

CH2M HILL CONTRACT OVERSIGHT AND MONITORING REVIEW

PROGRAM EVALUATION AND AUDIT



January 2016

INTRODUCTION

Background

The Southwest Light Rail Transit (SWLRT) project will extend the existing Green Line light rail from downtown Minneapolis through the communities of St. Louis Park, Hopkins, Minnetonka, and Eden Prairie, passing in close proximity to Edina. At Target Field Station in Minneapolis, Green Line Extension trains will continue along the METRO Green Line, providing one-seat rides to the University of Minnesota, State Capitol area, and downtown St. Paul. The total estimated project cost of \$1.77 billion will be funded through a mix of federal, state and local sources, with federal funds making up approximately half the total. The lead agency for the project is the Metropolitan Council, which has established a Southwest LRT Project Office (SPO) to oversee the project, address public comments and provide frequent project updates.

The SWLRT Project is currently in the Project Development phase of the Federal Transit Administration's (FTA) New Starts funding process. Heavy construction is scheduled to take place between 2017 and 2019. The Project will begin passenger service as an extension of the METRO Green Line in 2020.

In May 2013, as part of the required environmental approval process, CH2M Hill was awarded a contract in the amount of \$3,385,670 to complete a Final Environmental Impact Statement (FEIS), Record of Decision (ROD), and environmental permitting documentation for the SWLRT Project. Further project development since award of the contract identified the need to involve CH2M Hill in preparation of a Supplemental Draft Environmental Impact Statement (SDEIS) and additional support related to the FEIS, wetland permitting, and wetland delineation. The addition of these activities, among other factors including several scope and alignment changes, required two extensions of the contract termination date and increases to the "not to exceed" value of the contract.¹

- Amendment 1 was executed in July, 2014, extending the performance period to December 31, 2015, and the not to exceed amount to \$5,245,670. Further project development since award of the contract identified the need to involve CH2M Hill, Inc. in preparation of an SDEIS and additional support related to the FEIS, wetland permitting, and wetland delineation.
- Amendment 2 was executed in April, 2015, extending the performance period to December 31, 2016, and the not to exceed amount to \$7,034,757. Further project development since award of the amendment identified the need to involve CH2M Hill, Inc. in additional support related to the FEIS, Section 4(f) Evaluation, Joint Development, and environmental permitting activities. The inclusion of Locally Requested Capital Investments, to be constructed by the Project, but fully funded by the requesting project partner, also require completion of environmental documentation and are included in this amendment.

¹ According to Met Council Procurement Procedure, an contract amendment valued at more than 10% of the initial value of the procurement that is not within the scope of the original contract are considered a sole source procurement that must comply with the Council's Sole Source procedure. The Sole Source Procedure requires that sole source procurement must be used with care on an exception basis only and must be justified for each occurrence. Based on the value of these amendments (greater than \$250,000), each was required to be approved by the Council. The basis for the sole sourcing was documented that "CH2M Hill is uniquely qualified to conduct the additional activities as they rely heavily on base knowledge that the consultant has developed under the existing contract (12P255 - which was competitively bid) with SWLRT."

Purpose

The purpose of this audit was to evaluate Council compliance with contract management requirements, procedures, and policies. In accordance with Thrive 2040 principles, accountability at the Council includes a commitment to monitor and evaluate the effectiveness of our policies and practices toward achieving shared outcomes and a willingness to adjust course to improve performance.

Scope

This review was limited to an evaluation of Council compliance with FTA regulations, Met Council procedures, SPO project controls, and contract requirements as practiced on the FEIS preparation contract awarded to CH2M Hill.

Methodology

To understand the monitoring and oversight activities for the CH2M Hill contract, the following methods of inquiry were used:

- Review of Southwest LRT CH2M Hill Contract.
- Review of CH2M Hill Invoices and Payments.
- Review relevant FTA requirements and best practices; and Met Council policies.
- Review of processes and procedures followed by SPO to monitor performance of the contracts.
- Interview SPO staff.
- Interview Met Council Contract and Procurement (CPU) staff.
- Review and analyze Contract documentation.

Assurances

This audit was conducted in accordance with the Institute of Internal Auditors' *International Standards for the Professional Practice of Internal Auditing* and the U. S. Government Accountability Office's *Government Auditing Standards*.

OBSERVATIONS

Contract Management

SPO staff has primary responsibility for managing the CH2M Hill contract for the Council. These responsibilities include managing consultant tasks and activities; approving travel; review and approval of invoices; and receipt and review of deliverables. Council procurement staff serve in an advisory role—as needed—to SPO contract management staff. In addition, procurement staff are involved with contract amendments because those are considered separate procurements.

Addition of SDEIS work

In July 2013, about two months after the original contract was executed, SPO identified the need for an SDEIS based on alignment and scope changes. To secure professional services, SPO executed a work order under the existing contract with CH2M Hill to add the additional scope of work and deliverables. The work order directed the completion of a schedule, annotated outline, a draft and final SDEIS. CH2M Hill provided a labor cost estimate of \$432,000 for completion of this work, which amounts to nearly 13% of the total contract amount. The work order directed use of the entire \$290,111 contingency budget and documented the intent to monitor and forecast all contract task budgets for variances to account for the additional \$141,889 needed to complete of the SDEIS.

According to SPO staff, the decision to execute a work order rather than begin a separate procurement or execute a contract amendment was based on the nature of the work. An SDEIS is directly related to the work CH2M Hill was contracted to do because completion of the SDEIS was required to adhere to National Environmental Policy Act (NEPA) and Minnesota Environmental Policy Act (MEPA) requirements. The original contract for services with CH2M Hill includes the following provision:

“Professional services shall include completion of NEPA activities for all aspects of the LRT and freight rail relocation or co-location alternatives..... Certain adjustments to the locally preferred alternative may require additional NEPA/MEPA activities.”

Based on this contract clause, the nature of the additional work is clearly within the existing scope of the work outlined in the contract. Further, according to Council staff, by executing a work order, CH2M Hill staff could remain engaged and working rather than forced to stop FEIS activities due to delays. However, the size and level of effort, the additional deliverables, and the potential impact SDEIS activities could have on FEIS activities are also factors that could have been considered when determining a method to proceed with procuring professional services. Several Met Council and FTA requirements indicate that the addition of the SDEIS scope of work to the original contract should have followed alternative procedures. For instance, the Met Council Contract Administration Manual requires that a formal amendment be completed for every change or group of changes (including modifications to the Scope of Work) to any A&E contract, even if there is no change in the contract time or contract price. Amendments must be prepared by, and issued through Metro Transit Purchasing. In addition, Met Council Procurement Policy requires that a change order valued at greater than 10% of the original value of the purchase order is considered to be a separate purchase, and must follow procurement procedures.

It is not clear from SPO documentation or discussion with staff that a full assessment of the potential impacts was considered at the time the work order was executed. Nor, is it clear that SPO staff produced an independent cost analysis for this action. CH2M Hill staff commented that, in hind sight,

executing an amendment could have helped both sides truly take stock of the new scope of work and allow the consultant to better staff the work.

Cost Escalations

Once the work order was executed, CH2M Hill and consultant staff began work on the SDEIS. From August of 2013 to May 2014, CH2M Hill and sub consultants charged nearly \$1 million in labor charges to Task Code 4010, which was dedicated for work on the SDEIS. (See Table 1) These charges are more than double the estimate provided by CH2M Hill. The addition SDEIS scope of work led to an exceedingly high burn rate for the original FEIS contract. Costs for Task Code 4010 exceeded the cost estimate in the areas of project management, planning, GIS/mapping and editing/publishing. (See Table 1)

**Table 1: Difference between Estimated and Billed Work for SDEIS (Category 4010)
from August 2013 to May 2014**

	Estimated Cost in Work Order 1	Total Billed Hours for 4010	Difference from Estimate	% Difference
Project Manager ¹	\$ 81,804.78	\$ 161,254.16	\$ 79,449.38	197%
Quality Manager ²	\$ 72,044.54	\$ 46,309.33	-\$25,735.21	64%
Lead Env. Specialist ³	\$ 88,400.00	\$ 62,830.00	-\$25,570.00	71%
Planning ⁴	\$ 137,642.20	\$ 432,314.07	\$ 294,671.87	314%
GIS / Mapping ⁵	\$ 20,850.00	\$ 32,716.63	\$ 11,866.63	157%
Editing / Publishing ⁶	\$ 31,624.64	\$ 222,201.92	\$ 190,577.28	703%
Total	\$ 432,366.16	\$ 957,626.10	\$ 525,259.94	221%

Notes: These categories include estimates and billings for:

1: Stephanie Eiler and Karen Lilliebecker

2: Doug Abere

3: Leon Skiles

4: All CH2M Hill and Subconsultant Staff with Planner in Title.

5: All CH2M Hill and Subconsultant Staff with GIS or CAD in title.

6: All CH2M Hill and Subconsultant Staff with Editor, Graphics, or Repographics.

CH2M Hill acknowledged some inefficiency during this period. In the December, 2013 invoice, CH2M Hill deducted an \$80,000 “inefficiency credit” that reflected approximately half of the charged time for the original project manager who was replaced by CH2M Hill. In addition, CH2M Hill staff said that staffing challenges and an unfamiliarity with SPO led to costs.

SPO staff said they were aware of that CH2M Hill was incurring excessive charges, particularly for editing services during this period. Documentation supports efforts by SPO to withhold approval from CH2M Hill invoices until more information was provided by CH2M Hill about staff titles and detail about activities in the progress status reports. In addition, SPO provided CH2M Hill with a spreadsheet tool to try and help CH2M Hill track charges against a baseline. There was a consensus among SPO management that SPO did not have grounds to disallow any of the charges because CH2M Hill did the work. SPO staff considered the full “not to exceed” amount on the full contract as the ultimate control on excess spending because the consultant would still be required to provide the deliverables even if they expended all contractually allowed charges. CH2M Hill project management recognized, in writing, that the contract was being managed to the overall contract ceiling. Individual task budgets represent labor estimates and are not considered contractual maximums for billing purposes.

Labor Cost Accounting

The two contract amendments included a list of additional activities required of CH2M Hill listed according the Task Categories included in the original contract. According CH2M Hill's Base Work Plan,

"The CH2M Hill team will deliver the tasks outlined in the scope of work as presented in the RFP. The approach that follows is built upon that scope and describes a work plan that thoroughly meets the Council's goals. This section is intended to be viewed along with the Master Schedule (Section 6), which reflects the SWLRT FEIS timeline. Tasks and deliverables directly correspond to the task names, numbers, and deliverables in the RFP."

This section underscores the importance of these tasks as accounting codes and contract management tools. However, these task categories were not effectively used to monitor charges and manage costs. As mentioned earlier, work on the SDEIS was budgeted in Task 4010, "Miscellaneous Service as Authorized", despite a budget that was too small to complete the work. This budget was quickly exhausted. Costs for Task 1010 "Project Management Activities" also exceed budgeted levels in July, 2014, and currently exceed budgeted costs by more than \$140,000. Because these task categories are not enforceable caps, the consultant can exceed the budgets without immediate recourse. Further, during negotiations, budgets were increased for these tasks, but not by enough to account for invoices that had already been paid. As a result, on the task accounting budget that appears on every invoice, these tasks show negative balances which undermines the use of these as planning and monitoring tools.

In contrast, other task categories were billed under budget, however it is not clear that balances for these tasks were considered when writing contract amendments for more funding. For example, contract amendments provided an increased budget for Tasks 1020 "Support Public Involvement" and 3010 "Agency Coordination". When Amendment 1 was executed, CH2M Hill had billed for about 8% of the budget for "Agency Coordination", yet the budget was increased by about \$33,000. By Amendment 2, about 15% of the revised "Agency Coordination" budget was spent, but the budget was again increased by another \$19,000.

As discussed earlier, both the consultant and SPO were managing the budget to the full "not to exceed" amount. For SPO, managing a contract this way is a missed opportunity to better impose cost controls through the life of the contract. For charts documenting task budgets and actual spending, see Exhibit II.

Contract Compliance

CH2M Hill is out of compliance, or not fully in compliance, with several contract clauses. The contract with CH2M Hill and subsequent amendments documented a list of consultant's responsibilities, including required documentation and method of deliverables, among other things. CH2M has not met several of these stipulations, for instance:

- Timeliness and Quality of Deliverables – CH2M Hill was consistently late in providing key deliverables for the FEIS. According to SPO staff, the separate sections of the FEIS were supposed to be delivered for SPO review on a staggered schedule over about 8 weeks. However, CH2M missed many of these key deadlines forcing SPO staff to truncate review to just 2 weeks. At one point in July, 2015, 39 out of 47 draft sections of the FEIS (83%) were past due. In addition, several SPO staff noted that the quality of the deliverables has consistently not met expectations requiring significant revision by SPO staff. CH2M Hill staff noted that work on the SDEIS was not complete until April of 2015 which led to the delays in drafting sections of the FEIS. Missing deadlines has the potential to delay completion of the

FEIS, NEPA, and a final Record of Decision from FTA resulting in project delays. Even minor delays in the project schedule can increase the total expected cost of the project and place the final approval of the project at risk. As of August, 2015, SPO began withholding approval and payment of invoices until deliverables are received. According to SPO staff, deliverables are generally back on schedule.

- Progress Status Reports – The contract requires that a “Monthly Project Report Form” describe CH2M Hill’s progress on the work including the overall percentage of completion of each work item and the current phase of the work. SPO provided CH2M Hill with a template to be completed with each monthly invoice for the prime consultant and each sub consultant. CH2M Hill has provided this document each month, however these progress reports have provided insufficient detail to support billed hours, and rarely, if ever, include a percentage of work completed as required in the contract. SPO staff requested that CH2M Hill provide more detail on these reports on multiple occasions dating back as far as January, 2014. More than 2 years after the contract was executed, a SPO-led Quality Assurance Oversight Review found that CH2M Hill was still not providing detail in these reports. In response to a recommendation in this report, CH2M Hill agreed to start providing more detail starting in July, 2015. Without detailed and accurate progress reports, SPO staff lacks a key contract management and performance monitoring tool.
- Use of E-builder software – The contract requires that CH2M Hill “shall use e-Builder to submit and track all Project deliverables – reports, communication, meeting minutes, scheduling, submittal schedule, invoices, Monthly Project Status Reports, memoranda and other reports, photographs, project schedules, or any other deliverable as requested by the Council including all contract related documents and communications.” However, as SPO’s Quality Assurance Oversight Review found, for this contract, e-builder has been almost exclusively used for travel request authorizations and pay requests. SPO staff commented that CH2M Hill is out of compliance with the contract requirement to use e-builder, and that attempts have been made to get the consultant in compliance. CH2M Hill recently agreed to upload previous contract deliverables and corresponding supporting documents to e-builder by October, 2015 and implement an e-Builder process for future contract deliverables. As of September 2015, only 1 deliverable has been uploaded into e-builder, and that was uploaded after the fact by the SPO e-builder administrator. CH2M Hill staff said that only a few consultant staff have access to e-builder, and that the limited use is due to the fast pace of the project. E-builder is designed to provide SPO with simplification of communications; automated tracking and reporting; document storage and management; and a complete audit trail of information.
- Invoice Adjustments – On several occasions, CH2M Hill has modified invoices—in SPO’s favor—without giving SPO staff notice in advance. In 2013, CH2M Hill offered an \$80,000 inefficiency credit without initially documenting what the credit was for, and how the figure was calculated. In July 2015, without prior notification to SPO staff, CH2M Hill did not bill, nor provide hours worked to SPO for the original contract tasks. SPO staff requested that CH2M Hill provide hours, but in a revised invoice, only 1 hour was entered. While these modifications resulted in a benefit to SPO financially, from an audit perspective, all costs and credits need to properly account for. The contract with CH2M Hill requires that the following items shall be included in the monthly submittals “A statement which lists for each employee charging time to the work, the employee’s name, hours expended on the work, actual hourly rate of pay, and the total amount of direct labor invoiced per employee”.

There is documentation to support SPO’s efforts to enforce compliance. However, clearly these efforts were not effective over the course of 2 years.

CONCLUSIONS

The contract with CH2M Hill for completion of an FEIS has almost doubled in expected cost and extended expected completion more than one year. These increases are the result of a confluence of factors, primarily several changes in the alignment and scope to the SWLRT project, and a requirement for an SDEIS. While many of the challenges were unforeseen by project staff, scope and alignment changes are not uncommon during the planning for a major capital project. Expected changes in scope and timeline only emphasize the importance of documenting key decisions and ensuring consultant costs are controlled and monitored through the life of the contract. The experiences from this contract provide Met Council, Metro Transit, and the New Starts project offices with an opportunity to improve contract documentation and oversight for future contracts.

Improved contract administration by SPO could have helped control costs. For example, several actions could have improved cost control. Executing an amendment at the time the additional scope of the SDEIS was added to the contract could have better allowed for cost accounting. In addition, better managing and enforcing task categories as cost control methods could have helped contract managers monitor contract activities. Further, monitoring and ensuring consultant compliance for several aspects of the contract including meeting deliverable dates, the use of e-builder, and providing detail on progress status reports. Since this report was first presented to management, several positive steps have been taken to remedy the issues highlighted in this report. These actions, along with complete implementation of the recommendations below, should help improve contract management practices for the light rail projects in the future.

RECOMMENDATIONS

Program Evaluation and Audit recommendations are categorized according to the level of risk they pose for the Council. The categories are:

- **Essential** – Steps must be taken to avoid the emergence of critical risks to the Council or to add great value to the Council and its programs. Essential recommendations are tracked through the Audit Database and status is reported twice annually to the Council's Audit Committee.
- **Significant** – Adds value to programs or initiatives of the Council, but is not necessary to avoid major control risks or other critical risk exposures. Significant recommendations are also tracked with status reports to the Council's Audit Committee.
- **Considerations** – Recommendation would be beneficial, but may be subject to being set aside in favor of higher priority activities for the Council, or may require collaboration with another program area or division. Considerations are not tracked or reported. Their implementation is solely at the hands of management.
- **Verbal Recommendation** – An issue was found that bears mentioning, but is not sufficient to constitute a control risk or other repercussions to warrant inclusion in the written report. Verbal recommendations are documented in the file, but are not tracked or reported regularly.

1. **(Essential) Southwest project office staff should set up a process to take immediate action to disallow excessive charges or charges based on poor quality work or contract non-compliance. Actions may include disallowing charges, withholding payment, requiring documentation, or other strategies.**

Project office staff should have a clear understanding—and be properly trained for—potential recourses for poor contractor performance. Key decisions should engage relevant stakeholders including project office, Metro Transit, and Met Council management; Procurement, Finance, and Audit staff.

Management Response: *Management agrees with this recommendation and will take steps to formalize this process through a written Transit System Development (TSD) work instruction as well as provide training to Contract Managers. The practice of disallowances through invoice review including requiring documentation and/or withholding payment were strategies utilized on previous New Starts Projects and are strategies still utilized for both the SWLRT and BLRT Projects as well, however, formalizing the process to include all potential corrective actions available to Contract Managers and providing training is a prudent recommendation that will be implemented by TSD in the Project Offices. The responsibility for implementing this recommendation will be with the Deputy Program Director and Deputy Project Directors with a goal of completing the written work instruction and training in Q1 2016.*

2. **(Essential) Southwest project office staff should prioritize completion of project controls and procedures regarding contract administration, contract amendments, and contract change orders. These controls should require that all relevant FTA, Met Council, and Metro Transit policies and procedures are followed.**

Management Response: Management agrees with this recommendation and this has been partially implemented. The Project Offices completed the change order procedures in December 2015 and submitted them to the FTA. These procedures are continually revised and updated throughout the Projects' life cycles to reflect new FTA guidance, audit recommendations, and best practices. The two Project Offices will continue to utilize available Met Council Procurement Department procedures for contract administration and contract amendments and will incorporate a refresher training on these procedures in its Q1 2016 training as mentioned in the response to #1 above. In addition, and also mentioned in the response above, TSD will develop a written work instruction for contract administration strategies and processes specific to the LRT Project Offices which will be consistent with Met Council and FTA procedures and requirements as well as the individual contracts. With the exception of the written work instruction and Q1 2016 training addressed in response #1, this recommendation has been implemented.

3. (Significant) Ensure that the consultant provided information about hours worked for recent months even if they do not intend to bill for those hours. This information is needed for a complete audit trail.

Management Response: Management agrees with this recommendation, and has requested this information. The information has been provided and management has confirmed information for most months. However, staff is currently reviewing the remaining documentation for completeness. This recommendation will be implemented by the SWLRT Assistant Director of Environmental and Agreements, in conjunction with other contract closeout activities, with a target of Q2 2016.

4. (Consideration) For future contracts, consider negotiating contract clauses that provide Council staff with improved authority to control costs.

Options to consider include: 1) authority to disallow labor costs on the basis that those costs exceeding the budget in a specific task category. 2) Requirement for consultant to justify, in writing, any labor costs that exceed independent cost estimates, task categories, or scope of work estimates. 3) Modifications to the budgets for specific tasks should be approved through a contract amendment, as is currently required for any other change to the contract. 4) Profits will only be paid to the consultant a) as a function of work complete or b) once key milestones are met or deliverables are received.

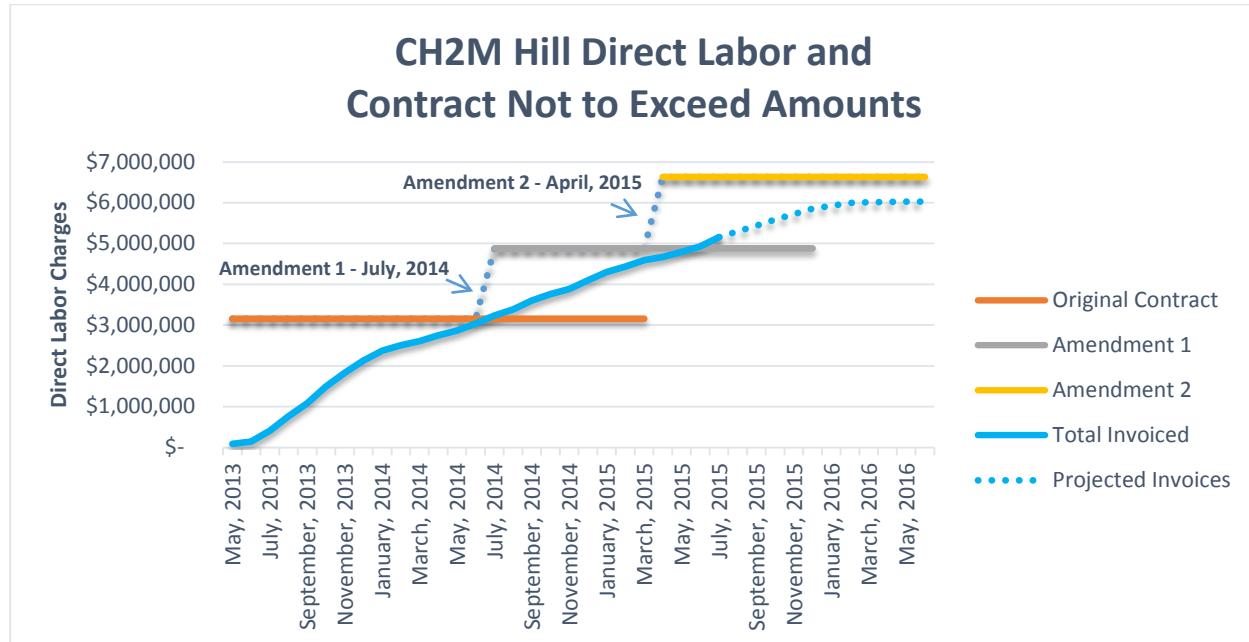
Management Response: Management agrees to work with the Met Council Procurement Department to review potential contract clauses in future contracts per the three recommendations above as well as other contractual language which may be beneficial. Since these clauses affect other Met Council contracts for Professional Services, Met Council Procurement is integral to the review and pursuit of these additional clauses. The responsibility for reviewing this recommendation will be with the Met Council Director of Procurement, the Deputy Program Director and Deputy Project Directors with a goal of completing the analysis for future contracts.

5. **(Consideration) Ensure that every substantial contract has a task manager assigned to assist the contract manager with monitoring progress and budgets for each individual task.**

MANAGEMENT RESPONSE: Management agrees to consider allocating available task manager resources to assist contract managers in contract administration activities based on the size or complexity of the contract, however, all contracts do not require additional resources.

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Exhibit I: CH2M Hill Contract Budget and Spending Amounts



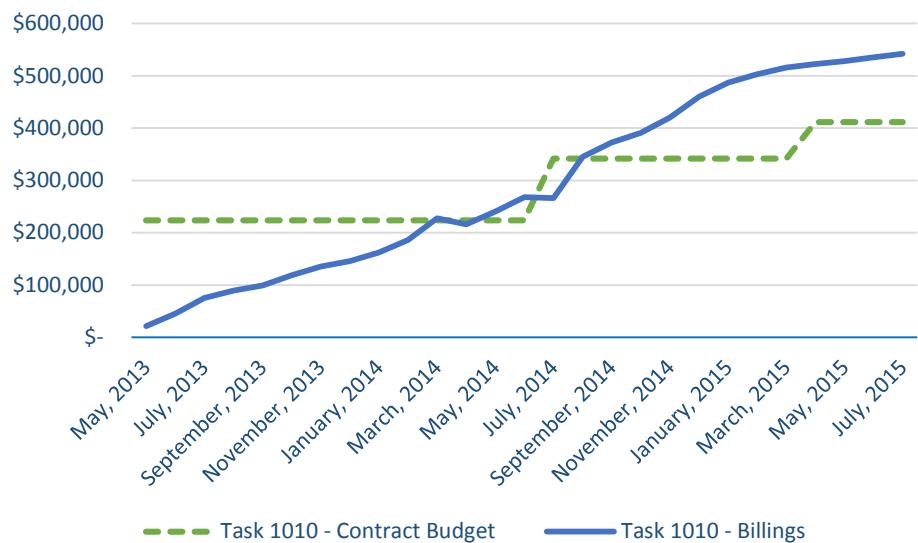
Source: CH2M Hill Contract, Amendments, and Invoices.

Note: Projected invoices are based on an estimate provided by CH2M Hill as part of each monthly invoice.

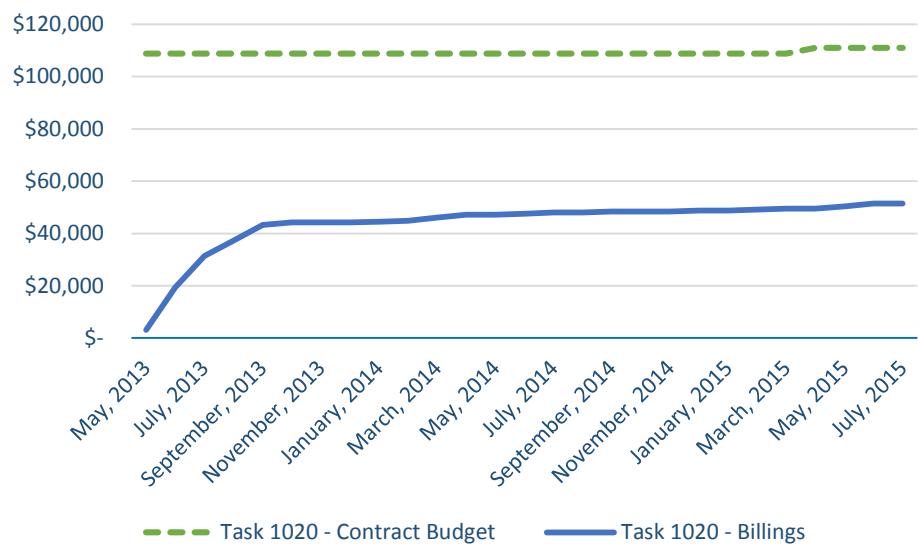
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Exhibit II: CH2M Hill Contract Task Budget and Spending Amounts

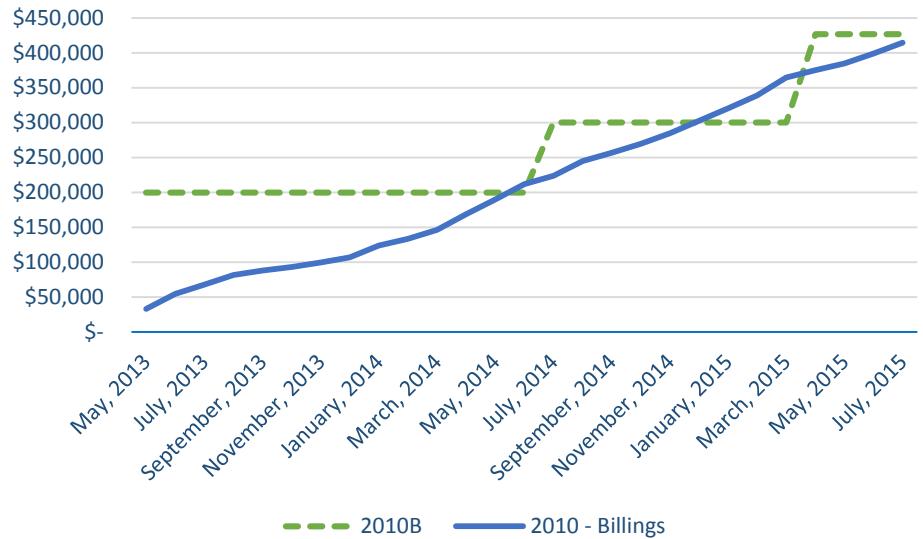
Task 1010 “Project Management Activities” – Contract Budget and Actual Billings



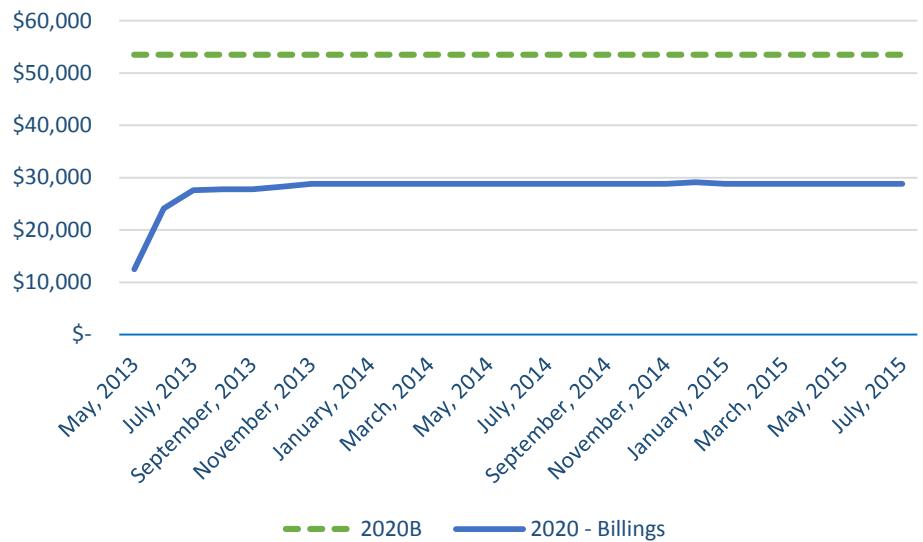
Task 1020 “Support Public Involvement” – Contract Budget and Actual Billings



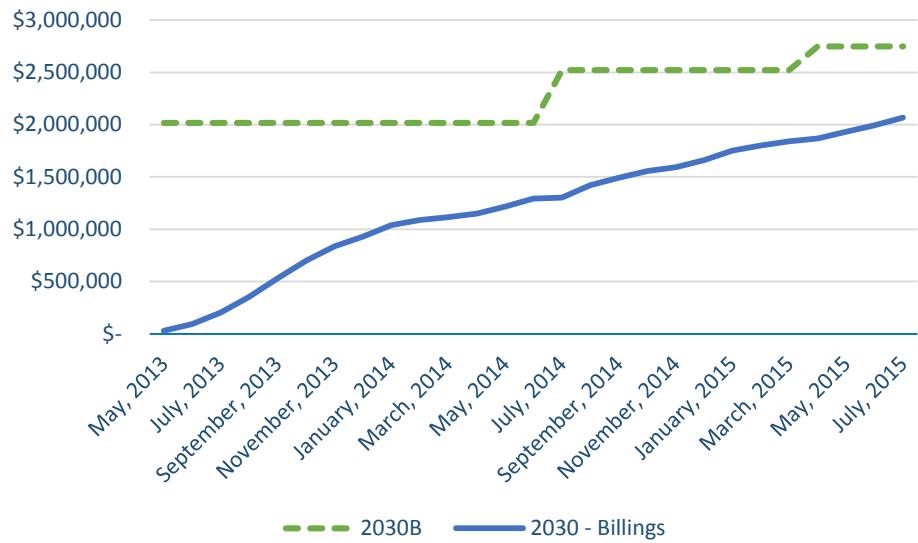
Task 2010 “Coordination Between Agencies” – Contract Budget and Actual Billings



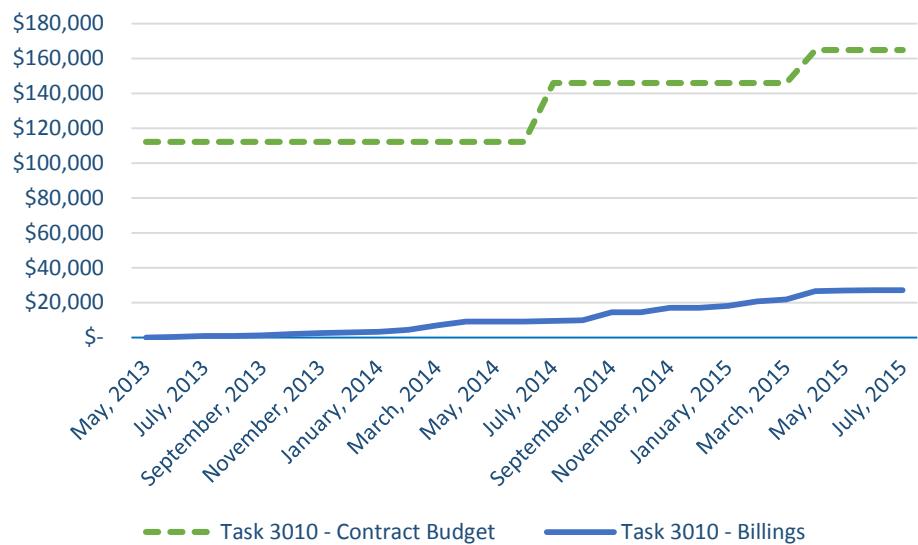
Task 2020 “Plan of Work Preparation” – Contract Budget and Actual Billings



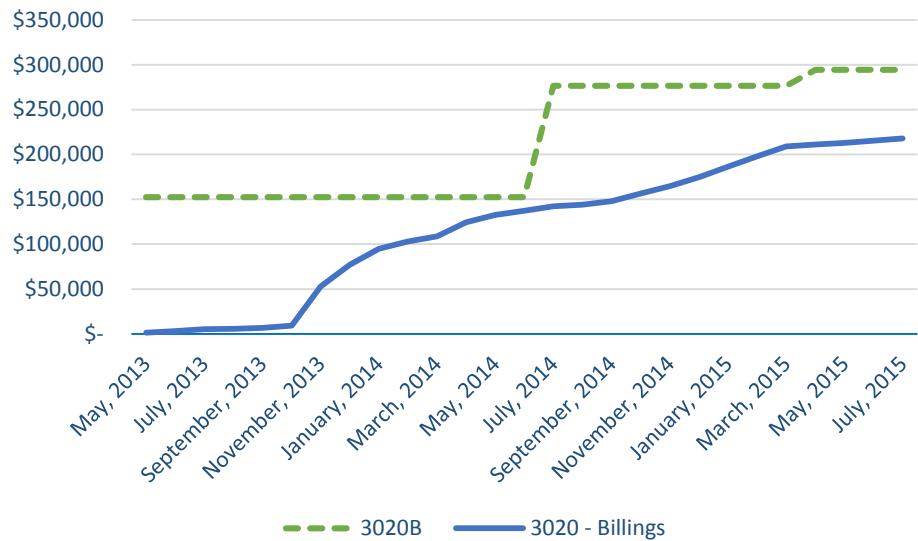
Task 2030 “FEIS Preparation Activities” – Contract Budget and Actual Billings



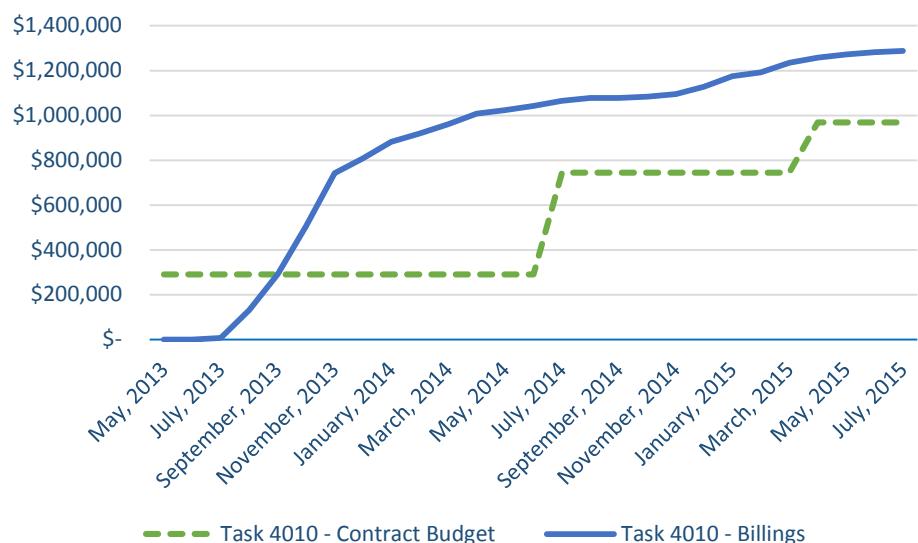
Task 3010 “Permitting Agencies Coordination” – Contract Budget and Actual Billings



Task 3020 “Environmental Permitting” – Contract Budget and Actual Billings



Task 4010 “Miscellaneous Services as Authorized” – Contract Budget and Actual Billings





390 Robert Street North
St Paul, MN 55101-1805

651.602.1000
TTY 651.291.0904

public.info@metc.state.mn.us

metrocouncil.org

