

## **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 - Easement Plat
    - 102 - Exterior Bollard Detail
    - 103 - Bollard Location Detail
    - 104 - Load Test Hinged Bank Box
    - 105A/B - Flush-mount Groundwater Monitoring Well
    - 106 - 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 – Stub-out Connection for Existing Manholes
    - 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 Developments
    - 231 – Deactivation at HRSD Gravity Main
    - 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 Possible)
  - 302 - Connection to Existing HRSD Valve (Additional Development Imminent)
  - 303 – New Wet Taps (No Potential for Additional Development)
  - 304 – New Wet Taps (Additional Development Possible)
  - 305 – New Wet Taps (Additional Development Imminent)
  - 306A – 2” Private Connection to Existing 2” HRSD 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
  - 351 - Air Vent
  - 352A/B - Air Release Valve Box Adjustment
  - 353 - Roadside Ditch – Air Vent
  - 354 - Air Vent Frame and Cover
  - 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
  - 500 - Cathodic Protection Test Station
  - 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
  - 508 – Thermite Weld
  - 509 – Isolating Flange Kit
  - 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
  - 646 A/B – Typical Spall Repair with Exposed Reinforcing Steel
  - 651 – Typical Sealant Details