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ACTIVITY 100 Interactive Project Evaluation (3/10/2021)

DEFINITION:
Meet to scope the project. This will enable the consultant to prepare a scope of services, cost proposal and schedule.

TASKS:

1. Attend scoping meeting.
   a. Discuss with MDT the timing requirements for the Notice of Intent.
2. Determine project activities, develop scope of services and cost proposal.
3. Prepare Consultant activity durations for all applicable flowchart activities.
   a. Develop a QA /QC plan for an independent technical and editorial review process for all environmental document submittals.
4. Request, from MDT, the completed Level of Environmental Documentation Form. (This document may be obtained by the MDT Consultant Project Engineer from the Environmental Project Development Engineer.)
5. Monthly meetings.
   a. For Environmental Assessment (EA) and Environmental Impact Statement (EIS): Working Group monthly meetings are required by MDT practice. Determine Working Group participants.
   b. For Categorical Exclusions (CE): Frequency of meetings to be agreed upon by MDT Consultant Project Engineer and Environmental Project Development Engineer.
6. If the scoping meeting minutes will serve as the Preliminary Field Review (PFR) for the project, prepare the document in accordance with the PFR requirements as outlined in the MDT Road Design Manual.
7. Determine if pavement deflection data will be required for the project. Consultant will notify the MDT Consultant Project Engineer who will notify the MDT Non-Destructive Testing Supervisor in the Materials Bureau for scheduling. The raw data can only be collected seasonally from May through September because of freezing conditions. Include Activity 608 in schedule if pavement deflection testing data is required.
8. Determine if "Right of Entry" forms are required for site investigations on private land.
9. Meet with MDT's Helena Survey Unit to discuss MDT survey requirements.
10. After meeting with MDT to determine survey requirements, develop proposed control survey plan.
11. Negotiations completed within 9 weeks from the Consultant Selection Board meeting. Contract executed within 11 weeks from the Consultant Selection Board meeting.

NOTE:
The following terms apply to the National Environmental Policy Act (NEPA) process:

1) Working Group – includes required participation by MDT, FHWA and the consultant.

2) Focus Group – includes the Working Group and participation of other groups (public or private) as necessary.

START DEPENDENCIES:

Selection of a consultant by the Consultant Selection Board.

DELIVERABLES:

1. Scoping Meeting Minutes or Preliminary Field Review Report (PFR).
2. Submit proposed control survey plan for approval.
3. Scope of services, cost estimate and schedule.
4. Include Consultants standard QA/QC process for proposed work or a specific Project Quality Plan if required.

ACTIVITY 101 Public Involvement (4/7/21)

Engaging the public early and throughout the transportation decision-making process is key to the Montana Department of Transportation's (MDT) mission. Meaningful public involvement efforts build trust and credibility for the department and enhance the awareness and understanding of MDT actions. Working continually, cooperatively, and comprehensively with the public and stakeholders allows MDT to deliver transportation solutions that improve safety and efficiency, protect natural and human environments, and contribute to community vitality and general well-being.

Refer to the MDT Public Involvement Plan and the Engineering Project Communication Process to determine appropriate public involvement opportunities and strategies during project development. Use these resources to develop an appropriate public involvement plan and/or project communication plan for the project.
http://www.mdt.mt.gov/publications/docs/manuals/pubinvhb.pdf.
http://mdtinfo.mdt.mt.gov/const/pc-process/default.shtml

Public involvement within the Survey Phase of the project may include seeking input during the development of the proposed scope of work, results of the planning process, anticipated survey work on private property, descriptions of expected design activity, and public information meetings. The Survey Phase is the appropriate time to develop a project specific webpage on the MDT website.

TASKS:

1. Develop Public and Stakeholder Involvement Plan
2. Draft and transmit news release. News release should be submitted immediately after the notice to proceed for the contract.
3. Prepare Project Website if appropriate.
4. Prepare/Conduct Informational Meeting

ACTIVITY 102 Alternatives Analysis (3/10/2021)

CORRESPONDING MDT REVIEW ACTIVITY:

260 Review Project Alternatives

DEFINITION:

This activity is intended for projects that are not well defined. The activity includes a high-level assessment, considering all possibilities, quickly filtering down to a short list of alternatives to proceed forward.

TASKS:

Preliminary plan preparation (212)

5. Compile available project data.
6. Conduct preliminary design meetings and determine preliminary design criteria.
7. Solicit stakeholder and Public input.
8. Determine project alternatives.
9. Risk Analysis.
10. Define alternatives screening criteria.
11. Screen alternatives and determine feasible alternatives

START DEPENDENCIES:

Completion of Activity 100

DELIVERABLES:

Activity 102 Report, containing alternatives considered, screening process and feasible alternatives for MDT's consideration.

ACTIVITY 103 Preliminary Conceptual Mitigation Plans (01/02/2015)

DEFINITION:
Development by consultant of preliminary conceptual plans for a proposed wetland mitigation site. This may include several conceptual options, as well as anticipated construction costs to maximize wetland credit development within the parcel of land.

TASKS:
1) Preliminary Field Report (PFR) meeting with MDT headquarters and district personnel as well as Federal, State and tribal resource agencies at the proposed wetland mitigation site.
2) Initiate development of conceptual plans to maximize stream and/or wetland mitigation credit development.
3) Maximize mitigation credits for each plan to fulfill MDT project needs within the watershed.
4) Prepare conceptual plans and profile.
5) Develop cost estimates for the development of each conceptual plans.
6) Develop anticipated project schedule for construction of wetland project.

START DEPENDENCIES:
Completion of Activity 100

DELIVERABLES:
1) DRAFT Conceptual Mitigation Report.
2) Project schedule for completion of various tasks

ACTIVITY 104 (804) Access Control Goals and Objectives (04/23/2012)

DEFINITION:

This activity is meant to initiate the process of implementing (limited) access control on a project. The initial recommendation for including access control should be made during the Preliminary Field Review (PFR). The PFR report should include the reason(s) that access control is being considered, the extent to which access should be controlled, and any other pertinent discussion. This can then be fashioned into a Goals and Objectives (G&O) Statement. The Consultant will be responsible for preparing the access control study, which is to include an approach inventory, as well as a basic preliminary ownership report.

TASKS:

1. The Consultant prepares the G&O Statement from the template provided and submits it to MDT for review and comment.
2. The Access Management Supervisor submits the Final G&O Statement to MDT's Public Affairs office. This information will be used in advertising and notifying the public through news releases and will assure that attention will be given to the topic during the public involvement process.

START DEPENDENCIES:

Preliminary Field Review Report (PFR) declaring that project will include access control.

DELIVERABLES:

1. An electronic copy of a preliminary G&O statement for review and comment.
2. A PDF of the Final G&O Statement for distribution.

ACTIVITY 105 Environmental Wetland Evaluation (04/23/2012)

CORRESPONDING MDT REVIEW ACTIVITY:
781 Environmental Resource Report Review

DEFINITION:
Preparation of the technical Environmental Resource Reports (Hazardous Waste, Cultural Resources, Biological Assessment, Wetland Findings) that will ultimately be utilized for development of the DRAFT NEPA/MEPA document for the proposed wetland mitigation project.

NOTE:
Receive MDT approval prior to making contact with any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all correspondence to MDT for review and approval.

TASKS:
1) Section 106 Clearance (724)
2) Perform an intensive pedestrian cultural resource inventory (archeological and historic properties survey) and record and evaluate all cultural resources within the proposed project area. Prepare cultural resource report.
3) The MDT is solely responsible for completing the Section 106 process. MDT will prepare the determination of effect and prepare and submit to SHPO, FHWA and ACHP, any memorandum of agreement necessary to complete the Section 106 phase of the project.
4) Hazardous Materials/Substances/Air and Noise (Initial Site Assessment) if applicable based on information provided at the project scoping meeting.
   a) Perform Initial Site Assessment (ISA Form can be found on MDT's website). May include in-house review of translites, plans (if available), as-builts plans, TIS Image Viewer, historic air photos, and on-site review (if warranted).
   b) Review historic land uses, Sanborn maps, State and Federal Superfund list, MDEQ Underground Tank Program files, and other relevant databases.
   c) Consult with appropriate environmental regulatory and local agencies to determine if hazardous materials/substances or groundwater quality issues could potentially impact the project.
   d) Determine if Preliminary Site Investigation (PSI – activity 746) is needed.
   e) Air Quality Assessment (742) Determine if project is in a non-attainment or maintenance area for CO or PM-10/2.5, and determine if project is exempt from conformity (Table 2, 40 CFR 93.126).
   f) Determine if project needs a CO hot-spot analysis. Consult the regulations (93.123) and follow required consultation procedures (Montana Air Quality SIP).

   g) Determine need for PM-10 or PM 2.5 hot-spot analysis. If project is not listed in Table 2 of 40 CFR 93.126, then determine if it is a project of "localized air quality concern." Refer to Transportation Conformity Guidance for Qualitative Hot-spot

Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas (EPA420-B-06-902, March, 2006).

h) Determine need for a discussion of Mobile Source Air Toxics (MSATs). This is not required for projects that are categorically excluded under 23 CFR 771.117(c), or those projects which are exempt under the Clean Air Act (Transportation Conformity, 40 CFR 93.126). All other projects, whether located in a non-attainment area or not, require some level of discussion of MSATs. Refer to FHWA guidance document HEPN-10, dated Feb 3, 2006.

i) Preliminary Traffic Noise Assessment (704) Conduct the Preliminary Noise Screening Procedure as outlined in MDT's Noise Policy/Procedure Manual (June 2001 or most recent version). This manual can be found on MDT's web site.

j) Submit ISA Form or an Initial Site Assessment report to the Department.

5) General Fish and Wildlife Assessment – Biological Resource Report (706) and Biological Assessment (752)
6) Perform a field and/or a literature review to identify all general wildlife, fish, critical habitats, vegetative communities and rare and/or sensitive plants located at the project site and/or along the project corridor.
7) Perform a field and/or literature review to identify all wetlands, rivers, streams, and other water resources located at a specific construction site or throughout a project's construction corridor for survey and illustration on project plans.
8) Discuss the location, size, and the relative functions of all wetlands, rivers, streams, and other water resources that may be affected with the MDT design group or consultant responsible for designing the project and preparing its' Scope of Work
9) Identify and perform all initial feasibility studies, i.e., field reviews, literature reviews, water rights, ownership studies, etc., for potential on-site, project specific, wetland mitigation sites for further evaluation and development under activity 750.
10) Ensure that all potential on-site, project specific, wetland mitigation sites are accurately identified in the project's preliminary field review report and on preliminary plans, whenever possible and appropriate. Alert Right-of-Way agent of potential opportunities so that they can pursue landowner coordination. Selected sites will be included and discussed in the project's Scope of Work Report.
11) Request information from MT FWP, DEQ, USFS, BLM, DNRC, USFWS and any other pertinent agencies that have a management or regulatory interest in the wildlife, fish, critical habitats, rare and/or sensitive plants, wetlands, rivers and streams, and other water resources that may be affected by the project.
12) Prepare a written assessment of the fish, wildlife, critical habitats, rare and/or sensitive plants, wetland, river, stream, and other water resources located at the project site and/or along the project corridor. The assessment will include a comprehensive analysis and discussion, including suggestions for the avoidance and/or minimization of impacts to, of the fish, wildlife, critical habitats, rare and/or sensitive plants, wetland, river, stream, and other water resources at the project site and/or along the project corridor.
13) Wetland Finding Report (734)
14) Prepare a Wetlands Finding report including a delineation of all existing wetlands and other aquatic resources/features located within the proposed mitigation area. All

wetlands are to be delineated and described in detail as to the Cowardin and Hydrogeomorphic Classes of Aquatic Vegetation communities.

15) Completion of the Routine Data Forms from the Corps 1987 Federal Jurisdictional Wetlands Delineation manual for each distinct and different wetland vegetation community on the property.
16) Completion of the most current MDT Montana Wetland Assessment Methodology form for each different wetland community identified during the delineation of existing resources.
17) Attend a field meeting with US Army Corps of Engineers, US Environmental Protection Agency, and Tribal Wetland protection personnel to verify existing wetland boundaries within the proposed wetland mitigation site for acceptance to proceed with design efforts and mitigation credit development.
18) Prepare and submit draft Wetland Findings Report to MDT.

START DEPENDENCIES:

Completion of Activity 100.

DELIVERABLES:

1) Preliminary Biological Resource Report, (include Biological Assessment report if required).
2) Preliminary Hazardous Waste ISA Report
3) Preliminary Wetland Findings Report
4) Completion of activity 781 checklist.

ACTIVITY 106 Preliminary Geotech and Surfacing (03/16/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
440 Preliminary Geotech and Surfacing Review

DEFINITION:
Provide preliminary information relevant to geotechnical and surfacing issues as determined in project scoping. Tasks may include the following depending on the scope of the project and required data for design. Coordinate with the Geotechnical and Pavement Analysis Functional Managers to establish the need for each task.

TASKS:

Request deflection testing of existing pavement by MDT if required.
Reference **MDT Activity 602 Deflection Testing** to determine requirements specific for the project. Deflection Testing can only be performed between April through October. If testing is required, it is critical to request deflection testing asap to be included in MDT's testing schedule. Request deflection test at initial scoping meeting. Note verification cores and DCP testing completed as part of Activity 602 are nominal and not sufficient to replace testing accomplished in activity 451.

Field Investigation of the existing Surfacing Section
Reference **MDT Activity 451 Surfacing Core and Investigation (Field)** to determine requirements specific for the project.

Investigate and Report on culvert conditions.)
Reference **MDT Activity 453 Hydraulics Material Survey** to determined requirements specific for the project. Coordinate with Hydraulics to determine task and who will complete the necessary task for this activity.

Conduct Preliminary Subsurface Investigation
Reference **MDT Activity 455 Preliminary Subsurface Investigation** to determine requirements specific for the project.

Preliminary Geotechnical Office Review and Field Reconnaissance
Reference **MDT Activity 460 Preliminary Geotechnical Evaluation** to determine requirements specific for the project.

Prepare Preliminary Surfacing Typical Sections (600)
Reference **MDT Activity 600 Prepare Preliminary Surfacing Typical Section** to determine requirements specific for the project.

START DEPENDENCIES:
Completion of Activity 100

DELIVERABLES:

Reference MDT Activities 602, 451, 453, 460 and 600 for expected deliverables.

1. Completed MDT review activity 440 checklist.
2. Preliminary Geotechnical and Surfacing Design Report to include the following, as applicable:
   a. Core Evaluation Report.
   b. Culvert Inspection Report.
   c. Preliminary Geotechnical Evaluation Report.
   d. Preliminary Surfacing Recommendations. (Minimum of 3 with economic analysis.)

ACTIVITY 107 Geotechnical Wetland Evaluation (03/27/2008)

CORRESPONDING MDT REVIEW ACTIVITY:
441 Geotechnical Wetlands Review

DEFINITION:
Geotechnical and hydrologic information to determine suitability for wetland development. Preliminary office review/research and field geotechnical reconnaissance and mapping of selected wetland mitigation sites.

Geotechnical subsurface investigation of proposed wetland mitigation sites.

TASKS:
1) Conduct geologic mapping, geophysical surveys, or other engineering studies, as necessary.
2) Drill to obtain soil samples for laboratory testing, perform in-situ soil tests, and install groundwater monitoring wells to determine depth of groundwater. Monitoring wells will be tied to topographic survey.
3) Prepare a Geotechnical Engineering Report including preliminary recommendations, and results of the office review, field observations, and subsurface investigation.
4) Develop groundwater directional flow maps for the site.
5) The Consultant will monitor groundwater elevations for a period of 6 months. After 6 months, wells will be monitored by the US Geological Survey under the MDT – USGS cooperative agreement.
6) Development of groundwater hydrographs for the site utilizing data collected from the wells.

START DEPENDENCIES:
Completion of Activity 100

DELIVERABLES:
1) Geotechnical Report with recommendations containing, but not limited to the following:
2) Location of geologic features such as bedrock outcrops and unstable areas.
3) Evaluation of terrain and possible effects of excavation and/or embankment placement might produce.
4) General surface soil types within and surrounding the proposed mitigation site.
5) Summary of the results of the Geotechnical subsurface investigation, including boring logs and laboratory results.
6) Estimate of suitability of soils for the proposed type of wetland mitigation.
7) Identification and evaluation of groundwater/surface interface areas such as springs and seeps.
8) Summary of results for groundwater elevations and other monitoring data, including groundwater directional flow maps.

ACTIVITY 108 Control Survey (8/1/2016)

CORRESPONDING MDT REVIEW ACTIVITY:
320 Control Survey Review

DEFINITION:
Provide control survey. The purpose of the control survey is to establish a semi-permanent, recoverable, horizontal/vertical survey control network. Control surveys are typically the first surveys done for a project and are done to the highest accuracy. The control survey network and associated coordinate information will be used for all subsequent project surveys (land/cadastral, topographic, hydraulic, construction, etc.), for the basis of project design work, for project R/W acquisition and will serve as the basis for tying into existing and/or future projects.

The MDT has specific standards, processes and procedures that are to be followed when doing control surveys. MDT's minimum standards have been established in an attempt to promote good survey practice, uniformity, efficiency and to help ensure desired survey results are attained. These standards and procedures are outlined in the *MDT Survey Manual* and occasional interim survey guidelines.

TASKS:
1. Complete instrument calibration reports (peg tests and calibration baseline reports for EDMs and GNSS/GPS equipment).
2. Complete horizontal and vertical control survey in accordance with *MDT Survey Manual* and MDT requirements.
3. Produce the control diagram.
4. Complete QC/QA of survey.

START DEPENDENCIES:
Completion of Activity 100.

DELIVERABLES:
1. Completed MDT review activity 320 check list.
2. Applicable deliverables as defined in the MDT Survey Manual for conventional control surveys and/or GPS control surveys. Include **original field notes.**
3. Submit survey information in a format that is acceptable to the MDT. Refer to MDT Survey Summary Guidance.
4. Complete Control Survey approved by MDT.

ACTIVITY 109 Wildlife Accommodation Recommendation Memo (WARM) (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
707 Wildlife Accommodation Recommendation Memo (WARM)

DEFINITION:
Detailed recommendations for wildlife accommodations based on the initial wildlife needs analysis and general recommendations for the project. Prepare memo detailing project-specific wildlife accommodations for further feasibility analysis by the Design Team. The feasibility analysis is expected to be an iterative process taking place between distribution of the WARM and Prepare for Scope of Work activity. Alternate accommodations may be considered and recommended for further evaluation if any original recommendations put forth under this activity are deemed to be infeasible.

NOTES:
Receive MDT approval prior to contacting any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all agency correspondence to MDT for review and approval.

Prepare the WARM according to the most recent MDT Wildlife Accommodation Recommendation Memo Template.

TASKS:
Draft WARM

1. Summarize the wildlife needs analysis and general recommendations initially put forth in the Biological Resources Report/Preliminary Biological Assessment (BRR/PBA) for the project. Mention if a recommended wildlife accommodation is intended to benefit a federally listed species under the Endangered Species Act or special status species under other federal, Tribal, or state requirements.

2. Provide a discussion of additional work that was done following the BRR/PBA to verify animal movements, carcass, collision, land-use, and other relevant data to ensure accuracy and applicability. Discuss coordination with Resource and/or Tribal Agency wildlife personnel, as necessary. Document any changes from data or analysis previously reported in the BRR/PBA.

3. Coordinate with the MDT District Biologist regarding wildlife accommodations under consideration prior to inclusion as a project-specific recommendation in the draft WARM.

4. Enumerate wildlife accommodation recommendations by project location. Location can be identified by reference post range, station range, intersecting roadways, or geographic features, etc. Include a map and other attachments as appropriate.

4.1 Discuss the accommodation type(s) and focal species. Include rationale for the location and type (safety and/or connectivity data, agency coordination, public input, literature review, environmental commitments, logistics, opportunity, etc.). Provide a discussion of the expected benefits of the wildlife accommodation to public safety and/or wildlife connectivity.

4.2 Discuss current adjacent land use and any documented future land use changes (platted for subdivision, etc.). Document any previous landowner and/or land management agency coordination or if additional coordination is needed, existing or potential easements or protections, etc.

4.3 Provide a cost estimate for the wildlife accommodation including capital investment, operation, and maintenance. Coordination with the Design Team is encouraged at this stage to estimate wildlife accommodation costs. A range of costs may be appropriate if an accommodation can be constructed using different materials or methods. Identify operation and maintenance needs and anticipated schedule for the accommodation.

4.4 Identify apparent potentially affected design elements for further feasibility analysis with the Design Team (grade, right-of-way, structure sizes, natural or cultural resources, geotechnical or hydraulic considerations, constructability, utilities, etc.).

4.5 Discuss the need for further coordination with Resource and/or Tribal agencies, or manufacturers/vendors of wildlife accommodation technology. Identify if additional research is needed prior to issuance of the Wildlife Accommodation Decision Report (WADR).

5. Prepare and include all attachments.

Final Warm

6. Incorporate comments received and prepare the Final WARM.

Note: All memos submitted under this activity require the signature of the document's author(s).

START DEPENDENCIES:
Completion of Activity 182

DELIVERABLES:
1. Draft Wildlife Accommodations Recommendations Memo (WARM) (electronic Word format).
2. Final Wildlife Accommodations Recommendations Memo (WARM) (electronic Word and PDF format)

ACTIVITY 110 Preliminary Right of Way (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
870 Preliminary R/W Review

DEFINITION:
Prepare PE Report.

TASKS:
Prepare or Secure PE Report to include:

1. Ownership Study to Include:
   a. Last Deeds of Record for all Ownerships
   b. Colored Ownership Map
   c. Off Premise Signs
2. R/W Cost Estimate
3. Preliminary Areas of Acquisition
4. Relocation Assistance Conceptual Stage Study
5. Irrigation Study to Include:
   a. Identification and Sufficiency of Water Source
   b. Location, Size and Ownership of Irrigation and Drainage Ditches
   c. Description, Ownership and Acreage of Land Irrigated
   d. Estimate of Depreciation which would Accrue to Each Owner if Land was Deprived of Water
   e. Alternatives to Perpetuate Irrigation Facilities
   f. Feasibility of Terminating Facilities
   g. Maps, Photos and Sketches of Irrigation Facilities
6. Stockpass Study to include ownerships, locations and feasibility of eliminating structures
7. Retracement Survey:
   a. Initiate Survey Required for Retracement, Establishment and/or Monumentation of Existing Highway R/W. Survey to be done under direct Supervision of Professional Land Surveyor.
   b. Initiate Survey Required for Section and Property Corner Ties. Survey to be done under Direct Supervision of Professional Land Surveyor.
8. Permission to Enter from landowners (retained by consultant)

START DEPENDENCIES:
Completion of Activity 100

DELIVERABLES:

1. Completed MDT review activity 870 checklist
2. PE Report (electronic pdf)
   a. Ownership Study
   b. R/W Cost Estimate
   c. Preliminary Areas of Acquisition.

d. Relocation Assistance Conceptual Stage Study (if applicable)
e. Irrigation Study (if applicable)
f. Stockpass Study (if applicable)

ACTIVITY 111 Environmental Engineering Existing Conditions Report
(05/25/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
711 Prepare/Review Environmental Engineering Existing Conditions Report

DEFINITION:
Conduct analyses and document findings for Environmental Engineering Section responsibilities related to applicable regulations; resources present in the project area; potential impacts; and necessary avoidance, minimization, and mitigation if known prior to preliminary plan distribution.

This is an iterative process including the submittal of a Draft Environmental Engineering Existing Conditions Report to MDT in electronic format for review and comment. The Consultant will incorporate proposed revisions in the Final Environmental Engineering Existing Conditions Report. The intent of this report is to inform the design team of environmental considerations in the project area prior to Alignment and Grade so that avoidance and minimization can be considered early in plan development.

NOTES:
Receive MDT approval prior to making contact with any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all agency correspondence to MDT for review and approval.

TASKS:
Draft Environmental Engineering Existing Conditions Report

1. Consult with the design team to discuss the purpose of and need for the project and the nature and scope of the project work. Use this information in conjunction with filed work and literature review to evaluate which resource areas need to be investigated and which analyses may be triggered. Based on the nature and scope of the work, the following social and economic analyses may be triggered:
    - 1.a. Economic Impacts
    - 1.b. Environmental Justice
    - 1.c. Induced Growth
    - 1.d. Social Impacts
    - 1.e. Visual Quality/Aesthetics

   As applicable, document analyses for the project file. The level of effort associated with each resource area should be commensurate with the project scope, the resources present, and the potential for impact.

2. Consult with agencies with jurisdiction over or interest in the proposed project. Perform a field and/or literature review to identify resources in the project area, including the following:
    - 2.a. Low income and/or minority populations

2.b. Prime farmland and/or farmland of statewide importance
2.c. Historical resources that may be protected by Section 4(f)
2.d. Park and recreational lands that may be protected by Section 4(f)
2.e. Wildlife and waterfowl refuges that may be protected by Section 4(f).
2.f. Parks, recreational areas, or other properties acquired and/or improved with LWCF funds or with similar encumbrances
2.g. Surface water resources including irrigation, streams, wetlands, springs, etc.
2.h Drinking water sources
2.i Stormwater management facilities
2.j. Low Impact Development Practice features
2.k. Wild and Scenic Rivers

3. Consult with the design team to discuss the nature and scope of the work in the context of various regulatory authorities to determine if the following analyses will be necessary:
3.a. DEQ and/or local MS4 Permit requirements including need for Low Impact Development (LID) practices analysis.
3.b. Potential trigger for permitting from the US Army Corps (CWA Section 404 and/or Section 10), ability to comply with Nationwide and Regional Conditions, "practicable" avoidance and minimization measures, and availability of mitigation if necessary.
3.c. Potential trigger for 401 Certification and which agency will have Authority. If DEQ has authority, note that permit fees will need to be calculated.
3.d. Potential trigger for Tribal permitting
3.e. Potential need for incorporation of Permanent Erosion and Sediment Control Measures (PESC) Manual.
3.f. Potential trigger for Underground Injection Control (UIC) program requirements.

Final Environmental Engineering Existing Conditions Report
Incorporate comments received and prepare the Final Environmental Engineering Existing Conditions Report.

Note: **All reports submitted under this activity require the signature of the document's author(s) and the firm's Professional Engineer responsible for Environmental Engineering activities.**

START DEPENDENCIES:
Completion of Activity 100

For Transportation Alternative (TA) Projects:

Consultant prepares Draft Environmental Engineering Existing Conditions Report and submits electronic Word format document to MDT. The MDT District Project Development Engineer reviews and comments on Draft Engineering Analyses Report.

Consultant incorporates comments and finalizes Environmental Engineering Existing Conditions (EEECR) Report. Consultant provides, electronic PDF of signed document, and electronic WORD version of final document. The MDT District Project Development Engineer files and distributes final TA EEECR as needed.

If the Report indicates that impacts to regulated aquatic resources are anticipated, the District Project Development Engineer will notify the Project Manager that additional activities and corresponding MDT Review activities may be required. The Project Manager will add these activities to the project flowchart as needed.

DELIVERABLES:

1. Draft Environmental Engineering Existing Conditions Report (electronic WORD format).
2. Final Environmental Engineering Existing Conditions Report (electronic PDF of signed document, and electronic WORD version of final document).

ACTIVITY 112 Preliminary Traffic Report (08/23/2016)

CORRESPONDING MDT REVIEW ACTIVITY:
430 Preliminary Traffic Report Review

DEFINITION:
Report traffic related issues that affect roadway typical section and operational characteristics that are used in design. This activity should address traffic related items including those identified in the PFR.

TASKS:
Request Traffic and Crash data from Consultant Design Project Engineer.

Prepare a traffic report outlining recommendations associated with the traffic operational/safety needs within the project limits. The traffic study typically includes the following:

1) Traffic volumes.
2) Capacity analysis and Level of Service.
3) Traffic control features.
4) Major access management features (frontage roads, median, etc.)
5) Special operational needs (truck climbing lanes, intersection sight distance, roadway lighting, etc.)
6) Analysis of crash data and dominant trends.
7) Analysis of pedestrian/bicycle/school crossing needs.
8) Provide traffic recommendations.
9) Traffic control analysis (signal, four-way stop, two-way stop & roundabout).
10) Prepare conceptual layouts as scoped.

START DEPENDENCIES:
Completion of Activity 100

DELIVERABLES:
Completed MDT review activity 430 checklist
Preliminary Traffic Report
Submit raw traffic data (appendix, miovision files)

ACTIVITY 113 Preliminary Utility Conflicts/S.U.E. (08/01/2016)

CORRESPONDING MDT REVIEW ACTIVITY:
873 Preliminary Utility Conflict Review

DEFINITION:
Engage and inform the impacted utility companies early in the project development to enable them to budget and plan for potential conflict mitigations and avoid additional impacts with their future utility projects. Reduce design changes due to utility conflicts by incorporating the design avoidance from the beginning of project development.

TASKS:
In sequential order:

1. Set up and conduct initial Utility Informational office meeting with MDT and all utility companies believed to have facilities within the vicinity of the project. Invite the MDT Project Manager, a representative from the MDT Utilities Section, and the MDT District Utility Engineering Specialist to attend the meeting.
    1.1 Provide large exhibit(s) depicting aerial view of the project area.
    1.2 Describe project design objectives, including as applicable an overview of the project location, project limits, proposed improvements, design schedule, and proposed construction letting date.
    1.3 Describe the Subsurface Utility Engineering (SUE) process being used on the project; Phase I and Phase II.
    1.4 Explain that a qualified SUE consultant will be in contact with them in the near future to begin the utility investigation and mapping process, and that utility owner participation will be expected. Critical to the success of the SUE process is including existing utility data in the very early stages of design development.
2. Complete SUE Phase I investigation.
    2.1 Research and obtain Utility as-built records.
    2.2 Utilize geophysical prospecting equipment to pinpoint utility location.
    2.3 Utilize Subsurface Engineering techniques to locate and verify that the existing utility facilities match as-built records.
    2.4 Identify horizontal and approx. vertical locations as well as sizes of all utilities.
3. Show SUE Phase I information on preliminary plans. Integrate existing facility data from the SUE Phase I investigation with all design activities including: hydraulic, geotechnical, traffic, road alignment, structural, and environmental. Identify crossings and locations where higher quality level data (e.g., test holes) may be needed to further assess and refine designs.
4. Set up and conduct individual Utility Coordination office meetings with MDT and each utility company. Invite the MDT Project Manager and a representative from the MDT Utilities Section to attend these meetings. These meetings serve as a design aid to the consultant by creating the forum for the utility to inform the

consultant on limitations and clearances with utility facilities in order to make the best engineering decision regarding mitigating any utility conflicts (i.e. design around, different design, utility relocation, protect in place, etc.).

4.1 Review their facility. Allow the utility to verify with their as-builts the consultant's survey of one-call locates. One-call does not identify abandoned facilities, newly installed facilities, and has a tolerance on locates of 3 feet. The utility will be able to provide additional information which may reduce the area requiring SUE Phase II and highlight areas needing higher quality of information.

4.2 Discuss options for potential solutions to avoid conflicts with their facility. Such as quantity of fill/cut that can occur over their facility, placing ditch blocks, installing pipes to avoid conflict, etc.

4.3 Prepare a detailed report/minutes of each meeting.

START DEPENDENCIES:

Completion of Activity 100

DELIVERABLES:

1. Utility Coordination Meeting Minutes
2. SUE Phase I Plans (1 copy)

ACTIVITY 114 Preliminary Bridge Layout (03/27/2008)

CORRESPONDING MDT REVIEW ACTIVITY:
586 Preliminary Bridge Layout Review

DEFINITION:
Determine bridge type, size and location (TSL) and prepare preliminary bridge layout and plans.

TASKS:
1) Complete the Bridge Type, Size, and Location Report
    a) Determine the Bridge Length and Width
    b) Determine the Bridge Beam Type
    c) Determine the Geometrics
    d) Fit of Bridge to Site
    e) Determine the Proposed Substructure Type
    f) Determine the Proposed Foundation
2) Determine the Riprap layout and estimate quantity
3) Check for Electronic Compatibility and CADD Standards
4) Preliminary bridge cost estimate

START DEPENDENCIES:
Completion of Activity 100

DELIVERABLES:
Completed MDT review activity 586 checklist.

1) Bridge Type, Size, and Location Report.
2) Preliminary Bridge Layout plans.
3) Preliminary bridge cost estimate

ACTIVITY 115 Utility Conflicts for Plan In Hand (01/2/2015)

CORRESPONDING MDT REVIEW ACTIVITY:
877 Final Utility Conflict Review

DEFINITION:
Utilize data from Utility Informational Meetings and SUE investigations to mitigate utility conflicts. Document utility conflicts in the Design Utility Conflict report.

TASKS:
In sequential order:

1. Provide additional SUE Phase I as necessary.
2. Schedule and execute a SUE Phase II investigation to obtain additional data as necessary to complete designs and conflict assessment.
3. Integrate and include existing facility data from the SUE Phase I and Phase II investigation, if needed, with all design activities including: hydraulic, geotechnical, traffic, road alignment, structural, and environmental. Adjust designs wherever practical to mitigate impact to existing facilities.
4. Prepare a Design Utility Conflict Report which outlines all the utilities in conflicts and why the conflicts could not be avoided.

START DEPENDENCIES:
Completion of MDT Report Activity 266.

DELIVERABLES:
1. SUE Phase II Plans (1 copy), if necessary.
2. Design Utility Conflict Report accompanied with Plan-in-Hand Road Plans.

ACTIVITY 116 Preliminary Environmental Document or Categorical Exclusion/Section 4(f) Evaluation (05/25/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
722 Environmental Review

DEFINITION:
This is an iterative process with MDT to complete the environmental documentation and prepare the preliminary Environmental Document or Categorical Exclusion, and when applicable, Section 4(f) Evaluation.

Note - in some cases, the Categorical Exclusion and/or Section 4(f) Evaluation may be completed during this activity.

NOTE:
Receive MDT approval prior to contacting any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all correspondence to MDT for review and approval.

Depending upon complexity of the project, a Focus Group may be established. (Typically for EIS or EA).

116-722 ITERATIVE ACTIVITY TIMELINES

Concurrent activities/Iterative process/Finish-Finish Activities. Total Durations are estimated and may vary on a project basis. Durations are set based on working days (EPS) not calendar days unless otherwise noted.

NOTE: Iterative process does not apply to Programmatic Categorical Exclusion (d) and Categorical Exclusion (c).

Act. 116	C1		C3		C5	.
Act. 722		E2		E4		E6 .

C1 – Consultant. Prepare and submit Draft Environmental Engineering Analysis Report to include impacts analyzed after AGR. Duration of C1 ends when document is submitted to MDT. Duration determined by negotiation with MDT/FHWA and consultant. C1 distribution aimed at Working Group.

E2 – MDT/FHWA. Review/Comment/Approve Environmental Engineering Analysis Report. Standard 20-day duration.

C3 – Consultant. Finalize Environmental Engineering Analysis Report and prepare Draft Environmental Document/Section 4(f) Evaluation – incorporate comments from previous activities. Default duration of 20 days or less. C3

distribution aimed at Working Group and design group which includes all applicable Divisions, Bureaus, Sections, etc. within MDT.

E4 - MDT/FHWA. FOR CE ONLY: Approve the documentation or request the Consultant make any necessary changes. FOR EA AND EIS ONLY: Review of Environmental Document/Section 4(f) Evaluation. Standard 20-day duration.

C5 – Consultant. FOR EA AND EIS ONLY. Modify Document/Section 4(f) Evaluation based on MDT/FHWA review comments. Submit a Comment and Response Document that includes proposed document edits based upon comments from the design group. Default duration of 20 days or less. C5 distribution aimed at Working Group plus any interested parties derived from C3 distribution.

E6 - MDT/FHWA. FOR EA AND EIS ONLY. Provide approval to print Administrative Draft. Standard 10-day duration.

Complete when:

1) Administrative Draft of document (EA or EIS) and Section 4(f) Evaluation (if applicable) is approved and ready for publication; or
2) CE is signed.

EIS Total Duration: C1 + 100 days or less.
CE (d) and EA Total Duration: C1 + 90 days or less.

Section 106 Clearance (724)

1) The MDT is solely responsible for completing the Section 106 process. MDT will prepare the determination of effect and prepare and submit to SHPO or THPO, FHWA and ACHP, any memorandum of agreement necessary to complete the Section 106 phase of the project.

TASKS:

Final Environmental Engineering Analysis Report

1) Determine and document potential social, economic, and environmental impacts of the project. Taking into account avoidance and minimization efforts, prepare and distribute a written impact assessment including permanent, temporary, and cumulative impacts.

Develop Preliminary Environmental document or Preliminary Categorical Exclusion.

1) Categorical Exclusion (CE)
   a) In general, if analysis of a proposed project indicates that no significant individual or cumulative impact(s) on the environment will result, a CE will be developed.
   b) Prepare preliminary CE package including all necessary supporting information.
   c) As necessary, modify CE based on MDT/FHWA review comments.

2) Environmental Assessment (EA) and Environmental Impact Statement (EIS).
   a) A proposed project that does not qualify for a CE and also does not clearly require an EIS may require an EA. The EA may also be used to determine the need for an EIS. An EIS will be prepared when the proposed project is likely to cause significant impacts on the environment.
   b) Prepare Preliminary Environmental Document, incorporate comments from previous activities.
   c) Make changes to document based on each MDT/FHWA review.

For EA and EIS Only: Receive from MDT Consultant Project Engineer Approval to Print Administrative Draft Environmental Document (Verify with MDT Consultant Project Engineer that MDT Environmental and FHWA approval has been received.)

Section 4(f) Evaluation

The Section 4(f) Evaluation may be done separately, or as part of an environmental document with an EA or EIS. With a CE, the Section 4(f) Evaluation must be in a separate document. The Section 4(f) Evaluation and 6(f) analyses should be coordinated. The Section 4(f) Evaluation and 106 processes should be coordinated. Any Section 4(f) "use" will trigger FHWA coordination and Signature on the environmental document.

The Section 4(f) Evaluation requires coordination with the government agencies with jurisdiction over the Section 4(f) property to determine 4(f) applicability and come to an agreement regarding the use of the Section 4(f) site.

1) De Minimis Use Evaluation.
   a) If minor 4(f) use is anticipated, request a meeting with MDT and FHWA to discuss if the project is eligible.
      - In coordination with MDT, contact appropriate jurisdictional agencies.
      - Produce information and materials necessary for FHWA to produce concurrence request letter.
      - Incorporate de minimis information into appropriate draft environmental document.
2) Programmatic 4(f) Evaluation
   a) If the use is determined ineligible for de minimis, proceed with the Nationwide Programmatic or Full Section 4(f) Evaluation.
      - Nationwide Programmatic Section 4(f) Evaluation.
   b) In coordination with MDT, contact appropriate jurisdictional agencies.
   c) Fill out appropriate Nationwide Programmatic Section 4(f) Evaluation(s) including supporting documentation.
   d) Incorporate comments received into the Nationwide Programmatic Section 4(f) Evaluation(s).
   e) Start the above tasks in Activity 116. If necessary, complete those tasks:
      - For CE – Activity 116.
      - For EA – Activity 192, 195 and 196.

- For EIS - Nationwide Programmatic Section 4(f) Evaluation cannot be used.

3) Full Section 4(f) Evaluation.
   a) In coordination with MDT, contact appropriate jurisdictional agencies.
   b) Draft the Section 4(f) Evaluation (including supporting documentation) in accordance with comments received during coordination efforts with the government agencies having jurisdiction over the Section 4(f) property being used.
   c) Incorporate comments received from each review (including FHWA Legal Review as required) into the Full Section 4(f) Evaluation.
   d) Prepare for public distribution of document. Coordinate notice of availability timelines with MDT and FHWA.
   e) Incorporate comments received from public distribution.
   f) Incorporate comments received from FHWA Legal Sufficiency Review.
   g) Start the above tasks in Activity 116. If necessary, complete those tasks:
      - For Categorical Exclusion - Activity 116.
      - For Environmental Assessment – Activities 192, 195 and 196.
      - For Environmental Impact Statements – Activities 192, 197, 198 and 199.

START DEPENDENCIES:
Completion Activities: 114F/F, 118, 701, 706, 708, 710, 711, 717, 724 and 742

DELIVERABLES:
1) Final Cooperating Agency request letters (if applicable).
2) Final Environmental Engineering Analysis Report.
3) Preliminary versions of the Environmental Document (CE, EA, or DEIS) and all supporting documentation. Submit Microsoft WORD file.
4) If applicable, preliminary versions of Section 4(f) Evaluation (de minimis, programmatic, and/or Full). Submit Microsoft WORD.
5) If applicable, final versions of Section 4(f) Evaluation (de minimis, programmatic, and/or Full). Submit Microsoft WORD.
6) Preliminary Bridge layout delivered as soon as available during this activity.

ACTIVITY 117 Draft Purpose and Need (03/27/2008)

CORRESPONDING MDT REVIEW ACTIVITY:
780 Review Draft Purpose and Need

DEFINITION:
For ENVIRONMENTAL ASSESSMENT and ENVIRONMENTAL IMPACT STATEMENT ONLY. Prepare draft table of contents and draft purpose and need statement.

NOTE:
Receive MDT approval prior to making contact with any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all correspondence to MDT for review and approval.

Default Duration of 20 days or less

TASKS:
1) Review the Preliminary Field Review (PFR) report and other supporting information such as feasibility studies, planning studies, advisory group input, etc.
2) Prepare draft purpose and need statement of the Environmental Document including the following information:
   a) Project description and background
   b) Needs of the project
   c) Purpose of the project
   d) Goals and objectives of the project
3) Prepare draft table of contents for the Environmental Document.
4) Incorporate SAFETEA-LU aspect as necessary.

START DEPENDENCIES:
Completion of Activity 100.

DELIVERABLES:
1) Completed MDT review activity 780 checklist.
2) Draft purpose and need statement of the Environmental Document. (Submit Microsoft WORD file.)
3) Draft table of contents.

ACTIVITY 118 Roadway Alignment Plan (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
262 Roadway Design Review

DEFINITION:
Submit the preliminary plans, specifications, and documentation for the Alignment and Grade meeting.

TASKS:

AGR Design Coordination Meeting
Optional design coordination meeting for major rehab or reconstruction projects with design team including MDT construction and maintenance to discuss known design parameters and constraints. The purpose of this meeting is to justify the thought process and assumptions in the early plan development of the alignment and grade. Include and discuss information gathered to date that may affect the proposed alignment and grade. Review constructability and work zone safety and mobility.

Preliminary Alignment and Grade
1) Establish major design points.
2) Establish preliminary alignment and grade of the mainline.
3) Establish the preliminary sub-grade template sections.
4) Perform preliminary earthwork runs to achieve near optimum grade and alignment.

Establish Major Control
1) Structures
2) Utilities
3) Irrigation facilities
4) Culverts
5) Wetlands
6) Historic properties
7) Access points
8) Archaeological properties

Preliminary Plans Preparation

Alignment and grade plans must include the following items:
1) Alignment and grade.
2) Typical sections.
3) Cross sections with road template.
4) Summary Sheets for grading and surfacing quantities.
5) Mass diagram.
6) Location and geometric layout for special features.
7) Geometric details (including roundabout details, if applicable)
8) Major drainage and irrigation features.
9) Layouts of structures.

10) Major land service features.
11) Cost estimate.
12) Utilities.
13) Estimate right-of-way requirements.
14) Identify utilities conflicts.
15) Identify areas of wetland impacts and calculate area of cumulative impact. Document avoidance measures.
16) Preliminary strategy for Work Zone Safety and Mobility (WZSM), including Transportation Mobility Plan (TMP) worksheet for Level 1 projects (required) and Level II projects (as appropriate).

START DEPENDENCIES:
Completion of MDT Review Activity 262.

DELIVERABLES:

1. Submit 1 copy of Plans and Specifications for compliance review in accordance to the contract.
2. Provide copies of plans, specifications and cost estimate to the Consultant Design Bureau for distribution.
3. Submit project files electronically (CADD files, cost estimates, specials, etc.) All files must follow MDT file naming standards.
4. Completed AGR Plan Review Check List below:

ALIGNMENT AND GRADE REVIEW CHECK LIST

PROJECT DESCRIPTION: _____
PROJECT NUMBER: _____
DATE: _____
UPN/CONTROL NUMBER: _____
CHECKED BY: _____

PROJECT FILE CHECK

- ☐ Review Preliminary Field Review Report.
- ☐ Review miscellaneous correspondence.
- ☐ Review latest design and procedure memos.
- ☐ Review Comment Response Document. Ensure all PFR comments have been addressed**.**

GEOMETRIC DESIGN

Horizontal Alignment: - Chapter 3 Road Design Manual (RDM)

- ☐ Reconstruction Projects: Review all Curve radii to ensure that they meet Geometric Design Standards. Exhibits 1 through 5 and Exhibits 7 through 10
- ☐ Ensure that all Super elevated curves of 7% or greater have spiraled curves.
- ☐ Ensure that minimum length curves meet the criteria in Sec. 3.2.5 RDM.
- ☐ Ensure that super elevation rates meet the criteria in Exhibits 3-5 and 3-7 RDM.
- ☐ Transition lengths meet the criteria in Exhibits 3-5 and 3-7 RDM,
- ☐ Review all curve data.
- ☐ Ensure that all Broken-Back curves meet the criteria in Sec. 3.3.8 RDM.
- ☐ Ensure that all Reverse curves, and super transitions meet the criteria in Sec. 3.3.7 RDM.
- ☐ Review stopping sight distance for obstructions on the inside of the curve.

Vertical Alignment - Chapter 4 RDM

- ☐ Ensure that the Vertical alignment does not exceed the maximum grade criteria in the Geometric Design Standards Exhibits 1 through 5 and Exhibits 7 through 10. Minimum grades meet the criteria in Sec.4.3.2 RDM.
- ☐ Ensure that all vertical curves meet stopping sight distance. See Exhibit 4-4 RDM. Minimum curve lengths conform to Sec. 4.4.1.2 and 4.4.2.2 RDM.
- ☐ Review passing sight distance with Exhibit 2-11 and Exhibit 4-5 RDM.
- ☐ Ensure that all grades are correct and are shown to three decimal places.
- ☐ On curb and gutter projects, check low points of vertical curves for ponding and proper location of drop inlets.

☐ Review of the vertical alignment considering earthwork balance, coordination with the horizontal alignment, drainage, snow drifting, driver expectation, efficiency of grade line, impacts to R/W, wetlands and utilities, etc. (Sec. 4.1.3 and Sec. 4.2.1 RDM.) Low speed urban grade design meets the criteria in Sec 4.2.2.

CONSTRUCTION PLANS

Title Sheet - Section 12.3.1 RDM

☐ Review Title Sheet for missing or incomplete information. i.e. Reference Posts, Combination Scale Factor, connection to ptw, etc.
☐ Ensure that Layout map conforms to the requirements of Sec. 12.3.1 RDM
☐ Ensure that the project length is correct.
☐ Ensure that the design data is correct.
☐ Ensure that the Project number is correct.
☐ Ensure that the Control number is correct
☐ Ensure that the proper signature block used
☐ Ensure that the scale notes have been removed.

Table of Contents - Section 12.3.2 RDM

☐ Ensure that plan sheet sequence conforms to Sec. 12.1.1.1 RDM.
☐ Ensure that the sheet numbers conform to Sec. 12.1.1.2 RDM.
☐ Review Note sheet for clarity and completeness. Notes are in Active Voice and are the latest version.

Linear and Level Data - Section 12.3.4 RDM

☐ Review for missing or incomplete information
☐ Review level and bearing sources.
☐ Review bench marks.
☐ Review plans for combination scale factor.
☐ Compare coordinate tables against computer runs

Control Traverse Diagram - Section 12.3.5 RDM

☐ Review format, and drafting.

Typical Sections - Section 12.3.6 RDM

☐ Review latest design memos for surfacing quantities.
☐ Ensure that the drafting of typical sections, conform to MDT practices. See Sample plan sheet examples.
☐ Ensure that the all station callouts, dimensions, surfacing depth, ditches and surfacing in-slopes and quantity calculations are correct.

- ☐ Ensure that flush and raised median widths, conform to Sec. 5.3.1 RDM.
- ☐ Ensure that typical sections conform to the functional class criteria in the Geometric Design Standards
- ☐ Ensure that the axis of rotation meets the criteria in Sec 3.3.5 RDM.

Summaries – Section 12.3.7 RDM

- ☐ Ensure that the Grading and Surfacing frames are filled in, correct and match earthwork run.

Details - Section 12.3.9 RDM

- ☐ Ensure Mass Diagram matches earthwork runs.
- ☐ Ensure that drafting, format and scales conform to MDT standards and practices.
- ☐ Review project balances.

Plan and Profile Sheets - Section 12.3.10 RDM

- ☐ Review plans sheets for clarity, format and completeness.
- ☐ Ensure that Plans conform to MDT drafting standards and practices. See plan sheet examples in RDM.
- ☐ Ensure that horizontal alignment has the correct annotation. (Sec. 12.3.10.2 RDM)
- ☐ Ensure that the profile grade line has the correct annotation. (Sec. 12.3.10.3 RDM)
- ☐ Review plans for clear zone conflicts. Sec. 9.2 RDM
- ☐ Compare horizontal and vertical alignments with computer runs.
- ☐ Review plans for correct Wetland delineation.

Cost Estimate - Section 13.2 RDM

- ☐ Review cost estimate for errors, correct format, uses current average bid prices, and is prepared to MDT procedures.

Cross Sections - Chapter 5 and Section 12.3.12 RDM

- ☐ Review cross sections for acceptable scales, drafting, and cross section interval.
- ☐ Ensure that cross sections match typical sections, computer runs, and profile grade.
- ☐ Review cross-sections for missing notes and incomplete information. See RDM and cross-section sheet examples.
- ☐ Ensure that existing pipes are plotted on cross-section.
- ☐ Ensure that cross-sections show the cross-slopes on them.
- ☐ Ensure that overhead and underground utilities are plotted.

Computer Drafting and Design

Drafting - Section 12.2.1 RDM

☐ Check all files conform to current CADD standards.

Design Exception

☐ Discuss proposed design exceptions for AGR elements with Project Manager.

ACTIVITY 119 Conceptual Mitigation Design (02/06/2014)

CORRESPONDING MDT CHECK ACTIVITY:
263-Conceptual Mitigation Design Review

DEFINITION:
Develop Conceptual Mitigation Design alternative report for review and comment

TASKS:

1) Incorporate MDT review comments into the Design alternatives.
2) Preparation of conceptual design alternatives.
3) Prepare cross-section for each design alternative.
4) Prepare Conceptual plan layout with topographic contours for each design alternative.
5) Prepare Conceptual plans showing wells and bore hole locations for each design alternative.
6) Incorporation of Water rights, biological, existing wetlands, hazmat, cultural resource, topographic, groundwater depths, geotechnical information acreage of proposed wetland into the report.
7) Prepare Plans
8) Topographic contours
9) Wells and bore holes
10) Existing wetlands
11) Cultural Resources
12) Key resource elements
13) Cross Sections
14) Utilities

START DEPENDENCIES:
Completion of MDT Review Activities 884,794,871,320, 171,121,107.

DELIVERABLES:
1) Conceptual Mitigation Design Alternative Report to Include:
2) Hydraulics reports
3) Geotechnical Report
4) Biological Resource and Biological Assessment (BRR/BA)
5) Wetland Finding report
6) Other reports to be included only if they affect the design.
7) Design alternative plans delivered to Consultant Design Project Manager.
8) Haz Mat ISA
9) Cultural Resources Report
10) Completion of MDT Act 263 checklist

ACTIVITY 120 Cadastral Survey (02/06/2014)

CORRESPONDING MDT REVIEW ACTIVITY:
322- Cadastral Survey Review

DEFINITION:
Cadastral survey information to develop a certificate of survey. (Section ties and retracement of existing right of way.)

TASKS:

Complete cadastral survey.

START DEPENDENCIES:
Completion of Activity 796 for Consultant Wetland Mitigation projects.
Completion of Activity 320 for Consultant Design Flowchart

DELIVERABLES:

1) Completed MDT review activity 322 checklist.
2) Provide original field notes for the survey(s).
3) Survey computations.
4) ASCII coordinate listings and descriptions.
5) Copies of data used to evaluate cadastral survey.
6) Electronic and paper copies of preliminary Certificate of Survey and corner recordations.
7) Calibration baseline reports.
8) Upon Survey Unit approval, provide electronic and paper copies of recorded Certificates of Survey and corner recordation(s).

ACTIVITY 121 Engineering Survey (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:

323-Engineering Survey Review

DEFINITION:

Provide survey information needed for development of engineering plans from control network or from existing project control.

TASKS:

PHOTOGRAMMETRY JOBS

1) Complete photogrammetric mapping.
2) Complete topographic survey for underground features and features not included in photogrammetric mapping.
3) Complete hydraulic survey information not included in photogrammetric mapping.
4) Complete special or additional engineering surveys.

NON-PHOTOGRAMMETRY JOBS

1) Complete topographic survey of DTM and non-DTM features.
2) Complete conventional cross sections if necessary.
3) Complete hydraulic surveys.
4) Complete special or additional engineering surveys.

START DEPENDENCIES:

Completion of Activity 320.

DELIVERABLES:

1) Completed MDT review activity 323 checklist.
2) Provide original field notes if applicable.
3) Electronic survey files including but not limited to ASCII coordinate listings with features and descriptions, data collection files, etc.
4) Survey mapping files.
5) For photogrammetry jobs - Photogrammetric mapping products including camera calibration report, cleaned aerial film, map certification, and aerial mapping files, etc.
6) Complete Engineering Survey approved by MDT.

ACTIVITY 122 Alignment and Grade Traffic (08/23/2016)

CORRESPONDING MDT REVIEW ACTIVITY:
432-Traffic Review

DEFINITION:
Development of Traffic information for use in Project Plans

TASKS:

Preliminary Geometric Details
1) Prepare preliminary geometrics
   a) Preliminary striping
   b) Lane dimensioning
   c) Preliminary intersection radii with truck turning paths
2) Prepare interchange and intersection grades
3) Prepare preliminary roundabout details (if applicable)
   a) Entry angles
   b) Entry and exit Radii, widths
   c) Calculate fastest paths
   d) Typical sections for roundabouts
   e) Preliminary striping
   f) Lane dimensioning
   g) Preliminary intersection radii with truck turning paths

Signing Study
1) Prepare Existing Road Sign Inventory
2) Identify preliminary R/W needs for signing structures
3) Establish preliminary signing needs

START DEPENDENCIES:
Completion of Activity 430.

DELIVERABLES:
Completed MDT review activity 432 checklist.
1) Geometric details (Including roundabout details, if applicable)
2) Signing Inventory
3) Preliminary Right of Way needs for signing structures

ACTIVITY 124 Finalize Alignment and Grade (08/17/2016)

CORRESPONDING MDT REVIEW ACTIVITY:
264 Approve Alignment and Grade

DEFINITION:
Conduct the Alignment and Grade Review meeting and submit the Alignment and Grade report.

TASKS:
Alignment and Grade Review

1) Conduct the office and field review of the alignment and grade and obtain decisions on the following items:
   a) Finalize major control design points.
   b) Finalize preliminary alignment and grade of the mainline.
   c) Finalize the preliminary sub-grade template sections based on "worst case" typical section.
   d) Review earthwork runs to achieve optimum grade and alignment.
   e) Review preliminary alignment and grade plans. Discuss the following items:
      i) Alignment and grade
      ii) Typical sections
      iii) Cross sections with road template
      iv) Mass diagram and shrink-swell factors
      v) Location and geometric layout for special features
      vi) Major drainage and irrigation features
      vii) Layout of structures
      viii) Major land service features
      ix) Cost estimate
      x) Right of Way requirements.
      xi) Utility conflicts.
      xii) Additional soils information needed to finalize typical section.
      xiii) Preliminary Traffic elements.
      xiv) Preliminary Hydraulic elements.
      xv) Preliminary Strategy for Work Zone Safety and Mobility (WZSM)/TMP Worksheet
2) Attend cost estimate meeting for construction projects greater than $15 million.
3) Submit alignment and grade report summarizing the comments and proposed action for approval.
   a) Revise and submit cost estimate per alignment and grade meeting comments.
   b) Submit Comment Response Document.
4) Submit deliverables for ACT 700 (refer to Activity 700 Activity description.)

START DEPENDENCIES:
Completion of MDT review of activities 262, 873.

DELIVERABLES:
Completed MDT review activity 264 checklist.
Alignment and Grade Review Report.
Include Deliverables for ACT 700 (refer to Activity 700 activity description).

ACTIVITY 125 Finalize Conceptual Mitigation Design Selection Meeting (03/27/2008)

CORRESPONDING MDT REVIEW ACTIVITY:
265-Distribution of Conceptual Mitigation Design Information

DEFINITION:
Incorporate and address comments from MDT and all permitting resource agencies into a Final conceptual design.

TASKS:
1) Attend Mitigation Meeting to discuss conceptual design comments
2) Finalize Preferred alternatives with MDT.
3) Prepare meeting minutes.
4) Revise Conceptual report.

START DEPENDENCIES:
Completion of MDT Review Activity 263.

DELIVERABLES:
Final Conceptual Design Report

ACTIVITY 127 Place Existing R/W and Section Lines (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
871 Review Existing R/W and Section Lines

DEFINITION:
Place and label existing public road, street, highway, railroad right-of-way, property lines and section lines.

TASKS:
1. Finalize Existing R/W and Cadastral Retracement Survey(s)
2. Prepare or Secure:
   - 2.1 Recorded Full Size Existing R/W and Cadastral Retracement Survey(s) (including survey coordinate list and descriptions)
   - 2.2 Complete Full Size Set of C.O.S.'s and Subdivision Plats (folded)
   - 2.3 Existing Railroad and Highway R/W Plans (folded) w/ Deeds and Other Documentation
   - 2.4 Existing Public Road Documentation (including intersecting roads to project roadway)
   - 2.5 Copies of GLO Plats (folded)
   - 2.6 Copies of Corner Recordations
3. Prepare R/W Files to Include:
   - 3.1 Existing Railroad, Highway and Intersecting Public Road R/W (including labels, dimensions, found r/w monuments and property pins)
   - 3.2 Ownership Dots and Property Lines (including placement and labelling of all subdivision plats and C.O.S.'s)
   - 3.3 Section Lines and 1/16 Section Lines (found and unfound)
   - 3.4 Property Controlling Corner Cells (section corners, ¼ corners, etc.)
   - 3.5 Existing Access Control

START DEPENDENCIES:
Receipt of survey comments from MDT (Activity 322), completion of Activity 870 Preliminary R/W Review.

DELIVERABLES:
1. Recorded Copy of Existing R/W and Cadastral Retracement Survey(s) (including survey coordinate list and descriptions) (electronic)
2. Complete Set of C.O.S.'s and Subdivision Plats (electronic)
3. Existing Railroad & Highway R/W Plans (electronic) with Deeds and Other Documentation
4. Existing Public Road Documentation (including intersecting roads to project roadway)
5. Copies of GLO Plats (electronic)
6. Copies of Corner Recordations
7. Geopak GPK and Existing Survey Input File
8. R/W Strip Map
9. Completed MDT review activity 871 checklist.

ACTIVITY 128 Prepare Scope of Work (05/17/2022)

CORRESPONDING MDT REVIEW ACTIVITY:
266 Approve Scope of Work Report

DEFINITION:
Prepare and submit the Scope of Work Report.

TASKS:
1) Prepare the scope of work report per MDT content and format, based on the design mapping, survey data, soils survey, preliminary geotechnical report, typical section, environmental document, preliminary right-of-way and utility report, traffic study, preliminary hydraulics report, transportation management plan worksheet and Alignment and Grade Report comments.
2) Prepare cost estimate.
   a) If significant changes have occurred from the alignment and grade report then perform the following:
      - Attend cost estimate meeting for construction projects greater than $15 million.
      - Revise and submit cost estimate.
3) Prepare design exception request.
4) **"If a Wildlife Accommodation Recommendation Memo (WARM) has been distributed, complete the composition and distribution of the Wildlife Accommodation Decision Report (WADR) following the most recent template. The WADR is distributed for review and approval prior to the Scope of Work distribution."**
   The Wildlife Accommodation Decision Report (WADR) template can be found at the following link:
   https://www.mdt.mt.gov/business/contracting/environmental.shtml - click on "WADR Memo" under the Resources section

START DEPENDENCIES:
Activity 264

DELIVERABLES:
1) Completed MDT review activity 266 checklist.
2) Scope of Work Report with cost estimate.
3) Design Exception Request (when applicable.)
4) Draft / Final WADR (when applicable)

ACTIVITY 130 Final Geotechnical and Materials Report (01/02/2015)

CORRESPONDING MDT REVIEW ACTIVITY:
442 Geotechnical and Materials Review

DEFINITION:
Perform tasks necessary to prepare and submit the Final Geotechnical and Materials report. This report contains all geotechnical and surfacing design recommendations required to complete the project.

TASKS:

Prepare Final Surfacing Sections (604)
1) Review Preliminary and Primary soil survey and R-values, or other acceptable test method, for completeness.
2) Incorporate primary centerline soil survey information per MT207 and R-values, or other acceptable test method, in design analysis.
3) Determine alternate designs or modifications to preliminary design if necessary.
4) Prepare new or revised cost estimates.
5) Verify design ESAL's are current.

Primary Soils Survey (490)
1) Additional soils information as requested. Additional soils as needed after review of horizontal and vertical alignment and location of "preliminary" soil survey.

Geotechnical Surveys and Field Investigation (462)
1) Conduct field geotechnical exploration and investigation: geologic surveying and mapping, geophysical surveys or other surficial inspections.
2) Perform subsurface exploration to obtain samples, conduct in-place tests for soils or groundwater, install geotechnical monitoring devices.
3) Prepare boring logs of field exploration.
4) Conduct laboratory testing for recovered samples.

Geotechnical Engineering - Alignment (464) and Structures (466)
1) Prepare detailed Geotechnical Engineering Report containing, but not limited to, the following:
   a) Recommendations regarding the proposed alignment.
   b) May contain recommendations for additional right of way for landslide areas or re-sloping not discovered or set from Preliminary Geotechnical survey.
   c) Soil types and testing results with final exploration logs and summaries of laboratory results.
   d) Geotechnical design recommendations including drawings or sketches, details, and special provisions for:
      - Pavement subgrade recommendations including identification and delineation of problem areas.
      - Landslides: excavation/buttressing limits

- Rockfalls: slope, ditch, retaining structure design.
- Settlement: amount, time rate, surcharge, culvert camber.
- Piles/Drilled Shafts: type, size, tip elevation, settlement and negative skin friction considerations, driveability analysis.
- Spread Footings: allowable bearing capacity, base elevations and settlement considerations.
- Retaining walls: type alternates, basic stability analysis, wall pressures.

e) Instrumentation: design recommendations for monitoring.
f) Include alternative designs if considered.

START DEPENDENCIES:
Activity 264.

DELIVERABLES:
1) Completed MDT review activity 442 checklist.
2) Final Geotechnical and Materials report. (All reports must be signed by a Professional Engineer licensed in the State of Montana)
3) Design methodology and calculations.

ACTIVITY 131 Design Public Involvement (01/11/2018)

Engaging the public early and throughout the transportation decision-making process is key to the Montana Department of Transportation's (MDT) mission. Meaningful public involvement efforts build trust and credibility for the department and enhance the awareness and understanding of MDT actions. Working continually, cooperatively, and comprehensively with the public and stakeholders allows MDT to deliver transportation solutions that improve safety and efficiency, protect natural and human environments, and contribute to community vitality and general well-being.

Refer to the MDT Public Involvement Plan and the Engineering Project Communication Process to determine appropriate public involvement opportunities and strategies during project development.
http://www.mdt.mt.gov/publications/docs/manuals/pubinvhb.pdf.
http://mdtinfo.mdt.mt.gov/const/pc-process/default.shtml

Public Involvement within the Design Phase of the project may include reporting on the approved scope of work, decisions made based on public input and the status of the project and the status of the project, anticipated impacts, descriptions of expected design activity and public information meetings. During the Design Phase, it is important to maintain the project specific webpage and provide updates on the project via MDT's social media accounts.

ACTIVITY 134 Prepare Plans for Plan In Hand (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
268 Roadway Design Review

DEFINITION:
Submit the plans, specifications, and documentation for the Plan in Hand Meeting.

TASKS:
1) Request seeding and weed control special provisions from MDT Reclamation Specialist.
2) If applicable, contact MDT Reclamation Specialist to discuss conceptual landscaping plans.
3) Prepares the plans and related information for the plan-in-hand inspection, including the following:
   a) Cross sections with topography
   b) Typical sections of mainline and special features
   c) Mass diagram
   d) Shrink and swell factors.
   e) Preliminary special provisions (including seeding and weed control special provisions)
   f) Plan and profile sheets
   g) Proposed access features
   h) Preliminary grading frame
      i) Title sheet
      j) Linear data frame
      k) Geometric layouts of special features
      l) Right-of-way
      m) Utilities
      n) Preliminary traffic control plan
      o) Bridge general layouts and footing plans
      p) Detailed cost estimate per MDT procedures
      q) Summary frames and quantities
      r) Contract time estimate per MDT procedures
      s) Identify areas of wetland impacts and calculate area of cumulative impact. Document avoidance measures.
4) Prepare Commitment and Resolution Document to address commitments made by MDT during the Environmental process. Use MDT Commitment and Resolution Template located on MDT Internet website.
5) Consultant and MDT Project Manager coordinate with WZSM Development Team to include appropriate plans/provisions for level 1 projects and level 2 projects as appropriate.

START DEPENDENCIES:
Activity 266

DELIVERABLES:

1. Submit 1 copy of Plans and Specifications for compliance review in accordance to the contract.
2. Provide copies of plans, specifications, special provisions and cost estimate to the Consultant Design Bureau for distribution. Contact Consultant Project Engineer for number of required copies.
3. Commitment and Resolution Document (Submit Microsoft WORD file).
4. Submit project files on CDs (CADD files, cost estimates, specials, etc.) All files must follow MDT file naming standards.
5. Submit plans, cross sections, specials and estimates in PDF format.
6. Comment Response Document (submit Microsoft EXCEL file.)
7. Traffic Management Plan Worksheet (submit Microsoft EXCEL file.)
8. Completed PIH Plans Review Check List below:

PIH Plans Review Check List

(To be completed by the consultant and submitted with the PIH plans)

PROJECT DESCRIPTION: _____
PROJECT NUMBER: _____
DATE: _____
UPN NUMBER: _____
CHECKED BY: _____

PROJECT FILE Review

- ☐ Review Alignment and Grade Review Report.
- ☐ Review Scope of Work Report.
- ☐ Review latest design and procedure memos**.**
- ☐ Review approved Design Exceptions report.
- ☐ Review Comment Response Document form. Ensure all AGR comments have been addressed**.**

GEOMETRIC DESIGN

Horizontal and Vertical Alignment: - Chapters 3 & 4 Road Design Manual (RDM)

- ☐ Check that AGR revisions have been made and are correct.

Approach and intersections - Chap 6 and Sec 12.3.10.1 RDM

- ☐ When a minor road intersects a major road on a horizontal curve, check sight distance and super elevation rollover. Sec. 2.8.2 & 3.3.6 RDM
- ☐ Ensure that angle of intersection is within 30° from perpendicular. Sec. 6.1.2.2 RDM
- ☐ Ensure that landing lengths are 25’ (7.5 m) for private approaches and 75’ (25 m) for public approaches. Sec. 6.1.3.1 RDM. Landing grades should not exceed 3 % and grade beyond landing should not exceed 6 %. For landing areas with a pedestrian crossing the gradient should not exceed 2 percent (1.5 percent preferred for design purposes) through the pedestrian crossing.
- ☐ Check with Traffic Bureau for turning radii problems i.e. **truck turning movements.**
- ☐ Review approach widths. Widths should not exceed maximums as defined in Approach Manual for Landowners and Developers.

CONSTRUCTION PLANS

Title Sheet - Section 12.3.1 RDM

- ☐ Review layout map Sec. 12.3.1 RDM
- ☐ Review project length, RPs, connections and stationing.
- ☐ Review design data, and project number with Planning or PPMS.

- ☐ Ensure project Construction number (CN) is shown.
- ☐ Ensure combination scale factor is shown. Sec. 12.3.1 RDM.
- ☐ Review Prepared By: block, Consultant logo and consultant signature block.
- ☐ Ensure that the scale and associated note has been removed.

Table of Contents - Section 12.3.2 RDM

- ☐ Review plan sheet sequence. Sec. 12.1.1.1 RDM
- ☐ Review notes for clarity, completeness, and are in Active Voice.
- ☐ Review Basis of Plan Quantities

Linear and Level Data - Section 12.3.4 RDM

- ☐ Ensure that level and bearing sources are shown.
- ☐ Ensure that bench marks are shown.
- ☐ Review plans for combination scale factor.
- ☐ Compare the coordinate tables against computer run.

Control Traverse Diagram - Section 12.3.5 RDM

- ☐ Review format and drafting.

Typical Sections - Section 12.3.6 RDM

- ☐ Ensure that AGR revisions concerning the typical sections have been addressed and are correct.
- ☐ Ensure that all flush and raised median widths, conform to Sec. 5.3 RDM

Summaries - Section 12.3.7 RDM

- ☐ Review all summaries for correct cells, titles, headings etc. Summaries must conform to current MDT standards and practices. See plan sheet examples in RDM and MDT cell libraries. **Ensure headings are consistent with bid items and measurement and payment section of special provisions.**
- ☐ Check summaries items and summary totals. Cross check with plans and cross section.
- ☐ Review summaries for non-standard frames and make sure that they follow MDT format.
- ☐ Compare Grading and Add Grading frames against earthwork run and Mass Diagram.

Details - Section 12.3.9 RDM

- ☐ Review details for clarity, and completeness. Check for missing details.
- ☐ Review Mass Diagram, earthwork run and grading frame, check for shrink factors.

Plan and Profile Sheets - Section 12.3.10 RDM

- ☐ Review plans sheets for clarity, format and completeness.
- ☐ Ensure that any changes made to the horizontal and vertical alignment are correct. Compare horizontal and vertical alignments against computer runs.
- ☐ Ensure that Soil logs are shown on the plan and profile sheets.
- ☐ Ensure wetland delineation on plans for correct annotation and symbology.
- ☐ Ensure that plans conform to MDT drafting standards and practices. See plan sheet examples in RDM. (Also see Computer Drafting and Design in this procedure.)
- ☐ Review for missing or incomplete information, notes and call outs etc.
- ☐ Review plans for acceptable abbreviations, scales, stationing, sheet breaks, north arrow and project block. Sec. 12.2.1 RDM
- ☐ Review guardrail design and callouts. Guardrail should conform to plan sheet examples, MDT Detail Drawings, and Sec. 9.2, 9.3, and 9.4 RDM.
- ☐ Review drainage and irrigation. Pipes and notes should conform to plan sheet examples, Chap 11 RDM and MDT Detail Drawings. Ensure that pipes are shown on profile portion of plan sheets. Cross check with culvert frame and cross sections and hydraulics report.
- ☐ Review special design elements i.e. ADA, bike paths, fencing, mailbox turnouts, etc. See Chap 7 RDM
- ☐ Review plans for constructability problems.

Special Provisions - Section 14.2 RDM

- ☐ Review Special Provisions for clarity and completeness.
- ☐ Ensure that Special Provisions are written in Active Voice and follow MDT format.
- ☐ Review for missing or incomplete specials.
- ☐ Review the Traffic Control Special Provision for completeness, clarity and feasibility.
- ☐ Review Special Provision for proprietary items and the need for a Public Interest Finding.

Cost Estimate - Section 13.2 RDM

- ☐ Ensure that the cost estimate is in the correct format and uses the latest avg. bid prices (compare estimate against Estimator and bid history).
- ☐ Review cost estimate for missing or incomplete bid items.

Contract Time Calculation

- ☐ Review contract time calculation documentation.

Erosion Control Plans

- ☐ Review drafting and format and send to Environmental for comment.

Cross Sections - Chapter 5 and Section 12.3.12 RDM

- ☐ Review drainage and irrigation pipes and notes. See cross section example sheets.
- ☐ Review overhead and underground utility plotting, and symbology.
- ☐ Review Right-of -Way, Easement, and Permit plotting for missing or incomplete information.
- ☐ Review cross sections for any other missing or incomplete information, i.e. grade to drain ditches, approach notes, add grading notes, sub-excavation, storm drain call outs, sanitary sewer, water lines, irrigation channel changes etc. Cross check with plans and summaries.
- ☐ Ensure that the templating is correct and sub-grade elevations agree with profile grade.
- ☐ Check for clear zone violations. (culvert ends, bottom of slope, bottom of 3:1 slopes)

ACTIVITY 135 Prepare Mitigation Design 01/02/2015)

CORRESPONDING MDT REVIEW ACTIVITY:

269- Mitigation Design Review

DEFINITION:

Development of the mitigation design plans for the proposed wetland mitigation site.

TASKS:

1) Compile design data for the mitigation design plans.
2) Prepare design plans and specifications of the approved concept for the proposed wetland mitigation site.
3) Request seeding and weed control special provisions from MDT Reclamation Specialist.
4) If applicable, contact MDT Reclamation Specialist to discuss conceptual landscaping plans.
5) Refine cost estimate based on mitigation design plans.
6) Develop timing requirements for construction of wetland project, (e.g. fall/winter const., dry or low water conditions, etc.)
7) Hazardous Materials/Substances (Initial Site Assessment) if applicable based on information provided at the project scoping meeting.
8) Perform Initial Site Assessment (ISA Checklist). May include in-house review of translites, plans (if available), As-Builts, photo log and on-site review (if warranted).
9) Review historic land uses, State and Federal Superfund list, and MDEQ Underground Tank Program files.
10) Consult with appropriate environmental regulatory agencies to determine if hazardous materials/substances or water quality issues are present.
11) Define maintenance requirements for constructed wetland.

START DEPENDENCIES:

Activity 266

DELIVERABLES:

1) Completed MDT Activity 269 checklist
2) Mitigation design plans package, specifications, special provisions, cost estimate and construction timing schedule and maintenance requirements.

ACTIVITY 136 Preliminary Structure Plans for Plan-In-Hand
(01/02/2015)

CORRESPONDING MDT REVIEW ACTIVITY:
588 Preliminary Structure Review

DEFINITION:
Preparation of structure plans (bridge, walls, etc.) for Plan-in-Hand.

TASKS:
1) Perform Preliminary Layout Revisions.
2) Prepare Substructure Recommendations.
3) Prepare Foundation Recommendations.
4) Prepare Footing Plan.
5) Prepare preliminary structures cost estimate.

START DEPENDENCIES:
Activity 266.

DELIVERABLES:
1. Completed MDT review activity 588 checklist.
2. Plan in Hand structure plans (general layout and footing plan)
3. Electronic Compatibility and CADD Standards files
4. Preliminary structures cost estimate

ACTIVITY 137(811) Access Control Guidelines / Plan (02/06/2014)

DEFINITION:
The Access Management Guidelines and Plan are prepared during this activity. They become necessary based on the extent of the access control being proposed. Ideally, the Goals and Objective Statement and the Guidelines will help guide the development of the Access Control Plans.

TASKS: (May include)

1. Meet with landowner to discuss:
2. Approach location
3. Approach Spacing
4. Meet with Counties
5. Establish plan after guidelines are established

START DEPENDENCIES:

1. Access Control Goals and Objectives
2. Establish alignment and grade

DELIVERABLES:

1. Submit Route Description.
2. An electronic copy of Access Control Guidelines following the template provided for review and comment.
3. A PDF of the Final Access Control Guidelines.
4. Preliminary Access Control Plans that include the following:
   a. Right-of-way line work, including ownership information.
   b. Access Control lines and Road Approach Box.
   c. Approaches existing and proposed.
   d. GIS with color Imagery
5. Final Access Control Plans

ACTIVITY 138 Preliminary R/W Plan for Plan In Hand (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
872 R/W Plan Review

DEFINITION:
Prepare R/W Plans for Plan-in-Hand

TASKS:

1. Prepare R/W plans to include:
   1.1. Proposed R/W Design
   1.2. Existing Railroad, Highway and Public Road R/W
   1.3. Property Lines and Ownership Dots
   1.4. Parcel Numbers, Names and Addresses
   1.5. Section Lines
   1.6. Section Corner Ties
   1.7. New and Existing Access Control Symbology and Calls
   1.8. Quarter and U.S. Gov't Lot Calls
2. Finalize Access Management Guidelines and Access Management Plan.
3. Submit Title Commitment Request to Title Company (refer to the R/W Design Manual for guidelines)

START DEPENDENCIES:
Completion of Activity 266 and Activity 871.

DELIVERABLES:

1. Completed MDT Review Activity 872 checklist
2. R/W Plans (Autodesk files)
3. Final Access Management Guidelines and Access Management Plan

ACTIVITY 140 Plan In Hand (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:

270 Plan In Hand Approval

DEFINITION:

Conduct the Plan in Hand Review meeting and submit the Plan in Hand report.

TASKS:

1) Conduct the office and field review of the plan-in-hand plans and obtains decisions on the following items in sufficient detail to prepare final right-of-way and construction plans:
   a) Alignment.
   b) Grade.
   c) Typical section.
   d) Ditch widths.
   e) Back slope.
   f) Shrink and/or swell factors.
   g) Grading quantities.
   h) Borrow pit locations.
   i) Special treatments for sub-excavation, surcharge, under drains and unusual materials or soils conditions.
   j) Location and geometric layout for special features.
   k) Separations.
   l) Location, grade, alignment and typical sections for frontage roads.
   m) Major irrigation and drainage features.
   n) Major land service features.
   o) WZSM strategies including Traffic Control Plan (TCP), Traffic Operation (TO), Public Information (PI) components.
   p) Gravel sources.
   q) Connection to PTW.
   r) Construction and right of way project length characteristics.
   s) Estimated unit bid prices for grading, drainage, surfacing, guardrail and right-of-way estimate.
   t) Approach surfacing depths and widths.
   u) Types of material to be used for guardrail, guardrail posts, pipes, culverts and fences.
   v) Permanent erosion control features.
   w) Layouts of bridges and structures.
      - Type of footing.
      - Type of bridges and alternative bridge types.
   x) Commitment and Resolution document.

2) Attend cost estimate meeting for construction projects greater than $15 million.

3) Submit plan in hand report summarizing the comments and proposed action for approval.
   a) Revise and submit cost estimate per plan in hand meeting comments.
4) Prepares airport submittal and requests airport clearance from the Federal Aviation Administration for all projects near airports.
5) Identify additional Design Exceptions, prepare Design Exception Request, and obtain Design Exception Approval.
6) Update Commitment and Resolution Document to address commitments made by MDT during the Environmental process and modified during discussions at Plan in Hand Meeting.
7) Update Comment Response Document.

START DEPENDENCIES:

Completion of MDT review of activities 268, 352, 436, 442, 588, 623, 785, 877, 700 and 872.

DELIVERABLES:

1) Completed MDT review activity 270 checklist.
2) Plan in Hand Report with cost estimate.
3) Design Exception Request (when applicable)
4) Updated Commitment and Resolution Document. (Submit Microsoft WORD file).
5) Updated Comment Response Document (Submit Microsoft Excel file)
6) Final WZSM plans/strategies

ACTIVITY 141 Mitigation Design Plan In Hand (01/02/2015)

CORRESPONDING MDT REVIEW ACTIVITY:
271-Mitigation Design Plan Review Approval

DEFINITION:
Development of the mitigation design plans for use in Plan In Hand meeting. Conduct the Plan In Hand Review meeting and submit the Plan In Hand Report. Use the information gathered to develop a Final Mitigation Design Plans Package.

TASKS:
1) Conduct the office and field review of the plan in hand plans and obtain decisions on the following items in sufficient detail to prepare final mitigation design plans:
2) Grading quantities.
3) Borrow pit locations.
4) Special requirements for sub-excavation, under drains and unusual materials or soil conditions.
5) Location, grade, alignment and typical sections for all dikes and berms if applicable.
6) Cross sections.
7) Major irrigation and drainage features.
8) Major land service features.
9) Layout of inflow/outflow structures and spillways.
10) Estimated unit bid prices for grading, drainage, fencing and seeding.
11) Types of material to be used for pipes, culverts, weirs and fences.
12) Permanent erosion control features.
13) Prepare landscape and seeding recommendations.
14) Prepare the plan in hand report documenting decisions made and further. studies and investigations agreed upon during the plan in hand meeting.
15) Incorporate MDT and resource agencies comments into P.I.H. report.

START DEPENDENCIES:
Activities 353, 443, 626, 269 and 785

DELIVERABLES:
6. Completed MDT Review Activity 271.
7. Plan in Hand Report.
8. Design Exception Request if applicable.

ACTIVITY 142 R/W Plans (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
874 R/W Plans Check

DEFINITION:
Prepare Final R/W Plans

TASKS:

1. Obtain and Parcelize Title Commitments
2. Determine Final Construction Limits
3. Complete the Right-of-Way Plans (based on final construction limits, final hydraulics information and final land title information). Include right of way plans with aerials.
4. Include All Areas
5. Prepare Route Description for Filing Plans in County
6. Revise (as necessary) Right-of-Way Cost Estimate

START DEPENDENCIES:
Completion of Activity 270

DELIVERABLES:

1. Completed MDT Review Activity 874 Checklist
2. R/W Plans (Autodesk files)
3. R/W plans with aerials.
4. Construction Plans and Cross Sections with Final Construction Limits (Autodesk files)
5. Parcelized Title Commitments including Last Instruments of Conveyance and Copies of Schedule B Items Attached OR Last Deeds of Record (one electronic pdf)
6. Construction Centerline Alignment Data
7. Route Description
8. R/W Cost Estimate (updated/revised)
9. R/W CADD Files (including, r/w baseline and r/w break ioc, ooc, txt files and section tie ioc, ooc files and include coordinates for construction permits)

ACTIVITY 144 R/W Plan Revision (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
875 R/W Authorization

DEFINITION:
Revisions to R/W Plans as Deemed Necessary by the R/W Plan Check

TASKS:
1. Revise R/W Plans per Check Prints
2. Revise CADD Files as Indicated by R/W Check Prints
3. Prepare Exhibits

START DEPENDENCIES:
Completion of Activity 874

DELIVERABLES:
1. Final R/W Plans (Autodesk files)
2. R/W CADD Files (including, r/w baseline and r/w break ioc, ooc, txt files and section tie ioc, ooc files)
3. Updated Construction Plans and Cross Sections with Final Construction Limits (Autodesk files, PDF) (if applicable) with existing and new R/W included.
4. Parcel Exhibit Files (Autodesk files). Submit exhibits within 2 weeks of R/W Authorization (Activity 875)

ACTIVITY 146 Structure Design (01/02/2015)

CORRESPONDING MDT REVIEW ACTIVITY:
590 - Structure Review

DEFINITION:
Preparation of complete structure plans, specifications and estimate.

TASKS:
1) Prepare quantities sheet (Q sheet).
2) Prepare special provisions (include log of borings).
3) Prepare complete structure plans.
4) Prepare detailed structures cost estimate using MDT Bridge Bureau Cost Estimate Spreadsheet (request from MDT project manager.)

START DEPENDENCIES:
Activity 270.

DELIVERABLES:
1) Completed MDT review activity 590 checklist.
2) Complete structure plans.
3) Special provisions.
4) Detailed structures Cost estimate.

ACTIVITY 147 Final Bridge Plans (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
592 Final Bridge Plan Review

DEFINITION:
Preparation of final bridge plans, specifications and estimate.

TASKS:
1) Finalize quantities sheet (Q sheet).
2) Finalize special provisions (include log of borings).
3) Finalize bridge plans.
4) Request drawing numbers from MDT.
5) Finalize detailed Bridge cost estimate using *AASHTOWare*.
6) Provide Bridge rating according to current Bridge Design Load Rating Requirements Load Rating Requirements for Bridge Design Contracts (mt.gov).

START DEPENDENCIES:
Activity 590.

DELIVERABLES:
1) Completed MDT review activity 592 checklist.
2) Final bridge plans. At a minimum, the Q sheet needs to be stamped and signed.
3) Signed and stamped design calculations.
4) Special provisions.
5) Detailed Bridge Cost estimate.
6) 2 copies of quantity calculations.
7) Bridge rating according to Bridge Design Load Rating Requirements.

ACTIVITY 148 Final Environmental Matters and Permits (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITIES:
730, 728, 732, 778

DEFINITION:
Preparation of all applicable permit applications and clearances for MDT signatures and submittal.

Preparation of the Aquatic Resources Finding Report (AFR) (and associated stream mitigation calculations and Mitigation Plan(s) as appropriate).

Final environmental/biological review, development and finalization of any relevant Environmental features, commitments, and special provisions for inclusion in the Contract Documents.

This is an iterative process including the submittal of Draft Permit Applications, Draft AFR, Draft Environmental special provisions, and other Draft documentation in electronic Word document format to MDT for review and comment. The Consultant will incorporate proposed revisions in the Final Permit Applications, Final AFR, Final Environmental special provisions, and other Final documentation and return to MDT for processing and/or submittal to appropriate entities.

NOTE:
Receive MDT approval prior to making contact with any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all correspondence to MDT for review and approval.

TASKS:

DRAFT Environmental Water Quality Permits

1. Compile relevant project information necessary to complete a Draft SPA 124 and Section 404 permit application. If necessary, prepare Section 10, Section 401 certification, ALCO and/or ALPO Draft permit applications.

2. Compile data and plan sheets and/or other attachments showing the location, final design, quantities, and dimensions of existing and proposed permanent structures, other regulated features, final wetland impacts, impacts to other aquatic resources and waters of the U.S. Complete required application forms, assemble attachments, draft cover letters and submit to MDT in electronic Word document format for review.

Cultural Mitigation

1. Coordinate with MDT Cultural Resources personnel to provide mitigation measures and documentation as necessary.

DRAFT Aquatic Resource Findings Report (AFR)

1. Prepare a DRAFT AFR and attachments and submit to MDT for review. Include the following analysis, data, and discussion in the draft report:
   - Watershed: Identify in which of the sixteen Major Watershed Basins the project is located.
   - Project Description: Include a detailed description of the project purpose and need and scope of work. Specifically address project features involving wetlands, rivers/streams (ie. bridges, culverts, widening, slope modifications, etc.).
   - Project Location: Provide a detailed description of the project location and limits including route, county, begin and end reference posts, legal description (TRS), etc.
   - Wetlands: Provide a detailed description of the delineation process/methods including who (person and firm) delineated the wetlands, date the original delineation was completed and/or verified, a description of the delineation method including field work, mapping, and office review, use of the 1987 USACOE Wetland Delineation Manual, appropriate Regional Supplement, MT Wetland Assessment Forms, USACOE wetland determination forms, etc.
     - *Wetland Impacts*: Provide a summary discussion of final wetland impacts for each wetland area identified including wetland identification number, wetland classification, wetland MWAM category, general location description, dominant vegetation, soil description, associated hydrologic feature, and hydrologic indicators. Include a quantification of impacts to each specific wetland and the source(s) of impact (i.e. associated with grade raise and flattened slopes, alignment shifts, etc.)
     - Include a *Wetland Impact Summary* table which highlights 1) Wetland ID; 2) station ranges (RT/LT); 3) wetland classification abbreviation(s); 4) delineated area; 5) permanent impact area, and summary totals for delineation and impact area.
     - *Wetland Avoidance and Minimization*: Include a summary discussion of the total acres of wetlands delineated in project area, the estimated wetland impact acres from the BRR, and total quantity of unavoidable wetland impacts along with brief description of why all wetland impacts were unavoidable. Include a bulleted list of the avoidance and minimization measures employed during design to minimize impacts to wetland areas throughout the project.
     - *Compensatory Wetland Mitigation*: Verify the mitigation proposal with the MDT District Biologist and/or MDT Aquatic Mitigation Engineer. Provide a summary discussion of the proposed compensatory mitigation strategy for the unavoidable wetland impacts.
   - Streams: Provide a detailed discussion of the affected ephemeral, intermittent, and perennial rivers/streams by the project including; field assessment methodology and office review, discussion of the USACOE 2013 Stream Mitigation Procedures, and Clean Water Act Section 404. Include a project

summary of the number, type, and general condition of rivers/streams affected by the project.

- Include a *Stream Factor Characteristics* table according to the USACOE 2013 Stream Mitigation Procedure which highlights 1) stream name and station range(s) (right/left/crossing); 2) stream type; 3) stream order; 4) stream status; 5) existing condition; 6) dominant impact; and as applicable 7) existing structure type/dimensions 8) proposed structure type/dimensions; 9) net impact (linear feet).
- *Existing Conditions and Proposed Work*: Provide a summary description of each waterbody including an expansion on the factors included in the table above, a description of existing conditions, dominant vegetation, impairments, bank slopes, adjacent land use, etc. Provide a brief narrative description of the proposed work (fill, channel change, structure replacement [type and dimension], etc). **Detail and quantify the net impacts and/or benefits of the proposed work**.
- *USACOE Stream Mitigation Procedure*: For each waterbody, discuss whether or not compensatory stream mitigation is anticipated.
  - If not anticipated, provide a bulleted list of rationale for why the proposed work does not trigger stream mitigation requirements.
  - If the project may generate stream mitigation credits, contact the MDT District Biologist to discuss the feasibility of credit banking. Completion of stream debit and credit calculations will be required.
  - If stream mitigation is anticipated, coordinate with the MDT District Biologist and MDT Aquatic Mitigation Engineer for further development of a stream mitigation plan. Completion of stream debit and credit calculations will be required. Document the need for stream mitigation in the AFR. **See AFR Task 2 and 3 below.**

- Summary: Provide a summary of project total wetland and stream impacts/benefits and the proposed mitigation for each, or if no compensatory mitigation is required.

2. If stream mitigation is deemed necessary:
   - Coordinate with the MDT District Biologist and Project Development Engineer and complete Debit and Credit Computation Tables per the USACOE 2013 Stream Mitigation Procedure.
   - If debits are greater than credits, contact MDT District Biologist to determine the availability of stream mitigation credits for the project. Document the proposed mitigation strategy in the AFR.
   - If no stream mitigation banks or in lieu fee options are available, on-site stream mitigation with the subject project is likely required. **See AFR Task 3.**
   - If credits are greater than debits, document this in the AFR. Contact the MDT District Biologist to determine the feasibility of credit banking.

3. If on-site stream mitigation is required:
   - Incorporation of proposed mitigation into the project plans will be required.

- Complete the necessary stream credit calculations for the proposed mitigation.
    - Credits generated must be greater than debits incurred. Complete a 12-Point Mitigation Plan (12 Components from "The Rule"). Additional information may be found in the Federal Register, Vol. 73, No. 70, dated April 10, 2008, pp 19677-19678; 33 CFR 332.4.

Final Environmental/Biological Review

1. Prepare final plans and specifications for inclusion of appropriate environmental mitigation requirements prior to Final Plan Review.
2. Attend Final Plan Review Meeting to advise on environmental matters.
3. Review project plans, specifications and special provisions to ensure environmental matters have been addressed and that all agreed to mitigation measures and environmental commitments, including permit conditions, regulatory requirements, erosion control, seeding and noxious weed control, are included or addressed in the completed project contract bid package.
4. Coordinate and review any environmentally related changes to the plans, special provisions or environmental documentation.
5. If necessary, modify the environmental document and/or Section 4(f) Evaluation. This may require a redraft of the original Environmental Document.
6. If requested by MDT, attend the Pre-construction Meeting to review the final plans, specifications, special provisions, environmental commitments and mitigation requirements, including compliance with all applicable environmental regulations and permits with the Project Manager and the Contractor.

Prepare Storm Water Permit NOI and SWPPP (Tribal Lands Only)

1. Compile all data showing the nature and location of erosion control best management practices.
2. Complete MPDES or NPDES NOI and SWPPP forms.

Final Environmental/Water Quality Permits

1. Incorporate comments received and prepare the Final permit applications.

Final AFR

1. Incorporate comments received and prepare the Final AFR.

START DEPENDENCIES:

Activity 270.

DELIVERABLES:

1. Aquatic Resources Finding Report: Include MDT Wetland Assessment forms and Routine Wetland Determination Forms (1987 COE Wetlands Delineation Manual) for all unavoidable impacts to wetlands, and ephemeral, intermittent, and perennial rivers/streams, located at the project site and/or along the project corridor. Include site photographs and relevant plan sheets. Include other attachments as necessary.

2. Electronic copy of Draft and Final water quality permit application cover letters (SPA/404/10/401/ALCO/ALPO) and application forms. Include as attachments the relevant plan sheets, sketches, project location map, site photographs, Hydraulics Report, etc.
3. If required, Cultural Mitigation Document and artifacts where applicable.
4. Environmental specifications, special provisions, mitigation measures and a list of all environmental commitments.
5. Storm Water Permit NOI and SWPPP with Erosion Control Plans and project location map.
6. If drainage sumps are required, complete EPA notification and sketch.

ACTIVITY 149 Final Wetland Mitigation Permits and Clearances
(12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
787-Final Wetland Mitigation permit and Clearance Review.

DEFINITION:
Preparation and submittal of all relevant draft applications and clearances for MDT signatures.

NOTE:
Receive MDT approval prior to making contact with any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all correspondence to MDT for review and approval.

TASKS:

Environmental Water Quality Permits (728)

7. Compilation of all data showing nature, location, dimensions of existing and proposed structures and encroachments including method of construction.
9. Assemble construction specifications for proposed construction.
10. Development of wetland mitigation credit acreages, performance goals and objectives for mitigation site.
11. Complete relevant application forms (404/10/318/ALPO/ALCO, other) and sketches.
12. Respond to MDT comments.

Compliance w/Stream Protection Act (732) if Applicable

1. Collect information on potential stream modifications/alterations.
2. Prepare draft application SPA 124.
3. Respond to MDT comments.

Cultural Mitigation (730) if applicable

1. Define scope of work.
2. Advertise for bids and select contractor or assign to existing consultant.
3. Monitor field work.
4. Review and submit final report or documentation to SHPO and other identified in MOA.

Prepare, Submit and Coordinate Storm Water Permits (744)

1. Compilation of all data showing nature and location of erosion control best management practices.
2. Complete storm water application forms.
3. Respond to MDT comments.

Final Environmental Review (740)

1. Review project plans, specifications and special provisions to ensure environmental concerns have been addressed and that all agreed to mitigation measures, including erosion control, seeding and noxious weed control, are included or addressed in the completed project contract bid package.
2. Coordinate and review any environmentally related changes in the plans, special provisions or environmental documentation resulting from changes in the project scope-of-work, or awareness of additional environmental issues.
3. Review project Environmental Documents for completeness and compliance with the Montana Environmental Policy Act and the National Environmental Policy Act.
4. If necessary, as directed by MDT, produce a Supplement to the CE, EA or Section 4(f) Evaluation. The Supplemental Document may cover the issue(s) resulting from the revision to the proposed scope-of-work, or may be a complete redraft of the original Environmental Document.

START DEPENDENCIES:

Activity 271

DELIVERABLES:

Submit all applicable permit applications in electronic form with pertinent supporting documentation

1. Submit relevant application forms (404/10/318/ALPO/ALCO, other) including plans and specifications pertinent to the application.
2. Submit application SPA 124 including plans and specifications pertinent to the application.
3. Submit final cultural report or documentation.
4. Submit storm water application forms including plans and specifications pertinent to the application.
5. If necessary, submit supplemental documents to the CE, EA or Section 4(f) Evaluation.
6. Completed MDT review activity 787.

ACTIVITY 150 Appraise Right of Way (03/27/2008)

CORRESPONDING MDT REVIEW ACTIVITY:
834-Appraisal Review

DEFINITION:
A property appraisal is the development and reporting of a supported opinion of Market Value. The value opinion is used by the R/W Bureau in the determination of Just Compensation to be offered to a landowner for the partial or whole acquisition of a property for highway purposes. The appraisal process is also used to estimate the diminution in value of a remainder property in a partial acquisition.

TASKS:
1) Review the Project
   a) Review plans and documents, including title reports
   b) Request a pre-appraisal scope of work (PASOW) or determine type(s) of appraisal report required to produce an opinion of Market Value that is not misleading.
   c) Select a qualified appraiser to complete the assignment
   d) Establish time frame for completion of project
   e) Complete Appraisal contracting process, as needed.
2) Prepare Appraisal Reports
   a) Provide an opinion of value using accepted standards of professional appraisal practice as outlined in the MDT Appraisal Manual, UASFLA, and FHWA guidelines.
3) If requested by MDT, prepare Review Appraiser's Reports (on rare occasions, the Consultant is contracted to provide the appraisal review).

START DEPENDENCIES:
For non-wetland projects-Authorization to start the appraisal process (completion of Activity 875)
For wetland projects-Authorization to start the appraisal process (completion of Activity 854)

DELIVERABLES:
1) Appraisal reports
2) Review Appraiser's Reports, if applicable

ACTIVITY 152 Final Plan Preparation (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
272 Final Road Plan Review

DEFINITION:
Prepare final plans based on comments received and decisions made at plan-in- hand.

TASKS:

1. Make revisions to the design based on comments received during the Plan in Hand review as documented in the plan-in-hand Report and complete the design including the following:
   1.1. Cross sections with topography
   1.2. Typical sections of mainline and special features
   1.3. Mass diagram
   1.4. Shrink and swell factors.
   1.5. Special provisions
   1.6. Plan and profile sheets
   1.7. Proposed access features
   1.8. Grading frame
   1.9. Title sheet
   1.10. Linear data frame
   1.11. Geometric layouts of special features
   1.12. Right-of-way
   1.13. Utilities
   1.14. Traffic Management plan
   1.15. Bridge plans
   1.16. Detailed cost estimate per MDT procedures
   1.17. Summary frames and quantities
   1.18. Erosion control plans
   1.19. Contract time estimate per MDT procedures
   1.20. Areas of wetland impacts and calculate area of cumulative impact. Document avoidance measures.
2. Verify all Design Exceptions have been approved.
3. Update Commitment and Resolution Document to address commitments made by MDT during the Environmental process.
4. Update Comment Response Document to follow through and respond to all comments made through the design process.

START DEPENDENCIES:
Activity 270.

DELIVERABLES:

1. Provide copies of plans, specifications and cost estimate to the Consultant Design Bureau for distribution. Contact Consultant Project Engineer for number of required copies. Plan sets to be in PDF.
2. Submit project files on CDs (CADD files, cost estimates, specials, etc.) All files must follow MDT file naming standards.
3. Submit plans, cross sections, specials and estimates in PDF format.
4. Commitment and Resolution Document (Submit Microsoft WORD file).
5. Comment Response Document (submit Microsoft EXCEL file.)
6. Completed FPR Final Review Check List below:

FPR Plan Review Check List
(To be completed by the consultant and sent in with FPR plans)

PROJECT DESCRIPTION_____
PROJECT NUMBER _____
DATE _____
UPN _____
REVIEWER _____

Project File Review

☐ Review Plan in Hand Report.
☐ Review correspondence since PIH.
☐ Review approved Design Exceptions reports and compare against plans.
☐ Review Mitigation summary.
☐ Review plans to ensure that they conform to the latest design memos.
☐ Review Comment Response Document and ensure that all comments are addressed, and incorporated into the plans.

Title Sheet - Section 12.3.1 RDM

☐ Review plans for latest Project number.

Summaries - Section 12.3.7 RDM

☐ Review all summary revisions. Review summaries for new bid items, funding splits, alternative bid items and other problems**.** Cross check summaries with plans and cross – sections.
☐ Check for non-standard frames and make sure that they follow MDT format.
☐ Review for missing or incomplete frames.

Details - Section 12.3.9 RDM

☐ List / Review details added since P.I.H

Plan and Profile Sheets – Section 12.3.10 RDM

☐ Review plans for proper plan sheet organization. Sec12.1.1. RDM
☐ Review special design elements i.e.; ADA, bike paths, fencing, mailbox turnouts etc. See Chap 7 RDM
☐ Review plans for missing or incomplete items.

Special Provisions - Section14.2 RDM

☐ Review the Traffic Control Special Provision for feasibility**.**
☐ Ensure that all special provisions are in **active voice**, correct format. Ensure measurement and payment items agree with cost estimate, plans and summaries.
☐ Review Special Provision for "Buy America" provisions. (i.e. no foreign made products).

☐ Review Special Provision for proprietary items, and if a PIF is needed or has been done.

Cost Estimate - Section 13.2 RDM

☐ Review cost estimate and compare estimate against Estimator, Bid History and latest average bid prices.

☐ Review estimate for missing bid items.

Contract Time Calculation

☐ Review Production rates used

☐ Review Tasks and Scheduling

☐ Review Contract Time Calculation sheets

Cross Sections - Chapter 5 and Section12.3.12 RDM

☐ Review cross-section to ensure P.I.H. comments have been addressed

Computer Files - Section12.2

☐ Include the horizontal and vertical output files, and earthwork run as per CADD standards.

Miscellaneous:

☐ Do a match up check with the plans, summaries, cross-sections, cost estimate and special provisions

ACTIVITY 153 Final Mitigation Design Plan (03/27/2008)

CORRESPONDING MDT REVIEW ACTIVITY:
274-Final Mitigation Design Plan Review

DEFINITION:
Revise, update and finalize wetland design based on comments received and decisions made at Plan in Hand review.

TASKS:
1. Make revisions to the design based on comments received during the Plan in Hand review as documented in the Plan in Hand Report and complete the design of miscellaneous features.
2. Provide erosion control plans.
3. If applicable, prepare a Supplemental Final Materials and Geotechnical Report. This report is required when the final geotechnical design and/or materials selection varies significantly from those identified in the Final Materials and Geotechnical Report. This report is to be signed by the author of the Final Materials and Geotechnical Report.
4. When a Supplemental Final Materials and Geotechnical Report is not deemed necessary, prepare a letter that verifies the final geotechnical design and/or materials selection is consistent with those identified in the Final Materials and Geotechnical Report. This letter is to be signed by the author of the Final Materials and Geotechnical Report.
5. Complete plans package including final plans, details and special provisions ready for final mitigation.

START DEPENDENCIES:
Activity 271

DELIVERABLES:
1. Completion of MDT Review Activity 274 checklist
2. Submittal of Final Mitigation Design Plan Package

ACTIVITY 154 Conduct and Complete Acquisition (03/27/2008)

CORRESPONDING MDT REVIEW ACTIVITY:
876 Request/Review R/W Plans (Blue Sheets)

DEFINITION:
Acquisitions from landowners, both private and public, of property required for R/W or other highway uses.

TASKS:

Conduct and Complete R/W Acquisition (824)
1) Review maps, deeds, documents, appraisals, title reports.
2) Prepare documents needed for property acquisition.
3) Contact owner (or representative) in person or by mail.
4) Apply for right-of-way over state land, Indian land or federal land.
5) Obtain grant of right-of-way from public agencies.
6) Present offer to property owner and obtain signatures.
7) Obtain mortgage releases, clear taxes and liens.

NOTE: R/W acquisition policy can be found in MDT R/W Operations Manual chapter 4.

Provide and Complete Relocation Assistance (822)
Provide relocation assistance only when directed by MDT.

START DEPENDENCIES:
Completion of MDT activity 834.

DELIVERABLES:
1) Completed acquisition package for each parcel delivered to Field R/W Supervisor.

ACTIVITY 156 R/W Plan Revisions After Authorization (Blue Sheets)
(12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
876 Request/Review R/W Plans (Blue Sheets)

DEFINITION:
This is an iterative process between the consultant and MDT to revise R/W plans as required by design modifications and R/W negotiations.

NOTE:
Modifications to plans occur **ONLY** when directed by MDT R/W Design/Plans Section.

TASKS:
2) Evaluation & Coordination of R/W and landowner request.
3) Receive/obtain direction from R/W Design/Plans Section to revise R/W plans
4) Revise R/W plans
    a. Prepare R/W Form 501 (Blue Sheet)
    b. Compile documentation to support revisions
    c. Prepare new exhibits
    d. Identify additional Design Exceptions, prepare Design Exception Request, and obtain Design Exception Approval (when applicable).

START DEPENDENCIES:
Completion of activity 875 and request for revisions from MDT Right of Way Design/Plans Section.

DELIVERABLES:
1) Revised Right-of-Way plans and exhibits (Autodesk files. If applicable: R/W, input, output, and .txt files for R/W baseline and R/W break).
2) Form 501 (Microsoft WORD file).
3) Documentation to support revisions.
4) Design exception request (when applicable).

ACTIVITY 158 Geotechnical and Materials Revisions (03/27/2008)

CORRESPONDING MDT REVIEW ACTIVITY:
444 Final Geotechnical and Materials Review

DEFINITION:
Finalize geotechnical design and materials based on comments received at Plan in Hand.

TASKS:

1. Incorporate all geotechnical and materials related comments from the Plan in Hand into the Final Plans
2. Review plans to verify all geotechnical design and material selections correspond with those identified in the Final Geotechnical Report
3. Prepare a Supplemental Final Materials and Geotechnical Report (as necessary). This report is required when the final geotechnical design and/or materials selection varies significantly from those identified in the Final Materials and Geotechnical Report. This report is to be signed by the author of the Final Materials and Geotechnical Report.
4. When a Supplemental Final Materials and Geotechnical Report is not deemed necessary, prepare a letter that verifies the final geotechnical design and/or materials selection is consistent with those identified in the Final Materials and Geotechnical Report. This letter is to be signed by the author of the Final Materials and Geotechnical Report.

START DEPENDENCIES:
Activity 270.

DELIVERABLES:

1) Completed MDT review activity 444 checklist.
2) Supplemental Final Materials and Geotechnical Report (as necessary and signed by the author of the Final Materials and Geotechnical Report)
3) Letter as identified in task 4 and signed by the author of the Final Materials and Geotechnical Report.

ACTIVITY 160 Process for Condemnation (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
876 Request/Review R/W Plans (Blue Sheets)

DEFINITION:
Prepare and submit right-of-way parcels for condemnation.

TASKS:
Prepare Preliminary Condemnation Report in accordance with the latest edition of the Right of Way Manual.

START DEPENDENCIES:
Completion of Activity 834 and attempted acquisition under Activity 154.

DELIVERABLES:
1) Negotiation History.
2) All correspondence related to acquisition process.
3) The unsigned R/W agreement.
4) Acquisition agent's copy of the appraisal including all applicable R/W forms the Waiver Valuation.
5) Copy of the Title Commitment/ownership revisions.
6) Any unsigned deeds/easements for conveyance of property rights.
7) Preliminary Condemnation Report

ACTIVITY 162 Final Plan Revisions (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
964- PS&E Review

DEFINITION:
Revise project plans package based on comments generated from Final Plan Review.

TASKS:

1. Incorporate all revisions to project plans as requested by the Department throughout the design/review process.
2. Update construction cost estimate.
3. Update special provisions.
4. Update WZSM worksheet.
5. Prepare cost estimate for Context Sensitive Design (CSD) projects.
6. Prepare the environmental mitigation measures cost estimate if applicable.
7. Prepare the cost estimate of construction within 15 m (50 ft.) of Railroad if applicable.
8. On projects with bridges, calculate the walkway or sidewalk and total deck area. (Edge of slab to edge of slab.)
9. On projects where shoulders are widened for walkway/bikeway, calculate the widened area and total roadway area.
10. On projects with bridges, calculate the volume of riprap below the Q2 elev. (normal highwater elevation).

START DEPENDENCIES:
For non-wetland projects-completion of MDT review activities 273, 876, 592 (when applicable) and 627.
For wetland projects-completion of MDT review activities 274, 366, 447,624,787, and 825.

DELIVERABLES:

1. Submit one complete copy of all plans, non-standard special provisions, cross-sections, Traffic Management plans, quantity calculations and final construction cost estimate. Submit electronic files both PDF (searchable/vectorized) and Autodesk CADD naming convention.
2. Submit Context Sensitive Design (CSD) cost estimate if applicable.
3. Submit the environmental mitigation measures cost estimate if applicable.
4. Submit the cost estimate of construction within 15 m (50 ft.) of Railroad if applicable.
5. Submit soil borings and bridge borings in PDF format (if applicable).
6. On projects with bridges, submit the walkway and total deck area. (Edge of slab to edge of slab.)
7. On projects where shoulders are widened for walkway/bikeway, submit the widened area and total roadway area.

8. On projects with asphalt walkway, submit the walkway area and roadway area.
9. Submit one set of Erosion Control Plan.
10. Submit contract time documentation.

ACTIVITY 163 Additional Plan Revisions (12/20/2021)

DEFINITION:

Activity includes tasks to address questions and revise plans, specifications and estimate (PS&E) from the PS&E review, check R/W agreements and address changes in plans, and address questions during advertising.

TASK:

1. Address comments from PS&E Review.
2. Make appropriate revisions to PS&E after PS&E Review.
3. Verify that all terms in R/W agreements are included in the PS&E or may appropriately be not shown (NSOP).
4. Submit signed and stamped originals of Title Sheet, other plan sheets that are signed and stamped and original of other non-standard plans, for scanning (i.e. plan sheet not in dwg format).
5. Address Questions during Advertising.

START DEPENDENCIES:

Completion of PS&E Review, receipt of R/W agreements or receipt of questions during advertising.

DELIVERABLES:

Updated plans package as appropriate.

Summary of changes to PS&E.

Updated Comment Response Document.

Communication with MDT PM that tasks are complete.

ACTIVITY 164 Prepare Traffic Plans for Plan In Hand (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
436 Traffic Review for Plan In Hand

DEFINITION:
Preparation of traffic plans for Plan-in-Hand.

TASKS:
1) Prepare Electrical Plans
   a) Electrical Quantity Summaries.
   b) Electrical Detail Sheets and Drawings.
   c) Lighting Plans and calculations (photometric calculations, voltage drops, conduit fills, etc.)
      - Compute preliminary roadway lighting alternates
      - Identify preliminary R/W needs for electrical features
      - Verify the location and type of electrical service with power company
   d) Signal Plans (Refer to the Electrical Section of the Traffic Manual.)
      - Identify preliminary R/W needs for electrical features
2) Prepare Geometric details (Intersection details, roundabout details, interchange details, etc.)
   a) Geometric call outs
   b) Geometric coordinate tables
   c) Geometric roundabout tables if applicable
   d) Geometric radius table
3) Prepare Signing and Striping Plans
   a) Signing and Delineation Quantity Summaries
   b) Sign Location and Specification Sheets
   c) Signing Detail Sheets
   d) Striping Detail Sheets
   e) Signing Plans
   f) Sign design calculations
4) Analyze traffic plans and prepare special provisions and cost estimate.
   a) Analyze plans for conformance with standards (MUTCD, geometric design, lighting, etc.)
   b) Analyze plans for utility conflicts (underground and overhead)
   c) Prepare special provisions with an emphasis on constructability.
   d) Prepare cost estimate for Electrical and Signing.

START DEPENDENCIES:
Activity 266.

DELIVERABLES:
1) Completed MDT review activity 436 checklist.

2) Electrical plans with all supporting documentation (Autodesk electronic format)
3) Geometric details with all supporting documentation. (Autodesk electronic format)
4) Signing and striping plans with all supporting documentation. (Autodesk electronic format)
5) Provide written documentation from the power company verifying the location, type of electrical service and associated costs.

ACTIVITY 165 Prepare Traffic Plans for Final Plan Review
(12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
438 Traffic Review for Final Plans

DEFINITION:
Prepare traffic plans for Final Plan Review based on comments received and decisions made at plan-in-hand.

TASKS:
1) Electrical Plans. Incorporate MDT Traffic comments.
   a) Electrical Quantity Summaries.
   b) Electrical Detail Sheets and Drawings.
   c) Lighting Plans
   d) Signal Plans
2) Geometric details (Intersection details, roundabout details, interchange details, etc.) Incorporate MDT Traffic comments.
   a) Geometric call outs
   b) Geometric coordinate tables
   c) Geometric roundabout tables if applicable
   d) Geometric radius table
3) Signing and Striping Plans. Incorporate MDT Traffic comments.
   a) Signing and Delineation Quantity Summaries
   b) Sign Location and Specification Sheets
   c) Signing Detail Sheets
   d) Striping Detail Sheets
   e) Signing Plans
   f) Sign design calculations
4) Special provisions and cost estimate. Incorporate MDT Traffic comments.

START DEPENDENCIES:
Activity 270.

DELIVERABLES:
1) Completed MDT review activity 438 checklist.
2) Electrical plans. (Adobe PDF and Autodesk electronic format).
3) Geometric details. (Adobe PDF and Autodesk electronic format).
4) Signing and striping plans. (Adobe PDF and Autodesk electronic format).
5) Cost Estimate

ACTIVITY 166 Utility Plans (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:

882 Utility Plan Review

DEFINITION:

Preparation of utility plans to identify utility conflicts, Right-of-Way requirements and construction items. This information is used to determine utility conflicts and negotiate utility agreements.

TASKS:

1) Complete utility plans based on final construction limits, updated construction plans, final Right-of-Way plans, final hydraulic information and the projects environmental document.

START DEPENDENCIES:

Activity 270

DELIVERABLES:

1. Completed MDT review activity 882 checklist.
2. Utility Plans.
3. Current construction plans and cross sections (complete with utility topography) check prints.
4. Utility CADD files (including the map file.)

ACTIVITY 167 Final Traffic Design (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
439 Final Traffic Design Review

DEFINITION:
Finalize traffic plans.

TASKS:
1) Finalize Electrical Plans. Incorporate MDT Traffic comments.
   a) Electrical Quantity Summaries.
   b) Electrical Detail Sheets and Drawings.
   c) Lighting Plans
   d) Signal Plans
2) Finalize Geometric details (Intersection details, roundabout details, interchange details, etc.) Incorporate MDT Traffic comments.
   a) Geometric call outs
   b) Geometric coordinate tables
   c) Geometric roundabout tables if applicable
   d) Geometric radius table
3) Finalize Signing and Striping Plans. Incorporate MDT Traffic comments.
   a) Signing and Delineation Quantity Summaries
   b) Sign Location and Specification Sheets
   c) Signing Detail Sheets
   d) Striping Detail Sheets
   e) Signing Plans
   f) Sign design calculations
4) Finalize special provisions and cost estimate. Incorporate MDT Traffic comments.

START DEPENDENCIES:
Activity 438.

DELIVERABLES:
1) Completed MDT review activity 439 checklist.
2) Electrical plans. (Adobe PDF and Autodesk electronic format).
3) Geometric details. (Adobe PDF and Autodesk electronic format).
4) Signing and striping plans. (Adobe PDF and Autodesk electronic format).
5) Cost Estimate
6) Excel file for Summary and Specification sheet data (if applicable)

ACTIVITY 168 ROW Public Involvement (1/11/18)

Engaging the public early and throughout the transportation decision-making process is key to the Montana Department of Transportation's (MDT) mission. Meaningful public involvement efforts build trust and credibility for the department and enhance the awareness and understanding of MDT actions. Working continually, cooperatively, and comprehensively with the public and stakeholders allows MDT to deliver transportation solutions that improve safety and efficiency, protect natural and human environments, and contribute to community vitality and general well-being.

Refer to the MDT Public Involvement Plan and the Engineering Project Communication Process to determine appropriate public involvement opportunities and strategies during project development.
http://www.mdt.mt.gov/publications/docs/manuals/pubinvhb.pdf.
http://mdtinfo.mdt.mt.gov/const/pc-process/default.shtml

Public Involvement within the Right-of-Way Phase of the project includes reporting on the approved scope of work, decisions made based on public input, issues related to work zone safety and mobility, right-of-way acquisition and the status of the project.

ACTIVITY 170 Preliminary Hydraulics Report (08/01/2016)

DEFINITION:

Preparation of the preliminary Hydraulics Report includes sufficient information to establish proposed alignment and grade.

CORRESPONDING MDT REVIEW ACTIVITY:

350 Review Preliminary Hydraulics Report

TASKS:

Location Hydraulic Study (354)

The purpose of the Location Hydraulic Study is to research, identify, and document all possible hydraulic issues and risks that may arise and should be shared with the project team at the beginning of the project. Below is a list of items that are common in a location hydraulic study and should be investigated and documented in the Preliminary Hydraulics Report.

1. In accordance with 23 CFR 650, evaluate and discuss the following items for design possibilities that encroach into streams, river beds, floodplains, or floodways (as appropriate and applicable).
   1.1. Risks associated with proposed action.
   1.2. Impacts on natural and beneficial floodplain values.
   1.3. Probable incompatible floodplain development.
   1.4. Measures to minimize floodplain impacts associated with action.
   1.5. Measures to restore and preserve natural and beneficial floodplain values impacted by the action.
   1.6. Practicability of alternatives.
2. Discuss if proposed action will require involvement with existing and proposed regulatory programs.
   2.1. Floodplain management.
   2.2. Section 404/10 (Hydraulic Aspects.)
3. Contact local floodplain official for rules, copies of flood studies, etc. (Note: Several counties have adopted studies that are independent of FEMA.)
4. Research and discuss irrigation systems.
   4.1. Bureau of Reclamation.
   4.2. Dept. of Natural Resources and Conservation.
   4.3. Canal Companies.
   4.4. Private (Greenfields, FAID, etc.)
5. Identify and discuss urban type problems.
   5.1. Storm Drain
   5.2. Utilities
   5.3. Outfalls
   5.4. Existing ponding or lack of positive drainage due to flat grades, development, etc.

6. Research information in Storm Drainage Master Plans for specific requirements, if applicable.
7. Identify and discuss possible channel modifications.
8. Coordinate, through the Consultant Project Engineer, survey requirements with District and Survey and Mapping Section.
9. Review DNRC High Hazard Dam locations in relation to the project.
10. Obtain pictures to document existing stream and stream bank conditions/stability above and below the proposed stream crossing. Obtain a representative active channel width upstream and downstream of stream crossings.
11. Discuss potential fish passage / aquatic organism passage (AOP) issues.

Preliminary Hydraulic Evaluation (356)

The purpose of the preliminary hydraulic design is to evaluate the existing drainage and estimate the proposed drainage requirements to the extent that the proposed alignment and grade can be set. Below is a list of the items and conditions that should be evaluated and documented in the Preliminary Hydraulics Report.

12. Identify and delineate the drainage basin(s) and determine the preliminary hydrology using a method such as the USGS regression equations. Refer to the Hydrology section of the Hydraulics Manual.
13. Determine existing pipe capacity and its historical adequacy after discussion with Maintenance Personnel, review of old project files, and review of upstream and downstream structures.
14. Estimate of proposed pipe size if evaluation from (2) indicates existing structure is undersized.
15. Determine if the vertical grade over the proposed pipes is adequate and that the minimum cover requirements can be met.
16. Ensure roadway is properly elevated above "Design Flood" highwater elevations for transverse and longitudinal stream encroachments.
17. Evaluate "risk" upstream of proposed crossings and evaluate the potential impacts that the proposed road grade may have.
18. Identify the impacts that the proposed alignment and grade will have on stream channels, irrigation ditches, and other appurtenances. This should include evaluation and discussion of practicability of alternatives to any longitudinal encroachments. Items shall be discussed, commensurate with the significance of the risk or potential environmental impacts. Also identify subsequent impacts on right-of-way limits. Identify any impacts the proposed alignment and grade may have on pipe skew angles.
19. Determine what impact potential fish passage/AOP requirements will have on pipe sizes that may affect road grades.
20. Determine if proposed cut and fill slopes will result in the elimination of any pipes and what impact this will have on drainage or irrigation.
21. Estimate remaining pipe-life for resurface projects.

22. Evaluate existing roadside ditch functions and the need to replace for drainage or storage.
23. Evaluate project for irrigation waste ditch requirements to prevent irrigation flows from running off adjacent fields onto the highway right of way.
24. Ensure minimum roadway profile grades are met for curb and gutter sections and bridge decks.

Size Bridge Openings (370)

Sizing the bridge opening is a design activity that occurs before the Alignment and Grade Review to ensure that the alignment and grade is properly set. Sizing the bridge opening is the only hydraulic design task that is completed under Activity 170. The remaining design tasks are completed in Activity 172.

25. Determine the design event and the 2, 100, 500 and O.T. flows. (Prior to starting hydraulic modeling, the consultant should submit hydrologic analysis to MDT Hydraulics Section for approval.)
26. Develop an existing conditions model using survey information and FIS data (if applicable) and calibrate with available information such as existing highwater marks, overtopping elevations, scour, ice, sediment or debris lines, or known stream bank markers.
27. Develop the proposed model and evaluate the required hydraulic data for several proposed trial structures.
28. Consider alternatives.
    - 28.1. Evaluate risks and constraints.
    - 28.2. Evaluate costs vs benefits.
    - 28.3. Select bridge opening and document the rational used.
29. Obtain representative stream bottom sample for gravel and cobble bottom streams and complete bridge scour computations. Note that contraction scour is often a controlling factor in the bridge opening selection.
30. Size riprap and prepare preliminary countermeasure designs (bridge abutment protection, stream bank protection, or special pier protection).
31. Prepare a bridge recommendation and a report documenting the design procedure.

START DEPENDENCIES:

Activity 100

DELIVERABLES:

1. Preliminary Hydraulic Report
    - 1.1. Location Hydraulic Study (include on all projects)
    - 1.2. Preliminary Hydraulic Evaluation (include on projects with drainage and irrigation structures)
    - 1.3. Bridge Recommendation and Hydraulic Report (include on projects with bridge replacements)

2. Preliminary Road plans.
3. Completed MDT review activity 350 checklist.

ACTIVITY 171 Preliminary Hydraulics Report (03/27/2008)

CORRESPONDING MDT REVIEW ACTIVITY:

Activity 351- Preliminary Hydraulics Wetland Report Review

DEFINITION:

Evaluation and discussion of wetland/stream site with regard to practicality and feasibility of available water to sustain wetland/stream hydrology for proposed conceptual mitigation design.

TASKS:

1. Prepare Preliminary Hydraulics Report
2. Provide aerial photos, quad maps, floodplain maps, etc.
3. Evaluate potential floodplain impacts and risk associated with proposed action.
4. Identification and delineation of drainage basins associated with the site.
5. Evaluation and identification of ground and surface water sources including potential irrigation sources and the potential for sources to supply water to the wetland in perpetuity.
6. Development of preliminary water budget utilizing known parameters such as surface runoff, precipitation, evapo-transpiration, infiltration, groundwater, etc. Budget should include analysis of wet and dry years.
7. Evaluation of hydroperiod, including seasonal depth, duration and timing of inundation.
8. Historical hydrology of the proposed mitigation site.
9. Evaluation of available well data information.
10. Estimate of proposed pipe/inflow/outflow structure size and capacity.
11. Evaluation of landowner water rights.

START DEPENDENCIES:

Activity 100

DELIVERABLES:

1) Completion of MDT Review Activity 351 check list.
2) Preliminary hydraulics report to include a water budget

ACTIVITY 172 Final Hydraulics Report (03/27/2008)

CORRESPONDING MDT REVIEW ACTIVITY:
352 Review Final Hydraulics Report

DEFINITION:
Final Hydraulics Report: This report should be a stand-alone document incorporating all information developed in the Preliminary Hydraulics Report such as hydrology, drainage areas, updated bridge recommendations and reports, and a detailed analysis of all drainage, irrigation and storm drain facilities and recommended size and type of structure. Preliminary estimates made in consultant activity 170 should be refined and final pipe options and materials established. Bridge recommendations and models should reflect established final alignment and grade selected, span arrangement and pier widths.

TASKS:

Storm Drain Design (362)
1) Develop:
   a) Runoff patterns.
   b) Compute runoff.
   c) Compute spread width.
   d) Trunkline sizing.
2) Develop plans showing:
   a) Existing groundlines and utilities (plan and elevation.)
   b) Proposed finished roadway grades.
   c) Type, size, spacing of inlets.
   d) Trunk-lines and grades.
   e) Outfalls.
   f) Detention/Sediment basin (if required.)
   g) Details and special provisions.
3) Coordinate with the city where appropriate. Coordinate design with Municipal Storm Water Master Plan and MS4 requirements.
4) Identify utility conflicts (DEQ approval may be required.)
5) Prepare final storm drain report.
6) Prepare preliminary storm drain agreement and engineering documentation outlining cities participation, if appropriate, and send to city for concurrence of participatory ratios and area drained.
7) Check location of drop inlets to insure compatibility with ADA requirements, bulb-outs and other road design features

Size Box or Pipe Culverts (364)
1) Plot or layout survey information.
2) Analyze historical flood data and calibrate water surface profiles to existing structures.
3) Compute final runoff values.
4) Analyze alternate structures.

a) Evaluate flood risks.
b) Evaluate costs.
c) Evaluate constraints including constructability and detour configuration.
d) Prepare Water Surface Profiles as required.

5) Obtain additional survey data if required.
6) Review structural requirements (fill heights, etc.)
7) Prepare Hydraulic Data Summary Sheet.
8) Complete channel change and riprap designs.
9) Develop preliminary details for fish passage considerations as required (e.g. resting pools, weirs, drops, boulder clusters, baffles, channel change and "specialty" items.)
10) Review soil resistivity and pH results for use in computing estimated pipe life (new pipes and pipe extensions) in accordance with service life guidelines to determine if optional pipe is appropriate. All material selections should be documented in accordance with Department guidelines.

Size Irrigation Structures (368)

1) Plot or layout survey information and determine existing uses and requirements.
2) Review "irrigation justification report".
3) Determine discharges and free-board requirements.
4) Calibrate existing structure capacity and water surface elevations to a known discharge.
5) Determine proposed structure capacity and water surface elevations or profiles as necessary.
6) Determine velocities (ditch and structure.)
7) Obtain additional survey data and coordinate with irrigation districts and operators as required.
8) Determine general layout for proposed system.
9) Prepare details and special provisions.
10) Prepare cost estimates and compare alternates.
11) Review soil resistivity and pH results for use in computing estimated pipe life (new pipes and pipe extensions.) All material selections should be documented in accordance with Department guidelines.

START DEPENDENCIES:

Activity 266

DELIVERABLES:

1) Final Hydraulic Report accompanied with Plan in Hand Road plans.
2) Completed MDT review activity 352 checklist.
3) Hydraulic Data Summary.

ACTIVITY 173 Final Wetlands Hydraulics Report (03/27/2008)

CORRESPONDING MDT REVIEW ACTIVITY:
353 Final Wetland Hydraulics Report Review

DEFINITION:
Submittal of Final Water Evaluation Plan Revisions that include a final water budget and other information to complete plans, summaries and details for Plan In Hand.

TASKS:
1. Revise preliminary Hydraulics report to incorporate comments received.
2. Finalize water budget to include actual infiltration rates, groundwater flow rates, precipitation rates, irrigation diversion or other water sources if applicable.
3. Finalize surface water runoff, storage requirements, inflow/outflow structures, culverts, water delivery systems and spillway design details.
4. Finalize stream channel and floodplain design if appropriate.
5. Coordinate with city/county officials if appropriate.
6. Identify utility conflicts.
7. Analyze alternate inflow/outflow structures.
8. Evaluate flood risks.
9. Evaluate costs.
10. Evaluate constraints.
11. Develop preliminary details for fish passage considerations (e.g. resting pools, weirs, drops, boulder clusters, channel change and “specialty” items) if applicable.
12. Review soil resistivity and pH results for use in computing estimated pipe life to determine appropriate pipe material.
13. Prepare Draft Water Rights Application.
14. Prepare Draft Flood Plain Permit Application.

START DEPENDENCIES:
Activity 266.

DELIVERABLES:
1. Completion of MDT Review Activity 353 checklist.
2. Final Hydraulics Report to include water budget.
3. Draft Water Rights Application.
4. Draft Flood Plain Permit Application.

ACTIVITY 174 Final Hydraulic Updates, Permits and Revisions
(03/27/2008)

CORRESPONDING MDT REVIEW ACTIVITY:
366 Final Hydraulic Updates

DEFINITION:
Final documentation of permits, agreements, plan updates. Incorporate as addenda to Final Hydraulic Report.

TASKS:

Prepare, Submit, and Coordinate Regulatory Permits (382)
1. Complete floodplain application and draft cover letter. Submit to MDT for review prior to consultant's submission to floodplain administrator.
2. Coordinate and respond to permit application inquiries. Perform any additional modeling required as a result of application inquiries.
3. Coordinate required plan changes and prepare necessary special provisions.
4. Revise and update details that are the direct result of "additional or new" environmental requirements.
5. Coordinate necessary approvals or exceptions with DEQ for storm drain conflicts or waterline adjustments.
6. When drainage sumps are required, complete EPA notification and sketch. (To be submitted with activity 148.)

Revise and Update Hydraulics Recommendations (384)
1) Finalize structure/channel change details and provisions as required.
   a) Riprap protection.
   b) Guide banks, spurs, bendway weirs etc.
   c) Special installation requirements.
   d) Low water crossing design (culvert.)
   e) Fish rocks or habitat structures.
   f) Channel Drops.
2) Provide technical assistance on ordinary high water to Environmental Bureau for 404 Permits, lake shore (Missoula District only.)
3) Finalize irrigation details and special provisions and submit irrigation designs to canal companies, BIA, or Bureau of Reclamation for approval as applicable.
4) Design revisions required due to R/W involvements after PIH.

Final Hydraulic Plans Update (390)
1. Review and revise drainage and irrigation items affected by R/W negotiation as required.
2. Review utility agreements to determine conflicts, relocations and required plan revisions.

START DEPENDENCIES:

For non-wetland projects completion of activity 270.
For wetland projects completion of activity 271.

DELIVERABLES:

1. Draft floodplain application package if applicable.
2. Design documentation incorporating all approvals, changes, revisions, and updates for final plan review.
3. Approved floodplain permit if applicable.
4. Completion of MDT review activity 366.

ACTIVITY 175 Final Plan Review (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
Activity 273

DEFINITION:
Attend the Final Plan Review Meeting if necessary. Submit the Final Plan Review report. The Project Engineer will determine if a Final Plans Review meeting is required based on the scope and/or quantity of changes since Plan in Hand.

TASKS:
1) Attend the office and field review of the final plans and obtain decisions in sufficient detail to prepare final construction plans (Activity 162.)
   a) Discuss Commitment and Resolution document.
2) Submit Final Plan Review report summarizing comments received and proposed resolution.
   a) Revise and submit cost estimate per Final Plan Review comments.
3) Verify all Design Exceptions have been approved.
4) Update Commitment and Resolution Document to address commitments made by MDT during the Environmental process and modified during discussions at Final Plan Review Meeting.
5) Update Comment Response Document based on previous unresolved comments.
6) Update TMP based on any additional meetings held with the WZSM Development Team.

START DEPENDENCIES:
Completion of MDT review of activities 272, 366, 438, 444, and 624.

DELIVERABLES:
1) Completed MDT review activity 273 checklist.
2) Final Plan Review Report with cost estimate.
3) Design Exception Request (when applicable.)
4) Updated Commitment and Resolution Document. (Submit Microsoft WORD file
5) Updated Comment Response Document. (Submit Microsoft EXCEL file)
6) Updated TMP.

ACTIVITY 177 Cultural Resource Management (09/16/2020)

CORRESPONDING MDT REVIEW ACTIVITY:
708 Cultural Resource Management Review

DEFINITION:
Conduct a cultural resource inventory of the project's area of potential environmental impact to identify cultural material, features, or sites. This process will produce a draft and final Cultural Resource Inventory Report.

This is an iterative process with MDT to finalize the Cultural Resources Inventory Report.

TASKS:

1) Perform inventory to determine whether historic properties exist.
2) Evaluate significance of identified sites.
3) Prepare Draft Cultural Resource Inventory Report in accordance with the latest edition of the MDT Cultural Resource Manual detailing survey methods, results including site identification, and evaluation of National Register eligibility.
4) Incorporate MDT comments to prepare final Cultural Resource Inventory Report.

START DEPENDENCIES:
Activity 100.

DELIVERABLES:
1) Draft Cultural Resource Inventory Report.
2) Final Cultural Resource Inventory Report.

ACTIVITY 178 Request Environmental Information (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
710-Prepare/Review Environmental Information Requests

DEFINITION:
This is an iterative process with MDT to prepare draft and final requests for information necessary to assess and forecast related environmental impacts.

NOTE:
Receive MDT approval prior to contacting any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all correspondence to MDT for review and approval.

TASK:
Depending on the proposed preliminary scope of work, type of project and geographic/jurisdictional location, MDT sends requests for specific information to various community, city, county, state, tribal and federal agencies. For Environmental Impact Statements, refer to section 6002 SAFETEA-LU for participating agency coordination. Prepare draft and final correspondence to affected agencies or organizations.

DELIVERABLES:
1) Draft request for information letters. (Submit Microsoft WORD file.)
2) Final request for information letters incorporating MDT comments. (Submit Microsoft WORD file.)

START DEPENDENCIES:
Completion of Activity 780.

ACTIVITY 179 Traffic Noise Determination and/or Analysis
(08/12/2020)

CORRESPONDING MDT REVIEW ACTIVITY:
717 Preliminary Traffic Noise Analysis Review

DEFINITION:
Note: This activity is to be used to determine if a detailed noise analysis is needed (activity 109). In some instances, this activity will be the noise analysis, in other projects, this will be simply a determination that a more detailed study is needed.

Preliminary reporting on potential noise impacts are based on existing alignment, projected traffic volumes and measured and/or modeled noise levels.

NOTE:
Receive MDT approval prior to making contact with any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all correspondence to MDT for review and approval.

TASKS:
Review the PFR and surrounding land uses to determine need for noise analysis and level of analysis required. If no analysis is needed, this can be documented on the ISA form.

IF A NOISE ANALYSIS IS NECESSARY:
1) Determine project requires a noise analysis per 23 CFR 772. This includes looking at project scope and the land use in project area.
2) Determine if there will be a need for traffic noise modeling or measurements, or if a qualitative assessment of noise impacts will suffice.
3) Document need for additional analysis, if any (activity 185).
4) If no further analysis needed, document findings on ISA form or in Preliminary Traffic Noise Analysis memo.

START DEPENDENCIES:
Activity 100

DELIVERABLES:
1) Completed MDT review Activity 717 checklist
2) Draft Preliminary Traffic Noise Analysis Memo or ISA form.
3) Final Preliminary Traffic Noise Analysis Memo or ISA form.

ACTIVITY 180 Air Quality Conformity Determination (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
742- Air Quality Conformity Determination Review

DEFINITION:
Conduct air quality and transportation conformity analysis in non-attainment and maintenance areas to determine if a proposed project will adversely impact ambient air quality levels of carbon monoxide (CO) and particulate matter (PM10 and/or PM2.5).

Air Quality transportation conformity regulations change often, so the following steps may not be up-to-date, but they provide a place to start. Consult most recent regulations pertaining to Transportation Conformity and the Clean Air Act to determine pollutants to be examined (e.g., PM10, PM2.5, and CO), and the most recent regulatory requirements needed to make a determination on project level conformity.

This may be an iterative process with MDT to produce an air quality conformity determination.

NOTE:
Receive MDT approval prior to making contact with any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all correspondence to MDT for review and approval.

TASKS:
1) Determine if project is in a non-attainment or maintenance area for CO, PM10, and/or PM2.5, and determine if project is exempt from conformity (Table 2, 40 CFR 93.126).
2) Determine if project needs a CO hot-spot analysis. Consult the regulations (93.123) and follow required consultation procedures (Montana Air Quality SIP).
3) Determine need for PM10 or PM2.5 hot-spot analysis. If project is not listed in Table 2 of 40 CFR 93.126, then determine if it is a project of "localized air quality concern." Refer to Transportation Conformity Guidance for Qualitative Hot-spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas (EPA420-B-06-902, March, 2006).
4) Determine need for a discussion of Mobile Source Air Toxics (MSATs). This is not required for projects that are categorically excluded under 23 CFR 771.117(c), or those projects which are exempt under the Clean Air Act (Transportation Conformity, 40 CFR 93.126). All other projects, whether located in a non-attainment area or not, require some level of discussion of MSATs. Refer to FHWA guidance document HEPN-10, dated Feb 3, 2006.
5) Document on ISA form or prepare a memo regarding conformity of project. If necessary to document consultation procedures as outlined in Montana's SIP, prepare a draft letter to appropriate state, local and federal agencies stating MDT's conformity determination. We do not request concurrence, but assume concurrence unless

otherwise notified by a deadline (usually 3-4 weeks from date of letter). Work with MDT Environmental Services Bureau on this task.

DELIVERABLES:

1) Draft ISA form or memo regarding conformity of project. (Submit Microsoft WORD file.)
2) Conformity determination letter if required. (Submit Microsoft WORD file.)
3) Final ISA form or memo regarding conformity of project as necessary. (Submit PDF file.)

ACTIVITY 181 Hazardous Materials / Substances and Water Quality-ISA (03/27/2008)

CORRESPONDING MDT REVIEW ACTIVITY:
701 Hazardous Materials/Substances and Water Quality-ISA Review

DEFINITION:
Identify potential hazardous materials/substances and water quality contamination issues on a project and determine if Preliminary Site Investigation (PSI) is necessary.

This may be an iterative process with MDT to finalize the Initial Site Assessment Report.

NOTE:
Receive MDT approval prior to contacting any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all correspondence to MDT for review and approval.

TASKS:
1) Perform Initial Site Assessment (ISA Checklist). May include review of translites, plans (if available), As-Builts, photo log and on-site review (if warranted).
2) Review historic land uses including but not limited to State and Federal Superfund list, MDEQ Underground Tank Program files, etc.
3) Consult with appropriate environmental regulatory agencies to determine if hazardous materials/substances or water quality issues are present.
4) Determine necessity for Preliminary Site Investigation.
5) Prepare the draft ISA checklist or report as required.
6) Prepare final ISA checklist or report incorporating MDT comments

START DEPENDENCIES:
Activity 100

DELIVERABLES:
1) Draft ISA checklist or report
2) Final ISA checklist or report

ACTIVITY 182 Biological Resource Report/Preliminary Biological Assessment (01/15/19)

CORRESPONDING MDT REVIEW ACTIVITY:
706 Prepare/Review BRR/PBA

DEFINITION:
Evaluation and assessment of the baseline condition of and the project's potential effects on general habitat/vegetation communities, noxious weeds/regulated plants, general wildlife species (mammals, birds, reptiles and amphibians), wildlife accommodation needs/opportunities, aquatic resources including waterways, general aquatic species, and wetlands, and species of concern/special status species located in the project specific study area.

Assessment of the baseline condition and the project's potential effects on Endangered Species Act listed threatened, endangered, proposed, and candidate species, and critical habitats. The Preliminary Biological Assessment (PBA) includes a preliminary Determination of Effect for threatened and endangered species and designated critical habitat (*No Effect/May Affect*), and a Determination of Effect for proposed and candidate species (*Not Likely* or *Likely to Jeopardize the Continued Existence Of*) and Recommended Conservation Measures for each.

This is an iterative process including the submittal of a Draft BRR/PBA to MDT in electronic Word document format for review and comment. The Consultant will incorporate proposed revisions in the Final BRR/PBA.

NOTES:
Receive MDT approval prior to making contact with any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all agency correspondence to MDT for review and approval.

Prepare the BRR/PBA according to the most recent Table of Contents for Consultant BRR/PBA.

TASKS:
Draft BRR/PBA

1. Perform a field and literature review to identify all general habitat/vegetation communities, noxious weeds/regulated plants, general wildlife species (mammals, birds, reptiles and amphibians), wildlife accommodation needs/opportunities, and species of concern/special status species located in the project specific study area. Document wildlife use patterns including trails, sign, carcasses, live animals, collision and carcass data, etc.

2. Perform a field and literature review to identify all aquatic resources including waterways, general aquatic species, wetlands, and other water resources located in

the project specific study area to a minimum of 200-feet on either side of the existing centerline (unless advised otherwise by MDT) along the project corridor.

3. Describe the site characteristics/stream morphology of all waterways including but not limited to: hydrology, watershed, stream type, run/riffle/pool spacing/depths, bankfull width and mean depth, Ordinary High Water Mark (OHWM) delineation, entrenchment ratio, floodplain width, belt width, meander sinuosity, riparian community composition and condition, substrate materials, channel restrictions/impairments, Total Maximum Daily Load (TMDL) Listing 303(d), etc.

4. Delineate the Ordinary High Water Mark using GPS with sub-meter accuracy electronically transferrable as a .shp and/or .dwg file. Assign element attributes according to MDT CAD standards for OHWM boundaries. Provide the delineation to MDT in a .shp or .dwg electronic file format and reference into the plan set as appropriate.

5. Discuss the potential stream mitigation requirements according to the February 2013 USACOE Montana Stream Mitigation Procedure. Discuss each natural stream in the context of and in enough detail to determine the likelihood of and what type of stream mitigation may be required based on the project scope. Include exemptions (rationale for why stream mitigation is not anticipated), baseline stream factors, and credit factors, including opportunities for stream credit generation with the subject project or a under separate project.

6. Perform wetland delineations in accordance with the 1987 USACOE Wetland Delineation Manual, along with the appropriate USACOE Regional Supplements for Montana, and the appropriate revised USACOE Wetland Determination Data Forms for the Great Plains, Arid West or Western Mountains, Valleys and Coast. Label contiguous wetlands sharing the same hydrologic source without a barrier (single wetland complex, fringe wetlands located along a stream channel, e.g.) with an identical wetland number (WL-1, e.g.). Wetlands sharing the same hydrologic source but not contiguous due to presence of a barrier (culvert or road, e.g.) should be labelled with an identical wetland number but with an alpha variation (Wetland 1A, 1B, 1C, e.g.) to identify them as a single complex if not for the barrier. Wetlands that are not naturally contiguous and/or do not share the same hydrologic source should be labelled with different numeric-alpha identification (WL-1, WL-2, WL-3, e.g.). Complete all necessary forms.

7. Delineate and map all wetland boundaries using GPS with sub-meter accuracy electronically transferable as .shp and/or .dwg files. Clean-up all extraneous lines, vertices, and other anomalies. Assign element attributes according to MDT CAD standards for wetland delineation boundaries and hatching. Provide the delineation to MDT in a .shp or .dwg electronic file format and reference into the plan set as appropriate.

8. Identify the wetland type/classification following HGM and Cowardin classification systems. Categorize wetlands according to MDT's Montana Wetland Assessment Method (MWAM). Complete the MWAM forms. Describe the delineated wetlands including but not limited to: general location description, dominant vegetation, soil description, associated hydrologic feature, and hydrologic indicators. Describe the source hydrology, destination hydrology, and/or adjacency of wetlands and waterways for use in making a USACOE jurisdictional determination by others. Estimate potential impacts to wetlands resulting from the project.

9. Contact MDT District Biologist to determine the availability of wetland mitigation crediting for the project. Document the proposed mitigation strategy in the BRR/PBA.

10. Conduct agency coordination/consultation by requesting information from MT FWP, DEQ, USFS, BLM, DNRC, USFWS, USGS, Tribal staff and/or any other pertinent agencies with management or regulatory interest in the wildlife, fish, suitable habitats, rare and/or sensitive plants, wetlands, rivers/streams, and other water resources that may be affected by the project. Include all agency correspondence in the Appendices. Discuss information received in the BRR/PBA.

11. BRR: Prepare a written assessment of the baseline condition of and the project's potential effects on general habitat/vegetation communities, noxious weeds/regulated plants, general wildlife species (mammals, birds, reptiles and amphibians), wildlife accommodation needs/opportunities, aquatic resources including waterways, general aquatic species, and wetlands, species of concern/special status species located in the project specific study area. The assessment will include a comprehensive analysis and discussion of baseline conditions, potential project impacts, and recommendations for the avoidance and/or minimization of impacts.

12. PBA: Research, analyze, and discuss the threatened and endangered, proposed and candidate species, and designated critical habitats located in the project specific study area. Address the species listed from the USFWS IPaC website: https://ecos.fws.gov/ipac/ and focus on those species likely to occur in the project area. If a species is determined to likely occur in the project area, this analysis should include but is not limited to species status, distribution, habitat requirements, reasons for decline, documented or potential occurrence in the project area, behavior in the project area, potential impact analysis, recommended conservation measures, and preliminary determination of effect (No Effect/May Affect (LT, LE, CH), Likely or Not likely to jeopardize the continued existence of (P, C)). This may include the appropriate correspondence or early coordination with USFWS staff, or any other cooperating resource agency.

13. Recommend conservation, avoidance, and minimization measures, special design features, timing restrictions, conceptual wildlife accommodations, and any special provisions that should be considered and/or implemented to reduce/eliminate adverse impacts to all potentially affected biological or natural resources discussed within the project BRR/PBA.

Final BRR/PBA

1. Incorporate comments received and prepare the Final BRR/PBA.

   Note: All resource reports submitted under this activity require the signature of the document's author(s).

START DEPENDENCIES:

Completion of Activity 100

For Transportation Alternative (TA) Projects:

Consultant prepares Draft Biological Resource Report/Preliminary Biological Assessment using the BRR/PBA for TA Projects template and submits electronic Word format document to MDT. The MDT District Biologist reviews and comments on Draft TA BRR/PBA.

Consultant incorporates comments and finalizes TA BRR/PBA. Consultant provides one (1) hardcopy and a PDF electronic version of final document. The MDT District Biologist files and distributes final TA BRR/PBA as needed.

If the TA BRR/PBA indicates that impacts to aquatic resources are anticipated, a wetland and/or stream delineation must be completed according to Activity 182 description and Table of Contents for Consultant BRR/PBA. If the TA BRR/PBA provides a "*May Affect*" determination for threatened or endangered species, consultation with the USFWS must be conducted and a Biological Assessment must be prepared according to Activity 184 description. The District Biologist or District PDE will notify the Project Manager that additional activities including Activity 148 and/or Activity 184, and corresponding MDT Review activities may be required. The Project Manager will add these activities to the project flowchart as needed.

DELIVERABLES:

1. Draft Biological Resource Report/Preliminary Biological Assessment (electronic Word format).
2. Final Biological Resource Report/Preliminary Biological Assessment (electronic PDF format).
3. Final Biological Assessment (prepared as necessary under Task 184).

Activity 183 Site Investigation for Hazardous Materials (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:

703 Preliminary Site Investigation, Asbestos Inspection Services, Special Provisions – Review

DEFINITION:

Investigate hazardous materials/substances and groundwater contamination sites identified in the Initial Site Assessment (ISA – Activity 181) and recommended for further investigation. Determine extent and levels of contamination that may impact the project. Coordinate with regulatory agencies and responsible parties to develop cleanup and/or monitoring plans.

Work with engineers to adequately protect utilities in contaminated areas and prevent utility/storm drain corridors from exacerbating contamination. Determine quantities of contaminated material to be handled during construction and best management practices for soil, groundwater, and other solid or hazardous waste issues.

Provide asbestos/lead-based paint inspection services as needed for various structures that may be demolished as part of the project. Structures anticipated for inspection work included, bridges, houses, grain bins, etc.

Prepare special provisions for the handling and disposal of hazardous materials/substances or solid waste during construction of project. Assist in writing utility agreements for same. Obtain necessary permits for water discharge and/or treatment, UST removal, if applicable.

TASKS:

Preliminary Site Investigation

1. Perform additional historic land use research as needed to fill in any data gaps in the ISA (activity 181).
2. Conduct subsurface investigation to determine extent and magnitude of soil contamination in R/W along project corridor. Limit investigation to depths and locations likely impacted by construction activities. It may be necessary to install additional, and monitor existing, groundwater wells for water level and water quality information to determine monthly or seasonal fluctuations of groundwater. It may be necessary to report new releases to MDEQ and affected land/business owners.
3. Coordinate with lead designer to minimize or avoid impacts, to add information on project plans, to estimate quantities. Coordinate with City consultants and employees who may be designing utilities and storm drains in conjunction with MDT project. Contaminated soil and groundwater handling, disposal and treatment, the addition of nitrile gaskets and ductile iron pipe, bentonite cutoff walls, or other mitigating

measures will likely affect road construction and utility/storm drain work. Costs for these mitigating measures may be the responsibility of the local government or may be shared by MDT and the local government. Agreements for these cost-shares and responsibilities must be completed.

4. Prepare a report documenting all available information on contamination, water quality and levels, mitigation recommendations, responsible parties, draft special provisions and treatment/disposal options, and recommendations for further work.

5. Advise interested parties of project findings, such as local municipality, District Engineering Services Supervisor, District Construction Engineer, Right-of-Way, R/W Utilities, Lead Designer.

Asbestos Inspection Services

1. Conduct asbestos inspection of bridge or other structure scheduled for demolition as part of the project. Inspection to be conducted in accordance with the Montana Department of Environmental Quality Asbestos Control Program and applicable Federal asbestos regulations. Inspection to be conducted using an inspector holding current and valid accreditation from the DEQ.
2. Prepare and submit asbestos inspection report for approval by the Department.
3. Coordinate with the lead designer to abate any detected asbestos encountered during the inspection.

Special Provisions

Prepare special provisions for the handling and disposal of hazardous materials/substances or solid waste during construction of project. Assist in writing utility agreements for same. Obtain necessary permits for water discharge and/or treatment, UST removal, etc, if applicable. Prepare special provision to abate any asbestos related matter.

START DEPENDENCIES:

Preliminary Plans, Completion of Initial Site Assessment, Preliminary Site Investigation or Asbestos Inspection (181)

DELIVERABLE:

Preliminary Site Investigation (PSI) report or Asbestos Inspection report, including description of impacts to highway right-of-way and construction project, and recommendations for avoidance or minimization of impacts. A Detailed Site Investigation (DSI) report or asbestos abatement may be necessary, dependent upon the

findings of the PSI and asbestos inspection report. If additional work is added to the project at a later date, such as a local municipality designing water lines in conjunction with MDT's project.

Special provisions to be included in contract plans, utility agreements. Permits may be required on certain projects.

DISTRIBUTION AND USE:

Environmental Services Bureau, Right-of-Way, Right-of-Way Utilities, Lead Designer or, District.

ACTIVITY 184 Biological Assessment (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
774 Prepare/Review Biological Assessment

DEFINITION:
A Biological Assessment (BA) is an evaluative report of the potential effects of the proposed action on federally listed species (threatened, endangered, proposed, and/or candidate), and critical habitats, and is submitted to the U.S. Fish & Wildlife Service for their concurrence under Section 7 of the Endangered Species Act. The BA will include an assessment of the baseline condition of and the potential effects of the proposed action on threatened, endangered, proposed, and candidate species, and critical habitats listed under the Endangered Species Act, conservation measures incorporated to reduce/eliminate the adverse effects of the proposed action, and a final determination of effect.

This is an iterative process including the submittal of a Draft BA to MDT in electronic Word document format for review and comment. The Consultant will incorporate proposed revisions in the Final BA.

NOTES:
Receive MDT approval prior to making contact with any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all agency correspondence to MDT for review and approval.

Prepare the BA according to the most recent USFWS BA format guidelines: http://www.fws.gov/montanafieldoffice/Endangered_Species/Listed_Species/Consultation_Requirements_and_BA_format.pdf

TASKS:
Draft BA

1. Provide a description of the proposed action; including the location of the proposed activity including county, route, mile post(s), station(s), and township, range and section. Provide a map of the project vicinity, preliminary project plans and photographs can be provided if deemed necessary. Provide a detailed description of the proposed action, including secondary project features such as temporary access roads, utility relocates, detours, fencing, etc. Discuss the contractor methods (to extent known), sequence of operations, construction schedule and timing of activities.

2. Research, analyze, and discuss the federally listed species, and designated critical habitat located in the proposed action area. Address the species listed on the most current USFWS species list for Montana Counties (http://www.fws.gov/montanafieldoffice/Endangered_Species/Listed_Species.html), and focus on those species likely to occur in the action area. If a species is determined to likely occur in the action area, this analysis should include but is not limited to species status, distribution, habitat requirements, reasons for decline/listing, documented or

potential occurrence in the action area, behavior/life history in the action area, and the quality and quantity of habitat that would be affected by the proposed action.

3. Provide an analysis of the effects of the proposed action on federally listed species and their habitats, including an analysis of direct, indirect, and any cumulative effects. Include a detailed discussion of conservation/mitigation measures that would reduce/eliminate adverse impacts to listed species and their habitat. Conservation/mitigation measures may include avoidance and minimization measures, special design features, timing restrictions, and other special provisions that were considered and/or implemented to reduce/eliminate adverse effects to federally listed species and/or critical habitat within the action area. If conservation measures are not feasible for inclusion in the proposed action, the discussion should include a full analysis and appropriate documentation regarding the rationale for their exclusion from the proposed design and/or construction methods.

4. Based on the analyses performed above, make a determination of effect for each species and/or critical habitat addressed. The determination of effect may be one of the following:

For threatened or endangered species:

a) "***No effect***" – "*No effect*" means there will be no impacts whatsoever, positive or negative, to listed species or habitat. Generally, this means no listed resources will be exposed to the proposed action and its environmental consequences. If a *no effect* determination is made, a complete detailed analysis and discussion of the items listed in #2) and #3) above are not required. Simply state the rationale for the *no effect* determination based on the criteria listed herein #4a).

b) "***May affect, not likely to adversely affect***" - "*May affect, not likely to adversely affect*" means that all effects are beneficial, insignificant, or discountable. Beneficial effects have contemporaneous positive effects without any adverse effects to the species or habitat. Insignificant effects relate to the size of the impact and include those effects that are undetectable, not measurable, or cannot be evaluated. Discountable effects are those extremely unlikely to occur. Include a complete detailed analysis and discussion of the items listed in #2) and #3) above.

c) "***May affect, likely to adversely affect***" - "*May affect, is likely to adversely affect*" means that listed species or habitat are likely to be exposed to the proposed action or its environmental consequences and will respond in a negative manner to the exposure. Include a complete detailed analysis and discussion of the items listed in #2) and #3) above.

For proposed and candidate species:

d) "***Not likely to jeopardize the continued existence of***" – "*Not likely to jeopardize the continued existence of*" means to engage in an action that would not reasonably be expected to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species. If a "*not likely to jeopardize the continued existence of*" determination is made, a complete detailed analysis and discussion of the items listed in #2) and #3) above are not required. Simply state the rationale for the "*not likely to jeopardize the continued existence of"* determination based on the criteria listed herein #4d).

e) "***Likely to jeopardize the continued existence of***" – "*Likely to jeopardize the continued existence of*" means to engage in an action that would reasonably be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species. Include a complete detailed analysis and discussion of the items listed in #2) and #3) above.

For critical habitat:

f) **"*No effect***"– "*No effect*" means that the proposed action will not destroy/adversely modify designated critical habitat.

g) "***May affect, not likely to adversely affect***" - "*May affect, not likely to adversely affect*" means that the proposed action is expected to be discountable, insignificant, or completely beneficial (see definitions #4b) above) to the critical habitat.
Use the "Crosswalk" when analyzing effects to bull trout critical habitat: http://www.fws.gov/montanafieldoffice/Endangered_Species/Bull_Trout_consultation/Matrix_PCE_crosswalk.pdf . Include the "Crosswalk" in the BA documentation.

h) "***May affect, likely to adversely affect***" - "*May affect, likely to adversely affect*" means that the proposed action is not expected to be discountable, insignificant, or completely beneficial (see definitions #4b) above) to the critical habitat. The proposed action is expected to have an adverse effect to critical habitat, as a direct or indirect result of the action.
Use the "Crosswalk" when analyzing effects to bull trout critical habitat: http://www.fws.gov/montanafieldoffice/Endangered_Species/Bull_Trout_consultation/Matrix_PCE_crosswalk.pdf . Include the "Crosswalk" in the BA documentation.

Final BA

5. Incorporate comments received and prepare the Final BA.

NOTE: All resource reports submitted under this activity require the signature of the document's author(s).

START DEPENDENCIES:
Completion of Activity 266 - Approve Scope of Work Report

DELIVERABLES:
1. Draft Biological Assessment (electronic Word format).
2. Final Biological Assessment (electronic PDF format).

ACTIVITY 185 Detailed Noise Analysis (08/23/2016)

CORRESPONDING MDT REVIEW ACTIVITY:

725 Detailed Noise Analysis Review

DEFINITION:

Note: For projects where noise impacts are predicted to occur and for which noise abatement options may be considered, this activity is to be used. It can either supplement Activity 179, or can be used in lieu of activity 179 when it is clearly obvious that a detailed noise analysis is necessary.

Measurement and analysis of existing and design year traffic noise levels, determination of impacts, an analysis of the reasonableness and feasibility of noise abatement, and a conceptual design of noise abatement (when applicable). The noise consultant and the design consultant work together to eliminate or reduce noise impacts by alignment modification or other means. A Noise Analysis Report and summarizing statements for the environmental document and scope of work report.

TASKS:

1. Consult with MDT Traffic Noise Specialist before proceeding with this activity.
2. Conduct a detailed highway traffic noise analysis as described in federal regulations and MDT's Traffic Noise Analysis and Abatement Policy (most recent version). This manual can be found on MDT's Internet site.
3. Modify the design to eliminate or reduce noise impacts, where practicable.
4. Analyze the reasonableness and feasibility of noise abatement in the form of walls and/or berms.
5. Prepare a Detailed Noise Analysis Report that identifies the final noise impacts and a conceptual design of proposed abatement.
6. Coordinate with MDT to prepare for neighborhood meetings.
7. Produce materials necessary for neighborhood meetings to include visualizations of proposed abatement.
8. Facilitate and conduct the neighborhood meetings unless directed otherwise by MDT.
9. Prepare a survey to gather neighborhood opinions of noise abatement.
10. Prepare final conceptual design and memo if supported by public and statement of likelihood for inclusion into the Scope of Work Report and Environmental Document.

START DEPENDENCIES:

Activity 717

DELIVERABLES:

1. Detailed Noise Analysis Report and draft conceptual design
2. Materials necessary for neighborhood meetings
3. Neighborhood opinion survey

4. Statement of Likelihood and final conceptual design
5. Completed MDT Review Activity 725

ACTIVITY 190 Utility Plan Revisions (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
882 Utility Plan Review

DEFINITION:
Revisions to Utility Plans resulting from Utility Plan Review.

TASKS:
Revise Utility plans to reflect all Utility Plan Review comments. Submit deliverables maximum 20 working days after receipt of Utility Plan Review comments.

START DEPENDENCIES:
Activity 882

DELIVERABLES:

1) Final Utility CADD files
2) Current construction plans and x-sections (complete with utility topog) check prints.
3) Revised Utility plans in pdf format placed on vault.

ACTIVITY 192 Prepare Administrative Draft Environmental Document (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
787-Review Administrative Draft Environmental Document

DEFINITION:
This is an iterative process with MDT to provide for legal sufficiency and agency review (as necessary) of Administrative Draft environmental document/Section 4(f) Evaluation, address comments received from agencies and legal resources, and produce a document that is acceptable for public review and comment.
"Agencies" are defined as resource agencies and/or cooperating agencies. The consultant will coordinate with MDT to determine these agencies.

NOTE:
Receive MDT approval prior to making contact with any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all correspondence to MDT for review and approval.

192-787 ITERATIVE ACTIVITY TIMELINES
Concurrent activities/Iterative process/Finish-Finish Activities.
Total Durations are estimated and may vary on a project basis.
Durations are set based on working days (OPX2) not calendar days unless otherwise noted.

Act. 192	C1		C3		C5	.
Act. 787		E2		E4		E6 .

C1 – Consultant. Print Administrative Draft Environmental Document/Section 4(f) Evaluation and submit to MDT. Submit draft agency distribution list and cover letter for transmitting Administrative Draft document for MDT review and signature. Default duration of 10 days or less.

E2 – MDT/FHWA. Send Administrative Draft Environmental Document/Section 4(f) to agencies and legal resources (as required). Duration includes: 5 days to transmit, 22 days for agency review (30 calendar days), and 5 days to transmit back to MDT. Default duration is 32 days.

C3 – Consultant. Submit the Comment and Response document that includes proposed document edits based upon comments from agencies and legal reviewers. Prepare responses to address comments from agency reviews. (At a minimum, the response letter will be a courtesy to acknowledge receipt of comments and indicate that comments will be "considered during project development.") Default duration of 20 days or less.

E4 - MDT/FHWA. Review consultant's Comment and Response document and draft agency response letters. Default duration of 20 days.

C5 – Consultant. Modify environmental document/Section 4(f) Evaluation and draft agency response letters accordingly. Default duration of 15 days or less.

E6 – MDT/FHWA. Provide approval to print EA or DEIS. Review, sign and send agency response letters. Default duration of 15 days.

Activity is complete when MDT sends agency response letters and provides print approval.

Total Duration: 112 days or less

TASKS:

1) Prepare for distribution of document/Section 4(f) Evaluation to agencies and legal by:
   a) Coordinating review period
   b) Printing appropriate number of copies
   c) Preparing draft cover letters, distribution list and mailing labels, etc.
2) Prepare responses to address comments from agencies and legal reviews. Use MDT Comment and Response Template located on MDT Internet Website.
3) Prepare draft agency response letters.
4) Make changes to administrative draft document/Section 4(f) Evaluation in preparation for approval for public review and comment (include planned viewing locations). For EA only and in cooperation with MDT, determine if a public hearing will be conducted. Prepare for public review (for example drafting post cards, contacting viewing location, drafting public review distribution list, drafting notice of availability, etc.)
5) Receive from MDT Consultant Project Engineer approval to print signature copies of EA or DEIS Documents (Verify with MDT Consultant Project Engineer that MDT Environmental and FHWA approval has been received.)

DELIVERABLES:

1) Administrative Draft Environmental Document/Section 4(f) Evaluation (Submit PDF file.)
2) Draft cover letters to agencies with distribution list and mailing labels, etc. (Submit Microsoft WORD file.)
3) Comment and Response document. (Submit Microsoft WORD file.)
4) Revised Draft Environmental Document/Section 4(f) Evaluation (Submit Microsoft WORD file using Track Changes.)
5) Revised Comment and Response document. (Submit Microsoft WORD file using Track Changes.)
6) Draft response letters addressing agency comments. (Submit Microsoft WORD file.)

START DEPENDENCIES:

Completion of Activity 116, 262, 322, 332, 350, 432, 440, 586, 622, 870, 873 and 722

ACTIVITY 195 EA Public Comment Period (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
788 Review EA

DEFINITION:
FOR ENVIRONMENTAL ASSESSMENTS (EA) ONLY. Public Review and Comment on the Environmental Assessment, including draft Section 4(f) Evaluation(s) if necessary. This is an iterative process with MDT to coordinate the EA for public distribution. Gather comments and conduct public hearing as appropriate.

NOTE:
Receive MDT approval prior to making contact with any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all correspondence to MDT for review and approval.

195-788 ITERATIVE ACTIVITY TIMELINES

Concurrent activities/Iterative process/Finish-Finish Activities.
Total Durations are estimated and may vary on a project basis.
Durations are set based on working days (OPX2) not calendar days unless otherwise noted.

Act. 195 C1 C3 C5 .
Act. 788 E2 E4

C1 – Consultant. Print copies of the Environmental Assessment (EA) for signature. Submit public availability distribution package. Default duration of 10 days or less.

E2 - MDT/FHWA. Review and MDT/FHWA signatures. Includes: 10 day review and signature by MDT, 5 days transmit from MDT to FHWA, 10 day review and signature by FHWA, 5 days transmit from FHWA to MDT. Standard 30 day duration.

C3 – Consultant. Print signed copies of EA. Submit PDF file five days prior to public availability. Distribute for public review. Default duration of 10 days or less.

E4 - MDT/FHWA. Post PDF file on MDT website. If full Section 4(f) Evaluation applies, then FHWA distributes to appropriate Section 4(f) Evaluation reviewers. Standard 5 day duration

C5 – Consultant. Public comment period and hold public hearing if applicable. Default duration of 22 days (Public availability period of 30 calendar days begins when the document is available for viewing by the public). If full Section 4(f)

Evaluation applies, then default duration of 32 days (includes a 45 calendar day Section 4(f) Evaluation review).

Complete when Public comment period ends.

Total Duration: 77 days or less. (87 days or less if full Section 4(f) Evaluation applies.)

TASKS:

NOTE: For public distribution, refer to Public Distribution Help Sheet.

1) Print copies of Environmental Assessment (EA) for MDT and FHWA signature. If full Section 4(f) Evaluation applies, then bind draft Section 4(f) Evaluation to EA.
2) Prepare for distribution of document. Coordinate notice of availability timelines with MDT and FHWA.
3) Prepare public availability distribution package – including the draft letters for distribution to general inquiry, specific agencies, and viewing locations; draft mailing lists; draft postcards; press releases; and advertisement document. Submit for MDT approval.
4) Receive from MDT Consultant Project Engineer signature pages of EA; all signed distribution letters; mailing list approval; and post card approval for printing.
5) Print appropriate number of signed copies of EA and distribute. If full Section 4(f) Evaluation applies, then bind draft Section 4(f) Evaluation to EA.
6) If public hearing will be held:
   a) Coordinate with MDT to prepare for public hearing (MDT Public Information Officer, District, etc.)
   b) Produce materials necessary for public hearing (displays, "hand outs", Power Point Presentation etc.)
   c) Receive approval on public hearing materials.
   d) Facilitate and conduct the public hearing unless otherwise directed by MDT.

DELIVERABLES:

1) Copy of EA for signature.
2) Draft letters to resource agency.
3) Draft letters and postcards, mailing lists, press releases and advertisements. (Submit Microsoft WORD files.)
4) Signed copies of EA (Submit PDF)
5) Final distribution package- including sample post card, all mailing lists etc. (Submit Microsoft WORD)
6) Materials necessary for public hearing.

START DEPENDENCIES:

Completion of Activity 192 and 787

ACTIVITY 196 Prepare Environmental Decision Document (FONSI, etc.) (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
789 Review Environmental Decision Document (FONSI, etc.)

DEFINITION:
FOR ENVIRONMENTAL ASSESSMENTS ONLY, including Section 4(f) Evaluation(s) if necessary. This is an iterative process with MDT to address comments received on the EA and produce the Decision Document for MDT/ FHWA approval. This activity will conclude with either a Finding of No Significant Impact (FONSI) or a letter identifying future actions.

NOTE:
Receive MDT approval prior to making contact with any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all correspondence to MDT for review and approval.

196-789 ITERATIVE ACTIVITY TIMELINES

Concurrent activities/Iterative process/Finish-Finish Activities.
Total Durations are estimated and may vary on a project basis.
Durations are set based on working days (OPX2) not calendar days unless otherwise noted.

Act. 196 C1 C3 C5 *C7* *C9* C12
Act. 789 E2 E4 *E6* *E8* *E10* /E11 E13

___ - FOR FULL SECTION 4(f) EVALUATION ONLY.

C1 – Consultant. Respond to comments using appropriate Comment and Response document template. Default duration of 20 days or less, or as determined by negotiation with MDT/FHWA.

E2 – MDT/FHWA. Review Comment and Response document. Standard 20 day duration.

C3 – Consultant. Revise Comment and Response document and prepare draft decision document. Default duration of 20 days or less.

E4 – MDT/FHWA. Review Comment and Response Document and draft decision document. Standard 20 day duration.

C5 – Consultant. Address changes to draft decision document. Submit for print approval. Default duration of 15 days or less.

E6-MDT/FHWA. FOR FULL SECTION 4(f) EVALUATION ONLY. Print approval for Full Section 4(f) Evaluation and draft decision document. Default duration of 10 days.

C7 – Consultant. FOR FULL SECTION 4(f) EVALUATION ONLY. Print full Section 4(f) Evaluations and draft decision document for FHWA Legal sufficiency review. Default duration of 10 days or less.

E8 - FHWA. FOR FULL SECTION 4(f) EVALUATION ONLY. FHWA submits for Legal sufficiency review. Includes: 5 days to transmit, 22 day review (30 calendar days), 5 days transmit back to MDT. Default duration of 32 days.

C9 – Consultant. FOR FULL SECTION 4(f) EVALUATION ONLY. Obtain Working Group intent to address Legal sufficiency review comments. Prepare Comment and Response Document using the appropriate template. Modify the draft decision document accordingly. Default duration of 15 days or less.

E10 - MDT/FHWA. FOR FULL SECTION 4(f) EVALUATION ONLY. Review Comment and Response Document and modified decision document addressing Legal sufficiency review comments. Duration included in E11..

E11 – MDT/FHWA. Provide approval to print decision document. Standard 10 day duration.

C12 – Consultant. Print appropriate number of decision documents for signature and draft distribution letters. Default duration of 10 days or less.

E13 – MDT. Review, approve, and submit for signatures. Standard 5 day duration.

The activity is complete when MDT clears the decision document for signature.

Total Duration (With 4(f)): 187 days or less.
Total Duration (Without 4(f)): 120 days or less.

TASKS:

NOTE: For public distribution, refer to Public Distribution Help Sheet.

1) Prepare responses to address comments from the public. Use MDT Comment and Response Template located on MDT Internet Website. (C1)
2) Make changes to Comment and Response document and prepare draft decision document. (C3)
3) Make changes to draft decision document to address comments from MDT/FHWA. (C5)
4) FOR FULL SECTION 4(f) EVALUATION ONLY. Receive from MDT Consultant Project Engineer approval to print decision documents. Print draft decision

documents for legal sufficiency review (C7). (Verify with MDT Consultant Project Engineer that MDT Environmental and FHWA approval has been received.)

5) FOR FULL SECTION 4(f) EVALUATION ONLY. Print appropriate number of draft decision documents and final Section 4(f) Evaluation for legal sufficiency review (C7).
6) FOR FULL SECTION 4(f) EVALUATION ONLY. Obtain comments from Working Group regarding how to address Legal sufficiency review comments. A Working Group meeting may be required. Prepare Comment and Response document template. Modify decision document to address legal review comments. (C9)
7) Receive from MDT Consultant Project Engineer approval to print decision documents and print appropriate number of decision documents for signature. (Verify with MDT Consultant Project Engineer that MDT Environmental and FHWA approval has been received.) (C12)
8) Prepare draft public availability distribution package. Submit for MDT approval. Coordinate notice of availability timelines with MDT and FHWA. (C12)
9) COMPLETE TASK AFTER SIGNATURES IN ACTIVITY 223. Receive from MDT Consultant Project Engineer Signature pages of decision document for printing.
10) COMPLETE TASK AFTER SIGNATURES IN ACTIVITY 223. Receive from MDT applicable parts of the public availability distribution package.
11) COMPLETE TASK AFTER SIGNATURES IN ACTIVITY 223. Print appropriate number of signed decision documents. Distribute decision document and final public availability distribution package.

DELIVERABLES:

1) Public review Comment and Response document. (Submit Microsoft WORD file) (C1)
2) Draft decision document and revised public review Comment and Response document. (Submit Microsoft WORD file using Track Changes.) (C3)
3) Draft decision document with changes incorporated. (Submit Microsoft WORD file using Track Changes.) (C5)
4) FOR FULL SECTION 4(f) EVALUATION ONLY. Draft decision document and final Section 4(f) Evaluation for legal sufficiency review. (Submit PDF file.) (C7)
5) FOR FULL SECTION 4(f) EVALUATION ONLY. Modified decision document and Comment and Response document. (Submit Microsoft WORD file.) (C9)
6) Decision document for signature. (Coordinate with MDT Consultant Project Engineer for number of hard copies.) Draft public availability distribution package. (Submit Microsoft WORD files.) (C12)
   COMPLETE DELIVERABLE AFTER SIGNATURES IN ACTIVITY 223. PDF files of public availability distribution package and decision document.

START DEPENDENCIES:

Completion of Activity 195 and 788.

ACTIVITY 197 Public Comment Period on Draft EIS (12/20/2021)

CORRESPONDING MDT CHECK ACTIVITY:
791 Review Draft EIS

DEFINITION:
FOR ENVIRONMENTAL IMPACT STATEMENTS ONLY, including draft Section 4(f) Evaluation(s) if necessary. This is an iterative process with MDT to coordinate the DEIS for public distribution. Conduct public hearing and gather comments.

NOTE:
Receive MDT approval prior to making contact with any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all correspondence to MDT for review and approval.

197-791 ITERATIVE ACTIVITY TIMELINES

Concurrent activities/Iterative process/Finish-Finish Activities.
Total Durations are estimated and may vary on a project basis.
Durations are set based on working days (OPX2) not calendar days unless otherwise noted.

Act. 197 C1 C3 C4 .
Act. 791 E2

C1 – Consultant. Print copies of the Draft Environmental Impact Statement (DEIS) for signature. Default duration of 10 days or less.

E2 - MDT/FHWA. Review and MDT/FHWA signatures. Includes: 10 day review and signature by MDT, 5 days transmit from MDT to FHWA, 10 day review and signature by FHWA, 5 days transmit from FHWA to MDT. FHWA prepares cover letter for Federal Register. Standard 30 day duration.

C3 – Consultant. Print signed copies of DEIS and distribute to the public. Default duration of 10 days or less.

C4 – Consultant. Public comment period and hold public hearing. Default duration of 32 days (Public Availability period of 45 calendar days begins the date the notice is published in the Federal Register.)

Complete when Public comment period ends.

Total Duration: 82 days or less

TASKS:

NOTE: For public distribution, refer to Public Distribution Help Sheet.

1) Print copies of Draft Environmental Impact Statement (DEIS) for MDT and FHWA signature.
2) Prepare for distribution of document. Coordinate notice of availability timelines with MDT and FHWA.
3) Prepare public availability distribution package – including the draft letters for distribution to general inquiry, specific agencies, and viewing locations; draft mailing lists; draft postcards; press releases; and advertisement document. Submit for MDT approval.
4) Receive from MDT Consultant Project Engineer signature pages of DEIS for printing.
5) Print appropriate number of signed copies of DEIS and distribute.
6) Coordinate with MDT to prepare for public hearing (MDT Public Information Officer, District, etc.)
7) Produce materials necessary for public hearing (displays, Power Point Presentation etc.)
8) Receive approval on public hearing materials.
9) Facilitate and conduct the public hearing unless otherwise directed by MDT.

DELIVERABLES:

1) DEIS for signature.
2) Draft letters to general inquiry, specific agencies and viewing locations .
3) Draft public availability distribution package.(Submit Microsoft WORD files.)
4) Signed copies of DEIS (Submit PDF file.)
5) Final public availability distribution package. (Submit Microsoft WORD files.)
6) Materials necessary for public hearing.
7) Provide confirmation of publication in the Federal Register.

START DEPENDENCIES:

Completion of Activity 192 and 787

ACTIVITY 198 Prepare Final EIS (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
792 Review Final EIS

DEFINITION:
FOR ENVIRONMENTAL IMPACT STATEMENTS ONLY, including Section 4(f) Evaluation(s) if necessary. This is an iterative process with MDT to produce the Final Environmental Impact Statement (FEIS) for public availability.

NOTE:
Receive MDT approval prior to making contact with any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all correspondence to MDT for review and approval.

198-792 ITERATIVE ACTIVITY TIMELINES

Concurrent activities/Iterative process/Finish-Finish Activities.
Total Durations are estimated and may vary on a project basis.
Durations are set based on working days (OPX2) not calendar days unless otherwise noted.

Act. 198	C1		C3		C5		C7		C9		C11		C13 C14
Act. 792		E2		E4		E6		E8		E10		E12	

C1 – Consultant. Respond to Comments using Comment and Response document for public comments. Default duration of 20 days or less or as determined by negotiation with MDT/FHWA.

E2 – MDT/FHWA. Review Comment and Response document. Standard 20 day duration.

C3 – Consultant. Revise Comment and Response document and Prepare Final Environmental Impact Statement. Default duration of 20 days or less.

E4 – MDT/FHWA. Review FEIS. Standard 20 day duration.

C5 – Consultant. Address changes. Default duration of 15 days or less.

E6 - MDT/FHWA. Print approval. Standard duration of 10 days.

C7 – Consultant. Print FEIS for FHWA Legal sufficiency. Default duration of 10 days or less.

E8 - FHWA. FHWA submits for Legal sufficiency. Includes: 5 days to transmit, 22 day review (30 calendar days), 5 days transmit back to MDT. Default duration of 32 days.

C9 – Consultant. Respond to comments from Legal sufficiency review using the Comment and Response document template. Default duration of 10 days or less.

E10 - MDT/FHWA. Review the Comment and Response Document and modified draft FEIS. Provide approval to print FEIS. Standard 10 day duration.

C11 – Consultant. Print copies of FEIS for signature and draft distribution letters. Default duration of 10 days or less.

E12 - MDT/FHWA. Review and MDT/FHWA signatures. Includes: 10 day review and signature by MDT, 5 days transmit from MDT to FHWA, 10 day review and signature by FHWA, 5 days transmit from FHWA to MDT. FHWA prepares cover letter for Federal Register requesting publication of Final EIS availability. Standard 30 day duration.

C13 – Consultant. Print signed copies of FEIS and distribute. Default duration of 10 days or less.

C14 - Consultant. Public availability. (Public Availability period of 30 calendar days begins the date the notice is published in the Federal Register.) Default duration of 22 days.

Complete when required Public Availability period ends.

Total Duration: 239 days or less.

TASKS:

NOTE: For public distribution, refer to Public Distribution Help Sheet.

1) Prepare responses to address comments from the public. Use appropriate MDT Comment and Response Template located on MDT Internet Website.
2) Make changes to Comment and Response document and incorporate changes into FEIS in preparation for public availability.
3) Make changes to FEIS to address comments from MDT/FHWA.
4) Receive from MDT Consultant Project Engineer approval to print copies of FEIS for legal sufficiency review (Verify with MDT Consultant Project Engineer that MDT Environmental and FHWA approval has been received.)
5) Print appropriate number of FEIS copies for legal sufficiency review.
6) Prepare responses to address legal review comments. Use appropriate MDT Comment and Response Template located on MDT Internet Website. Modify draft FEIS.
7) Receive from MDT Consultant Project Engineer approval to print copies of FEIS for signatures (Verify with MDT Consultant Project Engineer that MDT Environmental and FHWA approval has been received.)
8) Print appropriate number of FEIS copies for signature.

9) Draft letters for public availability, viewing locations and hard copies distribution. Prepare draft public availability distribution package. Submit for MDT approval
10) Receive from MDT Consultant Project Engineer signature pages of FEIS for printing.
11) Print appropriate number of signed copies of FEIS and distribute.
12) Coordinate notice of availability timelines with MDT and FHWA.
13) Start working on Record of Decision (ROD).

DELIVERABLES:

1) Public review Comment and Response document. (Submit Microsoft WORD file)
2) Draft letters to agencies as required. (Submit Microsoft WORD file and hard copies.)
3) Revised public review Comment and Response document. (Submit Microsoft WORD file using Track Changes.)
4) FEIS with changes incorporated. (Submit Microsoft WORD file using Track Changes.)
5) FEIS for legal sufficiency print approval. (Submit Microsoft WORD file using Track Changes.)
6) Print FEIS for legal sufficiency review. (Submit PDF file.)
7) MDT Legal's Comment and Response document. (Submit Microsoft WORD file)
8) Legal sufficiency Comment and Response document and modified draft FEIS. (Submit Microsoft WORD file
9) Hard copies of FEIS for signature.
10) Draft public availability distribution package. (Submit Microsoft WORD files)
11) Final public availability distribution package. (Submit Microsoft WORD files.)
12) Signed copies of FEIS (Submit PDF file)
13) Confirmation of publication in the Federal Register.

START DEPENDENCIES:

Completion of Activity 197 and 791

ACTIVITY 199 Prepare Record of Decision (12/20/2021)

CORRESPONDING MDT REVIEW ACTIVITY:
793 Revise Record of Decision

DEFINITION:
FOR ENVIRONMENTAL IMPACT STATEMENTS ONLY, including Section 4(f) Evaluation(s) if necessary. This is an iterative process with MDT to address comments received on the FEIS and produce the preliminary Record of Decision (ROD) for MDT/ FHWA use.

NOTE:
Receive MDT approval prior to making contact with any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all correspondence to MDT for review and approval.

199-793 ITERATIVE ACTIVITY TIMELINES

Concurrent activities/Iterative process/Finish-Finish Activities.
Total Durations are estimated and may vary on a project basis.
Durations are set based on working days (OPX2) not calendar days unless otherwise noted.

Act. 199 C1
Act. 793 E2

C1 – Consultant. Respond to comments using appropriate Comment and Response document template. Prepare preliminary Record of Decision. Default duration of 10 days or less.

E2 – MDT/FHWA. Review comment and response document and preliminary ROD. Attend Working Group meeting. Coordinate and produce a document suitable for MDT and FHWA signatures. Standard 15 day duration.

The activity is complete when ROD is ready for submittal to FHWA for signature.

Total Duration: 25 days or less

TASKS:

NOTE: For public distribution, refer to Public Distribution Help Sheet.

1) Prepare responses to address comments from the public. Use appropriate MDT Comment and Response document template located on MDT Internet Website.
2) Produce preliminary ROD.

3) Draft letters for public availability, viewing locations and hard copies distribution. Prepare draft public availability distribution package.
4) COMPLETE TASK AFTER SIGNATURES IN ACTIVITY 223. Receive signed ROD from MDT Consultant Project Engineer for printing.
5) COMPLETE TASK AFTER SIGNATURES IN ACTIVITY 223. Receive from MDT applicable parts of the public availability distribution package.
6) COMPLETE TASK AFTER SIGNATURES IN ACTIVITY 223. Print appropriate number of signed RODs. Distribute ROD and applicable parts of the final public availability distribution package.

DELIVERABLES:

1) Comment and Response Document
2) Preliminary ROD
3) Draft public availability distribution package. (Submit Microsoft WORD files)
4) COMPLETE DELIVERABLE AFTER SIGNATURES IN ACTIVITY 223. Final ROD. PDF files of ROD, postcards and press releases.

START DEPENDENCIES:

Completion of Activity 198 and 792.

ACTIVITY 223 Final Environmental Document Approval (EA/EIS)
(03/27/2008)

DEFINITION:
Obtain necessary signatures and distribute approved environmental document.

Total duration: 10 days or less

TASKS:

FOR ENVIRONMENTAL ASSESSMENT ONLY:
1) Obtain signatures on decision document (MDT signs before FHWA).
2) Receive the signed decision document back from FHWA.
3) Forward signature pages of decision document to consultant for printing.
4) Forward applicable parts of the public availability distribution package to consultant.
5) Distribute decision document internally (including FHWA) and post PDF on MDT website.

FOR ENVIRONMENTAL IMPACT STATEMENT ONLY:

Activity begins when FHWA receives draft ROD for signature.

1) Obtain FHWA signature on ROD.
2) Obtain MDT signature. (Other signatures as required.)
3) Forward signed ROD to consultant for printing.
4) Forward applicable parts of the public availability distribution package to consultant.
5) Distribute ROD internally (including FHWA) and post PDF on MDT website.

START DEPENDENCIES:
Completion of Activities 196 and 789 or Activities 199 and 793.

ACTIVITY 258 Project Scoping (08/11/2016)

DEFINITION:
Request and gather information to define the project Scope, Schedule and Budget.

TASKS:

- Gather available information about the proposed project (Traffic and Accident data, As-built plans, Pavement Management System PVMS data, Aerial photography, Hydraulics information, etc.).
- Develop RFP and help facilitate Consultant Selection process.
- Send out Successful notification letter to firm requesting information.
- Hold Scoping meeting with Consultant and all impacted MDT Functional Units, Sponsors and Local Agency's as appropriate.
- Develop an agreed upon schedule with the Consultant for contract execution.
- If a current Preliminary Field Review (PFR) Report is not available, in conjunction with the Consultant, develop a PFR Report. The PFR Report documents the decisions made at the field review and requests FHWA and in-house approval of the proposed scope of work.
- Hold additional scoping meetings with specific Functional Units as appropriate and included in the proposed contract execution schedule.
- Refine and approve scope of services received from Consultant for the project.
- In conjunction with Functional Units Develop MDT independent cost estimate for Consultant Services.
- Negotiate Scope, schedule and budget with Consultant as needed.
- Submit Funding Approval memo for Consultant Budget
- Develop project schedule including consultant and in-house activities.
- Execute Contract

ACTIVITY 260 Review Project Alternatives (03/10/2021)

DEFINITION:
Review Activity 102 Report and determine which alternatives to move forward. Confirm that project as scoped in activity 100 is still consistent with scope of services.

TASKS:
Distribute Activity 102 Report.
Hold review meeting if appropriate.
Determine project alternatives to move forward.

START DEPENDENCIES:
Receipt of deliverables associated with activity 102.

ACTIVITY 261 Prelim Conceptual Mitigation Review (02/06/2014)

DEFINITION:
Review of the Preliminary Conceptual Mitigation Plans. Distribute information received from the Consultant.

TASKS:
The following deliverable information received and distributed:

	Task Checklist Description	Yes	No	N/A	Initial
1	Receive complete Preliminary Conceptual Mitigation Plans including cost estimate from consultant				
2	Schedule the Preliminary Conceptual Mitigation review meeting.				
3	Transmit Preliminary Conceptual Mitigation including cost estimate to FHWA and appropriate MDT Bureaus and/or sections.				

START DEPENDENCIES:
Receipt of deliverables associated with activity 103.

ACTIVITY 262 Roadway Design Review (09/14/2008)

DEFINITION:
Review of Alignment and Grade package

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	The following deliverable information received and distributed: 1) Preliminary Hydraulic Report 2) Right-of-way 3) Utilities 4) Geotechnical 5) Bridge 6) Environmental 7) Traffic 8) Additional Survey				
2	Receive complete plans package including cost estimate and TMP worksheet from consultant.				
3	Schedule Alignment and Grade Meeting and transmit plans to Department and FHWA personnel.				
4	Review plans to ensure compliance with FHWA, department design standards and CADD standards in accordance with Alignment Review check list.				
5	Review and adjust cost estimate per MDT procedures for distribution and discussion at alignment and grade meeting.				
6	Schedule cost estimate meeting for construction projects greater than $15 million.				

START DEPENDENCIES:
Receipt of deliverables associated with activities 170, 110, 106, 111, 114, 116, 118, 120, 122, 177, 178, 179, 180, 181, and 182

ACTIVITY 263 Conceptual Mitigation Design Review (03/27/2008)

DEFINITION:
Review of Conceptual Mitigation Design.
Distribute information received from the Consultant.

TASKS:
The following deliverable information received and distributed:

	Task Checklist Description	Yes	No	N/A	Initial
1	Preliminary Hydraulic Report				
2	Geotechnical				
3	Receive complete Conceptual Mitigation Design including cost estimate from consultant				
4	Schedule the Conceptual Mitigation Design review meeting.				
5	Transmit Conceptual Mitigation Design including cost estimate to FHWA and appropriate MDT Bureaus and sections.				

START DEPENDENCIES:
Receipt of deliverables associated with activities 171, 107, 116 and 119.

ACTIVITY 264 Approve Alignment and Grade (03/27/2008)

DEFINITION:
Review and approve Alignment and Grade Design and Report.

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	Review A and G Report to ensure agreement with Consultant's comments/statements.				
2	Transmit A and G Report through the Consultant Plans Engineer to the Consultant Design Engineer for approval and distribute approved report for comments.				
3	Comments transmitted to consultant.				

START DEPENDENCIES:
Completion of Activity 124 (Finalize Alignment and Grade).

ACTIVITY 265 Distribution of Conceptual Mitigation Design Information (03/27/2008)

DEFINITION:

Approve Conceptual Mitigation Design Meeting Report

TASKS:

Distribute information received from the Consultant.

	Task Checklist Description	Yes	No	N/A	Initial
1	Receive Conceptual Mitigation Design Meeting Report summarizing comments and proposed action from consultant.				
2	Review Conceptual Mitigation Design Meeting Report to ensure agreement with consultant's comments/statements.				
3	Transmit Conceptual Mitigation Design Meeting Report to the Consultant Design Engineer for approval and distribute approved report for comments.				
4	Comments considered and resolved by consultant.				

START DEPENDENCIES:

Completion of Activity 125 (Finalize Conceptual Mitigation Design).

DISTRIBUTION AND USE:

Distribute Conceptual Mitigation Design Meeting Report among the Department’s Districts, Divisions, Sections, bureaus and FHWA.

ACTIVITY 266 Approve Scope of Work Report (08/01/2016)

DEFINITION:
Approve Scope of Work Report

Note: The Scope of Work can be distributed for comment before the Environmental Document has been signed. However, the Scope of Work cannot be submitted for approval until the environmental documentation is approved.

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	Scope of Work Report received.				
2	Draft / final WADR received / distributed				
3	Review SOW Report.				
4	Submit Scope of Work Report through the Consultant Plans Engineer to the Consultant Design Engineer for distribution and concurrence.				
5	List concurrences and resolve comments in the SOW approval document. Submit through the Consultant Plans Engineer to the Consultant Design Engineer for approval by Chief Engineer.				
6	SOW approval document approved by Chief Engineer.				
7	Distribute signed SOW approval document.				
8	Update PPMS.				
9	Complete Consultant Rating Form.				

START DEPENDENCIES:
Activity 128

ACTIVITY 267 Commence Environmental Document (EA/EIS)

(03/27/2008)

DEFINITION:
Notify FHWA of commencement of the Environmental Document.

NOTE:
Obtain Working Group concurrence prior to FHWA notification to ensure appropriate timing of publication of Notice of Intent. Consider issues that would inhibit appropriate scoping such as seasonal limitations for data collection, etc.

TASKS:

FOR ENVIRONMENTAL ASSESSMENT ONLY:
Prepare letter to FHWA identifying start of NEPA process.

FOR ENVIRONMENTAL IMPACT STATEMENT ONLY:
Notify FHWA to prepare Notice of Intent for publication in the Federal Register.

START DEPENDENCIES:
Completion of activity 100.

ACTIVITY 268 Roadway Design Review (09/14/2009)

DEFINITION:
Review of Plan-in-Hand package

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	The following deliverable information received and distributed: 1) Final Hydraulic Report 2) Right-of-way 3) Utilities 4) Geotechnical 5) Bridge 6) Environmental 7) Traffic				
2	Receive complete plans package including cost estimate, contract time documentation, Comment Response Document and Commitment and Resolution Document from consultant.				
3	Schedule Plan in Hand Meeting and transmit to Department and FHWA Personnel.				
4	Review plans to ensure compliance with FHWA, department design standards and CADD standards in accordance with Plan in Hand Review check list.				
5	Review and adjust cost estimate per MDT procedures for distribution and discussion at Plan in Hand Meeting.				
6	Schedule cost estimate meeting for construction projects greater than $15 million.				
7	Discuss necessity and coordination of local agreements				
8	Update PPMS.				

START DEPENDENCIES:
Receipt of deliverables associated with activities 172, 138, 136, 130, 134,164, and 496 (when applicable).

ACTIVITY 269 Mitigation Design Review 08/02/2016

DEFINITION:
Review of the Mitigation Plans package.

TASKS:

The following deliverable information received and distributed:

	Task Checklist Description	Yes	No	N/A	Initial
1	Final Wetland Hydraulics Report				
2	Final Geotechnical revisions				
3	Receive Mitigation Design Plans package including cost estimate				
4	Schedule Mitigation Design Plan-in-Hand meeting				
5	Review plans to ensure compliance with FHWA and department design standards and CADD schemes in accordance				
6	Transmit Mitigation Design Plans Package including cost estimate to FHWA and appropriate MDT Bureaus and sections				

START DEPENDENCIES:
Receipt of deliverables associated with activities 131, 135, and 173.

ACTIVITY 270 Plan-In-Hand Approval (03/27/2008)

DEFINITION:
Approval of Plan-in-Hand (PIH) Report

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	Review PIH Report to ensure agreement with Consultant's comments/statements.				
2	Transmit PIH Report through the Consultant Plans Engineer to the Consultant Design Engineer for approval and distribute approved report for comments.				
3	Comments transmitted to consultant.				

START DEPENDENCIES:
Completion of Activity 140

ACTIVITY 271 Mitigation Design Plan in Hand Approval (01/02/2015)

DEFINITION:
Approval of Mitigation Design Plan-in-Hand (PIH) Report

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	Review Mitigation Design PIH Report summarizing comments and proposed resolution by consultant.				
2	Receive Mitigation Design PIH Report including cost estimate.				
3	Transmit Mitigation Design PIH Report to the Consultant Design Engineer for approval and distribute approved report for comments.				
4	Comments from PIH Meeting considered and resolved by consultant. Transmit Mitigation Design PIH Report to FHWA and appropriate MDT Bureaus and sections.				
5	Comments from distribution are consolidated and transmitted to the consultant for incorporation into the project design.				

START DEPENDENCIES:
Completion of Activity 141

ACTIVITY 272 Final Road Plan Review (09/14/2009)

DEFINITION:
Review of Final Plans package

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	The following deliverable information received and distributed: 1) Final Hydraulic Updates 2) Utilities 3) Materials and Geotechnical 4) Bridge 5) Final Environmental and Permits 6) Traffic				
2	Receive complete plans package including cost estimate, contract time documentation and Commitment and Resolution Document, Comment Response Document, and TMP worksheet from consultant.				
3	Schedule Final Plan Review Meeting (if necessary) and transmit plans to Department and FHWA personnel.				
4	Review plans to ensure compliance with FHWA, department design standards and CADD standards in accordance with Final Plan Review check list.				
5	Review and adjust cost estimate per MDT procedures for distribution.				
6	Schedule cost estimate meeting for construction projects greater than $15 million (If necessary).				
7	Finalize local agreements.				

START DEPENDENCIES:
Receipt of deliverables associated with activities 146, 148, 152, 158, 166, and 174.

ACTIVITY 273 Final Plan Review Approval (03/27/2008)

DEFINITION:
Approval of Final Plan Review Report

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	Review Final Plan Review to ensure agreement with Consultant's comments/statements.				
2	Transmit Final Plan Review Report through the Consultant Plans Engineer to the Consultant Design Engineer for approval and distribute approved report for comments.				
3	Comments transmitted to consultant.				
4	Update PPMS				

START DEPENDENCIES:
Completion of Activity 175

ACTIVITY 274 Final Mitigation Design Plan Review (8/02/16)

DEFINITION:
Review of Final Mitigation Design Plan package

OUTPUT PROVIDED:
Distribution and review of consultant's Final Mitigation Design Plan package

TASKS:	Yes	No	N/A	Initial
The following deliverable information received & distributed:				
1. Final Hydraulic Updates	___	___	___	_____
2. Materials & Geotechnical Revisions	___	___	___	_____
3. Final Environmental & Permits	___	___	___	_____
Receive complete Final Mitigation Design plans package including cost estimate from consultant.	___	___	___	_____
Transmit Final Mitigation Design plans to FHWA and appropriate MDT Bureaus and sections.	___	___	___	_____
Review Final Mitigation Design plans to ensure compliance with FHWA and department design standards and CADD schemes.	___	___	___	_____

Date Received _____ Date Approved _____

Reviewed by_____
(Signature/Title) (Date)

START DEPENDENCIES:
Receipt of deliverables associated with activities 149, 153, and 174.

DISTRIBUTION AND USE:
Distribute Final Mitigation Design Plans package within MDT, FHWA, and others, as necessary. Used to assure quality of plans for submittal to Contract Plans.

ACTIVITY 320 Review Consultant Control Survey (12/20/2021)

DEFINITION:
Review consultant control survey.

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	Review vertical control survey data conforming to MDT survey standards including: original field notes, electronic field notes, reduction and adjustment sheets if not part of the original field notes, vertical datum, and vertical datum source.				
2	Review horizontal control survey data conforming to MDT survey standards including: original field notes, electronic field notes, GPS files, computation sheets or electronic files with computations in MDT specified format.				
3	ASCII file containing recovery descriptions for benchmarks and control network points.				
4	ASCII coordinate listings for benchmarks and control network points.				
5	Control diagram conforming to MDT standards.				
6	Calibration baseline reports for survey instruments used in control survey.				
7	Peg test notes for survey instruments used in the vertical control survey.				
8	Approval of Consultant Survey				
9	Upload files to PCMS				

Materials received and uploaded or filed.

	Task Checklist Description	Yes	No	N/A	Initial
1	Vertical control survey data.				
2	Horizontal control survey data.				
3	Secondary traverse and side tie data.				
4	Instrument calibration reports.				
5	Other control survey data.				

START DEPENDENCIES:
Activity 108.

ACTIVITY 322 Review Consultant Cadastral Survey (12/20/2021)

DEFINITION:
Review consultant cadastral survey.

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	Review field survey data for cadastral survey conforming to MDT survey standards including: original field notes, electronic data collection files, and/or GPS files.				
2	Review survey computations for cadastral surveys including all computation sheets and electronic files for cadastral ties.				
3	Review ASCII coordinate listings and descriptions for cadastral survey points.				
4	Review copies of data used to evaluate cadastral survey. (BLM notes, highway plans, RR plans, COS's, plats, corner recordations, etc.).				
5	Review electronic and paper copies of preliminary Certificates of Survey and corner recordations.				
6	Review calibration baseline reports for survey instruments used in the cadastral survey.				
7	Notify MDT Consultant Design Project Manager to forward electronic and paper copies of recorded Certificates of Survey and corner recordations.				
8	Approval of Consultant Cadastral Survey and approved COS.				
9	Upload files to PCMS.				

Materials received and uploaded or filed.

	Task Checklist Description	Yes	No	N/A	Initial
1	Cadastral survey data.				
2	Instrument calibration reports.				
3	Other cadastral survey data.				

START DEPENDENCIES:
Activity 120.

ACTIVITY 323 Engineering Survey Review (12/20/2021)

DEFINITION:
Review consultant engineering survey.

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	Approved Control Survey by MDT				
2	Review original field notes if applicable.				
3	Review electronic survey files including but not limited to ASCII coordinate listings with features and descriptions, data collection files, etc.				
4	Review survey mapping file.				
5	For photogrammetry jobs – Review photogrammetric mapping products including camera calibration report, cleaned aerial film, map certification, and aerial mapping files, etc				
6	Place electronic files on PCMS and notify MDT Consultant Design Project Manager				
7	Approval of Engineering Survey by MDT.				

Materials received and uploaded or filed.

	Task Checklist Description	Yes	No	N/A	Initial
1	Engineering survey data.				
2	Photogrammetric survey data.				

START DEPENDENCIES:
Activity 121.

ACTIVITY 350 Preliminary Hydraulics Report Review (03/27/2008)

DEFINITION:
Evaluate Consultants submittal of "Preliminary Hydraulics Report" which should include the major elements outlined in activities (Location Hydraulic Study Report), (Size Bridge Openings) and (Preliminary Hydraulic Design).

TASKS:
Ensure that all of the appropriate tasks are included in the preliminary Hydraulics Report. Following are the major elements that should be included in the report.

	Task Checklist Description	Yes	No	N/A	Initial
1	Drainage area delineations				
2	Preliminary hydrologic estimates				
3	Discussion of 23CFR 650 issues (e.g. channel changes, longitudinal encroachments, transverse crossings, irrigation impacts, fish passage requirements if known, floodplains, etc).				
4	Existing pipe capacity estimates.				
5	Estimate of proposed pipe sizes as appropriate to help establish preliminary grades.				
6	Water surface models, alternate bridge openings (including memo outlining recommended bridge opening), riprap calcs, scour calcs, completed Hyd 4/Bridge Hydraulic Report.)				
7	Verify hydraulic recommendations match plans.				

ACTIVITY 351 Preliminary Wetland Hydraulics Report Review

(03/27/2008)

DEFINITION:

Evaluate Preliminary Hydraulics Report.

TASKS:

Ensure that all of the appropriate tasks are included in the consultants Preliminary Hydraulics Report. Following are the major elements that should be included in the report.

	Task Checklist Description	Yes	No	N/A	Initial
1	Aerial photos, Quad Maps, Floodplain Maps, etc				
2	Potential floodplain impacts				
3	Drainage area delineations				
4	Determination of all water sources to supply water to the wetland in perpetuity.				
5	Development of Prelim. Water Budget				
6	Evaluation of hydroperiod				
7	Historical hydrology of proposed site				
8	Well data information				
9	Estimate of proposed pipe/ Inflow/Outflow structures				
10	Evaluation of Water Rights				

START DEPENDENCIES:

Activity 119 and 171

ACTIVITY 352 Review Final Hydraulics Report (03/27/2008)

DEFINITION:
Review and evaluation of the Consultant's submittal.

TASKS:
Ensure that all of the following major elements are included in this report.

	Task Checklist Description	Yes	No	N/A	Initial
1	Storm drain design report, including delineated runoff patterns, storm drain modeling calculations, spread widths, drop inlet type and locations, trunkline size and type, outfall recommendations, and plan and profile showing these features.				
2	Preliminary estimates of city participation and agreement regarding storm water runoff.				
3	Final approved hydrology/documented irrigation design flows.				
4	HY-8, standard step, or HEC-RAS runs documenting culvert design recommendations (drainage and irrigation). Include runs for RCP and CMP culverts.				
5	Details and special provisions for fish passage, channel changes, irrigation designs.				
6	Hydraulic Data Summary Sheet.				
7	Service Life Computations.				
8	Cost estimates comparing alternate designs as appropriate.				
9	Verify hydraulic recommendations match plans.				

ACTIVITY 353 Review Final Wetland Hydraulics Report (03/27/2008)

DEFINITION:
Evaluate Final Wetland Hydraulics Report.

TASKS:
Ensure that all of the appropriate tasks are included in the consultants Final Wetland Hydraulics Report. Following are the major elements that should be included in the report.

	Task Checklist Description	Yes	No	N/A	Initial
1	Finalize Water Budget				
2	Final approved hydrology				
3	Design calculations documenting				
4	Inflow/outflow structure design recommendations				
5	Coordination with city/county officials				
6	Evaluation of alternate structures				
7	Details and special provisions for fish passage considerations				
8	Service life computations				
9	Cost estimates comparing alternate pipe/structure designs as appropriate				
10	Draft Flood Plain Permit Application				

START DEPENDENCIES:
Activities 173 and 135

ACTIVITY 366 Final Hydraulic Updates, Permits and Revisions Review (03/27/2008)

DEFINITION:
These items are addenda to the Final Hydraulics Report.

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	Irrigation company approvals.				
2	Receipt of floodplain permits.				
3	Final bridge/large culvert details, specials, and technical updates as required				
4	Channel change details and technical updates as required.				
5	Final storm drain plans, details, and technical updates as required.				
6	Final irrigation details and technical updates as required.				
7	Final signed storm drain agreement with city				
8	DEQ approvals for storm drain conflicts and/or waterline construction.				

ACTIVITY 430 Preliminary Traffic Report Review (07/17/2009)

DEFINITION:

Review of Preliminary Traffic Report.

TASKS:

Preliminary Traffic Review

		Yes	No	N/A	Initial
1	Review traffic volumes				
2	Verify appropriate capacity and Level of Service				
3	Review traffic control features				
4	Review access management features (frontage roads, medians, etc.)				
5	Review special operational needs (truck climbing lanes, intersection sight distance, roadway lighting, etc.)				
6	Review crash data and dominant trends				
7	Review pedestrian/bicycle/school crossing needs				
8	Review traffic recommendations				
9	Rate Consultant performance				

START DEPENDENCIES:

Completion of Activity 112.

ACTIVITY 432 Traffic Review (01/17/2009)

DEFINITION:

Review of Consultant activities performed under activity 122

TASKS:

Signal Warrant Study

		Yes	No	N/A	Initial
1	Review Signal Warrant Study				

Preliminary Geometrics

		Yes	No	N/A	Initial
1	Review Geometric details				

Preliminary Signing

		Yes	No	N/A	Initial
1	Review Preliminary R/W needs				
2	Review Existing Road Sign Inventory				

Rate Consultant performance

START DEPENDENCIES:

Completion of Activity 122.

ACTIVITY 436 Traffic Review for Plan-In-Hand (03/27/2008)

DEFINITION:

Review of consultant activities performed under activity 164.

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	Review plans for standards (mutcd, geometric design, lighting)				
2	Review plans for major departure from uniformity (sign practices, signal configuration, signal phasing, statutory requirements)				
3	Review special provisions for constructability				
4	Review electronic files for conformance to CADD standards (file naming convention, file origin, reference files, sheet format, etc.)				

Electrical

	Task Checklist Description	Yes	No	N/A	Initial
1	Verify Warrant Study completed				
2	Verify list of state furnished materials has been included in quantity summary 2.1 Poles 2.2 Controller				
3	Identify exceptions to normally state furnished material (i.e. oversized pole, mastarms and structures)				

Geometrics

	Task Checklist Description	Yes	No	N/A	Initial
1	Review geometric design details in relation to traffic studies, design standards and uniformity (taper lengths, lane drops, intersection layout, etc.)				
2	Review intersection design in relation to appropriate design vehicles				

Signing and Striping Plans

	Task Checklist Description	Yes	No	N/A	Initial
1	Review sign design calculation sheets for uniformity (fonts, letter size, color, sign size)				
2	Review breakaway devices (uniformity)				
3	Review post type (uniformity)				

4	General sign configuration on plans (uniformity)				
5	Striping policy conformance				
6	Plan configuration (uniformity)				

Rate Consultant performance.

START DEPENDENCIES:

Completion of Activity 164.

ACTIVITY 438 Traffic Review for Final Plans (03/27/2008)

DEFINITION:

Review traffic plans for Final Plan Review.

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	Review plans for standards (mutcd, geometric design, lighting). Verify comments from PIH have been incorporated.				
2	Review plans for major departure from uniformity (sign practices, signal configuration, signal phasing, statutory requirements). Verify comments from PIH have been incorporated.				
3	Review special provisions for constructability. Verify comments from PIH have been incorporated.				
4	Review electronic files for conformance to CADD standards (file naming convention, file origin, reference files, sheet format, etc.). Verify comments from PIH have been incorporated.				

Electrical

	Task Checklist Description	Yes	No	N/A	Initial
1	Verify list of state furnished materials has been included in quantity summary 2.1 Poles 2.2 Controller Verify comments from PIH have been incorporated.				
2	Identify exceptions to normally state furnished material (i.e. oversized pole, mastarms and structures). Verify comments from PIH have been incorporated.				

Geometrics

	Task Checklist Description	Yes	No	N/A	Initial
1	Review geometric design details in relation to traffic studies, design standards and uniformity (taper lengths, lane drops, intersection layout, etc.). Verify comments from PIH have been incorporated.				
2	Review intersection design in relation to appropriate design vehicles. Verify comments from PIH have been incorporated.				

Signing and Striping Plans

	Task Checklist Description	Yes	No	N/A	Initial
1	Review sign design calculation sheets for uniformity (fonts, letter size, color, sign size). Verify comments from PIH have been incorporated.				
2	Review breakaway devices (uniformity). Verify comments from PIH have been incorporated.				
3	Review post type (uniformity). Verify comments from PIH have been incorporated.				
4	General sign configuration on plans (uniformity). Verify comments from PIH have been incorporated.				
5	Striping policy conformance. Verify comments from PIH have been incorporated.				
6	Plan configuration (uniformity). Verify comments from PIH have been incorporated.				

START DEPENDENCIES:

Completion of activity 152.

ACTIVITY 439 Final Traffic Design Review (03/27/2008)

DEFINITION:

Review final traffic plans.

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	Review plans for standards (mutcd, geometric design, lighting). Verify comments from FPR have been incorporated.				
2	Review plans for major departure from uniformity (sign practices, signal configuration, signal phasing, statutory requirements). Verify comments from FPR have been incorporated.				
3	Review special provisions for constructability. Verify comments from FPR have been incorporated.				
4	Review electronic files for conformance to CADD standards (file naming convention, file origin, reference files, sheet format, etc.). Verify comments from FPR have been incorporated.				

Electrical

	Task Checklist Description	Yes	No	N/A	Initial
1	Verify list of state furnished materials has been included in quantity summary 2.1 Poles 2.2 Controller Verify comments from FPR have been incorporated.				
2	Identify exceptions to normally state furnished material (i.e. oversized pole, mastarms and structures). Verify comments from FPR have been incorporated.				

Geometrics

	Task Checklist Description	Yes	No	N/A	Initial
1	Review geometric design details in relation to traffic studies, design standards and uniformity (taper lengths, lane drops, intersection layout, etc.). Verify comments from FPR have been incorporated.				
2	Review intersection design in relation to appropriate design vehicles. Verify comments from FPR have been incorporated.				

Signing and Striping Plans

	Task Checklist Description	Yes	No	N/A	Initial
1	Review sign design calculation sheets for uniformity (fonts, letter size, color, sign size). Verify comments from FPR have been incorporated.				
2	Review breakaway devices (uniformity). Verify comments from FPR have been incorporated.				
3	Review post type (uniformity). Verify comments from FPR have been incorporated.				
4	General sign configuration on plans (uniformity). Verify comments from FPR have been incorporated.				
5	Striping policy conformance. Verify comments from FPR have been incorporated.				
6	Plan configuration (uniformity). Verify comments from FPR have been incorporated.				

Rate Consultant performance.

START DEPENDENCIES:

Completion of activity 165.

ACTIVITY 440 Preliminary Geotechnical and Materials Review
(03/27/2008)

DEFINITION:

Initial review of Geotech and Materials plan recommendations from consultant designed project.

TASKS:

Preliminary Soil Survey Investigation (450)

	Task Checklist Description	Yes	No	N/A	Initial
1	Log of each test hole.				
2	Location of each test hole noted.				
3	Soil Class shown for each sample(AASHTO).				
4	Moisture/Density curve for each representative soil sample				
5	In place density at each location.				
6	Natural moisture shown for each soil sample.				
7	R-Value or other acceptable test method for each representative soil sample.				
8	Soil survey adequate for entire project.				
9	Chemical and corrosion sample taken at each pipe installation.				
10	Report submitted describing in-place pipe condition.				
11	Test holes plotted on plan and profile sheets.				
12	Narrative describing unusual conditions or potential problems soils or drainage.				

Borrow and Surface Pit Investigation (452)

	Task Checklist Description	Yes	No	N/A	Initial
1	Review Form 92 (Prospected Area Report)				
2	Map showing location of pit submitted.				
3	Pit sketch submitted showing location of test holes, legal description and quantity of aggregate available.				
4	Completed Field Sample Analysis Report submitted.				
5	Log of test holes submitted.				
6	Is the pit satisfactory for use as bituminized or non-bituminized surfacing?				

Preliminary Surfacing Typical Sections (600)

	Task Checklist Description	Yes	No	N/A	Initial
1	Have 3 alternate typical sections been recommended?				

2	Is there an economic analysis for each alternate?				
3	Is the method of design satisfactory?				
4	Are the designs based on subgrade R-Value? Other?				
5	Are the design ESAL's current?				
6	Are the proposed surfacing layer thicknesses reasonable?				
7	Has special borrow or a 2' subgrade cap been considered to reduce surfacing?				
8	Is the recommended typical alternate satisfactory?				

Deflection Analysis

	Task Checklist Description	Yes	No	N/A	Initial
1	Are back calculated layer modulus values needed for this project? (If not, skip 2, 3 and 4)				
2	Was an acceptable back-calculation technique utilized?				
3	Are back calculated moduli values available for all in-place layers?				
4	Are values representative of the area? (Compare to network data)				

Preliminary Geotechnical Evaluation (460)

	Task Checklist Description	Yes	No	N/A	Initial
1	Has a literature and map review been performed?				
2	Has a site visit been completed to look at geology, slopes, roadway, drainage, wetlands and other geotechnical issues?				
3	Have any potential Geotechnical problems been identified?				
4	Has a written report been provided?				

START DEPENDENCIES:

Completion of Activity 106.

ACTIVITY 441 - **Geotechnical Review** (03/27/2008)

DEFINITION:

Initial review of Geotechnical data and preliminary recommendations for Consultant Wetland Mitigation Project conceptual design.

TASKS:

Review the Geotechnical Engineering Conceptual Design Report including preliminary recommendations, and results of office review, field observations, subsurface investigation, and groundwater data.

	Task Checklist Description	Yes	No	N/A	Initial
1	Have locations of geologic features such as bedrock outcrops and unstable areas been identified?				
2	Have groundwater/surface interface areas such as springs and seeps been identified and evaluated?				
3	Has an evaluation of terrain and possible effects of excavation and/or embankment placement might produce been completed?				
4	Are general surface soil types within and surrounding the proposed mitigation site identified?				
5	Has an estimate of suitability of soils for the proposed type of wetland mitigation been provided?				
6	Have summary results of the Geotechnical subsurface investigation, including boring logs, boring location map, site cross sections, and laboratory results been provided?				
7	Have preliminary earthwork shrink/swell factors been identified?				
8	Have summary results for groundwater elevations and other monitoring data, including groundwater directional flow maps, been provided?				
9	Have preliminary embankment settlement, structure and culvert foundation, and slope ratio recommendations been completed?				
10	Have preliminary recommendations on Special Provisions for specialty products or construction methods been made?				

START DEPENDENCIES:

Completion of Activity 107.

ACTIVITY 442 Geotechnical and Materials Report Review
(03/27/2008)

DEFINITION:

Review of Geotechnical and Materials report from consultant designed project.

TASKS:

1) Prepare Final Surfacing Sections

	Task Checklist Description	Yes	No	N/A	Initial
1	Have 3 alternate typical sections been recommended?				
2	Is there an economic analysis for each alternate?				
3	Is the design method satisfactory?				
4	Are the designs based on subgrade R-Value? Other? Is this acceptable?				
5	Are the design ESAL's current?				
6	Are the proposed surfacing layer thicknesses reasonable?				
7	Is the recommended typical alternate satisfactory?				

2) Primary Soils Survey

	Task Checklist Description	Yes	No	N/A	Initial
1	Log of each test hole.				
2	Location of each test hole noted.				
3	Soil Class shown for each sample (AASHTO).				
4	Moisture/Density curve for each soil sample.				
5	In place density at each location.				
6	Natural moisture shown for each soil sample.				
7	R-Value for each soil sample.				
8	Soil survey represents entire project.				
9	Chemical and corrosion samples taken at each pipe installation.				
10	Report submitted describing in-place pipe condition.				
11	Test holes plotted on plan and profile sheets.				
12	Additional test holes represent areas of changed grade or alignment?				

3) Geotechnical Surveys and Reports

	Task Checklist Description	Yes	No	N/A	Initial
1	Field and Laboratory Data				
	1.1Exploration Plan.				
	1.2Boring Logs-MDT Format? Soil and Rock.				

	1.3Geophysical Methods.				
	1.4Groundwater Elevations.				
	1.5 Structural Geology/Mapping.				
	1.6 Soil and Rock Lab Testing Results- M/C, PI, Consolidation and Strength Parameters, etc.				
2	Geotechnical Engineering - Alignment				
	2.1 Geological Setting.				
	2.2 Settlement Calculations.				
	2.3 Slope Ratios.				
	2.4 Embankment Foundation Treatments.				
	2.5 Shrink/Swell Factors.				
	2.6 Subexcavation Recommendations.				
	2.7 Geotextile Recommendations.				
	2.8 Surface and Subgrade Drainage Recommendations.				
	2.9 Culvert Foundation Preparation and Bedding Recommendations.				
	2.10 Structural Foundation Recommendations and Alternatives.				
	2.11 Retaining Structure Recommendations and Alternatives.				
	2.12 Instrumentation and Monitoring Recommendations.				
	2.13 Special Provisions for Materials and Construction Methods.				
	2.14 Have design methodology and calculations been submitted?				

START DEPENDENCIES:

Completion of Activity 130.

ACTIVITY 443 Materials and Geotech Wetland Review (03/27/2008)

DEFINITION:

Final Geotechnical Engineering Design Report to be incorporated into the Final Mitigation Design Plans.

TASKS:

Prepare a final Geotechnical Engineering Design Report including final recommendations.

	Task Checklist Description	Yes	No	N/A	Initial
1	**Field and Laboratory Data**				
	Boring logs for each well in MDT format and submitted with site boring location plan.				
	Soil and Rock Lab Testing Results- Soils Class, Gradation, M/C, PI, Consol and Strength Parameters, etc.				
	Summary of results for groundwater elevations and other monitoring data, including groundwater directional flow maps and hydrograph data.				
2	**Geotechnical Engineering Report**				
	Geological Setting.				
	Settlement Calculations.				
	Slope Ratios.				
	Embankment Foundation Treatments.				
	Shrink/Swell Factors.				
	Geotextile Recommendations.				
	Chemical and corrosion samples taken for each pipe location.				
	Culvert Foundation Preparation and Bedding Recommendations				
	Structural Foundation Recommendations and Alternatives.				
	Retaining Structure Recommendations and Alternatives.				
	Instrumentation and Monitoring Recommendations.				
	Special Provisions for Materials and Construction Methods.				
	Other Geotechnical Issues.				
	Formal Narrative Report with calculations, details, etc.				

Date Received ___ Date Approved

Reviewed by
(Signature/Title) (Date)

START DEPENDENCIES:

Completion of Activity 131.

ACTIVITY 444 Final Geotechnical and Materials Review (03/27/2008)

TASKS:

Final Surfacing Design Check (610)

	Task Checklist Description	Yes	No	N/A	Initial
1	Are design ESAL's current?				
2	Supplemental soils information used in final design?				
3	Are the cost estimates current?				
4	Have surfacing alternates been presented for consideration?				
5	Is the recommended typical the most economical?				

Geotechnical Engineering - Final Review (468)

	Task Checklist Description	Yes	No	N/A	Initial
1	Review of the Engineering analysis, design, and report on the Earth science environment resulting from changes to design.				

START DEPENDENCIES:

Completion of Activity 158.

ACTIVITY 447 Geotech Final Review – Wetlands (09/25/2013)

DEFINITION:

Miscellaneous Geotechnical Engineering analysis, design, and reports required or requested after submittal of Final Geotechnical Engineering - Wetland Report.

TASKS:

Geotechnical Engineering - Final Review

	Task Checklist Description	Yes	No	N/A	Initial
1	Supplemental Geotechnical Engineering Report - for preliminary plan review, responding to inquires, and additional work after submittal of Final Geotechnical Engineering - Wetland Report signed by the Geotechnical Consultant.				
2	Or when a Supplemental Final Materials and Geotechnical Report is not deemed necessary, receive a letter that verifies the final geotechnical design and/or materials selection is consistent with those identified in the Final Materials and Geotechnical Report. This letter is to be signed by the author of the Final Materials and Geotechnical Report.				

START DEPENDENCIES:

Activity 153

ACTIVITY 451 Surfacing Core and Investigation (Field) (12/20/2021)

DEFINITION:

Conduct a field investigation, in accordance with MT 331, to identify the physical and engineering characteristics of the existing surfacing section. Information gathered during the field investigation will be used for surfacing designs.

OUTPUT PROVIDED:

1. Core evaluation report
2. Core photos
3. Dynamic cone penetrometer (DCP) results
4. All information uploaded to the Project Content Management System (PCMS)

TASKS:

1. Review the Preliminary Field Review Report (PFR) for the coring request.
2. Coordinate with Surfacing Design to determine the required information for the field investigation, which will generally include the following:
    - Project intent/scope.
    - Location and spacing of the cores.
    - Frequency and/or location of DCP tests.
    - Special requests for project information, such as photos, surfacing distress observations, construction material availability, etc.
3. Complete reconnaissance of the project area if needed, and develop plan for investigation; to include traffic control, utility locates, etc.
4. Complete cores in accordance with MT 331 and conduct DCP tests as needed.
5. Submit cores to Helena Lab for stripping evaluation and reporting. Complete DCP Test Results Reports.
6. Compile the results of all testing and investigation, then upload to PCMS and distribute electronically to the distribution list.

START DEPENDENCIES:

Preliminary Field Review

DISTRIBUTION AND USE:

Include the following when distributing the Surfacing Core Investigation Report:

- District Preconstruction Engineer
- Project Manager
- Surfacing Design Engineer
- District Surfacing Designer
- Non-Destructive Testing Supervisor

Include links to the files uploaded to PCMS.

ACTIVITY 453 Hydraulic Materials Survey (12/20/2021)

DEFINITION:

Investigate and report on culvert conditions, collect corrosive soil/water samples and sample streambed materials along a proposed project corridor.

OUTPUT PROVIDED:

1. Culvert Inspection Report
2. Corrosive soil and water samples
3. Streambed material samples
4. All information uploaded to the Project Content Management System (PCMS)

TASKS:

Culvert Inspection Report:

1. Inspect all existing culverts within the project limits, unless otherwise specified in the LHSR or PFR.
2. Refer to the Hydraulics Materials Survey Guide provided by the Hydraulics Section for more information on collecting the Hydraulics Materials Survey as part of this activity.
3. Record the location (station/RP), size, length, material type, condition rating, corrosion samples, photo numbers and comments in a Culvert Inspection Report.
4. The Remarks / Comments should reflect what the inspector is seeing inside the pipe and be backed up with photos.
5. Include photos with photo numbers referenced in the report. Photos should show the interior condition of the pipe including inverts, top of pipe, joints, perforations, or other areas of concern to aid Hydraulics in estimating the remaining useful life. Also include photos showing the inlet and outlet end treatments.
6. Include reference to the soil and water sample numbers in the report.
7. When requested, perform a video inspection through the culverts (CCTV).

Corrosive Soil & Water Samples:

a) Sample soils at all pipe crossings for corrosive testing unless otherwise specified in the LHSR or PFR.
b) Sample water at all pipe crossings carrying water at the time of sampling for corrosive testing.
c) Send corrosive samples to Helena for testing.
d) Obtain existing metal pipe thicknesses where requested in the LHSR. Common practices to obtain pipe thickness include the use of an Ultrasonic Thickness Meter (D-meter) or by taking coupon samples of the pipe, etc.

Streambed Samples:

1. Take representative streambed samples upstream of the drainage crossings identified in the LHSR.
2. Perform gradation analysis on streambed samples.
3. Prepare the gradation analysis results.

Electronic Files:

1. Compile the results of the culvert inspection, corrosive water/soil/streambed samples and any other supporting information.
2. Upload all information to PCMS and distribute electronically to the distribution list.

START DEPENDENCIES:

Completion of the Preliminary Field Review Report (PFR) and Location Hydraulic Study Report (LHSR).

DISTRIBUTION AND USE:

Include the following areas when distributing the information from this activity:

- Hydraulics
- District Preconstruction
- Geotechnical
- Surfacing Design
- Materials Bureau
- Project Manager
- District Lab

Include links to the files uploaded to PCMS.

The Culvert Inspection Report and the corrosive water and soil test data are used to establish the condition of the existing culverts and to determine the course of action that should be taken including culvert extension, replacement, or rehabilitation.

If replacement culverts are necessary, the corrosive water and soil tests data are used to determine the acceptable pipe materials for the new pipe.

The gradation test results from the streambed material samples are used to calculate the scour potential at existing and proposed bridge sites.

ACTIVITY 455 Preliminary Subsurface Investigation (12/20/2021)

DEFINITION:

Conduct preliminary subsurface investigation along preliminary road alignment or proposed project corridor.

OUTPUT PROVIDED:

Logs of borings from any subsurface investigations along with laboratory testing summary. This information will be incorporated in the preliminary geotechnical evaluation report (Activity 460) and preliminary surfacing section (Activity 600) as applicable.

TASKS:

1. Review office information collected for development of Activity 460 to aid in development of drilling plan.
2. Based on information in the PFR Report, consult with the Pavement Designer. Determine the investigation requirements; to include information needed, proposed methods of exploration, sample collection, and laboratory testing (Such as R value testing, DCP testing and specialized geotechnical testing.)
3. Coordinate with the District Material Supervisor if soil testing (R value and/or soil classification) by the district laboratory is anticipated.
4. Conduct field investigations: geologic surveying and mapping, geophysical surveys, or other surficial inspections for engineering studies.
5. Perform subsurface exploration to obtain soil and rock samples, perform in place tests for soils or groundwater, install geotechnical monitoring devices.
6. Assign laboratory testing for recovered samples.
7. Prepare laboratory testing summary and boring logs and upload to the Project Content Management System.

START DEPENDENCIES:

Completion of 200 Activity.

DISTRIBUTION AND USE:

A link to the boring logs and laboratory summary will be distributed via email to the following distribution.

- District Preconstruction Engineer
- Design Project Manager
- Surfacing Designer
- Surfacing Design Engineer
- Geotechnical Section Supervisor
- Non-Destructive Testing Supervisor
- Other design team members as needed (Hydraulics, Bridge, etc.).

ACTIVITY 496 Barge Drilling (03/27/2008)

DEFINITION:

Develop project information relating to foundation conditions using standard drilling procedures as it pertains to drilling from a floating barge.

TASKS:

Drilling, sampling, field testing.

START DEPENDENCIES:

Completion of Activity 100 (MDT/Consultant Interactive Project evaluation, and request by Consultant.

DELIVERABLES:

Provide core logs and drill information to consultant.

ACTIVITY 586 Preliminary Bridge Layout Review (03/27/2008)

DEFINITION:

Review type, size and location (TSL) and preliminary bridge layout and plans.

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	Review Bridge Type, Size, and Location Report				
2	Bridge Length and Width				
3	Bridge Beam Type				
4	Geometrics				
5	Riprap				
6	Fit of Bridge to Site				
7	Proposed Substructure Type				
8	Proposed Foundation				
9	Electronic Compatibility and CADD Standards				

START

DEPENDENCIES:

Completion of Activity 114 and 118

ACTIVITY 588 Preliminary Structure Review (12/19/2014)

DEFINITION:

Review of structure plans.

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	Addressed comments from 586 review				
2	Review Layout				
3	Receive Geotech Report				
4	Receive log of borings				
5	Substructure Recommendations				
6	Foundation Recommendations				
7	Footing Plan				
8	Receive comments from Resource Agencies				
9	Electronic Compatibility and CADD Standards				
11	Other plan sheets needed for other types of structures.				

START DEPENDENCIES:

Completion of consultant Activity 136 and 130.

ACTIVITY 590 Structure Review (03/27/2008)

DEFINITION:

Review of complete structure plans.

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	Review final structure plans				
2	All bid items accounted for on Q-sheet.				
3	Review Special Provisions.				
4	Notes and Specials are in active voice.				
5	Review detailed structures cost estimate.				
6	Review for constructability problems.				
7	Electronic compatibility and Cadd Standards.				

START DEPENDENCIES:

Completion of Activity 146.

ACTIVITY 592 Final Bridge Plan Review (12/19/2014)

DEFINITION:

Review of final bridge plans.

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	Review final bridge plans				
2	All bid items accounted for on Q-sheet.				
3	Review Special Provisions.				
4	Notes and Specials are in active voice.				
5	Review detailed bridge cost estimate.				
6	Electronic compatibility and Cadd Standards.				
7	Review of paper plot for print quality				
8	Verify plans are stamped and signed bridge plans				
9	Received two copies of quantity calculations				
10	Received rebar summary sheet				
11	Received signed and stamped design calculations				
12	Received LRFR Bridge Rating				

START DEPENDENCIES:

Completion of Activity 147.

ACTIVITY 608 Provide Deflection Testing Data (12/20/2021)

DEFINITION:

This activity involves non-destructive testing of the roadway using a Falling Weight Deflectometer (FWD) and Ground Penetrating Radar (GPR) to determine the resilient moduli and layer thickness of the existing pavement section.

TASK:

Note: Between the PFR and this activity, coordination is required with the consultant to determine the type and frequency of non-destructive testing. In some cases, network-level data will be sufficient for the design.

1. Schedule testing and update the planned start and duration in EPS.
2. Research in-place materials and corresponding thicknesses.
3. Perform the non-destructive testing, verification cores, and dynamic cone penetrometer (DCP) tests.
4. Analyze the FWD and GPR data to estimate the pavement structure thicknesses and resilient moduli. Apply temperature correction as required.
5. Prepare non-destructive testing report, upload to PCMS, and circulate the link electronically to the distribution.

OUTPUT PROVIDED

A non-destructing testing report containing the following information:

1. Estimated surfacing layer thicknesses based on GPR analysis.
2. Back calculated resilient moduli for surfacing and subgrade layers.
3. Photos and measurements of surfacing cores.
4. Results of DCP tests.
5. Field observations of road conditions.

START DEPENDENCIES:

Note: It is the consultant's responsibility to determine if non-destructive testing is required for the pavement design. The Consultant Project Manager must coordinate with the NDT Unit Supervisor to schedule testing for individual projects.

The predecessor to this activity is ACT 100 – Interactive Project Evaluation.

DISTRIBUTION AND USE:

Distribute the non-destructive testing report to the Consultant Project Manager and include the following individuals:

- Pavement Design Engineer
- District Geotechnical Manager
- Pavement Analysis Engineer

ACTIVITY 621 Attend Meeting and Provide Input to PFR (03/27/2008)

DEFINITION:

After a project has been nominated, whether design is to be performed by the District, Preconstruction or by Consultant through Consultant Design Services, the CES Bureau CR Section will provide report/plan constructability reviews following detailed procedures. CES Bureau CR Section will provide constructability review of the PFR Report to confirm review comments have been adjudicated and noted in the report.

TASKS:

1) The PDM invites Constructability Reviewer (CR) to attend and provide input during the PFR site visit and/or meeting. CR provides constructability input at the meeting. If the CR cannot attend the meeting, or if no meeting is held, the CR will provide written comments and maintain an electronic and hard copies of the response. PDM provides two copies of PFR Report to CR Section Supervisor for review, comment and input.
2) CR Section Supervisor will forward one copy to the area CR. CR verifies input was incorporated in meeting minutes and place copy in CR Section project file.
3) Maintain the other copy in Helena files after noting CR name and date forwarded. CR will enter appropriate information on the Report/Plan Review Tracking Log.
4) CR reviews using internal checklist and responds to PDM (originator) via e-mail and copies CR Section electronic project file. The hard copies report approval and concurrence cover sheets will be returned to the originator along with comments.
5) The CR will maintain hard copies and forward hard copies to the CR Section Supervisor for Helena files.

START DEPENDENCIES:

1) After project nomination has been approved and prior to conducting the Preliminary Field Review, CR will attend PFR and provide input.
2) After completion of a draft or final PFR Report, CR will review and provide comments.

DELIVERABLES

1) Provide constructability input to the PDM regarding project intent, potential construction issues, proposed solution strategies and identify high construction cost items that may need special review and consideration.
2) Provide input to the PDM regarding adjudication of constructability review comments and comments provided by other functional units that may affect constructability of the project.

3) Provide oral and/or written constructability review comments to the PDM for inclusion in the PFR.

4) Provide written acknowledgment to the PDM that constructability review comments have been adjudicated and addressed in the PFR Report.

ACTIVITY 622 Attend A/GR Meeting and Provide Input (03/27/2008)

DEFINITION:

1) After approval and distribution of the PFR Report, the CES Bureau CR Section will attend the A/GR meeting and provide constructability review input to the A/GR Report.
2) CES Bureau CR Section will provide constructability review of the A/GR Report to confirm review comments have been adjudicated and noted in the report.

TASKS:

1) PDM invites CR to attend Preliminary Alignment/Grade Review meeting to provide input. If the CR cannot attend the meeting, or if no meeting is held, the CR will provide written comments and maintain an electronic and hard copies of the response.
2) PDM provides two copies of A/GR Report to CR Section Supervisor for review, comment and input.
3) CR Section Supervisor will forward one copy to the area CR. CR reviews using internal checklist and verifies input incorporated in meeting minutes and copies CR Section project file. Maintain the other copy in Helena files after noting CR name and date forwarded.
4) CR will enter appropriate information on the Report/Plan Review Tracking Log.
5) CR verifies disposition of input and comments provided during A/GR phase. CR reviews using internal checklist and responds to PDM and copies CR Section project file.

START DEPENDENCIES:

1) After approval and distribution of the PFR Report, CR will attend A/GR meeting and provide input.
2) After completion of a draft or final A/GR Report, CR will review and provide comments.

DISTRIBUTION AND USE:

1) Provide constructability input to the PDM regarding project intent, potential construction issues, proposed solution strategies and identify high construction cost items that may need special review and consideration.
2) Provide input to the PDM regarding adjudication of constructability review comments and comments provided by other functional units that may affect constructability of the project.

DELIVERABLES

1. Provide oral and/or written constructability review comments to the PDM for inclusion in the A/GR Report.

2. Provide written acknowledgment to the PDM that constructability review comments have been adjudicated and addressed in the A/GR Report.

ACTIVITY 623 Attend PIH Meeting and Provide Input (03/27/2008)

DEFINITION:

1) After approval and distribution of the Scope of Work Report, the CES Bureau CR Section will attend the PIH meeting and provide constructability review input to the PIH Report.
2) CES Bureau CR Section will provide constructability review of the PIH Report to confirm review comments have been adjudicated and noted in the report.

TASKS:

1) PDM invites CR to attend Plan-In-Hand (PIH) office and/or field review meeting to provide input. If the CR cannot attend the meeting, or if no meeting is held, the CR will provide written comments and maintain an electronic and hard copies of the response.
2) PDM provides copy of PIH Report to CR for review, comment and input. CR verifies disposition of input and comments provided during previous project development phases.
3) CR responds to PDM and copies Section project file.

START DEPENDENCIES:

1) After approval and distribution of the SOW Report, CR will attend PIH meeting and provide input.
2) After completion of a draft or final SOW Report, CR will review and provide comments.

DISTRIBUTION AND USE:

1) Provide constructability input to the PDM regarding project intent, potential construction issues, proposed solution strategies and identify high construction cost items that may need special review and consideration.
2) Provide input to the PDM regarding adjudication of constructability review comments and comments provided by other functional units that may affect constructability of the project.

DELIVERABLES

1) Provide oral and/or written constructability review comments to the PDM for inclusion in the PIH Report.
2) Provide written acknowledgment to the PDM that constructability review comments have been adjudicated and addressed in the PIH Report.

ACTIVITY 624 Design Follow-Up (03/27/2008)

DEFINITION:

CR Section Supervisor will coordinate a final constructability review of the plans to verify CR input/comments and those of other functional units have been adequately addressed during preceding project development phases.

TASKS:

1) Contract Plans Bureau provides two copies of Preliminary Plans and Special Provisions (Final Plan Review Report) to CR Section Supervisor for review, comment and verification of previous input and comment disposition.
2) CR Section Supervisor will forward one copy to the area CR and maintain the other copy in Helena files after noting CR name and date forwarded.
3) CR responds to Contract Plans Bureau and copies PDM, CR Section Supervisor and CR Section project file.
4) CR will enter appropriate information on the Report/Plan Review Tracking Log.

START DEPENDENCIES:

After approval and distribution of the PIH Report and before issuing the Blue Sheets.

DISTRIBUTION AND USE:

CES Bureau CR Section will document, disseminate, implement and follow-up on comments and input obtained during the project development process in order to improve future projects, contract uniformity, cost effectiveness and reduce change orders and claims. This “lessons learned” concept will be tracked from PFR phase, through the remaining project development phases, construction phase and ultimately back to the PFR phase of future projects, then start the process over.

DELIVERABLES:

Provide oral and/or written constructability review comments to the PDM for inclusion in the final plans.

ACTIVITY 625 Conceptual Mitigation Design Alternatives Review
(12/08/2008)

DEFINITION:

CES Bureau CR Section will provide constructability review for all consultant submitted Conceptual Design Mitigation alternatives.

TASKS:

1. After approval and distribution of the Conceptual Design Mitigation alternatives, the CES Bureau CR Section will attend any design related meetings and provide constructability review input to the Conceptual Design Mitigation plans.
2. PDM invites CR to attend any meetings related to the Conceptual Design Mitigation alternatives to provide input. If the CR cannot attend the meeting, or if no meeting is held, the CR will provide written comments and maintain an electronic and hard copies of the response.
3. PDM provides two sets of plans for of each Conceptual Design Mitigation alternative to CR Section Supervisor for review, comment and input.
4. CR Section Supervisor will forward one copy to the area CR. CR reviews using internal checklist and verifies input incorporated in meeting minutes and copies CR Section project file. Maintain the other copy in Helena files after noting CR name and date forwarded.
5. CR will enter appropriate information on the Report/Plan Review Tracking Log.
6. CR verifies disposition of input and comments provided during Conceptual Design Mitigation plan review phase. CR reviews using internal checklist and responds to PDM and copies CR Section project file.

START
DEPENDENCIES:

PDM approves and distributes Conceptual Design Mitigation alternatives.

DELIVERABLES:

Provide constructability input to the PDM regarding project intent, potential construction issues, proposed solution strategies and identify high construction cost items that may need special review and consideration.

Provide oral and/or written constructability review comments to the PDM for inclusion in the Conceptual Design Mitigation plans.

Provide input to the PDM regarding adjudication of constructability review comments and comments provided by other functional units that may affect constructability of the project.

Provide written acknowledgment to the PDM that constructability review comments have been adjudicated and addressed in the Conceptual Design Mitigation plans.

ACTIVITY 626 Wetland Mitigation Design Constructability Review
(01/02/02015)

DEFINITION:

CES Bureau CR Section will provide constructability review of the Wetland Mitigation Design plans to confirm previous review comments have been addressed and noted in the plans.

TASKS:

1) CES Bureau CR Section will provide constructability review of the Wetland Mitigation plans to confirm review comments have been addressed and noted in the plans.
2) After approval and distribution of the SOW Report, the CES Bureau CR Section will attend any design related meetings and provide constructability review input to the final wetland mitigation plans.
3) PDM invites CR to attend any meetings related to the wetland mitigation plans to provide input. PDM provides two copies wetland mitigation to CR Section Supervisor for review, comment and input.
4) CR Section Supervisor will forward one copy to the area CR. CR reviews using internal checklist and verifies input incorporated in meeting minutes and copies CR Section project file. Maintain the other copy in Helena files after noting CR name and date forwarded.
5) CR will enter appropriate information on the Report/Plan Review Tracking Log.
6) CR verifies disposition of input and comments provided during wetland mitigation review phase. CR reviews using internal checklist and responds to PDM and copies CR Section project file.

START

DEPENDENCIES:

Activity135 –Prepare mitigation design

ACTIVITY 627 Bridge Design Follow-Up (03/17/2015)

DEFINITION:

CR Section Supervisor will coordinate a final constructability review of the plans to verify CR input/comments and those of other functional units have been adequately addressed during preceding project development phases.

Notes: Activity 627 is used only on MDT projects and Consultant projects with bridge involvement. Road Design and Traffic plans are reviewed using activity 624 "Design Follow-Up".

TASKS:

1) The Project Design Manager provides two copies of Final Plans and Special Provisions (Final Plan Review Report) to CR Section Supervisor for review, comment and verification of previous input and comment disposition.
2) CR Section Supervisor will forward one copy to the area CR and maintain the other copy in Helena files after noting CR name and date forwarded.
3) CR responds to the Project Design Manager and copies CR Section project file.
4) CR will enter appropriate information on the Report/Plan Review Tracking Log.
5) Provide oral and/or written constructability review comments to the PDM for inclusion in the final plans.

START DEPENDENCIES:

After approval and distribution of the PIH Report and before issuing the Blue Sheets.

DISTRIBUTIONAND USE:

CES Bureau CR Section will document, disseminate, implement and follow-up on comments and input obtained during the project development process in order to improve future projects, contract uniformity, cost effectiveness and reduce change orders and claims. This "lessons learned" concept will be tracked from PFR phase, through the remaining project development phases, construction phase and ultimately back to the PFR phase of future projects, then start the process over.

ACTIVITY 700 Conceptual Design Submittal to Resource Agencies
(05/06/2015)

DEFINITION:
Submit preliminary plans package and request comments from appropriate resource agencies; Montana Department of Fish, Wildlife & Parks (FWP), the U.S. Fish and Wildlife Service (USFWS), etc.

TASKS:
For In-House Projects:
The MDT District Biologist prepares and provides preliminary plans package information:

1. Alignment and Grade plans, including available detail sheets
2. Size, type, and location report for culverts and bridges
3. Bridge general layout
4. Relevant cross-sections, if available
5. Preliminary Hydraulic Report or Location Hydraulic Study Report
6. Additional information/design pertinent to structures or other features affecting waterways, fishery resources, potential timing restrictions, wildlife connectivity and/or threatened and endangered species that may be present in the project area
7. Location map and site photos
8. Cover letter addressed to each resource agency soliciting any concerns or comments on the preliminary plans package

Start Dependencies:
Act 216: Establish Alignment and Grade
Act 364: Size Box or Pipe Culverts
Act 568: Prepare Preliminary Bridge Layout (and Order Cores)

For Consultant Design projects (Activity 124 Finalize Alignment and Grade):
Consultant prepares and provides four hard (4) copies and an electronic copy (cover letter in Word) of the preliminary plans package as described above to MDT District Biologist for review and submittal to the resource agencies. Coordinate with the MDT District Biologist for which agencies will receive the conceptual submittal.

Start Dependencies:
Act 124: Finalize Alignment and Grade

For All Projects:
The MDT District Biologist reviews makes any necessary revisions, and submits the information to the appropriate Resource Agencies. The MDT District Biologist will receive the information from the Resource Agencies and distribute to the Design Team, including the Consultant. This may be an iterative process with the Resource Agencies. All relevant comments received will be incorporated into the Plan In Hand Plans and/or special provisions as appropriate.

ACTIVITY 701 Hazardous Materials / Substances and Water Quality - ISA Review (03/27/2008)

DEFINITION:

Review consultant's report on potential hazardous materials/substances and water quality contamination issues.

This may be an iterative process with the consultant to finalize the Initial Site Assessment Report.

TASKS:

	Task Checklist Description	Transmittal Date	N/A	Initial Consultant	Initial MDT
1	Review Draft ISA checklist or report.				
2	Review Final ISA checklist or report)				

START DEPENDENCIES:

Submittal of Draft Initial Site Assessment checklist or report.

ACTIVITY 703 Review Site Investigation for Hazardous Materials (3/16/2021)

This activity is used to check consultant submittals.

DEFINITION:

Review final plans, specifications, special provisions and environmental documentation for completeness and adherence to issues related to hazardous materials/substances and/or contaminated soil and groundwater conditions.

TASKS:

Coordinate with the Project Manager to ensure the tasks listed below are completed, if necessary.

□ Special provision for contaminated soil and groundwater management and disposal.

□ Notifications complete to DEQ or other City/County jurisdiction regarding contaminated conditions.

□ Asbestos inspection complete and any necessary abatement.

Start Dependencies:

ACT 183: Site Investigation for Hazardous Materials

ACTIVITY 706 Biological Resource Report/Preliminary Biological Assessment (12/20/2021)

DEFINITION:
Evaluation and assessment of the baseline condition of and the project's potential effects on general habitat/vegetation communities, noxious weeds/regulated plants, general wildlife species (mammals, birds, reptiles and amphibians), wildlife accommodations needs/opportunities, aquatic resources including waterways, general aquatic species, and wetlands, and species of concern/special status species located in the project specific study area.

Assessment of the baseline condition and the project's potential effects on Endangered Species Act listed threatened, endangered, proposed, and candidate species, and critical habitats. The Preliminary Biological Assessment (PBA) includes a preliminary Determination of Effect for threatened and endangered species and designated critical habitat (*No Effect* or *May Affect*), and a Determination of Effect for proposed and candidate species (*Not Likely* or *Likely to Jeopardize the Continued Existence Of*) and Recommended Conservation Measures for each.

TASKS:

For in-house projects:

The MDT District Biologist performs the following tasks:

1. Perform a field and literature review to identify all general habitat/vegetation communities, noxious weeds/regulated plants, general wildlife species (mammals, birds, reptiles and amphibians), wildlife accommodation needs/opportunities, and species of concern/special status species located in the project specific study area. Document wildlife use patterns including trails, sign, carcasses, live animals, collision and carcass data, etc.

2. Perform a field and literature review to identify all aquatic resources including waterways, general aquatic species, wetlands, and other water resources located in the project specific study area to a minimum of 200-feet on either side of the existing centerline (or as necessary to cover anticipated project limits) along the project corridor.

3. Describe the site characteristics/stream morphology of all waterways including but not limited to: hydrology, watershed, stream type, run/riffle/pool spacing/depths, bankfull width and mean depth, Ordinary High Water Mark (OHWM) delineation, entrenchment ratio, floodplain width, belt width, meander sinuosity, riparian community composition and condition, substrate materials, channel restrictions/impairments, Total Maximum Daily Load (TMDL) Listing 303(d), etc.

4. Delineate the OHWM using GPS with sub-meter accuracy electronically transferrable as a .shp and/or .dwg file. Clean-up all extraneous lines, vertices,

and other anomalies. Assign element attributes according to MDT CAD standards for OHWM boundaries. Upload to Project Content Management System (PCMS) for reference into the plans.

5. Discuss the potential stream mitigation requirements according to the February 2013 (or most current) USACOE Montana Stream Mitigation Procedure. Discuss each natural stream in the context of and in enough detail to determine the likelihood of and what type of stream mitigation may be required based on the project scope. Include exemptions (rationale for why stream mitigation is not anticipated), baseline stream factors, and credit factors, including opportunities for stream credit generation with the subject project or a under separate project.

6. Perform wetland delineations in accordance with the 1987 USACOE Wetland Delineation Manual, along with the appropriate USACOE Regional Supplements for Montana, and the appropriate revised USACOE Wetland Determination Data Forms for the Great Plains, Arid West, or Western Mountains, Valleys and Coast. Label contiguous wetlands sharing the same hydrologic source without a barrier (single wetland complex, fringe wetlands located along a stream channel, e.g.) with an identical wetland number (WL-1, e.g.). Wetlands sharing the same hydrologic source but not contiguous due to presence of a barrier (culvert or road, e.g.) should be labelled with an identical wetland number but with an alpha variation (Wetland 1A, 1B, 1C, e.g.) to identify them as a single complex if not for the barrier. Wetlands that are not naturally contiguous and/or do not share the same hydrologic source should be labelled with different numeric-alpha identification (WL-1, WL-2, WL-3, e.g.). Complete all necessary forms.

7. Delineate and map all wetland boundaries using GPS with sub-meter accuracy electronically transferable as .shp and/or .dwg files. Clean-up all extraneous lines, vertices, and other anomalies. Assign element attributes according to MDT CAD standards for wetland delineation boundaries and hatching. Upload to Project Content Management System (PCMS) for reference into the plans.

8. Identify the wetland type/classification following HGM and Cowardin classification systems. Categorize wetlands according to MDT's Montana Wetland Assessment Method (MWAM). Complete the MWAM forms. Describe the delineated wetlands including but not limited to: general location description, dominant vegetation, soil description, associated hydrologic feature, and hydrologic indicators. Describe the source hydrology, destination hydrology, and/or adjacency of wetlands and waterways for use in making a USACOE jurisdictional determination by others. Estimate potential impacts to wetlands resulting from the project and notify the Aquatic Mitigation Engineer for inclusion of estimated impacts on the Ledger.

9. Conduct agency coordination/consultation by requesting information from MT FWP, DEQ, USFS, BLM, DNRC, USFWS, USGS, Tribal staff and/or any other pertinent agencies with management or regulatory interest in the wildlife, fish,

suitable habitats, rare and/or sensitive plants, wetlands, rivers/streams, and other water resources that may be affected by the project. Include all agency correspondence in the Appendices. Discuss information received in the BRR/PBA.

10. BRR: Prepare a written assessment of the baseline condition of and the project's potential effects on general habitat/vegetation communities, noxious weeds/regulated plants, general wildlife species (mammals, birds, reptiles and amphibians), wildlife accommodation needs/opportunities, aquatic resources including waterways, general aquatic species, and wetlands, species of concern/special status species located in the project specific study area. The assessment will include a comprehensive analysis and discussion of baseline conditions, potential project impacts, and recommendations for the avoidance and/or minimization of impacts.

11. PBA: Research, analyze, and discuss the threatened and endangered, proposed and candidate species, and designated critical habitats located in the project specific study area. Address the species listed from the USFWS IPaC website: https://ecos.fws.gov/ipac/ and focus on those species likely to occur in the project area. If a species is determined to likely occur in the project area, this analysis should include but is not limited to species status, distribution, habitat requirements, reasons for decline, documented or potential occurrence in the project area, behavior in the project area, potential impact analysis, recommended conservation measures, and preliminary determination of effect (No Effect or May Affect (LT, LE, CH), Likely or Not likely to jeopardize the continued existence of (P, C)). This may include the appropriate correspondence or early coordination with USFWS staff, or any other cooperating resource agency.

12. Recommend conservation, avoidance, and minimization measures, special design features, timing restrictions, conceptual wildlife accommodations, and any special provisions that should be considered and/or implemented to reduce/eliminate adverse impacts to all potentially affected biological or natural resources discussed within the project BRR/PBA.

13. Finalize BRR/PBA and include necessary attachments. Upload document to PCMS and distribute to Design Team as appropriate.

Start Dependencies:
ACT 200: Preliminary Field Review

For Consultant Design projects (Activity 182 Biological Resource Report/Preliminary Biological Assessment):
Consultant prepares Draft Biological Resource Report/Preliminary Biological Assessment and submits electronic Word format document to MDT. The MDT District Biologist reviews and comments on Draft BRR/PBA.

Consultant incorporates comments and finalizes BRR/PBA. Consultant provides four (4) hardcopies and a PDF electronic version of final document. The MDT District Biologist files and distributes final BRR/PBA as needed.

Start Dependencies:
ACT 100: Interactive Project Evaluation
ACT 182: Biological Resource Report/Preliminary Biological Assessment

For Transportation Alternative (TA) Projects(Activity 182 Biological Resource Report/Preliminary Biological Assessment):
Consultant prepares Draft Biological Resource Report/Preliminary Biological Assessment using the BRR/PBA for TA Projects template and submits electronic Word format document to MDT. The MDT District Biologist reviews and comments on Draft TA BRR/PBA.

Consultant incorporates comments and finalizes TA BRR/PBA. Consultant provides one (1) hardcopy and a PDF electronic version of final document. The MDT District Biologist files and distributes final TA BRR/PBA as needed.

If the TA BRR/PBA indicates that impacts to aquatic resources are anticipated, a wetland and/or stream delineation must be completed according to Activity 182 description and Table of Contents for Consultant BRR/PBA. If the TA BRR/PBA provides a "May Affect" determination for threatened or endangered species, consultation with the USFWS must be conducted and a Biological Assessment must be prepared according to Activity 184 description. The District Biologist or District PDE will notify the Project Manager that additional activities including Activity 148 and/or Activity 184, and corresponding MDT Review activities may be required. The Project Manager will add these activities to the project flowchart as needed.

ACTIVITY 707 Wildlife Accommodation Recommendation Memo (WARM) (02/26/2019)

DEFINITION:

Detailed recommendations for wildlife accommodations based on the initial wildlife needs analysis and general recommendations for the project. Prepare a memo detailing project-specific wildlife accommodations for further feasibility analysis by the Design Team. The feasibility analysis is expected to be an iterative process taking place between distribution of the WARM and Prepare for Scope of Work activity. Alternate accommodations will be considered and recommended for further evaluation if any original recommendations put forth under this activity are deemed to be infeasible.

TASKS:

For in-house projects:

The MDT District Biologist performs the following tasks in preparation of the WARM:

a. Summarize the wildlife needs analysis and general recommendations initially put forth in the Biological Resources Report/Preliminary Biological Assessment (BRR/PBA) for the project. Mention if a recommended wildlife accommodation is intended to benefit a federally listed species under the Endangered Species Act or special status species under other federal, Tribal, or state requirements.

b. Provide a discussion of additional work that was done following the BRR/PBA to verify animal movements, carcass, collision, land-use, and other relevant data to ensure accuracy and applicability. Discuss coordination with Resource and/or Tribal Agency wildlife personnel as necessary. Document any changes from data or analysis previously reported in the BRR/PBA.

c. Enumerate wildlife accommodation recommendations by project location. Location can be identified by reference post range, station range, intersecting roadways, or geographic features, etc. Include a map and other attachments as appropriate.

3.1 Discuss the accommodation type(s) and focal species. Include rationale for the location and type (safety and/or connectivity data, agency coordination, public input, literature review, environmental commitments, logistics, opportunity, etc.). Provide a discussion of the expected benefits of the wildlife accommodation to public safety and/or wildlife connectivity.

3.2 Discuss current adjacent land use and any documented future land use changes (platted for subdivision, etc.). Document any previous landowner and/or land management agency coordination or if additional coordination is needed, existing or potential easements or protections, etc.

3.3 Provide a cost estimate for the wildlife accommodation including capital investment, operation and maintenance. Coordination with the Design Team is encouraged at this stage to estimate wildlife accommodation costs. A range of costs may be appropriate if an accommodation can be constructed using different materials or methods. Identify operation and maintenance needs and anticipated schedule for the accommodation.

3.4 Identify apparent potentially affected design elements for further feasibility analysis with the Design Team (grade, right-of-way, structure sizes, natural or cultural resources, geotechnical or hydraulic considerations, constructability, utilities, etc.).

3.5 Discuss the need for further coordination with Resource and/or Tribal agencies, or manufacturers/vendors of wildlife accommodation technology. Identify if additional research is needed prior to issuance of the Wildlife Accommodation Decision Report (WADR).

4. Prepare the Wildlife Accommodations Recommendations Memo and attachments for signature of the Environmental Bureau Chief and District Design Team distribution. https://www.mdt.mt.gov/business/contracting/docs/memos/WARM_Memo-Consultants.dotx

Start Dependencies:
ACT 706: Biological Resources Report (F/S)

Successors:
ACT 212: Preliminary Plan Preparation (F/F)
ACT 205: Prepare for Public Hearing (F/F)

For Consultant Design projects (Activity 109 Wildlife Accommodation Recommendation Memo):
Consultant Project Biologist prepares Draft Wildlife Accommodations Recommendations Memo and submits electronic Word format document to MDT. The MDT District Biologist reviews and comments on Draft WARM.

Consultant Project Biologist incorporates comments and finalizes WARM. Consultant provides a PDF and Word electronic version of final document and attachments. The MDT District Biologist obtains signature of Environmental Bureau Chief, files and distributes final WARM as needed.

Start Dependencies:
ACT 100: Interactive Project Evaluation
ACT 182: Biological Resource Report/Preliminary Biological Assessment

Not Applicable for Transportation Alternative (TA) Projects

ACTIVITY 708 Cultural Resource Management Review (03/27/2008)

DEFINITION:

Conduct or review cultural resource inventory (in-house or through a consultant) of the project's area of potential environmental impact to identify cultural material, features, or sites.

For consultant projects, this is an iterative process with the consultant to produce the draft and final Cultural Resource Inventory Reports.

TASKS:

For In House Projects:

1) Determine whether historic properties are known to exist.
2) Perform inventory or assign to a cultural resource term consultant.
3) Evaluate significance of identified sites.
4) Prepare the Cultural Resource report.
5) Submit the report to the SHPO with recommendation on eligibility for listing. on the National Register of Historic Places.

For Consultant Projects:

1) Review the draft Cultural Resource report and provide comments as necessary.
2) Review the final Cultural Resource report and submit to the SHPO with recommendation on eligibility for listing on the National Register of Historic Places.

START DEPENDENCIES:

For Consultant projects submittal of the draft report under Activity 177.
For In-house projects Activity 200.

ACTIVITY 710 Prepare/Review Environmental Information Requests
(03/27/2008)

DEFINITION:

Initiate requests for information necessary to assess and project related environmental impacts.

For consultant projects, this is an iterative process with the consultant to prepare draft and final requests for information necessary to assess and forecast related environmental impacts.

TASK:

For In House Projects:

Attend Preliminary Field Reviews and serve as an advisor to the District Engineer, Preconstruction and/or Bridge Area Engineer and others in attendance on matters involving potential environmental impacts associated with the project. Outline areas of environmental issues, concerns, opportunities to be considered for the development of the project design.

Attend and participate in project Scoping and/or Review Meetings to define environmental issues and identify areas of environmental concern.

Depending on the proposed preliminary scope of work, type of project and geographic/jurisdictional location, MDT sends requests for specific information to various community, city, county, state, tribal and federal agencies. For Environmental Impact Statements, refer to section 6002 SAFETEA-LU for participating agency coordination. Prepare draft and final correspondence to affected agencies or organizations. Sign and distribute final request for information letters.

For Consultant Projects:

1) Review the draft request for information letters and provide comments.
2) Review the final request for information letters.
3) Sign and distribute final request for information letters.

START DEPENDENCIES:

For Consultant projects: submittal of the draft letter under Activity 178.

For In-house projects: Preliminary Engineering Authorization; Preliminary Field. Review Attendance/Report; Notification of scheduled Scoping or Review Meetings, or Report detailing the proceedings of Scoping or Review Meetings.

ACTIVITY 711 Prepare/Review Environmental Engineering Existing Conditions Report (5/25/2021)

DEFINITION:

Conduct analyses and document findings for Environmental Engineering Section responsibilities related to applicable regulations; resources present in the project area; potential impacts; and necessary avoidance, minimization, and mitigation if known prior to AGR.

TASKS:

1. Consult with the design team to discuss the purpose of and need for the project and the nature and scope of the project work. Use this information in conjunction with filed work and literature review to evaluate which resource areas need to be investigated and which analyses may be triggered. Based on the nature and scope of the work, the following social and economic analyses may be triggered:

    1.a. Economic Impacts
    1.b. Environmental Justice
    1.c. Induced Growth
    1.d. Social Impacts
    1.e. Visual Quality/Aesthetics

As applicable, document analyses for the project file. The level of effort associated with each resource area should be commensurate with the project scope, the resources present, and the potential for impact.

2. Consult with agencies with jurisdiction over or interest in the proposed project. Perform a field and/or literature review to identify resources in the project area, including the following:

    2.a. Low income and/or minority populations
2.b. Prime farmland and/or farmland of statewide importance
    2.c. Historical resources that may be protected by Section 4(f)
    2.d. Park and recreational lands that may be protected by Section 4(f)
    2.e. Wildlife and waterfowl refuges that may be protected by Section 4(f)
2.f. Parks, recreational areas, or other properties acquired and/or improved with LWCF funds or with similar encumbrances
2.g. Surface water resources including irrigation, streams, wetlands, springs, etc.
2.h Drinking water sources
2.i Stormwater management facilities
2.j. Low Impact Development Practice features
2.k. Wild and Scenic Rivers

3. Consult with the design team to discuss the nature and scope of the work in the context of various regulatory authorities to determine if the following analyses will be necessary:

3.a. DEQ and/or local MS4 Permit requirements including need for Low Impact Development (LID) practices analysis.

3.b. Potential trigger for permitting from the US Army Corps (CWA Section 404 and/or Section 10), ability to comply with Nationwide and Regional Conditions, "practicable" avoidance and minimization measures, and availability of mitigation if necessary.
3.c. Potential trigger for 401 Certification and which agency will have Authority. If DEQ has authority, note that permit fees will need to be calculated.
3.d. Potential trigger for Tribal permitting
3.e. Potential need for incorporation of Permanent Erosion and Sediment Control Measures (PESC) Manual.
3.f. Potential trigger for Underground Injection Control (UIC) program requirements.

For Consultant Projects:

1. Review the draft documents and provide comments.
2. Review the documents.
3. Sign and distribute final documents.

START DEPENDENCIES:

For Consultant projects: submittal of the information under Activity 111.

For In-house projects: Preliminary Field Review Attendance/Report

ACTIVITY 715 Obtain Water Rights (03/27/2008)

DEFINITION:

Obtain water rights for use/securing hydrology in perpetuity for wetland mitigation project.

TASKS:

1) Review Draft application submitted by consultant.
2) Review point of diversion, historic use, adverse effect, etc. for application for change of use water right.
3) Review basin closure applicability.
4) Submit a correct and complete application to the DNRC.

START DEPENDENCIES:

Activity 173

ACTIVITY 717 Traffic Noise Determination and/or Analysis Review
(07/12/2013)

DEFINITION:

This activity reviews the submittal for the Traffic Noise Determination and/or Analysis, Activity 179. Preliminary reporting on potential noise impacts are based on existing alignment, projected traffic volumes and measured noise levels.

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	Review the PFR and existing land uses to determine need for noise analysis and level of analysis required. If no analysis is needed, this can be documented on the ISA form.				
2	Review preliminary traffic noise analysis.				
3	Do noise impacts exist?				
4	Are design changes possible?				
5	Is a detailed noise analysis necessary?				
6	Provide feedback to MDT Consultant Project Engineer (Finalize draft report.)				

START DEPENDENCIES:

Completion of activity 179.

ACTIVITY 718 Final Remediation & Assessment Review (08/04/16)

This activity is used to check consultant submittals.

DEFINITION:

Review final plans, specifications, special provisions and environmental documentation for completeness and adherence to issues related to hazardous materials/substances and/or contaminated soil and groundwater conditions.

TASKS:

Coordinate with the Project Manager to ensure the tasks listed below are completed, if necessary.

□ Special provision for contaminated soil and groundwater management and disposal.

□ Notifications complete to DEQ or other City/County jurisdiction regarding contaminated conditions.

□ Asbestos inspection complete and any necessary abatement.

Start Dependencies:

ACT 175: Final Plan Review

ACTIVITY 720 Final Biological Review (05/06/2015)

DEFINITION:
Review final plans, specifications, special provisions and environmental documentation for completeness and adherence to environmental commitments and mitigation requirements, including compliance with all applicable environmental regulations and permits.

TASKS:
For in-house projects:
The MDT District Biologist performs the following tasks:

1. Review project plans, specifications and prepare special provisions to ensure environmental concerns have been addressed and that all agreed to mitigation measures, including environmental design features, permit conditions, timing restrictions, and other required conservation measures, are included or addressed in the project contract documents. Distribute Biological special provisions and any other comments to Contract Plans, the Design Team, and the DCE, as appropriate.
2. Ensure that all Environmental Management Group 2200 activities are completed and statused for the project.
3. Complete/review the monitoring plan for wetland mitigation or other environmental commitments, if required, for accuracy and implementation post-construction. Ensure any needed compensatory mitigation is secured.
4. Verify final fencing recommendations with ROW agents and modify associated design elements as necessary.

NOTE: Attend the Pre-construction Conference to review the environmental aspects of the final plans, specifications, special provisions and environmental commitments and mitigation requirements, including compliance with all applicable environmental regulations and permits with the Project Manager and the Contractor.

Start Dependencies:
ACT 230: Final Plan Review
ACT 578: Prepare Bridge Substructure Plans
ACT 729: Clean Water Act and/or Tribal Permit Approvals
ACT 733: Receipt of SPA 124
ACT 775: Receipt of Biological Opinion/Concurrence

For Constant Design projects:
Coordinate with the Consultant to ensure the tasks listed above are completed.

Start Dependencies:
ACT 148: Final Environmental Matters

For Transportation Alternative (TA) Projects:
Coordinate with the Consultant to ensure the tasks listed above are completed.

ACTIVITY 722 Prepare/Review Environmental Document (8/16/16)

DEFINITION:
Prepare NEPA/MEPA Environmental Document. (For federally funded projects, the document must comply with NEPA and MEPA. For state funded projects, the document need only comply with MEPA.) Prepare appropriate documentation for purposes of demonstrating compliance with applicable Section 4(f) regulations.

TASKS:
1. Compile information received in response to requests made in Activity 710.
2. Compile information developed in Activity 711 along with the Biological Resources Report, Cultural Resources Report, Initial Site Assessment.
3. Review resources present, potential impacts, and proposed mitigation to assess "significance" of impacts.
4. Coordinate with Design Team to ensure appropriateness of mitigation measures and optimize design.
5. Document analysis in an environmental document.
5. Submit environmental document and appropriate Section 4(f) Evaluation (if applicable) for approval and signature by Engineering Section Supervisor.
6. Upon receipt of signed document, prepare cover letter for transmittal to FHWA for signature if necessary under the conditions of the programmatic agreement.
7. Distribute approved environmental document unless an outside signature is required or when Activity 723 is determined to be necessary.

For Consultant Projects:
1. Review the draft documents and provide comments.
2. Review the final documents.
3. Sign and distribute final documents.

START DEPENDENCIES:
Completion of Activities 790, 710, 711, 354, 200.

ACTIVITY 723 Outside Approval of Environmental Document

(Revised 12/20/2021)

DEFINITION:

Provide NEPA Environmental Document and Section 4(f) Evaluation(s) if applicable to FHWA and/or other agency signatures. Receive signed document from FHWA. Distribute approved environmental document. This Activity is used with EAs and EISs and with projects that require other agency signatures.

TASKS:

FOR IN-HOUSE PROJECTS:

Upon receipt of signed document from FHWA and/or other agencies, scan document and save it to the electronic file. Upload pdf file to PCMS. Prepare and send email to announce availability of signed document on PCMS. Include in email a hyperlink to the document. Distribute hard copies of the CE if necessary.

FOR CONSULTANT DESIGN PROJECTS:

Consultant will assist with the above activities as directed by the PDE.

START DEPENDENCIES:

Completion of Activity 722.

ACTIVITY 724 Obtain Section 106 Clearance (Revised 5/7/21)

The activity is listed as MDT REVIEW-Obtain Section 106 Clearance when used to check consultant submittals.

DEFINITION:

Secure concurrence from the SHPO that the project is in compliance with the Historic Preservation Act and may proceed.

OUTPUT PROVIDED:

Letter of concurrence (clearance) from the SHPO and as required mitigation plan.

TASKS:

1. Prepare and submit to SHPO a determination of effect on all eligible properties on the project.
2. Prepare and submit to SHPO, FHWA and ACHP proposed Memorandum of Agreement and how to mitigate adverse effects.

START DEPENDENCIES:

Preliminary Plans to determine impacts.

DISTRIBUTION AND USE:

Distribute to lead agent and district office and FHWA. Use in final environmental documents, 4(f) documents, and final construction plans.

Flowchart Predecessors:

Flowchart	Pred.	Description	Relationship
Bridge Replacement	212	Preliminary Plan Preparation	FINISH-START
Road Design	212	Preliminary Plan Preparation	FINISH-START
Safety	708	Cultural Resource Management	FINISH-START
Consultant Design	118	Roadway Alignment Plan	FINISH-START
TA	118	Roadway Alignment Plan	FINISH-START

Flowchart Successors:

Flowchart	Succ.	Description	Relationship
Bridge Replacement	722	Environmental Document	FINISH-START
Road Design	722	Environmental Document	FINISH-FINISH
Safety	722	Environmental Document	FINISH-FINISH
Consultant Design	116	Preliminary Environmental Document or CE/Section 4(f) Eval	FINISH-START
TA	116	Preliminary Environmental Document or CE/Section 4(f) Eval	FINISH-START

ACTIVITY 725 Detailed Noise Analysis Review (07/12/2013)

DEFINITION:

Referred to as "Detailed Noise Analysis" in MDT Noise Procedure Manual. Documentation of noise impacts and analysis of noise abatement alternatives and public involvement as necessary.

TASKS:

	Task Checklist Description Yes No N/A Initial	Yes	No	N/A	Initial
1	Review detailed noise analysis report.				
2	Have design changes been considered?				
3	Are barriers being proposed?				
4	Review neighborhood opinion survey, if applicable.				
5	Review Noise abatement recommendations checklist, if applicable				
6	Review conceptual design, if applicable.				

START DEPENDENCIES:

Completion of activity 109.

ACTIVITY 726 Reclamation and Erosion Control (3/30/09)

DEFINITION:
Develop project specific reclamation and long-term erosion control strategy and plans.

OUTPUT PROVIDED:
Preliminary report of reclamation and erosion control strategies for inclusion in project environmental document. Report of contract plans special provisions, including recommended seeding species and methods, and special long-term project erosion control features.

TASKS:
1. Field review project to identify reclamation/erosion control needs and potential strategy.
2. Prepare preliminary report for inclusion in project environmental document.
3. Prepare final reclamation and erosion control plan.
4. Determine wind and water erosion susceptibility;
    4.1. Determine appropriate erosion control measures;
    4.2. Determine appropriate vegetation species for reclamation and erosion control;
    4.3. Coordinate erosion control recommendations with appropriate project design crews.
5. Submit final seeding special provisions and any long-term erosion control special provisions for inclusion in the contract bid package.

START DEPENDENCIES:
Preliminary Field Review Report; Preliminary Plan-in-Hand Inspection Report.

DISTRIBUTION AND USE:
Preliminary reclamation/erosion control assessment and strategies provided to Environmental Engineering Section for environmental document; Reports submitted to Lead Design Bureau and/or District for use to design miscellaneous features, including advice on temporary storm water runoff BMP's; Final special provisions submitted to Construction Bureau for contract bid package.

ACTIVITY 728 Prepare/Review Environmental Water Quality Permits (Revised 12/20/2021)

DEFINITION:

Prepare appropriate permit application packages for submittal to agencies with jurisdiction over the project such as US Army Corps of Engineers (COE), Montana Department of Environmental Quality (DEQ), Environmental Protection Agency (EPA), and/or Tribal entities.

TASKS:

1. Communicate with design team to provide information and design recommendations to facilitate compliance with applicable laws and permit approval.
2. Compile project data necessary to prepare and support the permit application.
3. For Clean Water Act 404 Determine Permit Scenario

3.a. If the project qualifies for any of the CWA 404 permitting exemptions, prepare memo to document the decision to use the exemption. Prepare special provision for the contract to note the CWA 404 exemption and potential need for temporary facilities and construction permitting.

3.b. If the project qualifies for any of the CWA Non-notification Nationwide Permits, prepare memo to document the decision to use the non-notification permit. Confirm that the project complies with applicable nationwide permit requirements, regional conditions, and 401 Certification requirements and state as much in the memo. Prepare special provision for the contract to note the CWA 404 permit and potential need for temporary facilities and construction permitting.

3.c. If the project qualifies for a CWA Nationwide Permit, prepare permit application package for submittal. (Processing of the application by the Corps and the preparation of the subsequent special provision(s) is completed under Activity 729.) If the project qualifies for a nationwide permit, confirm that the project complies with applicable nationwide permit requirements, regional conditions, and 401 Certification requirements and state as much in the cover letter.

3.d. If the project requires an Individual Permit, prepare permit application package for submittal. Application package will likely require a LEDPA (Least Environmentally Damaging Practicable Alternative) Analysis. (Processing of the application by the Corps and the preparation of the subsequent special provision(s) is completed under Activity 729.)

4. For Tribal Permitting (ALCO and ALPO) prepare Tribal permit application for submittal. Coordinate with Tribal entity to determine appropriate permit application fee, if applicable.
5. For 401 Certification

5.a. NWP: Consult COE to determine MDT's role in coordinating with the agency with jurisdiction (e.g., DEQ, EPA, Tribal government).

5.b. Individual Permit: Coordinate with agency with jurisdiction and determine

appropriate 401 Certification Processing Fee if applicable. Submit 404 application package to the agency with jurisdiction.
6. Scan the completed and signed application(s) and cover letter and save it in pdf form to the electronic project file.
7. Upload the pdf file to PCMS.
8. Submit applications and necessary supporting documentation to COE and/or Tribal offices for approval.
9. Prepare and send an email announcing the application has been submitted. In the email, include a hyperlink to the file.

For Consultant Projects:
1. Review the draft documents and provide comments.
2. Review the final documents.
3. Sign and distribute final documents.

START DEPENDENCIES:
1. To finalize and submit the application, a complete package must be assembled. A complete package will generally include the following information.
2. Plans that are far enough along in the design process to adequately describe the volume (cubic yards) of fill below OHW and the area (to the one hundredth of an acre) of impact to wetlands. (Generally at Activity 228.)
3. Bridge Plans (Activities 466, 560, 578, and/or 580).
4. A finalized Biological Opinion from the USFWS (if applicable). (An activity number has not been established.)
5. Complete historic resources consultation. (Generally Activity 730.)
6. In the rare circumstance that onsite wetland mitigation will be used, a completed Onsite Wetland Mitigation/Monitoring Plan (Activity 750.)
7. Final Hydraulics Reports and recommendations (Activities 368, 382, and 384.)
8. Wetland Finding Report (Activity 778).
9. Current Environmental Document (Generally Activity 723).

ACTIVITY 729 Clean Water Act and/or Tribal Permit Approval(s)

(12/20/2021)

DEFINITION:
The PDE will coordinate with permitting authority to ensure they have the information they need to issue a permit. Receive permit from permitting agency. Distribute permit for comments to design team. As necessary, the PDE will coordinate with permitting authority to re-negotiate and modify permit conditions based on input received during the review. The PDE will prepare a special provision for inclusion in the Contract Document to ensure the Contractor is fully aware of and obligated to abide by the enforceable conditions of the permit.

TASKS:

FOR IN-HOUSE PROJECTS:
1. Coordinate with permitting authority and respond to permit application inquiries.
2. Supply supplemental information requested by permitting authority.
3. Receive permit from permitting authority.
4. Scan signed permit.
5. Upload pdf file to PCMS.
6. Prepare and send email to design team to distribute permit for review and comment. In the email, include a hyperlink to the electronic file and a date by which comments are due.
7. Coordinate with design team regarding required plan changes, as necessary.
8. Coordinate with Design Team and permitting authority regarding permit modifications as necessary.
9. Re-negotiate permit(s) as necessary, based on input received during the review. If the permit is modified, repeat steps 4-10 as needed.
10. Prepare special provision(s) for inclusion in contract plans.

FOR CONSULTANT DESIGN PROJECTS: Consultant will assist with the above activities as directed by the PDE.

START DEPENDENCIES:
Completion of Activity 728

ACTIVITY 730 Cultural Mitigation (1/31/05)

DEFINITION:
Performance of mitigation measures agreed to in Section 106, MOA on cultural resources, and Historic Preservation Plan.

OUTPUT PROVIDED:
Compliance with Memorandum of Agreement with FHWA, SHPO, and ACHP.

TASKS:
1. Define scope of work.
2. Advertise for bids and select contractor or assign to existing consultant.
3. Monitor field work.
4. Review and submit final report or documentation to SHPO and other identified in MOA.

START DEPENDENCIES:
Completion of 106 clearance and signing of MOA. Final Construction limits.

DISTRIBUTION AND USE:
Distribute to lead agent, district office, and SHPO. Use in project file to document compliance with MOA.

ACTIVITY 732 Prepare SPA 124 Application (05/08/15)

DEFINITION:
Complete preparation and submittal of a Joint Application for Proposed Work in Montana's Streams, Wetlands, Floodplains, and Other Water Bodies, including the appropriate attachments and a cover letter to Montana Fish, Wildlife & Parks (MFWP). The Joint Application form and Instructions are available at http://dnrc.mt.gov/licenses-and-permits/stream-permitting .

TASKS:
For in-house projects:
The MDT District Biologist or Wetland Specialist will complete the following tasks:

1. Gather and/or create all relevant project information that is necessary and required to submit an accurate SPA 124 Notification to MFWP. Include all relevant plan and profile sheets, bridge layouts, cross sections, details, and summary sheets. Include applicable project report(s) including but not limited to: Bridge/Hydraulic memos; the Hydraulic Report or the Location Hydraulic Study Report; site maps and photographs of potentially impacted water bodies and surrounding vegetation.

2. Complete the Joint Application form and a cover letter. The MDT District Biologist (Wetland Specialist on mitigation projects) signs the application and cover letter and submits the application to MFWP, in duplicate (one copy for the MFWP SPA Coordinator and one copy for the MFWP local Fisheries Biologist). Green Stamp and place original copy in the Environmental Services file. Save an electronic version of the application to the project folder on the Environmental share drive. Distribute a copy to the Design Team as appropriate.

3. Answer any project questions and provide additional project information to MFWP upon request to expedite the SPA 124 process. As necessary, refer to and follow the MDT SPA Resolution Process to facilitate expedition of the SPA 124 process.

Start Dependencies:
ACT 224: Provide Final Construction Limits to R/W
ACT 384: Revise and Update Hydraulic Recs
ACT 560: Bridge Model Analysis
ACT 774: Biological Assessment
ACT 778: Aquatic Findings Report

For Consultant Design projects (Activity 148 Final Environmental Matters):
Consultant compiles relevant project information as described above to complete a Draft SPA 124 application. Consultant completes Joint Application Form, assembles attachments, and draft cover letter to MFWP and submits to MDT in electronic Word document format for MDT District Biologist review. The MDT District Biologist reviews and comments on Draft SPA 124 application package.

Consultant incorporates comments and finalizes SPA 124 application. Consultant provides four (4) hardcopies and a PDF electronic version of final document. The MDT District Biologist submits application package in duplicate to MFWP, files and distributes final SPA 124 application as appropriate.

NOTE: This is an iterative process including the submittal of Draft Permit Applications in electronic Word document format to MDT for review and comment. The Consultant will incorporate proposed revisions in the Final Permit Applications and return to MDT for processing and/or submittal to appropriate entities.

Start Dependencies:
ACT 270: Plan-in-hand Approval

ACTIVITY 733 Receipt of SPA 124 (12/20/2021)

DEFINITION:
Receipt of Montana Stream Protection Act 124 from Montana Fish, Wildlife and Parks (MFWP), including general and special permit conditions.

TASKS:
For in-house projects:
The MDT District Biologist will complete the following tasks:

1. Receive, review, and discuss any items of potential concern with the MFWP SPA Coordinator and Design Team as necessary to reach mutual agreement. If mutual agreement cannot be obtained, refer to and follow the MDT SPA Resolution Process to expedite the SPA 124 process.

2. Coordinate any design modifications with the MDT Design Team, as necessary based on the SPA 124 conditions.

3. Green Stamp and place original copy in the Environmental Services file. Save an electronic version of the SPA 124 permit to the project folder on the Environmental share drive. Distribute a copy to the Design Team as appropriate and upload SPA 124 permit to PCMS.

4. Author and/or request any necessary special provisions as they pertain to the SPA 124 conditions, including the Stream Protection Authorization 124 and Increase in Turbidity, as appropriate. Submit these special provisions to Contract Plans and the Project Manager, and the Design Team as appropriate.

Start Dependencies:
ACT 732: Prepare SPA 124 Application

For Consultant Design projects:
This activity is triggered by receipt of the SPA 124 permit from MFWP and is completed by the MDT District Biologist or Wetland Specialist in all cases. MDT will provide a copy of SPA 124 permit and special provision(s) as necessary to the Consultant. There is no corresponding Consultant Design activity.

ACTIVITY 740 Final Environmental Review (12/20/2021)

DEFINITION:

Ensure commitments made during the design process are captured in the contract document. Review final plans, specifications, and special provisions and compare them with the e-doc and permits (if applicable). Ensure final plans are in agreement with e-doc, mitigation commitments, permit conditions, and applicable environmental regulations. As necessary, re-evaluate e-doc, negotiate modified permit conditions with resource/regulatory agencies, and/or coordinate with design team to modify design to comply with e-doc and permits. Review environmental files (including electronic files) to ensure completeness and conformance with appropriate document retention practices. Ensure the file contains required information, which is "green stamped", as necessary. Remove extraneous information from the electronic files.

TASKS:

Depending on the project, any or all of the following tasks may be necessary.
1. Prior to Final Plan Review (FPR), PDE should review plans, specifications, and special provisions and compare them with the e-doc and permits. Note areas or issues where final plans are incomplete or in disagreement with e-doc, mitigation commitments, permit conditions, and/or applicable environmental regulations.
2. Compile input from Resources and Remediation and Assessment sections with your engineering review to prepare FPR comment memo or attend FPR Meeting and provide Environmental Services Bureau (ESB) comments. If ESB personnel attend the meeting, a memo is not required. Ensure adequate coordination between the sections to ensure all environmental issues are discussed at the meeting or in the memo.
3. Ensure commitments made during the design process are captured in the contract document. Confirm that necessary special provisions are included in the contract plans. The PDE is responsible for preparing special provisions related to the 404Permit, 401 Certification, Tribal Permits, and other environmental commitments that are not addressed through project design (e.g., Borrow Source, MS4, Section 4(f)), Standard Specifications, or Resources and Remediation and Assessment special provisions.
4. Coordinate and review environmental related changes in the plans, special provisions or e-doc or new additional environmental issues. If necessary, reevaluate the CE and/or permit(s). Reevaluation may be necessary to address issue(s) resulting from time elapsed since signing of original CE or permit(s), design changes, and/or changed site conditions.
5. Depending upon the type of e-doc revision and the complexity of any changes, FHWA concurrence may be required on the reevaluation. Prepare and distribute revised, updated, or redrafted supplemental and/or reevaluated e-doc and permits.
6. Review, purge, and/or add to the electronic files to ensure the

file is thorough, complete, well-organized, and in conformance with appropriate document retention practices.

FOR CONSULTANT DESIGN PROJECTS:

Consultant will assist with the above activities as directed by the PDE.

START DEPENDENCIES:

Completion of Activity 228, 384, 578, 729

ACTIVITY 742 Air Quality Conformity Determination Review
(03/27/2008)

DEFINITION:

Conduct air quality and transportation conformity analysis in non-attainment and maintenance areas to determine if a proposed project will adversely impact ambient air quality levels of carbon monoxide (CO) or particulate matter (PM10 or PM2.5).

For consultant projects, this may be an iterative process to produce an air quality conformity determination.

TASKS:

For In House Projects:

1) Determine if project is in a non-attainment or maintenance area for CO, PM10, and/or PM2.5, and determine if project is exempt from conformity (Table 2, 40 CFR 93.126).
2) Determine if project needs a CO hot-spot analysis. Consult the regulations (93.123) and follow required consultation procedures (Montana Air Quality SIP).
3) Determine need for PM10 or PM2.5 hot-spot analysis. If project is not listed in Table 2 of 40 CFR 93.126, then determine if it is a project of "localized air quality concern." Refer to *Transportation Conformity Guidance for Qualitative Hot-spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas* (EPA420-B-06-902, March, 2006).
4) Determine need for a discussion of Mobile Source Air Toxics (MSATs). This is not required for projects that are categorically excluded under 23 CFR 771.117(c), or those projects which are exempt under the Clean Air Act (Transportation Conformity, 40 CFR 93.126). All other projects, whether located in a non-attainment area or not, require some level of discussion of MSATs. Refer to FHWA guidance document HEPN-10, dated Feb 3, 2006.
5) This process can be documented on MDT's Initial Site Assessment form (see Activity 181.)

For Consultant Projects:

1) Review draft ISA form or air quality memo and provide comments as necessary to MDT Consultant Project Engineer.
2) Review the final consultant submittals.
3) Review and modify the conformity determination letter as necessary and distribute to the agencies.

START DEPENDENCIES:

For consultant projects, submittal of the draft deliverable under activity 180.
For in-house projects, activity 200.

DELIVERABLES:

For In House Projects:

ISA Form or Memo regarding conformity of project. Letter to appropriate state, local and federal agencies stating MDT's conformity determination.

ACTIVITY 750 Aquatic Mitigation Strategy (06/04/2015)

DEFINITION:
Identification of the aquatic mitigation strategy for anticipated unavoidable impacts to aquatic resources (wetlands and streams) associated with the project. The mitigation sequence is as follows: 1) avoid impacts; 2) minimize impacts; 3) compensate for unavoidable impacts. The order of compensatory mitigation described in 33 CFR 332.3(b) to be followed is: 1) credits from an existing mitigation bank (this includes established MDT mitigation reserves); 2) credits from an in lieu fee program; 3) permittee-responsible compensatory mitigation. Coordination and development of permittee-responsible compensatory mitigation as necessary.

TASKS:
For in-house projects:
The MDT District Biologist performs the following tasks:

1. Review preliminary plans and recommend measures to the Design Team that avoid and minimize impacts to aquatic resources for incorporation into the project design. Determine if any unavoidable aquatic impacts are anticipated through final design. If compensatory aquatic mitigation is anticipated, follow the sequence outlined below:
    1) **MDT AQUATIC MITIGATION:** Coordinate the estimated quantity of aquatic impacts to be mitigated with the Aquatic Mitigation Engineer (AME). If sufficient MDT aquatic mitigation credits are not available, that fact will be documented by the AME and Non-MDT aquatic mitigation options will be sought.
    2) **NON-MDT AQUATIC MITIGATION BANK:** Coordinate the estimated quantity of aquatic impacts to be mitigated with the Aquatic Mitigation Engineer (AME). If sufficient Non-MDT aquatic mitigation bank credits are not available, that fact will be documented by the AME and in-lieu fee program aquatic mitigation options will be sought.
    3) **IN-LIEU FEE PROGRAM:** Coordinate the estimated quantity of aquatic impacts to be mitigated with the Aquatic Mitigation Engineer (AME). If sufficient In-lieu fee aquatic mitigation program credits are not available, that fact will be documented by the AME and permittee-responsible compensatory aquatic mitigation options will be sought.
        - If in-lieu fee program credits are not available or not practicable, the AME, District Biologist (DB), Resources Sections Supervisor (RSS), PDE, and Environmental Engineering Section Supervisor (EESS), and BC will meet to discuss possibility of seeking on-site aquatic mitigation opportunities.
    4) **PERMITTEE-RESPONSIBLE COMPENSATORY MITIGATION**:
        - The DB will investigate opportunities and feasibility for the development of on-site aquatic mitigation and review the information with the design team including the Aquatic Mitigation Unit (AMU), PDE, RSS, EESS, and BC.
            - If viable on-site mitigation opportunities are identified, the DB, AMU,

and Design Team or Consultant will engineer and design the aquatic mitigation for inclusion with the project. The DB and AMU will oversee the design developed by MDT's project Design team, or review the aquatic design prepared by Consultant Design.

- Develop a Draft 12-Point mitigation plan as described in 33 CFR 332.4(c). The final mitigation plan, mitigation design, and debit/credit calculations will be completed under ACT 778 and reviewed by the AMU and the RSS prior to the submittal of the 404 permit application.

- If viable on-site mitigation opportunities are not identified, the design team including the DB, AMU, PDE, RSS, EESS, and BC will meet to discuss potential options or pending project delays.

Start Dependencies:
ACT 216: Establish Alignment and Grade

For Consultant Design projects (Activity 124 Finalize Alignment and Grade):
Consultant reviews preliminary plans and coordinates with the MDT District Biologist (DB) to recommend measures that avoid and minimize impacts to aquatic resources for incorporation into the project design. The Consultant, in cooperation with the MDT DB, determines if any unavoidable aquatic impacts are anticipated through final design. The Consultant coordinates with the DB to identify the aquatic mitigation strategy for anticipated unavoidable impacts to aquatic resources (wetlands and streams) associated with the project. The Consultant will coordinate with the MDT DB and AMU to develop permittee-responsible compensatory mitigation as necessary, as described in 1.4) above.

Start Dependencies:
ACT 118: Roadway Alignment Plan

ACTIVITY 774 Biological Assessment (12/20/2021)

DEFINITION:
A Biological Assessment (BA) is an evaluative report of the potential effects of the proposed action on federally listed species (threatened, endangered, proposed, and/or candidate), and critical habitats, and is submitted to the U.S. Fish & Wildlife Service for their concurrence under Section 7 of the Endangered Species Act. The BA will include an assessment of the baseline condition of and the potential effects of the proposed action on threatened, endangered, proposed, and candidate species, and critical habitats listed under the Endangered Species Act, conservation measures incorporated to reduce/eliminate the adverse effects of the proposed action, and a final determination of effect.

Prepare the BA according to the most recent USFWS BA format guidelines:
http://www.fws.gov/montanafieldoffice/Endangered_Species/Listed_Species/Consultation_Requirements_and_BA_format.pdf

TASKS:
For in-house projects:
The MDT District Biologist will complete the following tasks:

1. Provide a description of the proposed action; including the location of the proposed activity including county, route, mile post(s), station(s), and township, range and section. Provide a map of the project vicinity, preliminary project plans and photographs can be provided if deemed necessary. Provide a detailed description of the proposed action, including secondary project features such as temporary access roads, utility relocates, detours, fencing, etc. Discuss the contractor methods (to extent known), sequence of operations, construction schedule and timing of activities.

2. Research, analyze, and discuss the federally listed species, and designated critical habitat located in the proposed action area. Address the species listed on the most current USFWS species list for Montana Counties (http://www.fws.gov/montanafieldoffice/Endangered_Species/Listed_Species.html), and focus on those species likely to occur in the action area. If a species is determined to likely occur in the action area, this analysis should include but is not limited to species status, distribution, habitat requirements, reasons for decline/listing, documented or potential occurrence in the action area, behavior/life history in the action area, and the quality and quantity of habitat that would be affected by the proposed action. Coordinate with resource agency personnel or other experts as necessary to assist in accurate analysis.

3. Provide an analysis of the effects of the proposed action on federally listed species and their habitats, including an analysis of direct, indirect, and any cumulative effects. Include a detailed discussion of conservation/mitigation measures that would reduce/eliminate adverse impacts to listed species and their habitat. Conservation/mitigation measures may include avoidance and minimization measures, special design features, timing restrictions, and other special provisions that were considered and/or implemented to reduce/eliminate adverse effects to federally listed species and/or critical habitat within the action

area. If conservation measures are not feasible for inclusion in the proposed action, the discussion should include a full analysis and appropriate documentation regarding the rationale for their exclusion from the proposed design and/or construction methods.

4. Based on the analyses performed above, make a determination of effect for each species and/or critical habitat addressed. The determination of effect may be one of the following:

For threatened or endangered species:

i) "***No effect***" – "*No effect*" means there will be no impacts whatsoever, positive or negative, to listed species or habitat. Generally, this means no listed resources will be exposed to the proposed action and its environmental consequences. If a *no effect* determination is made, a complete detailed analysis and discussion of the items listed in #2) and #3) above are not required. Simply state the rationale for the *no effect* determination based on the criteria listed herein #4a).

j) "***May affect, not likely to adversely affect***" - "*May affect, not likely to adversely affect*" means that all effects are beneficial, insignificant, or discountable. Beneficial effects have contemporaneous positive effects without any adverse effects to the species or habitat. Insignificant effects relate to the size of the impact and include those effects that are undetectable, not measurable, or cannot be evaluated. Discountable effects are those extremely unlikely to occur. Include a complete detailed analysis and discussion of the items listed in #2) and #3) above.

k) "***May affect, likely to adversely affect***" - "*May affect, is likely to adversely affect*" means that listed species or habitat are likely to be exposed to the proposed action or its environmental consequences and will respond in a negative manner to the exposure. Include a complete detailed analysis and discussion of the items listed in #2) and #3) above.

For proposed and candidate species:

l) "***Not likely to jeopardize the continued existence of***" – "*Not likely to jeopardize the continued existence of*" means to engage in an action that would not reasonably be expected to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species. If a "*not likely to jeopardize the continued existence of*" determination is made, a complete detailed analysis and discussion of the items listed in #2) and #3) above are not required. Simply state the rationale for the "*not likely to jeopardize the continued existence of"* determination based on the criteria listed herein #4d).

m) "***Likely to jeopardize the continued existence of***" – "*Likely to jeopardize the continued existence of*" means to engage in an action that would reasonably be expected, directly or indirectly, to reduce appreciably the likelihood of both the

survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species. Include a complete detailed analysis and discussion of the items listed in #2) and #3) above.

For critical habitat:
n) **"*No effect*"**– "*No effect*" means that the proposed action will not destroy/adversely modify designated critical habitat.

o) "***May affect, not likely to adversely affect***" - "*May affect, not likely to adversely affect*" means that the proposed action is expected to be discountable, insignificant, or completely beneficial (see definitions #4b) above) to the critical habitat.
Use the "Crosswalk" when analyzing effects to bull trout critical habitat: http://www.fws.gov/montanafieldoffice/Endangered_Species/Bull_Trout_consultation/Matrix_PCE_crosswalk.pdf . Include the "Crosswalk" in the BA documentation.

p) "***May affect, likely to adversely affect***" - "*May affect, likely to adversely affect*" means that the proposed action is not expected to be discountable, insignificant, or completely beneficial (see definitions #4b) above) to the critical habitat. The proposed action is expected to have an adverse effect to critical habitat, as a direct or indirect result of the action.
Use the "Crosswalk" when analyzing effects to bull trout critical habitat: http://www.fws.gov/montanafieldoffice/Endangered_Species/Bull_Trout_consultation/Matrix_PCE_crosswalk.pdf . Include the "Crosswalk" in the BA documentation.

5. Submit the completed BA and any relevant attachments to the Federal Highway Administration (FHWA) for transmission to the USFWS. Green Stamp and place original copy in the Environmental Services file. Save an electronic version of the BA to the project folder on the Environmental share drive. Distribute a copy to the Design Team as appropriate and upload BA to PCMS.

START DEPENDENCIES:
ACT 222: Approve Scope of Work Report

For Consultant Design projects (ACTIVITY 184 Biological Assessment):
Consultant compiles relevant project information as described above to complete a Draft BA. Consultant completes Draft BA with attachments, and draft cover letter to FHWA and submits to MDT in electronic Word document format for MDT District Biologist review. The MDT District Biologist reviews and comments on Draft BA package.

Consultant incorporates comments and finalizes BA. Consultant provides four (4) hardcopies and a PDF electronic version of final document. The MDT District Biologist submits the final BA package to FHWA for transmission to USFWS, files and distributes final BA as appropriate.

NOTE: This is an iterative process including the submittal of Draft BA in electronic Word document format to MDT for review and comment. The Consultant will incorporate proposed revisions in the Final BA and return to MDT for processing and/or submittal to appropriate entities.

Start Dependencies:
ACT 184: Biological Assessment

ACTIVITY 775 Receipt of Biological Opinion/Concurrence (12/20/2021)

DEFINITION:
Receipt of Biological Opinion (BO) under Formal Consultation or Letter of Concurrence (LOC) under Informal Consultation from the U.S. Fish and Wildlife Service (USFWS), including recommended conservation measures.

TASKS:
For in-house projects:
The MDT District Biologist will complete the following tasks:

1. Receive, review, and discuss any items of potential concern with the USFWS and Design Team as necessary to reach mutual agreement.

2. Coordinate any design modifications with the MDT Design Team, as necessary based on the BO/LOC Conservation Measures.

3. Green Stamp and place original copy in the Environmental Services file. Save an electronic version of the BO/LOC to the project folder on the Environmental share drive. Distribute a copy to the Design Team as appropriate and upload BO/LOC to PCMS.

4. Author and/or request any necessary special provisions as they pertain to the BO/LOC Conservation Measures. Submit these special provisions to Contract Plans and the Project Manager, and the Design Team as appropriate.

Start Dependencies:
ACT 774: Biological Assessment

For Consultant Design projects:
This activity is triggered by receipt of the BO/LOC from the USFWS and is completed by the MDT District Biologist in all cases. MDT will provide a copy of BO/LOC and special provision(s) as necessary to the Consultant. There is no corresponding Consultant Design activity.

ACTIVITY 778 Aquatic Resources Findings Report (AFR) (05/06/2015)

DEFINITION:
Assessment and quantification of the unavoidable impacts to wetlands and streams associated with the project. The assessment should include a quantified discussion of avoidance and minimization efforts, enumerated impacts and classification of wetlands, enumerated impacts and debit/credit calculations for streams (as necessary), and proposed mitigation plans.

TASKS:
For in-house projects:
The MDT District Biologist performs the following tasks:

6. Prepare a AFR and attachments which include the following analysis, data, and discussion:
    - Watershed: Identify the Major (16) Watershed Basin in which the project is located.
    - Project Description: Include a detailed description of the project purpose and need and scope of work. Specifically address project features involving wetlands, rivers/streams (ie. bridges, culverts, widening, slope modifications, etc.).
    - Project Location: Provide a detailed description of the project location and limits including route, county, begin and end reference posts, legal description (TRS), etc.
    - Wetlands: Provide a detailed description of the delineation process/methods including who delineated the wetlands, date the original delineation was completed and/or verified, a description of the delineation method including field work, mapping, and office review, use of the 1987 USACOE Wetland Delineation Manual, appropriate Regional Supplement, MT Wetland Assessment Method forms (MWAM), USACOE wetland determination forms, etc.
        - *Wetland Impacts*: Provide a summary discussion of final wetland impacts for each wetland area identified including wetland identification number, Cowardin and/or HGM wetland classification, wetland MWAM category, general location description, dominant vegetation, soil description, associated hydrologic feature, and hydrologic indicators. Include a quantification of impacts to each specific wetland and the source(s) of impact (i.e. associated with grade raise and flattened slopes, alignment shifts, etc.)
        - Include a *Wetland Impact Summary* table which highlights 1) Wetland ID; 2) station ranges (RT/LT); 3) wetland classification abbreviation(s); 3) destination hydrology, and/or adjacency of wetlands and waterways (WUS); 4) delineated area; 5) permanent impact area, and summary totals for delineation and impact area.
        - *Wetland Avoidance and Minimization*: Include a summary discussion of the total acres of wetlands delineated in project area, the estimated wetland impact acres from the BRR, and total quantity of unavoidable

wetland impacts along with brief description of why all wetland impacts were unavoidable. Include a bulleted list of the avoidance and minimization measures employed during design to minimize impacts to wetland areas throughout the project.

- *Compensatory Wetland Mitigation*: Report final impacts to the Aquatic Mitigation Engineer (AME) for mitigation documentation.
  - The AME will debit wetland impacts from the appropriate MDT or private bank, or in lieu fee program. OR:
  - If permittee-responsible compensatory wetland mitigation development was required, complete a 12-Point Mitigation Plan (12 Components from "The Rule"). Additional information may be found in the Federal Register, Vol. 73, No. 70, dated April 10, 2008, pp 19677-19678; 33 CFR 332.4. The wetland mitigation plan and crediting scheme must be approved by the USACOE.

- Streams: Provide a detailed discussion of the ephemeral, intermittent, and perennial rivers/streams affected by the project including; field assessment methodology and office review, discussion of the USACOE February 2013 (or most current) Stream Mitigation Procedures, and Clean Water Act Section 404.

.1. *Stream Impacts*: Provide a summary discussion of the number, type, general condition, and existing structure type and/or potential impacts of natural streams/rivers affected by the project.

- Include a *Stream Factor Characteristics* table which highlights 1) stream name and station range(s) (right/left/crossing); 2) stream type; 3) stream order; 4) stream status; 5) existing condition;; 6) dominant impact; and as applicable 7) existing structure type/dimensions 8) proposed structure type/dimensions; 9) net impact (linear feet).
- *Existing Conditions and Proposed Work*: Provide a summary description of each waterbody including an expansion on the factors included in the table above, a description of existing conditions, dominant vegetation, impairments, bank slopes, adjacent land use, etc. Provide a brief narrative description of the proposed work (fill, channel change, structure replacement [type and dimension], etc). **Detail and quantify the net impacts and/or benefits of the proposed work**.
- *USACOE Stream Mitigation Procedure*: For each waterbody, discuss whether or not compensatory stream mitigation is anticipated.
  - If not anticipated, provide a bulleted list of rationale for why the proposed work does not trigger stream mitigation requirements.
  - If the project may generate stream mitigation credits, discuss the feasibility of credit banking. Completion of stream debit and credit calculations will be required.
  - If stream mitigation is anticipated, coordinate with the Project Development Engineer (PDE) and AME for further development of a stream mitigation plan. Completion of stream debit and credit calculations will be required. Document the need for stream mitigation in the AFR. **See AFR Task 2 below.**

- Summary: Provide a summary of project total wetland and stream impacts/benefits and the proposed mitigation for each, or if no compensatory mitigation is required.

2. If stream mitigation is deemed necessary:
   - Coordinate with the PDE and AME to complete Debit and Credit Computation Tables per the USACOE February 2013 (or most current) Stream Mitigation Procedure.
   - If debits are greater than credits, work with the AME to determine the availability of stream mitigation credits for the project. Document the proposed mitigation strategy in the AFR.
     - The AME will debit stream impacts from the appropriate stream mitigation bank, or in lieu fee program. OR:
     - If permittee-responsible compensatory stream mitigation development is required, finalize the 12-Point Mitigation Plan (12 Components from "The Rule"). Additional information may be found in the Federal Register, Vol. 73, No. 70, dated April 10, 2008, pp 19677-19678; 33 CFR 332.4. The stream mitigation plan and crediting scheme must be approved by the USACOE.
       - Incorporate proposed on-site mitigation into the project plans or coordinate with the AME, Wetland Specialist, and PDE to develop off-site stream mitigation.
       - Complete the necessary stream credit calculations for the proposed mitigation.
       - If credits are greater than debits, determine the feasibility of credit banking for future use. Document this in the AFR.

Start Dependencies:
ACT 224: Provide Final Construction Limits to R/W

For Consultant Design projects (Activity 148 Final Environmental Matters):
Consultant prepares Draft Aquatic Resource Findings Report and submits electronic Word format document to MDT. Submittal includes MDT Wetland Assessment Method forms and Routine Wetland Determination Forms, site photographs, and relevant plan sheets. Include other attachments as necessary. The MDT District Biologist reviews and comments on Draft AFR.

Consultant incorporates comments and finalizes AFR. Consultant provides four (4) hardcopies and a PDF electronic version of final document. The MDT District Biologist files and distributes final AFR as needed.

Start Dependencies:
ACT 148: Final Environmental Matters

ACTIVITY 780 Review Draft Purpose and Need (03/27/2008)

DEFINITION:

For ENVIRONMENTAL ASSESSMENT and ENVIRONMENTAL IMPACT STATEMENT ONLY. Review draft table of contents and draft purpose and need statement.

TASKS:

	Task Checklist Description	Transmittal Date	N/A	Initial Consultant	Initial MDT
1	Receive draft purpose and need statement and draft table of contents.				
2	Review and provide comment on draft purpose and need statement and draft table of contents. Ensure draft purpose and need statement includes the following information: 2.1 Project description and background. 2.2 Needs of the project. 2.3 Purpose of the project. 2.4 Goals and objectives of the project.				

START DEPENDENCIES:

Completion of Activity 117.

ACTIVITY 781 Environmental Resource Reports Review (03/27/2008)

DEFINITION:

Evaluate consultant's submittal of the Environmental Resource Reports that will be utilized for development of the preliminary NEPA/MEPA document.

TASKS:

Insure that all of the appropriate tasks are included in the consultants Environmental Resource Reports. Following are the major elements that should be included in the report.

	Task Checklist Description	Yes	No	N/A	Initial
1	Cultural Resource Report (MDT Generated)				
2	Haz. Mat. ISA				
3	Biological Resource Report				
4	Biological Assessment Report (If applicable)				
5	Wetlands Finding Report				

START DEPENDENCIES:

Activity 105

ACTIVITY 782 Environmental Review (03/27/2008)

DEFINITION:

This is an iterative process with the consultant to complete the environmental documentation and prepare the preliminary Environmental Document or Categorical Exclusion, and when applicable, Section 4(f) Evaluation.

Note- in some cases, the Categorical Exclusion and/or Section 4(f) Evaluation may be completed during this activity.

NOTE:

Receive MDT approval prior to making contact with any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all correspondence to MDT for review and approval.

Depending upon complexity of the project, a Focus Group may be established. (Typically for EIS or EA).

116-782 ITERATIVE ACTIVITY TIMELINES

Concurrent activities/Iterative process/Finish-Finish Activities. Total Durations are estimated and may vary on a project basis. Durations are set based on working days (OPX2) not calendar days unless otherwise noted.

NOTE: Iterative process does not apply to Programmatic Categorical Exclusion (d) and Categorical Exclusion (c).

Act. 116	C1		C3	C5	.
Act. 782		E2	E4	E6	.

C1 – Consultant. Prepare Preliminary Environmental Document/Section 4(f) Evaluation - incorporate comments from previous activities. Duration of C1 ends when document is submitted to MDT. Duration determined by negotiation with MDT/FHWA and consultant. C1 distribution aimed at Working Group.

E2 – MDT/FHWA. Review of Preliminary Environmental Document/Section 4(f) Evaluation. Standard 20 day duration.

C3 – Consultant. Modify Document/Section 4(f) Evaluation based on MDT/FHWA review comments. Default duration of 20 days or less (Narrative CE (d) / EA) or 30 days or less (EIS). C3 distribution aimed at Working Group and design group which includes all applicable Divisions, Bureaus, Sections, etc within MDT.

E4 - MDT/FHWA. FOR Narrative CE (d) ONLY: Approve the documentation or request the Consultant make any necessary changes. FOR EA AND EIS ONLY: Review of Environmental Document/Section 4(f) Evaluation. Standard 20 day duration.

C5 – Consultant. FOR EA AND EIS ONLY. Modify Document/Section 4(f) Evaluation based on MDT/FHWA review comments. Submit a Comment and Response Document that includes proposed document edits based upon comments from the design group. Default duration of 20 days or less. C5 distribution aimed at Working Group plus any interested parties derived from C3 distribution.

E6 - MDT/FHWA. FOR EA AND EIS ONLY. Provide approval to print Administrative Draft. Standard 10 day duration.

Complete when:

1) Administrative Draft of document (EA or EIS) and Section 4(f) Evaluation (if applicable) is approved and ready for publication; or
2) Narrative CE(d) is signed or if comments are received as part of E4, the remaining work will be completed under activity 126.

EIS Total Duration: C1 + 100 days or less.
CE (d) and EA Total Duration: C1 + 90 days or less.

TASKS:

	Task Checklist Description	Transmittal Date	N/A	Initial Consultant	Initial MDT
1	Receive draft and final Preliminary Site Investigation report. (If applicable).				
2	Review draft and final Preliminary Site Investigation report. (If applicable).				
3	Receive final Cooperating Agency request letters (if applicable).				
4	Review final Cooperating Agency request letters (if applicable).				
5	Receive draft memo regarding air quality conformity of project (if applicable).				
6	Review draft memo regarding air quality conformity of project (if applicable).				
7	Receive preliminary versions of the Environmental Document, Section				

	4(f) Evaluation, and all supporting documentation. (If applicable).				
8	Review Preliminary versions of the Environmental Document and Preliminary Section 4(f) Evaluation. (If applicable).				
9	For EA, EIS or Preliminary Section 4(f) Evaluation (if applicable): Provide recommendation for print approval for Cooperating Agency review to MDT Consultant Project Engineer.				
10	Review Preliminary Bridge layout.				
11	Submit Preliminary Bridge layout to agencies.				
12	Provide agency comments to Bridge Bureau and MDT Consultant Project Engineer (if comments are not received within thirty calendar days, then advise MDT Consultant Project Engineer).				

START DEPENDENCIES:

Submittal of C1 under activity 116.

ACTIVITY 783 Environmental Conceptual Design Review (03/27/2008)

DEFINITION:

Review drafts of the Conceptual Mitigation Design and other technical reports.

TASKS:

Insure that all of the appropriate tasks are included in the consultant's submittal of Conceptual Mitigation Design Plans, alternatives and reports. Following are the major elements that should be included in the report.

	Task Checklist Description	Yes	No	N/A	Initial
1	Review Design alternatives				
2	Verify MDT comments were incorporated into the design alternatives				
3	Conceptual plan overlayed on topographic contours for each alternative				
4	Incorporation of applicable data (Water Rights, existing wetlands, groundwater depth, geotechnical info., etc.) into the design alternatives				
5	Transmit copies to FHWA and Resource Agencies and others as necessary.				
6	Provide written comments to Consultant Design				
7	Review conceptual design alternatives: Cross-sections Conceptual plan layout with topographic contours Conceptual plan showing wells and bore hole locations				
8	Incorporation of Water rights, biological, existing wetlands, hazmat, cultural resource, topographic, groundwater depths, geotechnical information acreage of proposed wetland into the report.				
9	Review Plans: 1) Topographic contours 2) Wells and bore holes 3) Existing wetlands 4) Cultural Resources 5) Key resource elements				

START DEPENDENCIES:

Activity 119, 171,107,116

ACTIVITY 784 Categorical Exclusion/Section 4(f) Evaluation Review
(03/27/2008)

DEFINITION:

Review finalized Categorical Exclusion/Section 4(f) Evaluation.

TASKS:

	Task Checklist Description	Transmittal Date	N/A	Initial Consultant	Initial MDT
1	Confirm that Haz Mat staff has reviewed the final memo regarding air quality conformity of the project (if applicable).				
2	Review and modify, as necessary, finalized Categorical Exclusion/Section 4(f) Evaluation .				
3	Print for Signatures				

START DEPENDENCIES:

Completion of activity 126.

ACTIVITY 785 Environmental Review for PIH (03/27/2008)

DEFINITION:

Evaluate consultant's submittal of Plan-in-Hand Plans.

TASKS:

Insure that all of the appropriate tasks are included in the consultant's submittal of the Plan-in-Hand Plans. Following are the major elements that should be included in the report.

For ALL projects:

	Task Checklist Description	Yes	No	N/A	Initial	MDT
1	Review Plan in Hand plans, specs and special provisions.					
2	Review Commitment and Resolution Document to address commitments made by MDT during the Environmental process.					
3	Provide comments to Plan in Hand submittal and Commitment and Resolution Document. Submit comments to MDT Consultant Design Project Manager.					
4	Provide seeding and weed control special provisions if applicable.					
5	Discuss conceptual landscaping plans as necessary					
6	Verify with Haz Mat Section that the Preliminary Site Investigation (PSI) is sufficient for the project.					

For WETLAND MITIGATION PROJECTS ONLY:

	Task Checklist Description	Yes	No	N/A	Initial	MDT
1	Submit Final Mitigation Design Plans and Specs to Resource agencies for review and comment.					
2	Review cost estimate based on approved concept					
3	Review timing requirements for construction of wetland project					
4	Review maintenance requirements for constructed wetland					
5	Review Hydraulic and Geotechnical Design Data					
6	Compile Agency comments for P.I.H.					

START DEPENDENCIES:

For Wetland Mitigation projects: Activities 135,173,131
For all other Consultant Design projects: Activity 134

ACTIVITY 786 Final Environmental Matters and Draft Permit Review
(03/27/2008)

DEFINITION:

Review of final environmental documentation and permits necessary to prepare subject project for contract letting.

NOTE:

Receive MDT approval prior to making contact with any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all correspondence to MDT for review and approval.

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	Approve Section 404/10/ALCO/ALPO permit applications for submittal. (728) ***				
2	Cultural Mitigation Compliance with MOA (730)**				
3	Approve SPA 124 application for submittal. (732) **				
4	Review Wetlands Finding Report. (778) **				
5	Report all unmitigated wetland impacts to the MDT Wetland Mitigation Specialist for debit at an existing Wetland Mitigation Reserve, or inclusion on the MDT Wetland Ledger. (750)**				
6	Wetlands Mitigation Plan from Section 404 permit. Consider an on-site wetland mitigation monitoring strategy. (750) **				
7	Review Environmental Document. (740)***				
8	Coordinate and review any environmentally related changes in the plans, special provisions or environmental documentation resulting from changes in the project scope-of-work, or awareness of additional environmental issues. (740) ***				
9	Review project plans, specifications and special provisions to ensure environmental concerns have been addressed and that all agreed to mitigation measures and environmental commitments are included or addressed in the completed project contract bid package. (720) **				
10	Approve Storm Water Discharge permit. (744)***				
	Review Commitment and Resolution Document to address commitments made by MDT during the Environmental process. Commitment and				

	Resolution Document (Submit Microsoft WORD file and hard copies).				

START DEPENDENCIES:

Completion of Activity 148.

ACTIVITY 787 Review Administrative Draft Environmental Document
(03/27/2008)

DEFINITION:

This is an iterative process with the consultant to provide for legal sufficiency and agency review (as necessary) of Administrative Draft environmental document/Section 4(f) Evaluation, address comments received from agencies and legal resources, and produce a document that is acceptable for public review and comment.

"Agencies" are defined as resource agencies and/or cooperating agencies. The consultant will coordinate with MDT to determine these agencies.

192-787 ITERATIVE ACTIVITY TIMELINES

Concurrent activities/Iterative process/Finish-Finish Activities.
Total Durations are estimated and may vary on a project basis.
Durations are set based on working days (OPX2) not calendar days unless otherwise noted.

Act. 192 C1 C3 C5 .
Act. 787 E2 E4 E6 .

C1 – Consultant. Print Administrative Draft Environmental Document/Section 4(f) Evaluation and submit to MDT. Submit draft agency distribution list and cover letter for transmitting Administrative Draft document for MDT review and signature. Default duration of 10 days or less.

E2 – MDT/FHWA. Send Administrative Draft Environmental Document/Section 4(f) Evaluation to agencies and legal resources (as required). Duration includes: 5 days to transmit, 22 days for agency review (30 calendar days), and 5 days to transmit back to MDT. Default duration is 32 days.

C3 – Consultant. Submit the Comment and Response document that includes proposed document edits based upon comments from agencies and legal reviewers. Prepare responses to address comments from agency reviews. (At a minimum, the response letter will be a courtesy to acknowledge receipt of comments and indicate that comments will be "considered during project development.") Default duration of 20 days or less.

E4 - MDT/FHWA. Review consultant's Comment and Response document and draft agency response letters. Default duration of 20 days.

C5 – Consultant. Modify environmental document/Section 4(f) Evaluation and draft agency response letters accordingly. Default duration of 15 days or less.

E6 – MDT/FHWA. Provide approval to print EA or DEIS. Review, sign and send agency response letters. Default duration of 15 days.

Activity is complete when MDT sends agency response letters and provides print approval.

Total Duration: 112 days or less

TASKS:

	Task Checklist Description	Transmittal Date	N/A	Initial Consultant	Initial MDT
1	Receive draft distribution list, draft cover letter, mailing labels, and Administrative Draft environmental document/Section 4(f) Evaluation.				
2	Finalize distribution list and cover letters.				
3	Mail Administrative Draft environmental document/Section 4(f) Evaluation to agencies.				
4	Forward comments received from agencies to MDT Consultant Project Engineer. Identify substantive comments that warrant a detailed response. Request MDT Consultant Project Engineer set up meeting to coordinate responses to agency comments, as appropriate.				
5	Review and provide comments on the Comment and Response document and draft agency response letters.				
6	Receive consultant responses and receive draft letters to agencies.				
7	Review, sign, and send response letters to agencies.				
8	EA or Draft EIS ready for approval to distribute. Provide recommendation for print approval to MDT Consultant Project Engineer.				

START DEPENDENCIES:

Submittal of C1 under activity 192.

ACTIVITY 788 Review EA (03/27/2008)

DEFINITION:

FOR ENVIRONMENTAL ASSESSMENTS (EA) ONLY
Public Review and Comment on the Environmental Assessment, including draft Section 4(f) Evaluation(s) if necessary. This is an iterative process with MDT to coordinate the EA for public distribution. Gather comments and conduct public hearing as appropriate.

NOTE:

Receive MDT approval prior to making contact with any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all correspondence to MDT for review and approval.

195-788 ITERATIVE ACTIVITY TIMELINES

Concurrent activities/Iterative process/Finish-Finish Activities.
Total Durations are estimated and may vary on a project basis.
Durations are set based on working days (OPX2) not calendar days unless otherwise noted.

Act. 195 C1 C3 C5 .
Act. 788 E2 E4

C1 – Consultant. Print copies of the Environmental Assessment (EA) for signature. Submit public availability distribution package. Default duration of 10 days or less.

E2 - MDT/FHWA. Review and MDT/FHWA signatures. Includes: 10 day review and signature by MDT, 5 days transmit from MDT to FHWA, 10 day review and signature by FHWA, 5 days transmit from FHWA to MDT. Standard 30 day duration.

C3 – Consultant. Print signed copies of EA. Submit PDF file five days prior to public availability. Distribute for public review. Default duration of 10 days or less.

E4 - MDT/FHWA. Post PDF file on MDT website. If full Section 4(f) Evaluation applies, then FHWA distributes to appropriate Section 4(f) Evaluation reviewers. Standard 5 day duration.

C5 – Consultant. Public comment period and hold public hearing if applicable. Default duration of 22 days (Public availability period of 30 calendar days begins when the document is available for viewing by the public). If full Section 4(f) Evaluation applies, then default duration of 32 days (includes a 45 calendar day Section 4(f) Evaluation review).

Complete when Public comment period ends.

Total Duration: 77 days or less. (87 days or less if full Section 4(f) Evaluation applies.)

TASKS:

	Task Checklist Description	Transmittal Date	N/A	Initial Consultant	Initial MDT
1	Receive copies of EA for signature.				
2	Circulate EA for necessary signatures.				
3	Receive public availability distribution package to include postcards, mailing lists, press releases and advertisements.				
4	Review and approve public availability distribution package. Notify MDT Consultant Project Engineer of edits and approvals.				
5	Forward signature pages to MDT Consultant Project Engineer.				
6	Coordinate with MDT Consultant Project Engineer to establish an electronic distribution list for public comments received. Place EA on MDT website.				
7	Review and provide approval of materials necessary for public hearing. (Displays, Power Point Presentations, etc.)				
8	Attend public hearing.				
9	Forward comments received to electronic distribution recipients.				

START DEPENDENCIES:

Submittal of C1 under activity 195.

ACTIVITY 789 Review Environmental Decision Document (FONSI, etc.) (03/27/2008)

DEFINITION:

FOR ENVIRONMENTAL ASSESSMENTS ONLY, including Section 4(f) Evaluation(s) if necessary. This is an iterative process with MDT to address comments received on the EA and produce the Decision Document for MDT/ FHWA approval. This activity will conclude with either a Finding of No Significant Impact (FONSI) or a letter identifying future actions.

NOTE:

Receive MDT approval prior to making contact with any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all correspondence to MDT for review and approval.

Act. 196 C1 C3 C5 *C7* *C9* C12
Act. 789 E2 E4 *E6* *E8* *E10* /E11 E13

___ - FOR FULL SECTION 4(f) EVALUATION ONLY.

C1 – Consultant. Respond to comments using appropriate Comment and Response document template. Default duration of 20 days or less, or as determined by negotiation with MDT/FHWA.

E2 – MDT/FHWA. Review Comment and Response document. Standard 20 day duration.

C3 – Consultant. Revise Comment and Response document and prepare draft decision document. Default duration of 20 days or less.

E4 – MDT/FHWA. Review Comment and Response Document and draft decision document. Standard 20 day duration.

C5 – Consultant. Address changes to draft decision document. Submit for print approval. Default duration of 15 days or less.

E6-MDT/FHWA. FOR FULL SECTION 4(f) EVALUATION ONLY. Print approval for Full Section 4(f) Evaluation and draft decision document. Default duration of 10 days.

C7 – Consultant. FOR FULL SECTION 4(f) EVALUATION ONLY. Print full Section 4(f) Evaluations and draft decision document for FHWA Legal sufficiency review. Default duration of 10 days or less.

E8 - FHWA. FOR FULL SECTION 4(f) EVALUATION ONLY. FHWA submits for Legal sufficiency review. Includes: 5 days to transmit, 22 day review (30 calendar days), 5 days transmit back to MDT. Default duration of 32 days.

C9 – Consultant. FOR FULL SECTION 4(f) EVALUATION ONLY. Obtain Working Group intent to address Legal sufficiency review comments. Prepare Comment and Response Document using the appropriate template. Modify the draft decision document accordingly. Default duration of 15 days or less.

E10 - MDT/FHWA. FOR FULL SECTION 4(f) EVALUATION ONLY. Review Comment and Response Document and modified decision document addressing Legal sufficiency review comments. Duration included in E11.

E11 – MDT/FHWA. Provide approval to print decision document. Standard 10 day duration.

C12 – Consultant. Print appropriate number of decision documents for signature and draft distribution letters. Default duration of 10 days or less.

E13 – MDT. Review, approve, and submit for signatures. Standard 5 day duration.

The activity is complete when MDT clears the decision document for signature.

Total Duration (With 4(f)): 187 days or less.
Total Duration (Without 4(f)): 120 days or less.

TASKS:

	Task Checklist Description	Transmittal Date	N/A	Initial Consultant	Initial MDT
1	Receive Comment and Response document.				
2	Review and provide comments on Comment and Response Document.				
3	Receive Comment and Response document and Draft Decision Document.				
4	Review and provide comments on Comment and Response Document and Draft Decision Document.				
5	FOR FULL SECTION 4(f) EVALUATION ONLY. Regarding full Section 4(f) Evaluation and Decision Document, provide print approval for legal sufficiency				

	review to MDT Consultant Project Engineer.				
6	FOR FULL SECTION 4(f) EVALUATION ONLY. Receive Comment and Response document and modified decision document addressing legal sufficiency.				
7	FOR FULL SECTION 4(f) EVALUATION ONLY. Review and provide comments on Comment and Response document and modified decision document addressing legal sufficiency.				
8	Decision document ready for approval to distribute. Provide recommendation for print approval to MDT Consultant Project Engineer.				
9	Receive draft distribution letters.				
10	Review the draft distribution letters.				
11	Submit decision document for signatures.				

START DEPENDENCIES

Submittal of C1 under activity 196.

ACTIVITY 791 Review Draft EIS (03/27/2008)

DEFINITION:

FOR ENVIRONMENTAL IMPACT STATEMENTS ONLY, including draft Section 4(f) Evaluation(s) if necessary. This is an iterative process with the consultant to coordinate the DEIS for public distribution. Conduct public hearing and gather comments.

NOTE:

Receive MDT approval prior to making contact with any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all correspondence to MDT for review and approval.

197-791 ITERATIVE ACTIVITY TIMELINES

Concurrent activities/Iterative process/Finish-Finish Activities.
Total Durations are estimated and may vary on a project basis.
Durations are set based on working days (OPX2) not calendar days unless otherwise noted.

Act. 197 C1 C3 C4 .
Act. 791 E2

C1 – Consultant. Print copies of the Draft Environmental Impact Statement (DEIS) for signature. Default duration of 10 days or less.

E2 - MDT/FHWA. Review and MDT/FHWA signatures. Includes: 10 day review and signature by MDT, 5 days transmit from MDT to FHWA, 10 day review and signature by FHWA, 5 days transmit from FHWA to MDT. FHWA prepares cover letter for Federal Register. Standard 30 day duration.

C3 – Consultant. Print signed copies of DEIS and distribute to the public. Default duration of 10 days or less.

C4 – Consultant. Public comment period and hold public hearing. Default duration of 32 days (Public Availability period of 45 calendar days begins the date the notice is published in the Federal Register.)

Complete when Public comment period ends.

Total Duration: 82 days or less.

TASKS:

	Task Checklist Description	Transmittal Date	N/A	Initial Consultant	Initial MDT
1	Receive copies of DEIS for signature.				
2	Circulate DEIS for necessary signatures.				
3	Receive public availability distribution package to include postcards, mailing lists, press releases and advertisements.				
4	Review and approve public availability distribution package. Notify MDT Consultant Project Engineer of edits and approvals.				
5	Forward signature pages and signed cover letters to MDT Consultant Project Engineer.				
6	Coordinate with MDT Consultant Project Engineer to establish an electronic distribution list for public comments received. Place DEIS on MDT website.				
7	Review and provide approval of materials necessary for public hearing. (Displays, Power Point Presentations, etc.)				
8	Attend public hearing.				
9	Forward comments received to electronic distribution recipients.				

START DEPENDENCIES:

Submittal of C1 under activity 197.

ACTIVITY 792 Review Final EIS (03/27/2008)

DEFINITION:

FOR ENVIRONMENTAL IMPACT STATEMENTS ONLY, including Section 4(f) Evaluation(s) if necessary. This is an iterative process with the consultant to produce the Final Environmental Impact Statement (FEIS) for public availability.

NOTE:

Receive MDT approval prior to making contact with any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all correspondence to MDT for review and approval.

198-792 ITERATIVE ACTIVITY TIMELINES

Concurrent activities/Iterative process/Finish-Finish Activities.
Total Durations are estimated and may vary on a project basis.
Durations are set based on working days (OPX2) not calendar days unless otherwise noted.

Act. 198 C1 C3 C5 C7 C9 C11 C13 C14
Act. 792 E2 E4 E6 E8 E10 E12

C1 – Consultant. Respond to Comments using Comment and Response document for public comments. Default duration of 20 days or less or as determined by negotiation with MDT/FHWA.

E2 – MDT/FHWA. Review Comment and Response document. Standard 20 day duration.

C3 – Consultant. Revise Comment and Response document and Prepare Final Environmental Impact Statement. Default duration of 20 days or less.

E4 – MDT/FHWA. Review FEIS. Standard 20 day duration.

C5 – Consultant. Address changes. Default duration of 15 days or less.

E6 - MDT/FHWA. Print approval. Standard duration of 10 days.

C7 – Consultant. Print FEIS for FHWA Legal sufficiency. Default duration of 10 days or less.

E8 - FHWA. FHWA submits for Legal sufficiency. Includes: 5 days to transmit, 22 day review (30 calendar days), 5 days transmit back to MDT. Default duration of 32 days.

C9 – Consultant. Respond to comments from Legal sufficiency review using the Comment and Response document template. Default duration of 10 days or less.

E10 - MDT/FHWA. Review the Comment and Response Document and modified draft FEIS. Provide approval to print FEIS. Standard 10 day duration.

C11 – Consultant. Print copies of FEIS for signature and draft distribution letters. Default duration of 10 days or less.

E12 - MDT/FHWA. Review and MDT/FHWA signatures. Includes: 10 day review and signature by MDT, 5 days transmit from MDT to FHWA, 10 day review and signature by FHWA, 5 days transmit from FHWA to MDT. FHWA prepares cover letter for Federal Register requesting publication of Final EIS availability. Standard 30 day duration.

C13 – Consultant. Print signed copies of FEIS and distribute. Default duration of 10 days or less.

C14 - Consultant. Public availability. (Public Availability period of 30 calendar days begins the date the notice is published in the Federal Register.) Default duration of 22 days.

Complete when required Public Availability period ends.

Total Duration: 239 days or less.

TASKS:

	Task Checklist Description	Transmittal Date	N/A	Initial Consultant	Initial MDT
1	Receive public review Comment and Response Document.				
2	Review and provide comment on the public review Comment and Response Document.				
3	Receive draft FEIS.				
4	Review and provide comment on the draft FEIS.				
5	Receive revised FEIS ready for legal sufficiency review.				
6	Provide print approval of FEIS for legal sufficiency review to MDT Consultant Project Engineer.				
7	Review and provide comments on the legal sufficiency Comment and Response.				

	document and the modified draft FEIS.				
8	Provide recommendation for FEIS print approval to MDT Consultant Project Engineer.				
9	Receive copies of FEIS for signature.				
10	Circulate FEIS and Final Section 4(f) Evaluation if applicable for necessary signatures.				
11	Review and approve public availability distribution package. Notify MDT Consultant Project Engineer of edits and approvals.				
12	Forward signature pages to MDT Consultant Project Engineer.				
13	Coordinate with MDT Consultant Project Engineer to update the electronic distribution list for public comments received. Place FEIS on MDT website.				
14	Receive signed copies of FEIS, cover letters, mailing labels, electronic PDF file, etc..				

START DEPENDENCIES:

Submittal of C1 under activity 198.

ACTIVITY 793 Revise Record of Decision (03/27/2008)

DEFINITION:

FOR ENVIRONMENTAL IMPACT STATEMENTS ONLY, including Section 4(f) Evaluation(s) if necessary. This is an iterative process with the consultant to address comments received on the FEIS and produce the preliminary Record of Decision (ROD) for MDT/ FHWA use.

NOTE:

Receive MDT approval prior to making contact with any regulatory agencies, State, Federal, Tribal, and/or public entities. Submit the draft versions of all correspondence to MDT for review and approval.

199-793 ITERATIVE ACTIVITY TIMELINES

Concurrent activities/Iterative process/Finish-Finish Activities.
Total Durations are estimated and may vary on a project basis.
Durations are set based on working days (OPX2) not calendar days unless otherwise noted.

Act. 199 C1
Act. 793 E2

C1 – Consultant. Respond to comments using appropriate Comment and Response document template. Prepare preliminary Record of Decision. Default duration of 10 days or less.

E2 – MDT/FHWA. Review comment and response document and preliminary ROD. Attend Working Group meeting. Coordinate and produce a document suitable for MDT and FHWA signatures. Standard 15 day duration.

The activity is complete when the ROD is ready for submittal to FHWA for signature.

Total Duration: 25 days or less

TASKS:

	Task Checklist Description	Transmittal Date	N/A	Initial Consultant	Initial MDT
1	Receive Comment and Response Document and Preliminary ROD.				
2	Review and approve public availability distribution package. Notify MDT ConsultantProject Engineer of edits and approvals.				

3	Coordinate and produce a document suitable for MDT and FHWA signatures.				

START DEPENDENCIES:

Submittal of C1 under activity 199.

ACTIVITY 794 Preliminary Conceptual Review & Letter of Intent
(02/06/2014)

DEFINITION:

Evaluation of the Preliminary Conceptual Mitigation alternatives and development of Letter of Intent to develop wetland and/or stream mitigation.

TASKS:

1. Review Preliminary conceptual alternatives. **(For consultant design projects).**
2. Prepare Letter of Intent for landowner Review.
3. Legal, Environmental and R/W staff reviews of landowner comments.
4. Revisions and submittals between landowner and MDT staff are continued as necessary until both parties agree on context of Letter of Intent.
5. Legal reviews and approves Letter of Intent before sending to land owner.
6. Signed Letter of Intent.

START DEPENDENCIES:

Activity 103 and 884

ACTIVITY 796 Wetland Mitigation Decision (12/08/2010)

DEFINITION:

Environmental Services Resource Section review of Conceptual Mitigation Design Meeting minutes and decision documentation.

TASKS:

1. Approve meeting minutes
2. Discuss to proceed or not proceed with the project and distribute to appropriate entities.
3. Distribute decision documentation.

START DEPENDENCIES:

Activity 265, 723

ACTIVITY 799 Environmental Outside Agency Approval (03/27/2008)

DEFINITION:

Receipt of all applicable permits and approvals from the various Federal, state, and tribal agencies needed for the completion of the proposed wetland mitigation project.

TASKS:

1) Receipt of Section 404/10 permit from the Corps.
2) Receipt of SPA 124 from Montana Fish, Wildlife and Parks (As required)
3) Receipt of 318 permit from DEQ.
4) Receipt of ALCO/ALPO permit (As required.)
5) Receipt of FHWA re-evaluated CE or EA or Section 4(f) Evaluation.
6) Receipt of Storm Water Discharge permit.
7) Cultural mitigation compliance with MOA.
8) DNRC Approved Water rights.
9) Receipt of other required permits/approvals for project: _____
10) Incorporate permit conditions and requirements into plans and specials.
11) Incorporate permit conditions and requirements into Commitment and Resolution Document.

START DEPENDENCIES:

Completion of Activity 797.

DELIVERABLES:

Various permits from federal, state and tribal agencies

ACTIVITY 804 Access Control Goals and Objectives (Activity 104 Review) (11/04/2009)

DEFINITION:

This activity is meant to initiate the process of implementing (limited) access control on a project. The initial recommendation for including access control should be made during the Preliminary Field Review (PFR). The PFR report should include the reason(s) that access control is being considered, the extent to which access should be controlled, and any other pertinent discussion. This can then be fashioned into a Goals and Objectives (G&O) Statement.

The Access Management Engineer, upon receiving the PFR report, will request that an access control study be prepared via the Special Programs Section, R/W Bureau. The Access Management Engineer will also notify MDT's Public Affairs office that this project will include access control

TASKS:

1. The Access Management Manager, upon receiving the PFR report, should notify the R/W Special Programs Section or the District Field R/W Section that an access control study should be included with the Preliminary Engineering Studies (Activity 800).
2. The Access Management Manager prepares the G & O Statement and submits it to various Helena and District personnel for review and comment.
3. The Access Management Manager submits the G & O Statement to MDT's Public Affairs office. This information will be used in advertising and notifying the public through news releases, and will assure that attention will be given to the topic during the public involvement process.
4. The Access Management Manager provides the G & O Statement to the MDT Project Manager before the Alignment and Grade Review.

START DEPENDENCIES:

Preliminary Field Review Report (PFR) declaring that project will include access control.

DELIVERABLES:

1. Used in the Public Hearing
2. Used to finalize the alignment and grade
3. Used in the Environmental Document
4. Used in future access control issues

ACTIVITY 811 Access Control Guidelines / Plan (Activity 137 Review)

(11/04/2009)

DEFINITION:

If necessary, the Access Management Guidelines and Plan are prepared during this activity. They become necessary based on the extent of the access control being proposed. Ideally, the Goals and Objective Statement will clarify whether or not either of these documents will be completed.

TASKS:

May include:

5. Meet with landowner to discuss:
   5.1. Approach location
   5.2. Approach Spacing
6. Meet with Counties
7. Establish plan after guidelines are established

START DEPENDENCIES:

8. Access Control Goals and Objectives
9. Establish alignment and grade

DELIVERABLES:

10. Access Control Guidelines and/or plans to:
    10.1. Road Design project manager
    10.2. R/W Plans Unit

ACTIVITY 812 Negotiations for R.R. Agreement and Easements

(01/02/2015)

DEFINITION:

Complete final railroad agreements and easements.

TASKS:

1) Review plans and documents.
2) Establish time frame for completion of railroad involvement.
3) Prepare application for submittal to railroad.
4) Field review and inspection.
5) Coordination during preparation of agreement.
6) Negotiate for railroad R/W.
7) Review, check and accept final agreement.

START DEPENDENCIES:

1) Activities 819, 835, 875 (Consultant Design), and Activity 810 (in-house)

ACTIVITY 814 Negotiate for Utility Agreements (03/27/2008)

DEFINITION:

Complete final Utility Agreements.

TASKS:

1) Review plans, maps and documents.
2) Establish time frame for completion of utility involvement.
3) Make application to affected utility.
4) Field Review and inspection.
5) Review estimate and prepare agreement.
6) Request program for IC Funds from FHWA through Fiscal Programming Section.
7) Negotiate with utility and complete agreement.

START DEPENDENCIES:

Activity 190 (Consultant Design) or Activity 813 (in house) as applicable.

ACTIVITY 815 Access Control Resolution (11/04/2009)

DEFINITION:

The Access Control Resolution is submitted to the Transportation Commission for their approval during this is activity. A resolution signed by the Commission is required by state statute in order to designate a highway or portion thereof as a Controlled Access Highway and Facility. In order to act on a resolution, the Commission requires the following: background information on the highway and why access control is being proposed, a route description, and assurances that the public involvement process has allowed their constituents time to comment on the possible implementation of access control. On some projects, the Commission also requires confirmation that the local governments are in favor of access control.

TASKS:

1) Within this activity, the Access Manager prepares the Resolution and submits it to the Transportation Commission for their approval and execution.
2) Once the Commission has executed the Resolution, the Access Manager will make the necessary arrangements to have it recorded in the appropriate Counties.

START DEPENDENCIES:

1) Approved Scope of Work.
2) Access Control Guide and Plans.
3) Preliminary R/W Plans.

DELIVERABLES:

Copies of the recorded Resolution should be sent to the R/W Design Supervisor and the District Traffic Engineer.

ACTIVITY 816 Appraise Right of Way (11/12/2009)

DEFINITION:

1) A property appraisal is the development and reporting of a supported opinion of Market Value. The value opinion is used by the R/W Bureau in the determination of Just Compensation to be offered to a landowner for the partial or whole acquisition of a property for highway purposes. The appraisal process is also used to estimate the diminution in value of a remainder property in a partial acquisition.
2) Appraise the Market Value of project and non-project real property to be acquired by MDT, and the Market Value of MDT owned property for disposition as excess land.

TASKS:

1) Review the Project:
   a) Review plans and documents, including title reports
   b) Request a pre-appraisal scope of work (PASOW) or determine type(s) of appraisal report required to produce an opinion of Market Value that is not misleading.
   c) Select a qualified appraiser to complete the assignment
   d) Establish time frame for completion of project
   e) Complete Appraisal contracting process, as needed.
2) Prepare Appraisal Reports:
   a) Provide an opinion of value using accepted standards of professional appraisal practice as outlined in the MDT Appraisal Manual, UASFLA, and FHWA guidelines.
   b) Submit appraisal report for review.

START DEPENDENCIES:

Authorization to start the appraisal process and receipt of right–of-way plans.

DELIVERABLES:

1) Provide the R/W Bureau with acceptable appraisal reports in conformance with FHWA policies and guidelines and Chapter 3 (Appraisal) of the MDT R/W Manual, for determination of Just Compensation.
2) Provide the R/W Bureau with accurate and valid Market Value appraisal reports for non-project properties.
3) Appraisal reports are sent to the Appraisal Section for review

ACTIVITY 817 Appraise Right of Way-Wetlands (01/07/2013)

DEFINITION:

1. A property appraisal is the development and reporting of a supported opinion of Market Value. The value opinion is used by the R/W Bureau in the determination of Just Compensation to be offered to a landowner for the partial or whole acquisition of a property for highway purposes. The appraisal process is also used to estimate the diminution in value of a remainder property in a partial acquisition.
2. Appraise the Market Value of project and non-project real property to be acquired by MDT, and the Market Value of MDT owned property for disposition as excess land.

TASKS:

1. Review the Project
   1.1. Review plans and documents, including title reports
   1.2. Request a pre-appraisal scope of work (PASOW) or determine type(s) of appraisal report required to produce an opinion of Market Value that is not misleading.
   1.3. Select a qualified appraiser to complete the assignment
   1.4. Establish time frame for completion of project
   1.5. Complete Appraisal contracting process, as needed.
2. Prepare Appraisal Reports
   2.1. Provide an opinion of value using accepted standards of professional appraisal practice as outlined in the MDT Appraisal Manual, UASFLA, and FHWA guidelines.
   2.2. Submit appraisal report for review.

START DEPENDENCIES:

Authorization to start the appraisal process and receipt of right–of-way plans.

DELIVERABLES:

1. Provide the R/W Bureau with acceptable appraisal reports in conformance with FHWA policies and guidelines and Chapter 3 (Appraisal) of the MDT R/W Manual, for determination of Just Compensation.
2. Provide the R/W Bureau with accurate and valid Market Value appraisal reports for non-project properties.
3. Appraisal reports are sent to the Appraisal Section for review.
4. Provide legal with copy of appraisal report

ACTIVITY 820 Prepare Deeds (MDT) (03/27/2008)

DEFINITION:

Prepare legal property descriptions and deed exhibits.

TASKS:

1) Review plans and request revisions as necessary.
2) Review Memorandum of Title for property description and ownership.
3) Prepare reproducible property plat (exhibit) of each parcel to be acquired. This task will be completed by the consultant for consultant design projects.
4) Prepare written legal description of each parcel.
5) Prepare route descriptions for recording plans in county. This task will be completed by the consultant for consultant design projects.
6) Prepare miscellaneous deed descriptions as requested.
7) Have deeds typed in final form.
8) Check and proofread completed descriptions and deeds to ensure accuracy.

START DEPENDENCIES:

Completion of final right-of-way plan.

DELIVERABLES:

Completed MDT review activity 875 checklist.

ACTIVITY 822 Provide and Complete Relocation Assistance

(03/27/2008)

DEFINITION:

Prepare a Relocation Assistance Plan required by state and federal regulations, determine Displacees benefits and assist them in relocation.

TASKS:

1) Interview all Displacees.
2) Gather market data.
3) Interview other public agencies that may be involved.
4) Write Relocation Assistance Plan and make required plan assurances.
5) Review multiple listings.
6) Canvas neighborhoods adjacent to project.
7) Obtain building estimates.
8) Locate building sites.
9) Contact Realtors.
10) Review appraisals.
11) Compute replacement housing payments.
12) Compute moving expenses.
13) Compute increased mortgage interest payment.
14) Prepare Letter of Offer.
15) Inform Displacee of benefits and payments.
16) Offer relocation services to Displacee.
17) Negotiate on behalf of the Displacee to purchase replacement property.
18) Locate sources of mortgage money.
19) Review purchase agreements, escrow agreements, building contracts, etc.
20) Make inspection of residential properties in order to ensure their compliance with federal guidelines.
21) Assist Displacee in obtaining title insurance.
22) Determine which closing costs the Displacee may be reimbursed for.
23) Compute "In Lieu Of" payments.
24) Review tax forms, affidavits, etc.
25) Compute rental supplements.
26) Compute down payment supplements.
27) Review lease agreements, purchase contract, etc.
28) Issue 90-day and 30-day notices.

START DEPENDENCIES:

1) Authorization to begin appraisals.
2) Completion of relocation assistance plan.
3) Completion of negotiations and/or permanent Order of Entry.
4) Authorization to begin negotiations.

DELIVERABLES:

Used to relocate persons and businesses displaced by R/W acquisition.

ACTIVITY 824 Conduct and Complete Negotiations by MDT
(03/27/2008)

DEFINITION:

Negotiation with landowners, both private and public, for acquisition of property required for right-of-way, or other highway uses.

TASKS:

1) Review maps, documents, appraisals, title reports.
2) Assign negotiator to project.
3) Establish time frame for completion of assignment.
4) Prepare documents needed for property acquisition.
5) Contact owner (or representative) in person or by mail.
6) Apply for right-of-way over state land, Indian land or federal land.
7) Obtain grant of right-of-way from public agencies.
8) Present offer to property owner and obtain signatures.
9) Obtain mortgage releases, clear taxes and liens.
10) Complete documents and submit for closing and payment.
11) Prepare condemnation package and submit to Legal Division.

START DEPENDENCIES:

Receipt of authorization to acquire right-of-way and determinations of compensation.

DELIVERABLES:

Signed Right-of-Way agreements, deeds and other documents or recommendation for condemnation.

ACTIVITY 825 Conduct and Complete Negotiation-Wetlands
(01/07/2013)

DEFINITION:

Negotiation with landowners, both private and public, for acquisition of property required for right-of-way, or other highway uses.

OUTPUT PROVIDED:

Signed Right-of-Way agreements, deeds and other documents or recommendation for condemnation.

TASKS:

1. Review maps, documents, appraisals, title reports.
2. Assign negotiator to project.
3. Establish time frame for completion of assignment.
4. Prepare documents needed for property acquisition.
5. Contact owner (or representative) in person or by mail.
6. Apply for right-of-way over state land, Indian land or federal land.
7. Obtain grant of right-of-way from public agencies.
8. Present offer to property owner and obtain signatures.
9. Obtain mortgage releases, clear taxes and liens.
10. Obtain conservation easement from Legal if applicable to this project.
11. Consult with Legal before negotiating with land owners and other State agencies. (Conservation easement ***must*** come through legal.)
12. Complete documents and submit for closing and payment.
13. Record COS and conservation easement or deed with Clerk and Recorder.

START DEPENDENCIES:

Receipt of authorization to acquire right-of-way and determinations of compensation.

DISTRIBUTION AND USE:

Distributed within Right-of-Way Bureau. Used to certify possession of required property interests. Notify legal of completion of acquisition in fee simple especially if water rights are involved.

ACTIVITY 826 Process Parcels for Condemnation (01/07/2013)

DEFINITION:

Prepare and submit right-of-way parcels to Legal Division for condemnation.

TASKS:

1) Add condemnation parcel to condemnation tracking spread sheet.
2) Condemnation file reviewed by Acquisition Manager/Operations Manager and if applicable pre-Legal review.
3) Create duplicate legal file.
4) Submit request for R/W plan changes to R/W Plans Section.
5) Prepare final offer letter and send to landowner.
6) Obtain litigation guarantee and necessary R/W plan changes.
7) Prepare condemnation order for signature by Preconstruction Engineer.
8) Notify any lien holder of possible condemnation proceedings.
9) Create R/W Legal file in Oracle.
10) Submit file to Legal Division.

START DEPENDENCIES:

Completion of Activity 834, initiation of activity 824 and receipt of recommendation for condemnation from Field R/W Section for each condemned parcel.

ACTIVITY 830 Final Access Control Resolution (11/04/2009)

DEFINITION:

Activity 830 is meant to wrap up the Access Management process within the project.

TASKS:

Any changes to the Plan and Guidelines made during the various reviews need to communicated to the R/W Plans Section for inclusion in the R/W plans, as well as to the design lead.

The Access Control Resolution is amended at this time to include specifics regarding the allowable configuration and density of accesses within the project limits. The Plan and Guidelines may be included at this time.

START DEPENDENCIES:

Completion of acquisition or determination of access for all right-of-way parcels. Does not necessarily require the complete acquisition of all R/W parcels (including condemnations), as the access rights can be controlled under the State's Police Powers.

DELIVERABLES:

If process is not completed before project is let for construction, code out activity.

ACTIVITY 834 Appraisal Review (11/04/2009)

DEFINITION:

Assist appraisers with technical advice and the development of the appraisal plan. Review appraisal reports for accuracy and conformity with Departmental and Federal Highway Administration policies and guidelines. Request corrections and/or revisions from the appraiser, when necessary. Determine just compensation to be paid for property and write Review Appraiser's Report and Determination of Compensation.

TASKS:

1) Review appraisal assignments and appraisal plan with R/W Supervisor.
2) If required, provide a pre-appraisal scope of work (PASOW).
3) If required, contract with independent fee appraisers.
4) Provide technical assistance to appraisers during the appraisal process.
5) Review appraisal reports.
   a) Perform field inspection of sales and subject.
   b) Check for technical compliance with all requirements.
   c) Accept or reject appraisals or obtain necessary corrections.
   d) Write conclusion of appraised value and make determination of Just Compensation.
6) Review the Review Appraiser's Reports, if applicable.
7) Distribute appraisal reports with approved Review Appraiser's Reports to appropriate location (Right-of-Way Bureau or MDT Consultant Design Project Manager).

START DEPENDENCIES:

For Consultant projects:

Completion of Activity 875.

For In-house projects:

Completion of Activity 810.

ACTIVITY 846 Relocate Utilities (11/16/2009)

DEFINITION:
Administer agreements and provide for adjustment of railroad and/or utility facilities.

OUTPUT PROVIDED:
Removal of facilities that are in conflict with highway construction and/or special provision that provide for coordinated utility work. (Underscore the idea that when a project requires coordinated utilities, the activity is complete when the special provisions have been delivered to the project.).

TASKS:
1. Project familiarization.
2. Review and research right-of-way and utility agreements and other information.
3. Telephone, letter and personal contact with owners.
4. Request up to date plans and distribute to utility companies.
5. Field trips to project site with utility engineers, MDT construction and rightof-way personnel and property owners. Plan-in-Hand.
6. Arrange for and reconcile utility staking with project parameters.
7. Review and approve utility occupancy forms.
8. Authorize companies to commence relocation.
9. Pilot and inspect relocation work in the field.
10. Compose and submit Special Provision for MDT construction contract by the Ready Date.
    10.1. Construction Activities
11. Final inventory of utilities placed.
12. Reconciliation of final bill. Submit for payment.

START DEPENDENCIES:
1) R/W purchase for relocation substantially complete.
2) Utility and railroad agreements received.
3) Railroad agreements received.

DELIVERABLE:
To clear construction area of existing utility and railroad facilities.

Note: This task performed by District Utility Agents.
An Activity Completion Card should be submitted for this activity when the project is cleared for construction or necessary provisions have been made for contract.

ACTIVITY 854 Wetland R/W Authorization (03/27/2008)

DEFINITION:

Authorize for Wetland Acquisition.

TASKS:

1) Request funding approval from FHWA.
2) Authorization to commence Right-of-Way Acquisition Activity.Issue work authorization and distribute.

START DEPENDENCIES:

Activity 322, 120, 884

ACTIVITY 870 Preliminary R/W Review (12/20/2021)

DEFINITION:

Review and distribution of PE Report prepared by consultant

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
	Review PE REPORT (electronic pdf) for:				
1	Ownership Study:				
	1.1 Last Deed of Record for all Ownerships				
	1.2 Colored Ownership Map				
	1.3 Off Premise Signs				
2	R/W Cost Estimate				
3	Preliminary Areas of Acquisition				
4	Relocation Assistance Conceptual Stage Study				
5	Access Control Study, Preliminary Access Management Guidelines and Plan				
6	Irrigation Study:				
	6.1 Identification and Sufficiency of Water Source				
	6.2 Location, Size and Ownership of Irrigation and Drainage Ditches				
	6.3 Description, Ownership and Acreage of Land Irrigated				
	6.4 Estimate of Depreciation which would Accrue to Each Owner if Land was Deprived of Water				
	6.5 Alternatives to Perpetuate Irrigation Facilities				
	6.6 Feasibility of Terminating Facilities				
	6.7 Maps, Photos and Sketches of Irrigation Facilities				
7	Stockpass study to include ownerships, locations and feasibility of eliminating structures				

START DEPENDENCIES:

Receipt of PE report prepared by consultant.

DELIVERABLES:

1. Notification to consultant of acceptance of elements submitted
2. Distribution e-mail of PE Report to Environmental, Public Information Officer,
   Hydraulics, and Access Management

ACTIVITY 871 Review Existing R/W & Section Lines (12/20/2021)

DEFINITION:

Check consultant R/W files for accuracy of existing public roads, streets, highway, railroad right-of-way, property and section lines placement and labelled and compliance with MDT procedures as defined in the R/W Design Manual.

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	Determine if necessary items have been delivered:				
	1.1 Recorded full size copy of existing R/W and cadastral retracement survey(s) (including survey coordinate list and descriptions)				
	1.2 Complete full size set of C.O.S.'s and subdivision plats (folded)				
	1.3 Existing railroad and highway plans (folded) with deeds and other documentation				
	1.4 Existing public road documentation (including intersecting roads to project roadway)				
	1.5 Copies of GLO plats (folded)				
	1.6 Copies of Corner Recordations				
	1.7 Geopak GPK and existing survey input file				
	1.8 R/W strip map				
2	Check R/W strip map files for:				
	2.1 Existing railroad, highway and intersecting public roads R/W (including labels, dimensions, found R/W monuments and property pins)				
	2.2 Ownership dots and property lines (including placement and labelling of subdivision plats and C.O.S.'s)				
	2.3 Section lines and 1/16th section lines (found and unfound)				
	2.4 Property controlling corner cells (section corners, ¼ corners, etc.)				
	2.5 Existing access control				
	2.6 Drafting standards (file naming, level and cell use, reference file naming)				

START DEPENDENCIES:

Receipt of R/W CADD strip map and supporting documentation from consultant.
Activity 127

DELIVERABLES:

1. Notification to consultant of acceptance of elements submitted

2. Comments to consultant for necessary revisions

ACTIVITY 872 R/W Plan Review (02/06/2014)

DEFINITION:

Review of R/W Plans for Plan-in-Hand

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	Review R/W Plans for:				
	1.1 Proposed R/W Design				
	1.2 Existing railroad, highway and public roads R/W				
	1.3 Property lines and ownership dots				
	1.4 Parcel numbers, names and addresses				
	1.5 Section Lines				
	1.3 Section Corner Ties				
	1.4 New and existing Access Control symbology and calls				
	1.5 Quarter and U.S. Gov't Lot calls				

START DEPENDENCIES:

Receipt of R/W Plans for Plan-in-Hand. Activity 138 and Activity 134 Prepare plans for PIH.

DELIVERABLES:

Notification of acceptance of plans for PIH to consultant

ACTIVITY 873 Preliminary Utility Conflict Report Review

(03/27/2008)

DEFINITION:

Review Preliminary Utility Conflict Report/S.U.E. plans.

TASKS:

Prepare or secure:

1) Attend Utility Informational Meeting
2) Attend each individual Utility Coordination meeting
3) Review Preliminary Utility Conflict Report for completeness.
   a) Review options on what can be done to avoid potential conflict with the Utilities facility. How much fill/cut can be done over their facility, will placing ditch blocks work, place pipes to avoid conflict, etc.

START DEPENDENCIES:

Activity 113

DELIVERABLES:

Notification to Consultant Design of acceptance of report submitted

ACTIVITY 874 R/W Plan Check (12/20/2021)

DEFINITION:

Check consultant R/W plans for accuracy and compliance to MDT procedures as defined in the R/W Design Manual.

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	Determine if necessary items have been delivered:				
	1.1 R/W Plans (CADD Files)				
	1.2 Construction plans and x-sections with final construction limits. (CADD files)				
	1.3 Parcelized Title Commitments including Last Instruments of Conveyance and copies of Schedule B items attached OR last deeds of record (1 electronic pdf copy)				
	1.4 Construction Centerline Alignment Data				
	1.5 Route Description				
	1.6 R/W cost estimate (updated/revised)				
	1.7 R/W CADD files (including R/W baseline and R/W break, txt files and section tie files)				
2	Check R/W Plans For:				
	2.1 Drafting Standards (file structure naming, level & cell use, reference file naming)				
	2.2 R/W Design				
	2.3 Centerline Data				
	2.4 New Access Control				
	2.5 Owner names and addresses				
	2.6 All areas				

START DEPENDENCIES:

Receipt of final R/W plans and Supporting Information. Activity 142

DELIVERABLES:

1. Notification to consultant and acceptance of elements submitted
2. Check prints to consultant for revisions

ACTIVITY 875 R/W Authorization (04/23/2012)

DEFINITION:

Review revisions to R/W plans for compliance with changes requested during the 874 activity.

TASKS:

	Task Checklist Description	Yes	No	N/A	Initial
1	Review R/W Plans for:				
	1.1 Compliance with requested changes				
2	Authorize R/W Plans.				
3	Receive Exhibit CADD files including hard copies				

START DEPENDENCIES:

Receipt of final R/W plans for authorization. Activity 144 and Activity 815.

DELIVERABLES:

Distribution of Authorization memo and R/W plans.

ACTIVITY 876 Request/Review R/W Plans (Blue Sheets) (03/27/2008)

DEFINITION:

This is an iterative process between the consultant and MDT to revise R/W plans as required by design modifications and R/W negotiations.

TASKS:

1) Receive documentation from district supporting R/W plan revisions.
   a) Verify possible utility conflicts.
2) Notify the consultant to revise R/W plans/exhibits and prepare Blue Sheets.
3) Review R/W plan revisions for omissions or corrections.

START DEPENDENCIES:

Completion of Activity 875

ACTIVITY 877 Review Design Utility Conflict Review (03/27/2008)

DEFINITION:

Review of Design Utility Conflict Report. .

TASKS:

Prepare or secure:

Review Design Utility Conflict Report.

START DEPENDENCIES:

Activity 115

ACTIVITY 882 Utility Plan Review (12/20/2021)

DEFINITION:

Review Utility Plans for accuracy and usability for the negotiation of utility agreements.

TASKS:

1) Review the utility plans for utilities affected by construction limits, updated construction plans, Right-of-Way plans, hydraulic information and the projects environmental document.
2) Review Consultant's checklist for activity 166:

COMPLIANCE REVIEW CHECKLIST
FOR UTILITY PLANS

PROJECT DESCRIPTION: _____
PROJECT NUMBER: _____
UNIFORM PROJECT NUMBER: _____
DATE: _____
REVIEWER: _____

47-2.1 Title Sheet:

	Task Checklist Description	Yes	No	N/A	Comment
1	PCMS Naming Convention				
2	Utility Plan Sheet Referenced, Levels (2.1.7)				
3	County Map (2.1.12)				
4	Design Data (2.1.14)				
5	FHWA/MDT Approval and Authorization (2.1.16)				
6	Project Information (2.1.18-19)				
7	Symbology Overrides (2.1.21)				

47-2.2, 2.3 Table of Contents, Notes, Linear and Level Data Sheet:

	Task Checklist Description	Yes	No	N/A	Comment
1	PCMS Naming Convention				
2	Utility Plan Sheet Referenced, Levels				
3	Project Information				
4	Table of Contents – Plan Sheet Sequence (2.2.3)				
5	Notes Clearly Displayed				
6	Linear and Level Data Clearly Displayed (2.3)				
7	Other Items Clearly Displayed				
8	Symbology Overrides (2.2.4, 2.3.5)				

47-2.4 Control Diagram and Abstract Table:

	Task Checklist Description	Yes	No	N/A	Comment

1	PCMS Naming Convention				
2	Utility Plan Sheet Referenced, Levels (2.4.6)				
3	Control and Abstract Referenced, Clearly Displayed (2.4.7)				
4	Topography Displayed (2.4.8)				
5	R/W Clearly Displayed (2.4.8)				
6	Utility Items Clearly Displayed (2.4.8)				
7	Project Information (2.4.9)				
8	Reference File Levels and Symbology Overrides(2.4.10)				
9	Update Sequence (2.4.11)				

47-2.5 Ownership Sheet:

	Task Checklist Description	Yes	No	N/A	Comment
1	PCMS Naming Convention				
2	Utility Plan Sheet Referenced, Levels (2.5.6)				
3	Reference File Levels and Symbology Overrides (2.5.6-7)				
4	Ownership Cell Displayed (2.5.7)				
5	Authorization and Map Revised Date Shown (2.5.8)				
6	Project Information (2.5.9)				
7	Owners Referenced and Page Numbers Correct (2.5.10)				
8	Update Sequence (2.5.11)				

47-2.6 Typical Sections:

	Task Checklist Description	Yes	No	N/A	Comment
1	PCMS Naming Convention				
2	Utility Plan Sheet Referenced, Levels (2.6.5)				
3	Typical Sections Clearly Displayed (2.6.7-8)				
4	Reference File Levels and Symbology Overrides (2.6.8)				
5	Project Information (2.6.10)				

47-2.7 Summaries:

	Task Checklist Description	Yes	No	N/A	Comment
1	PCMS Naming Convention				
2	Utility Plan Sheet Referenced, Levels (2.7.5)				
3	Summary Tables Clearly Displayed (2.7.7)				
4	Reference File Levels and Symbology Overrides (2.7.7)				
5	Project Information (2.7.8)				

47-2.8.1 Details:

	Task Checklist Description	Yes	No	N/A	Comment
1	PCMS Naming Convention				
2	Utility Plan Sheet Referenced, Levels (2.8.1.5)				

3	Reference File Levels and Symbology Overrides (2.8.1.7)				
4	Details Clearly Displayed (2.8.1.7)				
5	Project Information (2.8.1.8)				

47-2.8.2 Details with Maps:

	Task Checklist Description	Yes	No	N/A	Comment
1	PCMS Naming Convention				
2	Utility Plan Sheet Referenced, Levels				
3	Project Information				
4	Details Clearly Displayed				
5	Reference File Levels & Symbology Overrides (2.8.2.9-13)				
6	Update Sequence (2.8.2.14)				

47-2.9 Plan and Profile Sheets:

	Task Checklist Description	Yes	No	N/A	Comment
1	PCMS Naming Convention				
2	Utility Plan Sheet Referenced, Levels (2.9.5)				
3	Survey Map Attached (2.9.10)				
4	Design Strip Map Attached (2.9.10)				
5	Profile Clearly Displayed (2.9.11)				
6	R/W Map Attached (2.9.14)				
7	R/W Plan Sheet Attached (2.9.15)				
8	SUE/Utilities Map Attached (2.9.16)				
9	Reference File Levels and Symbology Overrides (2.9.17)				
10	Update Sequence (2.9.18)				
11	Project Information (2.9.19)				
12	Utility Conflicts Identified (2.10.1-4)				

Miscellaneous Sheets:

	Task Checklist Description	Yes	No	N/A	Comment
1	PCMS Naming Convention				
2	Utility Plan Sheet Referenced, Levels				
3	Project Information				
4	Information Clearly Displayed				
5	Reference File Levels and Symbology Overrides				

START DEPENDENCIES:

Activity 166

DELIVERABLES:

Completed MDT review activity 166 checklist.

ACTIVITY 884 R/W Cost Estimate and Ownership Study (02/06/2014)

DEFINITION:

MDT Right of Way initiates coordination with landowner on all issues concerning the preparation of preliminary cost estimates and appraisals.

TASKS:

Prepare or secure:

1) Ownership Report to Include all ownerships adjacent to proposed wetland mitigation site around the perimeter.
2) Provide preliminary wetland cost estimate for acquisition.
3) Receive title commitment from Consultant.

START DEPENDENCIES:

Completion of activity 103 Preliminary Conceptual Mitigation Plans.

DELIVERABLES:

Distribute items 1,2, 3 to:

1) Consultant
2) R/W Plans
3) Environmental Resource Section

ACTIVITY 925 Define Project (8/10/17)

This Activity is a common activity in MDT project flowcharts and is assigned to the Project Manager.
Discuss project with sponsor, district representatives, planning and environmental engineer to evaluate information available during nomination, project expectations, proposed project budget and develop initial purpose and need for the project.
"A project is a temporary endeavor undertaken to create a unique product, service or result. The temporary nature of projects indicates that a project has a definite beginning and end. The end is reached when the project's objectives have been achieved or when the project is terminated because its objectives will not or cannot be met." (A guide to the Project Management Body of Knowledge (PMBOK Guide) - Fifth Edition, 2013)
MDT has many different types of projects that may be broken into separate phases for funding or management purposes. When discussing a project, it is easy to focus on only one phase and miss components of the whole project. The classic example is to communicate the estimated construction cost of a project and leave out the estimated cost of other phases of a project such as OT, PE, RW, IC, and CE. The purpose of this activity is to focus on the entire project to determine the appropriate purpose, need and objectives.

TASKS:

1. Obtain the following information:
   - Cost estimate
   - Project level of risk analysis from nomination
2. Meet with project sponsor, district representatives.
   - Review available project information
   - Review project funding authorization
   - Identify Stakeholders
   - Determine target completion date
   - Review cost estimate (all phases) from project nomination
   - Review project expectations
   - Discuss project risk
   - Verify initial purpose and need of the project
   - Determine contract delivery method (Design-Bid-Build, Design-Build, CMGC, etc.)
3. Create PFR checklist/draft PFR
4. Identify project preconstruction team

START DEPENDENCIES:

Initial project scoping, approved PE or OT program.

OUTPUT PROVIDED:

PFR work sheet to be included in the PFR meeting invitation.

ACTIVITY 930 Risk Analysis (01/03/18)

This Activity is a common activity in MDT project flowcharts with OT phases and is assigned to the Project Manager.
Every project has risks, regardless of project size or complexity. It is the goal of MDT to actively manage risk on all design projects. Risk management is a scalable activity and should be commensurate with the size and complexity of the project under consideration. The purpose of this activity is to perform a detailed risk analysis for a project in the OT phase to help in determining project feasibility. This risk analysis will be formally documented and carried through project development. Project Design Team Members will be expected to provide input in identifying and analyzing risk elements, particularly in their field of expertise. All Team Members are expected to intentionally consider risks identified during the planning stages and nomination as well as those identified throughout the design process.

Reference MDT's risk management plan (RMP).
http://www.mdt.mt.gov/business/contracting/cost.shtml

TASKS:
1. Review risk evaluation performed by the Program Manager during project nomination.
2. Determine project level of risk using the table in the Risk Management Plan (RMP) workbook.
3. Conduct risk analysis workshop if appropriate for the project.
4. Determine appropriate contingency factors for cost and schedule based on overall project risk, project complexity, and design stage.
5. Adjust the project cost estimates and schedule to reflect the awareness of and potential for risk events.
6. Document thoroughly using RMP.
7. Communicate results of risk analysis to all levels.

START DEPENDENCIES:
Initial project scoping, preliminary design, environmental analysis, public involvement and other preliminary activities necessary to develop project feasibility.

OUTPUT PROVIDED:
Documentation of Risk Analysis

ACTIVITY 935 Project Feasibility Study Report (11/29/17)

This Activity is a common activity in MDT project flowcharts with OT phases and is assigned to the Project Manager.
The purpose of the MDT Other (OT) phase is to provide information to accurately assess the need, feasibility, and fundability for conceptual infrastructure improvements. The Project Feasibility Study Report (PFS) provides the documentation for project feasibility at the completion of the OT phase of project development. This document includes the decisions for scope, schedule and budget of future project segments that ensure fiscal constraint of MDT's program.
List of items to be included in report:
Purpose and need
Feasibility
Project summary
Preferred alternate
Proposed scope of work.
Schedule for project development
Cost estimate for whole project (budget constraints), as well as individual segments
Proposed Project splits if appropriate.
Include a summary of the risk management plan for the project. Reference MDT's risk management plan (RMP). http://www.mdt.mt.gov/business/contracting/cost.shtml

TASKS:
1. Determine feasibility of project or project segments.
2. Develop scope of work for project or project segments.
3. Develop cost estimate for all remaining phases of project or project segments.
4. Develop schedule for project or project segments.
5. Determine contract delivery method (Design-Bid-Build, Design-Build, CMGC, etc.).
6. Create PFS.

START DEPENDENCIES:
Initial project scoping, risk analysis, preliminary design, environmental analysis, public involvement and other preliminary activities necessary to develop project feasibility.

OUTPUT PROVIDED:
PFS document.

ACTIVITY 954 Evaluate Project Scope, Schedule and Budget (8/10/17)

This Activity is a common activity in MDT project flowcharts and is assigned to the Project Manager. Evaluate and develop a preliminary project scope, schedule and budget. This activity provides guidance and the process for a project modification to schedule, scope and/or budget.
Evaluate Scope, Schedule and Budget for the project. Include contingency for schedule and budget. Schedule should include clear contingency for the Project Manager to manage. Manage contingency by recognizing, and identifying within Schedule and Budget. Otherwise contingency is invisible and out of control. Without an identified contingency, the design team may infuse more contingency than is necessary. Recognize cost estimates for all phases of work in the budget.
Establish baseline for project schedule and budget. (note use same terminology for cost as in EPS)

OUTPUT PROVIDED:

TASKS:
1. Address any PFR comments. Finalize PFR report.
2. Refine Risk analysis.
3. Develop project work schedule and establish project Ready Date.
4. Develop cost estimate for OT or PE phase. Based on manhours in EPS schedule, consultant fees, IDC, flat rate, travel, per diem, lodging, identified risk etc. add contingency.
5. Analyze planning values of OT or PE and request modifications if appropriate. Work with Planning to determine budget. If using local funds, coordinate with planning to include contingency and get approval from local TIP.
6. Establish baseline for project schedule and budget. (note use same terminology for cost as in EPS)

START DEPENDENCIES:
Initial project scoping. PFR, activity override documents, current project schedule.

DISTRIBUTION AND USE:
EPS Management
OT, or PE project modification request sent to Fiscal Programming Unit and project Sponsor.

DELIVERABLES:
1. Distribute Final PFR Report
2. Schedule
3. Total Project estimate
4. Phase modification if necessary.

ACTIVITY 964 PS&E REVIEW (12/20/2021)

This activity is the Plans, Specifications and Estimates review. The design team is responsible to contribute to the activity. The Project Manager is responsible to manage the activity in EPS.

This milestone is the final activity for the design team to collectively verify all preconstruction activities are complete, all bid package deliverables are provided for review, the review package is congruent and ready for advertising and construction. All project deliverables, permits, certifications and agreements should be complete. Only minor edits to address ambiguous or conflicting contract materials should be necessary and completed.

The expectation is that the complete PS&E package has been thoroughly reviewed and deemed acceptable by the design team for advertising before submitting to the Engineering Construction Contracting Bureau (ECCB).

TASKS:

1. Assemble the PS&E review materials
   a. Functional Managers (FM) – Coordinate with the PM for completion and submittal of all deliverables and completion of all outstanding activities. FM EPS activities should be complete. Deliverables should be saved to PCMS in the proper format and forwarded to the PM.
   b. Project Managers (PM) – Verify all preceding EPS activities are complete. Ensure all ECCB deliverables are compiled for the PS&E review and all necessary permits, certifications and agreements are in place (Use ECCB form 745 as a checklist). Forward form 745 to ECCB.ECCB will assemble the review package and forward to the PM.
2. Review the PS&E materials
   a. Project Managers – Distribute the assembled PS&E package to the Design Team with a review and comment deadline. Schedule a PS&E review meeting as needed. (A meeting is recommended for major rehab, reconstruction and high-risk projects).
   b. Design Team – Review all PS&E package materials for completeness and ambiguous or conflicting contract materials. Participate in a review meeting if one is scheduled. Provide comments to the Project Manager on or before the response deadline.
   c. Project Manager – Distribute comments to the appropriate Functional Manager for actions and response.
3. Make final changes
   a. FMs - Address all review comments and complete any final changes. Replace any previous file versions and save final and complete deliverables to PCMS in the proper file formats. Provide comment responses and PCMS links of final and complete deliverables to the Project Manager.
   b. PMs – Prepare PS&E report using ECCB form 745. Document PS&E review comments and responses. Update links to final submittals as necessary.

START DEPENDENCIES:

Completion and submittal of all project deliverables (e.g. permits, agreements, special provisions, right-of-way, etc.).

OUTPUT PROVIDED:

All review comments are documented and addressed, final PS&E changes have been made and final submittals approved by the PM.

ACTIVITY 965 TRANSMIT TO ENGINEERING CONSTRUCTION CONTRACTING BUREAU (ECCB):

This activity is assigned to the Project Manager and is the final submittal of form 745 to Engineering Construction Contracting Bureau (ECCB). The form is signed by the Project Manager and forwarded to ECCB signifying the contract has been reviewed, final changes are complete, and the project is ready for advertisement. This activity is the official handoff of all final preconstruction deliverables from design to ECCB. Completion of this activity should be tied to the Ready Date established after SOW approval.

TASKS:

1. Complete final check of PS&E comments and changes.
2. Complete form 745 with comments, responses and links to all final and complete ECCB deliverables. Certify that all comments and final action items are complete, and all PS&E materials are ready to submit by signing ECCB form 745.
3. Submit complete and signed form 745 to ECCB.

START DEPENDENCIES:

Completed EPS activity 964.

OUTPUT PROVIDED:

Final PS&E report verifying completion of all project activities and providing all contract materials necessary for advertisement, bidding and construction.

DELIVERABLES:

PM signed report using ECCB form 745.