

AUGUST 2015



Proposal to Develop the
MDT WILDLIFE ACCOMMODATION PROCESS
#HWY-311733-SH





STATE OF MONTANA REQUEST FOR PROPOSAL (RFP)

RFP Number:
#HWY- 311733-SH

RFP Title:
MDT Wildlife Accommodation Process

RFP Response Due Date and Time:
August 12, 2015 3:00 p.m., Mountain Time

Number of Pages: 50

ISSUING AGENCY INFORMATION

State Procurement Officer:
SCOTT HICKS

Issue Date:
July 08, 2015

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INSTRUCTIONS TO OFFERORS

Return Sealed Proposal to:

**PURCHASING SERVICES SECTION
MONTANA DEPARTMENT OF TRANSPORTATION
2701 PROSPECT AVENUE
P.O. BOX 201001
HELENA, MT 59601-1001**

Mark Face of Envelope/Package:

**RFP Number: #HWY-311733-SH
Proposal Due Date: August 12, 2015**

**Special Instructions:
(insert special instructions and/or date of pre-Proposal conference, if applicable)**

OFFERORS MUST COMPLETE THE FOLLOWING

Offeror Name/Address:

KLJ
4585 Coleman Street
Bismarck, ND 58503

Authorized Offeror Signatory:


Mark Anderson, PE – Director of Transportation Services
(Please print name and sign in ink)

Offeror Phone Number:

701 355 8400

Offeror FAX Number:

855 288 8055

Offeror E-mail Address:

mark.anderson@kljeng.com

Offeror Federal I.D. Number:

45-0313305

Type of Entity (e.g., corporation, LLC, etc.)

Corporation

OFFERORS MUST RETURN THIS COVER SHEET WITH PROPOSAL

July 28, 2015

STATE OF MONTANA
REQUEST FOR PROPOSAL ADDENDUM
RFP NO. HWY-311733-SH
TO BE OPENED: August 12, 2015
TITLE: MDT Wildlife Accommodation Process

ADDENDUM NO. 1

To All Offerors:

Attached are written questions received in response to this RFP. These questions, along with the State's response, become an official amendment to this RFP.

All other terms of the subject "Request for Proposal" are to remain as previously stated.

Acknowledgment of Addendum:

The offeror for this solicitation must acknowledge receipt of this addendum. This page must be submitted at the time set for the proposal opening or the proposal may be disqualified from further consideration.

I acknowledge receipt of Addendum No. 1.

Signed: Mark Anderson

Company Name: KLJ

Date: 7-29-15

Sincerely,

Scott Hicks
Contracts Officer

The following items MUST be included in the Proposal package to be considered responsive. Failure to include any of these items may result in a non-responsive determination.

- ✓ **Signed Cover Sheet**
- ✓ **Signed Addenda (if appropriate)**
- ✓ **Point-by-Point response to all sections and subsections**

N/A **Correctly executed State of Montana “Affidavit for Trade Secret Confidentiality” form if claiming information to be confidential or proprietary in accordance with the Receipt of Proposals and Public Inspection, Public Information Section.**

✓ **Complete answers to all requirements of Sections 3, 4, and 5 of this RFP.** In addition, Offeror must acknowledge that it has read, understands, and will comply with each section/subsection listed below by initialing the line to the left of each. If Offeror cannot meet a particular requirement, provide a detailed explanation next to that requirement.

<u> </u> KH	Section 1, Project Overview and Instructions
<u> </u> KH	Section 2, RFP Standard Information
<u> </u> KH	Section 4.1, State's Right to Investigate and Reject
<u> </u> KH	Section 4.3, Oral Presentation and Interview
<u> </u> KH	Section 5.2, Project Funding
<u> </u> KH	Section 5.3, Budget Revisions
<u> </u> KH	Section 6, Proposal Evaluation
<u> </u> KH	Appendix A, Contract
<u> </u> KH	Appendix D, Nondiscrimination and Disability Accommodation Notice
<u> </u> KH	Appendix E, Technical Report Documentation Page
<u> </u> KH	Initials for Principal Investigator Kathy Harris

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PO Box 1567
Helena, MT 59624-1567
406 449 7764
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August 10, 2015



Mr. Scott Hicks
Purchasing Service Section
Montana Department of Transportation
2701 Prospect Avenue
PO Box 201001
Helena, MT 59601-1001

RE: Proposal for the MDT Wildlife Accommodation Process, HWY-311733-SH

Dear Mr. Hicks:

Montana Department of Transportation's (MDT) mission to provide safe public transportation systems compatible with the natural environment is being met, in part, with a large array of wildlife accommodations. Without a defined application or accommodation process, however, these accommodations may not be applied consistently, efficiently or effectively.

KLJ and our subconsultant, RESPEC, bring a long history with one of western Montana's most scenic highways, US 93, and its wildlife accommodations. We also bring a wealth of experience delivering projects through MDT processes. Combined, this provides a strong foundation to assist MDT in developing and implementing a successful Wildlife Accommodations Process.

KLJ's Proposal for the MDT Wildlife Accommodation Process demonstrates that we regularly implement MDT's design and environmental processes, giving us a strong motivation to develop a usable and effective guideline for applying wildlife accommodations in Montana's transportation system.

KLJ's team is comprised of environmental and highway specialists, business process experts and, most significantly, a current design team with more than 50 years of experience implementing MDT's processes. Our MDT experience is led by Principal Investigator, Kathy Harris, with 20 years of MDT project experience supplemented with policy process development experience on a new airport program and an MDT process (public outreach for noise abatement). Based out of Helena, Kathy is currently working with Scott Fanning and our subconsultant (RESPEC) designing and implementing multiple projects on US 93. KLJ also brings recognized experts in environmental policies, business process development and quality control.

We look forward to presenting our team to you in-person. Should you have any questions, please contact Kathy Harris at 406 441 5784 or kathy.harris@kljeng.com.

Sincerely,

KLJ

A handwritten signature in blue ink that reads "Kathy Harris".

Kathy Harris, PE, PTOE
Principal Investigator
Project Manager

A handwritten signature in black ink that reads "Mark Anderson".

Mark Anderson, PE
Director of Transportation Services

A callout box with a dark blue header and a white body. The header contains the text "OUR APPROACH SPECIFICALLY ADDRESSES MDT'S NEEDS". The body contains two paragraphs of text. The first paragraph is preceded by a blue icon of a stack of books. The second paragraph is preceded by a green arrow pointing to the right. The text in the second paragraph is highlighted in green.

OUR APPROACH SPECIFICALLY ADDRESSES MDT'S NEEDS

The KLJ team has identified what we understand to be the State's main concerns and needs. Our approach is detailed in Section 3.4, the book symbol indicates deliverable reports.

KLJ recommendations (outside the RFP) are highlighted in green shading.



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3.1 PROBLEM STATEMENT, SCOPE AND OBJECTIVES

PROBLEM STATEMENT

For decades, state Departments of Transportation (DOT), including the Montana Department of Transportation (MDT), have been incorporating wildlife treatment strategies into road infrastructure to improve traveling safety and the environment for affected wildlife. Multiple DOT, Tribal, federal and statewide resource agencies have contributed to the pool of knowledge for road safety treatments and the subsequent monitoring and revisions to assess the true wildlife and road impacts.

Past decisions for or against accommodations were based on interpretation of Montana’s varying conditions and in consideration of the multitude of laws and stakeholders involved. MDT has a further responsibility to consider the fiscal constraints and other priority needs when choosing between wildlife accommodation alternatives.

MDT has not yet developed a standardized process to assess and justify the need and feasibility of incorporating accommodations for wildlife species into MDT projects. Without a standardized process to consider if wildlife accommodations are appropriate and/or feasible, resulting treatments may be inconsistently applied, costing tax payers needless money, potentially missing some projects entirely or resulting in wildlife accommodations that do not provide the desired safety or wildlife benefits. Clearly defining this unknown process is what this study sets out to accomplish.



US 93 Minesinger Trail Wildlife Crossing

PROJECT SCOPE

Project Triggers

- » Corridor Activities
- » Maintenance
- » New Construction
- » Crashes
- » Wildlife Connectivity
- » Biodiversity

THIS PROJECT

KLJ’s team will develop and Define an MDT process to consistently examine criteria that enable wildlife accommodations to be selected.

Project Results

- » Documented Process
- » Desk Guide for Implementation
- » Modified (Process) Flow Charts, Reports, etc.
- » Defined Need and Justification

This process of applying wildlife accommodations is not yet defined; however, several successful examples exist, and KLJ’s team of experts can help turn this currently undefined process into a clear and measurable one.

MDT has known triggers for applying wildlife accommodations, such as an area safety study, increased crashes, or corridor enhancements associated with environmental documents. There are also known accommodations that can be implemented, such as a wildlife overpass or fencing. An MDT process is needed to consistently examine criteria that enable wildlife accommodations to be selected based on their need and justification.

Our proposal demonstrates KLJ's team has been assembled based upon extensive experience in completing projects using MDT's project development process. We will roll KLJ's delivery experience into listening, researching and developing a logical process to integrate wildlife accommodations into MDT's business practices in an efficient, cost-beneficial and consistent manner. This MDT Wildlife Accommodation Process will gather and assemble key components of the vast amount of research and practices available from other agencies to provide both guidance and specific steps to be added and incorporated into MDT's decision-making process.

PROJECT OBJECTIVES

We recognize that MDT has a wealth of past experience facilitating safety of the traveling public and designing, constructing and maintaining wildlife treatments. To build on that experience, we propose to finalize the project objectives as part of the initial kick-off meetings and early staff interviews. Based upon our current knowledge, we offer the following as draft Project Objectives:

- » Develop streamlined process(es) that provide timing and methodologies to integrate wildlife accommodation decisions into MDT annual program(s)
- » Provide a clear, concise and implementable process to integrate within MDT's current myriad of defined process(es) and integrate with resource agency schedules
- » Develop guidelines for establishing the need and feasibility of wildlife accommodations
- » Increase efficiencies among MDT and agency representatives for quicker and comprehensive evaluation and resolution of issues.



3.2 BACKGROUND SUMMARY

According to MDT’s Research, Development and Technology Transfer Guidelines, research is conducted to meet MDT’s Mission. This project is a prime example of a research project that fulfills both the intent of research guidelines and strives to improve the existing project delivery.

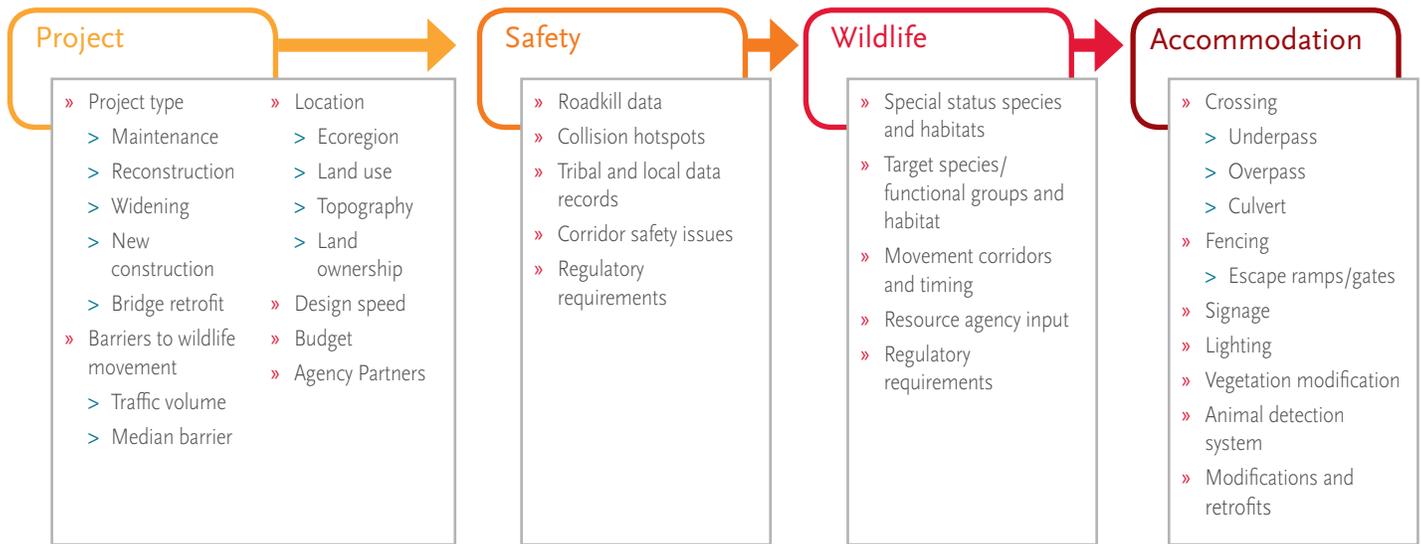


3.2.1 PRELIMINARY LITERATURE SEARCH

A National Cooperative Highway Research Program survey of North American natural resource professionals, planners and engineers identified the following as some of the top priorities in the field of transportation ecology:

- » Early wildlife mitigation planning
- » Utilization of conservation plans/connectivity analysis in determining the need and types of wildlife accommodation as some of the top priorities in the field of transportation ecology

Many US states and foreign countries have implemented some form of wildlife accommodation in transportation projects, and documentation on the effectiveness of these individual projects exists. To date, transportation agencies have implemented wildlife accommodation measures largely through analysis of collision hotspots, consideration of habitat-linkage needs and intensive resource agency coordination, which has been done outside of an overarching formal process. Preliminary review of available research identified areas to consider when determining the need and feasibility of project-specific wildlife accommodations:



A handful of US states and Canadian provinces have developed general guidelines and toolkits related to wildlife accommodation; however, very few have developed processes for determining the need and feasibility of such accommodations on a project-by-project basis. Agencies among the forerunners of planning for transportation ecology that have such processes in place include:

- » **Florida Department of Transportation** – Wildlife Crossing Guidelines briefly assess need and feasibility of wildlife accommodations at the project level.
- » **Idaho Department of Transportation** – Wildlife-Vehicle Collision Prioritization Process identifies highways in need of wildlife accommodations.
- » **Washington Department of Transportation** – Passage Assessment System evaluates the permeability of existing infrastructure to wildlife movement.

3.2.2 OFFERER'S APPRECIATION OF THE PROBLEM

MDT's challenge is to determine when to consider Wildlife Accommodations for the various design, planning, construction, maintenance and mitigation activities under DOT purview and how to define feasibility of wildlife options.

KLJ will assist MDT in developing a multi-step process to insert into MDT's current programs. The process will ultimately address timing and level of detail for wildlife accommodations across the broad swath of Montana's landscape and MDT's wide area of responsibility. Due to the expansive number of MDT staff (and consultants), a consistent and logical process is needed to consider the accommodations both within MDT's standard business of providing a safe transport system, but also across the varying scope of our many environmental microcosms. The Wildlife Accommodation process needs to nest within MDT flow charts, manuals and overall project development processes.



Construction of Spring Creek, Kalispell Bypass



3.3 BENEFIT/BUSINESS CASE

3.3.1 UNDERSTANDING OF POTENTIAL BENEFITS FROM RESEARCH

Transportation departments (city, county, state, Tribal and private) typically approach wildlife accommodations due to an identified safety hazard or as a mitigation measure. While notable treatments have been incorporated into many MDT roadways, a consistent process to determine applicability would provide the following benefits:

- » Include the wildlife accommodation decision in the earliest stages of project development to allow the project to include adequate time and effort (if needed) or to allow projects to confirm that no accommodations are needed, thereby eliminating the need for special studies or treatments that may occur late in the project delivery. These combine into a streamlined delivery of Montana’s transportation system, thereby improving MDT’s public service.
 - > Early consideration has the additional benefit of not requiring a retro-active wildlife accommodation occurring late in project delivery, which can compromise design schedule, cost, right-of-way, utility relocations and potential environmental documents.
- » Verify consistent consideration is given to projects throughout the state.
- » Develop a process to consider non-reconstruction projects (such as planning, maintenance or safety projects) for possible wildlife accommodation.



The resulting process and guidelines for evaluating wildlife accommodations will also:

- » **Enhance Cost Savings** – Cost and benefit criteria will be examined, resulting in improved project prioritization and resulting cost savings.
- » **Increase Safety** – Montana-specific research will identify locations, species and safety conditions that require special consideration and make sure they are not overlooked during the project development phase.
- » **Improve Service** – Consultation and cooperation between MDT and regulatory/resource agencies will be enhanced by developing processes that complement existing MDT and agency processes and provide a consistent result between Districts.
- » **Improve Procedures for MDT Staff, Consultants and Coordinating Agencies** – Existing MDT flow charts and task descriptions will be integrated with the new processes and guidance, resulting in streamlined procedures that allow consistent and appropriate wildlife accommodation decisions.

3.3.2 HOW TO UTILIZE RESEARCH RESULTS

The final deliverable, the process to evaluate a standardized suite of criteria, will be incorporated into MDT's Flowcharts, detailing various processes for design and potentially maintenance or planning studies. The Desk Guide will provide a "how-to" manual, similar in style to MDT Manuals and Guidelines that should be applied both in project development stages and at select periods during the life of a typical MDT transportation project. The resulting process (or processes) will likely have multiple loops, wherein a project task may link back to reconsider the wildlife accommodation.

Actual users and benefits will be identified during this project; however, the table below offers a sampling of potential users and benefits.

For example, a maintenance project to add flared ends to an existing culvert may determine that the culvert may upsize the pipe after the field review or due to changed floodplain conditions. Initially, this may not be considered for wildlife accommodation; however, a replacement should trigger a link back to the wildlife accommodation process to make sure that the culvert location and surrounding environment are considered for a fish or small mammal crossing.

Potential MDT Users	Application	Benefits
District Administrators	During initial project development discussions prior to annual program planning (red book) for planning, construction and maintenance.	Consider wildlife accommodations prior to establishing funding so that environmental, design and costs are properly planned and reduce the risk of exceeding time or costs later in project delivery.
	During Tribal or agency meetings, raise awareness of wildlife accommodations for the greater transportation system.	Contact with agency administrators to collaboratively find solutions beyond a project-by-project approach.
District Environmental Specialists	Preliminary Field Reviews, Environmental Scoping, Mitigation Monitoring, etc.	Wildlife specialists are current in their district's geography, ecology and political issues and may see an early opportunity to benefit wildlife management by coinciding with transportation efforts.
Traffic Safety Staff	Statewide safety analysis and trends and also during follow-up monitoring of safety projects.	Identify and address wildlife safety concerns resulting in safer travel on Montana roads and reduce wildlife mortality.
District Maintenance Chiefs	During project development/funding.	Identify future planning locations.
	Reviewing excessive field work (such as collection of wildlife carcasses or repairs due to swerving vehicles).	Utilize field work to identify locations for crash study.
Project Managers	Discussion at (or before) Preliminary Field Review.	Consider possibilities for wildlife accommodations during a field review with multiple functional managers represented.
	Scope of Work Report.	Review project and reconsider if wildlife accommodations are needed. The scope of work approval process engages multiple functional managers.

3.4 TASKS

3.4.1 LITERATURE REVIEW

KLJ will conduct a review of literature to determine what other state DOTs enact to effectively assess the need and feasibility for wildlife accommodations. We will also focus on the state-of-the-industry for the various decision points during project planning to consider the multitude of wildlife accommodations.

The literature review will provide options that KLJ will consider during later tasks to develop MDT's process to consider and justify wildlife accommodations into MDT's program.

As required, the literature review will be summarized in a Task Report in accordance with MDT's Report Writing Requirements.

 We recommend the literature review report be consolidated into Task 3.4.2, which will provide one document to state the current practice of wildlife crossing accommodations.

3.4.2 UNDERSTAND AND ASSESS

KLJ proposes to hone our understanding of MDT's business processes by supporting the literature research with one-on-one conversations between our principal investigator, Kathy Harris, and key MDT staff to determine their current knowledge of:

- » Awareness of MDT past wildlife accommodation treatments
 - > Benefits of the current program
 - > Shortcoming in the current program
- » Wildlife accommodation treatments
- » Cost/Benefit of wildlife accommodation treatment
 - > As a design requirement
 - > As a mitigation measure
 - > As a retro-fit to a specific safety or wildlife issue
- » MDT Design, Maintenance and Planning Processes
- » Decisions that incorporate wildlife treatments (within MDT project development) and timing of those decisions
- » Involvement of the individual's role, their Functional Manager or their Bureau in making decisions
- » Additional survey of select Tribal or agency staff that also interact with MDT in the wildlife arena will be included, (overlaps with task 3.4.5 below). One critical agency is the Federal Highway Administration (FHWA), but early interviews with Montana Fish, Wildlife & Parks (FWP), US Army Corps of Engineers (COE) and Montana Department of Environmental Quality (DEQ) are expected to provide early information on wildlife permitting needs.

KLJ's Principal Investigator, Kathy Harris has led KLJ's flexibility and responsiveness with MDT for a decade on the Kalispell Bypass, developing a thorough knowledge of MDT's project delivery process.

After interviews, KLJ will review all MDT flow-chart processes (design, consultant, mitigation, etc.) to confirm our understanding of internal and functional flows which will develop the key decisions points (overlaps with task 3.4.6 below).



Our research and interviews will be summarized in Task Report: Literature Review and MDT's Business Processes. This report will summarize the data collection results to succinctly state the different approaches that have been used by MDT and various resource agencies regarding wildlife accommodations. The report will also compare the status quo to researched states and agencies outside Montana that have applicable policies and procedures.

3.4.3 IDENTIFY MONTANA-SPECIFIC NEEDS

KLJ will identify Montana-specific criteria that may be used in determining the need for wildlife accommodations. Need may be based on human elements such as driver safety and the need to reduce animal-vehicle collisions; wildlife elements such as reducing elevated wildlife mortality or habitat connectivity for threatened and endangered species; or commonly both. In order to help determine need, a variety of information and data sources are available for review and include, but are not limited to:

- » Montana Highway Patrol crash and wildlife collision records
- » MDT Maintenance Division wildlife carcass records
- » MDT traffic volume records
- » USFWS occupied and designated critical habitat data for threatened and endangered species
- » MTFWP range and distribution data for big game species
- » Montana Natural Heritage Program (MTNHP) range maps for designated sensitive species, and documented wildlife movement corridors
- » Literature Review (task 3.4.1)
- » Interview Input (task 3.4.2)

Data sources include MDT's Traffic and Safety Bureau, MDT Maintenance Division, MDT Environmental Services office, public land management and resource agencies, as well as various publications and research papers specific to Montana. While few states have developed a formal wildlife accommodations process, there are examples from across the United States of models being used to determine need for wildlife accommodations. KLJ, with the local knowledge from RESPEC's Mark Traxler, will review available resources to identify Montana-specific criteria to determine need for wildlife accommodations.

Wildlife accommodation guidelines specific to the needs of Montana's wildlife and MDT must account for a wide range of species, including mammals of all sizes, birds, reptiles and amphibians, particularly those species of special, sensitive, conservation and protected status. Furthermore, guidelines would need to apply to a wide range of habitats ranging, from steep mountainous forest habitat in western Montana to the rolling prairies and badlands of eastern Montana.

KLJ's team includes Mark Traxler, a former MDT district biologist, who has worked through MDT's un-written process of developing wildlife accommodations and seeing them through to fruition. As a former MDT biologist and current trusted advisor to the Department, Mark understands and fully supports MDT's goal in developing a formal process to streamline the wildlife accommodations process within MDT's overall project development processes.

We recommend the Need for Wildlife Accommodations be consolidated into Task 3.4.4, which will provide one document to summarize the need and feasibility of wildlife crossing accommodations.

KLJ's team of Kathy Harris, Scott Fanning and Mark Traxler are currently reviewing appropriateness of wildlife crossing treatments on the US 93 Post Creek Hill project for MDT and already have identified changes that may result in major road cost savings.

3.4.4 ASCERTAIN MONTANA-SPECIFIC FEASIBILITY

KLJ will prepare Montana-specific criteria and applicable methodologies/guidance to use in determining the feasibility of wildlife accommodations. This task will need to integrate with and be applicable to MDT's early project development stages.

Feasibility recognizes that minimum design standards must be met, yet the physical site conditions can impact the ability or desire to implement a solution. Layering these engineering challenges atop the variability of wildlife groups plus the multiple challenges for MDT project delivery (surrounding land uses, public perceptions and the willingness of landowners and resource agencies) requires a flexible and integrated process to develop feasible solutions to complex problems.

Beyond the physical attributes of a site, there are a number of complicating factors that guide MDT in determining the feasibility of implementing wildlife accommodations on a given project. Costs to both build and maintain wildlife accommodations must be weighed against the overall benefit to the

resource. Public perceptions and social acceptance of wildlife accommodations is not always favorable and may deem a project not feasible. Conversely, favorable public opinions regarding wildlife accommodations can provide added incentive to incorporate wildlife features.

KLJ and RESPEC will utilize the results of previous tasks and Task 3.4.5 (agency interviews) to propose guidance to define the feasibility of wildlife accommodation. The method may be a specific process step (in MDT's project delivery) or a guidance document/toolkit. We will work with the Research Project Manager to define the appropriate documentation during the early project stages.



The Wildlife Accommodation Needs (task 3.4.4) and the Wildlife Accommodations Feasibility (this task) will be consolidated into Task Report: Wildlife Accommodation Needs and Feasibility.



KLJ notes that this report may be more usable with a flexible report format. We propose to resolve the format with MDT's Research Manager prior to draft submittal.

3.4.5 REGULATORY/RESOURCE AGENCY CONSULTATION

KLJ has a long history of successfully working with MDT as the prime contact with resource agencies as well as working in direct collaboration with state and federal resource agencies in states such as North Dakota. For this project, the key to seeking successful input from the regulatory and resource agencies will be establishing clear guidelines for communication as well as milestones and methods for agency feedback. KLJ will coordinate initially with the MDT Research Project Manager (or Technical Panel) on the appropriate contact method, recordation of phone and formal meetings, the identified agencies and the need for MDT involvement. Kathy Harris, KLJ's Principal Investigator, frequently facilitates MDT meetings using phone, internet or poly-com technology, whichever yields the best result and timing.



Our scope currently anticipates that KLJ's team will communicate directly with agencies via phone with documented minutes. We recommend maximizing our location in the state capital by scheduling personal meetings with regulatory/resource agencies whenever possible. For this project, KLJ proposes to schedule and host three agency meetings in Helena to invite ideas from resource agencies. These formal meetings are open to MDT and Technical Panel staff, as available. These are included in our fee estimate to plan for data collection, sharing results and revising as needed. Additional meetings may be scoped if desired.



These meetings will be summarized in Task Report: Regulatory and Resource Agency Meeting Summary. This report will consolidate the documented meetings and be submitted to MDT and the Technical Panel.

3.4.6 INCORPORATION OF PROCESSES INTO MDT PROCESSES

KLJ will initiate review of MDT's process delivery flowcharts in the early project stages with changes developed in the latter project stages (overlaps with Section 3.4.2).



KLJ recommends review of MDT's OPX-2 delivery schedule for modifications. We also recommend maintenance procedures be reviewed for wildlife accommodations inclusion to determine if significant maintenance operations may include or modify some treatments.

The KLJ team will present recommendations for changes to the Technical Panel. Recommendations are expected to be a combination of:

- » Changes to existing design and construction flowchart processes
- » Inclusion of OPX-2 changes to reflect Wildlife Accommodations
- » Modifications to standards documents to make sure discussion of Wildlife Accommodations occurs at strategic intervals of a project and results are recorded. Likely candidates are conceptual discussions, Preliminary Field Reviews, Scope of Work Reports and also Report for standard review meetings and environmental clearances.

- » Modifications to existing MDT Activity Descriptions (in guidelines and manuals)

After presenting the draft recommendations, KLJ will coordinate with MDT staff to modify the documents and fine-tune implementation strategy (roll out with Tak 3.4.7, Desk Guide).

KLJ also recommends presenting to key MDT Functional Managers (Environmental, Pre Construction and Design, etc.).



This work scope assumes MDT staff would complete the actual flowchart changes; however, KLJ can assist in providing modifications, if requested. The Task Report will be a draft report, summarizing the recommended changes in their final form (after meetings with Technical Panel and key MDT staff). The draft report will be presented to the Technical Panel with revisions then incorporated into the Final Task Report.

3.4.7 DESK GUIDE

We will develop a draft guideline document for review by the Technical Panel. We recommend one senior staff from the following functional areas be involved with testing the Desk Guideline:

- » Environmental
- » Road Design
- » Maintenance

Additional review staff could be added. KLJ's familiarity with MDT's guidelines and manual formats offers an ability to provide a more streamlined how-to manual to document and implement the accommodations process into MDT's business operations suitable for electronic use (not mobile technology).

We also recommend having up to three MDT staff work with the Desk Guideline Draft to offer comment for adjusting to fit more smoothly within MDT's process, completing a beta-testing effort.



The final Desk Guide will be the Task Report, formatted to be used by MDT staff to insert wildlife accommodations into their various project roles.

3.4.8 ADAPTIVE MANAGEMENT

A successful Adaptive Management strategy will assess the incorporation of wildlife accommodations into delivery of MDT's public transportation system in a timely and cost-effective manner, addressing planning, design and maintenance activities. KLJ assumes this strategy is not meant to measure the effectiveness of specific wildlife treatments.

An essential component of a successful Adaptive Management strategy is assigning the critical role for responsibility and determining the effective review intervals. Ideally, a Bureau Chief would be tasked with the implementation and long-term monitoring of the Wildlife Accommodation Process.

KLJ proposes to work with the MDT Research Manager to identify the MDT division or bureau with overall responsibility for use and monitoring of Wildlife Accommodation Processes into MDT's delivery process. After identification, KLJ will work with the responsible party to identify effective criteria for evaluating the use of the Wildlife Accommodation Process. Determining if MDT is successfully implementing the new Wildlife Accommodation Process requires a short-term and a long-term component. Short-term measures will value if the process is consistently being implemented and if there are resulting cost or time savings. Long-term measures would reflect the larger-picture objectives of improving highway safety while improving the biological wildlife conditions.

POTENTIAL EVALUATION CRITERIA

Short-Term Measurements	Long-Term Results
Annual check of five districts on WA* discussions	Reduction in wildlife crashes
Number of preliminary field reviews that address WA discussion	Reduction in wildlife mortality
Number of projects with WA included in OPX-2 schedule	Improvement of wildlife connectivity assumed at select locations and species
Number of maintenance projects that include WA (due to early discussions)	Improvement of wildlife biodiversity

* WA – Wildlife Accommodation

Our team is well-versed in working with clients to solicit input and develop into measurable items for monitoring.



These measurable objectives will be documented in the Task Report, to be submitted as a draft report, summarizing the Adaptive Monitoring and Management strategy. The draft report will be presented to the Technical Panel, with the responsible MDT staff or bureau. Revisions will then be incorporated into the final task report.

3.5 DATA

Data used to successfully complete this project will be obtained from the literature research and interviews. Additional data needed from MDT includes process flow charts, draft guidelines that are being updated (i.e. Road Design Guidelines) and the OPX-2 template or framework.



3.6 STATE INVOLVEMENT

To develop a successful Wildlife Accommodations Process, we propose interaction with many levels of MDT staff in addition to the Technical Panel.

Primary communication is planned to be with MDT's Research Project Manager with regular reporting to the Technical Panel. Monthly progress reports will be submitted for the expected 14-month duration in MDT's standard consultant format or other format. All draft Task Reports will be presented to the Technical Committee at the regular intervals identified in our Project Schedule (page 15).

The benefit of interviewing and coordinating with MDT staff will result in a stronger process. Our proposal includes the following anticipated state interaction and approximate month (in addition to Technical Panel Meetings shown in our Project Schedule):

MDT PROGRESS REPORT
 Consultant: KLJ
 Consultant Project Manager: Kathy Harris, P.E.
 MDT Project Manager: Miki Lloyd, P.E.
 Period: July 1, 2015 through August 1, 2015

Project Name: Ronsan - Urban
 Project No. NH - MT 5-2(153)-5
 Control No. 1744013
 Percent of Budget Expended: 64%

Activity Description	% Complete	Planned Finish Date	Actual Completion Date
100 Interactive Project Evaluation	45%	01/14/2016	
102 Preliminary Roadway Design	100%	07/19/2012	09/13/2012
103 Preliminary Geotech & Materials	100%	09/13/2012	12/05/2012
105 Preliminary Survey	100%	04/25/2012	05/29/2012
110 Preliminary SW	100%	03/01/2013	02/14/2013
112 Preliminary Traffic	100%	05/24/2012	10/4/2012
113 Preliminary Utility Conflicts/SUE	100%	07/19/2012	08/17/2012
120 Preliminary Hydraulics Report	100%	03/01/2013	03/15/2013
127 Cultural Resource Management	100%	01/02/2015	12/03/2014
181 Haz Mat/SubH2O Quality ISA	85%	10/01/2015	
182 Biological Resources Report	25%	10/01/2015	
118 Roadway Alignment Plan	100%	07/31/2012	07/28/2013
120 Engineering / Cadastral Survey	100%	06/21/2012	06/20/2012
121 Engineering Survey	100%	04/01/2015	03/26/2015
122 Alignment & Grade Traffic Plans	100%	08/31/2013	07/26/2013
124 Finalize Align & Grade	100%	08/31/2014	08/14/2013
126 Precare Catezorical Exclusion	95%	04/03/2015	

Tasks Accomplished This Period
 1 Activity 130: Submitting final Geotechnical report updates.
 2 Activity 182: Submitted final 2014 Haz Mat Monitoring Report
 3 Activity 100: Continue revisions to VA Report.

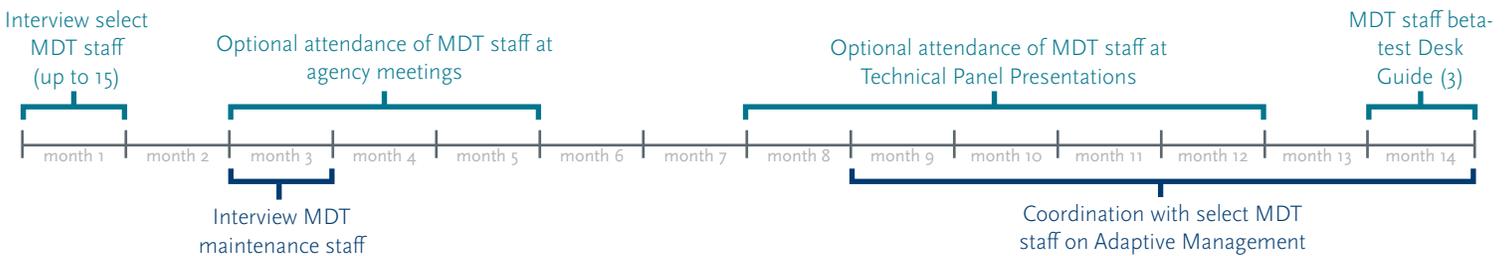
Tasks Planned For Next Period
 1 No further geotechnical activities until MDT review of 130 Report.
 2 Haz Mat monitoring will now continue on a semi-annual basis through March 2017.

Critical Issues
 1 None.

Approved by: *Kathy Harris* Title: Project Manager Date: 8/6/15
 Printed Name and Title: Kathy Harris, Project Manager

NATIONAL PERSPECTIVE REGIONAL LLP-RUISE TRUSTED ADVISOR

Sample MDT Progress Report



3.7 MEETINGS AND DELIVERABLES

3.7.1 DELIVERABLES

We concur with the Request for Proposal (RFP) requirements for deliverables except as noted below.

- » Our proposed tasks and deliverables follow the details included in the RFP with task deliverables detailed in Section 3.4.
- » Deliverables are predominantly Task Reports, which will become the Desk Guide and ultimately the implementation document, with additional Reports as noted and monthly progress reports.
- » We concur with the formatting requirements and will utilize the English units with a conversion table.
- » KLJ's team has been completing MDT response-to-comments, as requested under 3.7.1.1.4 and are ready to provide for each deliverable. The tracking documentation effort is included for each deliverable under the "Revise Task Report".
- » KLJ's Thomas McMurtry, an experienced technical writer and researcher, will provide the independent quality control (QC) check of reports prior to submittal.

3.7.1.2.5 Implementation Report

We propose that a stand-alone Implementation Report be replaced with two reports from Tasks 3.4.6 and 3.4.7: Incorporating the Wildlife Accommodation Process into MDT Processes and Desk Guide. Our fee estimate is based upon this combination but we will gladly insert the additional Implementation Report document and adjust, if desired.

3.7.1.3. Communication/Technology Transfer Plan

No plan is proposed within our current scope.

3.7.1.4. Performance Measures Report

We propose that a stand-alone Performance Measures Report be replaced with the report from Task 3.4.8 – Adaptive Management. Our fee estimate is based upon this substitution, but we will gladly insert the additional Performance Measures Report document and adjust, if desired.

3.7.1.5. Test Methods

No test methods are proposed.

3.7.2 MEETINGS

We concur with the RFP requirements for meetings except as clarified below. Section 3.8, Schedule, details our proposed meetings.

3.7.2.1. Meeting Attendance

KLJ's Principal Investigator plans to attend all meetings and may attend via telephone, if locations require flexibility.

3.7.2.3.2. Annual Meeting

No annual meeting is currently planned.

3.7.2.5. Final Oral Presentation

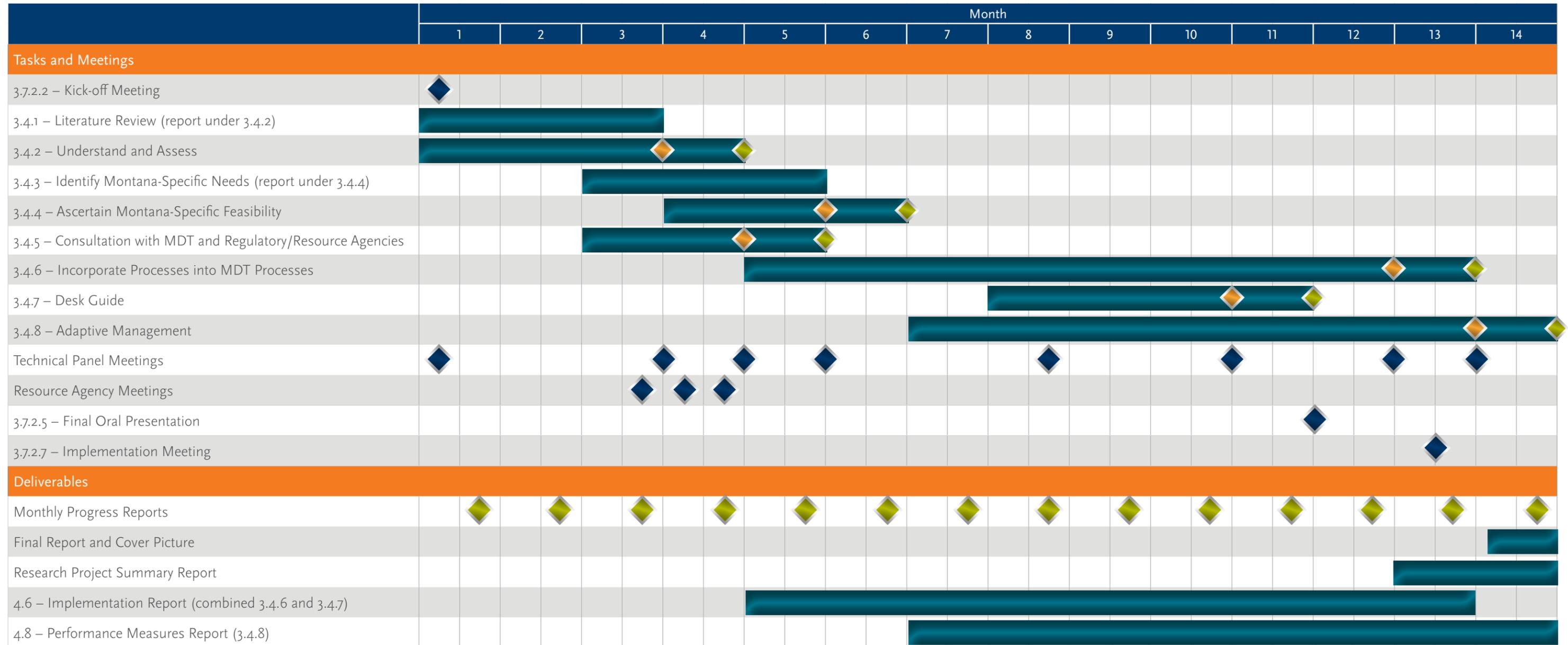
A Final Oral Presentation is included in our scope for three KLJ team members.

3.7.2.7. Implementation Meeting

An Implementation Meeting is included in our scope for two KLJ team members.

3.8 SCHEDULE

KLJ's schedule displays our proposed scope with a crisp delivery schedule. We believe incorporating interviews and coordination throughout the project will result in a timely process to be implemented within 14 months. This schedule anticipates a November 2015 start, but can easily be modified if desired.



- Submit Draft Report
- Submit Final Report
- Meeting

3.9 COMMUNICATION AND QA/QC

3.9.1 DELIVERABLE QUALITY

Principal Investigator, Kathy Harris, will assure final quality by using an experienced researcher, writer and planner, Thomas McMurtry, to review KLJ deliverables. Individual reports and the desk guide will be reviewed individually before drafts are submitted. On current MDT (design) projects, Kathy has implemented a similar approach to both quality assurance (QA) and QC, resulting in concise and accurate reports, as well as designs with a high standard of quality.

3.9.2 COMMUNICATION

Timely and efficient communication between KLJ's Principal Investigator and key MDT staff will occur regularly, with a combination of electronic, personal and formal communications. Communication will be focused through KLJ's principal investigator, Kathy Harris, who has provided communication documentation on MDT projects for more than 10 years. A project-specific Communication Plan is not currently anticipated, although communication protocols will be confirmed at the project kick-off meeting (such as ability to contact state, federal and Tribal agencies).

KLJ's communication standards with MDT typically include:

- » Email Status Reports will be used to consistently report to the MDT Manager and the Technical Panel.
- » Formal Monthly Progress Reports will be submitted with all invoices to report on percent complete, task status, upcoming activities and identify any outstanding or critical issues.
- » Meeting minutes will be provided for project-related meetings.

Personal communication can be easily completed due to KLJ's proximity to the Helena offices for both MDT and other state or federal agencies. Additionally, our resource subconsultant, RESPEC, is conveniently located in Helena.

From: Kathy Harris
To: "Miki Lloyd (mlloyd@mt.gov)"
Cc: Scott Fanning
Subject: Ronan-Urban, June/July Update
Date: Thursday, July 16, 2015 4:01:00 PM

Miki, This email updates on KLJ progress in the last month, prior to our monthly phone call on July 22. There are no pressing coordination items from KLJ's view and we could consider canceling this meeting.

1. KLJ submitted the **VA Hybrid Report** and attend MDT's meeting with CSKT and City. No further activity for KLJ on VA revisions.
2. **Project Split Report** has been approved and KLJ is negotiating scope changes for splitting the project. Design is ready to proceed.
3. **Environmental** Re-evaluation.
 - a. KLJ received final re-eval comments from Susan K. and is making final changes. Plan to submit by end of July.
 - b. How will this be presented to Tribe & FHWA? Should re-eval be summarized to TDC in August?
4. **Design**
 - a. North Segment SOW report
 - b. KLJ will begin focusing on N
 - c. Final Geotech report subm
5. No updates for:
 - a. Road Design
 - b. R/W Design
 - c. Irrigation/Hydraulics Design
 - d. Traffic Design.
 - e. WZSM
 - f. Public Outreach.

Kathy Harris, PE PTOE

 406-441-5784 **Direct**
 406-899-8660 **Cell**
kljeng.com

Meeting Minutes - Ronan Urban Monthly

Date: 5/27/2015 **Facilitator:** Kathy Harris, KLJ
Time: 8:00 AM

Project: Ronan-Urban, NH-MT 5-2 (153) 45, UPN 1744013

Name	Company/Organization	Phone Number	E-mail
Miki Lloyd	MDT	444-9200	mlloyd@mt.gov
Ed Toavs	MDT	523-5802	etoavs@mt.gov
Shane Stack	MDT	523-5830	sshank@mt.gov
Cora Helm	MDT	444-7659	chhelm@mt.gov
Maureen Walsh	MDT	523-5852	mwalsh@mt.gov
Gene Kaufman	FHWA	441-3915	gene.kaufman@dot.gov
Bill Durbin	MDT	444-7902	wjdurbin@mt.gov
Scott Fanning	KLJ	441-5785	Scott.fanning@kljeng.com
Kathy Harris	KLJ	441-5784	kathy.harris@kljeng.com

CC (via email): Ben Nunnallee, Susan Kilcrease, Greg Pizzini

Agenda Topics

General Discussions:

VA Comparison Questions (discussing specifics of what KLJ is reviewing):

1. 5-Lane typical section for the VA worst-case comparison:
 - 1.1. 14' TWLTL
 - 1.2. 2-11' inside travel lanes
 - 1.3. 2-12' outside travel lanes
 - 1.4. 2-2' shoulder/curb & gutter
 - 1.5. Subtotal 64'- Back-of-Curb to BOC
 - 1.6. 1-6' attached sidewalk
 - 1.7. 1-10' attached sidewalk/bike path
 - 1.8. Subtotal 80' Back-of-walk to back-of-walk
 - 1.9. KLJ is assuming the bike path will be located on the east side of US 93 (for worst case impacts). Miki Lloyd clarified that an explanation is needed, on why the VA recommendation to place bike path on 1st Avenue SW was not forwarded.
2. ROW impacts on Existing Contamination Sites:
 - 2.1. Arnie's Gas Station:
 - 2.1.1. Require corner acquisition for sidewalk/turning vehicles/signals
 - 2.1.2. Require frontage along US 93

NATIONAL FORECASTER
REGIONAL EXPERTISE
TRUSTED ADVISOR

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4.1 STATE'S RIGHT TO INVESTIGATE AND REJECT

We concur with requirements for Section 4.1.

4.2 OFFERER QUALIFICATIONS/INFORMATION REQUIREMENTS

4.2.1 REFERENCES

Please refer to SurveyMonkey submittals from clients.

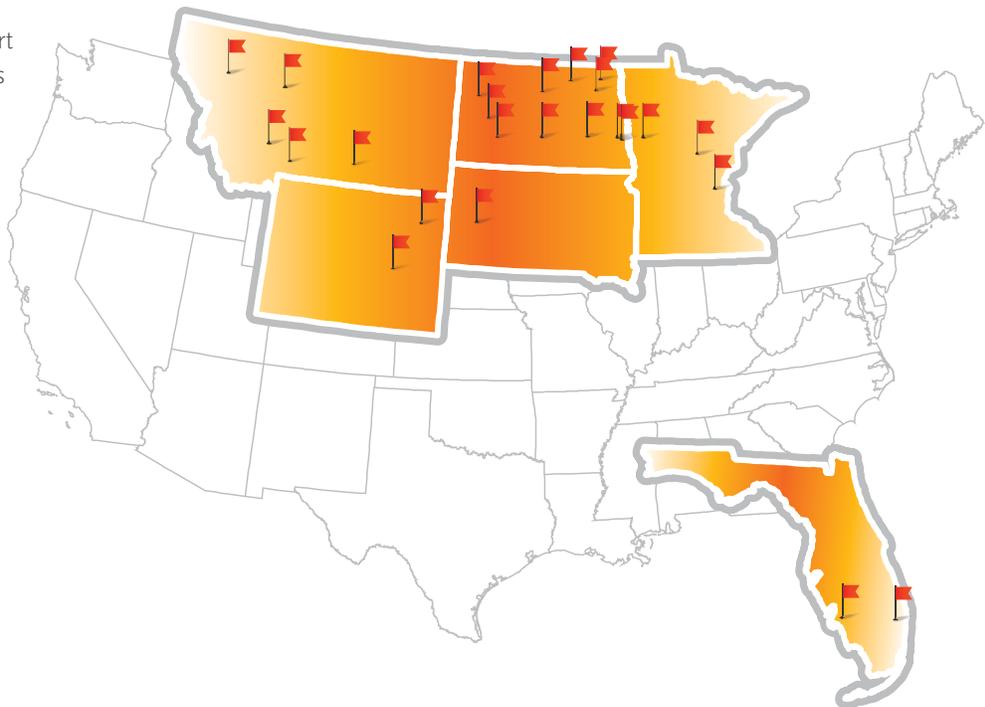
4.2.2 RESUMES/COMPANY PROFILE AND EXPERIENCE

4.2.2.1 *Company History*

Since 1938, KLJ has provided multi-disciplinary engineering-based solutions for national, large-scale operations, with the local expertise to drive projects forward and deliver successful results. Our strong regional connections, in-depth local knowledge, responsive personal service and industry experience create strategic advantages for all clients.

Innovative and Practical

KLJ provides knowledgeable, experienced support for engineering and planning projects of all sizes in a variety of market sectors. Our professional project managers and team members are creative problem solvers who offer innovative yet practical solutions, reinforced by a deep understanding of the industry.



MARKETS

- Aviation
- Environmental
- Government/Municipal
- Oil & Gas
- Power
- Telecommunications
- Rail Transportation
- Transportation
- Water Resources

4.2.2.2 *Staff Resumes*

Staff resumes are located on the following pages.

**PRINCIPAL
INVESTIGATOR/MDT
PROJECT PROCESSES**



**KATHY HARRIS,
PE, PTOE**

REGISTRATION

Professional Engineer –
MT, CA, CO, ID, UT
Professional Traffic
Operations Engineer

EDUCATION

BS Civil Engineering
– Montana State
University

SPECIALTY AREAS

MDT Consulting
Management
Processes and Access
Control Development
MDT Project
Management
Project Policy
Development
Traffic Engineering
Road Safety Analysis
Highways
Concept and Detailed
Roadway Design
Public Involvement

Kathy's accumulated 30 years of transportation engineering experience provides complex project management with technical expertise of transportation infrastructure, ranging from planning and environmental analysis through design and bidding. Kathy is currently responsible for management, project delivery and quality of multiple MDT design projects. She has led in delivery of \$50 million in MDT construction over the past five years. Kathy's primary expertise is transportation planning and engineering, which provides a unique basis for roadway infrastructure projects.

RELEVANT EXPERIENCE TO THIS PROJECT

Kathy successfully developed policies and procedures for the \$5 million Great Falls Airport noise program and development of MDT's inaugural noise abatement outreach. This past experience directly relates to the need for a comprehensive manager who knows MDT project delivery process.

PROJECT MANAGER – US93, MDT – RONAN, MT

Kathy is currently managing the design of four miles of US 93 reconstruction in western Montana on the Flathead Indian Reservation. Kathy serves as client liaison with MDT, the City, County and Tribal resource agencies for design, environmental and access control implementation. She is directing public outreach by leading 80 landowner meetings, regular Advisory Committee meetings and public meetings. Kathy developed project communications plans and implemented outreach on web, news and mailing media. Kathy is also leading the environmental re-evaluation of supervising historic consultation with the Tribal Preservation Office (TPO) and State Historic Preservation Office (SHPO) agencies; coordinating 4(f) impacts; supervising wetland and stream channel mitigation; and LEDPA documentation.

PROJECT MANAGER – KALISPELL BYPASS, MDT – KALISPELL, MT

Kathy currently serves as project manager for design and construction services for an eight-mile, four-lane, grade-separated roadway including interchanges, roundabouts and signalized intersections. She is the client liaison across MDT disciplines to achieve accelerated construction schedules. Kathy is responsible for nine completed construction packages, one under construction, and four to be advertised in MDT's largest consultant designed project. She assisted MDT in developing MDT's first public outreach process for noise mitigation. Kathy has developed five environmental re-evaluations for FHWA concurrence to address design and environmental changes.

PROJECT MANAGER/POLICY DEVELOPMENT – RESIDENTIAL SOUND INSULATION PROGRAM, GREAT FALLS INTERNATIONAL AIRPORT – GREAT FALLS, MT

Kathy served as project manager of the region's first FAA-funded Airport Sound Insulation project at the Great Falls Airport. She led project start-up with extensive work flow development, design, PSE development, program delivery and phasing. Kathy was responsible for program development, public outreach and guideline development, and delivering \$3 million construction program. She has provided environmental coordination for SHPO concurrence and development of a Memorandum of Agreement (MOA) with the City. Design efforts included oversight of plans, specifications and estimates (PSE) and bid documents created by a multi-disciplinary team of consultants, meeting federal regulation for Buy American and non-proprietary materials.

PROJECT MANAGER – SCHOOL BUS STUDY, HELENA SCHOOL DISTRICT – HELENA, MT

Kathy assisted the school district in developing strategic plans and decision tools for optimizing school bus service. The study entailed extensive knowledge of student walking limitations within the physical road environment and is being utilized for plan development. Previous efforts with the school district developed school walk zones and safe routes to school studies.

AGENCY CONSULTATION AND WILDLIFE NEEDS/FEASIBILITY



JENNIFER TURNBOW

EDUCATION

BS Environmental Science, emphasis in Social Science – University of Idaho

PROFESSIONAL MEMBERSHIPS

NAEP – National Association of Environmental Professionals
 ASHE – American Society of Highway Engineers

SPECIALTY SERVICE

Grant Applications, Trails and Transportation
 Environmental Studies
 NEPA Specialists
 Environmental Planning
 Public Involvement
 Wetlands
 Threatened and Endangered Species
 Environmental Clearances and Permitting

Jennifer is KLJ's director of environmental services with more than 13 years of experience working in the environmental field. She provides senior-level guidance, assistance and support on projects from infancy through construction for the entire Environmental Group in order to maintain efficient, high-quality and successful projects. Jennifer has worked exclusively in the upper Great Plains for the last 11 years, leading complex projects through the National Environmental Policy Act (NEPA) and permitting processes. She has worked on a variety of projects in different industries for many different federal, state and local agencies. Jennifer also has extensive experience in leading and conducting large-scale agency meetings, public involvement meetings and public hearings.

RELEVANT EXPERIENCE TO THIS PROJECT

Jennifer is currently leading the Wildlife Crossing and Habitat Assessment, a process the North Dakota Department of Transportation (NDDOT) is using to determine the location, feasibility and, ultimately, design details for wildlife crossings on the 63-mile US Highway 85 project. Jennifer will provide hands-on experience in defining wildlife needs and assessing feasibility of appropriate wildlife treatments.

PROJECT MANAGER – US HIGHWAY 85 I-94 TO WATFORD CITY BYPASS – BELFIELD TO WATFORD CITY, ND

Jennifer is serving as project manager for the segment of US Highway 85 from I-94 to the Watford City Bypass. The project consists of four-laning US Highway 85 and either rehabilitation or replacement of the Long X Bridge over the Little Missouri River. KLJ will be conducting an Environmental Impact Statement (EIS) for the entire 67-mile corridor, along with agency/public coordination, field studies, preliminary engineering and survey. Some of the project's environmental challenges include the highway passing through Theodore Roosevelt National Park, Section 4(f) properties and threatened and endangered species.

ENVIRONMENTAL TASK LEAD – US HIGHWAY 85 – WATFORD CITY TO WILLISTON, ND

The large NDDOT project included extensive coordination, permitting, mitigation and regulatory compliance with federal, state and local agencies. The project involved construction of a new bridge over the Missouri River as well as a wildlife crossing and other mitigation measures to minimize impacts to species of concern.

PROJECT MANAGER – LITTLE MISSOURI RIVER CROSSING EIS – BILLINGS COUNTY, ND

This project includes conducting an EIS for a proposed river crossing of the Little Missouri River in conjunction with upgrading and/or creating new roadways to connect east river and west river, from ND Highway 16 to US Highway 85. The proposed project is located within a study area in the heart of the North Dakota badlands. Jennifer is responsible for project management, public involvement, quality control and overall project success.

ENVIRONMENTAL PLANNER – US HIGHWAY 2, PROGRAMMATIC NATIONWIDE SECTION 4(F) EVALUATION – WILLISTON, ND

Jennifer led project development and the environment study for the reconstruction of 0.13 miles of US Highway 2. The project area is adjacent to local businesses and to Harmon Park. Pedestrian facilities adjacent to Harmon Park were upgraded to meet Americans with Disabilities Act (ADA) design standards resulting in a Programmatic Nationwide Section 4(f) Evaluation (Net Benefit).

ENVIRONMENTAL PLANNER – LEWIS & CLARK LEGACY TRAILS MASTER PLAN – NORTH DAKOTA

The project involved development of an implementation strategy and master plan for the Missouri River corridor multi-use system, including single-track, paved, gravel, mowed and water (canoe) trails. Responsibilities included public involvement; development of the master plan and implementation strategy; creation of the trail nomination application and prioritization process; minimum standards for signing, design and maintenance; maintaining a website for public resources; assisting local groups, agencies, Tribal affiliates in identifying and nominating trail projects; and development of the Lewis & Clark Legacy Trail logo.

LITERATURE REVIEW



MIKAYLA BOCHE

REGISTRATION

Wetland Delineator In-Training – University of Minnesota and Minnesota Board of Water and Soil Resources

EDUCATION

MS Natural Resources Management – North Dakota State University (in progress)

BA Anthropology (Cultural Emphasis) with minors in Biology and Astronomy – Minnesota State University Moorhead

SPECIALTY AREAS

Environmental Studies

NEPA Documentation

Environmental Planning

Public Involvement

Wetland Delineation and Permitting

Threatened and Endangered Species

Mikayla’s environmental capabilities range from field data collection to documentation and permitting. Mikayla has training and experience with wetland delineations, biological/botanical surveys and reports, impact analysis/mitigation, permitting and the NEPA process. This has included work on NDDOT, local government, United States Forest Service (USFS) and private commercial projects across North Dakota and Minnesota, including coordination with various federal, state and local agencies.

RELEVANT EXPERIENCE TO THIS PROJECT

Mikayla’s recent report, research and environmental experience on NDDOT projects will support key research tasks.

ENVIRONMENTAL PLANNER – US HIGHWAY 85 – MCKENZIE AND WILLIAMS COUNTY, ND

Mikayla participated in planning for a project to four-lane a 12-mile segment of US Highway 85 and replace the Lewis & Clark Bridge over the Missouri River. She prepared the Biological Assessment to analyze potential impacts to threatened and endangered species in compliance with the Endangered Species Act. Mikayla also assisted with writing the Environmental Assessment (EA), Special Provisions, permitting, agency coordination, and mitigation planning, which included a wildlife crossing and a high flow structure to improve floodplain functioning.

ENVIRONMENTAL PLANNER – LITTLE MISSOURI RIVER CROSSING – BILLINGS COUNTY, ND

Mikayla prepared the Biological Assessment for a Billings County project to construct a bridge across the Little Missouri River and the requisite additional road systems. The Biological Assessment analyzed potential impacts to threatened and endangered species in compliance with the Endangered Species Act and included species recently proposed for protection under the Act.

ENVIRONMENTAL PLANNER – WARROAD MEMORIAL INTERNATIONAL AIRPORT WILDLIFE PERIMETER FENCE – WARROAD, MN

Mikayla prepared an FAA Categorical Exclusion for construction of a wildlife perimeter fence around the Warroad Memorial International Airport. This included solicitation of views, agency coordination, wetland impact calculation and threatened and endangered/sensitive species impact analysis. Mikayla also participated in the field wetland delineation, prepared a wetland delineation report, analyzed wetland impacts and coordinated with the USACE and Local Government Unit to achieve adequate permitting and mitigation.

ENVIRONMENTAL PLANNER – FRANKS CREEK ROAD – BILLINGS COUNTY, ND

Mikayla prepared the EA for a Billings County project to reroute a roadway and replace a bridge on the Little Missouri National Grasslands. Mikayla worked closely with USFS personnel and project engineers to analyze, avoid, minimize and mitigate potential impacts to environmental resources, including impacts to threatened and endangered species.

ENVIRONMENTAL PLANNER – OIL AND GAS – FORT BERTHOLD RESERVATION, ND

Mikayla has written several EAs for oil and gas well pads, pipelines and access roads. As part of the NEPA process, Mikayla has produced scoping materials, analyzed environmental impacts, created exhibits in ArcMap and incorporated agency comments. Impact assessments included analysis of threatened and endangered species habitat, impacts and minimization and mitigation measures.

FEASIBILITY CONSIDERATIONS



SCOTT FANNING, PE

REGISTRATION

Professional Engineer
– MT

EDUCATION

BS Design Drafting
Technology –
Montana State
University-Northern

PROFESSIONAL MEMBERSHIPS

ITE – Institute of
Transportation
Engineers

SPECIALTY SERVICES

Urban/Rural Roadway
Design

Interchange Design

Roundabout Design

Pedestrian/Multi-use
Path Design

ADA Facility Design

MDT CADD Standards/
Submittals

MDT Right-of-Way
Design

MicroStation/Geopak
applications

Scott is KLJ's surface transportation lead design engineer for Montana and is responsible for assuring all aspects of project design use good engineering judgment and meet all applicable design standards. Scott is currently leading the design and assisting in the management of multiple large highway design projects. He has led the design of \$50 million in MDT construction over the past five years. Scott's 14 years of road and right-of-way design experience on MDT projects, his thorough knowledge of the principles, procedures and methods of road design and related engineering, federal rules and regulations, as well as MDT department guidelines and procedures allows him to deliver successful projects on schedule and within budget while minimizing possibility for change orders.

RELEVANT EXPERIENCE TO THIS PROJECT

Scott's MDT highway design expertise, combined with hands-on experience resolving the domino issues generated when incorporating wildlife accommodations, will assist the Feasibility Determination for the project.

LEAD DESIGN ENGINEER – RONAN URBAN, MDT – RONAN, MT

Scott is currently serving as assistant project manager/lead design engineer for a 3.5-mile urban and rural highway reconstruction in western Montana on the Flathead Indian Reservation. The project contains 2 miles of high speed rural highway (five-lane and separated four-lane) and 1.5 miles of low speed urban highway including a one-way couplet through a rural community. Included in the design are extensive pedestrian facilities, numerous ADA facilities, multi-use path for the length of the project, numerous approaches (urban and rural), irrigation ditch relocations, significant drainage improvements, replacement of large drainage structures and significant utility coordination. Scott is also leading the development of right-of-way plans, assisting in the access control process, assisting in the public outreach process (including Tribal coordination) and assisting in the environmental re-evaluation process.

ASSISTANT PROJECT MANAGER/LEAD DESIGN ENGINEER – KALISPELL BYPASS – KALISPELL, MT

Scott currently serves as assistant project manager/lead design engineer for an eight-mile, four-lane grade-separated roadway that includes six interchanges, five roundabouts and multiple signalized intersections. The project includes an additional four miles of urban roadways, eight miles of detached multi-use path, extensive pedestrian and ADA facilities, multiple noise barrier walls, multiple retaining walls, significant drainage design (including nine detention/retention ponds), multiple stream relocations and significant environmental coordination and permitting. Project also included a stream crossing designed to incorporate a wildlife crossing.

DESIGN TECHNICIAN – US 93 NORTH, POST CREEK HILL, MDT – ST. IGNATIUS, MT

Scott is currently serving as project manager for a 3.2-mile rural highway reconstruction in western Montana on the Flathead Indian Reservation. The project contains 3.2 miles of high speed rural two-lane highway, multi-use path for the length of the project, multiple wildlife crossings for various species, wildlife fencing, irrigation ditch relocations, significant rural drainage design and bridge replacement designed to incorporate wildlife crossing underneath. Scott is also leading the development of right-of-way plans, assisting in the access control process and assisting in the public outreach process (including Tribal coordination).

DESIGN TECHNICIAN – US 93-MINESINGER TRAIL, MDT – POLSON, MT

Scott served as design engineer for the development of roadway design for the three-mile, separated four-lane highway reconstruction project. The \$12 million reconstruction required extensive earthwork analysis, using Geopak, to address the project phasing. Scott was involved in design/development of road plans, cross-sections, ADA/pedestrian facilities, wildlife crossing and wildlife fencing, scenic turnout and overlook, construction phasing and detailed contour grading plans.

DESK GUIDE/ MANAGEMENT PLAN



**LESLIE
PEARLY**

EDUCATION

BA Biology – Minot
State University

SPECIALTY AREAS

Group Facilitation
Process Mapping
Business Requirement
Gathering
Consensus Building
Data Mapping
Form and Template
Development
Process Implementation

Leslie is a process and technology integration specialist focused on improving business process flow and end user experience and system integration. She handles planning, design, requirements gathering, communication, education and training. Leslie's specialty is her ability to develop the big picture and translate it into a project plan, identifying key project milestones to manage change. She focuses on user adoption, business requirements, standardizing and documenting processes, data flow and access, change management and collaboration. Her experience includes document template design, training program material development and deployment, and Microsoft SharePoint site design.

RELEVANT EXPERIENCE TO THIS PROJECT

Leslie has successfully led numerous process development projects across a dozen departments at KLJ. She is a change agent who has the ability to translate various requirements into workable, user-friendly desk guides and adaptive management plans for nearly 800 employees. Leslie specializes in process development and efficient implementation.

SHAREPOINT ADMINISTRATOR – KLJ SOLUTIONS MICROSOFT SHAREPOINT 365

Leslie led strategy and planning to leverage Microsoft SharePoint 365 to provide business value. The focus is on maximizing out-of-the-box functionality to control costs and alleviate potential issues during necessary system upgrades. Leslie is responsible for the overall system planning, serving as the project champion, implementation manager and project sponsor. Project planning includes coordinating with several key enterprise systems. Roll-out included a full user adoption campaign including user education, power user training, key stakeholder training and education, executive video and associated written materials.

PROJECT MANAGER – INTRANET REDESIGN AND PLATFORM MIGRATION

Leslie served as project manager to redesign KLJ Solutions family of companies corporate Intranet, shifting from a custom built site hosted internally to a cloud-based model. The redesign leveraged Microsoft SharePoint 365 as the platform to facilitate a more social, collaborative and user-friendly Intranet portal. The redesign included content migration, site and permissions planning and design, workflow development, testing, communication, education and training. Key outcomes included enhanced internal communication, improved content storage and findability, improved knowledge sharing, enhanced collaboration and workflow automation. Site features were deployed with a phased approach with future enhancements planned. User adoption rates within the first two months of deployment were at 53 percent.

PROJECT MANAGER – FORMS MIGRATION AND REBUILD

Leslie is currently leading efforts to migrate 12 key existing business forms to Microsoft SharePoint 365. The process includes requirements gathering for form fields, permissions, signatures, retention, views, notifications and workflows and documenting current and future state process flow diagrams. The project is phased in approach, with the first phase focused on form migration to the new platform while maintaining existing functionality and processes. The project will provide consistency in form fields, branding and function with electronic data submission with Microsoft SharePoint 365 acting as the database. Future phases will address workflow improvements to realize automation and efficiency, retention and business processing on submitted data.

GIS GRAPHICS AND ANALYSIS



ANDREW THIEROLF, AICP

REGISTRATION

American Institute of Certified Planners (AICP)

EDUCATION

Master of Community and Regional Planning – University of Nebraska-Lincoln

BS Economics – University of Nebraska-Lincoln

PROFESSIONAL MEMBERSHIPS

APA – American Planning Association

SPECIALTY AREAS

Scenario Modeling
Constraints Analysis
Spatial Analysis
Land Use Planning
Public Involvement

Andrew has experience in comprehensive planning, land use planning, transportation planning, hazard mitigation planning, community outreach and GIS analysis. Andrew's recent projects include the West Dickinson Area Plan, Richland County Growth Policy and Transportation Plan, Northeast Bismarck Subarea Study and Natrona County Land Use Plan. He received his master's degree in community and regional planning from the University of Nebraska, where he graduated with highest distinction. He previously worked for the Nebraska Department of Economic Development, where he assisted with administration of the state's Community Development Block Grant (CDBG) program.

RELEVANT EXPERIENCE TO THIS PROJECT

Andrew's familiarity with environmental issues will support any GIS or graphic needs for report development.

LEAD PLANNER/GIS ANALYSIS – EIGHT MULTI-HAZARD MITIGATION PLANS – MONTANA

Andrew served as lead planner for eight multi-hazard mitigation plans in Montana. Completed plans include Dawson, Richland, McCone, Wibaux, Fergus, Powder River and Garfield County, as well as the Crow Reservation. The plans describe hazards facing each county and identify potential policy and infrastructure solutions.

PLANNER/GIS ANALYST – RICHLAND COUNTY GROWTH POLICY AND TRANSPORTATION PLAN – RICHLAND COUNTY, MT

Andrew's role included existing conditions analysis, creating future land use maps for four communities and digitizing the county's existing and proposed functional classification of roads.

PLANNER/GIS ANALYST – WEST DICKINSON AREA PLAN – DICKINSON, ND

Andrew assisted with development of a future land use plan for a 6,100-acre site west of the city of Dickinson. The project resulted in a guiding document to be used by public officials for making land use decisions in a high-growth area adjacent to the city.

GIS ANALYST – NORTHEAST BISMARCK SUBAREA STUDY – BISMARCK, ND

Andrew utilized GIS to analyze existing conditions in the study area and develop proposed alternative routes.

PLANNER/GIS ANALYST – NATRONA COUNTY LAND USE PLAN – NATRONA COUNTY, WY

Andrew assisted with creation of a development suitability map to help guide public officials when making land use decisions.

PLANNER/GIS ANALYST – DICKINSON 2035: COMPREHENSIVE AND TRANSPORTATION PLAN – DICKINSON, ND

Andrew served as a planner and GIS analyst on the Comprehensive Plan and Transportation Plan for the city of Dickinson. The plan provided a comprehensive list of policies to help guide decision makers when addressing future growth.

PLANNER/GIS ANALYST – FALLON COUNTY GROWTH POLICY UPDATE – FALLON COUNTY, MT

Andrew served as a planner and analyst for Fallon County's Growth Policy Update project. The plan developed a future land use map for the County and included policies to help guide decision makers when addressing future growth.

QUALITY CONTROL



THOMAS MCMURTRY, AICP

CERTIFICATIONS

American Institute of Certified Planners (AICP)

GISP certified

EDUCATION

MBA – University of Utah

BA Geography – Bowling Green State University

PUBLISHED RESEARCH

ASHE SCANNER Magazine, Rural Transportation Planning Brown County South Dakota, ASHE January 2013.

Research Report No.UT-08.01, Variable Speed Limit Signs Effects on Speed and Variation in Work Zones, UDOT January 2008.

ArcNews Volume 27 No. 1, In Toledo, Senior Meal Sites are Planned with GIS, ESRI Spring 2005

Maps published in various newspapers including the New York Times.

Thomas is an accomplished transportation planner with more than 11 years experience. He will serve as the QA/QC manager. Thomas has led transportation research efforts in the past and has completed several important studies in Montana. He is an integral part of KLJ's research team, and led safety research conducted by the Utah Department of Transportation (UDOT). He has been involved in the analysis of new crash data as well as building digital tools to help engineers utilize crash data. He is an American Institute of Certified Planners (AICP)-certified planner and has been involved in many planning projects across the country. Thomas has also completed research in other fields including a 2008 publication on the use of variable speed limit signs in construction zones.

RELEVANT EXPERIENCE TO THIS PROJECT

Thomas' experience in understanding and completing the requirements for publishable research as well as having worked with MDT standards in the past make him the right quality control reviewer for this project.

SAFETY RESEARCH PLANNER – UDOT – SALT LAKE CITY, UT

From 2008 through 2011, Thomas worked closely with the UDOT safety division conducting research and data analysis into ways to improve crash data and safety reporting. He managed two data mining studies that were focused on using existing crash records to better report problem areas. He was integral in developing the first SAFETY INDEX in Utah. Thomas completed the research and developed both the tools and methodology used in the SAFETY INDEX. His research and maps can be found on UDOT's websites today.

NEEDS ASSESSMENT PLANNER – CAEDA FIBER FEASIBILITY STUDY – CASPER, WY

Thomas led the first half of this fiber study in Natrona and Carbon County, WY, which focused on identifying and documenting the need for a fiber route connecting the two communities. In this feasibility study the fiber route was already identified, but there were still many unknowns such as if it was needed, who it would serve, the cost and feasibility. Our study focused on answering these unknowns. Similar to this proposal, Thomas led all stakeholder interviews in both areas and created an online survey that was the basis for identifying and documenting the need for this fiber route. The survey and interviews did not conclude with a SWOT analysis, but did result in clearly documenting the needs and issues of this potential project.

LEAD RESEARCHER – VARIABLE SPEED LIMIT SIGNS – UNITAH, UT

Thomas led this key project for UDOT's research division in 2007 and 2008. The study focused on the benefit of using variable speed limit signs in a construction area. The study determined if the illuminated variable speed limit signs improved driver compliance and reduced speeds better than the standard static signs. The research included a major case study in Utah and collecting more than 100,000 speed data points for analysis. We also conducted national research into similar studies and other best practices. Thomas worked with BYU professors to complete the analysis and then authored the research paper (Research Report No.UT-08.01, Variable Speed Limit Signs Effects on Speed and Variation in Work Zones, UDOT January 2008.). He also gave several presentations into the findings of the research study.

TRANSPORTATION PLANNER – RICHLAND COUNTY TRANSPORTATION PLAN – SIDNEY, MT

Richland County is a fast-growing area due to its location in the oilfield. New wells and new construction have brought many people to the area. The project analyzed new land use plans and forecasted new trips on roadways to project future traffic volumes. Bicycle and pedestrian accommodations were planned for as well as increased truck traffic for both new construction and oil activities. This mostly rural county had unique challenges with terrain, agriculture and the Yellowstone River that limited transportation options in the area. Crashes and hotspots were considered as recommendations were developed. Thomas authored much of this plan as well as completed the GIS maps.



Mark A. Traxler

PROJECT BIOLOGIST

Technical Expertise

- ✓ *Biological Data Collection/Analysis*
- ✓ *T&E Species Biological Assessments*
- ✓ *Animal/Vehicle Crash Mitigation*
- ✓ *Wetland Mitigation Design*
- ✓ *Stream Restoration*
- ✓ *GIS Application*

Education

B.S. in Wildlife Biology, Minor in Zoology, University of Montana, Missoula, MT (1991)

Professional Memberships

Montana Chapter American Fisheries Society
Montana Chapter Wildlife Society

Certificates & Training

Wetland Delineation (1987 COE Manual)
Advanced Wetland Delineation
Wetland Plant Identification
Wetland Construction and Restoration
Federal Wetland Policy
Practical Highway Hydrology
Natural Channel Design and Fish Habitat
Applied Fluvial Geomorphology (Rosgen)
National Environmental Policy Act (NEPA)
Hydrogeomorphic Functional Assessment of Wetlands (HGM)

Work History

RESPEC (June 2013–Present)
Atkins Global (2001–2013)

OVERVIEW

Mr. Traxler has over 23 years of federal; state; and private-sector experience conducting vegetation and wildlife baseline studies, sensitive and threatened and endangered species surveys, environmental impact analyses, wetland delineations and functional assessments, and mitigation planning and design. He has conducted numerous field surveys in Montana and eight other western states to identify and evaluate potential impacts to biological resources resulting from proposed construction projects such as highway reconstruction, airport expansion, bridge and culvert replacement, transmission line corridors, oil development, irrigation infrastructure, and subdivisions. Each of these projects required effective communication and coordination with various local, state, federal, and private stakeholders and a strong understanding of National Environmental Policy Act (NEPA), Montana Environmental Policy Act (MEPA), and Clean Water Act regulations.

Mr. Traxler spent 9 years as an Environmental Impact Specialist with the Montana Department of Transportation (MDT) where his work focused on environmental impact analyses and mitigation planning and design. He has experience in stream and wetland restoration design, construction, and monitoring; fish passage design through culverts; and the use of wildlife crossing structures for maintaining habitat connectivity. He has prepared over 100 biological resource reports and assessments for inclusion in various environmental documents. Mr. Traxler has extensive experience in identifying wildlife linkage zones and designing wildlife crossing structures for both large and small wildlife species. He served as a department representative on an Interagency Technical Panel focusing on Highway/Wildlife interaction research and was a member of a Technical Advisory Committee for a multi-state, pooled-fund, ITS animal vs. vehicle crash mitigation study.

PROJECT EXPERIENCE

Integrated Transportation and Ecological Enhancements for Montana (ITEEM) Process – Highway 83 Pilot Study, MDT, Seeley Lake, Montana. Mr. Traxler played an integral role on the consultant team contracted by MDT to gather data for, facilitate, and document the results of this ITEEM pilot study process. The intent of the pilot study was to test and evaluate the ITEEM process, which encourages agencies to collaboratively and strategically plan infrastructure projects and related restoration / conservation opportunities with goals of conserving and connecting important habitats, while increasing predictability and transparency of transportation planning and regulatory agency processes. The goal of the ITEEM process is to collaboratively identify, within an identified region, issues and opportunities for larger scale ecological conservation or restoration projects to offset adverse impacts for multiple transportation projects within that given region. Mr. Traxler's role included coordination with government agencies and NGO's, Data gathering, workshop participation, and results reporting and documentation.

Florence to Lolo – Wildlife Crossing Recommendations and Design, MDT, Lolo, MT. While serving as MDT's Missoula District Biologist, Mr. Traxler worked with local NGO's, resource agencies, MDT Road Design staff, and design

consultants to identify the need for wildlife accommodations associated with Highway 93 reconstruction south of Lolo, MT. As part of this process, Mr. Traxler, in cooperation with local culvert suppliers, designed the first wildlife benches in Montana to be installed in drainage culverts under the highway to allow for small mammals to pass through culverts that otherwise would be too wet for most small mammals to utilize. He subsequently championed a series of proposals from University of Montana professors to monitor the use of these wildlife benches.

[Hamilton to Victor – Wildlife Crossing Recommendations, MDT, Victor, MT.](#) Shortly after starting his consulting career in 2001, Mr. Traxler prepared a Wildlife Crossings Recommendations report for the MDT and its design consultants for proposed U.S. Highway 93 reconstruction between Hamilton and Victor, MT. This report identified key locations for wildlife crossings, recommended optimal bridge and culvert types and sizes at each location, and recommended wildlife fencing for guiding wildlife towards wildlife crossing structures. Additional wildlife accommodations that were recommended include small mammal crossings and potential bat roosting locations on newly designed bridges. These recommendations were carried forward during the design process and numerous wildlife accommodations were implemented in this roadway corridor.

[U.S. Highway 93 Evaro to Polson Wildlife Accommodations, MDT, Evaro-Polson, MT.](#) First serving as MDT's Missoula District Biologist and later as a consultant working for MDT, Mr. Traxler participated in the early phases of developing wildlife accommodations for the reconstruction of U.S. Highway 93 between Evaro and Polson, MT. He worked closely with Confederated Salish and Kootenai Tribal (CSKT) representatives, MDT engineers, design consultants, and other entities to determine the overall need for wildlife accommodations and the appropriate locations for such accommodations. Mr. Traxler is still working closely with design engineers and CSKT staff to provide additional wildlife accommodations along the last remaining roadway segments to be reconstructed near Post Creek and the Ninepipe Wildlife Refuge.

[Townsend South - Biological Resources Report, MDT, Townsend, Montana.](#) Mr. Traxler served as the lead wildlife biologist conducting wildlife inventories; wetland delineation; sensitive plant surveys; and impact analysis for vegetation communities, wetlands, wildlife, fisheries, and threatened and endangered species for this major road reconstruction project on U.S. 287 south of Townsend, MT. He surveyed for Ute Ladies' Tresses, a federally listed plant species, while conducting wetland delineation activities, and confirmed in the field, previously identified populations of this species. Mr. Traxler worked closely with design engineers and the U.S. Fish and Wildlife Service to avoid and minimize potential impacts to Ute Ladies' Tresses and the habitat in which they occur. He also worked closely with MDT Environmental Services and Road Design staff to incorporate small mammal crossings in the roadway design to mitigate high collision rates in the project area.

[Clearwater Junction North Highway Reconstruction, MDT, Seeley Lake, Montana.](#) Mr. Traxler prepared a biological resources report including a BA for approximately 8 miles of highway reconstruction through critical fish and wildlife habitat/U.S. Forest Service lands in western Montana. He worked closely with various state and federal agencies to avoid and minimize impacts to critical big game winter range; wetlands; streams; lakes; and several federally listed species including bull trout, Bald Eagles, grizzly bears, wolves, and lynx. Mr. Traxler worked on an interdisciplinary team to design a wildlife overpass structure.

[I-70 West Vail Pass EA, Colorado Department of Transportation, Colorado.](#) As a project biologist, Mr. Traxler conducted a corridor wildlife inventory and impact analysis for vegetation communities, wildlife, fisheries, and T&E species related to a proposed highway improvement along Interstate 70 through West Vail Pass, Colorado. Critical fish and wildlife resources that were analyzed included old growth habitat, big game movement corridors, Canada lynx habitat, and Colorado River cutthroat trout.

[MDT Natural Resources and Mitigation Term Contracts, Statewide, Montana.](#) For the last 14 years, Mr. Traxler has worked closely with MDT's Environmental Services office to provide a variety of biological resource studies and mitigation design through natural resource term contracts. He routinely assists MDT with baseline vegetation and wildlife field surveys and inventories; Biological Assessments (BAs), evaluations, and resource report preparation (for wildlife, fisheries, sensitive species, Threatened & Endangered [T&E] species, and wetlands assessment); wetland delineation, functional assessment, and mitigation design; stream mitigation design; wildlife accommodations; natural resources permitting; and agency negotiation and coordination.

4.2.2.3 Final Report Example

Writing sample Value Analysis Report for MDT.



A large, stylized arrow graphic that starts as a solid teal line pointing down and to the right, then transitions into a series of overlapping, multi-colored arrows (teal, orange, yellow, red) pointing to the right, and finally ends as a solid orange line pointing down and to the right.

Ronan-Urban

VA Hybrid Comparison Report

NH-MT 5-2 (153) 45

UPN 1744013

June 2015



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- Appendix A: VA Comparison Memo, June, 2015
- Appendix B: Meeting Minutes
- Appendix C: Cost Comparisons
- Appendix D: Comparison Matrix



Executive Summary

This report evaluates MDT's March 2015 Value Analysis recommendation to change the 2008 Supplemental Environmental Document (SEIS) Preferred Alternative for the (unconstructed) one-mile portion of US 93 within the city limits of Ronan.

Value Analysis is a systematic process to improve the value of proposed engineering design by examining the function of the design. MDT's Value Analysis recognized new issues since the 2008 SEIS and recommended applying (updated) Urban Design Standards to reduce roadway widths and considering the value (cost and time) of project impacts that were not identified within the 2008 SEIS.

MDT's Value Analysis Report (VA Report) of the US 93 Ronan-Urban segment considered replacing the one-way couplet concept (within the town of Ronan) by expanding existing US 93 to a five-lane roadway and applying MDT's Urban Design Standards. In subsequent reviews, the VA Report recommendation was slightly modified to a single five-lane roadway section with an attached bicycle path and attached sidewalk on the existing US 93 alignment, referred to as the VA Hybrid Option.

The 2008 SEIS Preferred Alternative (referred to as the Couplet Option) splits the existing three-lane highway into a couplet in Ronan with a two-lane, one-way northbound roadway on existing US 93 and a two-lane, one-way southbound roadway on 1st Avenue with a continuous bicycle path extending the length of the project. 1st Avenue is currently a city street with a mix of commercial and residential use and city park frontage. Design discussions with the City of Ronan in the past three years have shown that the proposed Couplet Option will need to overcome substantial obstacles for the City and for landowners along 1st Avenue.

The SEIS developed a comparison matrix (shown on page 3, Exhibit 1) that identified the Couplet Option as the Preferred Alternative even though the project cost and right-of-way impacts were substantially higher than other options.

This VA Hybrid Comparison Report found that the VA Hybrid Option provides significant cost savings (up to \$9 million) and reduces, but does not eliminate, right-of-way impacts by using the narrower lanes and shoulders allowed in the Urban Design Standards. Urban Design Standards have been applied to MDT roadways in Missoula, Great Falls and other urbanized areas but may be new within this rural community located in the middle of the US 93 corridor.

This VA Hybrid Comparison Report developed a qualitative comparison of the two options (shown on page 11, Exhibit 5) to simulate the previous SEIS work that resulted in selecting the Couplet Option as the Preferred Alternative. The qualitative comparison shows that both the Couplet and VA Hybrid Options have positive and adverse impacts that offset. The VA Hybrid Option will result in a wider road-barrier splitting Ronan; more vehicle conflict locations; one business relocation but does meet (both capacity and safety) requirements for an improved roadway. The Couplet Option will convert the character of (five blocks of) 1st Avenue from a residential street to highway frontage; will relocate three businesses and eight residences; and will abut Ronan's City Park. The Couplet Option would also improve water quality by providing a storm drain system and treatment for the 1st Avenue roadway runoff which currently discharges directly into natural waters. MDT currently requires that the utilities under the new road be replaced which may be problematic to locate matching funds for the City water and sewer. As part of a Memorandum of Agreement with the City of Ronan, the Couplet Option will also relocate two additional residences to provide city parking and restroom facilities. These are community benefits but affect current land owners who are, currently, amenable to selling.



Definitions and Abbreviations

AGR: Alignment and Grade Review

Couplet Option: The Ronan one-way couplet (Ronan 4) originally selected by the SEIS as the Preferred Alternative.

CSKT: Confederated Salish and Kootenai Tribes

MOA: Memorandum of Agreement between MDT and the City of Ronan concerning the Ronan-Urban project; June 2014.

NH: National Highway

NRHP: National Register of Historic Places

R/W: Right of Way

SEIS: The 2008 Supplemental Environmental Impact Statement for the Ninepipe-Ronan segment of US 93.

TWLTL: Two-Way-Left-Turn-Lane

UDS: MDT's 2001 Geometric Design Standards for Urban and Developed Areas

VA: Value Analysis

VA Report: Value Analysis Report for Ronan-Urban; MDT; March 2015

VA Comparison Memo: A comparison of the Couplet Option and the VA Recommendations; KLJ; June 4, 2015. Superseded by this VA Hybrid Comparison Report.

VA Hybrid Option: A roadway section that would be consistently applied to the length of US 93 in Ronan, regardless of the existing right-of-way (R/W) and is a compromise of the two VA Recommendations. This road section was developed after review of the VA Comparison Memo and provides two 12-foot outside travel lanes, two 11-foot inside travel lanes, two 2-foot shoulders plus two 0.5-foot curbs, one 12-foot TWLTL, one 5-foot sidewalk and one 10-foot separated bicycle/pedestrian path that will be concrete and be the eastside sidewalk.

VA Recommendation: The five-lane roadway on existing US 93 alignment, meeting Urban Design Standards, proposed by the VA Report. This recommendation included two roadway sections:

VA-Typical: This roadway section would be applied to the majority of the Ronan area and meets the Urban Design Standards for a five-lane roadway (Page 19, VA Report) and provides two 12-foot outside travel lanes, two 11-foot inside travel lanes and a 14-foot two way left turn lane (TWLTL).

VA-Narrow: This roadway section would only be applied to the three block area between Cleveland and Main Streets, which has a narrower existing right-of-way (R/W) (Page 20, VA Report) and provides two 12-foot outside travel lanes including gutter, two 11-foot inside travel lanes and a 12-foot TWLTL.



Background

SEIS Background:

The 2008 SEIS identified the one-way couplet through Ronan as the Preferred Alternative, identified as Ronan 4 in the SEIS. The SEIS also evaluated a five-lane option, identified as Ronan 2 Alternative, that is similar to the VA Recommendation and VA Hybrid Option. The SEIS comparison table of Urban Alternatives (Page 1-22, 2008 SEIS) is shown in Exhibit 1.

Exhibit 1: 2008 SEIS URBAN ALTERNATIVES COMPARISON

<i>Table 1.4-2. Comparison of the Urban Alternatives</i>						Comments:
<i>Alternative</i>	<i>Traffic Operations & Safety (incl. LOS and accident rate)</i>	<i>Community Character (including social and visual quality)</i>	<i>Socioeconomic (including displacements, right-of-way acquisition, environmental justice, and changes in access)</i>	<i>Bicycle/ Pedestrian Accommodations</i>	<i>Cost (in \$ Million Inflated to 2012)</i>	
<i>No - Action</i>	---	---	0	---	\$0	
<i>Ronan 1</i>	++	0	-	-	\$14	
<i>Ronan 2</i>	++	-	0	0	\$13	Similar to VA Hybrid Option
<i>Ronan 3</i>	+++	0	--	+	\$19	
<i>Ronan 4 (PA)</i>	+++	+	---	++	\$21	Couplet Option
<i>Ronan 5</i>	-	--	0	0	\$12	

The severity of the impacts was assessed after the application of appropriate mitigation.

Because the ecological and wildlife impacts of the proposed project in the urban portion of the corridor were considered neutral for all alternatives, they were not included in this table.

Rating ranges from most adverse impact (---) to most positive impact (+++):

- = ADVERSE impact 0 =NEUTRAL impact + =POSITIVE impact.

The 2008 SEIS summarized the urban preferred alternative (Page 1-20 of the SEIS) with the following:

" The urban preferred alternative is a couplet with improved intersections (some signalized) and two lanes in each direction about a block apart. It would improve traffic congestion, reduce accidents, facilitate cross-traffic movements (autos, pedestrians, and bicycles), require approximately ...12.0 acres of new right-of-way, displace seven to nine residences and two businesses, relocate a tribal health clinic, and cost approximately \$21 million."

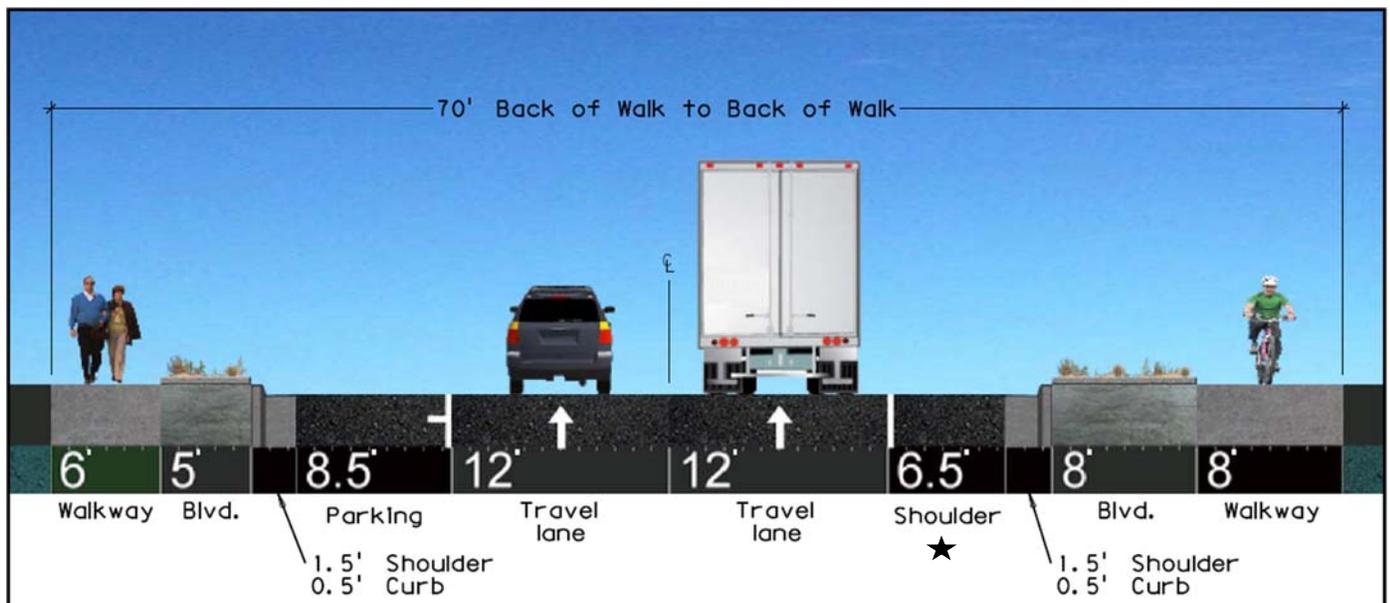


The 2008 SEIS stated that the Preferred Alternatives respond positively to the project objectives listed below (page 2-5 of the SEIS) which provided the basis for the comparisons within this report:

- *Improve safety by reducing accidents*
- *Improve capacity, particularly needed on summer weekends*
- *Improve intersection performance in Ronan*
- *Provide improvements for increased capacity in Ronan in such a way that the highway will not be a barrier dividing the community*
- *Provide improved facilities for bicyclists and pedestrians in Ronan and throughout the corridor as well*
- *Reduce vehicle/animal conflicts and the resultant property damage, injury accidents, and animal mortality*
- *Improve wetland and riparian connectivity*
- *Be respectful of the cultural significance of the land and animals to the CSKT*
- *Be respectful of the "Spirit of Place"*
- *Provide a balance between cost efficiency, roadway safety, traffic operations, and environmental protection.*

The 2008 SEIS decision recognized the 60% cost increase to build the Preferred Alternative, (Ronan 4 or the one-way couplet) over the cost of the five-lane option, Ronan 2. The SEIS recommended the one-way Couplet Option (Figure 3.2-18, Page 3-60 of the SEIS) shown in Exhibit 2. Note, the SEIS showed a 5-foot bicycle lane as part of the 6.5-foot shoulder, shown in the exhibit below, which was removed during preliminary engineering discussions.

Exhibit 2: 2008 SEIS ONE-WAY COUPLET OPTION



- ★ 6.5' includes 5' bicycle lane between Buchanan Street and Round Butte Road on both couplets, which has been omitted during preliminary design. This exhibit is an exact replica of the SEIS exhibit. With the removal of the bicycle lane, the back of walk to back of walk width will be reduced to 65'.



VA Background:

MDT completed a Value Analysis Report (VA) in March 2015 which recommended replacing the one-way couplet system (referred to as the Couplet Option) with an urban, five-lane roadway on existing US 93 (referred to as the VA Recommendation). The VA recommended using the MDT Urban Design Standards (UDS) to reduce road width while placing the bicycle path/route on 1st Avenue. The VA Report noted that the existing US 93 R/W width varies between a standard 87-foot width and a narrower 69-foot width in a three-block segment (between Cleveland and Main Streets). The VA considered two typical sections for the five-lane road which would adjust to the available width of existing R/W in the narrower segment.

VA Comparison Memorandum:

As the design consultant, KLJ was requested to confirm the conceptual engineering feasibility (of the VA Recommendation) and to compare the VA Recommendation to the SEIS criteria shown in Exhibit 1. KLJ submitted a June 4, 2015 memoranda (contained in Appendix A) comparing the VA Recommendation for a five-lane US 93 roadway to the proposed Couplet Option. The VA Comparison Memo is superseded by this VA Hybrid Comparison Report.



VA Hybrid Option:

Further adjustments to the VA Recommendation were requested by MDT during a review meeting of the VA Comparison Memo (meeting minutes in Appendix B). The following changes from the VA Recommendation were incorporated:

- The Missoula District determined that one consistent road section (option) will be used through Ronan (replaces the VA Recommendation for two roadway sections).
- A two-foot shoulder will be provided outside the travel lane (MDT Highway Design Engineer clarified the UDS).
- The ten-foot, separated bicycle/pedestrian path will be located along the east side of US 93 and will only be separated from vehicular traffic by the curb.
- The TWLTL will be 12-feet wide.
- Cleveland Street, west of US 93, will be converted to a one-way westbound to remove an intersection sight distance limitation. It is assumed this will be acceptable to businesses, residences and the City of Ronan.
- Round Butte Road and Terrace Lake Road will be realigned to the north to avoid R/W impacts (which would result in acquisition of a documented and active contamination site, Arnie's Gas Station). The realignment at the signal on US 93 will require detailed design to determine the total length of rebuilt roadway and to ensure design requirements (sight distance and signal visibility) are met. It is assumed the culvert carrying Spring Creek under Terrace Lake Road would be replaced and require additional hydraulic study and permitting.
- Detour/Traffic Control. The reconstruction of US 93 would occur under traffic and would not route US 93 traffic onto a 1st Avenue detour. This is anticipated to increase construction traffic control costs and cause multiple disruptions to US 93 businesses and have challenging pedestrian accommodations during construction.

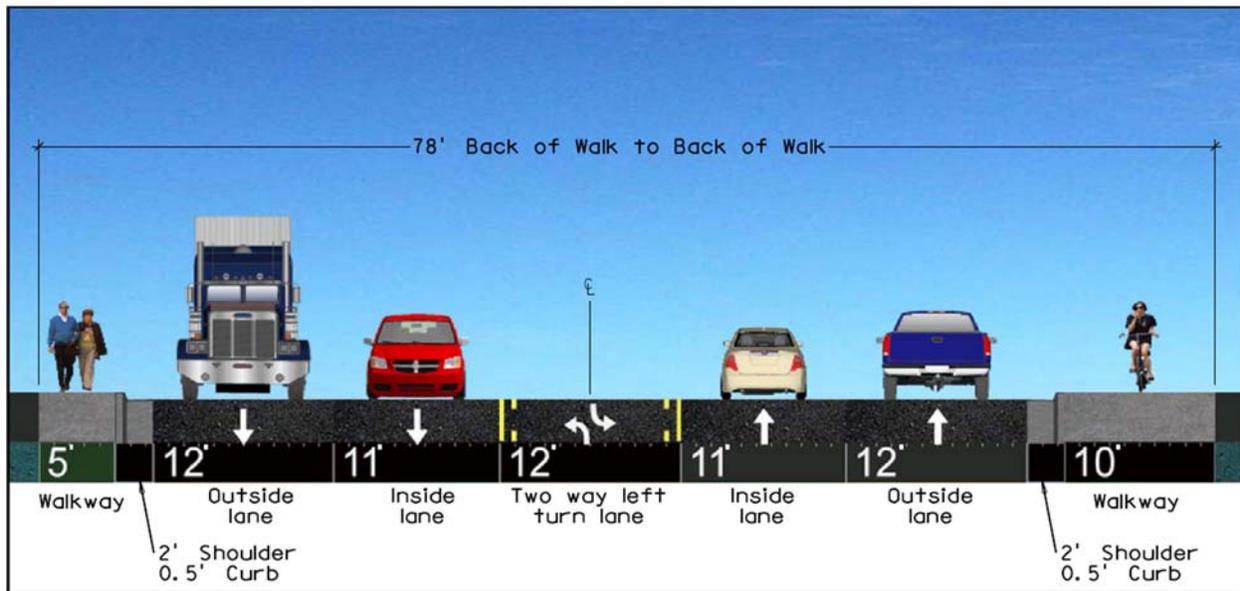
The VA Comparison Memo is superseded by this VA Hybrid Comparison Report. The VA Hybrid Option is shown in Exhibit 3 and described below.

The VA Hybrid Option provides:

- 1-12' Two-Way-Left-Turn-Lane (TWLTL)
- 2-11' inside travel lanes
- 2-12' outside travel lanes
- 2-2' shoulders (includes gutter)
- 2-0.5' curbs
- 1-5' west sidewalk
- 1-10' east bicycle/pedestrian path



Exhibit 3: VA HYBRID OPTION



Design Changes and Issues for VA Hybrid Option

SEPARATED BICYCLE/PEDESTRIAN PATH & BICYCLE LANE

The SEIS recommended a non-motorized facility be constructed the entire length of the Ronan-Urban project. The SEIS had recommended a specific path location through Ronan using existing city streets (3rd Avenue and Buchanan Street) and a new bicycle lane on the couplet roads between Buchanan and Round Butte Road only. Preliminary design efforts (prior to the VA) noted that the SEIS-path location would introduce adverse impacts to the community that were not included in the SEIS and the short length of bicycle lane would not effectively provide for bicycle travel. After discussions with the City of Ronan representatives, the proposed bicycle path was relocated along the east side of US 93 through Ronan and the short length of bicycle lane was omitted (between Buchanan and Round Butte Road only).

The Couplet Option and the VA Hybrid Option have the same treatment for the separated bicycle/pedestrian path.

The VA Recommendation recommended relocating the separated bicycle/pedestrian path (off US 93) onto 1st Avenue, to reduce R/W impacts. Subsequent discussions (summarized in the VA Comparison Memo in Appendix A) determined that the relocation of the path would result in lower usage (by bicyclists) and would impact 1st Avenue landowners. Therefore, the path would be maintained along the east side of US 93.

URBAN DESIGN STANDARDS

MDT approved Urban Design Standards (UDS) in 2001 for use in larger urban areas and on non-National Highway (NH) system routes. During the intervening years, the UDS have been successfully applied in locations including some NH routes in Missoula and Great Falls. The VA Team members felt the UDS standards should be considered in the town of Ronan as the first application in the US 93 corridor.

Urban Design Standards allow for a narrower road width which results in less R/W.



Using the UDS, the VA Hybrid will need the following considerations:

1. Ronan does not meet the definition of an urban area (UDS, Page 3) as its population is less than 5,000. Although rural areas are noted as having lower traffic volumes, rural drivers may have expectations and responses that vary from urban drivers who regularly deal with higher traffic friction that is typical in larger cities. A significantly larger portion of truck, recreational and agricultural vehicles are likely in Ronan, which are wider and less maneuverable than automobiles (e.g. larger truck hauling light trailer). Local truck traffic is in addition to the long-haul tractor/trailers that utilize US 93.
2. An additional design exception may be needed for application of the UDS on an NH route.
3. Additional right-of-way design exceptions may be needed within urban limits.
4. Some curb ramps on the new facility will utilize blended curb ramp transitions due to the close proximity of existing buildings which is less desirable on a rebuilt facility.

MDT UTILITY RELOCATION PARTICIPATION

To preserve the integrity of a rebuilt roadway, MDT typically requires a 20-year warranty for utilities under new roads. On this project, this affects City water and sewer mains under 1st Avenue and the east-west streets between the couplet, as well as any private utilities. State law requires local agency participation for portions of these utility replacements, betterments and design.

State health standards continue to be updated so that the existing city water lines under 1st Avenue may not meet current design standards. Based on recent project experience, the required local utility funding match and agreements appear difficult to obtain.

The Couplet Option will require significantly more utility relocations on 1st Avenue and east-west streets (between the couplet) based upon MDT requirements for 20-year utility warranties.

The Couplet Option is impacted due to these utility conditions and the following considerations are offered:

- The CSKT could be requested to provide financial support/assistance/loan to the City for improvements, as tribal members also benefit from the public utilities in Ronan.
- The City may be able to obtain grants/loans/etc. to assist with the local match portion of the utility replacement.



Comparison of Couplet and VA Hybrid Options

Cost Comparisons

Costs in this report were developed to compare the two options and are limited in their depth and accuracy. Exhibit 4 provides a cost comparison of the two options at this conceptual level, which shows that the Couplet Option is just over the 60% increase originally estimated in the SEIS.

Exhibit 4: COST COMPARISON OF ONE-WAY COUPLET & VA HYBRID OPTIONS

Ronan-Urban Comparison				
COMPARISON CRITERIA:		Couplet Option		VA Hybrid Option
		1-way couplet		5 lane, w/ urban standard
COST COMPARISON				
		COST (MILLIONS)	COMMENTS	COST (MILLIONS)
	Construction	9.320		7.538
	Utility Relocations (VA Rpt)	2.000	(private and public)	0.600 (private and public)
	Storm Drainage	3.200	US 93 & 1st Ave	1.500 US 93 only
	Sub Total: Project Const Costs (include CE,	14.520		9.638
	ROW Conceptual Costs	5.700	MDT Estimate w/ 3 business & 8 residence relocations	0.857 MDT estimate, 1 business relocation
	Addl Enviro/Public Outreach Costs			0.065 Re-eval & public mtgs/outreach
	Unusable Engineering Costs			0.700 Unusable Design & Coord Costs
	Total Costs:	20.220		11.260
				8.961 POSSIBLE SAVINGS

CONSTRUCTION COST ESTIMATES

Cost estimates were developed for 500-foot segments of the VA Hybrid Option and compared to similar costs for the northbound and southbound Couplet Option. These segment estimates were then extrapolated for the length of the project. Higher global percentages (CE, mobilization, and traffic control) were used for the VA Hybrid Option due to assumed longer construction time. Cost Estimates are included in Appendix C. The VA Hybrid Option could be \$9 million or 44% less than the Couplet Option in project costs.

R/W COST ESTIMATES

Although engineering design has not progressed to a stage where acquisition areas are accurate, a conceptual comparison was made by MDT Staff. MDT Staff assumed R/W would be acquired ten-feet behind construction limits for both options. No easement areas are included. Land costs were based upon MDT's review of recent sales.

The Couplet Option is expected to acquire land from 123 parcels at an estimated cost of \$5.7 million. The costs include total acquisition and relocation assistance of three businesses, eight residences (six along 1st Avenue and two per the City MOA).

The VA Hybrid Option is expected to acquire land from 87 parcels at an estimated cost of \$0.857 million. The cost includes one business acquisition and relocation and introduces R/W impacts to some parcels on US 93 which were not impacted by Couplet Option. The VA Hybrid Option could be \$4.8 million less than the Couplet Option in R/W costs.



The VA Hybrid Option is expected to require considerably less time to complete R/W acquisitions due to fewer parcels and the reduction of residential and business relocations.

UTILITY RELOCATION ESTIMATES

The City of Ronan located their north-south water and sanitary sewer mains in 1st Avenue NW and SW to avoid the US 93 corridor. The sanitary sewer line primarily consists of a handful of main crossings along with approximately 480-feet of lateral line conflicts, most of which do not meet current standards for design. The city water lines are intermittent and redundant in 1st Avenue and do not meet current standards for design and would require improvement if the line were relocated.

Similarly, private cable, telephone and electric utility companies located many of their transmission lines in the 1st Avenue NW and SW corridor. The private telephone company has long stated the need for advance notice to financially plan for and relocate their lines. The VA Report (Page 27) estimated \$2.0 million in utility relocations for the southbound Couplet (1st Avenue) and an additional \$0.6 million in utility relocations on US 93 (the northbound Couplet). The VA Report estimates are carried forward in this document, showing an estimated \$1.4 million in savings for the VA Hybrid Option.

The VA Hybrid Option is expected to require considerably less time to complete utility relocations due to fewer impacted utilities and the reduction (or possible elimination) of the participating fund requirement for the City (water and sanitary utilities).

UNIQUE VA HYBRID OPTION COSTS: UNUSABLE ENGINEERING COSTS

Over the past three years, KLJ and MDT have spent a substantial effort (\$2.3 million through May 2015) on the development of the Ronan-Urban segment which does not include the effort for previous environmental documents (EIS and SEIS). The work efforts have focused on developing the design, planning, additional environmental updates, R/W negotiations, landowner meetings, and City and CSKT coordination for the proposed Couplet Option. It is estimated that 30% of this work effort (\$700,000) may not be usable if the VA Hybrid Option is pursued.

The VA Hybrid Option is expected to require a minimal increase in time to complete design to the level currently completed for the Couplet Option.

UNIQUE VA HYBRID OPTION COSTS: ENVIRONMENTAL & PUBLIC OUTREACH COSTS

The VA Hybrid Option would require a re-evaluation of the SEIS and re-design of portions of the project. The re-evaluation is anticipated to be a thorough analysis addressing the proposed change and would evaluate each of the environmental resource areas to determine if there are changed impacts from those identified in the 2008 SEIS. The effort to prepare the re-evaluation letter and to document the changes would be additional design costs for the project that could range from \$25,000 to \$50,000 for combined MDT and KLJ work. Redesign costs are not yet determined.

A decision to change to the VA Hybrid Option is anticipated to require additional public outreach efforts which would be comprised of public information meetings, City of Ronan meetings and meetings with CSKT Council and Tribal Lands. Over the past three years, MDT and KLJ have individually met with the majority of couplet landowners, to specifically discuss the traffic circulation and access to each of the 70+ properties along the couplet. Assuming that individual land owners meetings are not repeated, there would likely be an increased project cost of \$20,000-\$25,000 for updating public meetings (for general public and agencies including the City and the CSKT).

The VA Hybrid Option is expected to require additional time to complete environmental and public outreach efforts.



Comparison to SEIS Summary Table

This section summarizes the SEIS-level comparison between the Couplet Option and the VA Hybrid Option based upon known information but not a detailed design. Exhibit 5 provides a qualitative comparison based upon resource categories, similar to the original SEIS, between the two options.

Exhibit 5: RESOURCE COMPARISON OF ONE-WAY COUPLET & VA HYBRID OPTIONS

Ronan-Urban Comparison			
COMPARISON CRITERIA:		Couplet Option	VA Hybrid Option
RESOURCE COMPARISON			
		RATING	RATING
Social/Community		0	- -
Traffic: Intersections/Safety		+	- -
Geometrics:		0	- -
Pedestrian & Bikes		+ +	- -
ROW (Acquisition & Relocations)		- -	-
Detour:		-	- -
Environmental:		-	-
Drainage (Storm Drain):		+ +	+
Utility Conflicts:		- - -	-

Rating ranges from most adverse impact (---) to most positive impact (+++):

- = ADVERSE impact

0 =NEUTRAL impact

+ =POSITIVE impact.

As shown in Exhibit 5, the following summarizes differences in the comparison criteria. Refer to the VA Comparison Memo (Appendix A) and the updated Comparison Matrix (Appendix D) for further details.

- Social/Community (SEIS pages 4-24, 5-22, 5-26 and 5-33). The VA Hybrid Option would adversely affect community cohesion by creating a wider US 93 roadway and potentially create a barrier that could divide Ronan, create an impediment for social interaction, create a barrier to the flow of residents and visitors to attractions in Ronan’s downtown and Main Street, affect city parking and increase difficulty/congestion in accessing US 93 businesses. The VA Hybrid Option Positive would have a positive impact by increasing the distance from the town’s major recreational feature, the Ronan City Park, to US 93 traffic.
- Traffic: Capacity/Intersections/Safety: Traffic volumes were projected to the year 2040 and both options provide adequate capacity. Synchronized signals are less efficient for two-way traffic than for one-way and will result in LOS D on the Round Butte Road, minor street approach for the VA Hybrid Option. Accesses onto US 93 are expected to have greater congestion under the VA Hybrid Option than under one-way traffic flow with the Couplet Option.

One-way couplet systems reduce the number of conflict points for both vehicular and non-motorized travel. The VA Hybrid Option has an adverse impact on safety as there are more vehicle conflict locations at intersections and driveways, increasing the crash potential for US 93 vehicles. Similarly, there is an increase in the number of non-motorized/vehicle conflict location points on US 93.



The VA Hybrid Option has a positive impact by removing the need for the Frontage Road and reducing the number of vehicle and non-motorized conflict locations. The VA Hybrid Option has a negative impact by keeping local business access off US 93 and not shifting onto a low-speed Frontage Road. The VA Hybrid Option has a positive impact by lowering traffic volumes on 1st Avenue.

- Geometrics: The VA Hybrid Option will have an adverse effect on geometrics as Design Exceptions to standards are likely (for design and possibly for R/W). The VA Hybrid Option will require realignment of the Terrace Lake/Round Butte Road at the intersection with US 93 and conversion of one block of Cleveland Street to one-way flow.

To avoid R/W acquisition from a known contamination site, Arnie's Gas Station; Round Butte Road/Terrace Lake Road will need to be shifted approximately 29-feet north onto tribally-owned lands that currently hold the CSKT Health Facility, the Dairy Queen and the CSKT Senior Center. The realignment will need to provide adequate intersection and signal-sight distance and is assumed to require replacement of the Spring Creek culvert under Terrace Lake Road.

It is assumed that the one-block length of Cleveland Street can be converted to a one-way, westbound street which omits the sight distance restriction at the Cleveland/US 93 northwest corner (due to the existing Bagnell dentistry building location on the R/W line).

For the VA Hybrid Option, a majority of sidewalk corner ramps will be of the parallel design which is not preferred but still meets ADA requirements. A handful of the corner ramps will be blended transitions which are the least preferable option for ADA compliance.

- Pedestrians & Bikes: The VA Hybrid Option has an adverse impact on non-motorized safety due to increasing the conflict points at driveways and intersections for non-motorized users and the loss of a buffer (between vehicular traffic and the new path). The VA Hybrid Option has an adverse impact due to the increased (path) maintenance responsibility for MDT and the need for snow removal on attached sidewalk/bike path.
- R/W: The VA Hybrid Option does not fit within existing MDT R/W, as suggested by the VA Report. However, the VA Hybrid Option has substantially less R/W acquisition than the Couplet Option and no full acquisitions (full take). The VA Hybrid Option will require additional R/W for realigning Round Butte Road to avoid the Arnie's Gas Station parcel. The VA Hybrid Option has an overall positive impact on R/W by reducing the amount of R/W acquisition (both area and number of parcels) and omitting residential relocations.
 - »
- Detour: The VA Hybrid Option will reconstruct US 93 under traffic which will have an adverse impact due to increased construction traffic control costs, multiple disruptions to corridor businesses (as traffic is shifted to the east/west side of the US 93 R/W multiple times) and challenging pedestrian accommodations during construction. The VA Hybrid Option may have a positive business impact by not routing traffic to 1st Avenue during construction.
- Environmental: The VA Hybrid Option has a positive impact by avoiding impacts to two properties deemed eligible for NHRP listing (CSKT Health parcel buildings proposed for removal and one residence with proximity impacts) and by maintaining a larger separation from US 93 traffic and the City Park. The VA Hybrid Option has a slight adverse impact due to contaminated groundwater handling during construction and increased visual impacts due to size of roadway.



- Drainage (Storm Drain): The VA Hybrid Option will reduce the amount of new storm drain required by avoiding the need to install storm drain along 1st Avenue. This will also result in a slightly smaller detention pond, although the pond will still be required at its current location. The VA Hybrid Option may result in slightly higher costs for the US 93 storm drain, due to increased depth and size of pipes.
- Utility Conflicts under 1st Avenue. The VA Hybrid Option has lower utility costs and complications due to the avoidance of 1st Avenue; resulting in a positive impact to project costs, the reduction of impacts to utilities currently located in 1st Avenue (water, sewer, telephone and power), and the avoidance of city funding participation for water and sewer relocations.

Appendix A

VA Comparison Memo, June 2015



Memorandum

Date: 6/4/2015
To: Miki Lloyd, MDT
Copy to: Scott Fanning
From: Kathy Harris, Project Manager
RE: Ronan-Urban, NH-MT 5-2(153) 45, UPN 1744013 Response to Value Analysis Report, Recommendation #1 Convert One-Way Couplet to Five-Lane

Purpose:

This document provides additional detail to the March 2015 Value Analysis Report (VA) Recommendation #1 to replace the one-way couplet system with an urban, five-lane roadway on existing US 93 using Urban Design Standards (UDS). This comparison addresses preliminary engineering issues in greater detail than the VA process allowed but is not a full engineering design. This memorandum only focuses on US 93, between Kennedy Street and north of Round Butte Road, where the one-way couplet is proposed.

Report Format:

Pages 1-6 provide background information. The comparison between the VA Recommendation and the one-way couplet is summarized on Pages 7-9 with explanations beginning on Page 10. Appendix A contains the additional comparison details.

Definitions:

Couplet Option: The Ronan one-way couplet originally selected by the SEIS.

SEIS: The 2008 Supplemental Environmental Impact Statement (SEIS) for the Ninepipe-Ronan segment of US 93.

UDS: MDT's 2001 Geometric Design Standards for Urban and Developed Areas

VA Report: MDT March 2015 Value Analysis Report for Ronan-Urban

VA Recommendation: The five-lane roadway on existing US 93 alignment, meeting Urban Design Standards, proposed by the VA Report. This recommendation can be separated into two roadway sections (further detailed in Exhibit 2 below):

VA-Typical: This roadway section will be applied to the majority of the Ronan area and meets the Urban Design Standards for a five-lane roadway (Page 19, VA Report) and provides two 12-foot outside travel lanes, two 11-foot inside travel lanes and a 14-foot center turn lane (TWLTL).

VA-Narrow: This roadway section would only be applied to the three block area between Cleveland and Main Streets, which has a narrower existing right-of-way (ROW) (Page 20, VA Report) and provides two 12-foot outside travel lanes including gutter, two 11-foot inside travel lanes and a 12-foot TWLTL.

SEIS Background:

The 2008 SEIS identified the one-way couplet through Ronan as the Preferred Alternative, identified as Ronan 4 in the SEIS. The SEIS also evaluated an option similar to the VA Recommendation which was listed as Ronan 2 Alternative. The SEIS comparison table of Urban Alternatives (Page 1-22, 2008 SEIS) is shown in Exhibit 1. The 2008 SEIS decision recognized the 60% cost increase to build the Preferred Alternative, (Ronan 4 or the one-way couplet) over the cost of the five-lane option described as Ronan 2.

Exhibit 1: 2008 SEIS URBAN ALTERNATIVES COMPARISON

Table 1.4-2. Comparison of the Urban Alternatives.

Alternative	Traffic Operations & Safety (including LOS and accident rate)	Community Character (including social and visual quality)	Socioeconomic (including displacements, right-of-way acquisition, environmental justice, and changes in access)	Bicycle/Pedestrian Accommodations	Cost (in \$ Million Inflated to 2012)
No-Action	--	--	O	--	\$ 0
Ronan 1	++	O	-	-	\$ 14
Ronan 2	++	-	O	O	VA Recommendation: 5 Lane
Ronan 3	+++	O	--	-	\$ 19
Ronan 4 (PA)	+++	+	--	+	\$ 21 1-Way Couplet Option
Ronan 5	-	--	O	O	\$ 12

The severity of the impacts was assessed after the application of appropriate mitigation.

Because the ecological and wildlife impacts of the proposed project in the urban portion of the corridor were considered neutral for all alternatives, they were not included in this table.

Rating ranges from most adverse impact (---) to most positive impact (+++):

- = ADVERSE impact O = NEUTRAL impact + = POSITIVE impact.

VA Background:

MDT completed a Value Analysis Report (VA) in March 2015 which recommended replacing the one-way couplet system (referred to as the Couplet Option) with an urban, five-lane roadway on existing US 93 (referred to as the VA Recommendation). The VA Recommendation used the current MDT Urban Design Standards to reduce the road width while placing the bike route on 1st Avenue. Page 19 of the VA provided a typical five-lane section which is considered for the majority of Ronan. Page 20 of the VA provided a "narrow" typical section, for the three-block segment between Cleveland and Main Streets that has a narrower, existing right-of-way (ROW) width. The dimensions are summarized in Exhibit 2.

Exhibit 2: VA Five Lane Roadway Section Widths

	<i>VA-Typical (feet)</i>	<i>VA-Narrow (feet)</i>
<i>Two-Way-Left-Turn-Lane (TWLTL)</i>	14	12
<i>Inside Travel Lane</i>	11	11
<i>Outside Travel Lane</i>	12	12 (includes gutter)
<i>Shoulder</i>	2 (includes gutter)	0
<i>Curb</i>	0.5	0.5
<i>Subtotal: Back of Curb (BOC) to BOC</i>	65	59
<i>West Sidewalk</i>	6	5
<i>East Sidewalk/Bike Path *</i>	10	10
<i>Total: Back of Walk (BOW) to BOW</i>	81	74
<i>Existing ROW Width</i>	87	69

* see discussion below

VA Recommendation Bike Path Change:

The VA recommended moving the bike path onto 1st Avenue, to reduce the project impacts and maintain the SEIS non-motorized connection throughout the length of the project. It was implied that pedestrians would use the US 93 sidewalks built with the project.

Discussions with MDT confirmed that it is preferable to place the new bike path along the eastside of US 93 consistently. The VA recommendation to move the bike path to 1st Avenue was not advanced for the following reasons:

- Diverting the path to 1st Avenue would discourage use by bicyclists who would be reluctant to go out-of-direction and increase their travel times.
- Diverting requires bicyclists to cross US 93 two times, at the signalized intersections of Round Butte Road and Eisenhower Street. When used, the signal timing would be affected by bicyclists and increase delays on US 93.
- The least impactful bike facility on 1st Avenue in Ronan would consist of two, striped bike lanes (one each for northbound and southbound travel); this would require paving the existing road plus bike lanes. 1st Avenue currently has poor sub-grade, surfacing and drainage. Existing use shows the road blends into front yards and is often used as parking, personal storage or other

uses which increases the difficulty in providing a usable bike lane. Existing use between Round Butte and Buchanan is heavily used by business parking which would place a bike lane along parallel parking (acceptable) and behind head-in, angle parking with very poor visibility for bicyclists along the City Park. Maintenance and enforcement jurisdiction would require resolution between the City and MDT.

- Widening the VA Recommendation to provide a 10-foot wide, shared-use path on the east side of US 93 (an additional four-feet in the VA-Typical and an additional five-feet in the VA-Narrow) requires additional acquisition area along US 93 but does not appear to impact additional parcels.

VA Use of Urban Design Standards:

UDS were approved by MDT in 2001. The following items in the VA Recommendation do not meet the UDS and will require MDT Concurrence (page numbers in this section refer to the UDS as posted on MDT website):

1. US 93 is a National Highway System (NHS) route which is not currently eligible for the Urban Standards (UDS, Page 2). MDT will need to confirm if these Urban Standards are applicable on NH routes.
2. Ronan does not meet the definition of an urban area (UDS, Page 3) as it does not have a population greater than 5,000. Although rural areas are noted as having lower traffic volumes, rural drivers may not be as sophisticated as urban drivers who regularly deal with higher traffic friction, etc. Driver expectation and experience will vary between Ronan and larger cities. A significantly larger portion of truck, recreational and agricultural vehicles are likely in Ronan, which are wider and less maneuverable than automobiles (e.g. larger truck hauling light trailer). Local truck traffic is in addition to the long-haul tractor/trailers that utilize US 93.
3. The Exterior Lane Width minimum is 12 feet, excluding the gutter (UDS, Table 1 on Page 8). The VA Narrow recommendation uses 1.5-feet of gutter as part of the lane width.
4. Intersection Design (UDS, Page 10) states that intersection turns should be based off the functional intent of the intersecting roads. After discussion with MDT Traffic, the following turning requirements were determined for this effort:
 - a. US 93 and Round Butte Road (Secondary Route) will use a WB-67 design vehicle
 - b. US 93 and other public streets will use a WB-40 design vehicle, suitable for a fire truck or school bus. (Note the Couplet Option is designed for a WB-67 at Round Butte and a WB-50 at Buchanan and Eisenhower Streets).
5. Intersection Design states that all (intersection) turns should be made from the near lane into a departure lane (on the side street downstream approach, UDS Page 10). Based on meetings with MDT Traffic, it was agreed that this can be relaxed on a case-by-case basis at stop-controlled intersections and that turning vehicles can encroach into the arrival lane on the side street.

MDT Utility Relocation Participation:

MDT typically requires a 20-year warranty for utilities under new roads-therefore requiring reconstruction of City water and sewer mains under 1st Avenue. State law requires local agency participation for portions of these utility replacements, betterments and design. State health standards continue to be updated so that the existing city water lines under 1st Avenue may not meet current design standards. Based on recent project experience, the required local utility match and agreements appear difficult to obtain.

The Couplet Option is impacted due to these utility conditions and the following considerations are offered:

- MDT may consider not requiring a 20-year warranty for city utilities under the one-way couplet. This would introduce a risk of future repairs or claims for disturbance failure. This would also introduce a precedence for utilities under new roads.
- MDT may consider installing a geo-grid or other support above the utility lines under the one-way couplet. This would introduce a risk of future repairs or claims for disturbance failure. This would also introduce a precedence for utilities under new roads.
- The CSKT could be requested to provide financial support/assistance to the City for improvements, as tribal members also benefit from the public utilities in Ronan.

Design Exceptions:

At this conceptual stage, the following design exceptions to the Urban Principal Arterial (NHS Primary) design criteria are anticipated for the VA Recommendation: (Note-these are not anticipated for the Couplet Option and future design exceptions are likely):

- Lane Width (for VA-Narrow Section only). Standard Travel lane width is 12 feet.
- Lane Width (for both VA Sections). Standard TWLT lane width is 16 feet.
- No Shoulder (for VA-Narrow Section only). Standard shoulder width is 2 feet.
- Intersection Sight Distance. Adequate intersection sight distance at US 93 and Cleveland Street is not met for a design speed of 20 mph. (An option is presented on page 11 that may be considered to convert Cleveland to one-way flow and remove this issue).

Comparison Summary:

This section summarizes the SEIS-level comparison between the Couplet Option and the VA Recommendation (five-lane on US 93), based upon known information but not a detailed design. Exhibit 3 provides a qualitative comparison based upon resource categories, similar to the original SEIS, between the two options with a conceptual update of the costs.

Exhibit 3: COMPARISON OF ONE-WAY COUPLET & 5-LANE

Ronan-Urban Comparison			
COMPARISON CRITERIA:		Couplet Option	VA Recommendation
		1-way couplet	5 lane, w/ urban
COST COMPARISON			
		COST (MILLIONS)	COST (MILLIONS)
Cost (millions)	Construction	\$8.3	\$6.5
	Utility Relocation	\$0.7	\$0.4
	Storm Drainage	\$3.2	\$1.5
	Total: (excluding ROW & most Utilities)	\$12.2	\$8.4
RESOURCE COMPARISON			
		RATING	RATING
Social/Community		0	-
Traffic: Intersections/Safety		+	--
Geometrics:		0	--
Pedestrian & Bikes		++	--
ROW Parcels: (Relocations)		--	-
Detour:		-	--
Environmental:		-	-
Drainage (Storm Drain):		+	+
Utility Conflicts:		---	-
- = ADVERSE Impact		0 = Neutral impact	+ = POSITIVE Impact

As shown in Exhibit 3, the following criteria have significant differences between the two options. Refer to the section entitled “Engineering Considerations” for discussion of the comparisons with additional details in the detailed spreadsheet in Appendix A.

- Costs. Comparisons are described under the Engineering Comparison Section below. ROW and Utility Relocation costs were not developed due to uncertainties but are addressed in the Resource Categories.
- Social/Community (SEIS pages 4-24, 5-22, 5-26 and 5-33). Detrimental changes are caused by VA Recommendation to community cohesion by US 93 being considered a barrier (dividing Ronan); by creating a highway corridor as an impediment to social interaction; by creating a barrier to easy flow of residents & visitors including attraction to Ronan’s downtown, Main Street; loss of benefits to the City Park which have been developed as project mitigation measures and increased difficulty/congestion accessing US 93 businesses. Beneficial changes are caused with reduction of residential acquisitions and the distance from the town’s major recreational feature, the City Park.
- Traffic Safety: One-way couplet systems reduce the number of conflict points for both vehicular and non-motorized travel. The VA Recommendation has a detrimental impact on safety as there are more vehicle conflict locations at intersections and driveways, increasing the crash potential for vehicles on US 93 and on 1st Avenue. Similarly, there is an increase in the number of non-motorized/vehicle conflict location points on US 93 and on 1st Avenue.

Note: the Safety Conflict Locations could be weighted to a higher average-but were only included once (for a single intersection and not the number of actual conflicts within the corridor for this level of comparison).

The VA Recommendation has a beneficial impact due to the lack of Frontage Road intersections, which reduces vehicle and non-motorized conflicts which is offset by shifting traffic turning movements from a low-speed Frontage Road onto US 93. The VA Recommendation has a beneficial impact due to lowering traffic volumes on 1st Avenue conflict points.

- Geometrics: The VA Recommendation has a detrimental impact on geometrics as Design Exceptions to standards are anticipated in the VA Narrow section.
- Pedestrians & Bikes: The VA recommendation has a detrimental impact on non-motorized safety due to increasing the conflict points at driveways and intersections. The VA recommendation has a

detrimental impact due to increased (path) maintenance responsibility for MDT and the need for snow removal on attached bike path.

- ROW: The VA Recommendation is generally planned to fit within existing MDT ROW. However, nine new (not planned with the couplet) partial acquisitions are expected which includes realigning Round Butte Road to avoid the Arnie's Gas Station parcel. The Couplet Option requires seven full acquisitions (including CSKT & Club Bar businesses) and partial acquisition from 18 other parcels on 1st Avenue and 11 parcels on US 93. The VA Recommendation has a beneficial impact in reducing ROW acquisition (both area and number of parcels) and relocations.
- Detour: The VA Recommendation generally supports reconstructing US 93 under traffic which will have detrimental impacts including increased construction traffic control costs, multiple disruptions to corridor businesses (as traffic is shifted to the east/west side of the US 93 ROW multiple times) and challenging pedestrian accommodations during construction. The VA Recommendation will have a beneficial impact as business traffic remains on US 93 (does not get routed to 1st Avenue) during construction.
- Environmental. Comparisons are described under the Engineering Comparison Section below.
- Drainage (Storm Drain): Comparisons are described under the Engineering Comparison Section below.
- Utility Conflicts under 1st Avenue. The VA Recommendation has lower utility costs and complications due to the avoidance of 1st Avenue; resulting in a beneficial impact to project costs, the reduction of impacts to utilities currently located in 1st Avenue water, sewer, telephone and power), and the avoidance of a city funding participation for water and sewer relocations.

Engineering Considerations:

The following factors were considered during this comparison (Refer to Appendix A for further details):

1. **Costs.** Cost estimates were developed for 500-foot segments of the VA-Typical and VA-Narrow sections along with the northbound and southbound Couplet sections. These estimates were then extrapolated for the length of the four sections. Higher global percentages (CE, mobilization, and traffic control) were used for the VA estimates due to assumed longer contract time. Costs are not included for ROW and utility relocation (excluding 1st Avenue water and sewer).
2. **Social/Community.** Comparisons are described under the Summary Section above.
3. **Traffic Operations.** Traffic volumes were projected to the year 2040, to match the new project design year. 2040 traffic projections were assigned to US 93 and analyzed for a two-way configuration resulting in acceptable level-of-service (LOS) for the three signalized intersections. Synchronized signals are less efficient for two-way traffic than for one-way and will result in LOS D on the Round Butte Road, minor street approach. The VA Recommendation will have a minor reduction in LOS at the Round Butte intersection (in the design year). Accesses onto US 93 are expected to have greater congestion under the VA Recommendation than under one-way traffic flow.
4. **Traffic Safety:** One-way couplet systems reduce the number of conflict points for both vehicular and non-motorized travel. The VA Recommendation has a detrimental impact on safety as there are more vehicle conflict locations at intersections and driveways, increasing the crash potential for vehicles and non-motorized travel. Similarly, there is an increase in the number of non-motorized/vehicle conflict location points.
5. **Geometrics:**
 - 5.1. **US 93 Alignment and Parcel Avoidance.** Several parcels were identified as difficult or risky to acquire. The VA Recommendation (US 93) alignment was typically centered in the available ROW but shifted around the following marker points to avoid acquisition from those parcels:
 - 5.1.1. **NW corner of Cleveland, Bagnell Dentistry building.**

The office building is located on the existing ROW line and was planned to be untouched with the Couplet Option. Negotiations are expected to be challenging. The VA Recommendation will shift US 93 east (to avoid this building) will increase impacts to the east, onto the cramped Les Schwab parcel. Additional acquisition from Les Schwab parcel appears feasible.

The US 93 centerline was shifted easterly to avoid this parcel. The VA Recommendation will result in restricted intersection sight distance which was not an issue with the Couplet Option

due to one-way travel (see Section 5.4 for suggested resolution) and minimal ADA connectivity to the side street.

5.1.2. SE corner of Adams, Ronan Sports & Western, known contamination site.

The retail building is located close to the existing ROW line and was planned to be untouched within the Couplet Option.

The VA Recommendation will slightly shift Adams Street to the north to reduce proximity impacts to the building. There is minimal ADA connectivity to the side street.

5.1.3. SW corner of Round Butte, Arnie's Gas Station, known contamination site.

The gas station is expected to require some acquisition for the Couplet Option but could possibly be reduced/eliminated with modification to the truck turning requirements. Negotiations are expected to be challenging, likely with the request for a full take. The contamination site is the worst in Ronan and the final owner will be responsible for 50+ years of clean-up activities which are not eligible for federal aid.

The first design on US 93 (for the VA Recommendation) resulted in ROW acquisition from the NE corner of the parcel and along the US 93 frontage, leading to a full acquisition.

To avoid any acquisition from this parcel, the VA Recommendation will shift Round Butte Road north 29-feet and re-build Round Butte Road between 1st Avenue NW and Spring Creek (assuming a new crossing of Spring Creek). ROW acquisition will be required from the tribally-owned Health Service parcel and the Dairy Queen parcel. The Dairy Queen parcel would lose between 15-35 feet of property along the Round Butte Road frontage (as compared to the Couplet Option).

5.2. Intersection Design: Truck turning movements were considered. The VA Recommendation was found to require minor corner ROW acquisition at Buchanan, Adams, Main and Round Butte intersections (identified under ROW parcel impacts).

5.3. ADA Ramps: For the VA Recommendation, a majority of sidewalk corner ramps will be of the parallel design which is not preferred but still meets ADA requirements. A handful of the corner ramps will be blended transitions, which are the least preferable of the acceptable options for ADA compliance.

5.4. Intersection Sight Distance at Cleveland. Due to the Bagnell dentistry building (on the existing ROW line) blocking sight distance and the desire to avoid full acquisition of this building/parcel: it is suggested that the one-block length of Cleveland can be converted to a one-way, westbound street which omits this sight distance issue for eastbound vehicles. A slight additional cost is expected to provide signage and possibly improve the Cleveland Street road section. Cleveland

Street terminates at 1st Avenue, so this would be a one-block conversion, on the west side of US 93 only.

6. Ped/Bike. The VA Recommendation results in a detrimental effect to non-motorized travel due to the loss of a buffer (between traffic and the new path), the loss of a non-motorized connection to the City Park and the addition of more vehicle conflict locations at each crossing.
7. Environmental. The VA Recommendation has a beneficial impact by avoiding impacts to two properties deemed eligible for NHRP listing (CSKT Health parcel buildings proposed for removal and one residence with proximity impacts) and by avoiding proximity impacts to the City Park. The VA has a slight detrimental impact due to contractor contaminated groundwater handling and increased visual impacts due to size of roadway.
8. Storm Drain. The VA Recommendation will reduce the amount of new storm drain required by avoiding the need to install storm drain along 1st Avenue. This will also result in a slightly smaller detention pond, although the pond will still be required at its current location. The VA Recommendation may result in slightly higher costs for the US 93 storm drain, due to increased depth and size of pipes.
9. Utility
 - 9.1. The VA Recommendation will have a beneficial impact due to the reduction of private utility impacts along 1st Avenue.
 - 9.2. The VA Recommendation will have a beneficial impact due to the reduction of city utility impacts (water and sanitary) along 1st Avenue.

Appendix A: Comparison Spreadsheet (continued)

Ronan-Urban Comparison					
COMPARISON CRITERIA:		Couplet Option		VA Recommendation	
		1-way couplet		5 lane, w/ urban standard	
COST COMPARISON					
		COST (MILLIONS)	COMMENTS	COST (MILLIONS)	
Cost (millions)	Construction	\$8.3		\$6.1	
	Utility Relocation	\$0.7	(water and sewer only)	\$0.4	(water and sewer only)
	Storm Drainage	\$3.2		\$1.5	
Total: (excluding ROW & most Utilities)		\$12.2		\$8.0	
RESOURCE COMPARISON					
		RATING	COMMENTS	RATING	COMMENTS
Social/Community		0		-1	
Traffic: Intersections/Safety		1		-2	
Geometrics:		0		-2	
Pedestrian & Bikes		2		-2	
ROW Parcels: (Relocations)		-2		-1	
Detour:		-1		-2	
Environmental:		-1		-1	
Drainage (Storm Drain):		1		1	
Utility Conflicts:		-3		-1	
Traffic: Intersections/Safety		1		-2	
	Intersection Capacity (LOS) & travel time delay	1	LOS for minor roads are rated at C with the major roads having a LOS of A	-1	LOS C for minor roads w/ major roads LOS between A and C
	Frontage Road Intersection Operations	0		2	Omit Fr Rd Intersections & potential conflicts with vehicles & non-motorized. Shift access onto US 93 which affects operations.
	Frontage Road -remove US 93 congestion	1	shift turns off US 93	-3	Omit Fr RD & local access needs are from US 93.
	Driveway Approach congestion	1	One-way flow benefits	-3	US 93 congestion expected for in/out bound, lane jumping, TWLTL conflicts
	Sequencing of Signals	1	Sequencing can be done	-1	Sequencing can be done, Round Butte minor street has LOS D
	Safety - Vehicle Conflicts 2 way v 1 way	3	1 WAY ROAD, 2 LANE 7 veh/veh & 8 Veh/ped conflict locations	-3	2 LANE ROAD 32 veh/veh & 16 veh/ped conflict locations
	Safety - Vehicle Conflicts (stop-controlled, 5-lane, left turn only)	3	2 conflicts/left turn movement for 2 direction at the intersections. Total is 4 left turn conflicts per 4 leg (and some 3-leg).	-3	6 conflicts/ left turn movement for each of 4 directions (at four leg intersection) and 4 conflicts at T-intersections. Totals are 24 left turn conflicts per 4 leg and 12 left turn per 3 leg.
Geometrics:		0		-2	
	Truck Turns @ signals	-1	Design minimizes ROW impacts	-2	Additional ROW impacts /shift Round Butte Road
	ADA ramps	1	Primarily perpendicular ramps . Ramps and sidewalk added to 1st AVE SW	-2	All parallel ramps on US 93. No ramps or sidewalk on 1st AVE SW. No boulevards buffer/maintenance issue.
	Design Exceptions	0		-3	May need additional design exceptions for Urban Standard on NH Route
	Design Exceptions	0		-2	Cleveland sight distance @ stop sign intersection, can change by modifying Cleveland to one-way westbound flow.
	Driveway Approaches	0	One-way flow benefits	-2	no shoulders & two-way flow require wide approaches.

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Appendix A: Comparison Spreadsheet (continued)

Ronan-Urban Comparison					
COMPARISON CRITERIA:		Couplet Option		VA Recommendation	
		1-way couplet		5 lane, w/ urban standard	
COST COMPARISON					
		COST (MILLIONS)	COMMENTS	COST (MILLIONS)	
Cost (millions)	Construction	\$8.3		\$6.1	
	Utility Relocation	\$0.7	(water and sewer only)	\$0.4	(water and sewer only)
	Storm Drainage	\$3.2		\$1.5	
Total: (excluding ROW & most Utilities)		\$12.2		\$8.0	
RESOURCE COMPARISON					
		RATING	COMMENTS	RATING	COMMENTS
Social/Community		0		-1	
Traffic: Intersections/Safety		1		-2	
Geometrics:		0		-2	
Pedestrian & Bikes		2		-2	
ROW Parcels: (Relocations)		-2		-1	
Detour:		-1		-2	
Environmental:		-1		-1	
Drainage (Storm Drain):		1		1	
Utility Conflicts:		-3		-1	
Pedestrian & Bikes		2		-2	
	PED crossing time -not a factor if path does NOT cross to 1st Ave	0	US 93 Crossing distance of 41 feet	-1	US 93 Crossing distance of 64 feet
	Ped crossing conflicts with vehicles	3	3 conflicts for pedestrians crossing the major street	-3	7 conflicts for pedestrians crossing the major street
	Bike/ped Path	1	Connections to East & West paths	-1	No connection to West path
	Driveway & Intersection xings	1	look 1-way for vehicles	-2	look both ways for vehicles
PED/SOCIAL					
	Parking as a buffer to peds	2		-3	no parking, small shoulder
	landscape buffer for peds	2	wide walks/path on 1st	-3	attached walks on US 93
	Snow buffer for maintenance/peds	3		-3	expect poor snow removal by city/private. Will MDT snow plow?
ROW Parcels: (Relocations)		-2		-1	
	Full Acquisition	-3	7: 5 homes & 2 business (bar & CKST). Includes city parking lot	0	Unlikely. Design shifted to miss Dentist & Arnie's
	Partial Acquisition	-3	29 total: 18 on 1st and 11 on US 93 @ Eisen/Buch Signals	-1	9 total
	Access/Driveway Impacts	-1	access control on 1st Ave.	-2	parcels lose access (on US93) but still have 2-way flow for exiting driveway. Queues may occur on property.

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Appendix A: Comparison Spreadsheet (continued)

Ronan-Urban Comparison					
COMPARISON CRITERIA:		Couplet Option	VA Recommendation		
		1-way couplet	5 lane, w/ urban standard		
COST COMPARISON					
		COST (MILLIONS)	COMMENTS	COST (MILLIONS)	
Cost (millions)	Construction	\$8.3		\$6.1	
	Utility Relocation	\$0.7	(water and sewer only)	\$0.4	(water and sewer only)
	Storm Drainage	\$3.2		\$1.5	
	Total: (excluding ROW & most Utilities)		\$12.2		\$8.0
RESOURCE COMPARISON					
		RATING	COMMENTS	RATING	COMMENTS
Social/Community		0		-1	
Traffic: Intersections/Safety		1		-2	
Geometrics:		0		-2	
Pedestrian & Bikes		2		-2	
ROW Parcels: (Relocations)		-2		-1	
Detour:		-1		-2	
Environmental:		-1		-1	
Drainage (Storm Drain):		1		1	
Utility Conflicts:		-3		-1	
Detour:		-1		-2	
1st Ave Detour not included in comparisons		N/A		-3	Repave 1st Ave, build south connection as temp detour & modify Round Butte as north connection. Risk of utility failure during detour. City Agreement req'd
US 93		-1	assumes 1st Ave SW rebuilt first then used as detour to rebuild US 93	-3	Assumes US 93 carries traffic during reconstruction, limited left turns, 3-blocks of construction & expected 4 traffic flips.
1st Ave SW		-2	1st Ave detour is away from US 93 businesses	-2	assumes no improvements on 1st Ave but will carry detour traffic that selects alternate route
Non-motorized		0	see above	-2	existing, intermittent US 93 sidewalks are assumed to be obliterated. Ped routing thru construction will be required.
Environmental:		-1		-1	
Historic Bldg Impacts		-3	CSKT, Rim Rock Bullet & McElderry	0	no historic buildings impacted
Parks Impacts		-1	proximity impacts are offset to City by MOA mitigation measures	0	avoid proximity impacts. No park improvements made.
Haz Mat Impacts		-3	Rim Rock Bullets, Arnies, Ronan Western	-2	Maybe less @ Rim Rock Bullets. Maybe more @ Arnies, Ronan Western due to depth of excavation.
Dewatering during construction		1	Use 1st Ave Storm Sewer to carry/contain contaminated ground water	-1	Contractor will need to contain contaminated ground water using own methods.
Visual		2	Soften roadway visual impact	-2	Wide road with no softening (parking, landscaping, etc.)

Appendix B

Meeting Minutes



Meeting Minutes - Ronan Urban VA

Date: 6/8/2015

Time: 9:00 AM

Facilitator: Kathy Harris, KLJ

Minutes: Review of Value Analysis Comparison Memo Attendees:

<u>Name</u>	<u>Company</u>	<u>Phone Number</u>	<u>E-mail</u>
Kathy Harris	KLJ	441-5784	kathy.harris@kljeng.com
Scott Fanning	KLJ	441-5785	scott.fanning@kljeng.com
Ed Toavs	MDT	523-5802	etoavs@mt.gov
Bob Vosen	MDT	751-2020	bvosen@mt.gov
Shane Stack	MDT	523-5830	sstack@mt.gov
Ben Nunnallee	MDT	523-5846	bnunnallee@mt.gov
Miki Lloyd	MDT	444-9200	mlloyd@mt.gov
Gabe Priebe	MDT	444-5446	gpriebe@mt.gov
Danielle Bolan	MDT	444-7295	dbolan@mt.gov
Gene Kaufman	FHWA	441-3915	Gene.kaufman@dot.gov

CC:

Discussion:

KLJ was directed to provide additional engineering and environmental evaluations to respond to VA recommendation #1. These minutes summarize the discussion of the 6/4/15 Comparison Memo prepared by KLJ.

1. Kathy Harris summarized the Comparison Memo by section.
 - a. SEIS Background.
 - i. Gene Kaufman noted the statement that the 2008 SEIS decision recognized the 60% cost increase to build the Preferred Alternative over the cost of the five-lane option was very important and should be taken into account.
 - ii. Exhibit 2 shows that the VA Recommendation will require R/W acquisition along the narrow R/W section of US 93 (Cleveland to Main Street) regardless of the changes described below. This varies from the VA Report understanding that R/W acquisition might be avoided along US 93.
 - b. VA Use of Urban Design Standards.

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- i. Miki confirmed with Lesly Tribelhorn that the MDT Urban Design Standards were applicable for this situation. Lesly also provided the following comments.
 - 1. Urban standards were developed for use in larger towns and will be included in MDT's next Road Design Manual update.
 - 2. Minimum TWLTL width is 12'.
 - 3. Minimum outside travel lane width is 12' and cannot include the gutter.
 - 4. Parallel curb ramps are the least preferable design and every effort should be made to provide perpendicular curb ramps. Danielle Bolan noted that blended transitions are also undesirable and should be used only when there is no other recourse.
 - ii. MDT will need a design exception for the use of the Urban Design Standards on a NH route, principal arterial.
 - iii. Ed Toavs prefers to utilize one typical section rather than two as recommended in the VA report. The agreed upon typical utilizes the following widths: 2-12' outside travel lanes (excluding gutter), 2-11' inside travel lanes, 1-12' TWLTL, 2-2' shoulders, 2-0.5; curbs, 10' east side sidewalk and 5' west side sidewalk with no boulevards.
 - iv. Danielle reconfirmed that vehicles turning right from US 93 onto minor streets cannot encroach into the oncoming travel lane.
- c. MDT Utility Relocation Participation.**
- i. Three options were noted. Miki Lloyd commented that the first two options had a very high risk to MDT.
- d. Comparison Summary.**
- i. Cost Comparison.
 - 1. Gene believes additional PE design costs (along with lost or unusable PE design costs) should be included in the comparison. KLJ may use a percent of cost-spent-to-date to estimate unusable PE costs. Miki will provide KLJ information on MDT Engineering costs to date.
 - 2. Gene also requested that the costs of the environmental re-work and the public outreach be shown for comparison.
 - 3. Ben Nunnallee and Shane Stack requested R/W and Utility costs be included in the cost comparison also. KLJ will include R/W costs based on assumed impact (no cross sections or detailed design will be performed) based upon unit costs used in the 2012 Ownership Report. KLJ will utilize the VA report costs for utility relocation costs which will be included.
 - ii. Detour. Bob Vosen noted disagreement with the statement that the VA Recommendation will have beneficial impact as business traffic remains on US 93 and noted that rebuilding US 93 under traffic will be very disruptive. Bob stressed traffic will typically not leave the construction traffic queue to turn into adjacent businesses. It should be expected that

- US 93 will queue traffic between mid-May to August and that the queues may not be cleared, before being stopped for opposing traffic flow.
- iii. Social/Community. Gene confirmed the items included in MOA's with CSKT and with the City of Ronan would not be eligible for federal reimbursement if they are not essential to the project.
 - iv. Environmental. Gene noted a Supplement to the EIS would be required because the VA recommendation is not the exact design of the alternative #2 in the SEIS. (Following the meeting Gene confirmed with Brian Hasselbach that a supplement may not be required as a very detailed re-evaluation would be adequate.) Brian had previously indicated the re-evaluation could be considered if there are changed conditions (such as the concern about the lack of local funding participation for utility relocations).
2. Ed Toavs requested that the 6/4/15 Memo be updated by KLJ to include the Hybrid typical section and other changes discussed above. Ed noted the US 93 MOA requires a consensus of all governments (FHWA, MDT, CSKT, City) before making a change from the current Preferred Alternative. Ed will present the results of the Hybrid Comparison of the VA recommendation to CSKT and the City of Ronan to procure their input before presenting to the TDC.

Appendix C

Cost Comparisons





Summary
of Costs:

	cost/500 Foot Segment	# of Segments	
Couplet Option:			
NB Couplet	\$408,742	9.6	\$3,923,923
SB Couplet	\$413,790	9.9	\$4,096,521
Additions: 600' SCC			\$1,000,000
Additions: Frontage Rd & Harrison Drive			\$300,000
Couplet Option:			\$9,320,444
VA Option:			
VA Option:	\$639,330	9.6	\$6,137,568
Additions: 600' SCC			\$1,000,000
Additions: Round Butte/SCC culvert			\$400,000
VA Hybrid Option:			\$7,537,568
difference:			\$1,782,876

81%



VA Wide/Hybrid Cost Estimate for 500 ft Segment

BID PRICES JAN 2015		Preliminary Estimate					
Project Number: _____				Prepared By: _____			
Project Name: _____				Date: _____			
UPN Number: _____				County: _____			
Project Length: _____ Miles				District: _____			
Design Stage: _____				Type of Work: Ronan Urban VA wide section - 500 foot section			
Item Number	Quantity	Description	Unit	Average Bid Prices		Adjusted Unit Prices	
				Unit Price	Amount	Unit Price	Amount
				Dollars	Dollars	Dollars	Dollars
105070000	1	CONTRACTOR SURVEY AND LAYOUT	LS	\$65,123.56	\$65,124.00	\$10,000.00	\$10,000.00
203020100	7585	EXCAVATION-UNCLASSIFIED	CUYD	\$4.07	\$30,871.00		\$30,871.00
203020310	3326	SPECIAL BORROW-NEAT LINE	CUYD	\$9.60	\$31,930.00		\$31,930.00
301020340	1453	CRUSHED AGGREGATE COURSE	CUYD	\$21.63	\$31,428.00		\$31,428.00
301020625	5396	AGGREGATE TREATMENT	SQYD	\$0.41	\$2,212.00		\$2,212.00
401020021	96.5	COMMERCIAL MIX-PG 70-28	TON	\$101.63	\$9,807.00		\$9,807.00
401020045	1333	PLANT MIX SURF GR S-3/4 IN	TON	\$33.15	\$44,189.00		\$44,189.00
402020092	71.8	ASPHALT CEMENT PG 64-28	TON	\$697.91	\$50,110.00		\$50,110.00
402020368	8.35	EMULSIFIED ASPHALT CRS-2P	TON	\$610.88	\$5,101.00		\$5,101.00
409000020	4641	COVER-TYPE 2	SQYD	\$0.55	\$2,553.00		\$2,553.00
608010020	267	SIDEWALK-CONCRETE 4 IN	SQYD	\$54.56	\$14,568.00		\$14,568.00
608010050	66	SIDEWALK-CONCRETE 6 IN	SQYD	\$70.93	\$4,681.00		\$4,681.00
618030080	1	TRAFFIC CONTROL	LS	\$8,813.00	\$8,813.00	\$50,000.00	\$50,000.00
	1	ELECTRICAL ESTIMATE			\$0.00	\$20,000.00	\$20,000.00
	1	SIGNING AND STRIPING ESTIMATE			\$0.00	\$5,000.00	\$5,000.00
					\$301,387.00		\$312,450.00
◀ ▶	25%	Mobilization			\$75,346.75		\$78,112.50
		Subtotal			\$376,733.75		\$390,562.50
◀ ▶	25%	Contingency			\$94,183.44		\$97,640.63
		Construction Total			\$470,917.19		\$488,203.13
◀ ▶	20%	Construction Engineering					\$97,640.63
		Total					\$585,843.75
	9.13%	Indirect Cost (IDC)-Construction					\$44,572.95
		Total Construction w/IDC					\$532,776.07
	9.13%	Indirect Cost (IDC) - Construction Engineering					\$8,914.59
		Total Construction Engineering w/IDC					\$106,555.21
		Total w/IDC					\$639,331.28
		Project Length	Miles				
		Project Average Finish Top Width	Feet				
		Cost per Mile (Uses Construction Total)					#DIV/0!
		Cost per Sq. Yard (Uses Construction Total)					#DIV/0!
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SB Couplet Cost Estimate for 500 ft Segment

BID PRICES JAN 2015		Preliminary Estimate					
Project Number: _____				Prepared By: _____			
Project Name: _____				Date: _____			
UPN Number: _____				County: _____			
Project Length: _____ Miles				District: _____			
Design Stage: _____				Type of Work: Ronan Urban couplet SB section - 500 foot section			
Item Number	Quantity	Description	Unit	Average Bid Prices		Adjusted Unit Prices	
				Unit Price	Amount	Unit Price	Amount
				Dollars	Dollars	Dollars	Dollars
105070000	1	CONTRACTOR SURVEY AND LAYOUT	LS	\$65,123.56	\$65,124.00	\$10,000.00	\$10,000.00
203020100	1800	EXCAVATION-UNCLASSIFIED	CUYD	\$4.07	\$7,326.00		\$7,326.00
203020200	300	EXCAVATION-UNCLASS BORROW	CUYD	\$3.22	\$966.00	\$6.00	\$1,800.00
203020310	2289	SPECIAL BORROW-NEAT LINE	CUYD	\$9.60	\$21,974.00		\$21,974.00
301020340	828	CRUSHED AGGREGATE COURSE	CUYD	\$21.63	\$17,910.00		\$17,910.00
301020625	2441	AGGREGATE TREATMENT	SQYD	\$0.41	\$1,001.00		\$1,001.00
401020045	833	PLANT MIX SURF GR S-3/4 IN	TON	\$33.15	\$27,614.00		\$27,614.00
402020092	44.8	ASPHALT CEMENT PG 64-28	TON	\$697.91	\$31,266.00		\$31,266.00
402020368	5.6	EMULSIFIED ASPHALT CRS-2P	TON	\$610.88	\$3,421.00		\$3,421.00
409000020	3086	COVER-TYPE 2	SQYD	\$0.55	\$1,697.00		\$1,697.00
608010020	1011	SIDEWALK-CONCRETE 4 IN	SQYD	\$54.56	\$55,160.00		\$55,160.00
608010050	178	SIDEWALK-CONCRETE 6 IN	SQYD	\$70.93	\$12,626.00		\$12,626.00
618030080	1	TRAFFIC CONTROL	LS	\$8,813.00	\$8,813.00	\$20,000.00	\$20,000.00
	1	ELECTRICAL ESTIMATE			\$0.00	\$20,000.00	\$20,000.00
	1	SIGNING AND STRIPING ESTIMATE			\$0.00	\$5,000.00	\$5,000.00
					\$254,898.00		\$236,795.00
◀ ▶	18%	Mobilization			\$45,881.64		\$42,623.10
		Subtotal			\$300,779.64		\$279,418.10
◀ ▶	18%	Contingency			\$54,140.34		\$50,295.26
		Construction Total			\$354,919.98		\$329,713.36
◀ ▶	15%	Construction Engineering					\$49,457.00
		Total					\$379,170.36
	9.13%	Indirect Cost (IDC)-Construction					\$30,102.83
		Total Construction w/IDC					\$359,816.19
	9.13%	Indirect Cost (IDC) - Construction Engineering					\$4,515.42
		Total Construction Engineering w/IDC					\$53,972.43
		Total w/IDC					\$413,788.62
		Project Length	Miles				
		Project Average Finish Top Width	Feet				
		Cost per Mile (Uses Construction Total)					#DIV/0!
		Cost per Sq. Yard (Uses Construction Total)					#DIV/0!
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NB Couplet Cost Estimate for 500 ft Segment

BID PRICES JAN 2015		Preliminary Estimate					
Project Number: _____			Prepared By: _____				
Project Name: _____			Date: _____				
UPN Number: _____			County: _____				
Project Length: _____ Miles			District: _____				
Design Stage: _____			Type of Work: Ronan Urban couplet NB section - 500 foot section				
Item Number	Quantity	Description	Unit	Average Bid Prices		Adjusted Unit Prices	
				Unit Price	Amount	Unit Price	Amount
				Dollars	Dollars	Dollars	Dollars
105070000	1	CONTRACTOR SURVEY AND LAYOUT	LS	\$65,123.56	\$65,124.00	\$10,000.00	\$10,000.00
203020100	4720	EXCAVATION-UNCLASSIFIED	CUYD	\$4.07	\$19,210.00		\$19,210.00
203020310	2289	SPECIAL BORROW-NEAT LINE	CUYD	\$9.60	\$21,974.00		\$21,974.00
301020340	950	CRUSHED AGGREGATE COURSE	CUYD	\$21.63	\$20,549.00		\$20,549.00
301020625	3086	AGGREGATE TREATMENT	SQYD	\$0.41	\$1,265.00		\$1,265.00
401020021	96.5	COMMERCIAL MIX-PG 70-28	TON	\$101.63	\$9,807.00		\$9,807.00
401020045	833	PLANT MIX SURF GR S-3/4 IN	TON	\$33.15	\$27,614.00		\$27,614.00
402020092	44.8	ASPHALT CEMENT PG 64-28	TON	\$697.91	\$31,266.00		\$31,266.00
402020368	5.6	EMULSIFIED ASPHALT CRS-2P	TON	\$610.88	\$3,421.00		\$3,421.00
409000020	3086	COVER-TYPE 2	SQYD	\$0.55	\$1,697.00		\$1,697.00
608010020	656	SIDEWALK-CONCRETE 4 IN	SQYD	\$54.56	\$35,791.00		\$35,791.00
608010050	89	SIDEWALK-CONCRETE 6 IN	SQYD	\$70.93	\$6,313.00		\$6,313.00
618030080	1	TRAFFIC CONTROL	LS	\$8,813.00	\$8,813.00	\$20,000.00	\$20,000.00
	1	ELECTRICAL ESTIMATE			\$0.00	\$20,000.00	\$20,000.00
	1	SIGNING AND STRIPING ESTIMATE			\$0.00	\$5,000.00	\$5,000.00
					\$252,844.00		\$233,907.00
◀ ▶	18%	Mobilization			\$45,511.92		\$42,103.26
		Subtotal			\$298,355.92		\$276,010.26
◀ ▶	18%	Contingency			\$53,704.07		\$49,681.85
		Construction Total			\$352,059.99		\$325,692.11
◀ ▶	15%	Construction Engineering					\$48,853.82
		Total					\$374,545.92
	9.13%	Indirect Cost (IDC)-Construction					\$29,735.69
		Total Construction w/IDC					\$355,427.80
	9.13%	Indirect Cost (IDC) - Construction Engineering					\$4,460.35
		Total Construction Engineering w/IDC					\$53,314.17
		Total w/IDC					\$408,741.97
		Project Length	Miles				
		Project Average Finish Top Width	Feet				
		Cost per Mile (Uses Construction Total)					#DIV/0!
		Cost per Sq. Yard (Uses Construction Total)					#DIV/0!
User: Scott Fanning			File Name: Z:\Project-Active\2011\11-076\Cost Estimate\2011			Date: 6/25/2015 15:26	

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Appendix D

Comparison Table





Ronan-Urban Comparison				
COMPARISON CRITERIA:	Couplet Option		VA Hybrid Option	
	1-way couplet		5 lane, w/ urban standard	
COST COMPARISON				
	COST (MILLIONS)	COMMENTS	COST (MILLIONS)	
Construction	9.320		7.538	
Utility Relocations (VA Rpt)	2.000	(private and public)	0.600	(private and public)
Storm Drainage	3.200	US 93 & 1st Ave	1.500	US 93 only
Sub Total: Project Const Costs (Include CE,	14.520		9.638	
ROW Conceptual Costs	5.700	MDT Estimate w/ 3 business & 8 residence relocations	0.857	MDT estimate, 1 business relocation
Addl Enviro/Public Outreach Costs			0.065	Re-eval & public mtgs/outreach
Unusable Engineering Costs			0.700	Unusable Design & Coord Costs
Total Costs:	20.220		11.260	
			8.961	POSSIBLE SAVINGS
RESOURCE COMPARISON				
	RATING	COMMENTS	RATING	COMMENTS
Social/Community	0		-2	
Traffic: Intersections/Safety	1		-2	
Geometrics:	0		-2	
Pedestrian & Bikes	2		-2	
ROW (Acquisition & Relocations)	-2		-1	
Detour:	-1		-2	
Environmental:	-1		-1	
Drainage (Storm Drain):	2		1	
Utility Conflicts:	-3		-1	
Social/Comm	0		-2	
Lifestyle: fluid traffic movement & reduced conflicts	2		-2	
Lifestyle: bike lanes & sidewalks	3		1	
Community cohesion: eliminate some traffic movements & necessitate different routes	-2	eliminate some movements & alternate routes	-3	routes eliminated by congestion, avoid US 93. difficult to cross 93
US 93 as a barrier (town cohesion)	0	two, one-way roads to cross but curb/parking buffers	-3	Larger roadway is greater barrier to crossing.
US 93 as a pass-thru town, commercial stops are missed	1	couplet exposes more of town to US 93 traffic	-3	not make easy access to/from businesses, no shoulders, especially lefts.
Ease of Access to/from existing businesses	2	reduce congestion @ accesses	-3	driveway congestion for in & out bound, left turns across 2 lanes of traffic & pedestrians
Housing:	-2	Design shows 2 homes & City agreement shows 2 homes acquired. does not cause shortage	0	no housing affected
Business Relocations (not ROW cost but social change)	-2	CSKT Health, Club Bar,	-1	Les Schwab
Housing: ADA access	1	Improve ADA access to 1st Avenue including senior housing	0	
Park Impacts-Proximity	-3	two-lane US 93 next to community park	-1	US 93 remains as is, 1-block away, still has noise/visual impacts
Diverts Traffic to Main/downtown	2		-2	no link into Main/downtown
non-SEIS: Detour Routes-City Agreement	0		-1	Will need City Agreement to use 1st Ave SW as Detour Route
non-SEIS: Increased Parking (community desire)	2	new City Park lots & couplet allows parallel parking	-2	no additional areas & non along US 93
non-SEIS: Parking Changes	-1	Loss of parking (w/in public ROW) raised business concerns	-1	no parking replacements are planned (on US 93 or other) & no losses on 1st

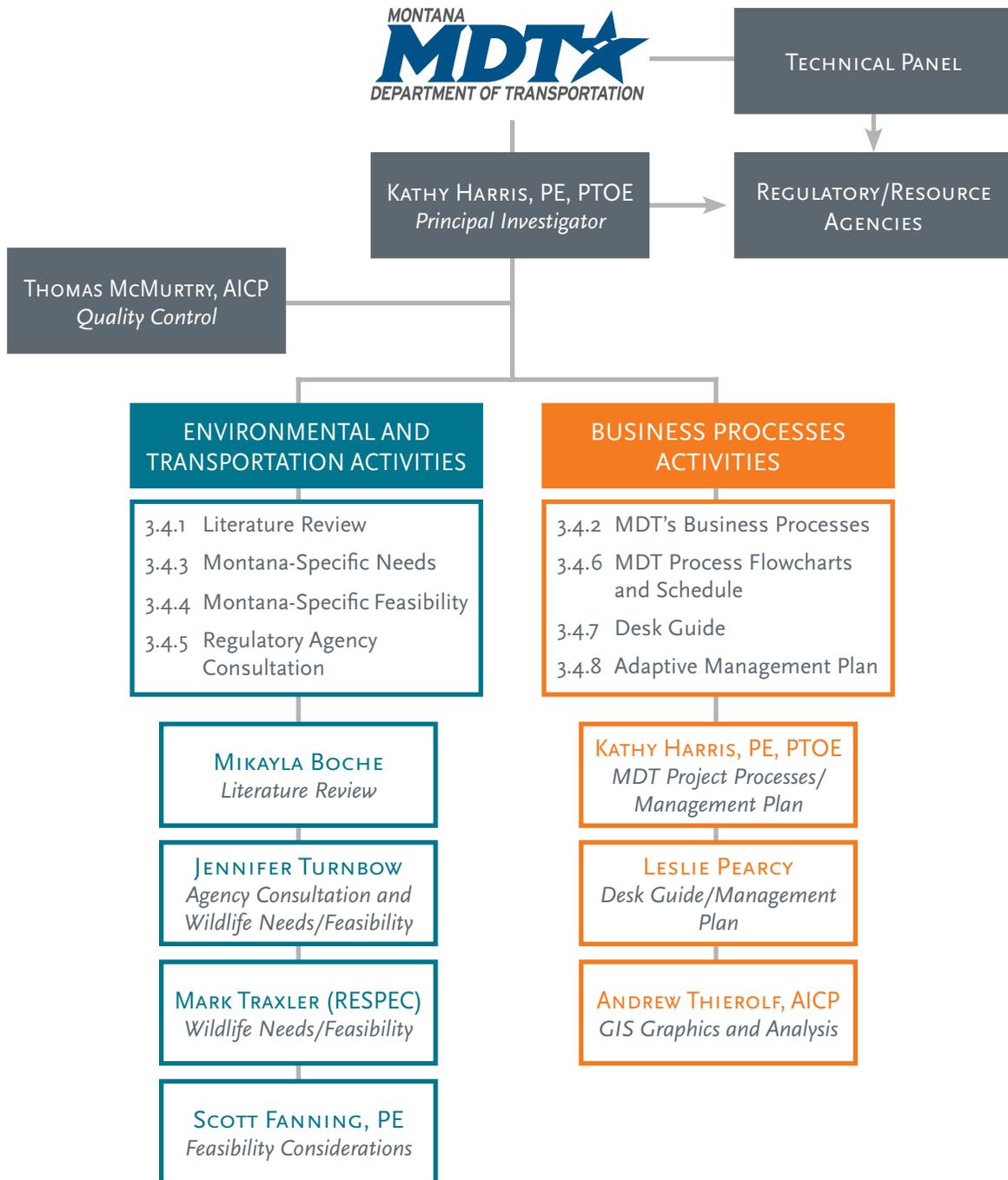
NATIONAL PERSPECTIVE
REGIONAL EXPERTISE
TRUSTED ADVISOR

Ronan-Urban Comparison					
COMPARISON CRITERIA:		Couplet Option		VA Hybrid Option	
		1-way couplet		5 lane, w/ urban standard	
COST COMPARISON					
RESOURCE COMPARISON					
		RATING	COMMENTS	RATING	COMMENTS
Traffic: Intersections/Safety		1		-2	
	Intersection Capacity (LOS) & travel time delay	1	LOS for minor roads are rated at C with the major roads having a LOS of A	-1	LOS C for minor roads w/ major roads LOS between A and C
	Frontage Road Intersection Operations	0		2	Omit Fr Rd Intersections & potential conflicts with vehicles & non-motorized. Shift access onto US 93 which affects operations.
	Frontage Road -removes US 93 congestion	1	shift turns off US 93	-3	Omit Fr RD & local access needs are from US 93.
	Driveway Approach congestion	1	One-way flow benefits	-3	US 93 congestion expected for in/out bound, lane jumping, TWLTL conflicts
	Sequencing of Signals	1	Sequencing can be done	-1	Sequencing can be done, Round Butte minor street has LOS D
	Safety - Vehicle Conflicts 2 way v 1 way	3	1 WAY ROAD, 2 LANE 7 veh/veh & 8 Veh/ped conflict locations	-3	2 LANE ROAD 32 veh/veh & 16 veh/ped conflict locations
	Safety - Vehicle Conflicts (stop-controlled, 5-lane, left turn only)	3	2 conflicts/left turn movement for 2 direction at the intersections. Total is 4 left turn conflicts per 4 leg (and some 3-leg).	-3	each of 4 directions (at four leg intersection) and 4 conflicts at T-intersections. Totals are 24 left turn conflicts per 4 leg and 12 left turn per 3 leg.
Geometrics:		0		-2	
	Truck Turns @ signals	-1	Design minimizes ROW impacts	-2	Additional ROW impacts /shift Round Butte Road
	ADA ramps	1	Primarily perpendicular ramps . Ramps and sidewalk added to 1st AVE SW	-2	Parallel/blended ramps on US 93. No ramps or sidewalk on 1st Ave. No boulevards buffer/maintenance issue.
	Design Exceptions	0		-3	Additional design exceptions for Urban Standard on NH Route
	Design Exceptions	0		-2	Cleveland sight distance @ stop sign intersection, can change by modifying Cleveland to one-way westbound flow.
	Round Butte/Terrace Lake/US 93	2	Signalized, 1-way intersection	-3	Rebuild Round Butte Road 30' north to avoid ROW from contaminated Arnie's Gas Station. Shift signal north & off centerline. Realign Terrace Lake Road & new Spring Creek Culvert
	Driveway Approaches	0	One-way flow benefits	-2	no shoulders & two-way flow require wide approaches.

Ronan-Urban Comparison					
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		1-way couplet		5 lane, w/ urban standard	
COST COMPARISON					
RESOURCE COMPARISON					
		RATING	COMMENTS	RATING	COMMENTS
Pedestrian & Bikes		2		-2	
	PED crossing time -not a factor if path does NOT cross to 1st Ave	0	US 93 Crossing distance of 41 feet	-1	US 93 Crossing distance of 64 feet
	Ped crossing conflicts with vehicles	3	3 conflicts for pedestrians crossing the major street	-3	7 conflicts for pedestrians crossing the major street
	Bike/ped Path	1	Connections to East & West paths	-1	No connection to West path
	Driveway & Intersection xings	1	look 1-way for vehicles	-2	look both ways for vehicles
PED/SOCIAL	Parking as a buffer to peds	2		-3	no parking, small shoulder
	landscape buffer for peds	2	wide walks/path on 1st	-3	attached walks on US 93
	Snow buffer for maintenance/peds	3		-3	city/private. MDT maintenacne of walks on US 93.
ROW (Acquisition & Relocations)		-2		-1	
	Full Acquisition	-3	7: 4 homes & 2 business (bar & CKST). Includes city parking lots	0	Unlikely. Design shifted to miss Dentist & Arnie's
	Partial Acquisition	-3	68 total: 39 on 1st and 25 on US 93	-1	29 total : 18 new on US 93
	Access/Driveway Impacts	-1	access control on 1st Ave.	-2	parcels lose access (on US93) but still have 2-way flow for exiting driveway. Queues may occur on property.
Detour:		-1		-2	
	US 93	-1	assumes 1st Ave SW rebuilt first then used as detour to rebuild US 93	-3	Assumes US 93 carries traffic during reconstruction, limited left turns, 3-blocks of construction & expected 4 traffic flips.
	1st Ave SW	-2	1st Ave detour is away from US 93 businesses	-2	assumes no improvements on 1st Ave but will carry detour traffic that selects alternate route
	Non-motorized	0		-2	existing, intermittent US 93 sidewalks are assumed to be obliterated. Ped routing thru construction will be required.
Environmental:		-1		-1	
	Historic Bldg Impacts	-3	CSKT, Rim Rock Bullet & McElderry	0	no historic buildings impacted
	Parks Impacts	-1	proximity impacts are offset to City by MOA mitigation measures	0	avoid proximity impacts. No park improvements made.
	Haz Mat Impacts	-3	Rim Rock Bullets, Arnies, Ronan Western	-2	Maybe less @ Rim Rock Bullets. Maybe more @ Arnies, Ronan Western due to depth of excavation.
	Dewatering during construction	1	Use 1st Ave Storm Sewer to carry/contain contaminated ground water	-1	Contractor will need to contain contaminated ground water using own methods.
	Visual	2	Soften roadway visual impact	-2	Wide road with no softening (parking, landscaping, etc.)

Ronan-Urban Comparison					
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		1-way couplet		5 lane, w/ urban standard	
COST COMPARISON					
RESOURCE COMPARISON					
		RATING	COMMENTS	RATING	COMMENTS
Drainage (Storm Drain):		2		1	
	US 93	3	New storm drain on US 93.	2	New storm drain on US 93 @ greater depth/cost.
	1st Ave	2	New storm drain on 1ST AVE SW.	0	No new storm drain on 1ST AVE SW @ reduced cost
	Options to 1st Ave	2	New storm drain on 1ST AVE SW & US 93 without water or sewer relocates.	1	New storm drain on US 93 only.
Utility Conflicts:		-3		-1	
	Water	-3	Decreased fill over water (possible replacement/lower). Multiple WW & FH adjustments. Lateral storm/water conflict on 1ST AVE SW south of Eisenhower ST	-1	Decreased fill over water (possible replacement/lower). Multiple WW & FH adjustments. Many storm/water crossings (possible conflicts?)
	Sanitary	-3	relocate @ new Spring Creek Box Culvert. Lateral storm/sanitary conflict on 1ST AVE SW south of Franklin ST	-2	Multiple MH adjustments. Sanitary relocate @ new Spring Creek Box Culvert. Many storm/sanitary crossings
	Cable/FO	-3	Lateral Road/FO conflicts on 1ST AVE SW & US 93 Lateral storm/FO conflict on 1ST AVE SW south of Eisenhower ST	-1	Lateral Road/FO conflicts on US93. Many storm/FO crossings (possible conflicts?)
	Power	-2	Lateral Road/Power/Pole/Light conflicts on 1ST AVE SW & US 93 Many storm/overhead power crossings (possible conflicts?)	-1	Lateral Road/Power/Pole/Light conflicts on US 93 Many storm/overhead power crossings (possible conflicts?)
	Phone	-3	Lateral Road/Phone/Pole conflicts on 1ST AVE SW & US 93 Lateral storm/phone conflict on 1ST AVE SW for the majority of its length.	-1	Lateral Road/Phone/Pole conflicts on US93. Many storm/phone crossings (possible conflicts?)

4.2.3 STAFFING
Organizational Chart



Our proposal and fee estimate provide the information requested in sections 4.2.3.1, 4.2.3.2 and 4.2.3.3. We concur with Section 4.2.3.5, 4.2.3.6 and 4.2.3.8.

4.2.3.4 *Current and Predicted Workloads*

KLJ and RESPEC have reviewed current staff commitments and have ascertained that key staff are available to commit to the Wildlife Accommodation Process. Key staff commitments are summarized below over the expected 14-month duration of the project.

- » Principal Investigator, Kathy Harris, has just finalized delivery of a major MDT project (the Kalispell Bypass) and will have 80 percent of time committed (including this project).
- » Senior Environmental Lead, Jennifer Turnbow, has 90 percent of time committed.
- » Environmental Researcher, Mikayla Boche, Feasibility Specialist, Scott Fanning, Business Process Specialist, Leslie Percy, GIS Graphics, Andrew Theirolf and QC, Thomas McMurtry all are at a 50 percent time commitment.
- » Mark Traxler, RESPEC, will have 90 percent of time committed.

4.3 ORAL PRESENTATION AND INTERVIEW

We concur with requirements for Section 4.3.



4.2.3.7 Letter of Concurrence from Sub-consultant (RESPEC)



August 5, 2015

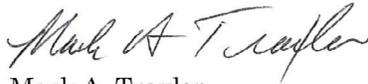
Ms. Kathy Harris, PE PTOE
KLJ
2969 Airport Road, Suite 1B
Helena, MT 59601

**RE: MDT Wildlife Accommodation Process RFP Number: #HWY-311733-SH
RESPEC Letter of Intent**

Dear Ms. Harris:

RESPEC is pleased to serve as a subconsultant to KLJ on the referenced project proposal and it is our intent to provide the specific services described in KLJ's proposal.

Sincerely,



Mark A. Traxler
RESPEC

NATIONAL PERSPECTIVE.

KLJ has the size and scope of engineering-based services you need, with the local expertise to drive your project forward to a successful result.



REGIONAL EXPERTISE.

KLJ is dedicated to improving the health, safety and welfare of our communities.



TRUSTED ADVISOR.

KLJ delivers quality and accuracy you expect from a trusted advisor and dedicated partner.



EOE/M/F/Vet/Disability