EXHIBIT A

FMG ENGINEERING

SCOPE OF SERVICES

FOR

RACETRACK DRAW DRAINAGE BASIN DESIGN PLAN UPDATE

PROJECT NO. 20-2628 / CIP NO. 51315

The City of Rapid City has determined the need to update the Racetrack Draw Drainage Basin Design Plan (DBDP) by preparing a DBDP Update.

Since the preparation of the original Racetrack Draw DBDP there have been significant drainage improvements, development, land use changes and more current future land use plans. In addition, new and improved hydrologic and hydraulic methods have been developed.

The Racetrack Draw drainage basin is located west of the County Heights drainage basin and east of the Unnamed Tributary drainage basin. The Box Elder Creek DBDP is located north of the Racetrack Draw basin.

The DBDP Update shall include existing and fully developed hydrologic conditions and recommended hydraulic elements, conceptual designs, design documents, maps, stormwater quality improvements, infrastructure improvement costs, and other information necessary to adequately describe existing and proposed improvements for the drainage basin. The DBDP is intended to be a guide for the City of Rapid City, Pennington County, other government agencies, developers and engineers for use in the design and construction of major drainage facilities in the basin. The DBDP Update will address major drainage facilities only. Minor drainages are beyond the scope of the project.

Professional services will generally be in accordance with the project RFP and as further described in Task 1 and Task 2 below.

TASK 1 – RACETRACK DRAW PRELIMINARY DESIGN SERVICES:

This task consists of all services necessary to take the project from beginning through the Preliminary Design submittal stage and may include the following itemized services.

1.1 Kick-off Conference: The consultant shall meet with City staff to detail the project concept and scope. The consultant shall prepare an agenda, take minutes, and distribute minutes.

1.2 Review background information listed in this RFP and any other resources as necessary, including: City of Rapid City GIS maps, City of Rapid City GIS contours, Utility System Master Plan, City of Rapid City benchmark data, City of Rapid City water, sanitary sewer and storm sewer maps, the City of Rapid City historical bid tabulation/cost data, Current FEMA DFIRM and FIS Reports, City of Rapid City Major Street Plan, City of Rapid City Comprehensive Plan, County Heights DBDP 2016 Amendment, Perrine/Unnamed Tributary DBDP 2021 Update, Box Elder DBDP, Residential and Commercial Development Design Reports/Plans, and plans of existing infrastructure facilities.

1.3 Inventory of existing features, including ground cover and soil types, existing and future land use, existing FEMA floodplains including LOMR information, existing drainage
facilities including storm sewer, major utilities specific to potential conflict with drainage facilities, roads and streets, major irrigation ditches, and other specific features as determined necessary. Perform limited detail site surveys for major pipes, pond outlets, and along Jolly Lane south of Highway 44.

1.4 Create a HEC-HMS computer model of existing hydrologic conditions of the study area using existing land use, existing hydraulic conveyances, and existing detention facilities for the 2, 10, and 100 year storm events.

1.5 Create a HEC-HMS computer model of proposed land use conditions with existing hydrologic conditions of the study area for the 2, 10, and 100 year storm events. This model will not be in the report but is used as a tool for determining future needs.

1.6 Create a HEC-HMS computer model of proposed hydrologic conditions using proposed land use, proposed conveyance elements, and proposed detention facilities for the study area for the 2, 10, and 100 year storm events. This model shall assume the Hawthorne Irrigation Ditch will be abandoned.

1.7 Prepare a Draft DBDP Update Submittal. The Draft submittal shall include, at a minimum, the following:
   - Introduction – project background information, project objectives, design plan limitations, report organization, deliverables, supporting literature, and technical references.
   - Basin Information – Maps, figures, and discussions regarding basins and basin boundaries, existing land use and future land use with assumptions, major streets, contours, NWI wetlands, FEMA floodplains, NRCS soils information, major water and sewer utility lines, irrigation ditches, and general description of apparent or known problems as determined from discussions with City Staff or as determined during the study.
   - Hydrology Modeling – methods, sub-basin layout, and the routing and runoff analysis for existing land use and proposed land use.
   - Hydraulics Modeling – methods and individual conveyance element discussion. Conveyance element discussion includes discussion of existing and proposed features.
   - Hawthorne Irrigation Ditch – recommended portions of ditch that need to be reserved for drainage conveyance and segments that do not to be kept for drainage conveyance.
   - Storm Water Quality – recommended regional stormwater quality treatment and improvements features.
   - Exhibits to illustrate typical sections or profiles for major facilities as necessary to convey intent of recommendations.
   - Data, Model Results, Maps and Figures as necessary.
   - Recommendations of right of way and/or easement requirements.
   - Cost Estimate in 2022 dollars and corresponding preliminary prioritization of recommended improvements.

1.8 Submit three (3) hard copies and PDF of the Draft Submittal to the City Project Manager for review and comment.

1.9 Attend review meetings with City staff.
TASK 2 – RACETRACK DRAW FINAL DESIGN SERVICES:

This task consists of all services necessary to take project from Task 1 Preliminary Design Services through the Final Design Services and may include the following itemized services.

2.1 Address City comments from the Task 1 submittal.

2.2 Revise the Task 1 Draft Submittal and complete the Final DBDP Update.

2.3 Submit three (3) hard copies and PDF of the Final Review DBDP Update to the City Project Manager for review and comment.

2.4 Revise the Final Review DBDP Update and make final submittal to include four (4) hard copies of Report, PDF of Report and digital versions of HEC-HMS models.

In addition to the Racetrack Draw DBDP Update, the City has determined the need to include additional Analysis within the County Heights Drainage Basin Plan within this Agreement. The Analysis within the County Heights DBDP consists of Tasks 3 and 4 as described below.

TASK 3 – COUNTY HEIGHTS DRAINAGE BASIN PONDS 101, 103, AND 104

The purpose of Task 3 is to prepare analysis and recommendations so the Pond 101 discharge meets the requirements of the 2016 DBDP Amendment. The analysis and report are does not include any area or element downstream of Pond 101. Consultant is to assume all topographic data for the ponds will be provided by others. Cost estimates are not to be included in the Report.

3.1 Update Pond Data, connection routing between ponds, and associated land use.

3.2 Prepare HMS Analysis with updated and recommended data.


3.5 Kickoff and Review Meetings with City Staff.

TASK 4 – COUNTY HEIGHTS DBDP HAWTHORNE IRRIGATION DITCH ABANDONMENT

It is anticipated the Hawthorne Irrigation Ditch will be abandoned in the future. The purpose of Task 4 is to make recommendations for which segments of the ditch will need to be reserved for drainage and segments that do not to be kept for drainage conveyance.

4.1 Reviews and Calculations.

4.2 Kickoff and Ditch Abandonment Recommendations Meetings with City

4.3 Prepare Draft Update Report Regarding Hawthorne Ditch Abandonment

4.4 Prepare Final Update Report Regarding Hawthorne Ditch Abandonment
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<thead>
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<tr>
<td>Notice to Proceed</td>
<td>June 14, 2021</td>
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<tr>
<td>Task 1 Submittal</td>
<td>February 14, 2022</td>
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<tr>
<td>Task 2 Final Review Submittal</td>
<td>April 18, 2022</td>
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<td>Task 2 Final Submittal</td>
<td>June 20, 2022</td>
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<td>Task 3 Draft Report Submittal</td>
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<td>Task 4 Draft Report Submittal</td>
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