

City Council Staff Report

Date:

March 6, 2024

Applicant:

Mapleton City Public Works

Location:

Citywide

Prepared By:

Rob Hunter, City Engineer/
Public Works Director

Public Hearing:

No

Attachments:

Stormwater Master Plan
Scope and Fee

REQUEST

Approval Hansen, Allen & Luce, Inc. as the City's stormwater consultant and approve \$135,200 for the Stormwater Master Plan.

BACKGROUND & DESCRIPTION

The current Mapleton City Stormwater Master Plan was prepared in December 2016, and it is unclear if it was officially adopted or left as draft only. The 2016 master plan proposed policies the City has implemented to require 100-year retention for proposed development. However, the plan did not analyze or propose storm water projects needing to be completed by the City.

Public Works staff has completed miscellaneous storm water projects over the years, and staff is aware that more projects are needed. However, it is highly probable that not all needs have been identified, which is the purpose of a master plan. In addition, this master plan will analyze the feasibility of facilities for emergency overflow, discharge from footing sump pumps, and potential flooding from Mapleton Canyon.

EVALUATION

Public Works staff prepared a Request for Qualifications (RFQ) for qualified stormwater consultants, and advertised it publicly on the state procurement website. Consultant selection based on qualifications follows the adopted City procurement policy. Four consultants responded with Statements of Qualifications (SOQ), and two were selected for in-person interviews for by the Selection Committee made up of Public Works and Community Development staff. Hansen, Allen & Luce, Inc. was the selected consultant, based on their extensive, local stormwater expertise, especially in regards to Mapleton's specific needs.

The proposed fee of \$135,200 to complete the Stormwater Master Plan and associated Impact Fee Facilities Plan and Impact Fee Analysis is within the FY24 budget approved for the master plan.

RECOMMENDATION

Approve Hansen, Allen & Luce, Inc. as the City's stormwater consultant and approve the task order of \$135,200 for the Stormwater Master Plan.

RESOLUTION NO. 2024-15

A RESOLUTION OF THE CITY OF MAPLETON, UTAH TO APPROVE HANSEN, ALLEN & LUCE, INC. AS THE CITY'S STORMWATER CONSULTANT AND TO PRODUCE A STORMWATER MASTER PLAN

WHEREAS, utility master plans need to be updated regularly to stay current in requirements and development status; and

WHEREAS, Mapleton City's current Stormwater Master Plan is from December 2016; and

WHEREAS, the City Council wishes to mitigate stormwater flooding and budget for future storm water facility needs; and

WHEREAS, the City Council approved the FY24 budget to include funds for a stormwater master plan update; and

WHEREAS, city staff prepared a public solicitation for Statements of Qualifications, and selected Hansen, Allen & Luce, Inc. as the stormwater consultant based on their qualifications, consistent with Mapleton City's procurement policy; and

NOW THEREFORE, BE IT RESOLVED by the City Council of Mapleton, Utah, that: Hansen, Allen & Luce, Inc. is approved as the City's stormwater consultant and is authorized to complete a Stormwater Master Plan update and associated Impact Fee Facilities Plan and Impact Fee analysis for a fee not to exceed **\$135,200**.

This resolution adopted this 6th day of March 2024, by the City Council of Mapleton City, Utah.

Dallas Hakes
Mayor

ATTEST:

Camille Brown
City Recorder

Rob Hunter
Mapleton City
1405 West 1600 North
Mapleton, UT 84664

February 1, 2024

RE: Stormwater Master Plan

Dear Mr. Hunter:

Hansen, Allen & Luce, Inc. (HAL) appreciates this opportunity to help Mapleton City address existing stormwater needs and plan for future needs as well. The proposed scope of work and fee for this project is described below. As needed, we can add, subtract, or modify tasks to better meet your needs.

PROJECT UNDERSTANDING

Mapleton City is planning for significant development over the next several years. Understanding the overall drainage needs of the City now and into the future is critical. Knowing what infrastructure is required for future development will help guide developers so that future flows are accounted for.

In addition to a comprehensive master plan, City staff have requested the following additional services to be included in the scope of work as additive alternatives. These items include the following:

- Impact Fee Facility Plan (IFFP)
- Impact Fee Analysis (IFA)

Our recommended scope of work is included below:

WORK PLAN – FIELD RECONNAISSANCE, MAPLETON CANYON FLOOD HAZARD ASSESSMENT, ALTERNATIVES ANALYSIS, MASTER PLAN UPDATE, AND CAPITAL FACILITIES PLAN.

Task 1 – Field Reconnaissance and Overall Project Management

Objective:

Provide management throughout the project. Review existing data and identify gaps. Work with City to collect data or make assumptions. Perform a field visit with City staff to visit problem areas in the field to inform recommendations for solutions.

Input:

- 1) Contracted work plan.
- 2) City GIS data
- 3) Previous reports or studies

Activities:

- 1) Provide monthly work summaries.
- 2) Attend and facilitate a kickoff meeting, progress meetings (assumes 4 outside of planned workshops), workshops (assumes 3), and a final meeting with City personnel.
- 3) Respond to calls, emails, and other communication related to the project as needed.
- 4) Field visit with City personnel to known problem areas (assumes 2 half day visits).
- 5) If additional data collection is desired HAL can assist with that based on our hourly rates. (see HAL 2024 rates for Intern or Field Tech)

Output:

- 1) Coordination meetings.
- 2) Monthly work summaries.
- 3) Problem areas defined.
- 4) Data gaps and assumptions understood.

Task 2 – Mapleton Canyon Flood Hazard Assessment

Objective:

Review FEMA hydrology assumptions and neighboring stream gage sites to determine reasonable flowrate for the 1% annual chance exceedance flow. Extend 2D modeling through City to better understand flood risk areas. Propose up to 2 projects to minimize flood risk from Mapleton Canyon.

Input:

- 1) FEMA hydrology assumptions
- 2) Neighboring USGS stream gage data
- 3) UGRC Lidar data

Activities:

- 1) Review FEMA hydrology assumptions
- 2) Extend 2D modeling results for FEMA flow of 321 cfs
- 3) Review neighboring USGS stream gage data to compare with FEMA flowrate.
- 4) Identify up to 2 projects to manage runoff from Mapleton Canyon for the FEMA flowrate and lower flowrate determined in Activity 3 of Task 2.
- 5) Prepare Tech Memo which will be included as an appendix in the master plan.

Output:

- 1) 2D hydraulic model
- 2) Estimated floodplain map from FEMA flowrate of 321 cfs
- 3) Tech memo

Task 3 – Stormwater Alternatives Evaluation

Objective:

Prepare stormwater model for the municipal boundary of Mapleton City. Use model to evaluate stormwater runoff and identify deficiencies. Evaluate potential solutions and prepare cost estimates for comparisons.

Input:

- 1) HAL proposal
- 2) Previous Master Plans and models
- 3) Aerial photographs, soil data, available digital elevation data, and mapping provided by the City(zoning and future land use).
- 4) Input from City staff.
- 5) Storm drain facility inventory in GIS format (including sizes and elevations)

Activities:

- 1) Delineate subbasins for entire City.
- 2) Prepare stormwater runoff model (assume HEC-HMS).
- 3) Input storm parameters into model.
- 4) Define future buildout conditions.
- 5) Prepare model scenarios and runs, including existing and future.
- 6) Prepare deficiency tables.
- 7) Meet with City to discuss deficiencies.
- 8) Update model parameters.
- 9) Evaluate up to 3 alternatives.
- 10) Prepare conceptual level cost estimates for alternatives analyzed.
- 11) Coordination with Mapleton Irrigation Company and UDOT.
- 12) Status report to City Council (assumes 2 presentations).

Output:

- 1) Stormwater runoff model.
- 2) Deficiencies table
- 3) Comparison of alternatives
- 4) City Council status report

Task 4 – Stormwater Master Plan Update

Objective:

Prepare a Capital Improvement Plan (CIP) and Master Plan Report. The CIP will identify projects that will alleviate existing deficiencies as well as identify projects needed to support future development.

Input:

- 1) Output from Tasks 1 through 3.

Activities:

- 1) Prepare draft CIP.
- 2) Meet with the City to discuss the CIP, alternatives, and criteria.
- 3) Refine CIP based on City comments and complete cost estimates.
- 4) Prepare Master Plan Report.
- 5) Prepare GIS figures.
- 6) Prepare draft drainage criteria manual.
- 7) Prepare final drainage criteria manual.
- 8) Submit draft report for City review.
- 9) Prepare Final Report.

Output:

- 1) CIP with cost estimates for recommended projects
- 2) Stormwater Master Plan Report

WORK PLAN – OPTIONAL ADDITIONAL TASKS

Additional Task 1 – Impact Fee Facility Plan (IFFP) and Impact Fee Analysis (IFA)

Objective:

Prepare an Impact Fee Facility Plan (IFFP) that is based on projects from the CIP that will be constructed in the time frame required by law (approximately 10 years). Perform an Impact Fee Analysis (IFA) that is based on the IFFP and the estimated growth anticipated in the same time frame.

Input:

- 1) Output from Tasks 2-4
- 2) Growth projections

Activities:

- 1) Prepare an Impact Fee Facility Plan (IFFP) that is based on projects from the CIP that will be constructed in the time frame required by law (approximately 10 years).
- 2) Perform an Impact Fee Analysis (IFA) that is based on the IFFP and the estimated growth

anticipated in the same time frame.

Output:

- 1) IFFP Report
- 2) IFA Report

SCHEDULE

We propose to complete the proposed work within eight months of notice to proceed for the base tasks (this estimate does not include the “additional tasks” category).

PROPOSED FEE

The estimated fees to complete tasks 1 through 4 is \$117,300 as shown in the table below. The inclusion of the additional tasks would increase the budget to \$135,200.

Task	Estimated fee
1: Field Reconnaissance and Overall Project Management	\$ 19,800
2: Mapleton Canyon Flood Hazard Assessment	\$ 16,000
3: Stormwater Alternatives Evaluation	\$ 47,800
4: Stormwater Master Plan Update	\$ 33,700
Total	\$ 117,300

Proposed fees for additional tasks are listed in the following table.

Optional Additional Tasks	Estimated fee
1: IFFP and IFA	\$ 17,900
Total	\$ 17,900

ASSUMPTIONS

The proposed scope, budget, and schedule assume the following:

- 1) The City will respond promptly to all requests for data and information. All data listed as inputs in the scope are available and will be provided to HAL by the City.
- 2) The average urban subbasin will be between 10 and 50 acres in size depending on drainage paths and storm drain infrastructure in the area.
- 3) Tasks listed as additional would proceed concurrently with or after the master plan.
- 4) Prices listed for the additional tasks would be good until the end of 2024. At that point, HAL can apply rate increases and resubmit a scope and budget for these items at the City's request.
- 5) Any required financial records will be made available by the City.


Mr. Hunter
February 1, 2024
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- 6) Existing data in GIS is accurate.
- 7) Impervious surface will be estimated using multi-spectral imagery.
- 8) Private detentions will not specifically be modeled. If the City desires, private detentions can be accounted for with regional unit detentions or can be ignored in order to be more protective.

Please contact us if you have any questions or need additional information.

Sincerely,

HANSEN, ALLEN & LUCE, INC.


Kayson Shurtz, P.E.
Associate

STANDARD FEE SCHEDULE 2024

PERSONNEL CHARGES

Client agrees to reimburse Hansen, Allen & Luce, Inc. (HAL), for personnel hourly rates related to the completion of the project, in accordance with the following:

Managing Professional III	\$228
Managing Professional II	\$220
Managing Professional I	\$208
Senior Professional III	\$197
Senior Professional II	\$188
Senior Professional I	\$174
Professional III.....	\$163
Professional II.....	\$147
Professional I.....	\$138
Professional Intern.....	\$127
Environmental Scientist I	\$119
Environmental Scientist II	\$133
Engineering Student Intern.....	\$76
Water Resource Specialist I	\$140
Water Resource Specialist II	\$161
Professional Geologist.....	\$161
Senior Designer.....	\$140
Designer.....	\$127
Senior Field Technician	\$132
Field Technician	\$100
CAD Operator.....	\$111
Public Relations Specialist.....	\$158
Administrative Assistant	\$76
Professional Land Surveyor.....	\$156
1 Man GPS Surveying Services.....	\$175
Drone Pilot	\$210
Expert Legal Services.....	\$345

DIRECT CHARGES

Client also agrees to reimburse HAL for all other costs related to the completion of the project. Charges shall include, but not be limited to, the following:

Communication, Computer, Reproduction	\$7 per labor hour
Out-of-town per diem allowance (lodging not included)	\$66 per day
Vehicle	\$0.70 per mile
Outside consulting and services	Cost plus 10%
Other direct expenses incurred during the project	Cost plus 10%
Trimble GPS Unit	\$150 per day
Data Logger/Transducer.....	\$150 per week
Credit Card Payment Fee	3.5% of Payment Amount

INTEREST CHARGE AFTER 30 DAYS FROM INVOICE DATE..... 1.5% per month

Note: Annual adjustments to personnel and expense charges will occur in January of each year.

CLIENT: **Mapleton**
PROJECT: **2024 Stormwater Master Plan**

Pha	Task #	Task Activity	Billing Period	Hours											Total Hours	Labor Cost	Communications /Office Expense	Miles Travel	Direct Expense	Expense Cost	Total HAL Cost with Contingency & Rate Inc.	
				Man Prof III	Man Prof I	SP I	Prof II	Surveying	CAD	Prof II	Prof I	PEI	Designer	Field Tech								Intern
I Field Reconnaissance																						
	100	Overall Project Management, Communication, and Coordination (Monthly Coordination mtgs)	1		6	36	22								64	\$10,746.00	\$448.00			\$448.00	\$12,313.40	
	101	Compile available info and identify data gaps	1			2	8								10	\$1,524.00	\$70.00			\$70.00	\$1,753.40	
	102	Meet with City staff to review inventory, data gaps, software, Problem Areas etc	1			3	5								8	\$1,257.00	\$56.00			\$56.00	\$1,444.30	
	103	Field Visit	1			10	10								20	\$3,210.00	\$140.00	200		\$280.00	\$3,839.00	
	199	Quality Control (QC) / Quality Assurance (QA)	1			2									2	\$348.00	\$14.00			\$14.00	\$398.20	
	SUBTOTAL HOURS/UNITS:			0	6	53	45	0	0	0	0	0	0	0	104		\$728.00		200	0		
	SUBTOTAL:			\$0.00	\$1,248.00	\$9,222.00	\$6,615.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$17,085.00	\$728.00		\$140.00	\$0.00	\$868.00	\$19,748.30
II Mapleton Canyon Flood Hazard Assessment																						
	200		1												0	\$0.00	\$0.00			\$0.00	\$0.00	
	201	Review FEMA hydrology assumptions	1			1	4								5	\$762.00	\$35.00			\$35.00	\$876.70	
	202	Extend 2D modeling results for FEMA flow of 321 cfs	1			2	16								18	\$2,700.00	\$126.00			\$126.00	\$3,108.60	
	203	Review neighboring stream gages for justification of lower flowrate	1			2	12								14	\$2,112.00	\$98.00			\$98.00	\$2,431.00	
	204	Identify up to 2 projects for conveying the effective FEMA flow and a lower flowrate as determined in Task 203.	1			8	24								32	\$4,920.00	\$224.00			\$224.00	\$5,658.40	
	205	Summarize findings in tech memo (appendix in master plan report)	1			4	12								16	\$2,460.00	\$112.00			\$112.00	\$2,829.20	
	299	Quality Control (QC) / Quality Assurance (QA)	1	4											4	\$912.00	\$28.00			\$28.00	\$1,034.00	
	SUBTOTAL HOURS/UNITS:			4	0	17	68	0	0	0	0	0	0	0	89		\$623.00		0	0		
	SUBTOTAL:			\$912.00	\$0.00	\$2,958.00	\$9,996.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$13,866.00	\$623.00		\$0.00	\$0.00	\$623.00	\$15,937.90
III Stormwater Alternatives Evaluation																						
	300		1												0	\$0.00	\$0.00			\$0.00	\$0.00	
	301	Delineate subbasins for entire city	1			4	24								28	\$4,224.00	\$196.00			\$196.00	\$4,862.00	
	302	Prepare model	1			4	32								36	\$5,400.00	\$252.00			\$252.00	\$6,217.20	
	303	Input storm parameters in model	1			2	8								10	\$1,524.00	\$70.00			\$70.00	\$1,753.40	
	304	Define future buildout conditions	1			1	20								21	\$3,114.00	\$147.00			\$147.00	\$3,587.10	
	305	Prepare model scenarios and runs, including existing and future	1			2	24								26	\$3,876.00	\$182.00			\$182.00	\$4,463.80	
	306	Prepare deficiency tables	1			4	24								28	\$4,224.00	\$196.00			\$196.00	\$4,862.00	
	307	Meet with City to discuss deficiencies	1			5	5								10	\$1,605.00	\$70.00			\$70.00	\$1,842.50	
	308	Update model parameters	1				8								8	\$1,176.00	\$56.00			\$56.00	\$1,355.20	
	309	Evaluate up to 3 Alternatives	1			8	32								40	\$6,096.00	\$280.00			\$280.00	\$7,013.60	
	310	Prepare Conceptual Level Costs for Alternatives analyzed	1			4	16								20	\$3,048.00	\$140.00			\$140.00	\$3,506.80	
	311	Coordination with Mapleton Irrigation Company and UDOT	1			10	12								22	\$3,504.00	\$154.00			\$154.00	\$4,023.80	
	312	Status Reports to City Council	1			12	4								16	\$2,676.00	\$112.00	200		\$252.00	\$3,220.80	
	399	Quality Control (QC) / Quality Assurance (QA)	1	4											4	\$912.00	\$28.00			\$28.00	\$1,034.00	
	SUBTOTAL HOURS/UNITS:			4	0	56	209	0	0	0	0	0	0	0	269		\$1,883.00		200	0		
	SUBTOTAL:			\$912.00	\$0.00	\$9,744.00	\$30,723.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$41,379.00	\$1,883.00		\$140.00	\$0.00	\$2,023.00	\$47,742.20
IV Stormwater Master Plan Update																						
	400		1												0	\$0.00	\$0.00			\$0.00	\$0.00	
	401	Prepare draft CIP	1			8	32								40	\$6,096.00	\$280.00			\$280.00	\$7,013.60	
	402	Meet with the City to discuss CIP, alternatives and criteria	1			5	5								10	\$1,605.00	\$70.00			\$70.00	\$1,842.50	
	403	Refine CIP and complete cost estimates	1			2	16								18	\$2,700.00	\$126.00			\$126.00	\$3,108.60	
	404	Prepare report	1			4	40								44	\$6,576.00	\$308.00			\$308.00	\$7,572.40	
	405	Prepare GIS figures	1			2	12								14	\$2,112.00	\$98.00			\$98.00	\$2,431.00	
	406	Prepare Draft Drainage Criteria Manual	1		2	12	8								22	\$3,680.00	\$154.00			\$154.00	\$4,217.40	
	407	Prepare Final Drainage Criteria Manual	1		2	8	4								14	\$2,396.00	\$98.00			\$98.00	\$2,743.40	
	408	Submit draft for review	1			2	8								10	\$1,524.00	\$70.00			\$70.00	\$1,753.40	
	409	Prepare final report	1		4	2	8								14	\$2,356.00	\$98.00			\$98.00	\$2,699.40	
	499	Quality Control (QC) / Quality Assurance (QA)	1	1											1	\$228.00	\$7.00			\$7.00	\$258.50	
	SUBTOTAL HOURS/UNITS:			1	8	45	133	0	0	0	0	0	0	0	187		\$1,309.00		0	0		
	SUBTOTAL:			\$228.00	\$1,664.00	\$7,830.00	\$19,551.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$29,273.00	\$1,309.00		\$0.00	\$0.00	\$1,309.00	\$33,640.20
V IFFP and IFA																						
	500		1												0	\$0.00	\$0.00			\$0.00	\$0.00	
	501	Prepare IFFP	1			8	50								58	\$8,742.00	\$406.00			\$406.00	\$10,062.80	
	502	Prepare IFA	1	2		8	32								42	\$6,552.00	\$294.00			\$294.00	\$7,530.60	
	503		1												0	\$0.00	\$0.00			\$0.00	\$0.00	
	504		1												0	\$0.00	\$0.00			\$0.00	\$0.00	
	505		1												0	\$0.00	\$0.00			\$0.00	\$0.00	
	599	Quality Control (QC) / Quality Assurance (QA)	1	1											1	\$228.00	\$7.00			\$7.00	\$258.50	
	SUBTOTAL HOURS/UNITS:			3	0	16	82	0	0	0	0	0	0	0	101		\$707.00		0	0		
	SUBTOTAL:			\$684.00	\$0.00	\$2,784.00	\$12,054.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00		\$15,522.00	\$707.00		\$0.00	\$0.00	\$707.00	\$17,851.90
TOTAL HOURS BY EMPLOYEE:				12	14	187	537	0	0	0	0	0	0	0								

PHASE	TASK	Labor	Direct Exp	Subtotal	Subconsultant	SubTotal with Contingency
		Costs	Cost	w/Contingency	Costs	
I	Field Reconnaissance	\$17,085.00	\$868.00	\$19,748.30	\$0.00	\$19,748.30
II	Mapleton Canyon Flood Hazard Assessment	\$13,866.00	\$623.00	\$15,937.90	\$0.00	\$15,937.90
III	Stormwater Alternatives Evaluation	\$41,379.00	\$2,023.00	\$47,742.20	\$0.00	\$47,742.20
IV	Stormwater Master Plan Update	\$29,273.00	\$1,309.00	\$33,640.20	\$0.00	\$33,640.20
V	IFFP and IFA	\$15,522.00	\$707.00	\$17,851.90	\$0.00	\$17,851.90
TOTAL w/Contingency:		\$128,837.50	\$6,083.00	\$134,920.50	\$0.00	\$134,920.50

