

## **SECTION 3.9 - WASTEWATER SYSTEM STANDARD DETAILS LISTING**

### **GENERAL**

- 1S OIL/GREASE INTERCEPTOR
- 2S SAND/OIL INTERCEPTOR
- 3S GREASE TRAP
- 4S POTABLE WATER MAIN, WASTEWATER MAIN & STORM SEWER CONFLICT
- 5S POTABLE WATER/FORCE MAIN PRESSURE PIPE CONFLICT
- 6S OPEN CUT PIPE INSTALLATION - NON-THOROUGHFARE ROAD
- 7S OPEN CUT PIPE INSTALLATION - THOROUGHFARE ROAD
- 8S TYPICAL TRENCH DETAIL & ROOT BARRIER INSTALLATION
- 9S WASTEWATER SYSTEM STANDARD CUT IN DETAILS
- 10S PRESSURE TEST CRITERIA FOR GRAVITY WASTEWATER MAIN IN WELL FIELD AND FORCE MAIN
- 11S TYPICAL CLEANOUT INSTALLATION
- 12S TYPICAL WASTEWATER SERVICE CONNECTIONS

### **GRAVITY SEWER MANHOLES WITHOUT CAST-IN WALL LINER**

- 13S STANDARD MANHOLE
- 14S SHALLOW MANHOLE
- 15S DROP CONNECTION PRECAST MANHOLE
- 16S INVERT FLOW CHANNELS
- 17S GRAVITY SEWER MANHOLE FRAME & COVER

### **GRAVITY SEWER MANHOLES WITH CAST-IN WALL LINER**

- 18S STANDARD MANHOLE WITH CAST-IN LINER
- 19S SHALLOW MANHOLE WITH CAST-IN LINER
- 20S OUTSIDE DROP MANHOLE WITH CAST-IN LINER
- 21S PIPE TO MANHOLE CONNECTION - TYPE "A"
- 22S PIPE TO MANHOLE CONNECTION - TYPE "B"
- 23S PIPE TO MANHOLE CONNECTION - TYPE "C"
- 24S PIPE TO MANHOLE CONNECTION FOR CORE DRILLED INVERT
- 25S PIPE TO DROP MANHOLE CONNECTION - LOWER INVERT
- 26S BASE MANHOLE SECTION WATERSTOP DETAIL
- 27S TURN BACK JOINT INSTALLED PRIOR TO CAST
- 28S TURN BACK JOINT INSTALLED AFTER CAST

### **GRAVITY SEWER MANHOLES WITH CAST-IN WALL LINER & BASE LINER**

- 29S STANDARD MANHOLE WITH CAST-IN LINER & BASE LINER
- 30S SHALLOW MANHOLE WITH CAST-IN LINER & BASE LINER
- 31S OUTSIDE DROP MANHOLE WITH CAST-IN LINER & BASE LINER
- 32S MANHOLE BASE SECTION
- 33S FLOW CHANNEL/PIPE CONNECTION TO NEW CAST-IN BASE LINER
- 34S FLOW CHANNEL/PIPE CONNECTION TO EXISTING CAST-IN BASE LINER
- 35S PIPE TO MANHOLE CONNECTION DETAIL - TYPE "A" (GASKET)
- 36S PIPE TO MANHOLE CONNECTION DETAIL - TYPE "B" (BOOT)

## **SECTION 3.9 - WASTEWATER SYSTEM STANDARD DETAILS LISTING (cont'd)**

### **FORCE MAINS**

- 37S CONNECTION OF PRIVATE FORCE MAIN UNDER 4" IN DIAMETER
- 38S TYPICAL FORCE MAIN GATE VALVE SETTING AND CUT-IN DETAIL
- 39S FORCE MAIN AIR RELEASE VALVE & VAULT OUTSIDE OF ROAD RIGHT-OF-WAY, NON TRAFFIC AREAS
- 40S FORCE MAIN AIR RELEASE VALVE AND MANHOLE IN PAVED AREAS AND ROAD RIGHT-OF WAY
- 41S MECHANICAL THRUST RESTRAINT - MINIMUM PIPE LENGTHS (FORCE MAINS)
- 42S TYPICAL THRUST BLOCKS FOR PRESSURE PIPING
- 43S FORCE MAIN ENTERING MANHOLE
- 44S WASTEWATER MAIN CASING INSTALLATION
- 45S TYPICAL FORCE MAIN AERIAL CANAL CROSSING- SINGLE PIPE (SINGLE PILES)
- 46S FAN GUARD/PILE CAP DESIGN - SINGLE PIPE (SINGLE PILES)

### **LIFT STATIONS**

- 47S TYPICAL LIFT STATION SITE PLAN DETAIL
- 48S TYPICAL LIFT STATION SITE PLAN NOTES
- 49S TYPICAL LIFT STATION SECTION WITH CAST-IN LINER
- 50S LIFT STATION TOP SLAB
- 51S LIFT STATION WITH 2" CONDUIT CONNECTION
- 52S LIFT STATION WETWELL SETTING TREMIE POUR DETAIL
- 53S LIFT STATION STANDARD ALUMINUM COVER AND PUMP CABLE RACK
- 54S HOSE CONNECTION WITH RP BACKFLOW PREVENTER FOR LIFT STATION WATER SERVICE
- 55S FENCE AND GATE DETAIL
- 56S LIFT STATION ELECTRICAL RACK FOR GENERATOR RECEPTACLE ON LEFT SIDE
- 57S LIFT STATION ELECTRICAL RACK FOR GENERATOR RECEPTACLE ON RIGHT SIDE
- 58S CONTROL PANEL INSTALLATION NOTES
- 59S CONTROL PANEL - INTERNAL PANEL LAYOUT FOR MOTORS SMALLER THAN 20 HP
- 60S CONTROL PANEL - INTERNAL PANEL LAYOUT FOR MOTORS 20 HP AND LARGER
- 61S LIFT STATION CONTROL PANEL INNER DOORS FOR MOTORS SMALLER THAN 20 HP
- 62S LIFT STATION CONTROL PANEL INNER DOORS FOR 20 HP MOTORS AND LARGER
- 63S ELECTRICAL PANEL SPECIFICATIONS (1 OF 3)
- 64S ELECTRICAL PANEL SPECIFICATIONS (2 OF 3)
- 65S ELECTRICAL PANEL SPECIFICATIONS (3 OF 3)
- 66S CONTROL PANEL - BILL OF MATERIALS
- 67S CONTROL PANEL - 240V & 480V PANELS NOTES
- 68S LIFT STATION ELECTRICAL SCHEMATIC (1 OF 3)
- 69S LIFT STATION ELECTRICAL SCHEMATIC (2 OF 3)
- 70S LIFT STATION ELECTRICAL SCHEMATIC (3 OF 3)
- 71S LIFT STATION ELECTRICAL SCHEMATICS WITH SOFT STARTERS (SHEET 1 OF 3)
- 72S LIFT STATION ELECTRICAL SCHEMATICS WITH SOFT STARTERS (SHEET 2 OF 3)
- 73S LIFT STATION ELECTRICAL SCHEMATICS WITH SOFT STARTERS (SHEET 3 OF 3)
- 74S LIFT STATION CONTROL PANEL ELECTRICAL RISER
- 75S REMOTE TELEMETRY UNIT SPECIFICATIONS (SHEET 1 OF 5)
- 76S REMOTE TELEMETRY UNIT SPECIFICATIONS (SHEET 2 OF 5)
- 77S REMOTE TELEMETRY UNIT SPECIFICATIONS (SHEET 3 OF 5)

**SECTION 3.9 - WASTEWATER SYSTEM STANDARD DETAILS LISTING (cont'd)**

78S REMOTE TELEMETRY UNIT SPECIFICATIONS (SHEET 4 OF 5)  
79S REMOTE TELEMETRY UNIT SPECIFICATIONS (SHEET 5 OF 5)  
80S RTU WIRING DIAGRAM/PLC ANALOG INPUT WIRING DIAGRAM  
81S TYPICAL LIFT STATION (SECTION)

**MISCELLANEOUS**

82S TYPICAL WASTEWATER SERVICE INSTALLATION FOR VACUUM SEWER  
83S RIP-RAP INSTALLATION DETAIL  
84S LANDSCAPE AND ROOT BARRIER DETAIL  
85S FORCE MAIN AIR RELEASE VALVE W/VENTED AIR ENCLOSURE

**WASTEWATER SYSTEM**  
**STANDARD DETAILS 1S - 85S**