

## DETAILED SCOPE OF SERVICES

The following scope of services describes Consultant and Owner interfaces and responsibilities in connection with Project ST01-973. Deviations or amendments to the work scope shall be agreed to in writing by both parties in the form of a contract amendment.

### SERVICES BY CETEC (Consultant)

#### Project Description

The City of Rapid City proposes to reconstruct one or more areas of Tower Road currently experiencing slope instability or exhibiting a substantial potential for future slope instability. Alternatives may include utilizing a different route than the current roadway alignment.

Design criteria for the Tower Road Slide Area Reconstruction shall include the current City of Rapid City Street Design Criteria Manual. Additional background information includes: a preliminary geotechnical investigation of the known slope instability area performed in 1998 by FMG, Inc.; and the current City of Rapid City Capital Improvement Program budget/schedule. The US Highway 16 Corridor study will not be available.

#### Scope of Services

The scope of services to be performed by the Consultant include initial study, field survey as necessary, design and preparation of plans, specifications, special provisions and estimates for new utilities, drainage facilities, and street reconstruction. The project includes: right-of-way and/or easement requirement determination and document preparation; traffic control; grading; drainage facilities; storm sewer; sanitary sewer; water main; curb and gutter; surfacing; pavement marking; sidewalk on one side; and outside utilities coordination.

#### Preliminary Design Phase

The scope of services to be performed by the Consultant in the Preliminary Design Phase include: 1) Review information such as: pertinent geologic studies and data of the area; current City of Rapid City traffic count data; and any other pertinent data; 2) Perform the following study tasks: identify potential development trends for the Tower Road area; identify any further areas of potential slope instability along existing Tower Road; identify potential new alignments of Tower Road that would avoid existing areas of instability, yet still be able to serve the area; 3) Recommend design alternatives for the reconstruction of the unstable area(s) of Tower Road and for any alignment changes identified; 4) Prepare preliminary opinion of probable construction cost for the various alternatives; 5) Define the scope of geotechnical investigations as may be necessary for design, and coordinate with geotechnical engineer; 6) Prepare preliminary systems layouts of all necessary utility infrastructure within the proposed project limits. This may include: water main size and location, hydrant and mainline valve locations; sanitary sewer main

size and location, manhole locations; and other, privately owned utility main and appurtenance locations; 7) Prepare Preliminary Design Report, including layout maps for future systems, with recommendations for review and comment by City staff, and conduct a review meeting with City staff.

Preliminary design will be based on City 2' contour interval maps. Minimal topographic survey will be performed in the Preliminary Design Phase to pick up new topography not covered by the maps. Route, topographic and legal survey will be performed in the Final Design Phase.

As discussed at the project scoping meeting on May 19, 2000, a meeting will be held with the primary landowner's representative early on in the project to determine if they are interested in the new Tower Road concept through the property as proposed at the project interview. The City Development Loan Fund is a likely funding source for this work. A meeting will also be held with the developer of the property to the north and west of this project that could be affected by this project.

The Preliminary Design Phase will take the project alternatives for street, sewer and water through 35% completion to determine technical feasibility and preliminary probable construction costs.

Traffic engineering subconsultant will perform the planning functions including identifying future development trends and land use plans, traffic volume forecasting, and evaluation of the need for the bridge over US Highway 16.

The City will hire FMG, Inc. as the geotechnical consultant directly under the City 2000 geotechnical retainer contract.

#### Final Design Phase

The scope of services to be performed by the Consultant in the Final Design Phase include: 1) Provide complete plans and specifications for a unit price construction contract; 2) Provide route and topographical survey, (establish land ties and bench marks, locate property corners, and field locate all existing utilities). Scale of plan & profile sheets, 1"=20' Horizontal, 1"=5' Vertical. Construction staking information shall include either a.) on plans: Station offsets of all PC's, PI's, PT's, and any angle points; curve data, or b.) in tabular format on a plan sheet: coordinates and description of intervisible control points, curve data, and coordinates of all items of work requiring field staking. Benchmark information shall be provided on each sheet; 3) Provide project layout plan to include lot lines (front and side) and addresses of all properties in the service area; 4) Coordinate directly with utility companies' engineering divisions to ensure that existing utilities are completely and accurately located in the field, that pertinent information regarding depth, material, size, etc. are noted on the plans; and that conflicts requiring relocation of utilities or special construction techniques are fully specified in the contract documents; 5) Provide general sequence of construction requirements in order to facilitate the reconstruction of the unstable areas; 6) Provide Detailed Specifications supplementing City of Rapid City Standard Specifications as necessary; 7) Provide Traffic Control Plans identifying detour routes and

signage for various stages of construction; 8) Prepare opinion of probable construction cost (engineer's estimate) for the project; 9) Perform legal survey for property acquisition and prepare final Right of Way acquisition exhibit documents and assist the City with property acquisition for the selected realignment; 10) Deliver the following: construction plans on 22"x34" mylar for printing by the City; construction plans on disk in Autocad 14.0 format; complete specifications on disk in Word 97 format for printing by the City; a unit price cost estimate and a Bidder's Proposal on disk in Excel 97 format, utilizing the City of Rapid City Excel 97 Project Workbook and the City of Rapid City Excel 97 Engineers Estimating Guide.

Estimated task and man-hour breakdown for Final Design Phase will be submitted after the Preliminary Design Phase and final project and scope have been determined. The Final Design Phase services will be done as an amendment to the Contract.

#### Bidding Phase

The scope of services to be performed by the Consultant in the Bidding Phase include providing standard bidding phase services, e.g. attend Prebid Conference, issue addenda to the bid documents if required, review pre-qualification submittals if required, assist owner in evaluating bids, etc. Bid tabs will be prepared by the City of Rapid City. Estimated task and man-hour breakdown for the Bidding Phase will be submitted after final project and scope have been determined. The Bidding Phase services will be done in an amendment to the Contract.

#### Construction Phase

The scope of services to be performed by the Consultant in the Construction Phase will be construction management services as negotiated, which may include: 1) Attending preconstruction conference and periodic progress meetings; 2) Reviewing and taking action on shop drawings, test results, and other submittals; 3) Providing construction observation, making periodic site visits at intervals appropriate to the various stages of construction; 4) Issuing statement of substantial completion. Construction Phase services as negotiated will be done as an amendment to the Contract.

#### Project Team

Project team members will include the consultant and subconsultant(Benshoof & Associates); City staff from Engineering Division (project management, design and construction coordination), City staff from operations divisions, e.g. Street Maintenance Division (O&M related issues), and other departments as appropriate, e.g. Planning Department (master planning, traffic planning).

#### Meetings

Meetings include: Kick-off Meeting, Preliminary meeting with primary landowner, Preliminary meeting with developer of property to north and west of project, Preliminary Design Report Presentation and Discussion, 65% Plans and Specifications Review, 95% Plans and

Specifications Review, Prebid Conference, Preconstruction Conference and Construction Progress Meetings as negotiated.

Submittals

Submittals include: Preliminary Design Report including 35% plans, 65% Plans and Specifications and Right of Way Easement and Acquisition documents, 95% Plans and Specifications, 100% Plans and Specifications.