

Table of Contents

Section 4010 - Sanitary Sewers		Page No.
Part 1 - General		
1.01	Section Includes	1
1.02	Description of Work	1
1.03	Submittals	1
1.04	Substitutions	1
1.05	Delivery, Storage, and Handling	1
1.06	Scheduling and Conflicts	1
1.07	Special Requirements	1
1.08	Measurement and Payment	1
Part 2 - Products		
2.01	Sanitary Sewer (Gravity Mains)	5
2.02	Sanitary Sewer Force Mains	7
2.03	Casing Pipe	8
2.04	Sanitary Sewer Services	8
2.05	Sanitary Sewer Service Relocations	8
2.06	Sanitary Sewer Cleanout	8
Part 3 - Execution		
3.01	Examination	9
3.02	Gravity Sewer Installation	9
3.03	Sanitary Sewer Installed within a Casing Pipe	9
3.04	Gravity Main Pipe Jointing	10
3.05	Force Main Installation	10
3.06	Sanitary Sewer Service Stubs	10
3.07	Sanitary Sewer Service Relocation	11
3.08	Sanitary Sewer Abandonment	12
3.09	Connection to Existing Manhole	12
3.10	Sanitary Sewer Cleanout	12
3.11	Tolerances	12

Section 4010 - Sanitary Sewers (Continued)	Page No.
3.12 Conflicts	12
3.13 Cleaning, Inspection, and Testing	13
Figures	Figure No.
Sanitary Sewer Service Stub	4010.201
Sewage Air Release Valve Pit	4010.202
Sanitary Sewer Cleanout	4010.203
Relocate Sanitary Sewer Service in Conflict with New Sewer	4010.901
Section 4020 - Storm Sewers	Page No.
Part 1 - General	
1.01 Section Includes	1
1.02 Description of Work	1
1.03 Submittals	1
1.04 Substitutions	1
1.05 Delivery, Storage, and Handling	1
1.06 Scheduling and Conflicts	1
1.07 Special Requirements	1
1.08 Measurement and Payment	1
Part 2 - Products	
2.01 Storm Sewers	3
2.02 Casing Pipe	6
Part 3 - Execution	
3.01 Examination	7
3.02 Pipe Installation	7
3.03 Storm Sewer Installed within a Casing Pipe	7
3.04 Pipe Jointing	8
3.05 Tolerances	8
3.06 Storm Sewer Abandonment	9
3.07 Connection to Existing Manhole or Intake	9
3.08 Cleaning, Inspection, and Testing	9

Section 4020 - Storm Sewers (Continued)**Page No.****Figures****Figure No.**

Special Pipe Connections for Storm Sewer

4020.211

Section 4030 - Pipe Culverts**Page No.****Part 1 - General**

1.01	Section Includes	1
1.02	Description of Work	1
1.03	Submittals	1
1.04	Substitutions	1
1.05	Delivery, Storage, and Handling	1
1.06	Scheduling and Conflicts	1
1.07	Special Requirements	1
1.08	Measurement and Payment	1

Part 2 - Products

2.01	Pipe Culverts	3
2.02	Pipe Aprons and Beveled Ends	4
2.03	Apron Footings	4
2.04	Apron Guard	4

Part 3 - Execution

3.01	Pipe Culvert Installation	5
3.02	Aprons	5
3.03	Cleaning, Inspection, and Testing	5

Figures**Figure No.**

RCP Apron Section Footing

4030.221

Section 4040 - Subdrains and Footing Drain Collectors**Page No.****Part 1 - General**

1.01	Section Includes	1
1.02	Description of Work	1
1.03	Submittals	1
1.04	Substitutions	1
1.05	Delivery, Storage, and Handling	1
1.06	Scheduling and Conflicts	1
1.07	Special Requirements	1
1.08	Measurement and Payment	1

Part 2 - Products

2.01	Footing Drain Collectors	3
2.02	Type 1 Subdrains (Longitudinal Subdrain)	3
2.03	Type 2 Subdrains (Combination Subdrain/Footing Drain Collector)	4
2.04	Porous Backfill Material	4
2.05	Subdrain Outlets	4
2.06	Subdrain or Footing Drain Cleanouts	4
2.07	Engineering Fabric	5
2.08	Storm Sewer Service Stubs	5

Part 3 - Execution

3.01	Subdrains	6
3.02	Footing Drain Collectors	6
3.03	Footing Drain Service Stubs	6

Figures**Figure No.**

Subdrains	4040.231
Subdrain Cleanouts	4040.232
Subdrain Outlets	4040.233

Section 4050 - Pipe Rehabilitation		Page No.
Part 1 - General		
1.01	Section Includes	1
1.02	Description of Work	1
1.03	Submittals	1
1.04	Substitutions	1
1.05	Delivery, Storage, and Handling	2
1.06	Scheduling and Conflicts	2
1.07	Special Requirements	3
1.08	Measurement and Payment	3
Part 2 - Products		
2.01	Polyethylene and Polyolefin Manufactured Pipe for Sliplining	5
2.02	Polyvinyl Chloride Pipe (PVC) Manufactured Pipe 12 Inch to 36 Inch for Sliplining	5
2.03	Polyvinyl Chloride Pipe (PVC) Manufactured Pipe 21 Inch to 48 Inch for Sliplining	5
2.04	Centrifugally Cast Fiberglass Reinforced Polymer Mortar Pipe (CCFRPM) 18 Inch to 48 Inch for Sliplining	5
2.05	Resin-Impregnated Tube for Cured-in-place Pipe (CIPP)	5
2.06	Deformed/Reformed High Density Polyethylene Pipe Lining (DRP-HDPE)	6
2.07	Folded/Formed Polyvinyl Chloride Pipe Lining (FFP-PVC)	7
2.08	Pipe Repair Couplings for Spot Repairs by Pipe Replacement	7
2.09	Sewer Main Pipe (for Spot Repairs)	8
Part 3 - Execution		
3.01	Examination	9
3.02	Bypassing Sewage	9
3.03	Obstructions	9
3.04	Temporary Sewer Service	9
3.05	Sliplining	10
3.06	Resin Impregnated CIPP Lining	10
3.07	DRP-HDPE or FFP-PVC Lining Installation	11

Section 4050 - Pipe Rehabilitation (Continued)		Page No.
3.08	Spot Repairs by Pipe Replacement	12
3.09	Cleanup and Closeout	12
Section 4060 - Cleaning, Inspection, and Testing of Sewers		
Part 1 - General		
1.01	Section Includes	1
1.02	Description of Work	1
1.03	Submittals	1
1.04	Substitutions	1
1.05	Delivery, Storage, and Handling	1
1.06	Scheduling	1
1.07	Special Requirements	1
1.08	Measurement and Payment	1
Part 2 - Products		
2.01	Testing Equipment	2
Part 3 - Execution		
3.01	Cleaning	3
3.02	Visual Inspection	3
3.03	Video Inspection	3
3.04	Sanitary Sewer Leakage Testing	4
3.05	Deflection Testing	7
3.06	Force Main Testing	7