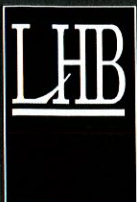


Duluth City Offices:

Skyline Parkway Retaining Wall Restorations



March 9, 2016



**PERFORMANCE
DRIVEN DESIGN.**
LHBCorp.com

21 West Superior Street
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218.727.8446 | 218.279.2455 Direct
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PERFORMANCE
DRIVEN DESIGN.
LHBcorp.com

March 9, 2016

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City Engineering
211 City Hall
Duluth, MN 55802

SKYLINE PARKWAY RETAINING WALL RESTORATIONS

LHB is pleased to submit our qualifications and fee proposal to the City of Duluth for the Skyline Parkway Retaining Wall Restorations at the Bardon's Peak, Oneota, and Section 3 Turnout Overlook locations. We have recently visited each project site and our submittal has been carefully assembled to illustrate our project understanding, tailored work plan, and team capabilities to ensure the successful delivery of this project. Leading the project will be Joe Litman as Project Manager and Jon Siiter and Lisa Karlgaard as Project Engineers. Joe, Lisa, and Jon have over 60 years combined experience working on projects of this type.

Back in 2001 our proposed Project Manager, Joe Litman assessed all three of these structures as part of the work we did for the Skyline Parkway Corridor Management Plan. Having this assessment information provides us a sound baseline on condition trends and enables us to make inferences regarding deterioration trends for the wall elements. In addition, our direct experience performing several very similar Federal and State funded historic rehabilitation projects along the Parkway assures the City of our unique ability to deliver this project. We have the stone masonry assessment, design, historical, construction method, construction cost estimating and MnDOT/ Federal Aid experience which it will take to successfully deliver this project. We trust the success of our previous projects along the Parkway speaks to our experience, commitment, and ability to work hand-in-hand with the City.

We are ready to assist and are committed to delivering this project on time while meeting the rehabilitation and budgetary goals which have been established. The restoration of Skyline Parkway is a passion of ours and bringing our experience to the restoration of these three sites would truly be a rewarding experience. We appreciate the opportunity to prepare this proposal and look forward to hearing from you. Please do not hesitate to call me at 218-279-2455 with any questions.

Thank you.

LHB

JOSEPH D. LITMAN, P.E. – PROJECT MANAGER

Project Understanding



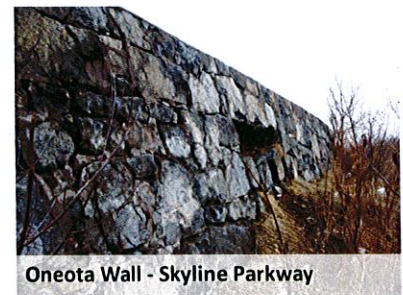
Section 3 Turnout Monument

Since construction of its initial segments in 1889 Skyline Parkway has been envisioned to be and known as a world class landmark. Conceived by William Rogers in 1875, the Parkway is the result of his identifying and embracing the tremendous vistas and scenic beauty which Duluth's hillside topography afforded. Skyline Parkway has similarly impacted us as Designers at LHB. Beginning over twenty-three years ago we met with City leaders to seek funding and support to perform rehabilitation work to the structures which line the route. Initial emphasis was to the bridges at Chester Creek, Twin Ponds, Keene Creek and Seven Bridges Road and later work focused on stone retaining structures at Coffee Creek, Chester Creek and the Bridge and Monument structure at Stewart Creek. While much preservation work has been accomplished along the route, much

remains and the city is to be commended for recognition and pursuit of these needs. LHB is proud to have partnered with the City in previous rehabilitation projects along the Parkway and our passion and commitment to further preservation work along the route could not be stronger.

The City of Duluth has applied for and received Federal Transportation Alternatives Program (TAP) funds for the rehabilitation of three segments of bluestone retaining walls which line the Skyline Parkway Corridor. The segments are at Bardons Peak, Oneota Overlook and the Section 3 Turnout Overlook. The bluestone retaining walls vary in height with maximum height in the 10-foot range. The walls are experiencing various stages of distress ranging from loss and deterioration of pointing mortar in tuckpointed regions to stone displacement and collapse of facing stone in both tuckpointed and drystack regions. It is important to note that some of the walls, such as the Section 3 Turnout were originally constructed as dry stacked unmortared stone. This is significant since, to maintain historic integrity, the wall should remain drystack and not be pointed.

Pointing the stone joints could also trap moisture and runoff in the supported backfill which would potentially jeopardize wall stability. In review of the dry stacked wall regions, we noted areas which are in fair condition needing no work, areas which significant displacement which should be rebuilt in kind, and areas which are still in-tact but which have lost the majority of the smaller "chinking" stones. These areas will require further evaluation to determine if they can be repaired or "re-chinked" in place, or will require rebuilding at select locations. Regardless of whether tuckpointed or drystack, the walls were originally constructed as mass gravity walls and it will be the intent of the project to rehabilitate them as mass gravity walls as we have done in similar situations along the route for walls of similar height. In addition to rehabilitation work to the retaining walls the project scope includes: Site improvements as may be required to affect drainage corrections at the walls; Restoration work to the monuments and plaques at the Oneota and Section 3 Turnout locations; Design for a monument structure at Bardons Peak; Drainage culvert improvements where warranted; Guard stone placement/ replacement and; Pavement repair work.



Oneota Wall - Skyline Parkway



Oneota - Highly deteriorated regions will require full rebuilding with missing stones locally sourced to maintain historic integrity.



Oneota - Regions of failed pointing will require full repointing.

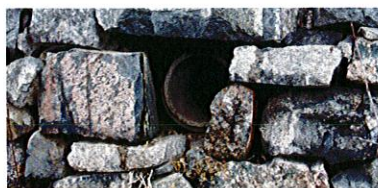


Oneota - Loss of stone has led to collapse of retained paved area.

In addition to the Federal TAP funding the City also intends to utilize State Aid Funding for the project. The projects Federal funding will necessitate an environmental study which will take the form of a Project Memorandum. Among other things the Project Memorandum will be utilized to gain the necessary Section 106 approvals which are predicated by the stone masonry walls which are historic eligible as well as the historic eligible Parkway route itself. Work will need to proceed in

accordance with the Secretary of the Interior's Standards for the Treatment of Historic Properties. From the time of initial site assessment through the completion of final design it will be critical to coordinate the proposed work directly with the MnDOT Cultural Resources Office to ensure their agreement the proposed work will result in a No Adverse Effect finding. Likewise we will work with the Cultural Resources Office to provide submittals to the State Historic Preservation Office to gain their concurrence. Having performed these services for numerous projects along the Parkway as well as performing several recent projects directly for the MnDOT Cultural Resources Office assures the City of LHB's ability to successfully deliver this project.

The project schedule requires submittal of final plans, special provisions, estimate and related forms by November 10, 2016. We have reviewed the project requirements and are confident in our ability to meet this schedule including the interim submittal dates which the City has established. We would however intend to submit the draft Project Memorandum much sooner than established in the City schedule. Due to the project's historic implications and potential need for Design Exceptions and Variances we would propose to submit the draft Project Memorandum no later than at the time of the 30% plan submittal which is set for July 15, 2016. Submitting early will enable us to gage the approval/ buy-in from the Cultural Resources and MN State Historic Preservation Offices prior to proceeding too far into final design which ensures their input can be efficiently integrated.



Section 3 T.O. Recessed drainage pipe. There appears to be several abandoned pipes and one or two live pipes that require work.



Section 3 T.O. Displaced/missing stones at a region requiring reconstruction.



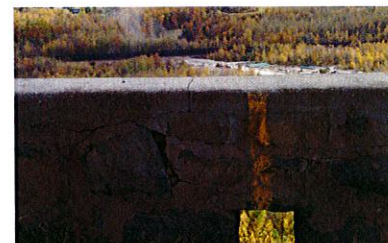
Section 3 T.O. Missing guard stones. Stones should be anchored.

We understand the City has established a construction budget of \$1.2 million for this project and that the project's design is to be tailored to meet this budget. Our previous experience with the assessment and restoration of this project type ensures the City of our ability to provide sound information concerning the structural restoration needs and associated construction costs. We will work with the City from the onset, providing detailed rehabilitation alternative and cost information so that the rehabilitation and budgetary goals can be efficiently achieved.

Within we have provided detailed information regarding our proposed project workscope, experience and qualifications for the successful delivery of this project.



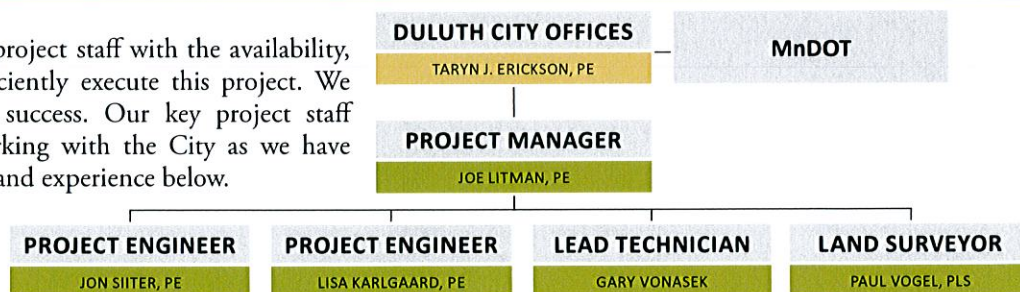
Bardons - Deteriorated pointing mortar in 2001.



Bardons - Drainage scupper and roadway wall face.

Project Team

LHB is committed to providing project staff with the availability, background and expertise to efficiently execute this project. We are committed to this project's success. Our key project staff have extensive experience in working with the City as we have demonstrated in our background and experience below.



Joseph D. Litman, PE - PROJECT MANAGER

Registration - Licensed Professional Engineer in Minnesota; **Certification** - MnDOT Certified Bridge Inspection Team Leader;

Education - Bachelor of Science, Civil Engineering, University of Minnesota

With 28 years of experience, Joe serves as the Manager of LHB's Transportation and Structures Group, specializing in the management and design of civil and structural projects. His responsibilities include all phases of project coordination and design. Joe's design experience encompasses all facets of civil engineering projects, including environmental and federal reporting and documentation, and design of state and county highways, municipal roadways, sanitary and storm sewer systems, industrial and residential structures, and site development.

Project Team - Continued

Joe's structural design experience includes design for residential, commercial, and industrial buildings as well as extensive experience in bridges, parking structures, and the rehabilitation of concrete structures. He is well versed in the design of steel, concrete, timber precast/prestressed and post-tensioned structures. He has led the project design on projects ranging from multi-million dollar industrial structures to smaller-scale historic structure renovations.

Jon W. Siiter, PE - PROJECT ENGINEER

Registration - Licensed Professional Engineer in Minnesota; **Certification** - MnDOT Bridge Construction Certification Level I & II, MnDOT Certified Bridge Inspection Program Administration, MnDOT Certified Bridge Inspection Team Leader; **Education** - Bachelor of Science, Civil Engineering, North Dakota State University

Jon has been responsible for the design, construction and investigation/inspection of bridges and structures for over 20 years. His experience includes new design, historic rehabilitation design and inspection of structures utilizing steel, reinforced concrete, prestressed concrete, post tensioned concrete, stone masonry, brick masonry and timber. He has investigated and rated over 1,000 existing bridges and structures from simple timber spans to complex movable steel trusses.

As a project administrator, Jon's responsibilities have included the supervision of construction for various new and rehabilitation projects including historic bridges, buildings, parking structures and various other special structures. He is experienced in the supervision of the erection of structural steel, installation of cast in place concrete, prestressed concrete, foundation piling and caissons. Jon also has significant experience in the planning and rehabilitation design for stone masonry retaining walls and brick and stone masonry bridge structures.

Lisa M. Karlgaard, PE - PROJECT ENGINEER

Registration - Licensed Professional Engineer in Minnesota; **Affiliation** - American Society of Civil Engineers (ASCE), Past President & Website Chair; **Education** - Bachelor of Science, Civil Engineering, University of North Dakota Master of Engineering, Structural Engineering, University of North Dakota

As a bridge and structural engineer with more than 10 years experience at LHB, Lisa is experienced in bridge design, historic planning studies, retaining wall design, and rehabilitation/reconstruction of historic stone masonry structures. Her design and contract administration experience makes her a valuable asset to the team.

Gary A. Vonasek - LEAD TECHNICIAN

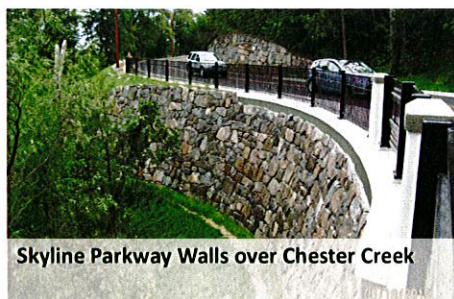
Certification - Engineering Concepts, Federal Highway Administration, Grading & Base I and II - MnDOT, Bituminous Street I - MnDOT, Level I Concrete Field Testing - MnDOT; **Education** - Architectural Drafting Diploma, Thief River Falls Technical College

Gary has over 23 years of experience in bridge and civil engineering design, construction inspection and CADD drafting. He has performed bridge and roadway construction inspection work on a variety of urban and municipal projects in accordance with MnDOT specifications. Gary has vast experience with preparing approach roadway and bridge design plans in accordance with MnDOT and FHWA design requirements.

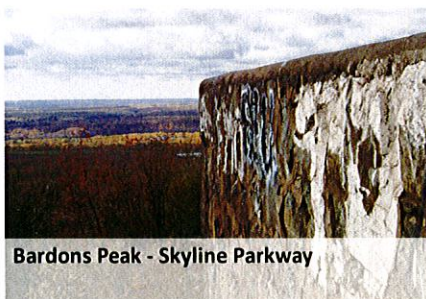
Paul A. Vogel, PLS - PROFESSIONAL LAND SURVEYOR

Registration - Licensed Professional Land Surveyor in Alaska, Minnesota and Wisconsin; **Education** - Bachelor of Science, Chemistry, University of Minnesota, Duluth; Land Surveyor Coursework, Metropolitan State College of Denver

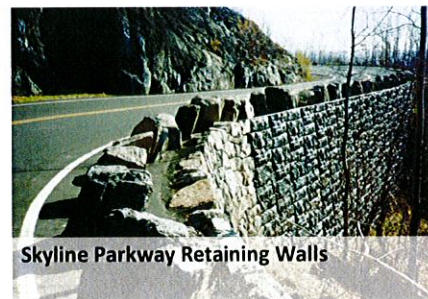
Paul has 26 years of surveying experience and has provided services for various private and public clients. Paul's role is to complete and oversee a variety of professional assignments to facilitate the completion of roads, building sites, recreational areas, developments, and bridges. He performs ALTA/ACSM, boundary, cadastral, topographic, environmental site, route surveys, which involve section subdivision, right-of-way acquisition, and preparation of appropriate legal description.



Skyline Parkway Walls over Chester Creek



Bardons Peak - Skyline Parkway

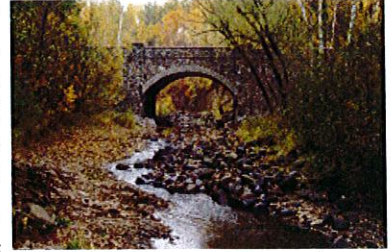


Skyline Parkway Retaining Walls

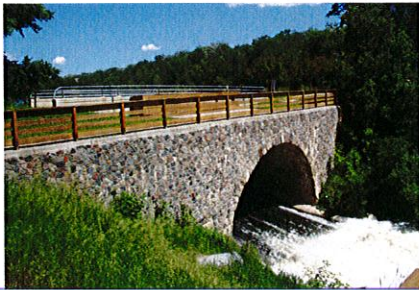
Design Familiarity/ Team Background Experience:

Our proposed design team, and specifically the individual team members proposed to be assigned to your project have unmatched familiarity with the design requirements for this project and specifically with the rehabilitation planning, design, federal reporting and public involvement processes associated with the restoration of historic bridges and retaining structures. A brief summary of some of this experience is as follows. Note that these are all LHB projects and projects which have been jointly performed by Joe Litman, Lisa Karlgaard and Jon Siiter unless noted otherwise:

Seven Bridges Road Bridges - Rehabilitation and reconstruction design and construction administration for six of the historic eligible bluestone, concrete arch bridges along the route. Projects were funded with a variety of funding sources including Federal funds and State Bridge Bond funds. Federal funds necessitated all the requirements which will be required for this project- Federal reporting/ Project Memorandum, Cultural Resources/ State Historic Preservation Office approval for 106 compliance and compliance with State Aid Design/ Statute requirements which necessitated State Aid Variances and Federal Design Exceptions. The LHB staff worked diligently with the City to ensure the success of these projects. The Preservation Alliance of Minnesota and the Duluth Preservation Alliance both awarded the overall project a Historic Preservation Award.



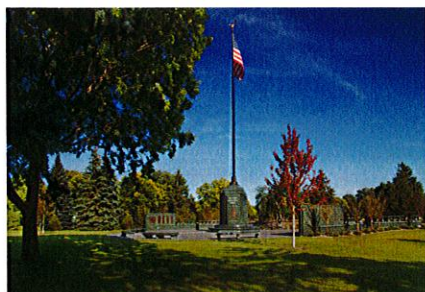
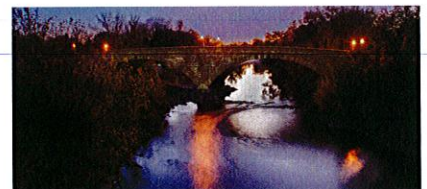
10th Street Bridge L8477 - Rehabilitation design and construction administration for two span concrete arch bridge with substantial bluestone masonry headwalls and wingwalls. Federally funded project, work included Project Memorandum, State Aid Variances and working with Cultural Resources and Minnesota State Historic Preservation Offices for historic 106 approvals.



MN Local Historic Bridge Study- Phase II - Updating of the Minnesota Historic Bridge Management Plan, inspection and preparation of Historic Bridge Management Plans for 120 historic bridges located throughout the state and preparation of Historic Register Nomination forms for 10 historic bridges among other work items.

MN Local Historic Bridge Study- Phase III - Assessment and guidance for the creation of Historic Bridge funding programs, research for unidentified State historic bridges and inspection and preparation of Historic Bridge Management Plans for 30 historic bridges located throughout the state among other work items.

Roosevelt Bridge 5368 Rehabilitation, Austin, MN - Rehabilitation design and construction administration assistance for historic two-span concrete arch bridge with massive stone headwalls and retaining walls. Federally funded project, work included Project Memorandum, State Aid Variances and working with Cultural Resources and Minnesota State Historic Preservation Offices for historic 106 approvals.



Victory Memorial Drive Monument and Gateway Design - LHB created designs for the Flagpole Plaza (the Drive's signature element other than the trees), the Grand Army of the Republic Circle, and gateway features for the parkway entrances to the Drive. The design balances historic preservation with contemporary use of the Drive, resulting in features that more clearly identify the meaning of the Drive.

TH 169 Bridges 3355 and 5265 - Rehabilitation studies and rehabilitation design for two historic stone masonry bridge structures located on TH 169 in the historic Garrison WPA region along the shore of Mille Lacs Lake.

Skyline Parkway Chester Bowl Retaining Wall Rehabilitation - Rehabilitation study and design for the full reconstruction of a massive dry stack bluestone masonry retaining wall of height in excess of twenty feet. Historic eligibility of Skyline Parkway and Federal funding required all work to be directly coordinated with Cultural Resources Office and MN State Historic Preservation Office to ensure 106 compliance. Design incorporated a unique reinforced concrete “backer” wall to achieve AASHTO structural standards compliance while still maintaining reconstruction of historic dry stack retaining wall in excess of twenty foot height.



Skyline Parkway Corridor Management Plan - Assessment of all bluestone bridge and bluestone drystack and mortared retaining walls among other structural elements along the historically eligible Skyline Parkway corridor. Work included geometric documentation, condition documentation, general rehabilitation needs and estimated costs for rehabilitation needs.



Stewart Creek Bridge and Snively Monument Restoration- Assessment, rehabilitation design and construction administration for full restoration and reconstruction of this historic stone masonry arch bridge structure with massive drystack bluestone wingwalls and full reconstruction of the bluestone Snively monument wayside which was adjacent to the structure but which over time had nearly entirely disappeared. As a National Register listed historic structure along the declared historic eligible Skyline Parkway the work received substantial scrutiny to ensure all activities were in compliance with the Secretary of the Interiors Historic Standards. The project went exceedingly well and received a Historic Preservation Award from the Preservation Alliance of Minnesota.

Work Plan

Task 1 - Design Project Management

LHB provides an integrated approach to project management that ensures the most efficient use of staff resources to meet project objectives on time and within budget. 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.

Your project will be managed by Project Manager Joe Litman with assistance in design management by lead Project Engineers Lisa Karlgaard and Jon Siiter.

As Project Manager 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 all of 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

LHB	<ul style="list-style-type: none"> • Prepare and distribute project correspondence • Monitor project budget • Quality Control and Assurance • Communication with City staff and the public
City	<ul style="list-style-type: none"> • Timely project coordination, comments and review/feedback to questions and correspondence
Deliverables	<ul style="list-style-type: none"> • Project correspondence • Well managed project

Task 2 – Public, Historic Preservation Commission, Friends of Skyline Parkway Preservation Association 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 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.

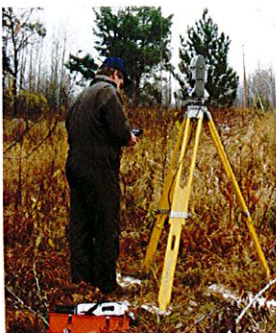


Engaged, well-informed stakeholders become supporters and advocates for projects. They produce creative ideas which become inspiring and practical solutions and strategies. They become invested in the project's success. LHB knows how to develop this level of engagement and support and how to harness 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.

For this project, with the City's intent and the project's Section 106 requirements aligned to require the work to be performed in accordance with 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 such valuable landmarks. This is the very sentiment we have experienced with past public participation processes for the projects we have performed along the Parkway and we would intend to bring those experiences and processes to this project. Our past work along the Parkway has always engaged the City's Historic Preservation Commission, the Duluth Preservation Alliance and the Friends of Skyline Parkway Preservation Association (led by Doug Stevens) whom are all groups we have worked exceedingly well with and whose trust we have earned as the result of open communication, follow through on issues and end results which live up to their expectations.

Task 2 - Public, Historic Preservation Commission, Friends of Skyline Parkway Preservation Association and other Interested Party Involvement and Participation	
LHB	<ul style="list-style-type: none">• 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 the Duluth Preservation Alliance to gain their feedback/ input and ensure their support for the project
City	<ul style="list-style-type: none">• Package and mail/ distribute public meeting notices• Participate in meetings and ensure key staff are in attendance
Deliverables	<ul style="list-style-type: none">• 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 Historic Preservation Commission, Friends of Skyline Parkway Preservation Association and the Duluth Preservation Alliance

Task 3 – Reconnaissance, Surveys, Right-of-Way and Geotechnical



The development of an accurate base map is critical for the success of any project. All our planning decisions, environmental review, permitting, right-of-way documentation (acquisition/ easement if necessary), and plan development will be based on this mapping.

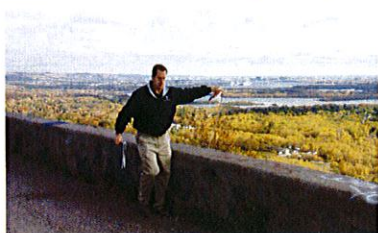
Site drainage and in place utilities will be particularly important issues throughout the assessment and development of this project. As may be expected the presence of water in terms of its ability to soften, undermine support soils, and contribute to frost heaves can be the single largest contributor to retaining wall distress/ failure so a keen understanding of its presence and 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. 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 10 individual soil classification borings at an average depth of 12 feet.

Task 3 – Reconnaissance, Surveys, Right-of-Way and Geotechnical

LHB	<ul style="list-style-type: none">• 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 utility mapping through mapping review and consultation with utility owners• Prepare proposed right-of-way and easements area mapping in CADD• Geotechnical site investigation- 10 soil classification borings to average depth of 12 feet assumed. (by LHB Subconsultant)
City	<ul style="list-style-type: none">• Provide any existing reports, surveys, aerial photography and access to City archive information• Provide existing right of way information
Deliverables	<ul style="list-style-type: none">• 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. The LHB personnel whom will perform the field assessment (Joe, Lisa, Jon) have over 60 years combined experience investigating this very structure type. In addition we have archive information including photographs for these very structures dating back over 15 years which we can use to further understand their life cycle condition. Thorough documentation of overall wall condition, regional and individual stone displacement, stone condition, presence of affecting water / groundwater features and roadway condition will be made to ensure a complete understanding. We will

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

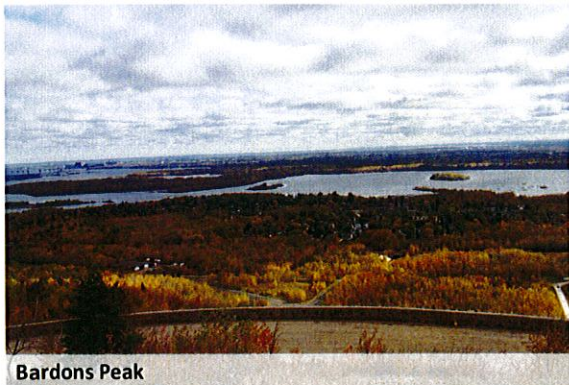
We understand the projects budget is set and that an essential component of this step is to establish the extent and level of rehabilitation at each site which most effectively utilizes the available dollars and which also considers the extension of the work to additional adjacent sites to the extent feasible. Our past construction cost history for this work type will be especially helpful in working to perform this assessment.

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

LHB	<ul style="list-style-type: none">• Review and establish project design criteria.• Perform detailed site assessment for existing conditions.• Perform preliminary assessment for rehabilitation options/ requirements• Prepare preliminary construction cost estimates for workscope alternatives.• Work hand in hand with City staff to determine preferred, Section 106 compliant rehabilitation alternative/ overall project scope.
City	<ul style="list-style-type: none">• Provide comment and feedback throughout preliminary study.
Deliverables	<ul style="list-style-type: none">• Site assessment/ existing condition findings.• Preliminary rehabilitation recommendations and cost estimate.• Preferred rehabilitation option and estimated cost.

Task 5 – Environmental Documentation/ Project Memorandum/ Section 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. A Project Memorandum is anticipated for federal reporting to document and ensure environmental/ Section 106 and social justice compliance. The alternatives that will be considered and the preferred alternative will be described.



Bardons Peak

All 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), erosion, water quality, air quality, noise, utilities, construction impacts, contaminated properties or materials, groundwater, traffic detours, access control, right-of-way acquisition, impacts on parks and recreation lands, economic impacts, environmental justice, and historic properties. Most notable will be the historic property requirements as discussed in detail in other sections of our proposal. Our understanding of the historic process and proven working relationship with the MnDOT Cultural Resources and MN State Historic Preservation Offices assures our teams understanding of the Section 106 requirements and ability to design your project in a manner which will meet

their approval requirements. The required permits and approvals will be applied for, obtained and documented within the Project Memorandum. Due to the project's funding sources (Federal and MSAS) the placement of guard stones, horizontal alignment features of Skyline Parkway and lane edge clearance zone constraints may likely necessitate a variance(s) to gain State Aid funding approval and likewise Federal Design Exceptions for the Federal funding. Having stepped through these exact scenarios on nearly 10 previous projects along the parkway we are fully prepared to assist with any variance and design exception requirements and bring the necessary experience and historical background to maximize the potential for their approval. This task will be led by Joe Litman who has over 26 years' experience in performing environmental documentation and preparing project memorandums for federally funded projects.

We have noted the stated RFQ date for submittal of the draft Project Memorandum is September 1st. Due the project's historic requirements and the need to assure Section 106 approvals we would intend to complete the draft submittal no later than the 30% plan submittal (July 15th). This will allow for early input from the Cultural Resources Office and will ensure the project's detailed design/ plan development efforts do not get out in front of the historic process reviews/ approvals.

At this time, we do not anticipate wetland impacts to be associated with the project. However, the current ground cover does not allow for a determination to be made. Within our scope, we would intend to perform a cursory site assessment for the presence of wetlands. Should this assessment indicate wetlands are present in areas that may be impacted, LHB personnel would be readily available to assist the city with the performance of a wetland delineation as an additional service.

Task 5 – Environmental Documentation/ Project Memorandum/ 106 historic Compliance

LHB	<ul style="list-style-type: none"> • Assessment and documentation for project environmental compliance • Prepare and apply for project permitting
	<ul style="list-style-type: none"> • Cursory site review for presence of Wetlands which may be affected by project • Coordination with MnDOT Cultural Resources and State Historic Preservation Offices • Preparation of Variance requests and Design Exceptions • Prepare and obtain Project Memorandum approval
City	<ul style="list-style-type: none"> • Review application/permit forms and provide signature • Review Project Memorandum
Deliverables	<ul style="list-style-type: none"> • Permit applications and project permits • Complete NPDES permit application (assumption of over 1 acre disturbed) • Applicable Variance and 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. We understand and acknowledge the City's requirements for 30%, 60%, and 90% plan submittals. 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 projects budget as work progresses to ensure the prescribed work stays on track with the project budget and primary rehabilitation objectives.

Design and Plan work will proceed in accordance with City Standards, applicable AASHTO roadway and structural standards, State Aid Design Standards, the Secretary of the Interiors Standards for the Treatment of Historic Properties, and applicable FHWA requirements. The Engineer's 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)	
LHB	<ul style="list-style-type: none"> Continually engage with the City through all phases of project design to assure budget and rehabilitation objectives are met. Perform detailed design and plan preparation Complete and submit 30% design plans 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
City	<ul style="list-style-type: none"> Review and provide feedback on 30%, 60% and 90% plans Review and provide feedback on special provisions
Deliverables	<ul style="list-style-type: none"> 30%, 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

References

Dave Conkel - State Aid Bridge Engineer MnDOT

3485 Hadley Avenue North
Oakdale, MN 55128
dave.conkel@dot.state.mn.us | 651.366.4493

Kristen Zschomler - Transportation Cultural Resource Group Leader

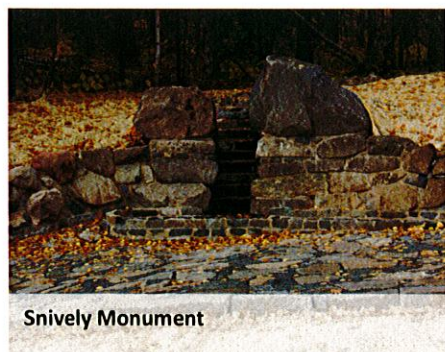
MnDOT
395 John Ireland Blvd.
St. Paul, MN 55155
kristen.zschomler@state.umn.us | 651.297.1172

Matt Hemmila - Bridge Engineer St. Louis County Public Works Department

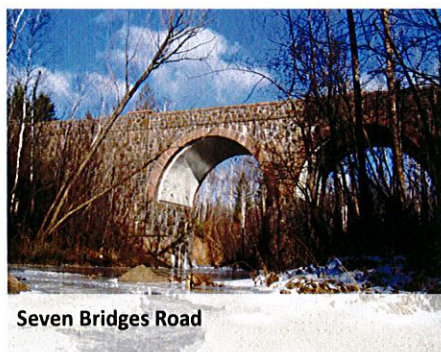
1425 East 23rd Street
Hibbing, MN 55746
hemmilam@stlouiscountymn.gov | 218.262.0153

Addendum Acknowledgement

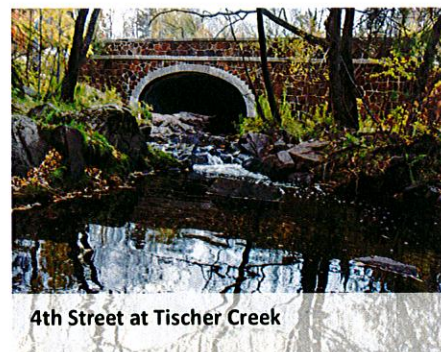
LHB has received and acknowledges the receipt of Addendum #1, File # 16-0228 Skyline Parkway Retaining Wall Restorations Project # 1494.



Snively Monument




Seven Bridges Road



4th Street at Tischer Creek

Workscope Task and Hours by Employee

WORKSCOPE WORKSHEET		Project Name		Skyline Parkway Retaining Wall Restorations					
LHB Labor Summary		Client		City of Duluth					
		Preparer		JDL					
	Project Manager Joe Litman	Project Engineer Jon Siiter	Project Engineer Lisa Karlgaard	Lead Technician Gary Vonasek	Land Surveyor Paul Vogel	Survey Technician Mike Zabukover	Tech Assist't	Admin. Linda Kerr	
Task 1 - Design Project Management									
Meetings with City Staff (Est. 4)	6.00	4.00	6.00						
City Meeting and Correspondence Documentation	4.00		8.00						
Internal Team Meetings	4.00	4.00	4.00	4.00					
Quality Control and Quality Assurance	8.00	4.00			1.00				
Task 2 - Public, HPC, FSPPA Involvement									
Prepare Public Meeting Materials, Exhibits	2.00		6.00	8.00					
Public Informational Meeting	3.00		3.00						
Prepare for HPC and FSPPA Meetings	1.00		2.00	4.00					
HPC Presentation Meeting (1)	2.00								
FSPPA Meeting (1)	3.00								
Meeting Agendas/ Documentation	6.00								
Task 3 - Assess, Survey, ROW, Geotech.									
Initial Field Site Assessment	4.00	4.00	4.00						
City Record Research			2.00	2.00					
Gopher One Call				1.00					
ROW Research					3.00				
Topographic/ Wall Survey			2.00		2.00	32.00			
Survey Mapping			4.00			32.00			
Coordinate Geotechnical Subconsultant		1.00							
Task 4 - Site Investigation & Preliminary Design									
Detailed Site Assessment	8.00	8.00	8.00						
Site Assessment Documentation	2.00	2.00	12.00						
Site Walk Through with City Team	4.00		4.00						
Assemble Preliminary Rehabilitation Scope	6.00	4.00	16.00	12.00					
Preliminary Rehabilitation Cost Estimating	4.00	4.00	6.00						
Prepare Recommended Rehabilitation Scope	4.00	1.00	6.00	4.00					
Task 5 - Env. Doc., Project Memo, 106 Historic									
Coord. with MnDOT CRU and MN SHPO	6.00		10.00						
Cursory Site Review for Wetlands			4.00						
Apply for Project Permits			2.00						
Prepare Draft Project Memorandum	5.00	1.00	20.00						
Prepare Variance Request(s) as Necessary	2.00		6.00						
Prepare Design Exception(s) as Necessary	2.00		4.00						
Update and Submit Final Project Memo	1.00	1.00	8.00						
Task 6 - Detailed Design (Plans, Spec., Est., DCP Forms)									
Title Sheet & Index Map		1.00		2.00					
Statement of Estimated Quantities/ Notes	1.00	4.00	8.00	16.00					
Wall Plan (partial) Layout Dwgs (3 Sites., 8 Shts.)	4.00		12.00	6.00			64.00		
Wall Elevation (partial) Dwgs. (3 Sites., 8 Shts.)	4.00		16.00	6.00			64.00		
Wall Sections (4 Shts.)	6.00	4.00	12.00	48.00					
Wall Repair/ Reconst. Details (3 Shts.)	6.00	2.00	18.00	48.00					
Bardons Peak, New Monument Details	4.00		8.00	16.00					
Oneota Monument Repair Details	2.00		4.00	8.00					
Section 3 T.O. Monument Repair Details	2.00		4.00	8.00					
Guard Stone Replacement Details	1.00		4.00	6.00					
Small Scale Roadway Layout Dwgs. (5 Shts.)	4.00			24.00					
Roadway Repair Details (1 Sht.)	3.00			8.00					
Traffic Control Plans (6 Shts.)	4.00			24.00					
SWPPP Dwgs. (4 Shts.)	4.00			16.00					
Special Provisions	2.00	12.00	4.00						
Engineers Estimate	2.00	2.00	4.00						
DCP Submittal Forms			4.00						
Total Hours	136	63	245	271	6	64	128		