

# **ATTACHMENT A**

## **APPROVED PRODUCTS**

### **Fire Hydrants 5 ¼" Valve Opening**

Add East Jordan Iron Works Fire Hydrants. Ease of maintenance and a local distributor. Three manufacturers on the list, including Mueller & Clow.

### **PE Pipe and Tubing**

Remove Endot poly. Product has not performed well. Add REHAU Municipex poly, which is a crosslinked polyethylene PEXa. Has tested extremely well. Two local distributors. Five PE manufacturers on the list.

### **Bronze Gate Valves**

Add EJ Gate Valves. They appear to be a much heavier built valve.

### **Manhole and Lift Station Linings**

Remove Con Shield Technologies, Inc. Four manufacturers remain on the list.

### **Manhole-Pipe Connection (Boot)**

Add PBX Press Seal Gasket Corp. Two manufacturers on the list.

### **Meter Boxes**

Add Glassmeter Pre-Plumbed Meter Boxes, Hubbell Meter Boxes. Three manufacturers on the list.

### **Lift Station and Manhole Sealant Coatings**

Add CANUSA WRAPID SEAL. Two manufacturers on the list.

## **UTILITY CONSTRUCTION PERMIT CHECKLIST**

### **POTABLE WATER DISTRIBUTION SYSTEM**

5. Removed requirement for record of amount of water used during construction. Added compaction density report to be signed by Florida PE.
9. Added new text for Backflow Preventer Certification(s). Proof required that certification has been filed in accordance with the County Cross Connection Control Program.

### **WASTEWATER COLLECTION/TRANSMISSION SYSTEM**

5. Added compaction density report to be signed by Engineer of Record.

## **DRAWINGS**

**W-1 FIRE HYDRANT VALVES:** Add Note 8, No reflective markers shall be placed in bike lanes.

**W-2 FIRE HYDRANT DETAILS:** Note 10, Remove reference to fire code. IRCUDS requires a greater clear zone.

**W-3 MANUAL 2" BLOW OFF:** Removed 2" downturn section from drawing. Removed Note side regarding IRCUDS constructing and removing downturn section.

**W-4 WATER SERVICE:** Add 90° ANGLE CURB STOP, outside of meter box. Add to drawing call out note “MARKER PAINTED BLUE” at property line. Add call out note “RUBBER GASKET REQUIRED”. Add a curb detail to each edge of the roadway and call out note, “ETCH CURB WITH “W” FOR WATER SERVICE”.

**W-5 WATER SERVICE (OUTSIDE OF RIGHT OF WAY):** Add 90° ANGLE CURB STOP, outside of meter box. Add to drawing call out note “MARKER PAINTED BLUE” at property line. Add call out note “RUBBER GASKET REQUIRED”. Add a curb detail to each edge of the roadway and call out note “ETCH CURB WITH “W” FOR WATER SERVICE”.

**W-6 METER BOX:** Add note 90° ANGLE CURB STOP, outside of meter box. Add note “IRCDUS may require radio read lid”. Removed Note 4, which referred to 2” meters. Re-number note list.

**W-6A TEMPORARY HOSE BIBB:** New drawing. A temporary hose bibb, on the customer side of the meter, allows for metered water service during the construction phase of the building. Hose bibb will be removed after construction and water service connection constructed.

**W-7 TYPICAL PRE-PLUMBED METER BOX:** Add Note 3 “Meter box lids with radio read lids may be required by IRCDUS”. Not shown in drawings. Rearranged drawing views for clarity.

**W-7A TYPICAL OPEN BOTTOM METER BOX:** New drawing. Open bottom meter boxes are acceptable for use by IRCDUS.

**W-9 FLUSHING CONNECTION:** Add to drawing an additional gate valve at the end of the flushing limits.

**W-10 DOUBLE-DETECTOR CHECK VALVE ASSEMBLY:** Add Note 4 “MINIMUM 4” SERVICES TAP REQUIRED WITH A 4” GATE VALVE”. Removed from the PLAN VIEW the 3’-0” dimension at the property line. Eliminated the footer on the concrete slab. Add the call out note “1/2” PREFORMED JOINT MATERIAL TO BE PLACED BETWEEN PIPE AND CONCRETE OR PIPE SLEEVE”.

**W-11 BACKFLOW PREVENTER:** Note 3 add NSF to existing list. Delete Note 5, regarding below ground installation. Renumber note list. Note 7, “RPZ’S SHALL BE INSPECTED, CERTIFIED AND REPORTED ON AN ANNUAL BASIS IN ACCORDANCE WITH THE INDIAN RIVER COUNTY CROSS CONNECTION CONTROL PROGRAM REQUIREMENTS”.

**W-12 MASTER METER COMBINATION ASSEMBLY:** Moved note “CUSTOMER RESPONSIBILITY” to the left. Add note “CUSTOMER SHALL BE RESPONSIBLE FOR ALL MAINTENANCE WITH THE EXCEPTION OF THE METER, WHICH IS THE PROPERTY OF IRCDUS”. Add note PLAN VIEW to read, “3’-0” MINIMUM CLEARANCE”. In ELEVATION VIEW, eliminated the footer on the concrete slab. Add note “1/2” PREFORMED JOINT MATERIAL TO BE PLACED BETWEEN PIPE AND CONCRETE OR PIPE SLEEVE”. Add note 7, “RPZ’S SHALL BE INSPECTED, CERTIFIED AND REPORTED ON AN ANNUAL BASIS IN ACCORDANCE WITH THE INDIAN RIVER COUNTY CROSS CONNECTION CONTROL PROGRAM REQUIREMENTS”.

**W-13 TEMPORARY JUMPER DETAIL:** Change call out note from “DOUBLE CHECK VALVE” to “2” RPZ BACKFLOW PREVENTER”. All notes were revised, duplicate notes removed, renumbered and continued into W-14.

**W-14 TEMPORARY JUMPER DETAIL:** Title block changed to read, “TEMPORARY JUMPER DETAIL NOTES – CONTINUED FROM W-13”. Note at top left of page “CONTINUED FROM W-13”. Renumber all notes. Revised Note 11 to read “THE CONTRACTOR SHALL PROVIDE DOCUMENTATION DEMONSTRATING THAT THE REDUCED PRESSURE ZONE BACKFLOW PREVENTOR (RPZ) IS IN GOOD WORKING ORDER AT THE TIME OF INSTALLATION, AND PROVIDE DOCUMENTATION THAT THE RPZ HAS BEEN TESTED BY A QUALIFIED BACKFLOW TECHNICIAN AS APPROVED BY IRCDUS. THE CONTRACTOR SHALL HAVE EACH RPZ TESTED PRIOR TO USE ON EACH PROJECT”.

**R-1 REUSE METER/VALVE-ASSEMBLY DETAIL:** In ELEVATION VIEW, eliminated the footer on the concrete slab.

**S-1 STANDARD LATERAL (SHALLOW SEWER):** In the ELEVATION VIEW, add a curb detail to each edge of the roadway. Add note “ETCH CURB ‘S’ FOR SEWER LATERALS”. The property lines have been moved to better illustrate the sewer laterals terminating in the easement or right of way and being the responsibility of IRCDUS. Added note “MARKER PAINTED GREEN”. The markers have been placed at the property line over the sewer lateral terminations. Added note in the PLAN VIEW “COVER WITH DETECTION TAPE SEE NOTE 2”. Added NOTE 6 “RISERS AND CLEANOUT SHALL NOT BE CONSTRUCTED WITHIN 12” OF SIDEWALK”.

**S-2 MODIFIED RISER LATERAL (DEEP SEWER):** In the ELEVATION VIEW, add a curb detail to each edge of the roadway. Add note “ETCH CURB WITH ‘S’ FOR SEWER LATERALS”. The property lines have been moved to better illustrate the sewer lateral terminating in the easement or right of way and being the responsibility of IRCDUS. The riser pipes have been shown in a light pen weight. Add NOTE 4 “PLUMBING CONTRACTOR SHALL BE RESPONSIBLE FOR RISER PIPE WITH BEND FOR SERVICE CONNECTION AND FOR SETTING 4” SEWER CLEANOUT TO FINISHED GRADE PRIOR TO CONNECTION”. Added NOTE 5, “RISERS AND CLEANOUT SHALL NOT BE CONSTRUCTED WITHIN 12” OF SIDEWALK”.

**S-3 SEWER LATERAL RISER – DETAIL:** In the ELEVATION VIEW, a sidewalk was added with a note, a property line and a dimension of 12” minimum. The sewer lateral has been shown in a light pen weight with a note to read “IRCDUS RESPONSIBILITY”. A phantom line and “CUSTOMER RESPONSIBILITY” has been added to delineate construction responsibility. (Riser pipes are the customer’s responsibility.) Add NOTE, “PLUMBING CONTRACTOR RESPONSIBLE FOR RISER PIPE & CLEAN OUT”.

**S-5 MANHOLE SPECIFICATIONS:** All notes were revised, duplicate notes removed and renumbered. Add NOTE 20, “ALL MANHOLES, LIFT STATION WET WELLS, VALVE VAULTS, JOINTS, AND COURSES OF BRICK SHALL BE SEALED”.

**S-6 MANHOLE SLAB TOP:** Add note “SEAL”. (Seal to be used at the joint between manhole body and top.)

**S-7 MANHOLE SLAB TOP:** Add note “SEAL”. (Seal to be used at the joint between manhole body and top.)

**S-8 MANHOLE STANDARD DEEP:** Add note “SEAL”. (Seal to be used at the joint between manhole sections, manhole body and top.)

**S-13 FORCE MAIN TIE-IN:** Add note "SEAL". (Seal to be used at the joint between manhole body and top.)

**S-14 TYPICAL WASTEWATER PUMPING STATION-WETWELL/VALVE VAULT PLAN VIEW:** Add note "LINER REQUIRED SEE S-20 NOTE 30". Wet well depth/diameter chart has been removed. See S-20. Add note to CONTROL PANEL "LOCATION OF CONTROL PANEL TO BE APPROVED BY IRCDUS SEE S-16 & S 17. TYPICAL PUPLEX PUMP CONTROL PANEL SEE S-18 & S-19. TYPICAL CONTROL PANEL NOTES S-20". Add note "ALL HARDWARE SHALL BE 316 STAINLESS STEEL. SEE S-20 FOR PUMP STATION GENERAL NOTES. SEE S-21 FOR PUMP STATION ELECTRICAL & EMERGENCY GENERATOR NOTES". Add note "(3) schedule 80 PVC cable conduits 2"Ø TO CONTROL PANEL (ENTIRE LENGTH) FOR #1 PUMP LEAD, #2 PUMP LEAD & FLOAT SWITCH". Add note "1" WATER SERVICE WITH REDUCED PRESSURE BACKFLOW PREVENTER AND HOSE BIBB TO BE FILED LOCATED".

**S-15 TYPICAL WASTEWATER PUMPING STATION-WETWELL/VALVE VAULT CROSS SECTION:** Add note "LINER REQUIRED (SEE S-20 NOTE 30)". Add note, "ALL HARDWARE SHALL BE 316 STAINLESS STEEL. SEE S-20 FOR PUMP STATION GENERAL NOTES. SEE S-21 FOR PUMP STATION ELECTRICAL & EMERGENCY GENERATOR NOTES". Wet well depth/diameter chart has been removed. Add note "½" PREFORMED JOINT MATERIAL TO BE PLACED BETWEEN PIPE AND CONCRETE OR PIPE SLEEVE". The top of the valve vault has been lowered so that the concrete apron surrounding vault is flush with wet well. Add note "SEAL" for wet well body and slab top. Add note "SEAL" between wet well body sections. The pump(s) float switch, on/off elevations have been revised for a more accurate depiction of the elevations required to prevent cavitation. Add note, "RISER PIPE FLANGE SHALL HAVE LOCK WASHERS".

**S-16 TYPICAL WASTEWATER PUMPING STATION-SITE PLAN:** A data flow tower has been added to each view. Add note "DATA FLOW TOWER TO BE APPROVED BY IRCDUS". Add note to each view, "EMERGENCY GENERATOR, SEE NOTE 2, and SEE S-21 GENERATOR NOTES. Add note to each view "REINFORCED CONCRETE SLAB 6" THICH (MINIMUM). FINISHED ELEVATION OF PAD TO BE 4" ABOVE FINISHED GRADE ELEVATION".

**S-17 TYPICAL WASTEWATER PUMPING STATION-ELECTRIC SERVICE ENTRANCE (METER/PANEL BOX):** New drawing, based in part on S-18 MARCH 2014. The drawing details the electrical service specifications. It illustrates the conduits required, generator receptacle, meter can, etc.

**S-18 TYPICAL WASTEWATER PUMPING STATION DUPLEX PUMP-ELECTRIC CONTROL PANEL (BACK PANEL LAYOUT):** New drawing that details the panel requirements.

**S-19 TYPICAL WASTEWATER PUMPING STATION DUPLEX PUMP-ELECTRIC CONTROL PANEL (INNER DOOR LAYOUT):** New drawing that details the panel requirements.

**S-20 TYPICAL WASTEWATER PUMPING STATION GENERAL NOTES:** New drawing. All wastewater pumping station notes were revised, duplicate notes removed, renumbered and placed on a dedicated page. All wastewater pumping station drawings reference S-20 and S-21.

**S-21 TYPICAL PUMPING STATION ELECTRICAL & GENERATOR NOTES:** New drawing. PUMP STATION ELECTRICAL NOTES are comprised of previous electrical notes and expanded into a specification requirement for constructing an IRCDUS lift station. EMERGENCY GENERATOR NOTES were placed under a separate heading as well. The EMERGENCY GENERATOR NOTES

reference Section 17, ENGINE DRIVEN GENERATOR SETS. All pump station drawings reference S-20 and S-21.

**M-1 TRENCH DETAIL (UNPAVED EASEMENTS):** Add note "COMPACTION DENSITY REPORT, SIGNED AND SEALED BY A FLORIDA LICENSED PE, REQUIRED". Drawing revised to mirror Public Works construction and restoration requirements.

**M-2 TRENCH DETAIL (PAVED AREAS & SHOULDERS):** Add note "COMPACTION DENSITY REPORT, SIGNED AND SEALED BY A FLORIDA LICENSED PE, REQUIRED". Drawing revised to mirror Public Works construction and restoration requirements.

**M-5 VALVE AND BOX:** Add NOTE 1 "VALVE BOXES SHALL BE CONSTRUCTED PER MANUFACTURER SPECIFICATION". Add NOTE 2 "THE USE OF A PVC RISER IS NOT ACCEPTABLE". All notes were revised and renumbered.

**TYPE I VIEW (PAVED AREA):** Add to the drawing to have trace wire added over top pipe. Dimension top, left changed from 12" maximum to "24" MAXIMUM WITH OR WITHOUT EXTENSION". Refers to the use of valve extensions. Revised note to read "SLIDE TYPE VALVE BOX H-20 LOAD RATING". (There is no trace wire port in this view because it would be under pavement. Trace wire is to be left in the valve box lid.) Add NOTE 9 "VALVE BOX LID LOCATED IN PAVEMENT SHALL BE A MINIMUM 24 LBS. WITH A MINIMUM 6" LONG THROAT".

**TYPE II (UNPAVED AREA):** Drawing has been revised to eliminate the long throat valve box lid. (Long throat not required in an unpaved area. No traffic.) Add note "WIRE PORT BOX 2"Ø TO HOUSE TRACE WIRE (SEE APPROVED MANUFACTURERS' PRODUCT LIST)". The 8" dimension referring to the thickness of the valve pad has been revised to read 6". Add NOTE 11 "VALVE BOX SHALL COMPLY WITH FDOT STANDARDS AS APPLICABLE". Add NOTE 12 "VALVE EXTENSIONS OVER 36" REQUIRE IRCDUS ENGINEERING APPROVAL". Add NOTE 13 "VALVE SPACING ON WATER MAINS SHALL NOT EXCEED 1000' MAXIMUM".

**M-6 VALVE BOX PAD:** Note that references valve box pad thickness was broken into two notes. One for 36"x36"x8" thick. One for 24"x24"x6" thick. The 24x24 pad thickness was reduced from 8" to 6". Note 1 was revised to include "RED-FIRE HYDRANTS".

**M-7 AIR RELEASE VALVE MANHOLE BELOW GROUND:** Add note "SEAL-SEE NOTE 6". Add NOTE 6 "SEAL SHALL BE USED AT ALL JOINTS. SEE DRAWING S-5, NOTE 21". Add note "MANHOLE COATING. SEE NOTE 2."

**M-8 AIR RELEASE VALVE ABOVE GROUND:** The larger 4" air release valve has been removed from the drawings. Add NOTE 4, "FOR AIR RELEASE VALVES LARGER THAN 2" CONSULT IRCDUS". Material notes call out stainless steel (or brass for nuts).

**M-14 AS-BUILT DRAWING (EXAMPLE):** The drawing elements were rearranged for clarity. The large note in the upper right was scaled down, edited and placed next to title block. Add note, in red highlight, "INFO REQUIRED FOR SERVICE SADDLE AND CORP STOP". Add note, bottom right, in red highlight, "ALL REQUIRED AS-BUILT INFORMATION SHALL HAVE OFF-SET AND STATE PLANE STATION NUMBERS".

**M-15 AS-BUILT RECORD GENERAL INFORMATION REQUIREMENTS:** All As-Built Record Drawing notes were revised, duplicate notes removed and renumbered. A larger font has been

used for clarity. Note 8, revised to read, "ALL INCOMING AS-BUILT RECORD DRAWINGS (24"X36") SHALL STATE IN 1" LETTERING "AS-BUILT" AND THE DATUM USED IN 1" LETTERING IN THE LOWER RIGHT HAND SIDE OF THE DRAWING ORIGINAL AND/OR COPIES ALONG WITH AS-BUILT DATE. ALL INCOMING AS-BUILT RECORD DRAWINGS SHALL BE RECEIVED ON A CD, AS AN ELECTRONIC COPY, AUTOCAD 2015 FORMAT, OR LATEST VERSION, WITH A TIE TO A MINIMUM OF TWO (2) STATE PLANE COORDINATES. (NOTE: PRIOR TO SUBMITTING THE ELECTRONIC COPY, ONE (1) COPY OF EACH AS-BUILT SHALL BE SUBMITTED FOR REVIEW AND APPROVAL. AFTER ALL APPROVALS, (3) **THREE** (24"X36") SIGNED AND SEALED COPIES OF EACH AS-BUILT SHALL BE SUBMITTED. ALL AS-BUILT RECORD DRAWINGS SHALL BE IN A MINIMUM SCALE OF 1"=40'.

**M-16 AS-BUILT RECORD GENERAL INFORMATION REQUIREMENTS (CONTINUED):** New drawing. All As-Built Record Drawing notes were revised, duplicate notes removed and renumbered. A larger font has been used for clarity, which required two pages for listing.

**M-17 AS-BUILT RECORD SURVEY REQUIREMENTS:** New drawing. This drawing is a scope of service requirements for IRCDUS route surveys received from Continuing Services Engineering firm.