

Engineer Consultant Training

Hydrologic/Hydraulic Design

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Agenda

- **South Dakota Drainage Manual**
 - **Implementation**
 - **SDDOT Master Retainer Agreement for Professional Engineering Services**
 - **Chapter Highlights**

South Dakota Drainage Manual

- **Implemented November 16, 2011**
- **Implementation Statement from Director of Planning and Engineering**
 - The South Dakota Department of Transportation has oversight for some local government highway projects. Effective November 16, 2011, the newest version of the South Dakota Drainage Manual, date October, 2011 or later, will apply to local government highway projects if the preliminary hydrology or hydraulic design has not yet been started.

Master Retainer Agreement for Professional Engineering Services

C. Preliminary Engineering Technical Requirement

3. General Requirements

- d. Hydrologic/Hydraulic design will be in accordance with the edition of the South Dakota Drainage Manual (and its revisions) currently in place at the time of the execution of the Work Order.

South Dakota Drainage Manual

- **Chapter 6 Documentation**

- **6.2 Project Scheduling and Hydraulic Analysis**

- Preliminary HDS and Draft HDR
- TS&L Layout
- TS&L inspection
- Final HDS and Final HDR
- Preliminary Layout

- **6.3 Hydraulic Design Report**

- Draft versus Final
- Distribution
- Format and Content

South Dakota Drainage Manual

- **Chapter 7 Hydrology**
 - **7.6 Flood Frequency**
 - **Guidelines and practices**
 - Design Frequency and Headwater
 - Review Frequency and Headwater
 - **7.7 Selection of Hydrologic Methods**
 - **7.8 Stream Gage Data**
 - **7.9 Regression Equations**

South Dakota Drainage Manual

- **Chapter 10 Culverts**
 - 10.2 Standard Practices
 - 10.3 Design Criteria
 - 10.4 Culvert Hydraulic Design
- **Chapter 11 Energy Dissipators**
 - Type Selection
 - Design Considerations
 - Riprap Aprons

South Dakota Drainage Manual

- **Chapter 14 Bridge Hydraulics**
 - **14.2 Hydraulic Performance Criteria**
 - **14.3 Bridge Location**
 - **14.4 Stream Stability**
 - **14.5 Bridge Scour**

Questions
