

Chapter 1: General Provisions

- 1 1 Short Title
- 1 2 Jurisdiction
- 1 3 Amendments and Revisions
- 1 4 Enforcement Responsibility
- 1 5 Review Process
- 1 6 Prior Approval
- 1 7 Relationship to Other Standards
- 1 8 Variances
- 1 9 Private Facilities

Chapter 2: Submittal Procedures

- 2 1 General
- 2 2 Submittal of Reports and Plans for Review
- 2 3 Acceptance of Reports and Plans
- 2 4 Revisions to Accepted Plans

Chapter 3: Permit Procedures and Requirements

3 1 Application Requirements and Procedures

- 3 1 1 Permit Application
- 3 1 2 Types of Permits
- 3 1 3 Emergency Repairs
- 3 1 5 Issuance of Permits
- 3 1 6 Time Limits
- 3 1 7 Cancellation

3 2 Permit Standards and Conditions

- 3 2 1 Permit Approval
- 3 2 2 Street Restoration
- 3 2 3 Landscaping
- 3 2 4 Relocating Utilities
- 3 2 5 Permit Release

3 3 Bonds, Letters of Credit, and Insurance

- 3 3 1 Bonds
- 3 3 2 Inadequate Bond
- 3 3 4 Letters of Credit
- 3 3 5 Other Forms of Security
- 3 3 6 Liability Insurance

3 4 Construction Specifications

- 3 4 1 Disruption of Street Surfaces
- 3 4 2 Disruption of Bitumous and Gravel Surfaces
- 3 4 3 Disruption of Concrete Surfaces

3 5 Traffic and Pedestrian Control

- 3 5 1 Street Closure
- 3 5 2 Signing
- 3 5 3 Guards and Flares

3 6 Restoring Pavement or Surfaces - Noncompliance

3 7 Utility Installations

- 3 7 1 Underground
- 3 7 2 Overhead

3 8 Fees

Chapter 4: Utility Locations and City Utility Easements

4 1 Purpose of Standard Locations

- 4 1 1 Conflicts
- 4 1 2 Relocations

4 2 Plans Required

- 4 2 1 Construction Approval
- 4 2 2 Conformance

4 3 Location of Utilities

- 4 3 1 Water Main
- 4 3 2 Sanitary Sewer
- 4 3 3 Storm Sewer
- 4 3 4 Underground Power
- 4 3 5 Other Utilities
- 4 3 6 Utility Facilities

4 4 Location Requirements

4 5 Interruption of Traffic

4 6 City Utility Easement Requirements

4 7 Easement Identification

Chapter 5: Street Access and Parking

5 1 Traffic Impact Studies

- 5 1 1 Responsibilities for Traffic Impact Report
- 5 1 2 Report Format
- 5 1 3 Revisions to Traffic Report
- 5 1 4 Report Submittals

5 2 Access Control

- 5 2 1 General Access
- 5 2 2 Definition of Terms for Access Control
- 5 2 3 Basic Principles for Curb Openings and Driveways
- 5 2 4 General Requirements for Curb Openings

5 3 Access Design

- 5 3 1 Driveway Spacing
- 5 3 2 Driveway Design

5 4 Off-Street Parking Area

- 5 4 1 General
- 5 4 2 Minimum Parking Space Dimensions
- 5 4 3 Backing Into Street Not Allowed
- 5 4 4 Backing Over Sidewalk Not Allowed

Table 5 3 Minimum Parking Lot Requirements

5 5 On Street Diagonal Parking

- 5 5 1 General

Chapter 6: Geotechnical Exploration and Report

6 1 General

6 2 Soil Exploration

- 6 2 1 General
- 6 2 2 Sampling
- 6 2 3 Testing

6 3 Report

- 6 3 1 General
- 6 3 2 Special Geotechnical Conditions
- 6 3 3 Grading and Foundation
- 6 3 4 Subgrade and Pavement

Chapter 7: Grading

- 7 1 General
- 7 2 Grading Requirements for Subdivisions
- 7 3 Grading Requirements for Ditches

Chapter 8: Street Design and Pavement Thickness

8 1 General

8 2 Access Management

- 8 2 1 Access
- 8 2 2 Right of Way Permit
- 8 2 3 Access Category
- 8 2 4 Spacing of Direct and Indirect Access, Angle of Intersection, and Offsets
- 8 2 5 Functional Street Classification

8 3 Roadway Design and Technical Criteria

- 8 3 1 Roadway Driving Surfaces
- 8 3 2 Separate Turning Lanes
- 8 3 3 Parking
- 8 3 4 Flares

8 4 Sidewalks

- 8 4 1 General Standards and Location
- 8 4 2 Construction materials for sidewalks and vehicle crossings
- 8 4 3 Sidewalk Curb Ramps
- 8 4 4 Sidewalk Curb Ramp Landing
- 8 4 5 Sidewalk Cross Slopes
- 8 4 6 Sidewalk Grade
- 8 4 7 Sidewalk Width
- 8 4 8 Sidewalk Thickness
- 8 4 9 Sidewalk Vertical Clearance
- 8 4 10 Sidewalk Surface

8 6 Curb and Gutter Construction

- 8 6 1 Construction
- 8 6 2 Thickness
- 8 6 3 Construction materials for curb and gutter

8 7 Bicycle Paths

- 8 7 1 General

8 8 Drainage

- 8 8 1 Valley Gutters
- 8 8 2 Inlets
- 8 8 3 Cross-slope
- 8 8 4 Temporary Erosion Control
- 8 8 5 Sidewalk

8 9 Horizontal Alignment

- 8 9 1 Horizontal Curves
- 8 9 2 Curb Return Radius
- 8 9 3 Construction Signs and Barricades
- 8 9 4 Cul-de-sacs

8 10 Vertical Alignment

- 8 10 1 Changing Grades
- 8 10 2 Vertical Curves
- 8 10 3 Intersections
- 8 10 4 Curb Returns
- 8 10 5 Connection with Existing Roadways

8 11 Off-Site Design

8 12 Construction Traffic Control

8 13 Turn Lanes

8 14 Pavement Thickness

8 15 Rural Subdivision Road Standards

Chapter 9: Sanitary Sewers

9 1 General Requirements

- 9 1 1 Design
- 9 1 2 Construction Standards

9 2 Plan Submittals

- 9 2 1 Subdivision Plan Submittals
- 9 2 2 Capital Improvement Project Plan Submittals

9 3 Determination of Flow

- 9 3 1 Lateral Sewers
- 9 3 2 Trunk Sewers
- 9 3 3 Area
- 9 3 4 Special Design Densities
- 9 3 5 Density Design Table

9 4 Facility Design

- 9 4 1 Capacity of Pipe
- 9 4 2 Velocity within Pipe
- 9 4 3 Approved Pipe Materials
- 9 4 4 Force Main Minimum and Maximum Velocity
- 9 4 5 Size of Sewer Pipe
- 9 4 6 Depth of Sewer
- 9 4 7 Alignment of Sewers
- 9 4 8 Physical Requirements
- 9 4 9 Sewer Services
- 9 4 10 Sewage Lift Stations

9 5 Sanitary Sewer Easements

Chapter 10: Water Mains

10 1 General

10 2 Fire Hydrants

10 3 Valves

10 4 Meters

10 5 Cross-Connection Control and Backflow Prevention

10 6 Lawn Irrigation Systems

10 7 Service Lines

10 8 Material Specifications

10 9 Manufactured Home Parks

10 10 Water Loading Stations

10 11 Separation and Crossing of Water Main

Chapter 11: Drainage Improvements

11 1 REQUIREMENTS FOR STORM DRAINAGE PLANS

- 11 1 1 General
- 11 1 2 Minor and Major Design Storms
- 11 1 3 Design Storm Calculations
 - 11 1 3 1 Introduction
 - 11 1 3 2 Design Frequencies
 - 11 1 3 3 Design Rainfall
 - 11 1 3 4 Methods
 - 11 1 3 5 Time of Concentration and Travel Time
 - 11 1 3 6 Rainfall Intensity (I)
 - 11 1 3 7 Runoff Coefficient (C)
- 11 1 4 Developers Preliminary Drainage and Grading Plan
- 11 1 5 Development Engineering Final Drainage Plan
- 11 1 6 Existing Floodplain Map—Revisions
- 11 1 7 Review by Other Agencies

11 2 STORM SEWERS

- 11 2 1 Design Flow
- 11 2 2 Material and Installation
- 11 2 3 Location of Storm Sewers
 - 11 2 3 1 Placement
 - 11 2 3 2 Easements
- 11 2 4 Size
- 11 2 5 Depth
- 11 2 6 Pipe
- 11 2 7 Velocity
- 11 2 8 Pipe Strength
- 11 2 9 Alignment
- 11 2 10 Separation
 - 11 2 10 1 Horizontal Separation – Water Main
 - 11 2 10 2 Crossings – Water Main
 - 11 2 10 3 Separation - Sanitary Sewer
 - 11 2 10 4 Crossing – Sanitary Sewer
- 11 3 STORM SEWER APPURTENANCES
 - 11 3 1 Junction Boxes
 - 11 3 1 1 Location
 - 11 3 1 2 Flow Channels

11 3 2 Outlets

- 11 3 3 Inlets
 - 11 3 3 1 Introduction
 - 11 3 3 2 Inlet Standards
 - 11 3 3 3 Continuous Grade
 - 11 3 3 4 Capacity of Grated Inlets in Sump

11 4 CULVERTS

- 11 4 1 General
- 11 4 2 Design Criteria

11 5 OPEN CHANNEL FLOW, MAJOR DRAINAGEWAY

11 6 STREET FLOW CAPACITY

- 11 6 1 General
- 11 6 2 Street Capacity for Minor Storms
- 11 6 3 Street Capacity for Major Storms

- 11 6 4 Cross Street Flow
- 11 6 5 Capacity Calculation
- 11 6 6 Drainage Tract Requirements
- 11 6 7 Sump Pump Collection Systems
- 11 7 DETENTION STORAGE**
 - 11 7 1 General
 - 11 7 2 Design Storm
 - 11 7 3 Release Methods
 - 11 7 4 Maximum Release Rate
 - 11 7 5 Maintenance Requirements
 - 11 7 6 Adjacent Property Elevations
- 11 8 BEST MANAGEMENT PRACTICES**

Chapter 12: Erosion and Sediment Control

- 12 1 1 General**
 - 12 1 2 Performance Objectives
 - 12 1 3 Erosion and Sediment Control Plan
- 12 2 Erosion Control**
 - 12 2 1 Surface Roughening
 - 12 2 2 Mulching
 - 12 2 3 Revegetation
 - 12 2 4 Roads and Soil Stockpiles
- 12 3 Sediment Control**
 - 12 3 1 Vehicle Tracking
 - 12 3 2 Slope—Length and Runoff Considerations
 - 12 3 3 Sediment Entrapment Facilities
- 12 4 Drainageway Protection**
 - 12 4 1 Working Within or Crossing a Waterway
 - 12 4 2 Temporary Channel Diversions
 - 12 4 3 Outlet Protection
 - 12 4 4 Inlet Protection
- 12 5 Underground Utility Construction**
- 12 6 Disposition of Temporary Measures**
- 12 7 Maintenance**
- 12 8 Pollution Prevention Using Nonstructural BMPs**
 - 12 8 1 Objectives in the Use of Nonstructural BMPs
 - 12 8 2 Nonstructural BMP Effectiveness
 - 12 8 3 Pollutant Removal Mechanisms
 - 12 8 4 Selection of Appropriate Nonstructural BMPs
 - 12 8 5 Good Housekeeping
 - 12 8 6 Spill Prevention and Response
 - 12 8 7 Identification of Spill Areas
 - 12 8 8 Material Handling Procedures
 - 12 8 9 Spill Response Procedures and Equipment
- 12 9 Inspections**
- 12 10 Construction Control Measures**
 - 12 10 1 Concrete Washout Facility
 - 12 10 2 Limits of Construction
- 12 11 Final Stabilization**

Chapter 13: General Submittal Procedures for Subdivisions

- 13 1 General Subdividing Requirements
- 13 2 Sketch Plan
- 13 3 Preliminary Plat and Plans
- 13 4 Final Plat and Plans

Chapter 14: General Submittal Procedures for Public Improvements

- 14 1 General
- 14 2 Title Sheet
- 14 3 General Information to be Shown on Detailed Plans
- 14 4 Street and Storm Sewer Plans
- 14 5 Sanitary Sewer Plans
- 14 6 Drainage Ditch and Drainage way Plans
- 14 7 Water Main Plans
- 14 8 Erosion Control Plans
- 14 9 Street Light Plans

Chapter 15: Acceptance Procedures and Requirements for Private Construction of Public Improvements

- 15 1 Application of Standards**
 - 15 1 1 Acceptance Limitation
- 15 2 Acceptance and Warranty**
 - 15 2 1 As-built drawings
 - 15 2 1 Utility Acceptance and Warranty
 - 15 2 2 Final Acceptance and Warranty
- 15 3 General**

Chapter 16: Minimum Testing Requirements for Public Improvements

- 16 1 Uniform Testing Guidelines
- 16 2 Testing
- 16 3 Test Report Required
- 16 4 Test Failure
- 16 5 City-Required Tests
- 16 6 Construction Engineering for Developments
- 16 7 Additional Tests
- 16 8 Conflicts

Chapter 17: Street Lighting

- 17 1 General
- 17 2 Street Light Locations and Spacing
- 17 3 Junction Boxes
- 17 4 Conduits
- 17 5 Concrete Street Light Footing
- 17 6 Direct Bury Street Lights
- 17 7 Meter and Meter Pedestal
- 17 8 Power Supply
- 17 9 Manufactured Home Parks and Private Streets
- 17 10 Easements
- 17 11 Testing
- 17 12 Payment

Supplemental Standards:

Warranty for Construction Activity

- 1 1 Utility Construction Activity
- 1 2 Surface Construction Activity
- 1 3 Final Site Stabilization Requirements
- 1 4 Final Stabilization

Sanitary Sewer Construction

1 GENERAL

- 1 1 SCOPE OF WORK
- 1 2 TERM OF WARRANTY
- 1 3 QUALITY CONTROL AND SUBMITTALS
- 1 4 PAYMENT
- 1 5 ACCEPTANCE
- 1 6 SEWAGE LIFT STATION
- 1 7 REFERENCES

2 MATERIALS

- 2 1 SANITARY SEWER GRAVITY PIPE
- 2 2 PIPE JOINT MATERIALS
- 2 3 SANITARY SEWER FORCE MAIN PIPE
- 2 4 MISCELLANEOUS PIPE MATERIALS
- 2 5 MANHOLE MATERIALS
- 2 6 BEDDING MATERIAL
- 2 7 TRENCH STABILIZATION MATERIAL
- 2 8 GEOTEXTILE FABRIC
- 2 9 GRANULAR MATERIAL
- 2 10-FLOWABLE FILL
- 2 11 CASING PIPE AND BORING MATERIALS
- 2 12 SANITARY SEWER SERVICE LINES
 - 2 12 4 SANITARY SEWER SERVICE PIPE COUPLINGS
 - 2 12 5 REDUCERS
 - 2 12 6 SANITARY SEWER SERVICE PIPE LINING REPAIRS
 - 2 12 7 SANITARY SEWER SERVICE PIPE BEDDING MATERIAL

3 CONSTRUCTION REQUIREMENTS

- 3 1 ALIGNMENT AND GRADE
- 3 2 UNDERGROUND INTERFERENCE
- 3 3 EXCAVATION AND TRENCHING
- 3 4 SANITARY SEWER PIPE JOINTS
- 3 5 WYE BRANCHES
- 3 6 MANHOLES
- 3 7 CONNECTIONS TO EXISTING MANHOLES
- 3 8 CONNECTIONS TO EXISTING SANITARY SEWER PIPES
- 3 10 SERVICE CONNECTIONS
- 3 11 BEDDING, BACKFILL, AND COMPACTION
- 3 12 SURFACE RESTORATION
- 3 13 REMOVAL AND ABANDONING SEWER PIPE AND MANHOLES
- 3 14 PIPE INSULATION
- 3 15 JACKING, BORING, AND TUNNELING
- 3 16 SANITARY SEWER SERVICES
- 3 17 INSPECTION AND TESTING

4 METHOD OF MEASUREMENT AND BASIS OF PAYMENT

Storm Sewer Construction

1 GENERAL

- 1 1 SCOPE OF WORK
- 1 2 TERM OF WARRANTY
- 1 3 PAYMENT
- 1 4 FINAL ACCEPTANCE
- 1 5 REFERENCES

2 MATERIALS

- 2 1 STORM SEWER PIPE
- 2 2 PIPE JOINT MATERIALS
- 2 3 STRUCTURES

3 CONSTRUCTION REQUIREMENTS

- 3 1 ALIGNMENT AND GRADE
- 3 2 UNDERGROUND INTERFERENCE
- 3 3 EXCAVATION
- 3 4 EARTH EXCAVATION
- 3 5 SHEETING AND BRACING
- 3 6 EXCAVATION BELOW PIPE GRADE
- 3 7 EXCAVATION IN UNSTABLE OR UNSUITABLE SOIL
- 3 8 ROCK EXCAVATION
- 3 9 DEWATERING
- 3 10 INSTALLATION OF PIPE
- 3 11 PIPE JOINTS
- 3 12 ADJUST STRUCTURE
- 3 13 FRAME AND COVER
- 3 14 CONNECTIONS TO EXISTING SEWERS
- 3 15 STUBS FROM STRUCTURES FOR FUTURE EXTENSIONS
- 3 16 BEDDING AND BACKFILL
- 3 17 USE AND REPAIR OF STREET
- 3 18 JACKING, BORING, AND TUNNELING
- 3 19 INSPECTION AND TESTING
- 3 20 PIPE DEFLECTION

Water Main Construction

1 GENERAL

- 1 1 SCOPE OF WORK
- 1 2 TERM OF WARRANTY
- 1 3 QUALITY CONTROL AND SUBMITTALS
- 1 4 BIDS
- 1 5 PAYMENT
- 1 6 ACCEPTANCE

2 MATERIALS

- 2 1 WATER MAIN PIPE
- 2 2 WATER MAIN FITTINGS
- 2 4 VALVES
- 2 5 FIRE HYDRANTS
- 2 6 VALVE BOXES
- 2 7 TRACER WIRE
- 2 8 INSULATION
- 2 9 CASING PIPE SPACERS AND END SEALS
- 2 10 SELECT FILL AND WATER MAIN BEDDING
- 2 11 TRENCH STABILIZATION MATERIAL
- 2 12 VALVE BOX MARKERS
- 2 13 WATER SERVICE LINES

3 CONSTRUCTION REQUIREMENTS

- 3 2 ALIGNMENT
- 3 3 UNDERGROUND INTERFERENCE
- 3 4 EXCAVATION
- 3 5 SHEETING AND BRACING
- 3 6 DEWATERING
- 3 7 WATER MAIN
- 3 8 VALVES AND FITTINGS
- 3 9 FIRE HYDRANTS
- 3 10 VALVE BOX MARKERS
- 3 11 POLYETHYLENE ENCASEMENT
- 3 12 CONNECTIONS TO EXISTING WATER MAIN
- 3 13 SERVICE CONNECTIONS
- 3 14 TRACER WIRE
- 3 15 CONCRETE THRUST BLOCKS
- 3 16 BACKFILLING
- 3 17 DISINFECTION AND BACTERIOLOGICAL TESTING
- 3 18 HYDROSTATIC PRESSURE TESTING
- 3 19 SURFACE RESTORATION AND CLEANUP
- 3 20 GENERAL

4 METHOD OF MEASUREMENT AND BASIS OF PAYMENT

- 4 1 REMOVAL OF WATER MAIN PIPE
- 4 2 REMOVAL OF WATER MANHOLE
- 4 3 ABANDONMENT OF WATER MANHOLE
- 4 4 ROCK EXCAVATION
- 4 5 WATER MAIN BEDDING MATERIAL
- 4 6 TRENCH STABILIZATION MATERIAL
- 4 7 SELECT FILL FOR WATER MAIN
- 4 8 WATER MAIN INSULATION
- 4 9 WATER MAIN
- 4 10 EXTRA DEPTH WATER MAIN
- 4 11 VALVES AND BOXES
- 4 12 WATER MAIN (INSTALL ONLY)
- 4 13 MECHANICAL JOINT FITTINGS
- 4 14 FIRE HYDRANT
- 4 15 REMOVE AND SALVAGE FIRE HYDRANT
- 4 16 REMOVE AND RELOCATE FIRE HYDRANT
- 4 17 FIRE HYDRANT EXTENSION
- 4 18 TEMPORARY FIRE HYDRANT
- 4 19 COMBINATION AIR VALVE MANHOLE
- 4 20 SMITH TAP AND BOX
- 4 21 WATER MAIN ADJUSTMENT