

SECTION 501
GRAVITY SEWERS

PART 1 GENERAL

1.4 SUBMITTALS

D. Closed circuit television inspection USB thumb drives.

PART 2 MATERIALS

2.1 PIPE SIZE, TYPE, AND STRENGTH

D. Only polyvinyl chloride or HDPE sewer pipe shall be used for sewer line construction unless otherwise approved by the City Engineer.

PART 3 WORKMANSHIP

3.2 PIPE INSTALLATION

U. No pipe length used shall be less than 5 feet.

V. Cover from top of pipe to finished grade shall not be less than 3 feet.

W. When cover over a sewer pipe is less than three (3) feet from the top of pipe to subgrade, or top of pipe to natural/finished ground, Class 200 water pressure pipe, ASTM D2241, SDR21, shall be used for the sewer main line and service line pipes. Fittings such as saddle outlets, wyes & tees, shall be compatible in construction with the sewer main line pipe.

3.3 PLUGS AND PIPE MARKERS

B. Furnish and install pipe markers at main line stub-outs (only when approved by Public Works and when approved wye type cleanouts are not used) per City of Meridian Standard Drawings SW3 and S1.

3.4 TESTING

C. Air Pressure Testing

3. Preliminary and Final Testing:

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b. Final Testing

- 1) Air testing of any sewer pipe with three feet or less bury, from top of pipe to subgrade, shall be done after all road base gravel is installed and compacted.
- 2) A sewer pipe line that has been installed, passed the initial air test, but for other reasons not finally accepted by the City of Meridian, will, if it remains unused for more than six months, be subjected to another air pressure and CCTV inspection.
- 3) If other utility excavation occurs in the area above and/or adjacent to the sewer line, an additional air test will be required on any installed sewer line, even if a final inspection has been done previously.

D. Hydrostatic Exfiltration Testing

3. Preliminary and Final Testing

b. Final Testing

- 1) Exfiltration testing of any sewer pipe with three feet or less bury, from top of pipe to subgrade, shall be done after all road base gravel is installed and compacted.
- 2) A sewer pipe line that has been installed, passed the initial exfiltration test, but for other reasons not finally accepted by the City of Meridian, will, if it remains unused for more than six months, be subjected to another exfiltration test and CCTV inspection.
- 3) If other utility excavation occurs in the area above and/or adjacent to the sewer line, an additional exfiltration test will be required on any installed sewer line, even if a final inspection has been done previously.

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- E. Large Diameter Pipeline Testing – Alternative to Hydrostatic Method
1. Upon approval of the Inspector, conduct low pressure air testing on pipes 27” through 60” per UNI-BELL Specification UNI-B-6-98.
- H. Closed Circuit Television (CCTV) Inspection
2. CCTV Inspections are required to be performed by a third-party testing firm after all utilities have been installed and prior to final acceptance. CCTV sewer line inspection to be performed by firms that are suitably equipped, experienced, qualified and staffed for sewer line CCTV inspection. Provide a calibration video showing various water depths for the size of pipe being videoed. Calibration video must be onsite during CCTV process. Also, provide an acceptable method of measuring the depth of standing water at potential problem locations, other than the calibration tapes. A camera-mounted sag water depth gauge shall be used upon pre-authorization of the Engineer.
 8. Provide CCTV records in high quality video format on USB thumb drive, DVD disc will not be accepted.
 12. CCTV inspections are required to be presented in a national standard coding method that meets the NASSCO Pipeline Assessment & Certification Program (PACP) standard inspection. The individual that is authorized to submit the PACP CCTV inspection must also possess a current PACP Certification.
 13. Eighteen (18) months after final acceptance of the sewer line(s), the City will perform a CCTV inspection.
 14. Should there be evidence of inconsistencies as compared to the original installation, which, in the opinion of the City Engineer, warrant additional cleaning, replacement or repair, the contractor shall correct those defects as required under the contractor’s two (2) year warranty until the necessary replacement or repair is accepted by the City of Meridian Public Works Department.
 - a. Identified deficiencies will be corrected by the contractor. An additional CCTV inspection will be performed by the contractor on affected segments.
 - b. The cost of all subsequent CCTV inspections beyond the 18-month CCTV inspection shall be paid for by the contractor.

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I. Sewer Slope Confirmation Survey

1. Sewer Manhole elevations and pipe slopes to be surveyed prior to placing pavement, sidewalks, curb and gutter or any other final stabilization over the new sewer lines and manholes. The results of the survey are to be submitted to the City Engineer or a designee for review prior to moving forward.

3.5 GRAVEL ACCESS ROAD

- A. Sewer lines not installed in paved areas must have a gravel access road. See Standard Drawing G2.

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SECTION 502

MANHOLES

PART 2 MATERIALS

2.2 MANHOLES

- A. Precast Manholes: ASTM C 478 for all components except as modified herein and as shown in the ISPWC Standard Drawings.
 - 1. ISPWC Drawing SD-502 shall be modified to allow a cone to be used on manholes of 54" to 60" diameters.
- D. Revise ISPWC Details SD-501 through SD-502A to use the following manhole diameters for pipe diameters installed:

PIPE DIAMETER	SEWER DEPTH	REQUIRED MANHOLE DIAMETER
8"-18"	<=18'	48"
8"-18"	>18'	60"
>18"	ANY DEPTH	60"

Note: 72" manholes shall be used when called out on the plans or in the contract documents.

- E. See City of Meridian Lift Station design guidelines for requirements of manholes receiving lift station discharges.

2.5 FRAMES AND COVERS

- F. Low profile lid and ring are not allowed unless otherwise approved by the City Engineer.
- G. Where stormwater infiltration is a concern, manhole lids without vents may be required.

PART 3 WORKMANSHIP

3.7 MANHOLE BARREL AND CONE CONSTRUCTION

- G. Cones shall be eccentric for manholes with an overall depth (from invert to finished rim elevation) greater than 4 feet. The vertical wall shall be placed on the downstream end.

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- H. Cones shall be concentric for manholes less than 4 feet.
- I. Wrap all joints on the outside of the manhole with an exterior joint wrap specifically designed for manhole joints. EZ Wrap Butyl Rubber Joint Wrap or approved equal.

3.13 PLACEMENT OF CONCRETE COLLARS

- E. Manholes constructed in unpaved areas require the standard concrete collar to be extended to a minimum of 4-inches below the bottom of the grade ring(s).

3.14 CONSTRUCTION OF DROP MANHOLES

- A. Drop manholes are not allowed in the City of Meridian sewer system without the written approval of the City Engineer.
- B. When drop manholes are allowed, they shall be lined with Raven 405 100% Solids High Build Epoxy or approved equivalent and constructed with a “Reliner” type inside drop bowl utilizing 316 stainless steel fasteners or approved equivalent. To use Raven 405 it must be applied by a certified installer as a spray on application at a minimum of 150 mil thickness for new construction and 250 mil for rehab applications while following manufacturers recommendation for surface preparation, temperature and application.
- C. Drop manholes are not allowed inside residential developments.

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SECTION 503

CLEAN-OUTS

PART 2 MATERIALS

2.5 CLEANOUTS

- A. Wye Type Cleanout materials shall be as described per Section 503, Part 2 of the ISPWC and as shown on SD-506. T-Type cleanout materials shall be as described per Section 503, Part 2 of the ISPWC and as shown on City of Meridian Standard Drawing S1.
- B. Wye Type or T-Type cleanouts may be used at points where the sewer line is terminated but shall be continued to subsequent phases of the same subdivision, and the property at the stub street boundary has the same ownership and is part of a planned future phase.
1. The maximum distance from a manhole to a proposed cleanout is 150 feet.
 2. No more than 4 services shall be connected to a sewer line terminating in a cleanout.
 3. Two precast concrete blocks 6"x6"x24" or a concrete thrust block 12"x12"x16" shall be placed at the outer end of capped sewer lines.

●● END OF SECTION ●●

SECTION 504

SEWER SERVICES

PART 2 MATERIALS

2.1 PIPE SIZE, TYPE AND STRENGTH

- D. The maximum size of a sewer service line for the purpose of discharging pool filter backwash to the sewer system is 2”.

2.2 PIPE AND FITTINGS

F. Service Connections:

1. Romac "CB" Saddle or SDR 26 Heavy Wall Tee and forty five's to be used on services deeper than ten feet or where groundwater is less than 10 feet from the surface unless otherwise approved by City Engineer. Romac “CB”, Saddle by NDS, SDR 35 tees, or approved substitution by the City Engineer to be used on services less than ten feet deep with no groundwater concerns.

PART 3 WORKMANSHIP

3.3 CONNECTION TO MAIN

A. Connections for new main pipelines or pipeline replacement.

10. Sewer service connections must be perpendicular to the sewer main unless otherwise approved by the City Engineer.
11. Sewer service connections shall be spaced no less than 5 feet apart on the sewer main.

3.6 INSTALLATION OF SERVICE LINE MARKERS

A. Install service line markers per City of Meridian Standard Drawing SW3.

- G. Where a concrete sidewalk is constructed across the service line the service line locations shall be marked in the concrete sidewalk with a 4-inch-high stamped "S".

●● END OF SECTION ●●

SECTION 508

SLIPLINING

PART 3 WORKMANSHIP

3.8 TESTING

- A. Air testing of repairs is required and shall be conducted per Section 501 of the ISPWC and as modified in Section 501 of these City of Meridian Supplemental Specifications. Deflection testing will not be required except as provided in paragraph B.
- B. City Engineer reserves right to require deflection testing of slipline if CCTV inspection and or visual inspection indicates possibility of faulty workmanship. The cost of testing will be the responsibility of the Contractor. If retesting is required, the Contractor will be responsible for testing costs including all labor required to witness additional tests.

●● END OF SECTION ●●

SECTION 510

PIPE BURSTING

PART 1 GENERAL

1.4 SUBMITTALS

- A. Submit the following information for City Engineer's approval prior to work:
 - 1. Qualifications of the Pipe Bursting Contractor: Note that any qualification requirements specified will have to go through a pre-qualification process prior to bidding under the 2005 public bidding statutes. (I.C. 67-28)
 - b. Name(s) and 3-year work history of all supervisory personnel to be directly involved with pipe bursting project.

PART 3 EXECUTION

3.5 PRE-PIPE BURSTING OPERATIONS

- C. Cleaning and CCTV
 - 2. Provide CCTV of the existing line per Section 501.3.H and verify location of services.

3.8 FIELD QUALITY CONTROL

- A. Testing
 - 1. General
 - a. Air testing of repairs is required and shall be conducted per Section 501 of the ISPWC and as modified in Section 501 of these City of Meridian Supplemental Specifications. Deflection testing will not be required.
- B. Inspection
 - 1. After main line pipe passes and service lines and manholes are connected, perform a post-installation CCTV inspection of the installed replacement pipe in accordance with Section 501.3.H unless otherwise stated in the contract documents.

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