Opening)

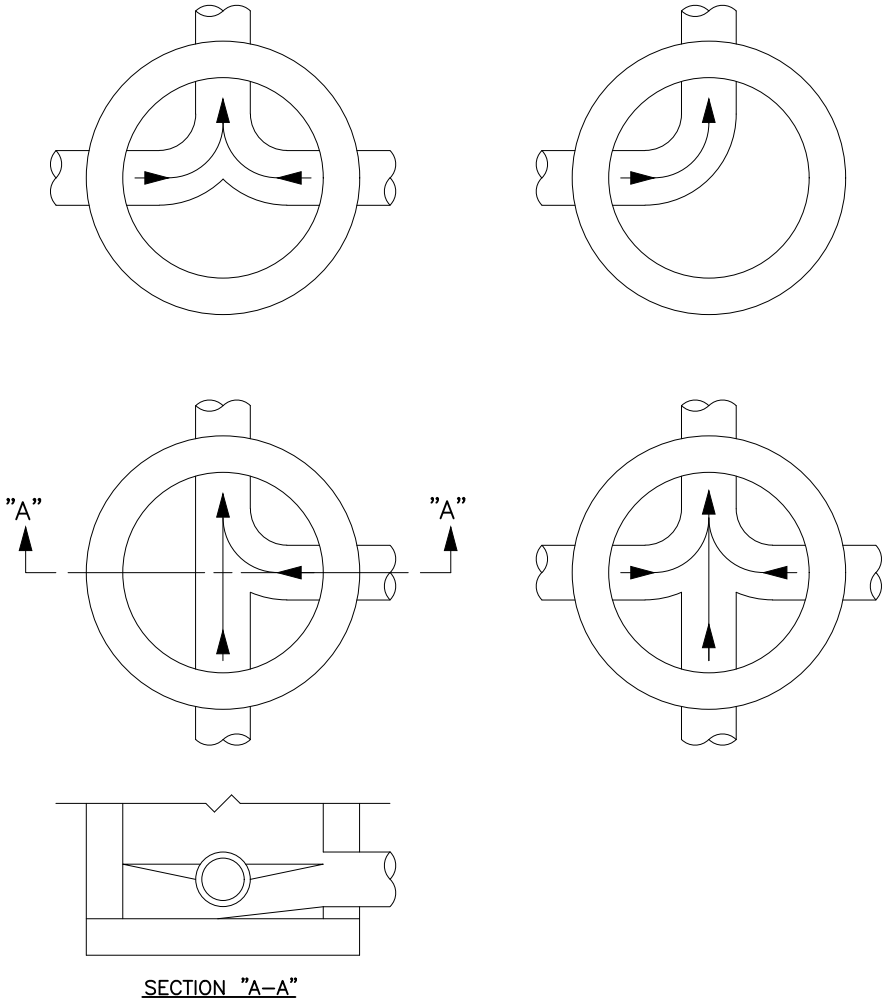
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-50



SECTION "A–A"

NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS.

2. SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS PROVIDING FOR SMOOTH FLOWS.

3. CHANNELS FOR FUTURE CONSTRUCTIONS (STUBS) SHALL BE CONSTRUCTED, FILLED WITH SAND, AND COVERED WITH 1" OF MORTAR.

4. SLOPE MANHOLE ITSELF WITH A 1:2 SLOPE FROM MANHOLE WALL TO CHANNEL.

5. INVERT SHALL BE A MINIMUM OF 1/2 THE DIAMETER OF THE LARGEST PIPE OR 4" DEEP.

Flow Patterns for Invert Channels

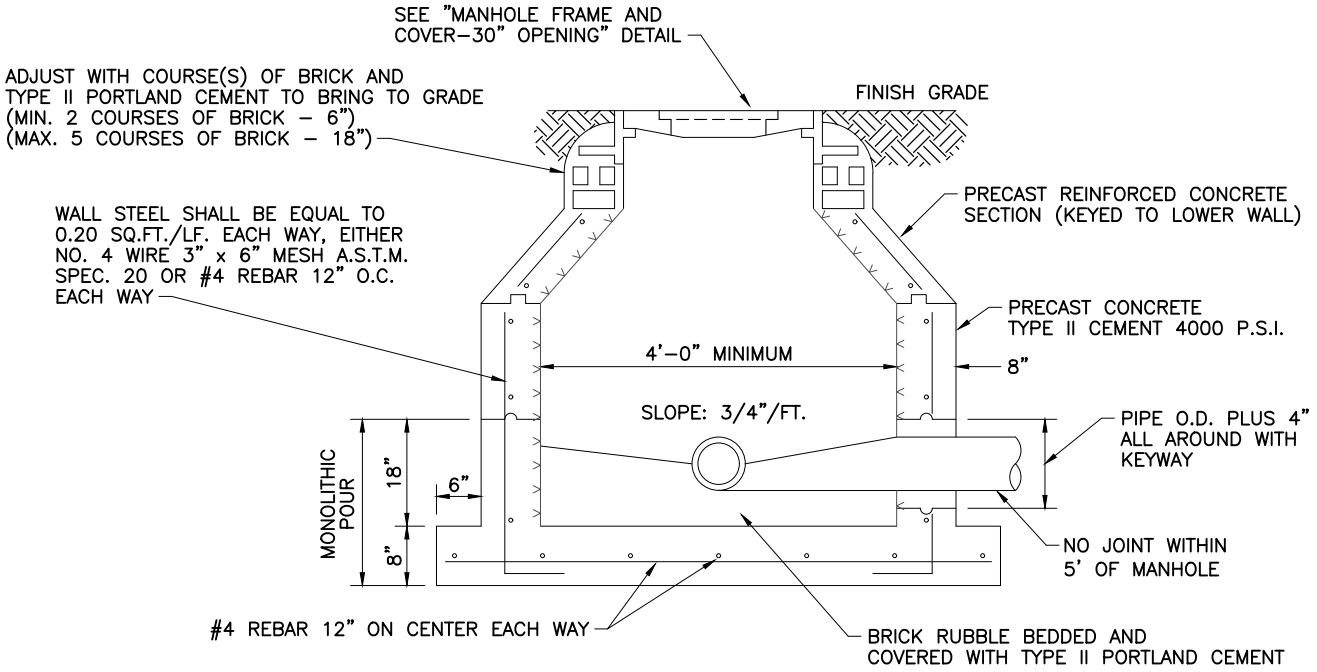
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-51



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. MANHOLES SHALL CONFORM TO A.S.T.M. C478.(MIN.)

2. WALL REINFORCEMENTS A.S.T.M. DESIGNATION A185–64.(LATEST REVISION)(MIN.)

3. IF TWO CAGES OF WIRE MESH ARE USED, ONE SHALL BE POSITIONED 3" FROM THE INSIDE SURFACE AND ONE 3" FROM THE OUTSIDE SURFACE. IF A SINGLE CAGE OR REBAR IS USED, IT SHALL BE CENTERED WITHIN WALL THICKNESS. NO EXPOSED STEEL SHALL BE PERMITTED.

4. LIFT HOLES THROUGH PRECAST STRUCTURE ARE PERMITTED.

5. A MINIMUM OF SEVEN DAYS CURE TIME IS REQUIRED PRIOR TO DELIVERY.

6. ALL PIPE HOLES SHALL BE PRECAST OR CORE DRILLED. OVERSIZED HOLES WILL BE REJECTED.

7. ANY VISIBLE REINFORCING WIRE, STEEL OR HONEYCOMBS SHALL BE CAUSE FOR REJECTION.

8. SEE TECHNICAL SPECIFICATIONS FOR BEDDING REQUIREMENTS.

9. "RAM–NEK" OR APPROVED EQUAL AT ALL RISER JOINTS (1/2" THICK WITH WIDTH AT LEAST 1/2 THE WALL THICKNESS) WITH GROUT ON INSIDE AND OUTSIDE.

10. ALL OPENINGS SHALL BE SEALED USING ONLY TYPE II PORTLAND CEMENT/SAND MORTOR AND POTABLE WATER FOR MUD WORK ON JOINTS, LIFTING HOLES, INVERTS, ETC. WHEN AN ACCELERATOR IS NECESSARY, "ANTI HYDRO" IS THE ONLY PRODUCT APPROVED.

11. BRICK MASONRY CONSTRUCTION TO BE STUCCOED WITH 3/4" TYPE II CEMENT INSIDE AND OUTSIDE, AND INSIDE TO BE COATED WITH TWO COATS OF KOPPERS 300 OR APPROVED EQUAL.

12. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM, AND COATED WITH TWO COATS OF KOPPERS 300 OR APPROVED EQUAL

13. INTERIOR OF ALL SANITARY MANHOLES SHALL HAVE AGRU SURE GRIP CONCRETE PROTECTIVE LINER INSTALLED AT THE TIME OF MANUFACTURING. SEE "AGRU SURE GRIP LINER DETAILS" DRAWING FOR ADDITIONAL AGRU SURE GRIP REQUIREMENTS.

Standard Precast Manhole

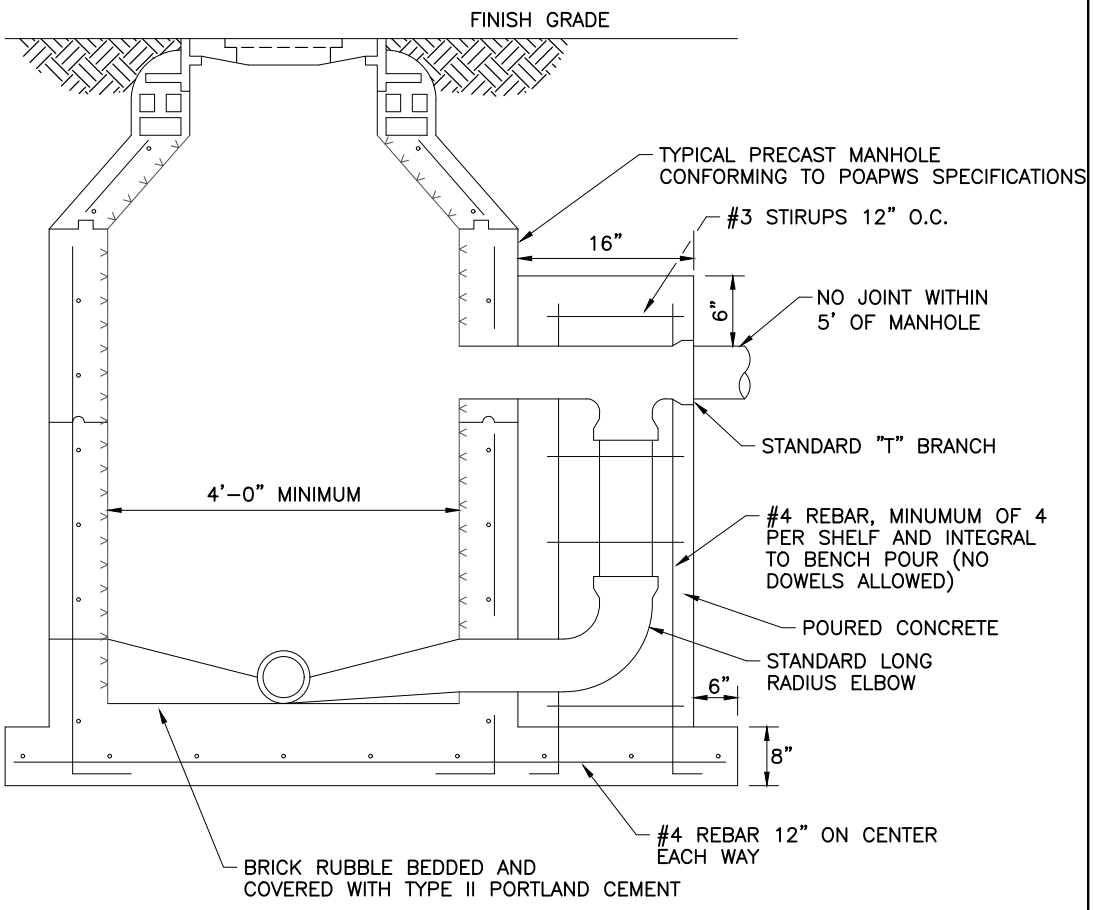
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-52



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. CONCRETE ENCASEMENT FOR DROP CONNECTION TO BE FIELD POURED.

2. DROP CONNECTIONS SHALL BE REQUIRED WHENEVER AN INFLUENT SEWER IS LOCATED TWO (2) FEET OR MORE ABOVE THE MAIN INVERT CHANNEL.

3. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM.

4. WHEN PVC IS USED IN SANITARY SEWER LINES, SOLVENT TYPE JOINT PVC FITTINGS MAY BE UTILIZED IN THE DROP ASSEMBLY ONLY.

5. MINIMUM PIPE SIZE FOR DROP IS 8".

6. SEE "STANDARD PRECAST MANHOLE" DETAIL FOR ADDITIONAL REQUIREMENTS.

Precast Manhole - Drop Connection Type A

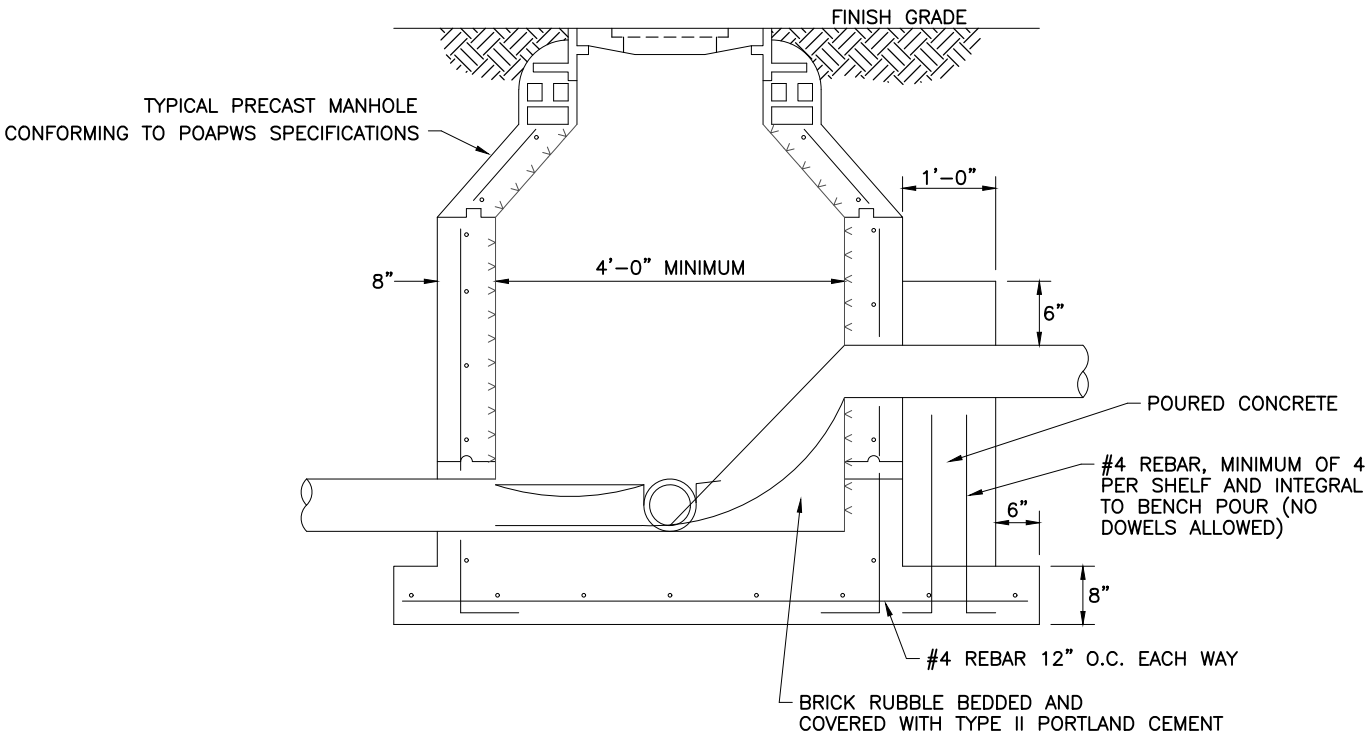
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-53



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. INSIDE DROP TO BE USED WHEN DROP IS GREATER THAN 6 INCHES AND LESS THAN 24 INCHES.
2. A FLOW CHANNEL SHALL BE CONSTRUCTED INSIDE MANHOLE TO DIRECT INFLUENT INTO FLOW STREAM.
3. CONSTRUCTION OF DROP SHALL PROVIDE AN OVERSIZED SLAB TO EXTEND UNDER THE DROP CONNECTION.
4. MINIMUM PIPE SIZE FOR DROP IS 8".
5. SEE "STANDARD PRECAST MANHOLE" DETAIL FOR ADDITIONAL REQUIREMENTS.

Precast Manhole - Drop Connection Type B

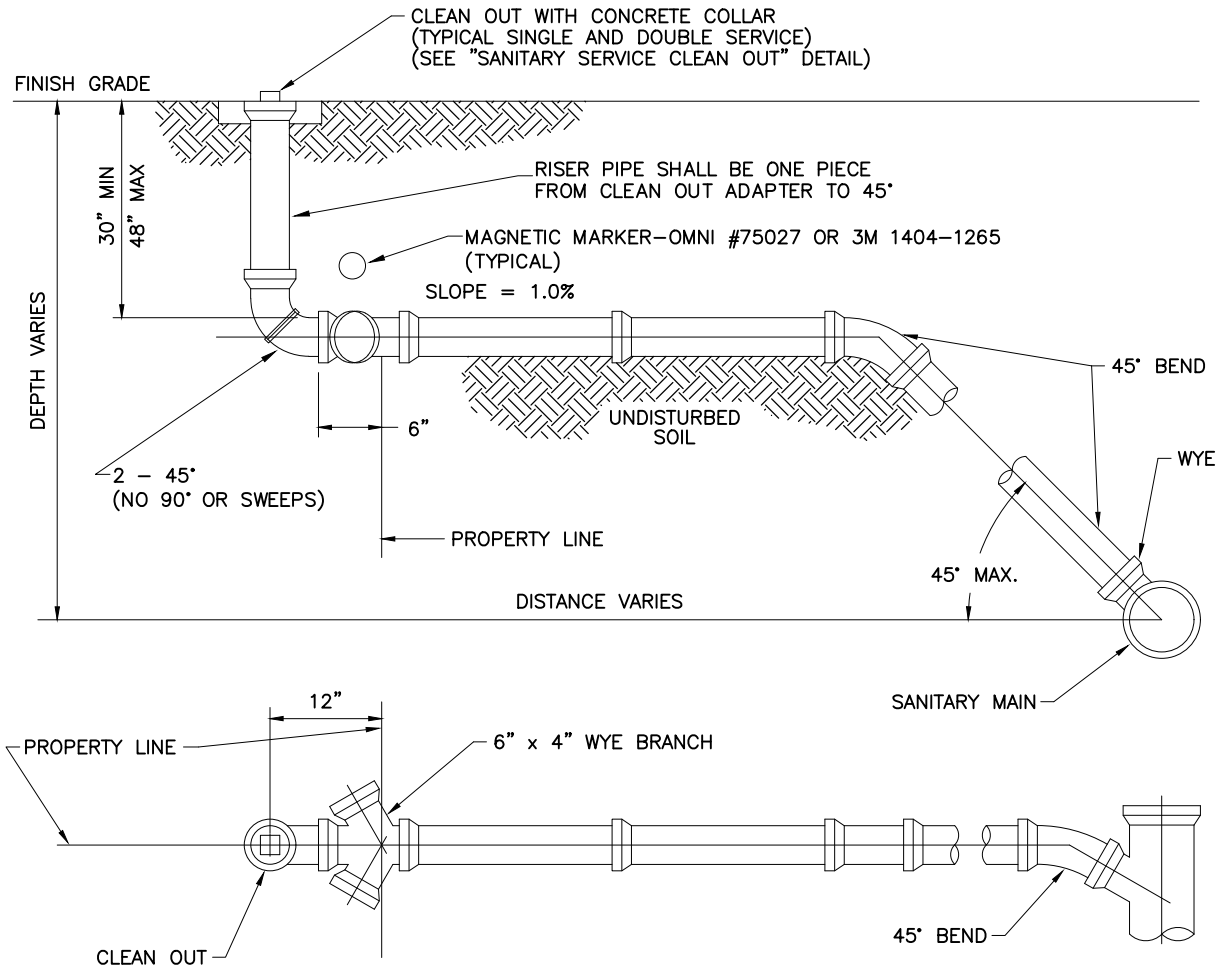
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-54



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. THE END OF EACH SERVICE CONNECTION SHALL BE MARKED WITH A 2" x 2" TREATED WOOD STAKE AND AN E.M.S. SANITARY SEWER MARKER.

2. EACH SERVICE CONNECTION SHALL BE PLUGGED WATERTIGHT WITH AN APPROVED CAP OR PLUG.

3. FOR PVC INSTALLATIONS, CONNECT TO EXISTING "BELL END" AND CONNECT OPPOSITE END WITH PVC TO PVC KNOCK ON SLEEVE.

4. SOLIDLY TAMP BACKFILL AT LEAST ONE FOOT ABOVE TOP OF PIPE. SERVICES UNDER PAVED AREAS SHALL BE BACKFILLED TO THE SAME SPECIFICATIONS AS SHOWN ON "PAVEMENT REPLACEMENT" DETAIL.

5. CONTRACTOR SHALL MARK ON A CLEAN SET OF PLANS THE FINAL STATIONING OR DISTANCE AND DIRECTION FROM MANHOLE TO EACH SERVICE LATERAL AND GIVE TO ENGINEER FOR RECORD DRAWING PURPOSES.

6. ANY DEVIATION FROM THESE METHODS MUST BE APPROVED BY POAPWS.

7. THE USE OF UNNECESSARY FITTINGS ON THE CUSTOMERS LINE TO REDUCE EXCAVATION EFFORTS WILL BE CAUSE FOR REJECTION.

8. THE USE OF 90° SWEEPS ON THE CUSTOMERS LINE IN LIEU OF 45° BENDS WILL REQUIRE AN ADDITIONAL CLEAN OUT AS SHOWN ON "SANITARY SERVICE CLEAN OUT DETAIL". THE CLEAN OUT SHALL BE ON THE HOUSE SIDE OF THE TOP SWEEP WITHIN 2' OF THE SWEEP.

Sewer Service Connection (Wye Branch)

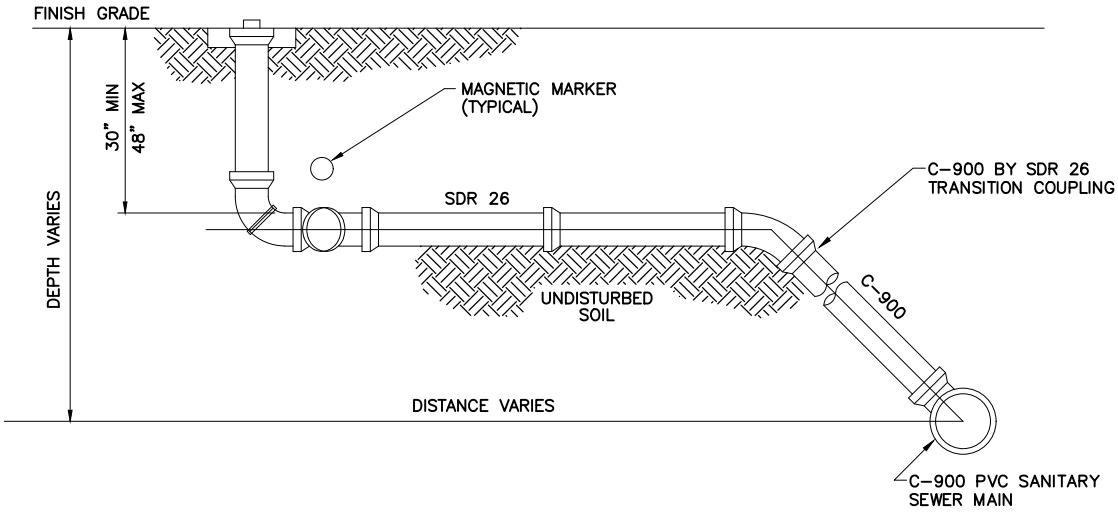
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

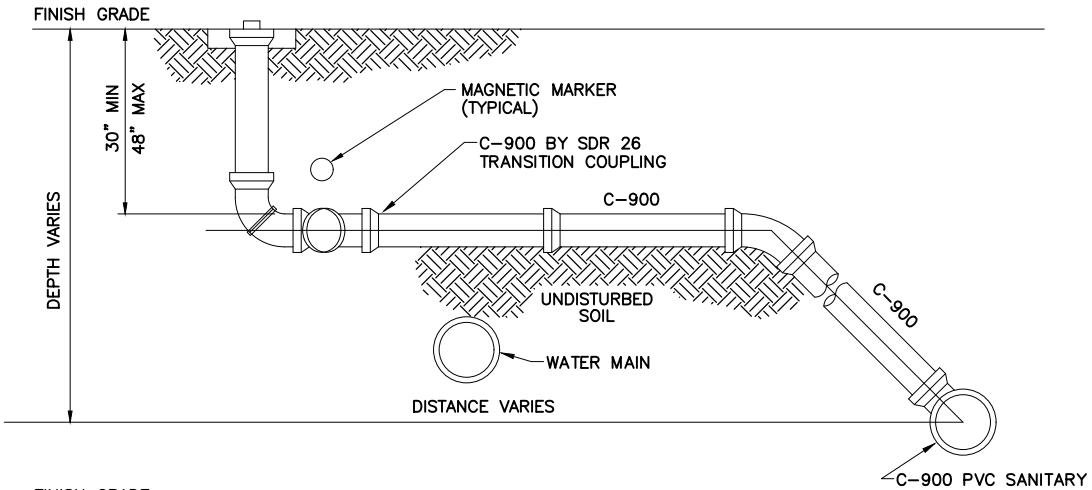
CONSTRUCTION STANDARDS AND DETAILS

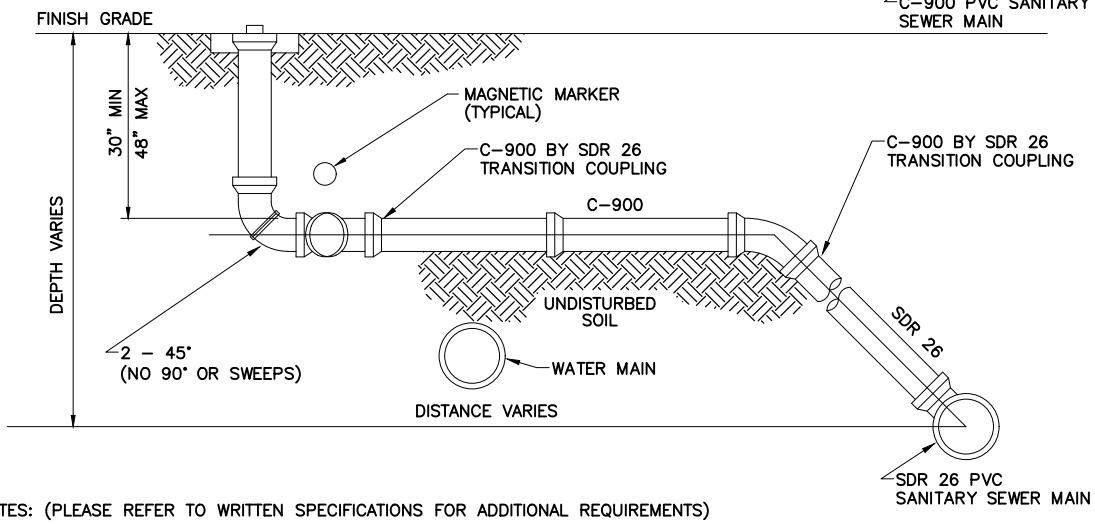
Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-55







NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

WHERE NO WATER MAIN EXISTS AND SANITARY MAIN IS SDR 26 PVC, LATERAL FROM MAIN TO CLEAN OUT SHALL BE SDR PVC.

SEWER SERVICE LATERALS SHALL CROSS UNDER WATER MAINS WITH A MINIMUM VERTICAL SEPARATION OF TWELVE (12) INCHES. IF 12" VERTICAL SEPARATION CANNOT BE MAINTAINED, THEN THE WATER MAIN SHALL BE D.I.P. AND THE SEWER SERVICE LATERAL SHALL BE C-900 SDR 18 OR BETTER AND THE MINIMUM SEPARATION SHALL BE SIX (6) INCHES. WHEN IT IS NOT POSSIBLE FOR THE WATER MAIN TO CROSS OVER THE SEWER SERVICE LATERAL A MINIMUM VERTICAL SEPARATION OF AT LEAST TWELVE (12) INCHES MUST BE MAINTAINED, THE WATER MAIN SHALL BE D.I.P. AND THE SEWER LATERAL SHALL BE C-900 SDR 18 OR BETTER.

C-900 Sewer Service Transition

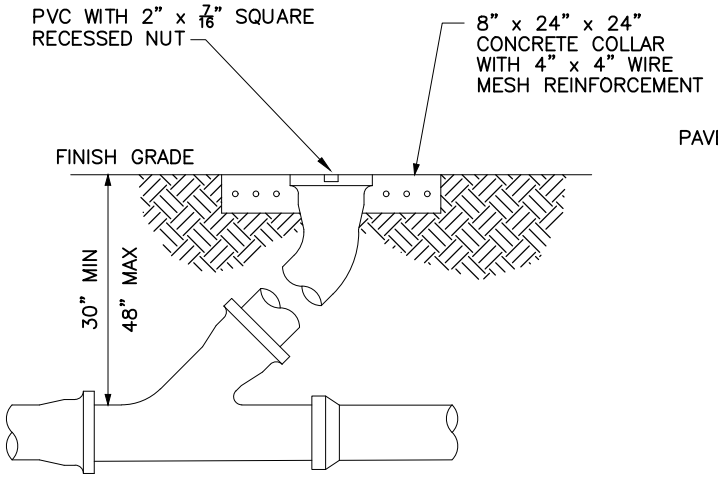
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

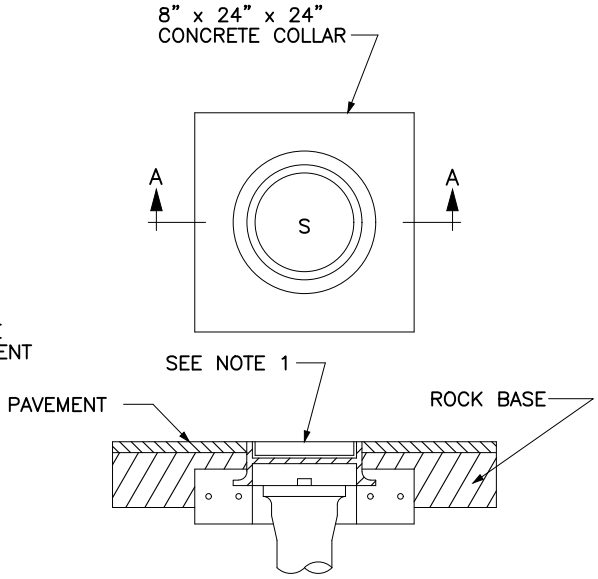
DATE APPROVED: January 26, 2018

DRAWING No. C-56



SECTION "A–A"

CLEAN OUT IN GREEN AREA



SECTION "A–A"

CLEAN OUT IN VEHICULAR OR PEDESTRIAN TRAFFIC AREA

NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. U.S. FOUNDRY NO. 7621 REVERSIBLE HANDHOLE RING AND COVER OR APPROVED EQUAL SHALL BE USED, COVER TO BE CAST WITH "S" IN THE CENTER.

2. CLEAN OUT REQUIRED ON ALL SERVICES AT PROPERTY LINE OR EASEMENT LINE WHERE APPLICABLE.

3. STANDARD WYE SHALL BE USED AT CLEAN OUT.

Sanitary Service Clean Out

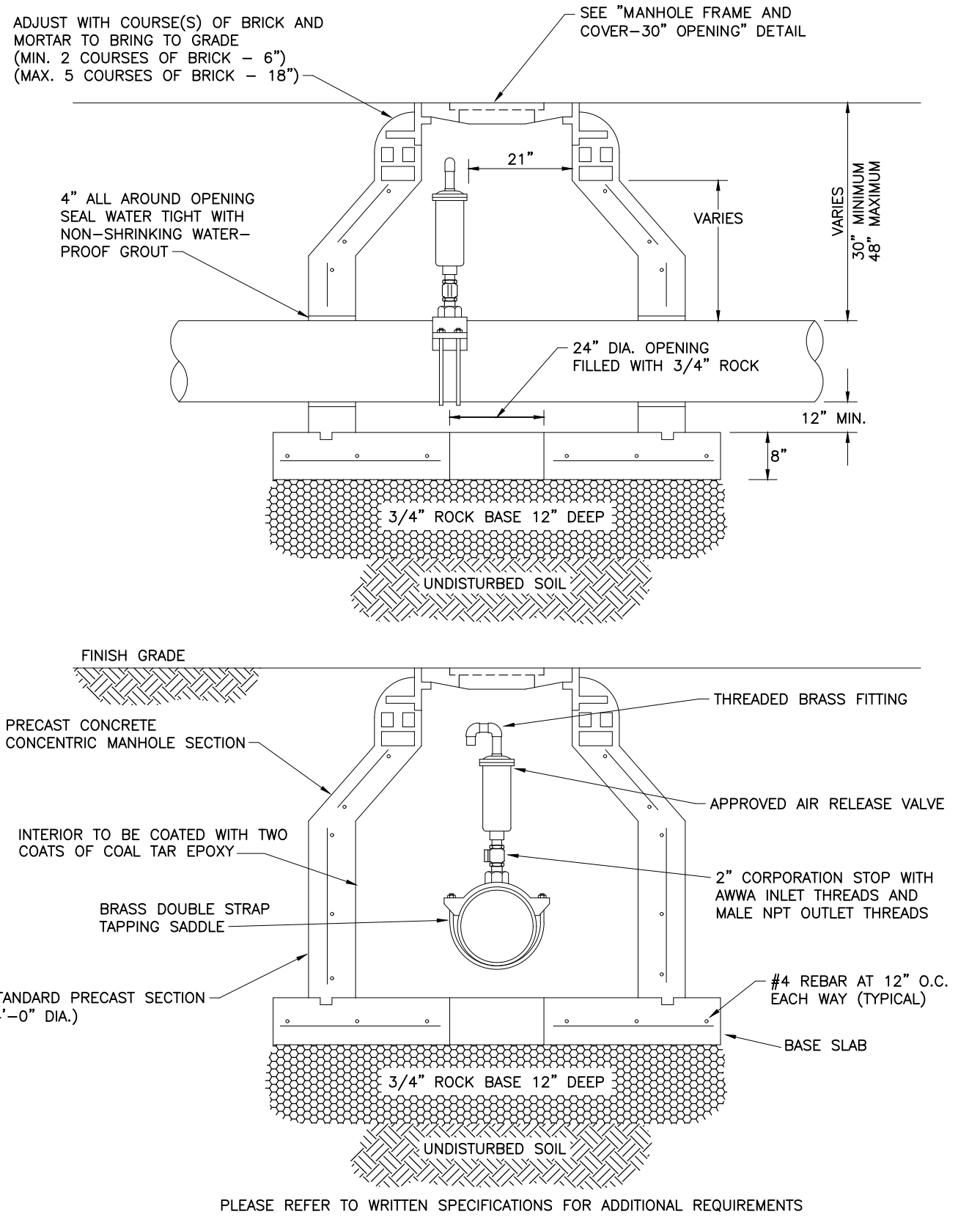
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-57



PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

Air Release Valve (Underground Force Main)

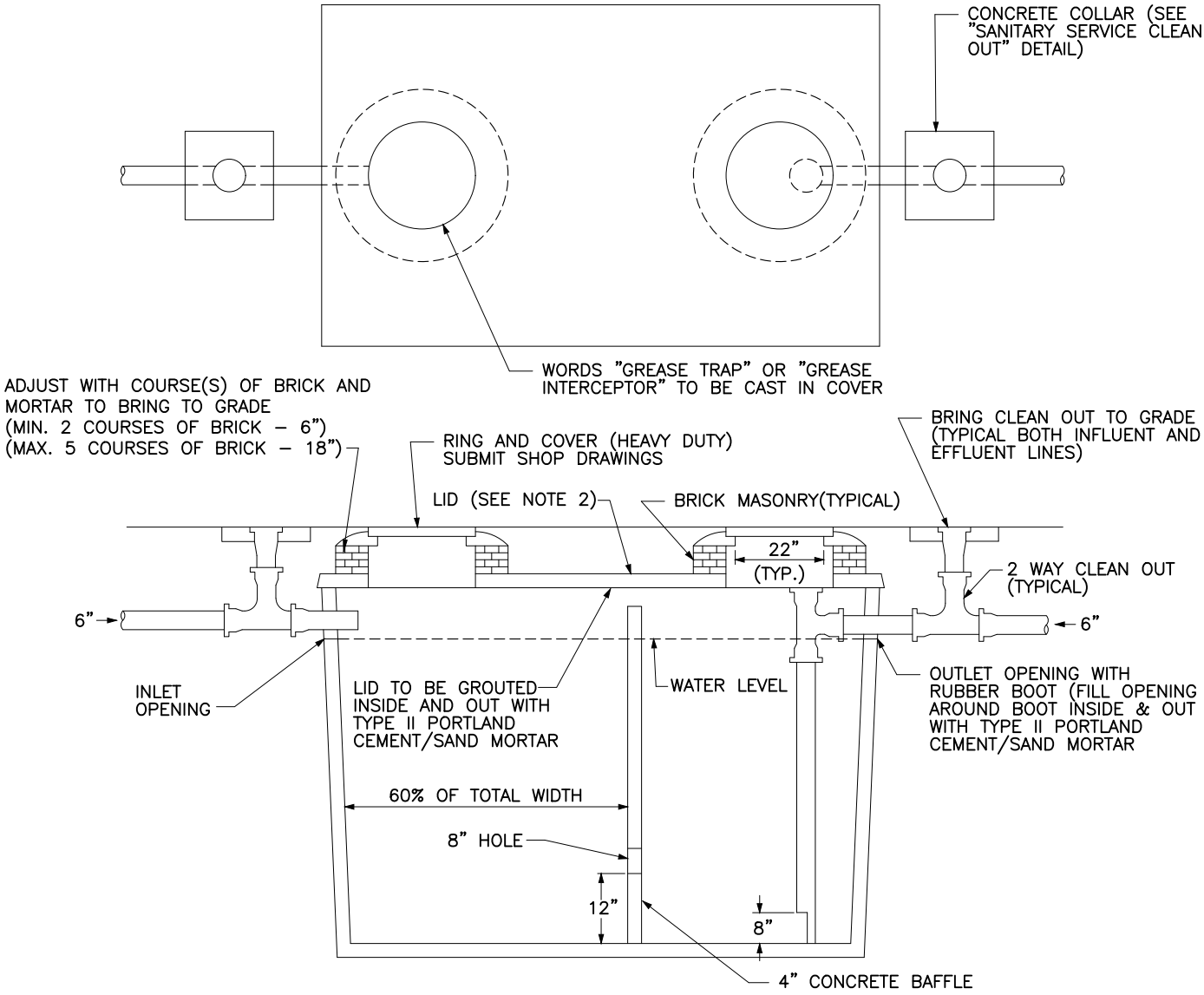
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-58



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. SHOP DRAWINGS FOR PRECAST TANKS SHALL BEAR THE FOLLOWING STATEMENT:"THIS CONCRETE STRUCTURE MEETS OR EXCEEDS ALL THE REQUIREMENTS FOR GREASE INTERCEPTORS/SEPTIC TANKS AS IN THE FLORIDA ADMINISTRATIVE CODE, CHAPTER 10D–6 AND 64E–6, AND SUA "SPECIFICATIONS AND STANDARDS". THE SHOP DRAWINGS (3 COPIES MINIMUM) SHALL THEN BE SIGNED AND SEALED BY THE ENGINEER OF RECORD AND FORWARDED TO SUA FOR APPROVAL.

2. LID TYPES:
   A) 4" REGULAR LID
   B) 8" TRAFFIC BEARING LID

3. ALL PIPING SHALL BE SOLVENT WELD PIPE.

4. ALL TANKS IN TRAFFIC AREA SHALL BE H2O WHEEL LOAD BEARING.

5. INSPECTION OF TANK REQUIRED BY SUA PRIOR TO PLACEMENT.

6. INSPECTION OF TANK REQUIRED BY SUA AFTER TANK IS PIPED.

7. TANKS IN SERIES SHALL HAVE BAFFLE IN LAST TANK ONLY.

Grease Trap

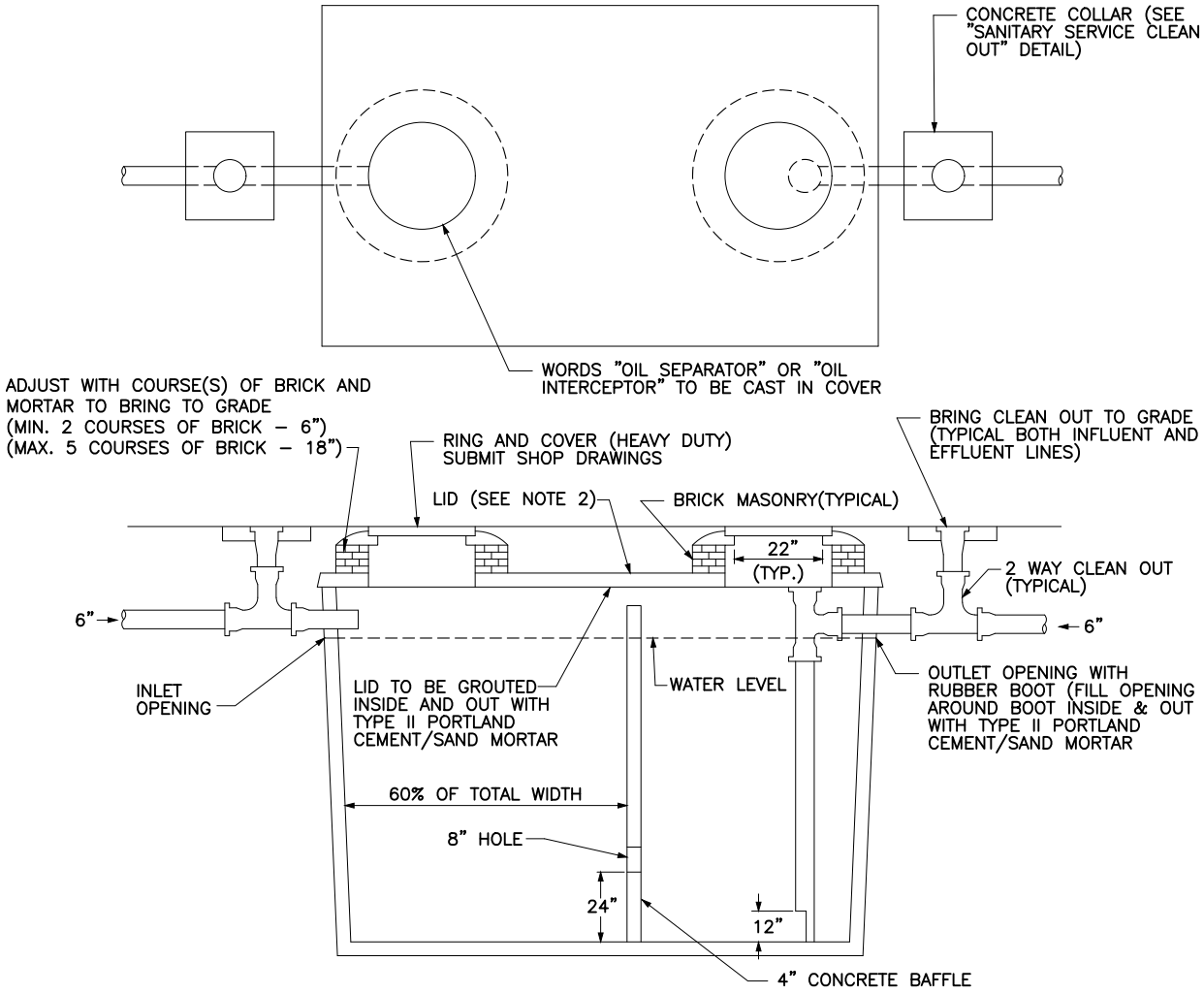
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-59



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. SHOP DRAWINGS FOR PRECAST TANKS SHALL BEAR THE FOLLOWING STATEMENT:"THIS CONCRETE STRUCTURE MEETS OR EXCEEDS ALL THE REQUIREMENTS FOR GREASE INTERCEPTORS/SEPTIC TANKS AS IN THE FLORIDA ADMINISTRATIVE CODE, CHAPTER 10D–6 AND 64E–6, AND SUA "SPECIFICATIONS AND STANDARDS". THE SHOP DRAWINGS (3 COPIES MINIMUM) SHALL THEN BE SIGNED AND SEALED BY THE ENGINEER OF RECORD AND FORWARDED TO SUA FOR APPROVAL.

2. LID TYPES:
   A) 4" REGULAR LID
   B) 8" TRAFFIC BEARING LID

3. INTERIOR PIPING SHALL BE SOLVENT WELD PVC PIPE.

4. ALL TANKS IN TRAFFIC AREA SHALL BE H20 WHEEL LOAD BEARING.

5. INSPECTION OF TANK REQUIRED BY SUA PRIOR TO PLACEMENT.

6. INSPECTION OF TANK REQUIRED BY SUA AFTER TANK IS PIPED.

Oil Seperator

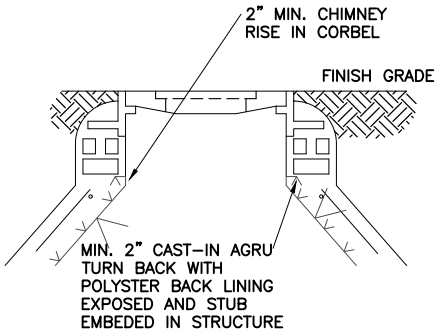
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

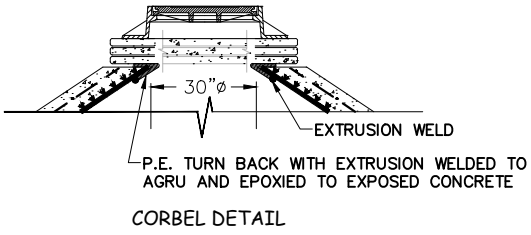
CONSTRUCTION STANDARDS AND DETAILS

Revision 1

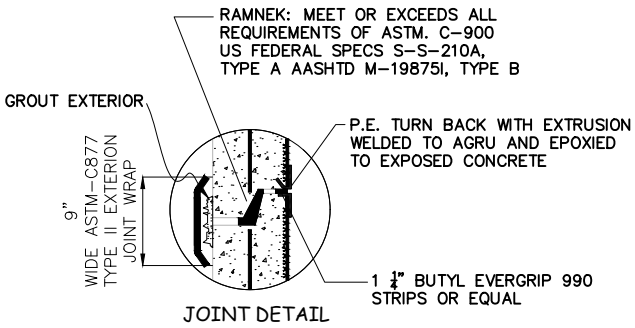
DATE APPROVED: January 26, 2018

DRAWING No. C-60

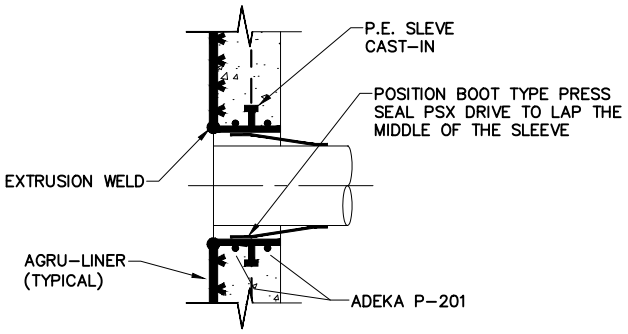




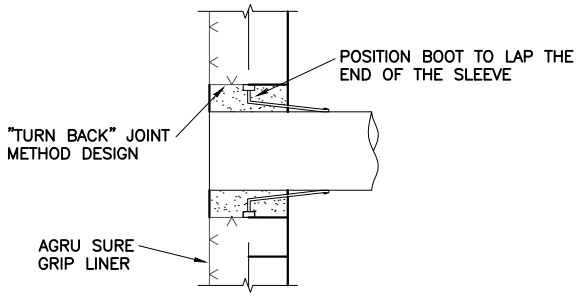
CORBEL DETAIL

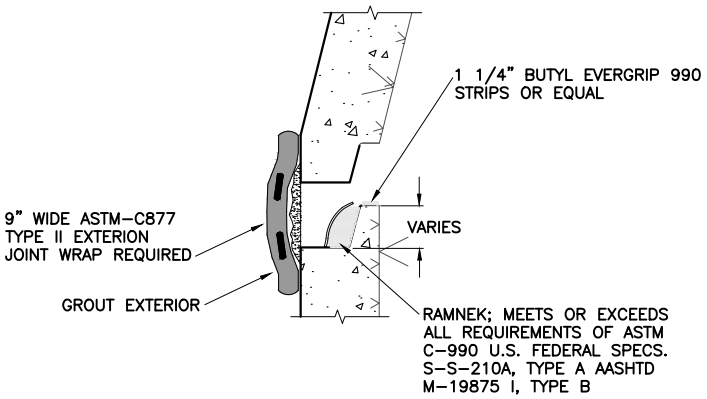


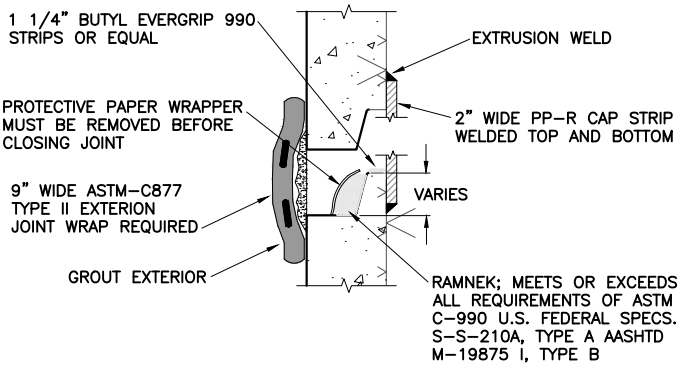
JOINT DETAIL

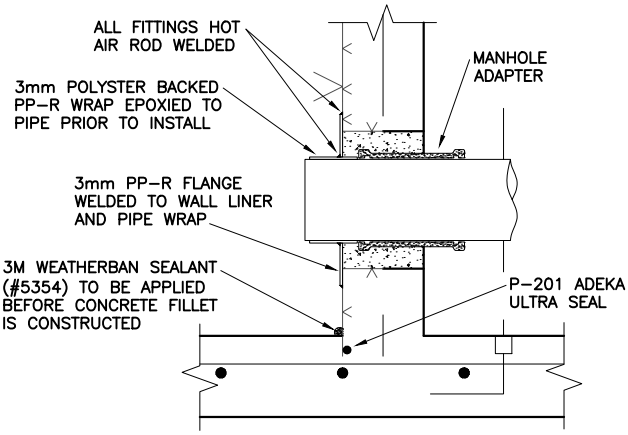


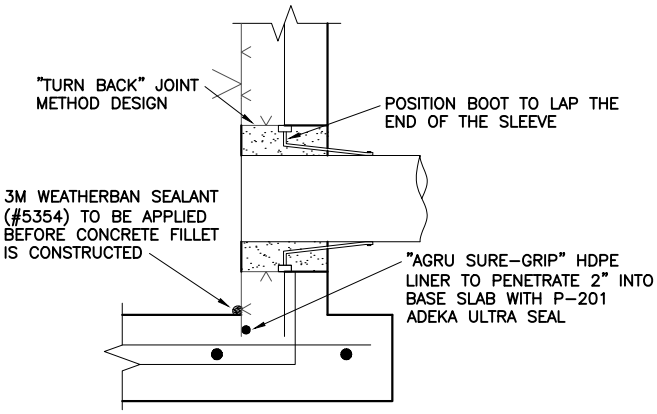
BOOT CONNECTION DETAIL











PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

Agru Sure Grip Liner Details

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

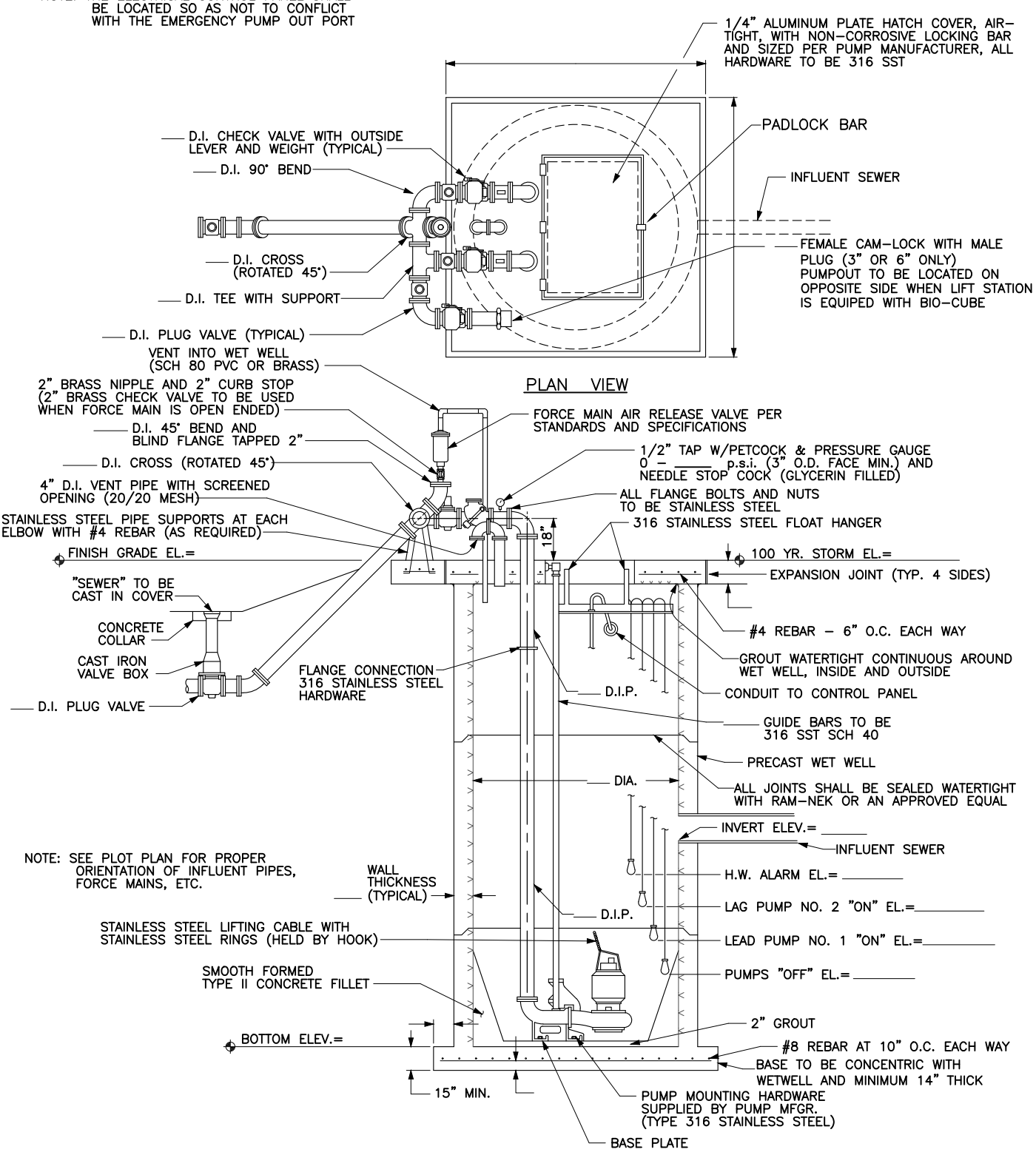
Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-61

PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

NOTE: THE ELECTRICAL CONTROL PANEL SHALL BE LOCATED SO AS NOT TO CONFLICT WITH THE EMERGENCY PUMP OUT PORT



SECTION THRU LIFT STATION

Lift Station Detail

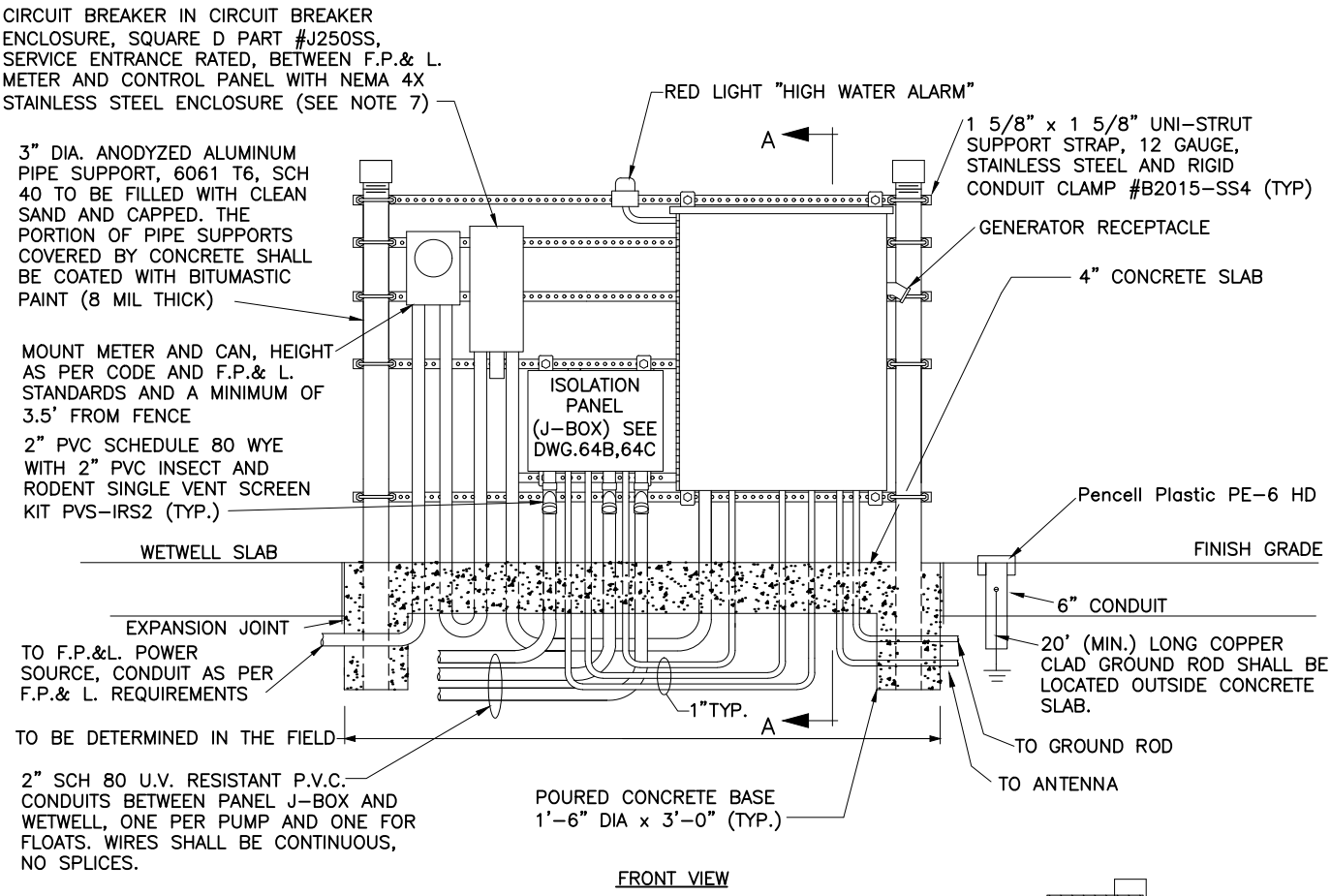
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

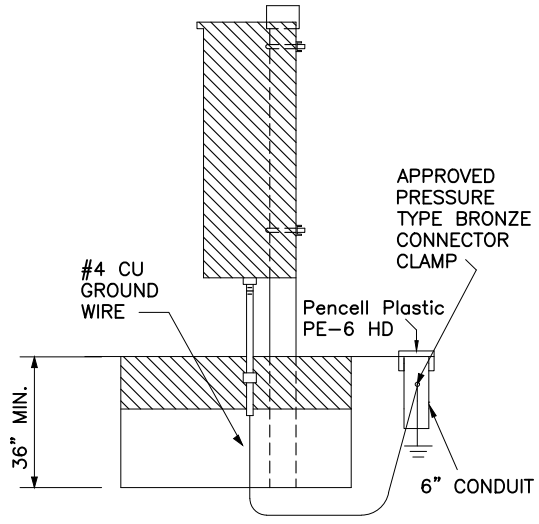
Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-63



FRONT VIEW



SECTION "A-A"

NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. ALL CONDUIT SIZES INCLUDING F.P.& L. SHALL BE SIZED FOR TWICE THE INSTALLED H.P. AMPACITY UNLESS OTHERWISE INDICATED.
2. ALL CONDUCTORS SHALL BE COPPER.
3. ALL CONDUIT OPENINGS IN J-BOX AND CONTROL PANEL SHALL BE SEALED AIR TIGHT.
4. CONDUITS BETWEEN CONTROL PANEL AND ISOLATION PANEL SHALL HAVE SEALING HUBS, APPLETON ES150-100 OR EQUIVALENT, AT THE ISOLATION PANEL.
5. CONTROL PANEL AND ANTENNA GROUND RODS TO BE UL LISTED COPPER CLAD STEEL ¾" THICK,
6. ALL PVC CONDUIT TO BE SCH 80 UV RESISTANT.
7. FOR LIFTSTATIONS UP TO 150 AMP:
   (a.) H()L36###(C) – MOLDED CASE CIRCUIT BREAKER, 3 POLE, 600 VAC FRAME, ### = CURRENT RATING (15-150 AMP)
   (b.) PDC3HD2 – POWER DISTRIBUTION CONNECTOR FOR H FRAME BREAKER (3 14-2AWG Cu)
   (c.) S37449 – H FRAME LONG LUG SHIELD

   FOR LIFTSTATIONS OVER 150 AMP:
   (a.) J()L36###(C) – MOLDED CASE CIRCUIT BREAKER, 3 POLE, 600 VAC FRAME, ### = CURRENT RATING (150-250 AMP)
   (b.) PDC3JD20 – POWER DISTRIBUTION CONNECTOR FOR J FRAME BREAKER (2 14-1AWG AND 1 3-2/0 Cu)
   (c.) S37450 – J FRAME LONG LUG SHIELD

Lift Station Control Panel (Single Door)

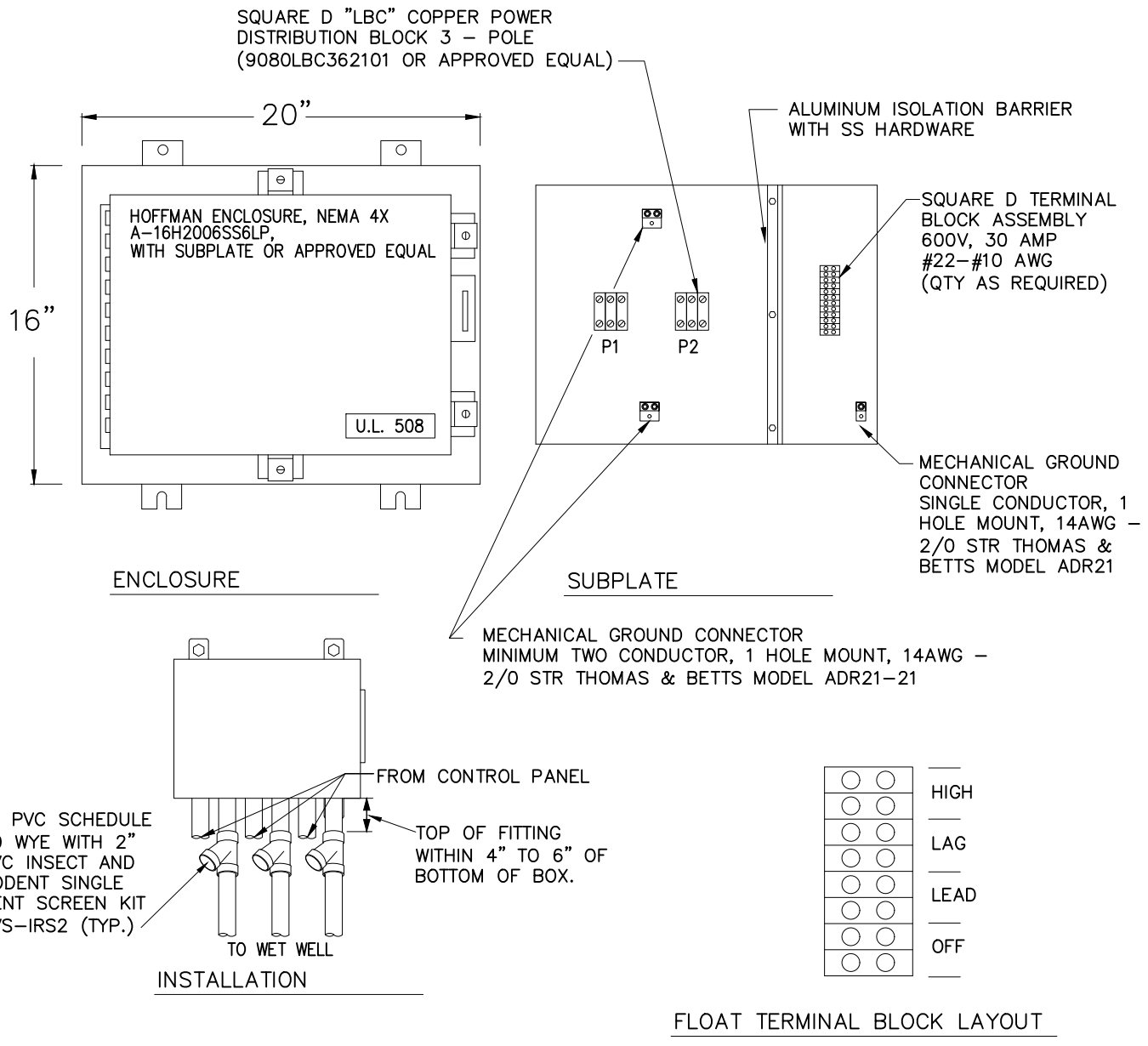
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-64a



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. SHOWN FOR GENERAL ARRANGEMENT PROVIDE EQUIPMENT AS INDICATED PER NUMBER OF PUMPS.

2. JUNCTION BOX SHALL BE PROVIDED BY THE SAME MANUFACTURER AS THE CONTROL PANEL AND SHALL BE U.L. 508 LISTED.

3. ALL CONTROL CABLES SHALL HAVE A SERVICE LOOP WITHIN J BOX AND CONTROL PANEL.

4. JUNCTION BOX ENCLOSURE SHALL BE NEMA 4X AND MINIMUM 16"H x 20"W x 6"D.

Duplex Lift Station Control Panel J-Box

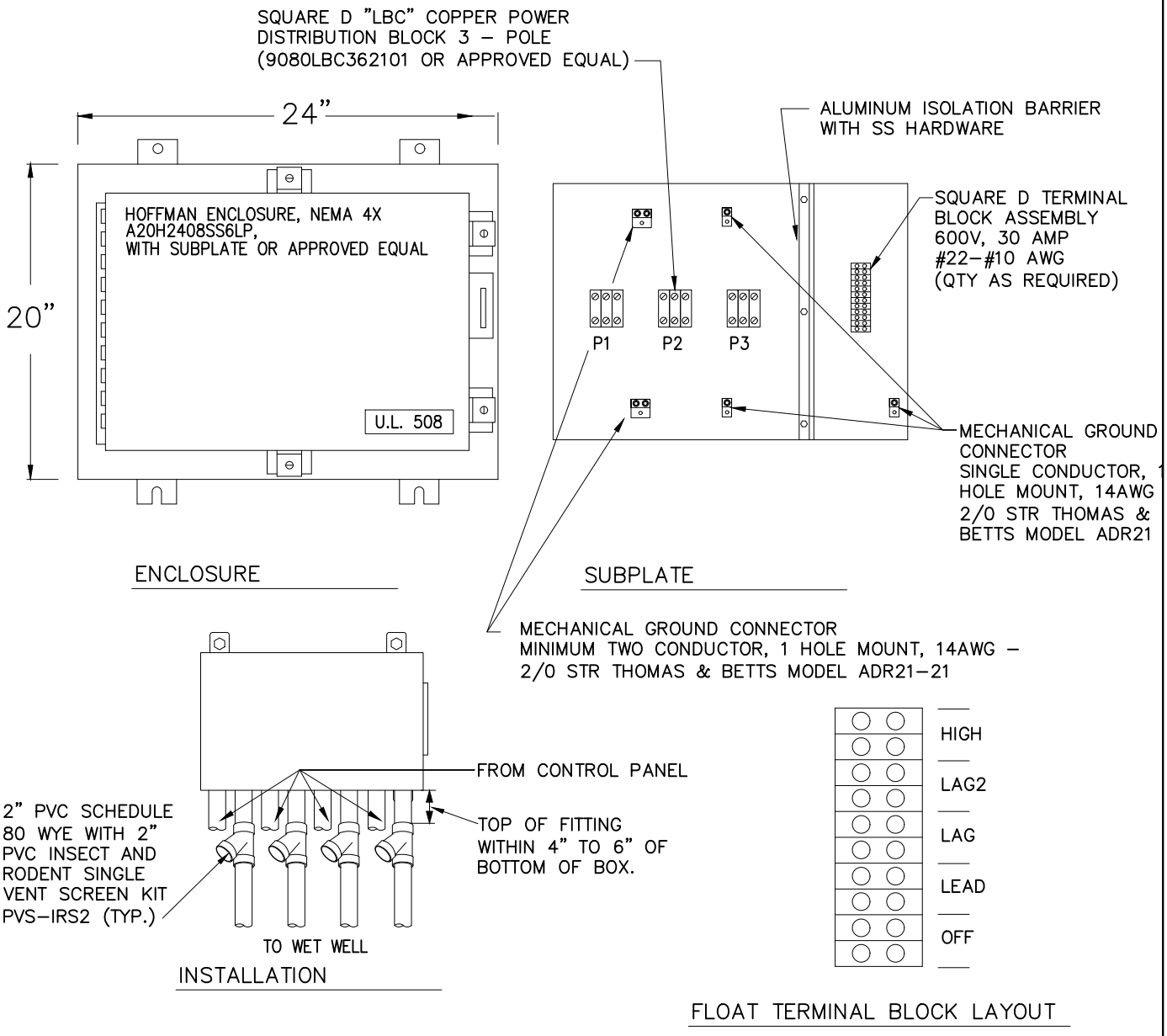
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-64b



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. SHOWN FOR GENERAL ARRANGEMENT PROVIDE EQUIPMENT AS INDICATED PER NUMBER OF PUMPS.

2. JUNCTION BOX SHALL BE PROVIDED BY THE SAME MANUFACTURER AS THE CONTROL PANEL AND SHALL BE U.L. 508 LISTED.

3. ALL CONTROL CABLES SHALL HAVE A SERVICE LOOP WITHIN J BOX AND CONTROL PANEL.

4. JUNCTION BOX ENCLOSURE SHALL BE NEMA 4X 20"H x 24"W x 8"D.

Triplex Lift Station Control Panel J-Box

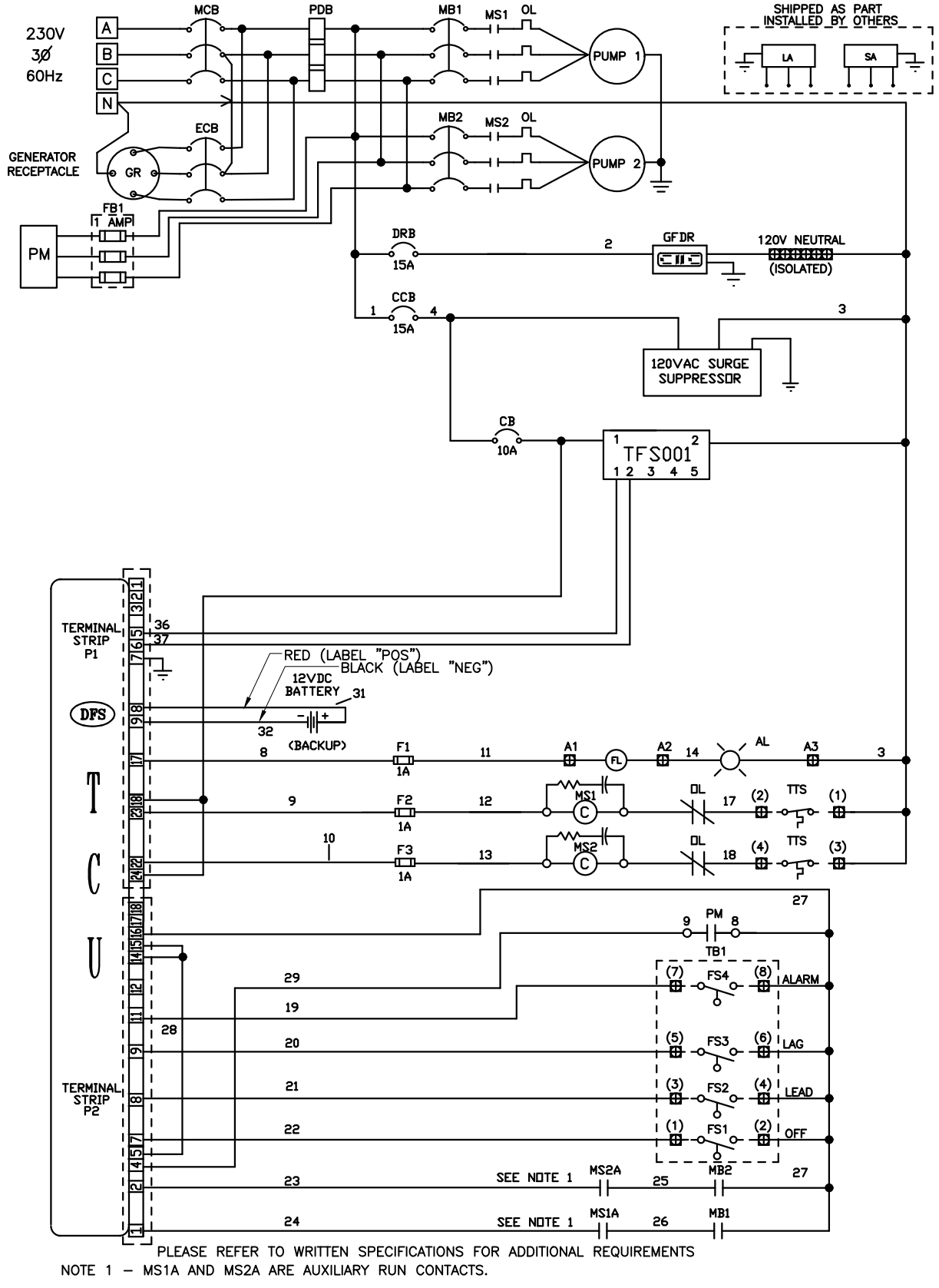
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-64c



PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

NOTE 1 – MS1A AND MS2A ARE AUXILIARY RUN CONTACTS.

Lift Station Control Panel Schematic - Duplex - 230V/3PH

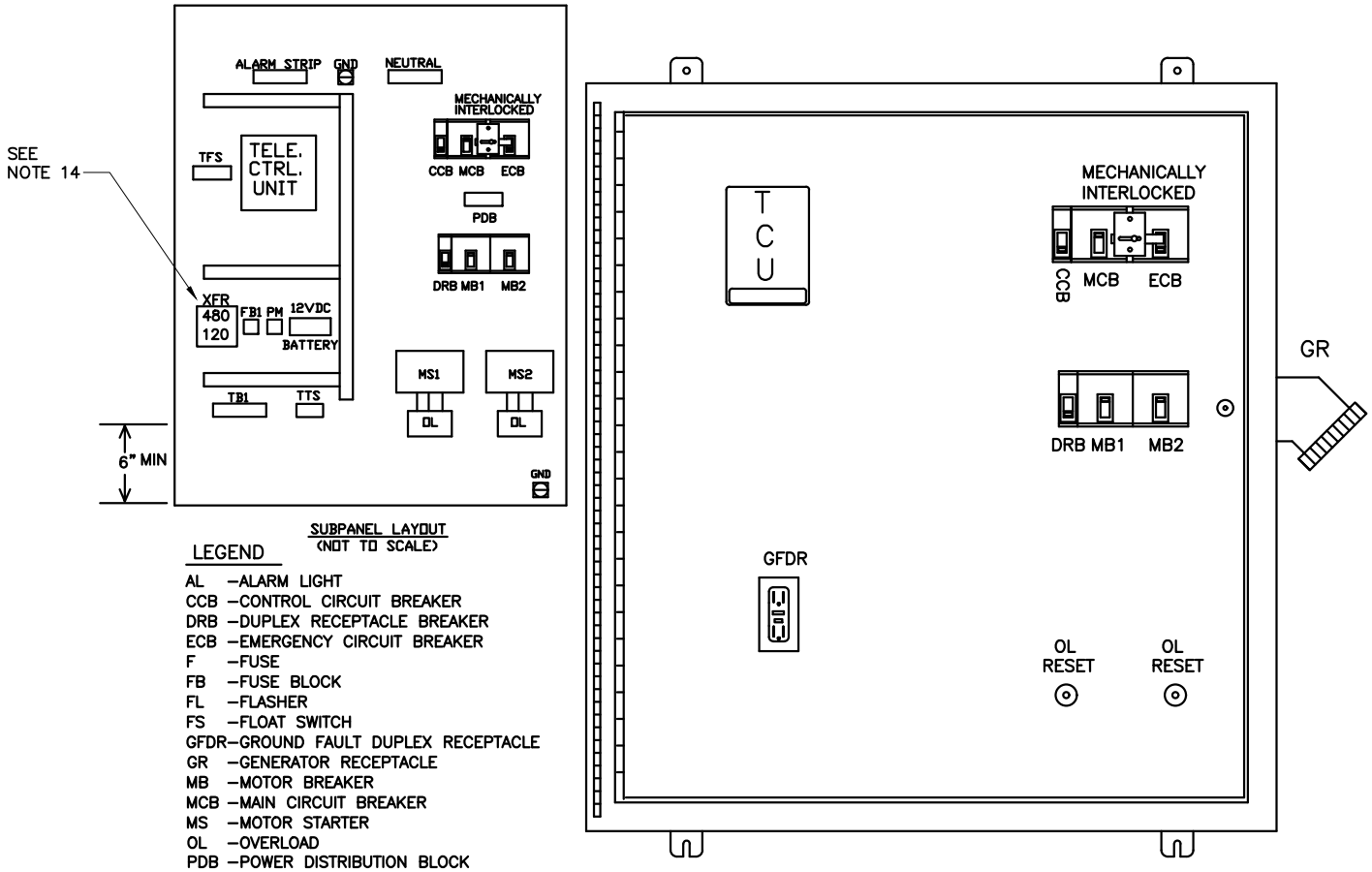
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-65a

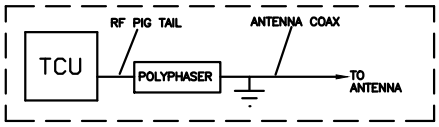


SUBPANEL LAYOUT
(NOT TO SCALE)

LEGEND

AL –ALARM LIGHT
CCB –CONTROL CIRCUIT BREAKER
DRB –DUPLEX RECEPTACLE BREAKER
ECB –EMERGENCY CIRCUIT BREAKER
F –FUSE
FB –FUSE BLOCK
FL –FLASHER
FS –FLOAT SWITCH
GFDR–GROUND FAULT DUPLEX RECEPTACLE
GR –GENERATOR RECEPTACLE
MB –MOTOR BREAKER
MCB –MAIN CIRCUIT BREAKER
MS –MOTOR STARTER
OL –OVERLOAD
PDB –POWER DISTRIBUTION BLOCK
TCU –TELEMETRY CONTROL UNIT
TB –TERMINAL BLOCK
TTS –THERMAL TERMINAL STRIP
XFR –TRANSFORMER(480V LIFTSTATION ONLY)

TCU/ANTENNA CONNECTION



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. TELEMETRY CONTROL UNIT SUPPLIED WITH PANEL. (ANTENNA SUPPLIED BY OTHERS)
2. MINIMUM ENCLOSURE 42x30x10.
3. LEAVE MINIMUM 6" SPACE AT BOTTOM OF ENCLOSURE.
4. U.L. LABEL, SERVICE ENTRANCE RATED.
5. CONTROL WIRE TO BE AWG 14 MINIMUM.
6. LAMINATED SCHEMATIC TO BE 11X17.
7. PROVIDE ADEQUATE SPACE FOR 12V DC BATTERY REPLACEMENT.
8. OUTER DOOR REMOVED TO SHOW DEAD FRONT LAYOUT.
9. NEMA TYPE 12M 316 S.S. ENCLOSURE WITH CONTINUOUS HINGE.
10. INCLUDES 3 PT. LATCH. (NOT SHOWN) AND DOOR STOPS ON OUTER DOOR AND DEAD FRONT.
11. ALL HARDWARE TYPE 316 S.S.
12. TYPICAL, ACTUAL LAYOUT MAY VARY WITH HORSEPOWER.
13. MOUNT RECEPTACLE IN GANG BOX TO PREVENT EXPOSURE OF LIVE CONDUCTORS AND CONTACTS.
14. 480/120 TRANSFORMER ONLY REQUIRED IN CONTROL PANELS WITH 480VAC SERVICE.

Lift Station Control Panel Dead Front Layout

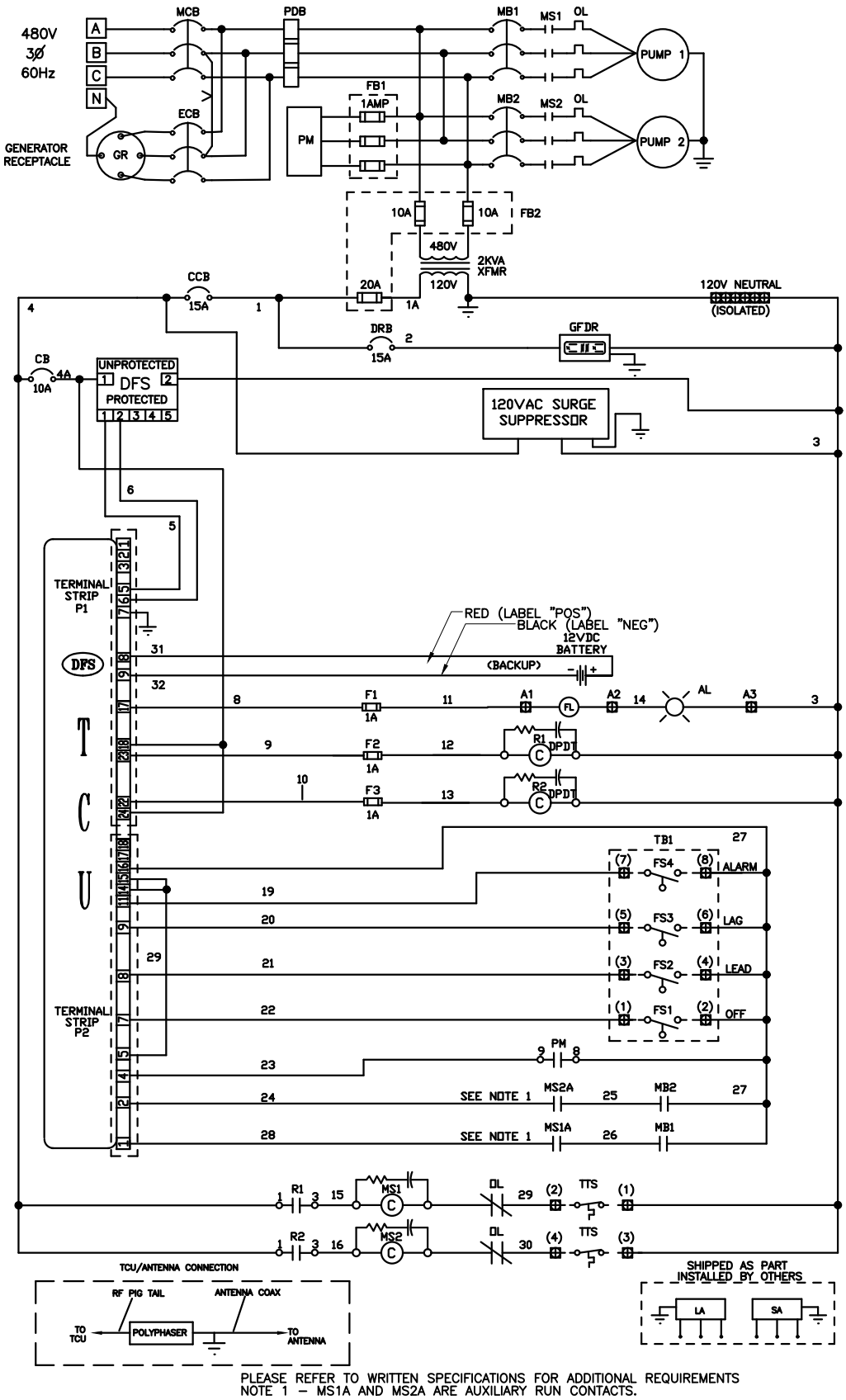
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-65b



PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS
NOTE 1 – MS1A AND MS2A ARE AUXILIARY RUN CONTACTS.

Lift Station Control Panel Schematic - Duplex - 480V/3PH

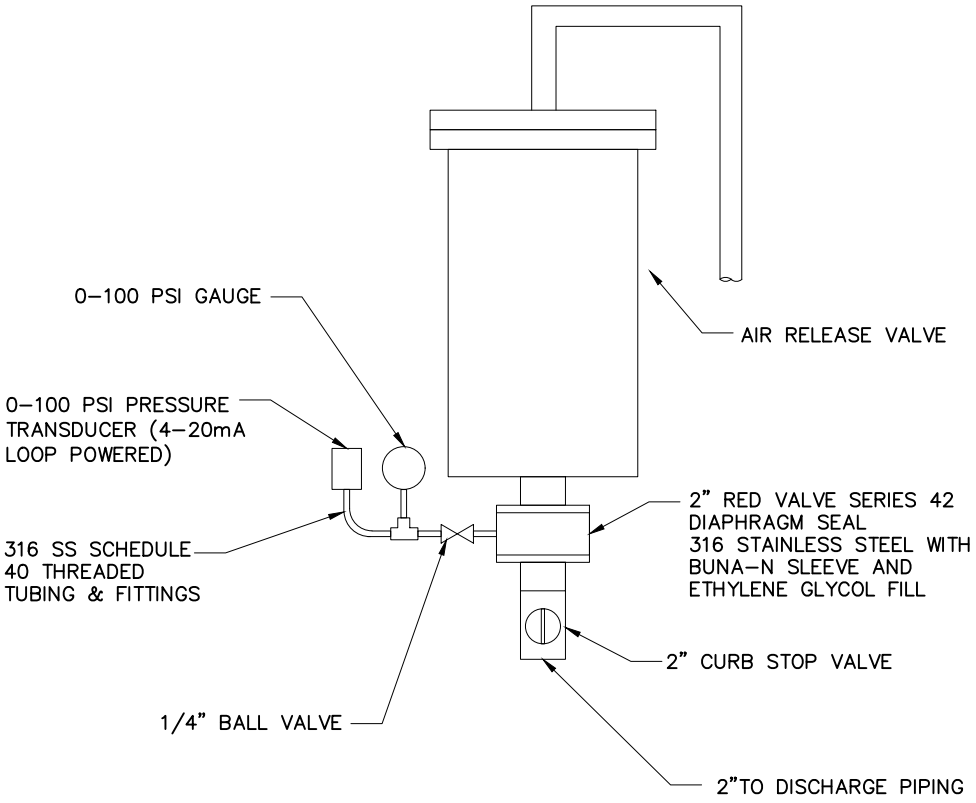
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

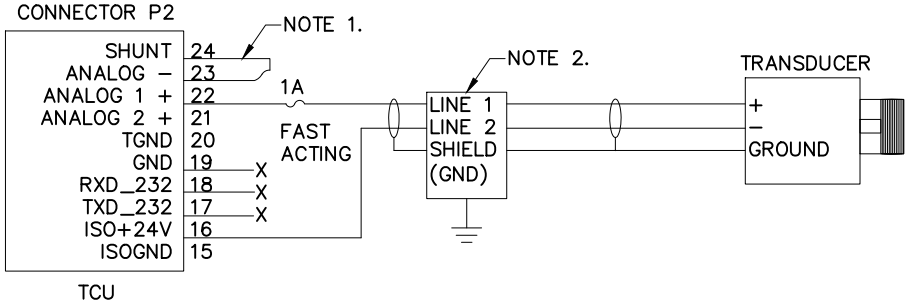
CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-65c





NOTES:
1. 4–20mA INTERFACE SHOWN. REMOVE JUMPER FROM P2–24 TO P2–23 FOR 0–5V INTERFACE.
2. SURGE ARRESTOR RECOMMENDED.
3. ANALOG IS BOUNDED INTERNALLY TO ISOGND.
4. THE ANALOG SHIELD WIRE MUST ONLY BE GROUNDED AT ONE END.
5. INSTALL AS DIRECTED BY POAPWS.

Diaphragm Seal, Pressure Gauge and Transducer Installation Detail

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-65d

PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

LEGEND	NOMENCLATURE	MANUFACTURER	PART NUMBER
AL	ALARM LIGHT	FEDERAL SIGNAL	LP3P-120R
CCB	CONTROL BREAKER	SQUARE D (X)	FAL 12###
CT1	CONTROL TRANSFORMER 480/120V	SQUARD D OR HEAVY DUTY	2000 VA
DR	DUPLEX RECEPTACLE (GFI)	HUBBELL	GFTR15SNAPWNA
DRB	RECEPTACLE BREAKER	SQUARE D (X)	FAL 12015
ECB	EMERGENCY BREAKER	SQUARE D (X)	THERMAL MAGNETIC MOLDED CASE
FB 1	FUSE X3	BUSSMAN-KTK	1 AMP WITH 600V FUSE BLOCKS
FB 2	FUSE X2	BUSSMAN-KTK	10 AMP WITH 600V FUSE BLOCKS
FB 2	FUSE	BUSSMAN-KTK	20 AMP WITH 250V FUSE BLOCK
F1 - F3	FUSE	BUSSMAN-MDL	1 AMP WITH 250V FUSE BLOCK
FS	FLOAT SWITCH	ANCHOR SCIENTIFIC	ROTO-FLOAT
GR 1	GENERATOR RECEPTACLE 100 AMP	APPLETON (X)	ADR1034RS W/SPRING DOOR
GR 2	GENERATOR RECEPTACLE 200 AMP	APPLETON (X)	AR20034RS
LA	LIGHTNING ARRESTOR	DELTA	LA303 (250V) OR LA603 (480V)
MB	MOTOR BREAKER	SQUARE D (X)	THERMAL MAGNETIC MOLDED CASE WITH AUX CONTACT
MCB	MAIN BREAKER	SQUARE D (X)	THERMAL MAGNETIC MOLDED CASE
M	MOTOR STARTER	SQUARE D (X)	8536 SERIES
OL	OVERLOADS	SQUARE D (X)	MELTING ALLOY WITH SO-4 AUX CONTACT
TCU	TELEMETRY CONTROL UNIT	DATA FLOW SYSTEMS (X)	
PM	PHASE MONITOR	DIVERSIFIED	SLA-XXX-ALE
SA	SURGE ARRESTOR	SQUARE D	SDSA3650
TB	TERMINAL BOARD	MARATHON	200 SERIES
GL	GROUND LUG-2 CONDUCTOR	THOMAS & BETTS	ADR 21-21
GL	GROUND LUG-SINGLE CONDUCTOR	THOMAS & BETTS	ADR 21
TCV	TCV SNAP-IN KIT	DATA FLOW SYSTEMS (X)	DFS-00392-008-09
PP	POLYPHASER	DATA FLOW SYSTEMS (X)	DFS-00392-008-01
RC	RC SNUBBER	DATA FLOW SYSTEMS	DFS-007-C084
GR1A	ANGLE ADAPTER	APPLETON (X)	AJA100
GR2A	ANGLE ADAPTER	APPLETON (X)	AJA200

NOTE: EQUIVALENT MAY BE USED EXCEPT WHERE MARKED BY (X)

Lift Station Control Panel Material List

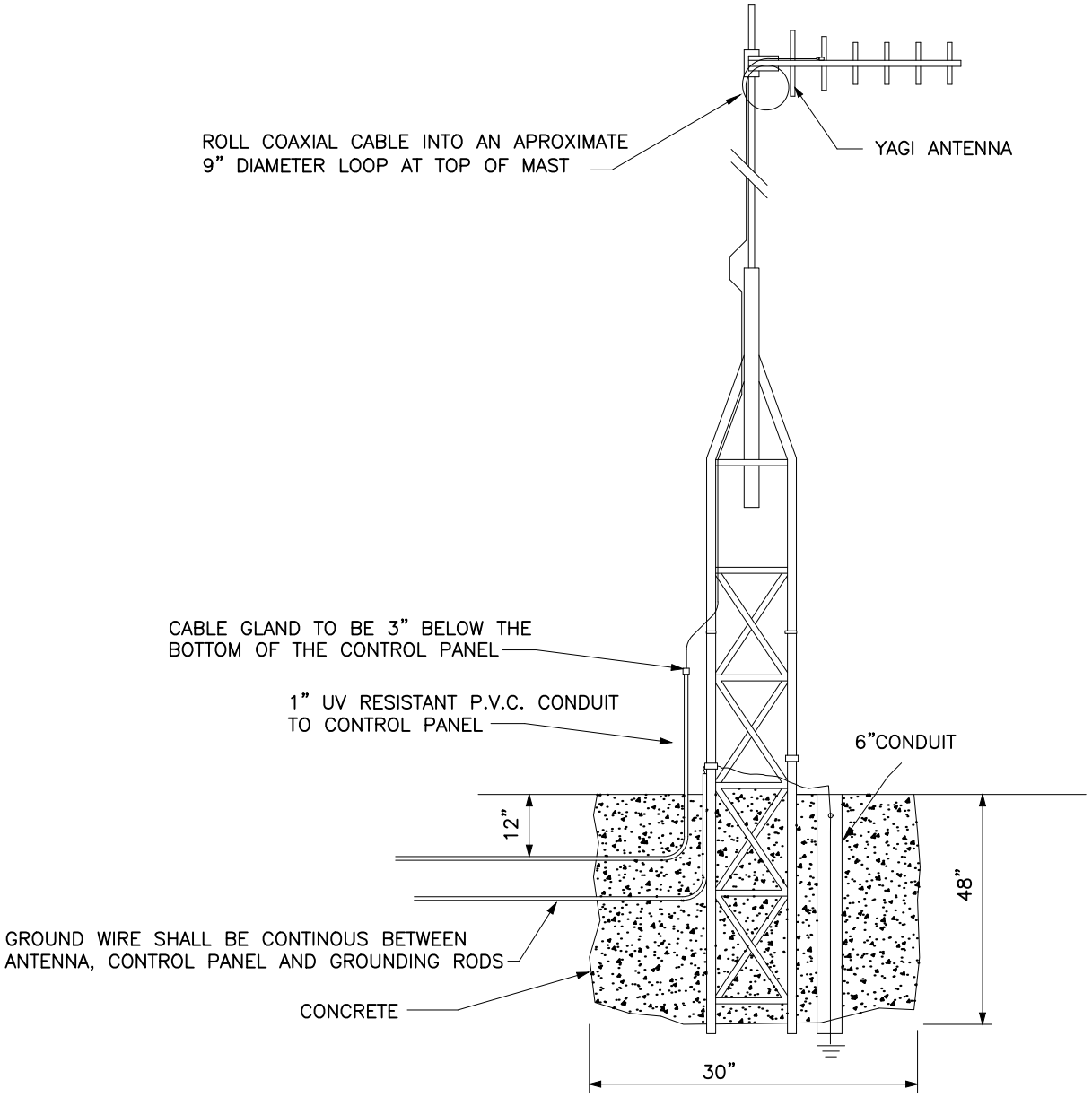
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-66



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. ANTENNA HEIGHT SHALL CONFORM TO F.C.C. AND TELEMETRY MANUFACTURERS REQUIREMENTS AND SPECIFICATIONS.
2. TELEMETRY ANTENNA AND RELATED EQUIPMENT AS MANUFACTURED BY DATA FLOW SYSTEMS, INC. SHALL BE COMPATIBLE WITH EXISTING SEACOAST UTILITIES AUTHORITY TELEMETRY SYSTEM.
3. GROUND WIRE SHALL BE CONTINOUS FROM FIRST GROUND ROD TO SERVICE DISCONNECT, TO CONTROL PANEL, TO ANTENNA BASE, TO SECOND GROUND ROD 6' TO 8' FROM FIRST GROUND ROD.
4. ANTENNA SHALL BE INSTALLED TO WITHSTAND 150 MPH WINDS.

Telementry Antenna General Requirements

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

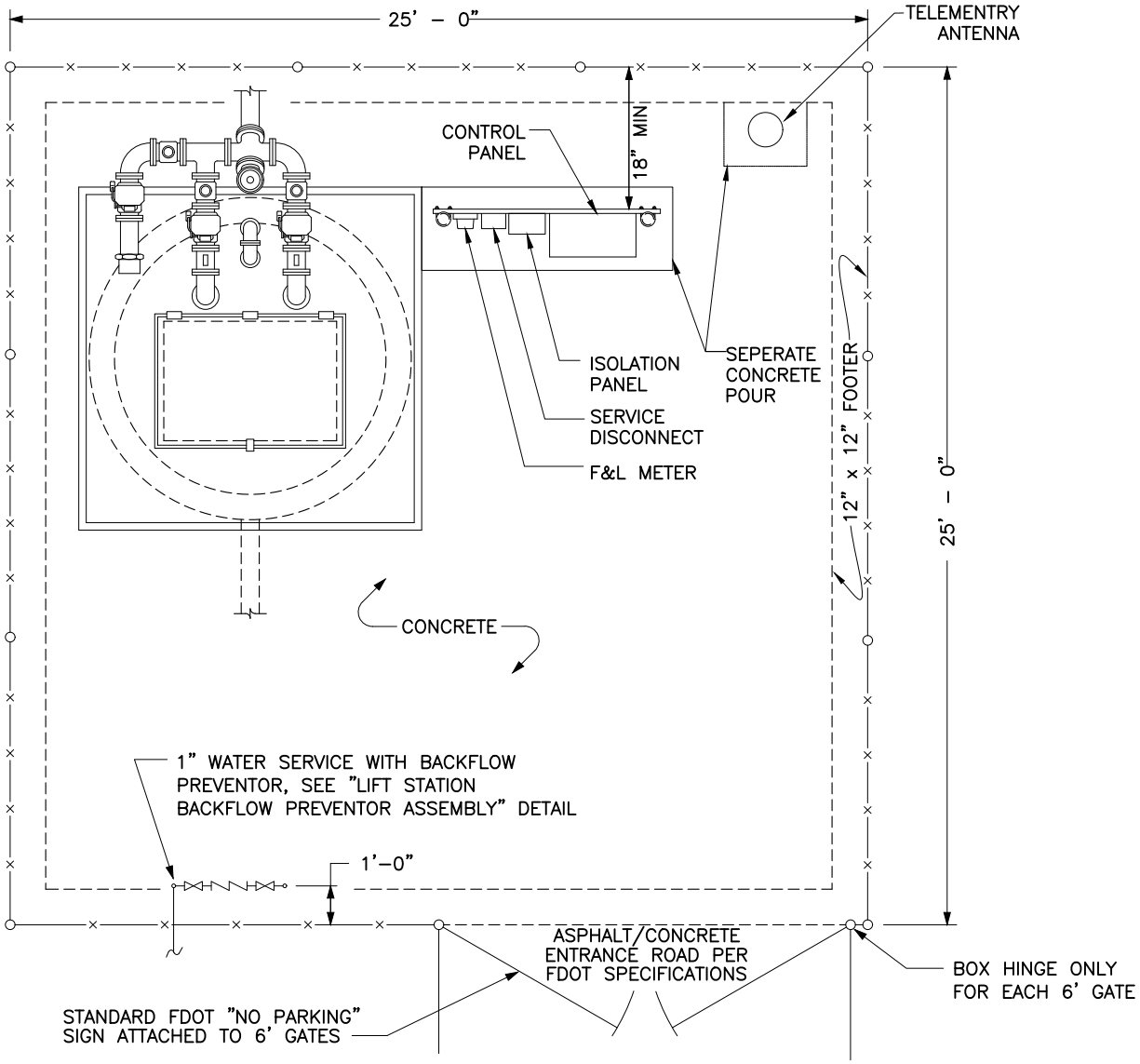
CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-67

THIS DRAWING DEPICTS A GENERAL SITE PLAN ONLY. THE ENGINEER OF RECORD SHALL COORDINATE THE SPECIFIC SITE PLAN REQUIREMENTS WITH THE PBPOC POA AND LDRB



NOTES: (PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS)

1. COLLECTOR MANHOLE SHALL NOT BE PLACED IN TRAVEL LANE OR AREAS THAT WOULD LIMIT ACCESS.
2. GROUND COVER WITHIN FENCED AREA SHALL BE 6" THICK CONCRETE (4000psi) WITH A 12" x 12" FOOTER AND 6" x 6" WIRE MESH AND BE SLOPED IN SUCH A WAY TO PROMOTE RUNOFF AND PREVENT PUDDLING.
3. LANDSCAPING SHALL BE A MINIMUM OF 2' FROM FENCE. TREE, TREE PLACEMENT AND LANDSCAPING SHALL CONFORM TO PBPOC POA SET BACK REQUIREMENTS AND BE APPROVED BY THE LDRB.
4. FENCE SHALL BE INSTALLED PER DETAIL 17.

Typical Lift Station Site Plan

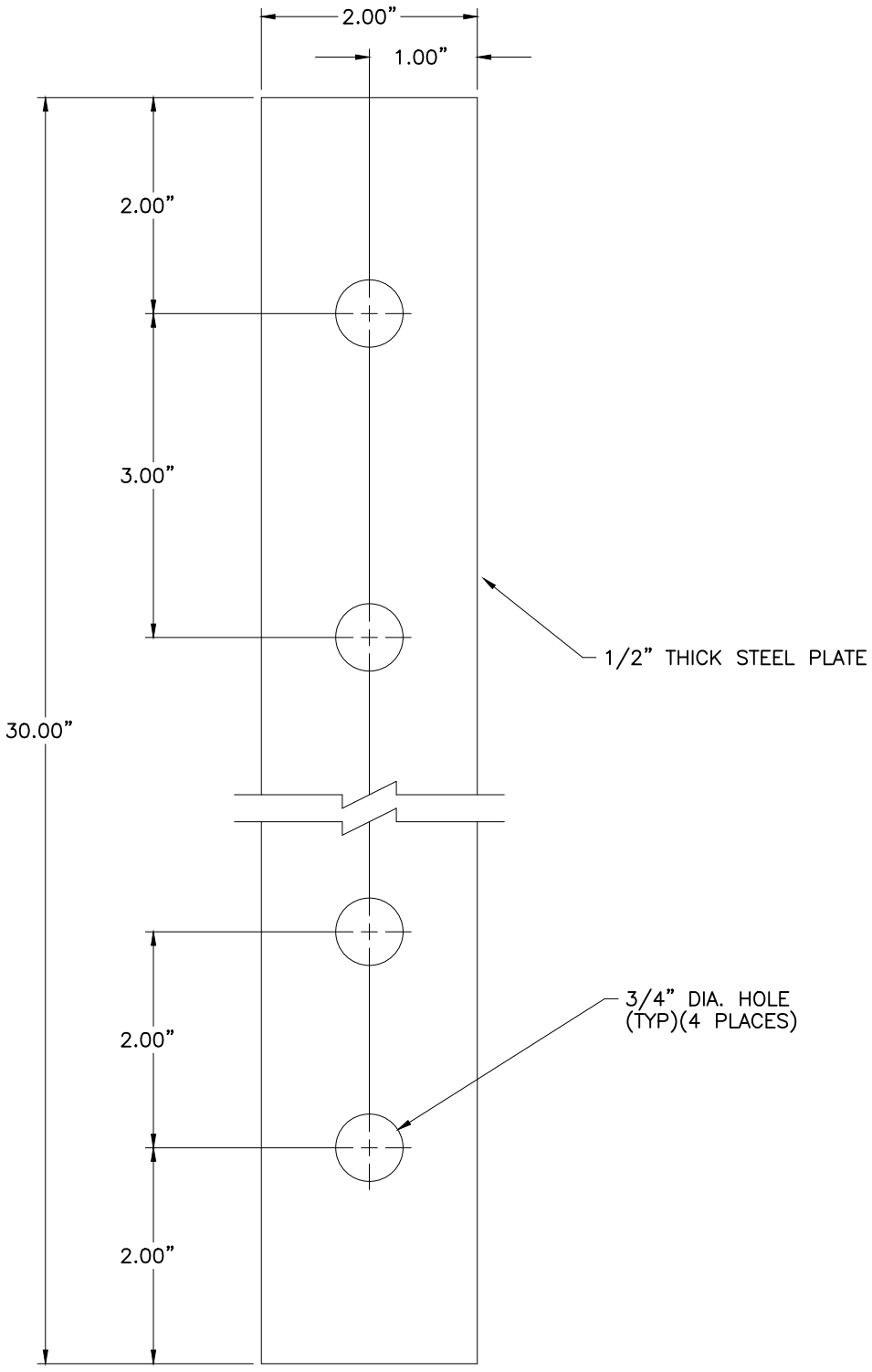
PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

DATE APPROVED: January 26, 2018

DRAWING No. C-68



PLEASE REFER TO WRITTEN SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS

Wet Well Section Retainer Strap

PALM BEACH PARK OF COMMERCE ASSOCIATION, Inc.

CONSTRUCTION STANDARDS AND DETAILS

Revision 1

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DRAWING No. C-69