City of Visalia
Agenda Item Transmittal

Meeting Date: 8/16/2021

Agenda Item Number (Assigned by City Clerk): 12.

Agenda Item Wording: Authorize the City Manager to approve a contract amendment for Carollo Engineers, Inc. in the amount of $132,543 for the Update to the Stormwater Master Plan (Project Number 2450-72000/CP9067-999); and authorize an additional appropriation of $140,000 from Storm Sewer Construction Fund (221).

Deadline for Action: None

Submitting Department: Public Works

Contact Name and Phone Number:
Katherine Woodhull-Fuget, Assistant Engineer, katherine.woodhull-fuget@visalia.city, 713-4447
Frank Senteno, City Engineer, frank.senteno@visalia.city, 713-4331
Nick Mascia, Public Works Director, nick.mascia@visalia.city, 713-4323

Department Recommendation:
Staff recommends that the City Council:

1. Authorize the City Manager to execute a consultant contract amendment for additional storm modeling work by Carollo Engineers, Inc. to Update the City's Public Facility Master Plan for Storm (CP9067) in the amount of $132,543 (CP9067); and
2. Authorize an additional appropriation of $140,000 from Storm Sewer Construction Fund 221 to CP9067

Summary:
Approval of this contract amendment will enable Carollo to complete the model, allowing the development of necessary Capital Projects to support the SD Master Plan and development into the outer development boundaries (T2 and T3). The development of projects will be the basis for the Nexus study in the establishment of Impact fees that will be brought to the City Council for discussion and approval at a later date. Staff anticipate bringing the impact fees to City Council in Spring 2022. The Sewer master plan is ready to proceed with the nexus study but is waiting for the completion of the Storm master plan in order to perform the nexus studies simultaneously.

Background Discussion:

COUNCIL ACTION: Approved as Recommended

BP/BT 5-0

AUG 16 2021

The City of Visalia entered a contract with Carollo Engineers, Inc to update the City's public facility master plans for stormwater and sanitary sewer collection in September 2018. The contract was split into two phases with separate purchase orders. Phase 1, update to the Stormwater Master Plan with a cost not to exceed $326,700. Phase 2, update to the Sanitary Sewer Master Plan, with a cost not to exceed $279,200.

The main purpose of updating these master plans is to adequately size storm water and sewer system facilities for the future growth in accordance with the 2014 General Plan update. The 2014 General Plan update contains new policies and changes to land use types and land use densities that have a direct impact on the sizing of these facilities. The currently implemented master plans were updated in 1994 based on the 1990 General Plan. In 2003, the City authorized Carollo Engineers, P.C. to prepare an update to the Sanitary Sewer Master Plan. Carollo delivered a sewer model and master plan report in 2005. In 2006, the City authorized Boyle Engineering Corporation to prepare an update to the Storm Water Master Plan. Boyle delivered a storm drain model and a draft future project list in 2007. Programmatic Environmental Impact Reports were not created for either the 2005 Sewer nor the 2007 Storm Master Plan updates, and neither were officially implemented. Efforts were halted with the start of the General Plan update process in 2009 so that any General Plan changes could be incorporated into the master plans.

These master plan updates should track on the same cycle of updates that occur to the General Plan. These master plans provide necessary guidance to City staff for capital projects and to private developers for knowing the City's requirements for storm water and sewer system facilities. This includes when to have the developer upsize their line to meet the plan. Additionally, these master plans will include nexus studies that will provide an equitable distribution of development costs through updated development impacts fees for storm water and sanitary sewer collection. This contract amendment focuses solely on the Stormwater Master Plan.

Carollo's initial proposed scope of work included developing an existing conditions storm drain model from scratch. In an attempt to reduce costs, Staff, at the time, proposed using the model produced by Boyle Engineering Corporation in the halted mid-2000's master plan efforts as a baseline conditions model that Carollo's subcontractor, CWE (actual name of company), could convert from the modeling software "InfoSWMM" to the modeling software "EPASWMM" (Environmental Protection Agency Storm Water Management Model) and then add minor updates to bring the model from the mid-2000's condition up to the present. This was a significant decrease in scope from Carollo's initial proposal, and, had things gone to plan, would have saved a substantial amount of money. Unfortunately, when the Boyle model was delivered to the consultant after the contract was awarded, the Consultant determined that the model was not actually a complete and detailed model of the 2005 conditions. A significant amount of infrastructure and subcatchments (drainage areas) were missing, and much of what was in the model did not match Carollo's understanding of the existing conditions. It is possible that this data was lost in the conversion process from the 2007 InfoSWMM software to the 2018 EPASWMM software. As a result, extra time

and effort were required to get the storm drain model up to a status that it was expected to be at the start of the project.

The following contract amendments are requested for Phase 1—Storm Water Master Plan:

Item 1: Review Storm Data (Task 1)
Due to the inadequacy of the existing conditions model provided by the City to the Consultant, more detailed data review is required than originally budgeted for and commensurate with the added infrastructure per task 2 below. City Staff had difficulty locating the required data, which created delays and additional cost.

Net Increase: **$6,094**

Item 2: Storm Drain Model Development (Task 2)
Storm drain modeling efforts not included in the initial scope of work but required to meet the project deliverables includes adding 38 storage basins, over 235 junctions/manholes, 230 pipes, 9 pumps, and 24 outfalls, as well as a significant number of subcatchments. This includes additional time to locate the missing pipes, basins, and pumps within the model, getting the plans, and adding the elements to the system all contributing to the development of the City's baseline model.

Net Increase: **$130,878**

Item 3: Storm Master Plan Development (Task 3)
Storm Drain Master Plan Development is currently 13% complete. As a result of the additional work put into model development, CWE expects the remainder of the Master Plan Development to require less effort than originally anticipated, reducing costs by $11,920

Net Decrease: **$(11,920)**

Item 4: Additional Project Management
Due to the delays and data-related complications, significantly more meetings and teleconferences than originally budgeted for are required complete the project.

Net Increase: **$7,491**

Change Order Committee:
The amendment went before the Change Order Committee on August 5th, 2021. After reviewing the request and discussing the item, the committee recommended approval of the amendment of the contract to Carollo.

Fiscal Impact
The Update to the Storm Master Plan (CP9067) is funded by the Storm Sewer Construction Fund (221). The initial project budget was $449,600 as shown in the following budget summary:

Update to Storm Master Plan: Project CP9067	
Funding Source: Fund 221	
Project Funding	$451,100
Project Expenditures as of 6/30/21	
Carollo Contract	$106,533
Project Management	$99,010
Sub-total Expenditures	$205,543
Remaining Project Expenditures	
Carollo Contract	$220,167
Carollo Amendment 1	$132,543
Project Management (Estimate)	$24,000
Contingency (~5% Amendment 1)	$6,600
Sub-total Remaining Expenditures	$383,310
Total Estimated Cost	$588,853
Budget Deficit	$(137,753)

As shown in the above table and as discussed above, the work necessary to update and complete the City's Storm Drain model shows a budget shortfall of $137,753. Therefore, in order to complete the storm master plan Staff requests City Council approve this contract amendment and an additional appropriation of $140,000 from 221 Funds.

Prior Council Action:
2003—Council authorized Carollo Engineers, P.C. to prepare an update to the Sanitary Sewer Master Plan

November 6, 2006—Council authorized the City Manager to execute an agreement, in the amount of $368,670, with Boyle Engineering Corporation to prepare a comprehensive Update to the Storm Water Master Plan for the Visalia Urban Area and authorized an appropriation of $300,000 from the Storm Sewer Fund.

June 6, 2016—Work session to review key topics related to the City's sewer system and storm water master plans and to receive Council feedback for incorporation into the scope of work and authorize the advertising of a Request for Proposals (RFP) to update these master plans.

September 4, 2018-Council authorized the City Manager to execute an agreement for RFP 17-18-29 to Update the City's Public Facility Master Plans for Storm Water and

Sanitary Sewer Collection with Carollo Engineers, Inc. in the amounts of $326,700 (CP9067) and $279,200 (CP0015), authorized the appropriation of $155,285 from Fund 221 to CP9067, and authorized the appropriation of $12,000 from Fund 231 to CP0015.

Committee/Commission Review and Action:
N/A.

Alternatives:
Do not approve the amendment or appropriation; however the studies will then be incomplete.

Attachments:
Proposed Contract Amendment
Contract Award Agenda Item

Recommended Motion (and Alternative Motions if expected):
I move to authorize the City Manager to execute a consultant contract amendment with Carollo Engineers, Inc in the amount of $132,543 and authorize an additional appropriation of $140,000 from Storm Sewer Construction Fund (Fund 221).

Copies of this report have been provided to:

Environmental Assessment Status

CEQA Review:
A Programmatic Environmental Impact Report will be required prior to adoption of the public facility master plans. Staff intend to issue a new RFP for the development of the storm and sewer master plan programmatic EIRs.

carollo
Engineers...Working Wonders With Water®

1401 Fulton Street, Suite 802, Fresno, California 93721
P. 559.436.6616 F. 559.436.1191

July 30, 2021

Mr. Frank Senteno, PE
City Engineer
City of Visalia
315 East Acequia Avenue
Visalia, CA 93291

Subject: Amendment No. 1 for the City of Visalia Public Facility Master Plans for Storm Water and Sanitary Sewer Collection

Dear Mr. Senteno:

Per our previous discussions, the Carollo Engineers, Inc. (Carollo)/CWE team has requested an amendment to the City of Visalia Public Facilities Master Plans for Storm Water and Sanitary Sewer Collection Project (Master Plans). The Storm Water portion of the Master Plans Project is over budget for several tasks due to the extra work needed to get the storm water hydrologic/hydraulic models running. The project overrun issues are related to an existing conditions model (provided to CWE by the City), which was substantially less complete than originally planned for. For example, topographic data was lacking detail for the creeks, and the model had significant data gaps. In addition, City data availability and delayed responses due to City staffing challenges led to significant inefficiencies in the project that were not accounted for in the original Scope of Work. The following summarizes the additional effort that was not originally included in the Master Plans Scope:

Storm Water Master Plan

- Task 1 – Data Review. Additional data collection and review time was required due to the increased effort associated with Task 2, as documented below. This additional time was not included in the original Scope of Work.
- Task 2 – Model Development. The original proposal for Task 2 Model Development was developed on the understanding that a complete and accurate SWMM model from the 2005 Master Plan efforts would be provided by the City. The model was then to be updated to bring it up to the current existing conditions. The model that was provided did not include most of the storage basins, no pumps, and the pipe system was incorrect in many locations. Neither CWE nor Carollo had access to the model prior to receiving the contract. A summary of the efforts for the storm drain modeling that were outside of the Scope of Work to date includes adding 38 storage basins, over 235 junctions/manholes, 230 pipes, 9 pumps (this might increase depending on what Katherine Woodhull-Fuget finds regarding the missing ones), and 24 outfalls. A significant number of the subcatchments had to be added to bring the model up to the existing conditions and make it match with the City drainage systems. This effort required additional time to locate the missing pipes, basins, and pumps within the existing model (30-inches and above), getting the plans, and adding the elements to the system in the appropriate locations.

A significant amount of time over the budgeted amount was spent on the Hydrologic Engineering Center's River Analysis System (HEC-RAS) models to locate all of the culverts and bridges along each creek and request measurements for all of them. This information was passed on to the City to get the additional information. Modeling also required adjusting the topographic data provided because it didn't account for the bottom of the creeks. This was most likely caused by the channels being filled with irrigation flows when they flew the Light Detection and Ranging (LIDAR) survey. This effort took a significant amount of extra time which was not covered in the original Scope of Work.

The time delays also caused additional cost. The delays in project data delivery resulted in the project not being completed in the scheduled time. Staff that had originally been working on the project moved on to other employers with little transition on the project. Additional staff had to be brought up to speed on the model, which added additional cost.

There are still a few unresolved issues with the Environmental Protection Agency Stormwater Management Model (EPASWMM) model but the existing conditions model is almost done. The remainder of the time to complete the model depends on the number of subareas that need to be added in the industrial area based on modeling actual conditions or just modeling the streets and expecting the industrial users to capture the required stormwater volumes onsite. Once the model is completed, a verification/validation of the model is still required based on Task 2 in the Scope of Work. The scope also requires evaluation of the basis of design. Task 3 requires model analyses of existing and future conditions under various scenarios to determine the needs for storm drain systems and basins in the future.

The HEC-RAS models require the addition of the culvert and bridge structures to be added. There is also additional cross-section cleanup on several of the models. These efforts include:

- Evans Ditch. Add approximately 33 structures to the latest model, revise several hundred cross-sections, evaluate updated agreements for entitlement flows (expected/maximum irrigation and flood flows) to model. The channel capacity varies from 140 to 277 cubic feet per second (cfs).
- Mill Creek. Add approximately 77 structures to the latest model, revise several hundred cross-sections, evaluate updated agreements for entitlement flows (expected/maximum irrigation and flood flows) to model. The channel capacity varies from 147 to 1,169 cfs.
- Modoc Ditch. Add approximately 22 structures to the latest model, revise approximately 50 cross-sections, evaluate updated agreements for entitlement flows (expected/maximum irrigation and flood flows) to model. The channel capacity varies from 154 to 647 cfs.
- Packwood Creek. Add approximately 27 structures to the latest model, evaluate updated agreements for entitlement flows (expected/maximum irrigation and flood flows) to model. The channel capacity varies from 515 to 1,477 cfs.

- Task 3 – Master Plan. We expect that there are sufficient funds in the original contract to complete this task, and that we will have some funds remaining on this task upon completion of the Master Plan. Therefore, this amendment would reduce the fee associated with this task accordingly.

- Task 4 – Nexus Study. At this time, no budget increase is requested for this task.
- Task 5 – Stakeholder Involvement. At this time, no budget increase is requested for this task.
- Task 6 – Project Management. The delays experienced on the project resulted in the need for additional project management effort than originally scoped.

Sewer Master Plan

We are not requesting any amendments to the Sewer Master Plan tasks (Tasks 7 – 12) at this time.

Proposed Fee Adjustments for Master Plans

The attached letter from Vik Bapna, dated July 28, 2021 provides a detailed breakdown of the estimated effort needed for CWE to complete the Storm Water Master Plan, along with a detailed breakdown of the effort expended to date. Table 1 below provides a summary of the original estimated fee, by task. It also summarizes the additional funds needed to complete the project, including a subconsultant markup of 10-percent. As shown in Table 1, we are requesting an additional $132,543 be added to the Master Plans contract, for a total revised contract amount of $738,443.

Table 1 Revised Fee Estimate for the City of Visalia Public Facility Master Plans

Task No.	Task Name	Original Contract Amount ($)	Additional Funds Requested from CWE[1] ($)	Additional CWE Funds + 10%[2] Markup ($)	Total Revised Contract ($)
Storm Water Master Plan					
1	Data Review	$17,200	$5,540	$6,094	$23,494
2	Model Development	$44,600	$118,980	$130,878	$175,478
3	Master Plan Development	$181,000	($10,836)[3]	($11,920)[3]	$169,080
4	Nexus Study	$33,400	$0	$0	$33,400
5	Stakeholder Involvement	$18,600	$0	$0	$18,600
6	Project Management	$31,900	$6,810	$7,491	$39,391
Storm Water Master Plan Subtotal		**$326,700**	**$120,494**	**$132,543**	**$459,243**
Sewer Master Plan					
7	Data Review	$81,400	$0	$0	$81,400
8	Model Development	$60,200	$0	$0	$60,200
9	Master Plan Development	$77,800	$0	$0	$77,800
10	Nexus Study	$16,700	$0	$0	$16,700
11	Stakeholder Involvement	$17,600	$0	$0	$17,600
12	Project Management	$25,500	$0	$0	$25,500
Sewer Master Plan Subtotal		**$279,200**	**$0**	**$0**	**$279,200**
Total		**$605,900**	**$120,494**	**$132,543**	**$738,443**

Notes:
(1) The attached letter from Vik Bapna, dated July 28, 2021 provides a detailed breakdown of the estimated effort needed for CWE to complete the Storm Water Master Plan. This table provides the additional funds needed to complete the Master Plan.
(2) The total additional funds requested include the standard 10-percent subconsultant markup of 10-percent.
(3) A credit is being applied to Task 3 – Master Plan Development. CWE expects that $169,080 of the original contract amount ($181,000) is needed to complete the work.

Mr. Frank Senteno, PE
City Engineer
City of Visalia
July 30, 2021

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We appreciate being of service on this project. If there are any questions, please do not hesitate to contact us.

Sincerely,

CAROLLO ENGINEERS, INC.

Ryan F. Orgill, PE
Project Manager

RFO:cjp

Enclosures: Letter from Vik Bapna, dated July 28, 2021

cc: Katherine Woodhull-Fuget, Ben Willardson

CWE
1561 E. ORANGETHORPE AVENUE
SUITE 240
FULLERTON, CA 92831-5202
(714) 526-7500 PHONE
(714) 526-7004 FAX
www.cwecorp.com

July 28, 2021

Mr. Frank Senteno, PE
City Engineer
City of Visalia
315 East Acequia Avenue
Visalia, California 93291

Change Order Request: City of Visalia Stormwater Master Plan Modeling

Dear Mr. Senteno,

As requested based on previous discussions, CWE has prepared a change order request for the City of Visalia Stormwater Master Plan modeling effort which includes a summary of the need for additional funds and the amount requested. The project is over budget for several tasks due to the extra work needed to get the models running. The project overrun issues are related to an existing conditions model that was way below the expected condition for the base model, topographic data that was lacking detail for the creeks, significant data gaps, City data availability, and delayed responses due to City staffing at times on the project that required setting aside the project and starting up again.

The original proposal for Task 2 Model Development was developed on the understanding that a complete and accurate SWMM model from the 2005 Master Plan efforts would be provided by the City. The model was then to be updated to bring it up to the current existing conditions. The model that was provided did not include most of the storage basins, no pumps, and the pipe system was incorrect in many locations. CWE did not have access to the model prior to receiving the contract. A summary of the efforts for the storm drain modeling outside of the Scope of Work to date includes adding 38 storage basins, over 235 junctions/manholes, 230 pipes, 9 pumps (this might increase depending on what Katherine Woodhull-Fuget finds regarding the missing ones), and 24 outfalls. A significant number of the subcatchments had to be added to bring the model up to the existing conditions and make it match with the City drainage systems. This effort required additional time to locate the missing pipes, basins, and pumps within the existing model (30-inches and above), getting the plans, and adding the elements to the system in the appropriate locations.

A significant amount of time over the budgeted amount was spent on the Hydrologic Engineering Center's River Analysis System (HEC-RAS) models to locate all of the culverts and bridges along each creek and request measurements for all of them. This information was passed on to the City to get the additional information. Modeling also required adjusting the topographic data provided because it didn't account for the bottom of the creeks. This was most likely caused by the channels being filled with irrigation flows when they flew the Light Detection and Ranging (LIDAR) survey. This effort took a significant amount of extra time which was not covered in the original Scope of Work.

The time delays also caused additional cost. The delays in project data delivery resulted in the project not being completed in the scheduled time. Staff that had originally been working on the project moved on to other employers with little transition on the project. Additional staff had to be brought up to speed on the model, which added additional cost.

There are still a few unresolved issues with the Environmental Protection Agency Stormwater Management Model (EPASWMM) model but the existing conditions model is almost done. The remainder of the time to complete the model depends on the number of subareas that need to be added in the industrial area based on modeling actual conditions or just modeling the streets and expecting the industrial users to capture the required stormwater volumes onsite. Once the model is completed, a verification/validation of the model is still required based on Task 2 in the Scope of Work. The scope also requires evaluation of the basis of design. Task 3 requires model analyses of existing and future conditions under various scenarios to determine the needs for storm drain systems and basins in the future.

The HEC-RAS models require the addition of the culvert and bridge structures to be added. There is also additional cross-section cleanup on several of the models. These efforts include:

Evans Ditch
Add approximately 33 structures to the latest model, revise several hundred cross-sections, evaluate updated agreements for entitlement flows (expected/maximum irrigation and flood flows) to model, channel capacity varies from 140 to 277 cubic feet per second (cfs).

Mill Creek
Add approximately 77 structures to the latest model, revise several hundred cross-sections, evaluate updated agreements for entitlement flows (expected/maximum irrigation and flood flows) to model, channel capacity varies from 147 to 1,169 cfs.

Modoc Ditch
Add approximately 22 structures to the latest model, revise approximately 50 cross-sections, evaluate updated agreements for entitlement flows (expected/maximum irrigation and flood flows) to model, channel capacity varies from 154 to 647 cfs.

Packwood Creek
Add approximately 27 structures to the latest model, evaluate updated agreements for entitlement flows (expected/maximum irrigation and flood flows) to model, channel capacity varies from 515 to 1,477 cfs.

The current task fees and breakdown were provided on the last invoice sent to the City. The table below shows the most current and previous invoice fees, the funds spent to date, and the total contract amount. The amount that is required to finish the modeling work and the Stormwater Master Plan are provided in the last column.

The following table shows the Actual Percent Completion of each task (not percent billed, but percent of required work done), the costs to date for each task, the quantity incorrectly billed to Task 3 in prior (processed) invoices for incorporation into the change order.

Task	Description	Billed to Date	Actual Cost to Date	Contract Amount	Percent Complete	Expended Cost Above Contract	Estimate to Complete	Total Revised Contract
1	Review Data	$14,300	$14,300	$14,300	72%	$0	$5,540	$19,840
2	Model Development	$37,500	$134,430	$37,500	86%	$96,930	22,050	$156,480
3	Master Plan	$116,160	$19,230	$145,200	13%	$0	115,134	$134,364
5	Stakeholder Involvement	$0	$0	$1,000	0%	$0	$1,000	$1,000
7	Project Management	$7,910	$7,910	$11,300	44%	$0	10,200	$18,110
	Total	**$175,870**	**$175,870**	**$209,300**	**~30%**	**$96,930**	**$153,924**	**$329,794**

We have attached a breakdown of our time and cost estimate for each outstanding task and a time and cost estimate for the additional task of the stormwater utility fee analysis requested. The Scope of Work for the stormwater utility fee analysis has been included below for a better understanding of the proposed work.

If you have any questions or require additional information, please contact Dr. Ben Willardson at (801) 310-6153 or at bwillardson@cwecorp.com, or me at (714) 526-7500 Ext. 212 or vbapna@cwecorp.com.

Respectfully submitted,
CWE

V Bapna

Vik Bapna, PE, ENV SP, CPSWQ, QSD/P
Principal

City of Visalia Stormwater Master Plan Modeling Change Order
Professional Service Fee
Prepared by CWE on 7/28/2021

Task		Total	Principal	Sr. Project Manager	Project Engineer
			$271	$265	$160
1	**Review of Existing Data and Collection of New Data**				
	Review of Data	$5,540		4	28
	Evaluation of Data Gaps	$0			
	Technical Memorandum on Data Gaps	$0			
2	**Model Development**				
	Review of Existing Model Hydrology/Model Development	$9,800		8	48
	Review of Existing Model Hydraulics/Model Development	$9,800		8	48
	Sensitivity Test of EPA SWMM Version	$2,450		2	12
3	**Development of Master Plan Update**				
	Existing Development to determine deficiencies				
	a. 2-year Storm (1994 Master Plan) - waterways dry	$1,810		2	8
	b. 2-Year Storm (1994 Master Plan) with Kaweah River Flows	$1,810		2	8
	Existing Development to determine deficiencies				
	a. 10-year Storm (1994 Master Plan) - waterways dry	$1,810		2	8
	b. 10-Year Storm (1994 Master Plan) with Kaweah River Flows	$1,810		2	8
	Full Buildout of New Development (No LID retention) to Existing Drains				
	a. Design Storm (1987-Current) - waterways dry	$4,370		2	24
	b. Design Storm (1987-Current) with Kaweah River Flows	$1,810		2	8
	Full Buildout of New Development (LID retention) to Existing Drains				
	a. Design Storm (1987-Current) - waterways dry	$4,370		2	24
	b. Design Storm (1987-Current) with Kaweah River Flows	$1,810		2	8
	Full Buildout of New Development per General Plan				
	a. Design Storm (updated) - no LID retention	$2,450		2	12
	b. Design Storm (updated) - with LID retention	$2,450		2	12
	c. Design Storm (updated) - 0.5 inch increase with no LID retention	$2,450		2	12
	d. Design Storm (updated) - 0.5 inch increase with LID retention	$2,450		2	12
	e. Design Storm (updated) - 1.0 inch increase with no LID retention	$2,450		2	12
	f. Design Storm (updated) - 1.0 inch increase with LID retention	$2,450		2	12
	Waterways Modeling				
	Modoc Ditch	$4,900		4	24
	Mill Creek	$8,740		4	48
	Evans Ditch	$4,900		4	24
	Packwood Creek	$3,620		4	16
	Persian/Watson Ditches Capacity Analysis	$2,980		4	12
	North Mill Creek Capacity and Turnout Analysis	$4,370		2	24
	Basins, Pumps, and Pipe Network Modeling				
	Analysis of Standalone Basins	$7,240		8	32
	Analysis of Combined Park-Basins	$7,240		8	32
	Pump System Upgrades	$5,960		8	24
	Pipe Network	$5,960		8	24
	Storm Water Master Plan Report				
	Prepare Draft Storm Water Master Plan	$19,702	2	24	80
	City Review of Draft SWMP	$0			
	Revision of SWMP	$5,222	2	8	16
5	**Stakeholder Involvement**	$1,000		2	3
7	**Project Meetings and Coordination**				
	Kickoff Meeting	$0			
	Meetings and Teleconferences	$10,200		24	24
Total Fee and Hours		**$153,924**	**4**	**162**	**687**

All Direct Expense Costs are billed at Cost + 10%

City of Visalia
Agenda Item Transmittal

Meeting Date: 9/4/2018

Agenda Item Number (Assigned by City Clerk): 9.

Agenda Item Wording: Authorize the City Manager to execute a contract for RFP 17-18-29 to Update the City's Public Facility Master Plans for Storm Water and Sanitary Sewer Collection with Carollo Engineers, Inc. in the amounts of $326,700 (CP9067) and $279,200 (CP0015) for a total amount of $605,900; and authorize an additional appropriation of $155,285 from Storm Sewer Construction Fund (221) to CP9067 and $12,000 from Wastewater trunk line Fund (231) to CP0015.

Deadline for Action: None

Submitting Department: Community Development

Contact Name and Phone Number:
Doug Damko, Senior Civil Engineer, doug.damko@visalia.city (559) 713-4268
Frank Senteno, City Engineer, frank.senteno@visalia.city (559) 713-4331
Nick Mascia, Community Development Director, nick.mascia@visalia.city (559) 713-4323

Department Recommendation:
Staff recommends that the City Council authorize:

1. Authorize the City Manager to execute a contract for RFP 17-18-29 to Update the City's Public Facility Master Plans for Storm Water and Sanitary Sewer Collection with Carollo Engineers, Inc. in the amount of $605,900; and
2. Authorize an additional appropriation of $155,285 from Storm Sewer Construction Fund 221 to CP9067; and
3. Authorize an additional appropriation of $12,000 from Wastewater trunk line Fund (231) to CP0015.

Summary:
City staff issued RFP 17-18-29 in the fall of 2017 to hire a consultant to update the City's public facility master plans for storm water and sanitary sewer collection. The general scope of work includes hydrology, hydraulic modeling and analysis, planning level design, cost estimating, stakeholder outreach, presentations, financial analysis and report writing.

The framework for the RFP was based on the 2014 General Plan, which provides the long-range development policies forming the basis of these master plan documents. The RFP identified that the updated General Plan increased land use densities, included policies encouraging infill development, and reduced the urban footprint at the Tier 3 build-out growth boundary. The updated General Plan also includes new policies on "green" infrastructure such

COUNCIL ACTION: Approved as Recommended
GC/SN 4-0
Gubler Absent
SEP 04 2018

as Low Impact Development (LID) for storm water. The need for water conservation plus the long-term trend of local groundwater over-drafting has also put a priority on storm water as a key component of regional and local water management planning. Planning the sanitary sewer collection system has its challenges with projecting design flows from higher use densities contained in the 2014 General Plan and the offsetting trend of shrinking user discharge flows due to the drought and water conservation mandates.

Background Discussion:
The main purpose of updating these master plans is to adequately size storm water and sewer system facilities for the future growth in accordance with the 2014 General Plan update. The 2014 General Plan update contains new policies and changes to land use types and land use densities that have a direct impact on the sizing of these facilities. The current master plans were updated in 1994 based on the 1990 General Plan. These master plan updates should track on the same cycle of updates that occur to the General Plan. These master plans provide necessary guidance to City staff for capital projects planning and to private developers for knowing the City's requirements for storm water and sewer system facilities. These master plans will include nexus studies that will provide an equitable distribution of development costs through updated development impacts fees for storm water and sanitary sewer collection.

The estimated costs for updating these master plans was fully developed and budgeted in fiscal year 2014/15. However, a budget release occurred at the end of fiscal year 2015/16 that reduced the budget for the Storm Water Master Plan Update (CP9067) by $145,062, which lowered it from $439,377 down to $294,315. The requested budget transfers and new appropriations are necessary to restore the funding needed to complete these master plans based on the fee amounts negotiated with Carollo Engineers, Inc.

Staff developed the RFP based on feedback that we received from City Council during a work session item at the June 6, 2016 Council meeting. The attached memo contains a detailed explanation of this work session item and the feedback provided.

Bidding Process:
The City received Proposals from two (2) consultants in response to the RFP. A three-person Selection Committee was established to review, rate and rank the Proposals. The rating of the Proposals showed the one submitted by Carollo Engineers to be consistently and clearly ranked the highest. One of the key elements of the Proposal from Carollo Engineers was their inclusion of CWE Corporation as the subconsultant in charge of the Storm Water Master Plan. With CWE already under contract and working to complete the Storm Water Management Plan, this would allow them to easily coordinate the overlapping elements of the two plans. The importance of this coordination is part of General Plan Policy P-62 and this was part of the discussion with Council during the June 6, 2016 work session item.

Reference checks were done on Carollo Engineers and CWE Corporation with the City of Tulare, City of Porterville and Port of Long Beach. Very positive feedback was received from these public agencies. Based on this feedback, staff made the decision to finalize the selection

of this consultant based on the Proposals and reference checks without proceeding to the next optional step of conducting interviews. Following is a list of the final Consultant Rankings:

No.	Consultant	Location
1.	Carollo Engineers, Inc.	Fresno, CA
2.	Akel Engineering Group, Inc.	Fresno, CA

City staff then opened the fee envelope for Carollo Engineers and began the negotiation process. The City and Carollo Engineers successfully reached an agreement on refinements to the scope of work and reasonable reductions to their fees in relevant areas. One example of this refinement is that the RFP indicated a higher level work of effort for the storm water master plan compared to the sanitary sewer master plan. Carollo Engineers re-evaluated their work effort and adjusted their fee for the sanitary sewer master plan to be proportional to the storm water master plan. If the contract is awarded by City Council, then Carollo Engineers will immediately begin work after execution of the contract. Following is the project schedule agreed to between City staff and Carollo Engineers premised on beginning work in August.

No.	Task	Completion Date
1.	Data Collection	October – November 2018
2.	Model Development	December 2018 – January 2019
3.	Development of Master Plans	January - August 2019
4.	Council Work Session Presentation	June 2019
5.	Community Workshops (2)	December 2018 and May 2019
6.	Council Regular Session to Adopt Master Plans, Impact Fees and Municipal Code Updates	September 2019

Following are the main tasks, based the RFP, that will be carried out by Carollo Engineers.

Phase 1 – Storm Water Master Plan Update
Task 1 – Review of Existing Data and Collection of New Data
Task 2 – Model Development (215 miles of existing pipes plus new/future pipes)
Task 3 – Development of Master Plan Update (includes modeling of multiple scenarios)
Task 4 – Nexus Study for Impact Fees and User Service Charges
Task 5 – Stakeholder Involvement Program (coordinated together with Phase 2)

Phase 2 – Sanitary Sewer Collection System Master Plan Update
Task 1 – Review of Existing Data and Collection of New Data

Task 2 – Model Development (123 miles of existing pipes plus new/future pipes)
Task 3 – Development of Master Plan Update (includes modeling of multiple scenarios)
Task 4 – Nexus Study for Impact Fees
Task 5 – Stakeholder Involvement Program (coordinated together with Phase 1)

Fiscal Impact:
Funding for these master plan updates was appropriated in prior budget years in Fund 221 (Storm Sewer Construction) and Fund 231 (Wastewater Trunk Line Construction). The fiscal year 2014/15 budget provided $439,377 for the Storm Water Master Plan Update (CP9067) and $330,000.00 for the Sanitary Sewer Master Plan Update (CP0015). At the end of fiscal year 2015/16 the budget for the Storm Water Master Plan Update (CP9067) was reduced by $145,062 from $439,377 down to $294,315 in order to correct a negative balance in Fund 221. The following tables show the budget details for these projects.

Storm Water Master Plan Update (CP9067)	
Original Budget (Fund 221)	**$439,377**
Revised Budget after $145,062 Reduction	**$294,315**
Expenses Breakdown	
Consultant Contract	($326,700)
Consultant Contract Contingency (5%)	($16,300)
City Staff Project Management	($106,600)
Total Estimated Expenses	**$449,600**
Shortfall and Fund 221 Appropriation Requested	**($155,285)**

Sanitary Sewer Master Plan Update (CP0015)	
Original Budget (Fund 231)	**$330,000**
Expenses Breakdown	
Consultant Contract	($279,200)
Consultant Contract Contingency (5%)	($14,000)
City Staff Project Management (2015/16 through 2018/19)	($48,800)
Total Estimated Expenses	**$342,000**
Shortfall and Fund 231 Appropriation Requested	**($12,000)**

Fund 221 – Storm Sewer Construction
The newly adopted City of Visalia 2018/19 and 2019/20 multi-year budget for Fund 221 shows this fund having a closely balanced budget with a negative balance of ($28,000) at the end of fiscal year 2018/19 and a positive balance of $80,900 at the end of fiscal year 2019/20.

Fund 231 – Wastewater Trunk Line Construction

The newly adopted City of Visalia 2018/19 and 2019/20 multi-year budget for Fund 231 shows that this fund has ample available cash and budget balance in fiscal year 2018/19 for appropriation towards the $12,000 shortfall for CP0015.

Prior Council Action:
June 6, 2016 – Work session to review key topics related to the City's sewer system and storm water master plans and to receive Council feedback for incorporation into the scope of work and authorize the advertising of a Request for Proposals (RFP) to update these master plans.

June 20, 2016 – Council authorized the City Manager to execute an agreement for RFP 15-16-11 Development of Citywide Storm Water Management Plan with CWE Corporation of Fullerton CA for $387,003 and appropriate money from various funds.

Other: None

Committee/Commission Review and Action: None

Alternatives: None recommended

Attachments:
Memo on Background Discussion
Disclosure Form for Consultant

Recommended Motion (and Alternative Motions if expected):
I move to authorize the City Manager to execute a contract for RFP 17-18-29 to Update the City's Public Facility Master Plans for Storm Water and Sanitary Sewer Collection with Carollo Engineers, Inc. in the amounts of $326,700 (CP9067) and $279,200 (CP0015), authorize the appropriation of $155,285 from Fund 221 to CP9067, and the appropriation of $12,000 from Fund 231 to CP0015.

Copies of this report have been provided to:

Environmental Assessment Status

CEQA Review: A CEQA document will be prepared during the development of these public facility master plans and it will be adopted by Council concurrently with the adoption of these master plans.

City of Visalia

Memo

To: City Council

From: Doug Damko, Senior Civil Engineer

CC:

Date: July 16, 2018

Re: June 6, 2016 Work Session on RFP Scope of Work for Public Facilities Master Plans

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Work Session Summary

Staff began the preparation of the RFP based on City Council feedback received from a work session presentation where staff reviewed key topics with Council related to these Public Facility Master Plans. The key topics discussed with Council regarding these master plans included: Purpose and History; General Plan Policies; and Sewer System and Storm Water Topics.

The work session discussion on Sewer System Topics resulted in Council feedback with a concern about the sizing of new sewer lines based on current water conservation efforts. If water conservation efforts were reduced in the future due to a cycle of wet years, then these sewer lines could be undersized. Staff recommended that we should remain conservative in line sizing and potentially exclude water conservation reductions in the analysis.

The work session discussion on Storm Water Topics resulted in Council feedback confirming that addressing the larger issues associated with FEMA and significant regional storm series causing flooding in Visalia to be a more prominent issue and separate from our Storm Water Master Plan that focuses more on local storm water drainage resulting from smaller storm events. Making a nexus between the two isn't justifiable because of the large impacts this would have on new development; new development already has to comply with FEMA's National Flood Insurance Program by meeting Base Flood Elevation requirements.

Council also provided feedback on the two questions presented by staff regarding 1) Low Impact Development (LID) options for on-site storm water retention and 2) changing the Design Storm from the current 10-year 10-day event that produces about 4 inches of rain.

Council also preferred that LID options be explored for retrofitting wide streets to accommodate medians for the purposes of retaining street drainage (Green Street Design). Council was generally in agreement with on-site LID implementation and retaining our 10-year 10-day Design Storm with looking at analysis alternatives to consider small incremental rainfall

increases, but offered caution on the potential cost impacts to new development. Council agreed that it made sense to perform a variety of modeling scenarios that include both LID on-site retention options and 0.5-inch incremental rainfall increases to the Design Storm. Council also emphasized the importance of doing outreach with the development community during the master plan development process.

Purpose and History

The main purpose of these master plans is to plan for the future growth of the city per implementation of the General Plan by providing properly sized storm water and sewer system facilities.

Citywide master plans were first started in the mid-80's and were updated in the mid-90's. The mid-2000's update was started, but had delays and then was halted with the start of the General Plan update process in 2009 so that any General Plan changes could be incorporated into the master plans. Ideally, updates to these master plans should track alongside updates to the General Plan.

To accomplish this purpose, the master plans include a financing component that provides for an equitable calculation of development impacts fees to finance the infrastructure shown in the master plans. The cost of properly sized storm water and sewer system facilities will be evaluated through a nexus study that distributes the cost proportionately to new development based on their demand for these facilities. For storm water, this is based on the percentage of impervious surfaces covering a site. For sanitary sewer, this is based on the liquid waste generated by the site users. Computer models will be developed for the storm water and sewer systems. These models will be run to determine the proper sizes of storm water pipelines, storm water basins, sewer pipelines and sewer lift stations. The cost for both systems will be utilized in the nexus study. Technical studies have been done covering a variety of land uses to determine standardized values for sewer flows and storm water runoff for each land use. These values will be utilized in the nexus study. The nexus study will calculate the development impact fees for each land use.

Applicable General Plan Policies

The following General Plan policies are the main ones that support the purpose and key topics for the update to the City's sewer system and storm water master plans. The descriptions provided are a concise explanation based on the actual policy wording that focuses on the specific portion that applies to these master plans.

> ***Policy P-57 (General Utilities)*** requires updates to master plans related to infrastructure development to ensure that existing levels of service can be maintained for proposed land uses and development densities.

Policy P-59 (General Utilities) requires implementation of master plans that provides for an equitable distribution of development costs. Development impacts fees are the primary funding mechanism for the infrastructure shown in the master plans.

Policy P-1 (Park System Planning) requires an assessment of opportunities for joint-use of City parks with storm water basins. This policy is a continuation of a long history of the City developing joint-use that has resulted in 16 parks with depressed areas that serve to hold storm water.

Policy P-46 (Water Conservation) is a broad policy for the City to continue in an active role in regional and local water management planning. This policy focuses on storm water by identifying the configuration of storm water facilities designed to retain and recharge as much storm water as possible within and near the City.

Policy P-61 (Storm Drainage) requires the City to establish a Storm Water Management Program and adopt a Storm Water Management Ordinance to minimize storm water runoff rates and volumes, control water pollution, meet regulatory requirements and maximize groundwater recharge. New development will be required to include Low Impact Development (LID) features that reduce impermeable surface areas and increase infiltration.

Policy P-62 (Storm Drainage) requires updating the Storm Water Master Plan to provide site-appropriate solutions that protect surface water quality and meet regulatory requirements as directed by the Storm Water Management Program.

Key Issues on Policy P-46

Implementing Policy P-46 (Water Conservation) will result in changes in how the City handles storm water in its basins. Currently, the City has utilized retention basins and detention basins. Retention basins are sized to fully hold the design storm. Detention basins are sized to manage the design storm using half the size of a retention basin and using a pump to discharge storm water into a nearby waterway. Policy P-46 will require storm water facilities be designed to retain as much storm water as possible within and near the City. All future basins will need to be retention basins to retain as much storm water as possible, thereby maximizing groundwater recharge, and existing detention basins will need to be evaluated for conversion to retention basins.

Key Issues on Policy P-61

Implementing Policy P-61 (Storm Drainage) was begun in 2005 with the City submitting a Notice of Intent (NOI) for coverage under the State's Phase II Municipal Separate Storm Sewer Systems (MS4) General Permit. This State program is managed by the Central Valley Regional Water Quality Control Board. As part of the NOI, the City developed a Storm Water Management Program in 2005 outlining the City's storm water related priorities and activities to mitigate increased urban runoff due to urbanization. On February 5, 2013, the Phase II MS4

General Permit was revised and reissued and became effective July 1, 2013. The City subsequently submitted another NOI on July 3, 2013 for renewal coverage under this reissued General Permit. This reissued General Permit incorporates Low Impact Development (LID) requirements for new development and redevelopment. The next step after submitting the NOI was hiring a consultant to assist in the process of bringing the City into compliance with the MS4 General Permit. The main components of this process include developing a citywide Storm Water Management Plan and adopting a Storm Water Management Ordinance. The Public Works Department issued RFP 15-16-11 in the fall of 2015 to hire this consultant. This RFP resulted in the City selecting CWE Corporation and Council authorized a contract with CWE Corporation on June 20, 2016.

OWNERSHIP DISCLOSURE FOR CONTRACTORS AND CONSULTANTS

(SUBMIT WITH PROPOSAL)

NAMES OF PRINCIPALS, PARTNERS, AND/OR TRUSTEES:

Firm Name: Carollo Engineers, Inc.

Firm Address: 710 West Pinedale Avenue, Fresno, CA 93711

List the names of all principals, partners, and/or trustees. For corporations provide names of officers, directors and all stockholders owning more than 10% equity interest in corporation:

B Narayanan – CEO/President

Michael W. Barnes – Secretary

Ash Wason – Treasurer

Note: No individual shareholder holds a 10% or larger interest in Carollo Engineers, Inc.

Submitted by: Name Penny Carlo, P.E., Associate Vice President

Date June 25, 2018