July 20, 2023

Cari Pedersen, Chief Engineer of Transportation
City of Duluth
411 West 1st Street
Duluth, MN 55802

BARDON'S PEAK AND SKYLINE PARKWAY IMPROVEMENTS FEDERAL REPORTING, PRELIMINARY AND FINAL DESIGN

Thank you for the opportunity to assist with the restoration and improvements to the Bardon's Peak Overlook and associated regions along Skyline Parkway. We have been fortunate to assist the City with implementing some amazing improvements along so many stretches of the parkway and admittedly this stretch is one of our favorites. Below we have prepared a work plan outlining what we see as the major tasks for the project. Our work plan is accompanied with our fee estimate proposal detailing more specifically the work tasks as we presently see them and our estimated fee for services.

Upon review please do not hesitate to reach out if you would like to discuss any of this in more detail.

WORK PLAN

The following is our detailed project work plan for the Bardon's Peak project. Included where applicable are project deliverables and required City responsibilities and action items.

Task 1 -- Design Project Management

We will work proactively with the City to define and prioritize project goals, anticipate potential obstacles to successful completion, and work aggressively to maintain project schedules to deliver a successful project.

The project will be managed by Lisa Karlgaard and Joe Litman with Lisa being particularly involved during the Federal documentation, reporting and clearance phases of the project.

As your Project Managers Lisa and Joe will be responsible for:

- Day to day communication with the City's Project Manager.
- Development of the LHB project Contract with the City and billing.
- Project staffing and mentoring.
- Monitor in-house progress to achieve project milestones on schedule.
- Lead project meetings and public involvement.
- Prepare agendas for meetings and meeting minutes.
- Communication with the project team members.
- Environmental/ Federal/ 106 reporting and documentation tasks.
- Management of detailed project design
- Responsible for overall project quality control and assurance.

Task 1 – Design Project Management **Key Responsibilities and Deliverables**	
LHB	– Prepare and distribute project correspondence. – Monitor project budget. – Quality Control and Assurance. – Communication with City staff and the public.
City	– Project coordination, comments and review/feedback to questions and correspondence.
Deliverable(s)	– Project correspondence. – Well managed project.

Task 2 – Public, Historic Preservation Commission (HPC), Friends of Skyline Parkway (FSPPA), Preservation Association (DPA), Duluth Indigenous Commission (DIC) and other Interested Party Involvement and Participation

LHB believes in participatory design strategies that truly engage stakeholders. The process must be one that is shared among the diverse interests involved in the project and one that encourages stakeholders to forge a new common language as they move forward. This process, which focuses on exploration and discovery, helps stakeholders better understand their own stance, the issues they face, and the opportunities that lie ahead. It creates compelling yet appropriate solutions to tough problems and allows for a more strategic approach to implementation.

Engaged, well-informed stakeholders become supporters and advocates for projects. They produce creative ideas which become inspiring and practical solutions and strategies. They become invested in the project's success. LHB knows how to develop this level of engagement and support and how to harness it to develop real solutions to project issues and problems. Our vast experience with this type of project also ensures we can gain the public's confidence. The engagement process will also include assistance with engaging the Duluth Indigenous Commission and collaborating on the proposed monument that will highlight the rich history of the peak that goes well beyond the development of the parkway.

Knowing the projects goals are aligned with Section 106 requirements and the Secretary of the Interior's Standards we do not foresee a large potential for public opposition but instead a potential for public involvement to embrace, help direct, and to celebrate the project's ability to restore and maintain the valuable landmark. This is the very sentiment we have experienced with past public participation processes for the projects we have performed along the Parkway, and we will bring those experiences and processes to this project.

Task 2 – Public, DHPC, FSPPA, DPA and DIC Involvement and Participation Key Responsibilities and Deliverables	
LHB	– Facilitate and lead public meetings (1 public meeting/ open house assumed). – Prepare descriptive and graphic exhibits, drawings, renderings, and layout documents to communicate the project design goals to the public and solicit input. – Meet with/ present to the City Historic Preservation Commission to gain their feedback/ input and ensure their support for the project. – Meet with interested members from the Friends of Skyline Parkway Preservation Association and/or the Duluth Preservation Alliance to gain their feedback/ input and ensure their support for the project. – Meet with the Duluth Indigenous Commission on monument design
City	– Package and mail/ distribute public meeting notices. – Participate in meetings and ensure key staff are in attendance.
Deliverable(s)	– Graphic exhibits, drawings, renderings, and layout exhibits. – Meeting minutes and summary document of public input process. – Meeting minutes and summary documentation of meetings with City HPC, Friends of Skyline Parkway Preservation Association and the Duluth Preservation Alliance.

Task 3 – Reconnaissance, Field Surveys, and Geotechnical

The development of an accurate base map is critical for the success of any project. All our planning decisions, environmental review, permitting, and plan development will be based on this mapping.

Accurately understanding site drainage characteristics, ditching and culvert identification will be particularly important to advancing the site drainage improvements. Likewise, the presence of water in terms of its ability to soften, undermine support soils, and contribute to frost heaves can be the single largest contributor to retaining wall distress/ failure so a keen understanding of its presence within the retaining wall footprint and incorporating means to mitigate its effects will be essential.

Once we have a firm understanding of the in-place conditions and rehabilitation needs of the project LHB will engage a geotechnical subconsultant to perform a limited number of geotechnical borings. The purpose of these boring samples will be to assist us in the characterization of the retained soils which the walls support, to identify for the presence of bedrock, and potentially to assess condition at larger culvert locations. This work will be tailored to regions where the walls are noticeably experiencing distress so that we can make informed decisions regarding what is contributing to the distress and the most efficient means to rectify the situation. For purposes of our workscope estimate we have assumed 8 individual soil classification borings at an average depth of 12 feet.

Task 3 – Reconnaissance, Field Surveys, and Geotechnical Key Responsibilities and Deliverables	
LHB	– Detailed field reconnaissance of site by designers to ensure sound comprehensive understanding of site features and constraints. – Perform Gopher State One Call design locate to collect utility facilities information. – Review of city records for archive utility or design feature information. – Topographic field survey. – Ensure quality of culvert and utility mapping through mapping review and consultation with utility owners. – Geotechnical site investigation- 8 soil classification borings to average depth of 12 feet assumed. (LHB Subconsultant)
City	– Provide any existing reports, surveys, aerial photography, and access to City archive information. – Provide existing right of way information.
Deliverable(s)	– Mapping, including topo, underground utility mapping; right-of-way; and property ownership information. – Geotechnical report and recommendations.

Task 4 – Site Investigation, Preliminary Design, Recommendations and Cost

The initial investigation for determination of condition and rehabilitation/ reconstruction requirements is a key step in the successful delivery of this project. To support this effort, we will review archive information we have from previous work we have performed on the parkway which includes photographs dating back over 20 years. This information will help us to further understand life cycle condition for the wall elements. Determining if any portions of the wall may have originally been constructed as dry-stack stone but over time were face pointed is an item which will be of particular interest in the 106 process and for determining the historically correct rehabilitation technique. Thorough documentation of overall wall condition, regional and individual stone displacement, stone condition, presence of affecting water / groundwater features, roadway condition and ditch and culvert hydraulic assessment work will be performed to ensure a complete understanding. This will allow for well-founded preliminary recommendations and work scope cost assessment.

We will be able to utilize our previous experience and work history with similar project types to assemble sound preliminary recommendations for rehabilitation requirements for the wall, the surrounding site features (erosion, water conveyance/ runoff), the adjacent Skyline Parkway roadway, barrier stone requirements and the monument design and construction.

We understand the project's budget is set and that an essential component of this step is to establish the extent and level of rehabilitation which most effectively utilizes the available dollars.

Task 4 – Site Investigation, Preliminary Design, Recommendations and Cost Est. Key Responsibilities and Deliverables	
LHB	– Review and establish project design criteria. – Perform detailed site assessment for existing conditions. – Perform preliminary assessment for rehabilitation options/ requirements. – Hydraulic analysis for ditch and culvert improvements – Prepare preliminary construction cost estimates for workscope alternatives. – Work hand in hand with City staff to determine preferred, 106 compliant rehabilitation alternative/ overall project scope.
City	– Provide comment and feedback throughout preliminary study.
Deliverable(s)	– Site assessment/ existing condition findings. – Preliminary rehabilitation recommendations and cost estimate. – Preferred rehabilitation option and estimated cost.

Task 5 – Environmental Documentation/ Rehabilitation Scoping Report/ Project Memorandum/ 106 Historic Compliance

The project environmental documentation will be completed in accordance with City, MnDOT and Federal requirements. The project will follow the MnDOT Delegated Contract Process (DCP) to ensure full compliance with federal funding requirements. To document the intended rehabilitation scope and be able to share how it will be undertaken in accordance with the SOI Standards a Rehabilitation Scoping Report will be prepared and reviewed with MnDOT CRU and the Historic Subconsultant. Following completion of this scoping report the Project Memorandum will be prepared to document and ensure environmental/ 106 and social justice compliance. Within the Project Memorandum any alternatives that were considered and the preferred alternative will be described. Potential impact areas will be reviewed and assessed. These include impacts to fish and wildlife, threatened and endangered species, visual quality, vegetation, floodplains, wetlands (not anticipated), streams and water bodies, erosion, water quality, air quality, noise, utilities, construction impacts, contaminated properties or materials, groundwater, vibration, traffic detours, access control, land use, right-of-way acquisition and relocation (not anticipated), impacts on parks and recreation lands, economic impacts, environmental justice, social impacts, and historic properties. Most notable will be the historic property requirements. Areas of controversy, if any, will also be identified. Any changes in mitigation strategies and commitments will also be documented. The required permits and approvals will be applied for and documented within the Project Memorandum. Due the projects funding sources the placement of guard stones, horizontal alignment features of Skyline Parkway and lane edge clearance zone constraints may necessitate Federal Design Exception(s) to gain approval for the Federal funding.

Within our scope we would intend to perform a cursory site assessment for the presence of wetlands. Should this assessment indicate wetlands which may be impacted are present LHB personnel would be readily available to assist the City with the performance of a wetland delineation however since it likely to not be necessary we have not included delineation services at this time.

Task 5 – Environmental Documentation/ Federal Reporting/ 106 Key Responsibilities and Deliverables	
LHB	– Assessment and documentation for project environmental compliance – Prepare and apply for project permitting. – Cursory site review for presence of Wetlands which may be affected by project. – Coordination with MnDOT Cultural Resources, Project Historian (LHB Subconsultant) and State Historic Preservation Offices. – Prepare Rehabilitation Scoping Report. – Preparation of Design Exceptions. – Prepare and obtain Project Memorandum approval.
City	– Review application/permit forms and provide signature. – Review Project Memorandum.
Deliverable(s)	– Permit applications and project permits. – Complete NPDES permit application (assumption of over 1 acre disturbed). – Rehabilitation Scoping Report. – Applicable Design Exception requests. – Approved Project Memorandum.

Task 6 – Detailed Design (Plans, Specifications & Estimate)

This task includes the completion of preliminary design, final design, and preparation of the detailed construction plans and specifications. Upon establishment with the City of the approved rehabilitation concept, work will proceed to the prescribed submittal intervals. In addition, we will be sure to continually engage with the City as the design proceeds and will systematically review the project's budget as work progresses.

Design and Plan work will proceed in accordance with City Standards, applicable AASHTO roadway and structural standards, the Secretary of the Interior's Standards for the Treatment of Historic Properties (with plan reviews conducted by MnDOT CRU and the Historic Subconsultant), and applicable FHWA requirements. The Engineers estimate of probable construction cost will be submitted at each interval and Special Provisions will be submitted at the 60% and 90% intervals. Plan checklists, Lab Services and other DCP required forms will be submitted at 90%.

Task 6 – Detailed Design (Plans, Specifications, Estimate and DCP Forms) Key Responsibilities and Deliverables	
LHB	– Continually engage with City through the phases of project design on budget and rehabilitation objectives. – Perform detailed design and plan preparation. – Complete and submit 60% design plans and special provisions– complete design to the level that all significant design decisions have been addressed to properly construct the project. – Complete and submit 95% and 100% plan and special provision submittals (complete design to biddable level including quantity takeoffs, construction details, and statement of estimated quantities).
City	– Review and provide feedback on 60% and 90% plans. – Review and provide feedback on special provisions.
Deliverable(s)	– 60% and 90% Design/ Plan submittals. – 30%, 60%, 90% Engineer's Estimate of Cost. – 95% (Tracings) Design/ Plan Submittal. – Plan checklist, right of way certificate, utility relocation certificate, and applicable DCP forms. – 100% Plan and Special Provisions Submittal- bid ready, approved by City and MnDOT. – Final Engineer's Estimate of Cost.

Thank you again for the opportunity to assist with this work!

LHB, INC.

Lisa M Karlgaard

LISA M. KARLGAARD, PE
SENIOR STRUCTURAL ENGINEER

Joseph D. Litman

JOSEPH D. LITMAN, PE
CHIEF OPERATING OFFICER

Attachments: LHB Fee Estimate

c: LHB Project No. 230494

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FEE ESTIMATE WORKSHEET | Project Name | **Skyline Parkway Bardon's Peak Wall Restoration**

LHB Labor Summary | Client | **City of Duluth**
Preparer | **JDL, LMK**

	Project Manager	Sr Project Engineer	Project Engineer	Lead Technician	Land Surveyor	Survey Technician	Tech Assist't	Admin.	Labor Costs
	$180	$145	$125	$110	$165	$105	$90	$70	($)
Task 1 - Design Project Management									
Meetings with City Staff (Est. 4)	6.00	4.00	6.00						$2,410
City Meeting and Correspondence Documentation	4.00		8.00						$1,720
Internal Team Meetings	4.00	4.00	4.00	4.00					$2,240
Quality Control and Quality Assurance	8.00	8.00			1.00				$2,765
Task 2 - Public, HPC, FSPPA, DPA, DIC Involvement									
Prepare Meeting Materials, Exhibits	2.00		6.00	8.00					$1,990
Public Informational Meeting	3.00								$540
Prepare for HPC and FSPPA Meetings	1.00		2.00	4.00					$870
HPC Presentation Meeting (1)	3.00								$540
FSPPA Meeting (1)	3.00								$540
Cord. Monument w/ Duluth Indiginous Commission		4.00	2.00						$830
Meeting Agendas/ Documentation	8.00		8.00						$2,440
Task 3 - Assess, Survey, ROW, Geotech.									
Initial Field Site Assessment	6.00	6.00	6.00	6.00					$3,360
City Record Research			2.00	2.00					$470
Gopher One Call				1.00					$110
ROW Research					3.00				$495
Topographic Roadway and Wall Survey		1.00	2.00		4.00	48.00			$6,095
Survey Mapping		2.00	4.00			40.00			$4,990
Coordinate Geotechnical Subconsultant		2.00							$290
Task 4 - Site Investigation & Preliminary Design									
Detailed Site Assessment	8.00	8.00	8.00	8.00					$4,480
Site Assessment Documentation	2.00	2.00	12.00						$2,150
Site Walk Through with City Team	4.00	4.00	4.00						$1,800
Assemble Preliminary Rehabilitation Scope	4.00	16.00	16.00	12.00					$6,360
Preliminary Rehabilitation Cost Estimating	3.00	4.00	6.00						$1,870
Culvert Hydraulic Analysis			30.00						$3,750
Task 5 - Env. Doc., Project Memo, 106 Historic									
Coord. with MnDOT CRU and MN SHPO	8.00	10.00	16.00						$4,890
Cursory Site Review for Wetlands			4.00						$500
Apply for Project Permits/Clearances	2.00	4.00	8.00						$1,940
Rehabilitation Scoping Report	6.00	12.00	32.00	20.00				4	$9,300
Prepare Draft Project Memorandum	4.00	6.00	24.00					4	$4,870
Prepare Design Exception(s) as Necessary	2.00		4.00						$860
Update and Submit Final Project Memo	1.00	1.00	10.00						$1,575
Task 6 - Detailed Design (Plans, Spec., Est., DCP Forms)									
Title Sheet & Index Map		1.00	2.00	2.00					$615
Statement of Estimated Quantities/ Notes	1.00	4.00	16.00	30.00					$6,060
Typical Sections- Details (2 Shts)	2.00		12.00	20.00					$4,060
General Plan & Work Scope (3 Shts)	4.00	12.00	30.00	48.00					$11,490
Erosion Control Notes		1.00		4.00					$585
Erosion Control Details		1.00	2.00	8.00					$1,275
Erosion Control Plan (3 Shts)	1.00	2.00	6.00	24.00					$3,860
Traffic Control Plan	1.00	2.00		6.00					$1,130
Traffic Control Details		1.00		6.00					$805
Developed Wall Elevation (3 Shts)	3.00	9.00	20.00	40.00					$8,745
Wall Details (3 Shts)	3.00	12.00	20.00	40.00					$9,180
New Monument Details (2 Shts.)	2.00	16.00	12.00	30.00					$7,480
Roadway/ Ditching/ Culvert Details (2 Shts.)	2.00	12.00	16.00	30.00					$7,400
Cross Sections (8 Shts)	4.00	12.00		56.00					$8,620
									$0
Special Provisions	3.00	14.00	6.00					6	$3,740
Engineers Estimate	2.00	6.00	4.00						$1,730
DCP Submittal Forms		1.00	4.00						$645
Total Hours	120	204	374	409	8	88	0	14	

Travel	Miles	# Trips	Rate	Cost
Mileage per IRS Std Rate				$250
Total Travel Costs				$250

Direct Costs	Cost
Survey Equip	$450
Geotechnical	$9,000
Historic Subconsultant	$25,000
Total Direct	$34,450

Labor	$154,460
Travel Costs	$250
Direct Costs	$34,450

Total Not To Exceed Cost **$189,160**