

## **Section 36 - Standard Details**

A. Introduction – Standard Details have been developed to provide uniformity throughout HRSD. These details can be provided in electronic format. The FIRM must review all the Standard Details and select the ones that are appropriate for any given project. The FIRM must develop other details as required to incorporate into Bid Documents.

B. Listing of Standard Details – These standard details are available in AutoCAD format upon request. These listed Standard Details are included as PDF files in this manual.

1. Series 100: Miscellaneous

100	Standard Cover Sheet
101	Exterior Bollard Detail
102	Bollard Location Detail
103	Load Test Hinged Bank Box
104A/B	Flush Mount Groundwater Monitoring Well
105	Recovery Sheet Template

2. Series 200: Collection Systems and Appurtenances

200A/B	Precast Concrete Manhole with Extended Monolithic Base
201	Precast Concrete Shallow Manhole with Extended Base
202A/B	Sanitary Sewer Straddle Manhole
203	Connection into Existing Manholes
204	Manhole Invert Shaping
205	Precast Concrete or Brick Manhole Inside Gravity Drop Connection to Existing Manhole
206	Precast Concrete Outside Drop Manhole
207	Precast Concrete or Brick Manhole Inside Force Main Drop Connection to Existing Manhole
208	Precast Concrete Sanitary Sewer Manhole Adjustment
209	Manhole Insert
226	Service Lateral and Gravity Main Connection to Existing Stub-out
227	Standard Manhole Frame and Cover
228	Manhole Frame and Cover – Watertight
229A/B	Sanitary Sewer Lateral Installation
230	Sanitary Sewer Service Connection for New or Existing Gravity Mains
231	Sanitary Service Lateral Deactivation
232	Alternate Service Lateral Connection to Existing Gravity Sewer Main
233	Permanent Sewer Lateral Deactivation at HRSD Manhole
251	Sanitary Sewer Service Clean Out Frame and Cover (Non-Traffic Rated)
252	Sanitary Sewer Service Clean Out Frame and Cover (Traffic Rated)
253	Tracer Wire Locator Box
276	Vacuum Air Intake Valve
277	Lateral Connection to Existing Vacuum Valve Pit
278	Vacuum System Division Valve

3. Series 300: Interceptors and Appurtenances
  - 300 Connection to Existing HRSD Valve (No Potential for Additional Development)
  - 301 Connection to Existing HRSD Valve (Additional Development is Possible)
  - 302 Connection to Existing HRSD Valve (Additional Development is Imminent)
  - 303 New Wet Taps (No Potential for Additional Development)
  - 304 New Wet Taps (Additional Development is Possible)
  - 305 New Wet Taps (Additional Development is Imminent)
  - 306A 2" Private Force Main Connection to Existing 2" HRSD Force Main Stub
  - 306B Valve Vault for 2" HRSD Valve
  - 306C Vault Lid for 2" HRSD Valve
  - 307 Lawnes Point Private Connection Detail
  - 308 Private Force Main to HRSD Asset
  - 309 New Grinder Pit Connection to Existing HRSD Force Main
  - 326 Horizontal Gate Valve
  - 327 Vertical Gate Valve
  - 328 Valve Box and Riser for Mainline Valve
  - 329 Valve Box and Riser for Bypass Valves
  - 330 Valve Riser Adjustment
  - 331A/B Roadside Ditch – Valve Box
  - 332 Tracer Wire Locator Box
  - 351 Manual Air Vent
  - 352A/B Air Release Valve Box Adjustment
  - 353 Roadside Ditch – Air Vent
  - 354 Air Vent Frame and Cover
  - 355 Standard Air Vent Detail for Future Automatic Air Release Valves
  - 376 Tapping Saddle for Cast Iron, Ductile Iron, Reinforced Concrete and PVC Pipes
  - 377 Tapping Saddle for Concrete Cylinder Pipe
  - 378A/B Steel Casing Detail
  - 379 Ductile Iron MJ Spigot to Concrete Transition Adaptor (Male)
  - 380 Ductile Iron MJ Spigot to Concrete Transition Adaptor (Female)
  - 381 Pressure Sensor Installation
  - 382 Concrete Cylinder Pipe Line-Stop Detail
  - 383 Ductile / Cast Iron Line Stop Detail
  
4. Series 400: Pump Stations and PRS
  - 400A/B Small Communities Sample Design Detail – Submersible Pump Station
  - 401A/B Underground Storage Tank
  - 402A/B Underground Fuel Tank
  
5. Series 500: Cathodic Protection for Pipes
  - 500A/B Cathodic Protection Test Station and Terminal Board Wiring
  - 501 Cathodic Protection Isolation Detail

502	Anode Test Station
503	Monitoring Test Station
504	Monitoring Test Station (with Riser)
505	Isolation Flange Test Station
506	Isolation Flange Test Station (with Riser)
507	Anode Header Cable Splice – Wye Type
508A	Typical Thermite Weld Procedures on Bonding Plate
508B	Typical Royston Handy Cap IP™ Installation
509	Isolating Flange Kit
510	Typical Bonding Plate
511	Copper Wire to Pipe Pin Brazing Procedures
521	Ductile Iron Pipe Galvanic System AC Ground Mat
522	Ductile Iron Pipe Galvanic System Insulating Corporation
523	Ductile Iron Pipe Galvanic System Main Bonding

6. Series 600: Cathodic Protection for Buildings

600	Installation of Discrete Galvanic Anodes
601	Installation of Distributed Galvanic Anodes
602	Distributed Galvanic Anodes at Top of Wall
603	Installation of Drilled-in Galvanic Anodes
604	Conductive Mortar Bridge for use with High Resistivity Repair Mortars
605	Typical Galvanic Anode Layout
606	Typical Galvanic Anode Connections
626	Removal of Unsound Concrete Typical Section
627	Concrete Rebuild Typical Section
628	Concrete Rebuild to Provide Minimum Cover Typical Section
629	Removal of Unsound Concrete Typical Corner Section
630	Concrete Rebuild Typical Corner Section
631	Reinforcing Section Loss Table
632	Lap Splice – Option 1
633	Lap Splice Lengths – Option 1
634	Mechanical Splice – Option 2 Typical Removal Section
635	Mechanical Splice – Option 2 Typical Rebuild Section
636	Weld Splice – Option 3
637	Weld Splice Details A – Option 3
638	Weld Splice Details B – Option 3
639	Supplemental Reinforcement Requirements
640	Adhesive Grouted Dowel Layout
641	Typical Concrete Rebuild Section at Embed Plate
642	Shallow Depth (2” Max) Concrete Rebuild Horizontal
643	Shallow Depth (2” Max) Concrete Rebuild Vertical
644	Partial Depth Core Hole Concrete Rebuild
645	Full Depth Core Hole Concrete Rebuild
651	Typical Sealant Details