### REQUEST AUTHORIZATION FOR MAYOR AND FINANCE OFFICER TO SIGN PROFESSIONAL SERVICES AGREEMENT OR AMENDMENT

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cc: Public Works Engineering Project Manager Appropriation 5/3/06 Ob (Y N Cash Flow)

# PROFESSIONAL SERVICES AGREEMENT for ENGINEERING SERVICES

This AGREEMENT is made this 27<sup>TH</sup> day of April, 2006 by and between the City of Rapid City, 300 Sixth Street, Rapid City, SD 57701, hereinafter called the Client, and FMG, Inc., 3700 Sturgis Road, Rapid City, SD 57702, hereinafter called the Consultant.

The Client agrees to employ the Consultant to render Engineering services in connection with the Client's projects described as:

Canyon Lake Drive & Soo San Drive 14" Water Main Project No. W06-1562, CIP #50598 and West Main Street & Soo San Drive Storm Sewer Lime Creek Element 382 Project No. DR06-1563, CIP #50024

It is agreed that the Consultant shall perform the services and the Client shall make payment for same in accordance with the terms and conditions set forth in the attached Articles and Exhibits which are herewith made a part of this Agreement. The Agreement between the parties consists of these terms, Exhibits, attached proposals, and other attachments noted. Together, these elements constitute the entire Agreement superseding any and all prior negotiations, correspondence, or agreements either written or oral. Any changes to this Agreement must be mutually agreed to in writing.

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement (in duplicate) on the day and year first mentioned above.

CLIENT:	CONSULTANT:
CITY OF RAPID CITY	FMG, INC.
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By:	By: lea Hala
	Allen D. Foster, P. E.
Title:	Title: President
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Date:	Date: 4/27/06
ATTEST:	
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	APPROVED AS TO FORM
Title:	CITY ATTORNEY'S OFFICE
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### **ARTICLE I - PROJECT PROVISIONS**

#### A. PROJECT DESCRIPTION

This project is for construction of approximately 6,000 feet of new 14" water main beginning near the intersection of Canyon Lake Drive and Sheridan Lake Road and ending near the intersection of West Main Street and Soo San Drive. The water main will be along a portion of Canyon Lake Drive, through Mary Hall Park, along South Street and Soo San Drive. Short segments of 8" water main will be constructed on West Main Street and in the alley south of West Main Street. The existing 10" and 12" water mains running through Camp Rapid and the Hall Street residential area and the existing 6" water main on Soo San Drive will be abandoned. A misaligned sanitary sewer pipe at Soo San Drive and Brookside Drive will be repaired as a part of the project.

Construction of a new storm sewer bypass pipe noted as Element 382 in the South Canyon/Lime Creek Drainage Basin Design Plan will be included in the project. The storm sewer bypass, as originally envisioned, would be a 78" RCP running from the north side of West Main Street at the intersection with 36<sup>TH</sup> Street to the existing channel east and south of the Hall Street and Soo San Drive intersection. The exact routing will be determined during the preliminary design phase. The storm sewer project will include an inlet structure to split the flows as required on the north side of West Main Street.

Engineering services for the proposed project include route survey, geotechnical evaluation, engineering design and plan preparation, project administration and construction observation. The project will be designed as two independent projects which may or may not be bid as a single project.

#### B. SCOPE OF SERVICES

#### Design, Contract Document Preparation and Bidding

The anticipated services is set forth in the "Request for Proposal" dated March 7, 2006 from the City of Rapid City. The "Request for Proposal" dated March 7, 2006 is attached hereto as Attachment B.

The tasks to complete the project requirements are established in the Estimated Man-Hours and Fees attached hereto as Attachment C for the Canyon Lake Drive & Soo San Drive 14" Water Main, Project No. W06-1562, CIP #50598 and Attachment D for the West Main Street & Soo San Drive Storm Sewer, Lime Creek Element 382 Project No. DR06-1563, CIP #50024. A detailed description of each task is included with Attachments C and D.

The City shall furnish copies of existing reports, studies, and mapping appropriate for the study.

#### Construction Phase

Upon successful completion of the Bidding and Negotiating Phase, and upon written authorization from Owner, Consultant shall:

 Consult with Client and act as Client's representative as provided in the General Conditions. The extent and limitations of the duties, responsibilities, and authority of Consultant as assigned in the General Conditions shall not be modified, except as Consultant may otherwise agree in writing. All of Client's instructions to Contractor will be issued through Consultant, which shall have authority to act on behalf of Client in dealings with Contractor to the extent provided in this Agreement and the General Conditions except as otherwise provided in writing.

- 2. Provide the services of a Resident Project Representative (RPR) at the Site to assist the Consultant and to provide more extensive observation of Contractor's work. Duties, responsibilities, and authority of the RPR are as set forth in Attachment A. The furnishing of such RPR's services will not limit, extend, or modify Consultant's responsibilities or authority except as expressly set forth in Attachment A.
- 3. Conduct a Pre-Construction Conference prior to commencement of Work at the Site.
- Receive, review, and determine the acceptability of any and all schedules that Contractor is required to submit to Consultant, including the Progress Schedule, Schedule of Submittals, and Schedule of Values.
- 5. Provide construction staking of the improvements per the City of Rapid City Standard Specifications for Public Works Construction.
- 6. Make visits to the Site at intervals appropriate to the various stages of construction, as Consultant deems necessary, to observe as an experienced and qualified design professional the progress and quality of Contractor's executed Work. Such visits and observations by Consultant, and the Resident Project Representative, if any, are not intended to be exhaustive or to extend to every aspect of Contractor's Work in progress or to involve detailed inspections of Contractor's Work in progress beyond the responsibilities specifically assigned to Consultant in this Agreement and the Contract Documents, but rather are to be limited to spot checking, selective sampling, and similar methods of general observation of the Work based on Consultant's exercise of professional judgment as assisted by the Resident Project Representative, if any. Based on information obtained during such visits and observations, Consultant will determine in general if the Work is proceeding in accordance with the Contract Documents, and Consultant shall keep Client informed of the progress of the Work.
  - The purpose of Consultant's visits to, and representation by the Resident Project Representative, if any, at the Site, will be to enable Consultant to better carry out the duties and responsibilities assigned to and undertaken by Consultant during the Construction Phase, and, in addition, by the exercise of Consultant's efforts as an experienced and qualified design professional, to provide for Client a greater degree of confidence that the completed Work will conform in general to the Contract Documents and that Contractor has implemented and maintained the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents. Consultant shall not, during such visits or as a result of such observations of Contractor's Work in progress, supervise, direct, or have control over Contractor's Work, nor shall Consultant have authority over or responsibility for the means, methods, techniques, sequences, or procedures of construction selected or used by Contractor, for security or safety on the Site, for safety precautions and programs incident to Contractor's Work, nor for any failure of Contractor to comply with Laws and Regulations applicable to Contractor's furnishing and performing the Work. Accordingly, Consultant neither guarantees the performance of any Contractor nor

assumes responsibility for any Contractor's failure to furnish and perform the Work in accordance with the Contract Documents.

- 7. Consultant shall have the authority to recommend to Client that Contractor's Work be rejected while it is in progress if, on the basis of Consultant's observations, Consultant believes that such Work will not produce a completed Project that conforms generally to the Contract Documents or that it will threaten the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents.
- 8. Consultant will issue necessary clarifications and interpretations of the Contract Documents as appropriate to the orderly completion of Contractor's work. Such clarifications and interpretations will be consistent with the intent of and reasonably inferable from the Contract Documents. Consultant may issue Field Orders authorizing minor variations in the Work from the requirements of the Contract Documents.
- 9. Consultant will recommend Change Orders and Work Change Directives to Client, as appropriate, and prepare Change Orders and Work Change Directives as required.
- 10. Consultant will review and approve or take other appropriate action in respect to Shop Drawings and Samples and other data which Contractor is required to submit, but only for conformance with the information given in the Contract Documents and compatibility with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such reviews and approvals or other action will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions and programs incident thereto. Consultant shall meet any Contractor's submittal schedule that Consultant has accepted.
- 11. Consultant will assist the Client in evaluating and determining the acceptability of substitute or "or-equal" materials and equipment proposed by Contractor.
- 12. Consultant will require such special inspections or tests of Contractor's work as deemed reasonably necessary, and receive and review all certificates of inspections, tests, and approvals required by laws and regulations or the Contract Documents. Consultant's review of such certificates will be for the purpose of determining that the results certified indicate compliance with the Contract Documents and will not constitute an independent evaluation that the content or procedures of such inspections, tests, or approvals comply with the requirements of the Contract Documents. Consultant shall be entitled to rely on the results of such tests.
- 13. Consultant will render formal written decisions on all duly submitted issues relating to the acceptability of the work or the interpretation of the requirements of the Contract Documents pertaining to the execution, performance, or progress of the Work; review each duly submitted Claim by Client or Contractor, and in writing either deny such Claim in whole or in part, approve such Claim, or decline to resolve such Claim if Consultant in its discretion concludes that to do so would be inappropriate. In rendering such decisions, Consultant shall be fair and not show partiality to Client or Contractor and shall not be liable in connection with any decision rendered in good faith in such capacity.
- 14. Based on Consultant's observations as an experienced and qualified design professional and on review of Applications for Payment and accompanying supporting documentation:

- a. Recommend the amounts the Contractor be paid. Such recommendations of payment will be in writing and will constitute Consultant's representation to Client, based on such observations and review, that, to the best of Consultant's knowledge, information and belief, Contractor's Work has progressed to the point indicated, the quality of such Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, and to any other qualifications stated in the recommendation), and the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Consultant's responsibility to observe Contractor's Work. In the case of unit price work, Consultant's recommendations of payment will include final determinations of quantities and classifications of Contractor's Work (subject to any subsequent adjustments allowed by the Contract Documents).
- b. By recommending any payment, Consultant shall not thereby be deemed to have represented that observations made by Consultant to check the quality or quantity of Contractor's Work as it is performed and furnished have been exhaustive, extended to every aspect of Contractor's Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Consultant in this Agreement and the Contract Documents. Neither Consultant's review of Contractor's Work for the purposes of recommending payments nor Consultant's recommendation of any payment including final payment will impose on Consultant responsibility to supervise, direct, or control Contractor's Work in progress or for the means, methods, techniques, sequences, or procedures of construction or safety precautions or programs incident thereto, or Contractor's compliance with Laws and Regulations applicable to Contractor's furnishing and performing the Work. It will also not impose responsibility on Consultant to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or to determine that title to any portion of the Work in progress, materials, or equipment has passed to Client free and clear of any liens, claims, security interests, or encumbrances, or that there may not be other matters at issue between Client and Contractor that might affect the amount that should be paid.
- 15. The Consultant, RPR and assistants will perform quality control testing of materials during the construction in accordance with the requirements and frequencies set forth in the construction documents and the latest revision of the City of Rapid City Standard Specifications for Public Works Construction.
- 16. Consultant will receive, review and transmit maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance required by the Contract Documents, certificates of inspection, tests and approvals, and the annotated record documents which are to be assembled by Contractor in accordance with the Contract Documents to obtain final payment.
- 17. Promptly after notice from Contractor that Contractor considers the entire Work ready for its intended use, the Consultant will, in company with Client and Contractor, conduct an inspection to determine if the Work is substantially complete. If after considering any objections of Client, Consultant considers the Work substantially complete; Consultant shall deliver a certificate of Substantial Completion to Client and Contractor.

- 18. Promptly after notice from Contractor that Contractor that the Work is complete, the Consultant will, in company with Client and Contractor, conduct an inspection to determine if the Work is complete. Consultant shall deliver a certificate of final Completion to Client and Contractor including the date for the start of the warranty period.
- 19. The Construction Phase will commence with the execution of the first construction Contract for the Project or any part thereof and will terminate upon written recommendation by Consultant for final payment to Contractors.
- 20. Consultant shall not be responsible for the acts or omissions of any Contractor, or of any subcontractors, suppliers, or other individuals or entities performing or furnishing any of the Work. Consultant shall not be responsible for the failure of any Contractor to perform or furnish the Work in accordance with the Contract Documents.

#### C. PAYMENTS OF THE CONSULTANT

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For the engineering services performed by the Consultant under this Agreement, and as full compensation therefor, and for all expenditures made and all expenses incurred by the Consultant in connection with the Agreement, except as otherwise expressly provided herein, subject to and in conformance with all provisions of the Agreement, Client will pay consultant as follows:

1.1 For the Engineering Services described in Section B, Client will pay Consultant in accordance with the provisions of Article II. Total compensation, as outlined in the Estimated Man-Hours and Fees attached hereto as Attachment C and Attachment D, will not exceed \$238,751 without prior written approval of Client. The services will be billed on a unit-cost basis. The unit costs are considered fixed; however, the total will vary depending on the actual project work requirements and conditions.

#### **Summary**

Canyon Lake Drive & Soo San Drive 14" Water Main Project No. W06-1562, CIP #50598 (Attachment C)

\$142,541

West Main Street & Soo San Drive Storm Sewer Lime Creek Element 382 Project No. DR06-1563, CIP #50024 (Attachment D)

\$96,210

Total Fees

\$238,751

1.2 For additional services rendered pursuant to Article II, Section 7.0, Client will pay Consultant on the basis hourly rates set forth in the Estimated Man-Hours and Fees attached hereto as Attachments C and D.

#### D. BILLING RATES

See Attachments C and D.

#### E. SCHEDULE

1.1 The provisions of this section have been agreed to in anticipation of the orderly and continuous progress of the Project through completion of construction. Consultant's obligation to render services

hereunder will extend for a period which may reasonably be required for completion of the project including extra work and extensions thereto.

1.2 Consultant's services shall be in accordance with the schedule set forth in the "Request for Proposal" dated March 7, 2006 from the City of Rapid City with 95% plans completed by November 15, 2006.

### ARTICLE II - GENERAL CONDITIONS

#### **SECTION 1.0 - STANDARD OF CARE**

- 1.1 Consultant agrees to perform the services set forth in this Agreement in accordance with generally accepted professional practices, in the same or similar localities, related to the nature of the work accomplished, at the time the services are performed. Consultant's services shall not be subject to any other express or implied warranties whatsoever.
- 1.2 Client recognizes that site characteristics and subsurface conditions may vary from those observed at locations where observations, borings, surveys, or explorations are made, and that site conditions may change with time. Client further recognizes that even with a comprehensive sampling and testing program, implemented with experienced personnel who function in accordance with a professional standard of care, there may be failure to detect certain conditions. Client will furnish to Consultant all reports, data, studies, plans, specifications, documents and other information deemed necessary by Consultant for performance of the services. Consultant may rely upon Client provided documents in performing the services but Consultant assumes no responsibility or liability for the accuracy of such documents. Data, interpretations, and recommendations by Consultant will be based solely on information available to Consultant, and Consultant will not be responsible for hidden conditions or other parties' interpretations or use of the information developed.

#### SECTION 2.0 SITE ACCESS AND RIGHT OF ENTRY

2.1 Client will grant or obtain free access to the site for all equipment and personnel necessary for Consultant to perform the work set forth in this Agreement. Client will notify any and all possessors of the project site that Client has granted Consultant free access to the site. Consultant will take reasonable precautions to minimize damage to the site, but it is understood by Client that, in the normal course of work, some damage may occur but in the absence of any written damage agreement, Consultant shall not be liable or responsible for such damage. Any additional costs to facilitate site access will be charged to the Client at cost.

#### **SECTION 3.0 TIME**

3.1 The Consultant will perform the professional services in a timely manner consistent with sound engineering practices.

#### SECTION 4.0 DELAYS

4.1 It is recognized that unforeseen events or circumstances may arise causing delays beyond the control of either the Client or the Consultant. Whenever such delays occur or are about to occur, the Consultant shall immediately notify the Client. If such delays are not the fault of the Consultant and will increase his cost of performing the services required under this Agreement, the parties hereto shall enter into a written agreement describing the additional cost and the compensation therefor.

#### SECTION 5.0 OWNERSHIP OF DOCUMENTS

5.1 Reports, drawings, specifications, field data, laboratory test data, calculations, estimates, and other materials resulting from Consultant's efforts are intended solely for purposes of this Agreement; any reuse by Client or others for purposes outside of this Agreement or any failure to follow Consultant's recommendations, without Consultant's written permission, shall be at the user's sole risk. Client will furnish such reports, data, studies, plans, specifications, documents, and other information deemed necessary by Consultant for proper performance of its services. Consultant may rely upon Client-provided documents in performing the services required under this Agreement; however, Consultant assumes no responsibility or liability for their accuracy. Client-provided documents which are prepared, as instruments of service, shall remain

Consultant's property and consultant shall retain copyrights to these materials. Consultant will retain all pertinent records relating to services performed for a period of six years following submission of a report during which period the records will be made available to Client at all reasonable times.

#### SECTION 6.0 SAFETY AND WORK PROGRESS

6.1 The Consultant will perform professional services in accordance with custom and practice within the locality and in no instance is to be responsible for methods of performance of the work, superintendance, sequencing of construction, or safety in or about the jobsite.

#### **SECTION 7.0 CHANGE IN SCOPE**

- 7.1 It is recognized by the parties of this Agreement that unforeseen circumstances may arise during the development and completion of the project which will dictate changes in the scope of work, the procedures, and the Consultant's fees.
- 7.2 Consultant shall identify the changed conditions which in Consultant's judgment make such modification necessary, and Consultant and Client shall promptly and in good faith enter into modification of the work scope and fees of this agreement to help permit Consultant to continue to meet Client's needs. If mutually agreed in writing by the Client and the Consultant, the Consultant shall perform or obtain the services of others to perform any additional activities deemed necessary for completion of the project. Additional Services are not included as part of the original proposal and will be paid by the Client as provided in writing through subsequent work proposals, at the established rates and fees.

#### **SECTION 8.0 CHANGE ORDERS**

Whenever there occurs any change(s) affecting the scope or nature of the work and the terms and requirements of this Agreement, the Consultant shall issue a written supplemental agreement to be agreed upon by both parties hereto and become a part of this Agreement. The Supplemental Agreement shall describe the nature of and the reasons for such change and any change in compensation to be paid the Consultant by the Client.

#### SECTION 9.0 INVOICES AND PAYMENT

- 9.1 The Consultant will submit invoices to the Client monthly and/or a final bill upon completion of services.

  The invoices will be prepared in accordance with the applicable cost items indicated in Article I proposal(s), related attachments, and for any Additional Services provided.
- 9.2 If Client objects to all or any portion of any invoice, Client will so notify Consultant in writing within fourteen (14) calendar days of the invoice date, identify the cause of disagreement, and pay when due that portion of the invoice not in dispute. The parties will immediately make every effort to settle the disputed portion of the invoice. In the absence of written notification described above, the balance as stated on the invoice will be paid.
- 9.3 Payment is due upon presentation of invoice and is past due thirty (30) days from invoice date. Invoices are delinquent if payment has not been received within thirty (30) days from date of invoice. Client will pay additional charge of one-and-one-half (1.5) percent per month (or the maximum percentage allowed by law, whichever is lower) on any delinquent amount, excepting any portion of the invoiced amount in dispute and resolved in favor of Client. Payment thereafter will first be applied to accrued interest and then to the principal unpaid amount. All time spent and expenses incurred (including any attorney's fees) in connection with collection of any delinquent amount will be paid by Client to Consultant per Consultant's current fee schedules. Client's failure to pay Consultant within sixty (60) days may constitute a breach of this Agreement.

Payment to Consultant by Client is in no instance contingent upon Client's receipt of payment from any additional party including, but not limited to, insurance companies or governmental compensation funds.

#### **SECTION 10.0 DISPUTES**

10.1 DELETED

#### SECTION 11.0 RISK ALLOCATION

- 11.1 DELETED
- 11.2 DELETED
- 11.3 The Owner and Client acknowledges that the Consultant is a corporation and agrees that any claim made by the Owner or Client arising out of any act or omission of any director, officer or employee of the Consultant in the execution or performance of this agreement, shall be made against the Consultant and not against such director, officer or employee.
- 11.4 DELETED

#### SECTION 12.0 INSURANCE

12.1 The Consultant represents and warrants that it and its agents, staff, and subconsultants employed by it is and are protected by worker's compensation insurance and that the Consultant has such coverage under public liability and property damage insurance policies which the Consultant deems to be adequate. The Client shall be named as as additional insured on the public liability and propert damage insurance. Certificates for all such policies of insurance shall be provided to the Client prior to beginning work.

#### **SECTION 13.0 ASSIGNS**

13.1 Neither the Client nor the Consultant shall delegate, assign, sublet, or transfer his duties or interest in this Agreement without the written consent of the other party.

#### **SECTION 14.0 TERMINATION**

14.1 This Agreement may be terminated by either party upon seven (7) days' written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof. Such termination shall not be effective if that substantial failure has been remedied before expiration of the period specified in the

- written notice. In the event of termination, the Consultant shall be paid for services performed to the termination notice date plus reasonable termination expenses.
- 14.2 In the event of termination, or suspension for more than three (3) months prior to completion of all drawings, specification, reports and other instruments contemplated by this Agreement, the Consultant may complete such analyses and records as are necessary to complete his files and may also complete a report on the services performed to the date of notice of termination or suspension. The expenses of termination or suspension shall include all direct costs of the Consultant in completing such analyses, records and reports.

#### SECTION 15.0 FORCE MAJEURE

15.1 Neither party to this Agreement will be liable to the other party for delays in performing the services, nor for the direct or indirect cost resulting from such delays, that may result from labor strikes, riots, war, acts of governmental authorities, extraordinary weather conditions or other natural catastrophe, or any other cause beyond the reasonable control or contemplation of either party.

#### SECTION 16.0 SEVERABILITY AND SURVIVAL

Any element of this Agreement later held to violate a law shall be deemed void, and all remaining provisions shall continue in force. However, Client and Consultant will in good faith attempt to replace any invalid or unenforceable provision with one that is valid and enforceable, and which comes as close as possible to expressing the intent of the original provision. All terms and conditions of this Agreement allocating liability and defining indemnities between Client and Consultant shall survive the completion of the services hereunder and the termination of this Agreement for any cause.

#### SECTION 17.0 GOVERNING LAW

- 17.1 The law of the State of South Dakota will govern the validity of the Agreement terms, their interpretation and performance.
- 17.2 This Agreement is binding upon the parties, their heirs, successors and assigns.
- 17.3 The parties have read the foregoing, understand completely the terms and conditions, and willingly enter into this Agreement.

#### ATTACHMENT A

#### RESIDENT PROJECT REPRESENTATIVE

- A. Consultant shall furnish a Resident Project Representative (RPR), assistants, and other field staff to assist Consultant in observing progress and quality of the Work. The RPR, assistants, and other field staff under this Attachment A may provide full time representation or may provide representation to a lesser degree as work activities require.
- B. Through such additional observations of Contractor's work in progress and field checks of materials and equipment by the RPR and assistants, Consultant shall endeavor to provide further protection—for—Client—against—defects—and—deficiencies in—the—Work.—However, Consultant shall not, during such visits or as a result of such observations of Contractor's work in progress, supervise, direct, or have control over the Contractor's Work nor shall Consultant have authority over or responsibility for the means, methods, techniques, sequences, or procedures of construction selected or used by Contractor, for security or safety at the Site, for safety precautions and programs incident to the Contractor's work in progress, for any failure of Contractor to comply with Laws and Regulations applicable to Contractor's performing and furnishing the Work, or responsibility for Contractor's failure to furnish and perform the Work in accordance with the Contract Documents.
- C. The duties and responsibilities of the RPR are limited to those of the Consultant in the Professional Services Agreement with the Client and described as follows:
  - RPR is Consultant's agent at the Site, will act as directed by and under the supervision
    of Consultant, and will confer with Consultant regarding RPR's actions. RPR's
    dealings in matters pertaining to the Contractor's work in progress shall in general be
    with Consultant and Contractor, keeping Client advised as necessary. RPR's dealings
    with subcontractors shall only be through or with the full knowledge and approval of
    Contractor. RPR shall generally communicate with Client with the knowledge of and
    under the direction of Consultant.
  - 2. Review the progress schedule, schedule of Shop Drawing and Sample submittals, and schedule of values prepared by Contractor and consult with Consultant concerning acceptability.
  - 3. Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences and other project-related meetings, and prepare and circulate copies of minutes thereof.

#### 4. Liaison:

- a. Serve as Consultant's liaison with Contractor, working principally through Contractor's superintendent, assist in providing information regarding the intent of the Contract Documents.
- b. Assist Consultant in serving as Client's liaison with Contractor when Contractor's operations affect Client's on-Site operations.

#### ATTACHMENT A

- c. Assist in obtaining from Client additional details or information, when required for proper execution of the Work.
- Report to Consultant when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Consultant.

#### 6. Shop Drawings and Samples:

- a. Record date of receipt of Samples and approved Shop Drawings.
- b. Receive Samples which are furnished at the Site by Contractor, and notify Consultant of availability of Samples for examination.
- c. Advise Consultant and Contractor of the commencement of any portion of the Work requiring a Shop Drawing or Sample submittal for which RPR believes that the submittal has not been approved by Consultant.
- Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report such suggestions, together with RPR's recommendations, to Consultant. Transmit to Contractor in writing decisions as issued by Consultant.
- 8. Review of Work and Rejection of Defective Work:
  - a. Conduct on-Site observations of Contractor's work in progress to assist Consultant
    in determining if the Work is in general proceeding in accordance with the
    Contract Documents.
  - b. Report to Consultant whenever RPR believes that any part of Contractor's work in progress will not produce a completed Project that conforms generally to the Contract Documents or will imperil the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Consultant of that part of work in progress that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.

#### 9. Inspections, Tests, and System Startups:

- a. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Client's personnel, and that Contractor maintains adequate records thereof.
- Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections, and report to Consultant.

#### 10. Records:

- a. Maintain at the Site orderly files for correspondence, reports of job conferences, reproductions of original Contract Documents including all Change Orders, Field Orders, Work Change Directives, Addenda, additional Drawings issued subsequent to the execution of the Contract, Consultant's clarifications and interpretations of the Contract Documents, progress reports, Shop Drawing and Sample submittals received from and delivered to Contractor, and other Project-related documents.
- b. Prepare a daily report or keep a diary or log book, recording Contractor's hours on the Site, weather conditions, data relative to questions of Change Orders, Field Orders, Work Change Directives, or changed conditions, Site visitors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to Consultant.
- c. Record names, addresses, fax numbers, e-mail addresses, web site locations, and telephone numbers of all Contractors, subcontractors, and major suppliers of materials and equipment.
- d. Maintain records for use in preparing Project documentation.
- e. Upon completion of the Work, furnish original set of all RPR Project documentation to Consultant.

#### 11. Reports:

- a. Furnish to Consultant periodic reports as required of progress of the Work and of Contractor's compliance with the progress schedule and schedule of Shop Drawing and Sample submittals.
- b. Draft and recommend to Consultant proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.
- c. Furnish to Consultant and Client copies of all inspection, test, and system start-up reports.
- d. Immediately notify Consultant of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, damage to property by fire or other causes, or the discovery of any Constituent of Concern.
- 12. Review Applications for Payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Consultant, noting particularly the relationship of the payment requested to the schedule of values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.

#### 13. Completion:

- a. Participate in a Substantial Completion inspection, assist in the determination of Substantial Completion and the preparation of lists of items to be completed or corrected.
- b. Participate in a final inspection in the company of Consultant, Client, and Contractor and prepare a final list of items to be completed and deficiencies to be remedied.
- c. Observe whether all items on the final list have been completed or corrected and make recommendations to Consultant concerning acceptance and issuance of the Notice of Acceptability of the Work.

#### D. Resident Project Representative shall not:

- 1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items) unless authorized by the Consultant.
- 2. Exceed limitations of Consultant's authority as set forth in the Agreement or the Contract Documents.
- 3. Undertake any of the responsibilities of Contractor, subcontractors, suppliers, or Contractor's superintendent.
- 4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of Contractor's work unless such advice or directions are specifically required by the Contract Documents.
- 5. Advise on, issue directions regarding, or assume control over safety practices, precautions, and programs in connection with the activities or operations of Client or Contractor.
- 6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Consultant.
- 7. Accept Shop Drawing or Sample submittals from anyone other than Contractor.
- 8. Authorize Client to occupy the Project in whole or in part.

REQUEST FOR PROPOSALS
For Engineering Services For
CANYON LAKE DRIVE & SOO SAN DRIVE
14" WATER MAIN
PROJECT NO. W06-1562 CIP #50598
and
WEST MAIN STREET & SOO SAN DRIVE
STORM SEWER
LIME CREEK ELEMENT 382
PROJECT NO. DR06-1563 CIP #50024

#### PROJECTS DESCRIPTION

### WATER PROJECT W06-1562

The selected consultant will provide services related to water main improvements in the vicinity of Canyon Lake Drive and Soo San Drive. A report for Reroute / Replace 10" & 12" Water Mains on Camp Rapid has been developed, and is approved by the City. It is anticipated that the improvements will include the following:

- Construct a 14" water main along Canyon Lake Drive from Sheridan Lake Road to
  west of the Senior Citizens Center, through Mary Hall Park, along West South Street,
  and along Soo San Drive to West Main Street.
- 2. Construct an 8" water main in the 3300 block of West Main Street. And an 8" water main in the alley of the 3400 block of West Main Street as necessary to provide service to the buildings currently served by the 6" main, which is to be abandoned.
- 3. The South Dakota National Guard has indicated a need for a second feed to Camp Rapid. Installation of a second feed to the south end of Camp Rapid shall be coordinated with the National Guard for inclusion with this project.
- 4. Reconnect all water services to the new water mains that are currently connected to the water mains to be abandoned.
- 5. Abandon the 10" and 12" water mains crossing Camp Rapid and the Hall Street residential area, the 6" water main in Soo San Drive, and the 6" water mains running

- north-south from West Main Street to Hall Street. Coordinate water main abandonments with the National Guard.
- 6. There is one sanitary sewer main repair needed, which will be included with this project. The 18" sewer main at the intersection of Soo San Drive and Brookside Drive is misaligned where PVC pipe ends and RC pipe begins.

### STORM SEWER PROJECT DR06-1563

The selected consultant will provide services related storm drainage improvements associated with the Lime Creek Channel in the vicinity of the West Main Street and Soo San Drive intersection. A Drainage Basin Design Plan for the South Canyon/Lime Creek Drainage Basin has been developed, and was approved by the City in 1990. Per this design plan, it is anticipated that the improvements related to this project will include the following:

- 1. Installation of an estimated 78" RCP to transport flows that exceed 350 cfs around the existing drainage crossings at the Soo San Drive/West Main Street intersection. Base flows of up to 350 cfs would be routed through the existing channel and street crossings.
- 2. Provide inlet improvements or structures to split flows as required on the north side of West Main Street.
- 3. It is anticipated that the new storm sewer would be installed running south from West Main Street in the 36<sup>th</sup> Street right-of-way. The storm sewer would then run east either in the alley through Block 2 (as is proposed in the Drainage Basin Design Plan), on Hall Street, or on another route to be identified. The consultant will analyze potential alignments and recommend the best alignment based on costs, constructability, city utility and traffic operations, easements and rights-of-way, and related factors.
- 4. The new storm sewer would discharge into the existing channel east and south of the Hall Street and Soo San Drive Intersection. The work would include necessary downstream channel shaping or improvements extending through the area which runs about 500 1,000 feet downstream.
- 5. The design shall be completed in conjunction with the design of the water main improvements, however, for the purposes of proposals, consultants shall assume that the

construction of the storm water improvements will be completed under a separate contract to be performed subsequent to the completion of the water main improvements.

The City of Rapid City Public Works Department, Engineering Division, is hereby requesting a proposal to provide design, project administration, and construction inspection for the proposed projects. The work will include, but not be limited to, field surveys, design plans preparation, contract administration and construction inspection services. The projects may be bid together or as separate contracts. They shall be designed as if they will be bid as separate projects. Design and project administration fees shall be managed separately for each project.

Generally, the consultant will be responsible for providing all services necessary to complete the projects. Responsibilities include design, construction inspection and administration, and project closeout.

Inspection services will include daily on-site observation, on an as needed basis, to assure that the methods and materials used by the contractor meet the intent of the plans and specifications in completion of the work. A daily record of activity will be maintained by the inspector including weather conditions, construction progress, deviations from the plans and specifications, work performed, quantities installed and any other pertinent information. Such information shall be neatly and concisely entered into the City of Rapid City Project Inspector's Diary and Inspection book to insure that the plans and specifications are complied with. Completed bound copies of the field notes and daily record will be provided to the City of Rapid City at the end of each project. All test results and an "as-built" set of drawings shall be submitted to the City of Rapid City within 30 days of project completion.

Administration of the project includes arranging and conducting a pre-bid conference, responding to bidder questions, conducting the bid opening, conducting a pre-construction conference, conducting weekly project coordination and progress meetings, providing monthly pay estimates on City of Rapid City forms, preparing a final construction punch list, submitting a certificate of completion and start of warranty period letter to the City of Rapid City signed by a professional engineer.

Design criteria for the projects shall include the City of Rapid City Standard
Specifications, 2004 edition, City of Rapid City Drafting Standards, South Dakota Department of
Environmental Resources Standards and Ten States Standards.

Background information includes City of Rapid City GIS maps, City of Rapid City benchmark data, City of Rapid City water, sanitary sewer and storm sewer maps, the City of Rapid City engineer's estimating guide, the FMG preliminary report for Reroute / Replace 10" & 12" Water Mains on Camp Rapid, and the FMG design plan for South Canyon / Lime Creek Drainage Basin.

The water main project has a total budget of \$1, 295,000.00, including engineering design and construction services. Funding for the project is from the 933 Water Enterprise Fund and the 833 Sewer Enterprise Fund (for the sewer main repair).

The storm sewer project has a total budget of \$650,000.00, including engineering design and construction services. Funding for the project is from the 8911 Drainage Fund. The City is pursuing federal funding for the construction of this project.

### SCOPE OF SERVICES REQUESTED FOR EACH PROJECT

### PRELIMINARY DESIGN PHASE

- 1.1. Meet with City staff to detail project concept and scope.
- 1.2. Review background information listed above.
- 1.3 Perform the following planning tasks:

Perform site surveys sufficient for design plan preparation. The route and topography survey shall be tied to at least two City of Rapid City Monument Control system monuments utilizing State Plane coordinates.

Determine removal limits with approval of City of Rapid City representative.

Evaluate and recommend pipe materials.

Perform preliminary horizontal and vertical alignment analysis.

- 1.4 Water mains shall be designed to sustain an expected useful life of 75 years.
- 1.5 Assist the City with easements acquisition, and prepare easement exhibits as necessary.
- 1.6 Prepare preliminary opinion of probable construction cost.
- 1.7 Evaluate corrosiveness of soils and design corrosion protection for water main, if needed.

- 1.8 Define the scope of geotechnical investigations as may be necessary for final design, negotiate an agreement for the geotechnical engineering services, coordinate with the geotechnical engineer to complete these services, and provide a geotechnical report to be included in the plan documents, if needed. Payment for geotechnical services is the responsibility of the Consultant.
- 1.9 Prepare preliminary plan and profile sheets including locations of existing and new utilities and street alignment. Show existing utilities locations with probable depths.

#### 2. 95% DESIGN PHASE

- 2.1. Prepare an updated Engineer's opinion of construction costs.
- 2:2. Provide three (3) copies of 95% complete plans and specifications to City of Rapid City's project manager for review.

#### 3. FINAL DESIGN

- 3.1. Provide complete plans and specifications for a unit price construction contract. Plan sheets shall be prepared utilizing the latest City of Rapid City Drafting Standards.
- 3.2. Plans documents shall adhere to current City of Rapid City project plans guidelines.
  Scale of plan & profile sheets, 1" = 20' Horiz., 1" = 5' Vert. Construction staking information shall include either of the following formats:
  - 3.2.1. On the Plans
    - Station offsets for all items of work requiring field staking
  - 3.2.2. In tabular format on a plan sheet (Schedule)
    - Coordinates and description of inter-visible control points
    - Coordinates of all items of work requiring field staking
    - Benchmark information shall be provided on each sheet.
- 3.3. Provide project layout to include lot lines (front and side) and addresses of all properties (adjacent to construction, or alternatively, in service area).
- 3.4. Coordinate directly with utility companies' engineering divisions to ensure that all existing utilities are completely and accurately identified and 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. Preliminary plans shall be provided to the pertinent utilities for comment at the time they are complete.

- 3.5. Provide detailed specifications supplementing the City of Rapid City Standard Specifications, as necessary.
- 3.6. Prepare any permits required, e.g. Army Nationwide Permit with exhibits.
- 3.7. Prepare final opinion of probable construction cost for the project.
- 3.8. Deliver the following:
  - Construction plans on 22"X34" Mylar and on CD compatible with AutoCAD Release 2006 format.
  - All topographic, control, and design points in the .dwg file and in tabular format,
     both on CD and on hard copy print-out.
  - Complete supplemental (detailed) specifications on CD in Microsoft Word format.
  - A unit price cost estimate on CD in Microsoft Excel format on the City of Rapid City "Engineer's Estimate" form.

#### 4. BIDDING PHASE

Provide the following standard bidding phase services:

- Submit advertisement for bids to Rapid City Journal and Construction Industry Center
- Print and issue plans and specifications to bidders, and two (2) copies to the City of Rapid City.
- Prepare and submit bid documents on the City of Rapid City Microsoft Excel form.
- Direct Pre-bid Conference.
- Issue addenda to the bid documents as required.
- Conduct the bid opening (to be held at the City Finance Office).
- Attend Public Works Committee and Council Meetings as required.
- Prepare the Bid Tab in City of Rapid City Microsoft Excel project book format and submit this and a printed hard copy to the Public Works Department within one (1) working day of the bid opening. Forward a copy of the final bid tab to all bidders.
- Prepare contracts and submit to contractor for execution.

- Review construction contract documents and other submittals from the contractor and submit to Public Works Department for City Attorney's approval and signatures of the Mayor and Finance Officer.
- Prepare Notice to Proceed and forward to the successful contractor and Public Works
   Department.

### 5. CONSTRUCTION PHASE

Provide construction management services to include:

- Review and take action on shop drawings, test results, and other submittals.
- Provide construction staking and marking removal limits of appropriate items.
- Distribute Public Service Announcements (P.S.A.'s) to all local media and the Public Works Department. Copies of P.S.A.'s shall be distributed one week prior to start of work or change in operations that may significantly affect the public.
- Provide daily observation and prepare daily report record on City of Rapid City forms.
   Submit detachable copies to Public Works Department on a weekly basis.
- Provide soil compaction testing according to the Standard Specifications.
- Prepare "As Built" plans and specifications on 22"X34" Mylar and on CD compatible with AutoCAD Release 2006 format. Submit to Public Works Department.
- Prepare and submit monthly pay requests for consultant and contractor on City of Rapid City forms.
- Prepare and submit project completion punch list items to the Contractor and Public Works Department.
- Prepare letter of certification of project completion and start of warranty period.

### 6. MEETINGS AND SUBMITTALS

- 6.1. Project team members will include:
  - 6.1.1. The Consultant
  - 6.1.2. City Engineering Division staff
  - 6.1.3. Operations Division staff
    - Utility Maintenance Division (Service area and O&M related issues)

- Street Division
- 6.2. Meetings requiring the Consultant's participation will include, but may not be limited to the following:
  - Kick-off meeting
  - 95% Plans and Specifications Review
  - 100% Plans and Specifications Review
  - Prebid Conference
  - Bid Opening
  - Pre-construction Conference
  - Construction Progress Meetings
  - Committee and Council Meetings as required
- 6.3. Submittals required during the design phase include:
  - 95% Plans and Specifications
  - 100% Plans and Specifications

#### CONSULTANT SCHEDULE

Contract Negotiations Complete	April 14, 2006
Notice to Proceed with Design	May 2, 2006
95% Plans and Engineers Estimate Submittal	
Final Plans and Specifications Complete	December 15, 2006
Water Project Bid Opening Date	February 13, 2007
Water Project Completion Deadline	September 30, 2007

The storm sewer project's bidding and construction schedule is not set, however, the project is expected to be constructed in 2007.

Consultant shall provide schedule dates not provided in Consultant Schedule. Failure to meet contract proposal deadlines may result in termination of contract. Consultant will be paid for services to date.

#### PROPOSAL SUBMISSION

Please submit five (5) copies of your proposal no later than March 17, 2006. The Consultant Selection Committee will review the proposal and finalists will be selected for interviews. You will be notified of the Selection Committee's decision. If selected, you will be scheduled for an interview. Upon completion of the interviews, the City of Rapid City Public Works Department shall select a Consultant and shall open Contract negotiations. Upon successful Contract negotiations, the Contract will be presented to the City Council for approval. Upon Council approval, a notice to proceed will be issued.

Evaluation sheets are to be completed by the Selection Committee and are enclosed for your information.

FMG, INC.
CANYON LAKE DRIVE AND SOO SAN DRIVE 14" WATER MAIN PROJECT

ATTACHMENT C

### PROJECT # W06-1562 CIP#50598 ESTIMATED MAN-HOURS AND FEES

April 26, 2006

	PR/PE	DE/PE	CADD/ET	RLS	SC	PR/SMS	ST	LM/ET	CL
Survey				<del></del>		11221110		1	
Research/Computations				8					
Property Corner Search					12				
Legal, Boundary				8	16				
Horizontal & Vertical Control			<del>                                     </del>		16			1	
Existing Utility Locations-Coordination		4			8			-	<del></del>
Topo/Detail Main Line Route		]			128	<del>   </del>		+	
Field Check Survey		8		2			<del>-</del>		
Drafting Survey Data/Set Up Design Sheets			56					<del>                                     </del>	
Sub-Total Survey		12	56	18	180	0	0	0	0

**DESIGN AND PLAN PREPARATION** 

Preliminary/Alternatives/Design Issues		1				1		T	T
Data Collection & Review (Facilities, Reports, Mapping, Plans)	2	8				·   · · · · · · · · · · · · · · · · · ·	<del>                                     </del>		<del>                                     </del>
Identify Land Ownership		2	6						+
Service Line Location Data		6	6					<del> </del>	
Water Main Route/Alignment Analysis with Cost Estimates	12	24	20						
Preliminary Plan and Profile Sheets (15)	12	45	60					<del>                                     </del>	-
Abandonment issues	2	2	4					1	
Meetings w/Property Owners, Abandonment Service Reroute	8	4			-			<del>                                     </del>	<del> </del>
Meetings w/ Engineering, Utility Maintenance, Private Utilitites	4	8							<del> </del>
Meetings w/SDARNG, GFP	2	4							<del> </del>
Preliminary Design Report	16	8	4				<del>                                     </del>		4
Sub-Total Preliminary/Alternatives/Design Issues	58	111	100	0	0	0	0	0	4

95% Design & Plan Preparation

Plan & Profile -Main Line (13 Sheets)	26	104	130	<u> </u>	 1		
Misc Routes Plan & Profile- (2 Sheets)	2	16	20				
Water Main Abandonment Plans	4	12	12				
Stream/Creek Crossings	2	4	4				
Corrosion Control Coordination	2	2				_	
Private Utility Coordination		8					
SDARNG/Camp Rapid Coordination	2	4					
Sanitary Sewer Repair		2	4				 
Plans Title Sheet			1				
Special Detail Sheets	1	4	8	-			
PCC Pavement Repair/West Main Street/Joint Patterns/Details	2	12	12				
City Standard Detail Sheets		2	6				
Property Control Drawings		2	4				
Horizontal/Vertical Control Data		1	2				

FMG, INC.
CANYON LAKE DRIVE AND SOO SAN DRIVE 14" WATER MAIN PROJECT

ATTACHMENT C

#### PROJECT # W06-1562 CIP#50598 ESTIMATED MAN-HOURS AND FEES

April 26, 2006

	PR/PE	DE/PE	CADD/ET	RLS	SC	PR/SMS	ST	LM/ET	CL
Construction Sequencing	4	8	4						
Traffic Control/Detours	4	2	2	-	-			1	
ROW/Easement Negotiations	8	2	4						
Prepare Final Easement Exhibits			8	8					
Quantities & Opinion of Probable Cost	4	16	6						
404 Permit/Game Fish & Parks Coordination	1	6	2			-			
General Pian Notes	8	4	6		<del></del>				
Detailed Specifications and Bid Form	8	4			<del></del>				4
Final Design Report	2	12	4			-			4
Reviews/Coordination/Meetings	12	8							
Sub-Total/95% Design	92	235	239	8	0	0	0	0	8

100% Design & Plan Preparation

Final Revisions and Plotting	12	16	30						
Sub-Total/100% Design	12	16	30	0	0	0	0	0	0

#### **BIDDING PHASE**

Prebid Meeting	4	4						T	
Plans & Specifications Interpretation	2	6							
Prepare & Issue Addenda		4							2
Opening of Bids at City Finance Office	2						-	<b>——</b>	
Bid Tabulation, Review and Recommendation	1	4						<del> </del>	
Public Works and City Council Meetings	4							1	-
Notice of Award and Contracts to Contractor		2					·		4
Sub-Total/Bidding Phase	13	20	0	0	0	0	0	0	6

### CONSTRUCTION PHASE-ASSUMES 12 WEEK CONSTRUCTION PERIOD

Preconstruction Meeting	2	2					1		
PSA's		2							2
Review shop drawings, Mix Designs & Materials	1	8							
Consultation for Change/Field Orders	8	8						1-	
Progress Meetings	8	12							
Construction Staking	2		8	4	48				
Periodic Construction Observation (Engineer 14 wks @ 6 hrs/wk)	20	64							
Periodic Construction Observation (Sr. Tech 14 wks @ 12 hrs/wk)								168	
Material Testing, Compaction/Concrete						12	140	12	
Compaction, Testing Reports/Observation Reports	4	28						16	28
Monthly Pay Estimates	6	12							
Final Inspection	2	8							
Record Drawings		4	32						
6-Month Review	4	6							
Misc. Coordination	12	12							

### FMG, INC. CANYON LAKE DRIVE AND SOO SAN DRIVE 14" WATER MAIN PROJECT

PROJECT # W06-1562 CIP#50598 ESTIMATED MAN-HOURS AND FEES

April 26, 2006

## ESTIMATED ENGINEERING FEES

	HOURS	RATE	TOTAL
PR/PE - PRINCIPAL/PROFESSIONAL ENGINEER	244	\$95.00/HR	\$ 23,180.00
DE/PE DESIGN ENGINEER/PROFESSIONAL ENGINEER	560	\$80.00/HR	\$ 44,800.00
CADD/ET - COMPUTER OPERATOR/ENGINEERING TECHNICIAN	465	\$50.00/HR	\$ 23,250.00
RLS-REGISTERED LAND SURVEYOR	30	\$65.00/HR	\$ 1,950.00
SC-2-MAN SURVEY CREW	228	\$95.00/HR	\$ 21,660.00
PR/SMS - PRINCIPAL/SENIOR MATERIALS SPECIALIST	12	\$85.00/HR	\$ 1,020.00
ST - SOILS TECHNICIAN	140	\$45.00/HR	\$ 6,300.00
LM/ET - LAB MANAGER and/or ENGINEERING TECHNICIAN	196	\$55.00/HR	\$ 10,780.00
CL - CLERICAL	48	\$40.00/HR	\$ 1,920.00
Sub Consultant-Corrosion Control			\$ 1,000.00
Geotechnical Evaluation			\$ 5,181.00
Rembursibles, Print Plans and Specifications			\$ 900.00
Supplies, Mileage, Miscellaneous			\$ 600.00
TOTAL ESTIMATED ENGINEERING FEES			\$ 142,541.00

Summary

Route Survey	\$22,330.00
Preliminary/Alternatives/Design Issues	\$19,550.00
95% Design & Plan Preparation	\$40,630.00
100% Plans	\$3,920.00
Bidding Phase	\$3,975.00
Construction Phase	\$45,955.00
Corrosion Consultant	\$ 1,000.00
Geotechnical Evaluation	\$ 5,181.00
Total Fees	\$142,541.00

	eotechnic	cal Cost	Es	stimate		4/26/2006
PROJECT INFOR	MATION			CLIE	NT INFORMAT	ION
PROJECT NAME: PROJECT LOCATION:	Rapid City, S		line	NAME: ADDRESS:	City of Rapid	City
PROJECT TYPE:	Geotechnica			ADDRESS:	Rapid City, S	D
Task/Item/Materials	Quantity	Units	@	Rate	per Unit	Sub-Total
FIELD SERVICES			80 K		12 14 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16	200
Rig Mobilization	50	miles	@	\$2.50	per mile	\$125.00
Pickup Mobilization	50	miles	@	\$0.45	per mile	\$22.50
Crew Travel - 2 men		hours	@	\$70.79	per hour	\$0.00
Crew Expenses		man days	@	\$80.00	/man day	\$0.00
Drill Rig Operation	12	hours	@	\$50.00	per hour	\$600.00
Drill Rig Operator	12	hours	@	\$45.00	per hour	\$540.00
Field Technician		hours	_@	\$40.00	per hour	\$0.00
Senior Field Technician		hours	@	\$50.00	per hour	\$0.00
Field Geologist Environmental Scientist	14	hours	@	\$65.00	per hour	\$910.00
Geotechnical Engineer or Materials Specialist	-	hours	@_	\$65.00	per hour	\$0.00
Well materials, etc.		hours feet	<u>@</u>	\$85.00 \$8.00	per hour	\$0.00 \$0.00
Wellheads with locks	<del></del>	heads	@	\$85.00	per foot per head	\$0.00
Field Resistivity Testing	4	tests	@	\$250.00	each	\$1,000.00
Bobcat Drill & Operator		days	@	\$750.00	per day	\$0.00
Airline Ticket		ticket	@	\$600.00	per ticket	\$0.00
Sub-Totals	· · · · · · · · · · · · · · · · · · ·			L	<u> </u>	\$3,197.50
PHYSICAL LABORATORY	<b>7</b> and Braziliansk	A COLOR	1	PARIA ALIGNA	Baranes and a state	
Moisture Content/Density		tests	@	\$18.43	each	\$0.00
Atterberg Limits	10	tests	@	\$61.41	each	\$614.10
Standard Sieve Analysis	10	tests	@	\$50.00	each	\$500.00
lydrometer Grain Analysis	<del></del>	tests	@	\$110.65	each	\$0.00
Inconfined Compression	-	tests	@	\$61.41	each	\$0.00
Consolidation/Swell	-	tests	@	\$337.80	each	\$0.00
Permeability		tests	@	\$150.00	each	\$0.00
MD Curve (AASHTO T-99)		tests	@	\$110.00	each	\$0.00
MD Curve (AASHTO T-180)		tests	@	\$110.00	each	\$0.00
California Bearing Ratio		tests	@	\$250.00	each	\$0.00
Direct Shear Test (2 Points)		tests	@	\$200.00	each	\$0.00
riaxial Shear Test		tests	@	\$800.00	each	\$0.00
Sample Shipping Misc Costs	<u> </u>	ls	@	\$100.00	each	\$0.00
Sub-Totals						\$1,114.10
ENVIRONMENTAL TESTING			Maria.	A. A. C. C. C. T. M. A. S. C.	<b>Name</b>	Grand Harris
PH+BTEX (Gas in Soil & Water)		tests	@	\$85.00	each	\$0.00
PH & Naphtha (Diesel in Water & Soil)		tests	@	\$105.00	each	\$0.00
Soils - TCLP Lead		tests	@	\$75.00	each	\$0.00
Soils - VOC's		tests	@	\$150.00	each	\$0.00
SamplingMaterials(Bailers,Gloves,Etc)		materials	@	\$10.00	per borehole	\$0.00
Sub-Totals						\$0.00
OFFICE SERVICES	7000000	California	16 18 18 18 18 18 18 18 18 18 18 18 18 18			
Clerical	2	hours	@	\$40.00	per hour	\$80.00
Orafting (CAD)		hours	@	\$45.00	per hour	\$0.00
Senior Environmental Scientist (CPRR)		hours	@	\$65.00	per hour	\$0.00
Senior Field Geologist		hours	@	\$50.00	per hour	\$0.00
Seological Engineer		hours	@	\$60.00	per hour	\$0.00
legistered Professional Engineer	8	hours	@	\$75.00	per hour	\$600.00
enior Professional Engineer/Project Managr	2	hours	@	\$95.00	per hour	\$190.00
enior Project Manager (Officer)		hours	@	\$100.00	lump sum	\$0.00
Sub-Totals						\$870.00
ales Taxes	\$5,181.60	All Sub-Totals	@	0.0%	percent	\$0.00
			(CI)	13 (1%		2011 1111

ATTACHMENT D

FMG, INC.
WEST MAIN STREET AND SOO SAN DRIVE STORM SEWER
LIME CREEK ELEMENT 382
PROJECT # DR06-1563 CIP#50024
ESTIMATED MAN-HOURS AND FEES

April 26, 2006

	PR/PE	DE/PE	CADD/ET	RLS	SC	PR/SMS	ST	LM/ET	CL
Survey		<u> </u>							
Research/Computations				4	<del></del>			<del>  </del>	
Property Corner Search					6			<del>†</del>	
Legal, Boundary				4	8			<del>                                     </del>	
Horizontal & Vertical Control					6			<del>                                     </del>	
Existing Utility Locations-Coordination		4	1	-	4			1	
Preliminary data collection for initial route analysis			2		8			+	
Topo/Detail Main Line Route/Intake & Outlet					32			<del> </del>	
Topo Lime Creek below Outlet for Capacity Analysis			†~		16	-+		+	
Field Check Survey		4	1	2				†	
Drafting Survey Data/Set Up Design Sheets			30					1	
Sub-Total Survey		8	32	10	80	0	0	1 0	0

**DESIGN AND PLAN PREPARATION** 

Preliminary/Alternatives/Design Issues								1	1
Data Collection & Review (Facilities, Reports, Mapping, Plans)	2	8					<del> </del>		
Identify Land Ownership		2	2				<del>                                     </del>		
Drainage Basin Study/Storm Sewer Preliminary Design								<u> </u>	
Drainage Basin Remodel with HEC HMS Model	16	24	8			<del></del>	<del>                                     </del>	T	
Approximate Existing Flood Plain Study with Hec-Ras	8	16	4	1					
"Alternates" Improvements/Analysis/Preliminary Profiles	16	32	12		T		<del></del>		
Alernates Quantities and Cost Estimates	4	12	6					<del> </del>	
Meetings w/ Engineering, Utility Maintenance, Private Utilitites	2	6					<del></del>		
Meetings w/GFP, Hills Materials (Quarry Plans)	2	2					+		
Preliminary Design Report	16	12	4	ļ	† · · · · · · · · · · · · · · · · · · ·		<del>                                      </del>	1	2
Sub-Total Preliminary/Alternatives/Design Issues	66	114	36	0	0	0	0	0	2

95% Design & Plan Preparation

Demo Sheets	1	4	8				T	
Plan & Profile -Main Line (3 Sheets)	16	48	40				<del> </del>	
Inlet/Outlet Structures	4	24	24					
Water/Sewer Relocations	1	8	8					
Private Utility Coordination	- <del> </del>	4				<del>  </del>	1	
Plans Title Sheet			1					
Special Detail Sheets	1	8	16		· · · · · · · · · · · · · · · · · · ·			
PCC Pavement Repair/West Main Street/Joint Patterns/Details	2	8	8					
City Standard Detail Sheets		2	6					
Property Control Drawings		2	4	-			<u> </u>	
Horizontal/Vertical Control Data		1	2				<u> </u>	<del></del>
Construction Sequencing	2	8	4					
Traffic Control/Detours	2	4	2					
ROW/Easement Negotiations	8	2	4					

ATTACHMENT D

FMG, INC.
WEST MAIN STREET AND SOO SAN DRIVE STORM SEWER
LIME CREEK ELEMENT 382
PROJECT # DR06-1563 CIP#50024
ESTIMATED MAN-HOURS AND FEES

April 26, 2006

· · · · · · · · · · · · · · · · · · ·	PRIPE	DE/PE	CADD/ET	RLS	SC	PR/SMS	ST	LM/ET	CL
Prepare Final Easement Exhibits			8	8			<del></del>		
Quantities & Opinion of Probable Cost	2	12	6	<del></del>			ļ — —	<u> </u>	
404 Permit/Game Fish & Parks Coordination	1	6	2	*		<del></del>	<del>                                      </del>	-	
General Plan Notes	8	4	6						
Detailed Specifications and Bid Form	8	4						<del> </del>	
Final Design Report	2	12	4					<del> </del>	
Reviews/Coordination/Meetings	12	8						-	
Sub-Total/95% Design	70	169	153	8	0	0		0	Q

100% Design & Plan Preparation

Final Revisions and Plotting	4	12	12	<u> </u>	T		I	T	
Sub-Total/100% Design	4	12	12	0	0	0	0	0	0

#### **BIDDING PHASE**

Prebid Meeting	4	4					· I		
Plans & Specifications Interpretation	2	6		<u> </u>					
Prepare & Issue Addenda		4					<del> </del>	<del>                                     </del>	2
Opening of Bids at City Finance Office	2		·	· · · · · · · · · · · · · · · · · · ·			<del>                                     </del>	<del> </del>	
Bid Tabulation, Review and Recommendation	1	4						<del> </del>	
Public Works and City Council Meetings	4	1						<del></del>	
Notice of Award and Contracts to Contractor		2							4
Sub-Total/Bidding Phase	13	20	0	0	0	0	0	0	6

### CONSTRUCTION PHASE-ASSUMES 10 WEEK CONSTRUCTION PERIOD

Preconstruction Meeting	2	2							
PSA's		2				<u> </u>	<u> </u>	ļ	2
Review shop drawings, Mix Designs & Materials	1	8			····			<u> </u>	<del></del>
Consultation for Change/Field Orders	2	8				<del></del>		<del>                                     </del>	
Progress Meetings	4	8							
Construction Staking	2		8	4	40		<del> </del>		
Periodic Construction Observation (Engineer 10 wks @ 6 hrs/wk)	10	50				1		<del> </del>	
Periodic Construction Observation (Sr. Tech 10 wks @ 12 hrs/wk)					<del></del>	<del>                                     </del>	\	120	
Material Testing, Compaction/Concrete					<del></del>	8	90	8	<u> </u>
Compaction, Testing Reports/Observation Reports	4	12						10	20
Monthly Pay Estimates	4	10					<del>                                     </del>		
Final Inspection/Punch list/Follow-up	2	8							
Record Drawings		4	24			<u> </u>	<u> </u>		
6-Month Review	4	6					<b></b>	<del> </del> -	
Misc. Coordination	12	12				<del>                                     </del>	<del> </del>		
Sub-Total/Construction Phase	47	130	32	4	40	8	90	138	22

ATTACHMENT D

FMG, INC.
WEST MAIN STREET AND SOO SAN DRIVE STORM SEWER
LIME CREEK ELEMENT 382
PROJECT # DR06-1563 CIP#50024
ESTIMATED MAN-HOURS AND FEES
April 26, 2006

### **ESTIMATED ENGINEERING FEES**

	HOURS	RATE		TOTAL
PR/PE - PRINCIPAL/PROFESSIONAL ENGINEER	200	\$95.00/HR	\$	19,000.00
DE/PE DESIGN ENGINEER/PROFESSIONAL ENGINEER	453	\$80,00/HR	\$	36,240.00
CADD/ET - COMPUTER OPERATOR/ENGINEERING TECHNICIAN	265	\$50.00/HR	- s	13,250.00
RLS-REGISTERED LAND SURVEYOR	22	\$65.00/HR	\$	1,430.00
SC-2-MAN SURVEY CREW	120	\$95.00/HR	\$	11,400.00
PR/SMS - PRINCIPAL/SENIOR MATERIALS SPECIALIST	8	\$85.00/HR	\$	680,00
ST - SOILS TECHNICIAN	90	\$45.00/HR	\$	4,050.00
LM/ET - LAB MANAGER and/or ENGINEERING TECHNICIAN	138	\$55.00/HR	- <u>\$</u>	7,590,00
CL - CLERICAL	38	\$40.00/HR	s	1,520,00
Geotechnical Evaluation -Use Data from W06-1562			\$	- 1,020.00
Reimbursibles, Print Plans and Specifications			- \$	650.00
Supplies, Mileage, Miscellaneous			- <u>\$</u>	400,00
TOTAL ESTIMATED ENGINEERING FEES			\$	96,210,00

Summary

Route Survey	\$10,690.00
Preliminary/Alternatives/Design Issues	\$17,270.00
95% Design & Plan Preparation	\$28,860.00
100% Plans	\$1,940.00
Bidding Phase	\$3,725.00
Construction Phase	\$33,725.00
Geotechnical Evaluation	\$ -
Total Fees	\$96,210.00

NOTE: Estimated man-hours and fees do not include any FEMA Submittals