DESIGN SCOPING REPORT

[PROJECT NUMBER]

for

[Federal Land Unit]

**[County]**

**[State]**

**[U.S. Department]**

**[Agency]**

**Federal Highway Administration**

**Eastern Federal Lands Highway Division**

**Ashburn, Virginia**

**[Month Year]**

*Sections of this template may not be applicable on all projects. For most projects, some omission or reduction of content is expected. For projects of limited scope, create an abbreviated Design Scoping Report. Click* [*HERE*](http://169.135.226.20/files/qbs/Reference/PMB/DSRShortVersionSample.doc) *for a recent example.*

*Replace the EFL-TM-PMB-01 template name in the footer with the Project Number.*

*Replace all placeholders* [in brackets] *with available selection or specific information;*

*enter all information in bold text.*

*Delete all highlighted notes in this template before completing report*

*Check resulting pagination; keep lines within the same subsection together*

*Save all Submitted Reports (official records) in pdf Format.*

**DESIGN SCOPING REPORT**

**I. PROJECT DESCRIPTION**

**A. Purpose and Need for the Project**

1. General Project Description and Nature of Work (see attached Location and Project Map):

* Summary:

**[summarize the transportation needs and deficiencies identified during the planning and programming phase, if applicable]**

* Objective:

**[present the partner’s stated goal for this project and cite the source]**

* Scope of Work

**[summarize the intended Scope of Work;**

**identify major features included in work with GPS coordinates]**

*Obtain resource grade GPS readings for location of structures/major features; a lat/long or SPC Grid reading should suffice. Provide six decimal place precision. Coordinate with Project Support on loaning GPS receivers; coordinate with Project Support for the correction and adjustment of data for accuracy.*

* Alternatives

**[determine, if necessary, the need to identify and evaluate alternatives with engineering analyses; otherwise state that identification and evaluation of alternatives are not needed.]**

2. Major Issues and Concerns:

**[provide narrative describing issues and concerns associated with, or potentially affected by, the Scope of Work that must be addressed in this project]**

3. Relevant Project History

**[provide narrative: including when project was programmed, recent projects, emergency event requiring project]**

Date of the Scoping Field Review: **[provide date of Scoping Field Review]**

Scoping Field Review Attendees: **[list attendees of Scoping Field Review]**

**B. Project Identification**

Type: **[PM/Light 3R/Heavy 3R/4R/NEW or specify other]**

Award Fiscal Year:  **[Fiscal Year]**

Partner Agency:  **[Partner Agency]**

Maintaining Agency:  **[Maintaining Agency]**

Unit Name:  **[enter name of park, forest, refuge, etc.]**

County:  **[County]**

State:  **[State]**

Region:  **[Region]**

*COPY AND INCLUDE THE FOLLOWING FOR EACH SUBJECT ROAD:*

Road Name and Route ID Number: **[Road Name, Route ID Number]**

GPS Coordinates start: **[enter lat./long]**

GPS Coordinates end: **[enter lat./long]**

*Obtain resource grade GPS readings for limits of work and location of structures/major features. A lat/long or SPC Grid reading should suffice. Provide six decimal place precision. Coordinate with Project Support on loaning GPS receivers. Coordinate with Project Support for the correction and adjustment of data for accuracy.*

Length: **[xx.x miles]**

Functional Classification: **[enter official functional classification]**

System Designation**: [select associated system: FHWA, NPS, FS, etc.]**

Road is  **ON**  **NOT ON** the NHS**.**

Design Speed: **## mph**

Source: **[identify source or state how design speed was determined]**

Special Use: **[instruction: identify any special use or restrictions (such as if this is a parking area or a trail); identify any public transit]**

Terrain:  **Flat**  **Rolling**  **Mountainous**

Number of Lanes: [**##],**  **Divided**  **Undivided**

Shoulders:  **Full**  **Partial**  **None**

Shoulder Type:  **Paved**  **Unpaved**  **Turf**  **N/A**

Major Intersecting Roads: **[List]**

**II. PROJECT FUNDING**

**A. Basis of Funding:**

**[provide narrative]**

Check all that apply:

Partner Estimate

Available Funds

EFLHD Preliminary Design Estimate

Programmed Estimate

Engineering Study Report

**B. Breakdown/Comparison of Funding** (see attached Scoping Review Engineering Estimate)

|  |  |  |
| --- | --- | --- |
| **Funds** | **Current Programmed**  **Funding** | **Estimated Funding**  **(Scoping)** |
| Preliminary Engineering (PE) | **$** | **$** |
| Construction Engineering (CE) | **$** | **$** |
| Construction Estimate (EE) | **$** | **$** |
| Contract Incentives | **$** | **$** |
| Utilities/Right of Way | **$** | **$** |
| Environment | **$** | **$** |
| Contingency | **$** | **$** |
| **Sum**  **Total Estimate** | **$** | **$** |

**III. AVAILABLE DATA**

**A. As-Builts/Reports**

1. As-Builts exist?  **YES  NO**

Project. Number(s): **[project number]**

Date Requested: **[date]**

Source: **[source]**

2. Final Construction Report?  **YES  NO**

Project Number(s): **[project number]**

Date Requested: **[date]**

Source: **[source]**

3. Bridge Inspection Report?  **YES  NO**

Report Number(s): **[report number]**

Date of Last Inspection: **[date]**

4. Right-of-Way Plans?  **YES  NO**

Date: **[date]**

Source: **[source]**

5. Engineering Study Report?  **YES  NO**

Report Number: **[report number]**

Date: **[date]**

Source: **[source]**

6. LiDar Data?  **YES  NO**

Date: **[date]**

Source: **[source]**

7. Aerial Mapping?  **YES  NO**

Date: **[date]**

Source: **[source]**

8. Utility Mapping?  **YES  NO**

Date: **[date]**

Source: **[source]**

9. Other Associated Reports/Studies/Plans?

**YES  NO**

Report Title/Description:

Date:

Source:

*Item III.A.9: Identify other completed reports that support the project need or scope, such as a Corridor Study, EIS, EA, General Management Plans, PMS Report, BMS Report, Soils Report, Hydraulics Report, Project Development Report, Transportation Needs Study, Road Safety Audits (RSAs), Safety Engineering Assessments, Utility Plans, etc. Provide information as shown below for all pertinent reports*

**B. Traffic Data**

1. Roadways and Incidental Roads

*COPY AND INCLUDE THE FOLLOWING FOR EACH SUBJECT ROAD:*

Posted Speed Limit:

Operating Speed: **## mph:**  **Observed**  **Anticipated**  **Reported**

Recent ADT: **## ([month/year])**

AADT: **## ([year/source])**

Seasonally Adjusted AADT (SADT): **## ([year/source])**

Design ADT: **## ([future year])**

DHV: **### vph**

% Buses: **##**

%Trucks: **##**

Source(s): **[identify source(s) for the information listed above]**

*Traffic data is used to evaluate safety in addition to other items such as geometric requirements, pavement section, etc. Check with Traffic Engineering on availability of Traffic Data and for determination/calculation of values.*

1. Are there existing or proposed/relocated Traffic Count Stations within the limits of the project?  **YES  NO**

**[If yes, describe work associated to install or maintain the count station(s) in Section I.A, e.g., remove/replace inductive loops, and include site photographs]**

*For NPS projects, Traffic Engineering will provide Scope of Work information in Section I.A pertaining to traffic count stations in Park units currently monitored or proposed by the NPS Transportation Program Office (FOTSC) or the NPS Visitation Use Statistics Office (PUSO). Traffic Engineering will coordinate the incorporation of that particular scope of work with Highway Design, i.e., installation, replacement, relocation, etc. The objective of such work will be presented by Traffic Engineering (on behalf of the NPS Office) during pre-scoping, as previously coordinated with the Park POC, with specific instructions for field verification. If there is no traffic engineer available, contact FOTSC POC A.J. Nedzesky at 303-969-2177 or PUSO POC Pamela Ziesler at 970-225-3564.*

1. Crash Data available?  **YES  NO**

Analysis Period: Use latest  **3 years**  **5 years**  **10 years** of available data

Date Requested: **[date]**

Source: **[source]**

Comparative Rate Available?  **YES  NO**

Source: **[source]**

*This information is also used to evaluate safety, particularly specific accident problem areas for evaluation during design for improving conditions. Check with Transportation Operations Section on the analysis period and which ADT to use.*

**C. Type of Survey:**   **Roadway Stationing**  **Ground Survey**  **Aerial Mapping**

**SUE**  **Cadastral Survey**

Approx. Completion Date: **[date]**

**D. Photographs taken?**  **YES** (see attached)  **NO**

Source(s): **[source]**

**E. Is Road Inventory Program data (video, ect.) available?**  **YES  NO**

Source(s): **[source]**

**F. Quad Maps:**

Source(s): **[source]**

**IV. PROJECT CONSIDERATIONS**

**A. Roadway Alignment/Typical Sections**

1. Any realignment or grade changes?

**YES  NO**?

**[Support your answer and cite your sources]**

*Check with Transportation Operations Section on the assessment of realignment.*

2. Typical Sections (see attached)

*COPY AND INCLUDE THE FOLLOWING FOR EACH SUBJECT ROAD:*

Road Name and Route ID Number:

**[Provide a narrative describing the key features of the cross sections and cite your sources]**

*Existing roadways with inadequate lane and shoulder widths, and steep cut and fill slopes may be listed here with a proposed section improvement width to improve safety. Generally speaking, an existing roadway element becomes a safety problem when ADT increases or there are changes in predominant vehicle use (for example more trucks relative to cars) as compared to the original design intent.*

Is lane widening required?

**YES  NO**

**[Support your answer in detail and cite your sources]**

*For more information refer to Green Book Chapter 4. For off tracking on horizontal curves refer to Green Book 3.3.9 and 3.3.10, as well as check with Transportation Operations Section, if necessary.*

**B. Special Purpose Use/Areas**

1. Attractions/Other Developments of Concerns:

Are there any roadside developments such as point of attractions, visitor centers, motorist facilities, lodging, private property access, or other notable development that might affect design decisions?

**YES  NO**

**[Support your answer in detail and cite your sources]**

1. Off-Street and Pull-Off Parking Areas

Are existing parking layouts and configurations in need of improvement?

**YES  NO**

**[Support your answer in detail and cite your sources. Check traffic circulation and adequacy of supply. Check on need for construction or reconstruction. Check existing pavement condition – does the pavement need crack sealing or patching? Check for special considerations]**

1. Visitor Amenities

Will any picnic areas, entrance gates, concession areas, rest areas, bus shelters, etc. be required?

**YES  NO**

**[Support your answer in detail and cite your sources. Check purpose, and need for any special considerations. Check existing pavement condition - does it need crack sealing or patching?]**

1. Accommodation for the Disabled

Are additional improvements needed to meet US Access Board standards (street crossings, wheelchair accessible ramps, truncated domes, pedestrian signals, trail access, etc.)?

**YES  NO**

**[Support your answer in detail (e.g., locations for proposed ramps, number of accessible parking spaces) and cite your sources]**

**C. Safety**

1. Traffic Compliance

Are there reports of traffic not obeying signs and other traffic regulations such as speeding, etc.?

**YES  NO**

**[Support your answer in detail and cite your sources]**

1. Seasonal Traffic

Is the project in a high recurring or seasonal traffic area?

**YES  NO**

**[Support your answer in detail and cite your sources]**

1. Pedestrian/Bicycle Accommodation

Are there pedestrian/bicycle activities?

**YES  NO**

**[Support your answer in detail and cite your sources]**

Are there any concerns with the interaction between vehicles and pedestrian/bicyclists?

**YES  NO**

**[Support your answer in detail and cite your sources]**

1. Roadside Safety

Are there any visual indications that clear zone guidelines may not be met within the project limits, for adjacent and opposing traffic? (Note recommended clear zone width and source; provide pictures and any measurements that support the need for further review.)

**YES  NO  Will be determined during the design**

**[Identify available and recommended widths; support your answer in detail and cite your sources]***For clear zones refer to AASHTO Roadside Design Guide and AASHTO Guidelines for Geometric Design for very low-volume local roads.*

Are all the roadside/median barriers and sign supports that are located within the clear zone crashworthy?

**YES  NO  Will be determined during the design**

**[Support your answer in detail and cite your sources]**

*Check with Transportation Operations Section on the assessment of device crashworthiness.*

1. Sight Distances

Are there locations that appear to not have adequate stopping sight distance along the roadway?

**YES  NO  Will be determined during the design**

**[Support your answer in detail and cite your sources]**

*For sight distances refer to Green Book Chapter 3 and Geometric Design for very low volume roads (ADT<400) Chapter 4 (pg 21 to 48).*

Are there safe opportunities for vehicle passing; do passing sight distances appear adequate?

**YES  NO  Will be determined during the design**

**[Support your answer in detail and cite your sources.** **This would be supported by evaluating the existing design and/or by actual speed measurement]**

For sight distances refer to Green Book Chapter 3 and Geometric Design for very low volume roads (ADT<400) Chapter 4 (pg 21 to 48).

Do sight distances at intersections (stopping, decision, approaching and departing) appear adequate?

**YES  NO  Will be determined during the design**

**[Support your answer in detail and cite your sources]**

*For sight distances refer to Green Book Chapter 3 and Geometric Design for very low volume roads (ADT<400) Chapter 4 (pg 21 to 48).*

1. Traffic Control Devices/Barriers

Are existing traffic control devices adequate, properly located, and visible? Do they appear to be functionally meeting current and anticipated traffic conditions?

**YES  NO  Will be determined during the design**

**[Support your answer in detail and cite your sources]**

*For traffic control devices and delineation refer to MUTCD section 2C, 5C and 5E. For sign height and location refer to MUTCD Chapter 2. Also refer to the FLH Barrier Guide for Low Speed and Low Volume Roads*

Are any guardrail heights less than 27 inches?

**YES  NO  Will be determined during the design**

**[Support your answer in detail and cite your sources]**

If the scope requires the profile of the roadway(s) to be raised, will the height of roadside and median barriers need to be corrected?

**YES  NO  Will be determined during the design**

**[Support your answer in detail and cite your sources]**

*Check with Transportation Operations Section on the assessment of affected barriers.*

*If so consider replacing it. If it is less than 24 inches then replace to meet minimum standards. Check with Safety Engineer for final determination.*

1. Pavement Edge

Are there any existing edge drop-offs greater than 2-inches in height? What solution is recommended to mitigate any identified drop-offs?

**YES  NO  Will be determined during the design**

**[Support your answer in detail and cite your sources]**

*Refer to Safety Edge guidance document located in QBS and/or consult with Safety and/or Pavement Engineer.*

1. Railroad Crossings

Are there any railroad crossings along the route?

**YES  NO**

**[If yes, describe the crossing and any proposed improvements]**

**D. Historical, Natural, Architectural, or Aesthetic Controlling Features:**

1. Historical Features

Any existing historic structures and features that must be considered in this project? (attach photos)

**YES  NO**

**[Describe your answer in detail and cite your sources]**

2. Natural Features

Any existing unique natural features (e.g., vistas, viewshed, vegetation) outside the limits of pavement, that define the context of the roadway environment that should be preserved or avoided? (attach photos)

**YES  NO**

**[Describe your answer in detail and cite your sources]**

3. Architectural/Aesthetic

Any special architectural, decorative or aesthetic aspects to be incorporated in the design (e.g. stone masonry guardwall, stone curb)?

**YES  NO**

**[Describe your answer in detail and cite your sources]**

**E. Permanent Traffic Management**

Describe any special permanent signing considerations, special signs, sign supports, traffic signal requirements, or changes in traffic patterns

**[Describe your answer in detail and cite your sources]**

*Check with Transportation Operations Section for consideration of roundabouts.*

**F. Temporary Traffic Management**

1. Maintenance and Protection of Traffic

Can the roadway(s) be closed to traffic?

**YES  NO**

**[Support your answer in detail and cite your sources; include any restrictions, such as seasons when road(s) can be closed]**

Are lane closures required to perform the work?

**YES  NO**

**[Support your answer in detail and cite your sources]**

*If traffic is to be maintained, then determine from the cross section (as measured in the field or from a survey) and MUTCD Figure 6C-1 and Section 6C.06 if there is enough lateral space along the work zone activity area to safely accommodate traffic, work space (including workers, equipment, and storage), and appropriate buffer/protection between them for the work to be performed .*

Will the road(s) be open to all types of traffic without restrictions of use?

**YES  NO**

**[Describe your answer in detail and cite your sources; if restricted use is permitted (e.g. local traffic, school buses, mail delivery, etc.), then describe this in detail]**

Will work be restricted by time/day to accommodate traffic, e.g., rush hours, weekends and holidays?

**YES  NO**

**[Describe your answer in detail and cite your sources]**

Are traffic detours necessary?

**YES  NO**

**[Describe your answer in detail and cite your sources; can traffic be detoured onto existing bridge(s) or will temporary bridge(s) be required? can traffic be detoured onto existing roads or will temporary detour road(s) need to be constructed? How long will the detour road(s) be?]**

2. Transportation Management during Construction

What type of Transportation Management Plan (TMP) will the project include? (traffic control strategies/operational improvements/public information) be required to address traffic operations and/or travel recreation affected during construction?)

**Basic** **Intermediate** **Significant**

**[Support your answer in detail and cite your sources]**

*To answer this question, complete the ones below and return to this one.*

2.1 Where is the project located?

**Rural and/or remote area (See 2.2)  Urban *(See table below and identify TMP type based on ADT)***

2.2 Is there a commuter road within the project limits and/or residential or commercial development in close proximity to the site?

**YES *(See table below)*  NO (Then a basic TMP is sufficient)**

*General information about TMPs:*

|  |  |  |  |
| --- | --- | --- | --- |
| ***Components of a TMP*** | ***TMP Category/Type*** | | |
| ***Basic***  *(ADT1,000 vpd or less)* | ***Intermediate***  *(ADT 1,000 vpd-10,000 vpd)* | ***Significant***  *(ADT 10,000 vpd or more)* |
| *Temporary Traffic Control (TTC) Plan* | *X* | *X* | *X* |
| *Traffic Operations (TO) assessment/ Work Zone Impacts Report* |  | *X* | *X* |
| *Public Information (PI)* |  | *X* | *X* |

*Examples of typical work types of when to consider different TMPs:*

|  |  |
| --- | --- |
| *For a Basic TMP* | *Single phase work zone traffic control* |
| *Resurfacing/Mill and overlay\** |
| *For an Intermediate TMP* | *Work zone lane closures/use of detours* |
| *Mill and overlay\*/Lane widening/Intersection reconfiguration* |
| *For a Significant TMP* | *Long term road closures/lane closures* |
| *Full depth reconstruction/bridge replacement* |

\* Engineering judgment is necessary since a mill and overlay requiring lane closures varies for different FLMA units.

*All the information under F.2 is only guidance, engineering judgment as well as site context are necessary. For more detailed information on TMPs refer to the [Transportation Management Plan Guidance](file:///B:\\Reference\\Traffic\\TMP_Guidance.pdf) in QBS or check with Traffic Engineer for a final determination, if necessary*

**G. Adjacent/Previous/Future Projects**

1. Current Projects

Is this project part of a series of projects or a completion of a defaulted Contract?

**YES  NO**

**[If yes, describe your answer in detail and cite your sources]**

Are there any other current projects, under design or construction, by any agency, which may affect or be affected by this project?

**YES  NO**

**[Support your answer in detail and cite your sources]**

2. Previous Projects

Have there been any construction problems on previous or similar projects?

**YES  NO**

**[If yes, describe your answer in detail and cite your sources]**

*Discuss with Construction Office*

3. Future Projects

Are there any future projects or connections to be made by others, which will affect or be affected by traffic patterns or operations associated with this project?

**YES  NO**

**[Support your answer in detail and cite your sources]**

**H. Work Limitations**

1. Time Restrictions

Would there be any construction activity or time/sequence restrictions (e.g. no blasting on weekends, or must complete project in phases)?

**YES  NO**

**[If yes, then describe your answer in detail and cite your sources]**

2. Access/Staging

Any access or staging restrictions for construction equipment?

**YES  NO**

**[Describe your answer in detail and cite your sources, e.g. any limited working space, bridge with weight restrictions, horizontal or vertical clearance issues, restricted driving on newly paved areas, hauling restrictions; describe what access would be available at each end of the project]**

Provide locations of borrow pits, stone quarries or any other material sources, and describe any access restrictions to them.

**[Describe your answer in detail and cite your sources; identify any available Government material sources]**

Any partner/owner restrictions or preferences regarding the location of staging areas or project engineer’s field office?

**YES  NO**

**[If yes, then describe your answer in detail and cite your sources]**

Is the partner agency able to provide office space for the project engineer?

**YES  NO**

**[If yes, then describe your answer in detail and cite your sources; determine availability of internet access]**

**I. Geotechnical**

1. Drilling Access:

Do we have drilling access to the project?

**YES  NO**

Will existing roads or trails provide access? Can tree clearing for drilling access be avoided? Is drilling allowed without any permits, agreements, or easements?

**YES to all of the above  NO to any of the above**

**[Support your answer in detail and cite your sources]**

1. Geological Features

Are there any obvious geological features on the project (sinkholes, slides, bogs or muck, standing water, wetlands, etc.)?

**YES  NO**

**[Describe your answer in detail and cite your sources]**

**J. Pavements**

1. Describe pavement condition and distress (attach photos). How extensive, in percent, is distress? Note any limits of obvious changes in affected areas.

**[Describe your answer in detail and cite your sources]**

1. Was a Pavement Management analysis performed?

**[Describe your answer in detail and cite your sources]**

*Check with Pavement Section.*

1. Is raising the grade possible, and if so, how much?

**[Describe your answer in detail and cite your sources]**

1. When was the road last rehabilitated and/or maintenance activities performed, and what was done?

**[Describe your answer in detail and cite your sources]**

**K. Structures**

1. Describe any existing structures (retaining walls, tunnels etc.) on the project (attach photos).

**[Describe your answer in detail and cite your sources]**

1. List existing bridge length, bridge deck out-to-out width and bridge area.
2. Describe any existing bridges or box culverts over water, over roadways, or over something else.

**[Describe your answer in detail and cite your sources]**

1. Is there existing abutment, pier or channel scour (attach photos)?

**YES  NO**

**[Describe your answer in detail and cite your sources]**

1. Describe any bridges that will need to have the substructure constructed or replaced or rehabilitated. Can bridge(s) be replaced on existing foundations? Give approximate length and width of the bridge(s), number of foundations (existing and/or proposed). Any special structural features, unusual loads or unusual span lengths anticipated?

**[Describe your answer in detail and cite your sources]**

1. Will any miscellaneous structures (tunnels, box culverts, building, etc.) be required? Will retaining walls be required?

**YES  NO**

**[Describe your answer in detail and cite your sources]**

**L. Hydraulics**

1. Any existing drainage problems or needed improvements (attach photos)?

**YES  NO**

**[Describe your answer in detail and cite your sources]**

1. Any extensive channel stabilization required? Existing unstable stream banks (fallen trees, exposed, sloughing banks etc.)? (attach photos)

**YES  NO**

**[Describe your answer in detail and cite your sources]**

Any floodplain(s) regulated by FEMA? Floodplain encroached by roadway fill? Will the existing profile grade be raised within a floodplain?

**YES to any  NO to all**

**[Describe your answer in detail and cite your sources]**

1. Any overriding (i.e. superseding our design manual) local or state requirements on bridge overtopping, backwater, freeboard, design floods, hydrologic methods, erosion control, or floodplain regulations known?

**YES  NO**

**[Describe your answer in detail and cite your sources]**

Identify state erosion control specifications and manuals.

**[List and cite your sources]**

1. Is a water quality monitoring program necessary?

**YES  NO**

**[Describe your answer in detail and cite your sources]**

Are permanent Storm Water Quality or Storm Water Quantity treatments required?

**YES  NO**

**[Describe your answer in detail and cite your sources]**

**M. Environmental**

1. Environmental task and requirements are identified in the following table:

| **TASK** | REQUIRED? | COMPLETED BY: | CONTACT PERSON  (Provide full contact info in Section S) |
| --- | --- | --- | --- |
| NEPA Document  Type of NEPA Document Anticipated: | **[CE / EA / EIS]** | **[Partner Agency / Partner Agency with Assistance from EFLHD / EFLHD]** | **Determined by:**  **[Contact Person]**  **[Agency/Title]** |
| FWS – ESA Section 7 Concurrence  Are there any threatened/endangered species in the project area?  Is a Biological Assessment required? | **[YES / NO]**  **[YES / NO]** | **[Partner Agency / Partner Agency with Assistance from EFLHD / EFLHD]** | **[Contact Person]**  **[Agency/Title]** |
| SHPO – NHPA Section 106 Concurrence  Are any sites/properties within the project area on or eligible for listing on the National Historic Register?  Is a Cultural Resource Survey required (Will the project impact previously undisturbed land)? | **[YES / NO]**  **[YES / NO]** | **[Partner Agency / Partner Agency with Assistance from EFLHD / EFLHD]** | **[Contact Person]**  **[Agency/Title]** |
| Floodplains, Waters of the U.S., and Wetlands  Is any work occurring in a 100-year floodplain?  Is any work occurring in a stream or river?  Is the stream or river utilized for boating?  Will there be any work in wetlands? | **[YES / NO]**  **[YES / NO]**  **[YES / NO]**  **[YES / NO]** | **[Partner Agency / Partner Agency with Assistance from EFLHD / EFLHD]** | **[Contact Person]**  **[Agency/Title]** |
| Erosion and Sediment Control  Will more than 1 acre of ground be disturbed?  Is use of a state-specific ESC narrative required? | **[YES / NO]**  **[YES / NO]** | **[Partner Agency / Partner Agency with Assistance from EFLHD / EFLHD]** | **[Contact Person]**  **[Agency/Title]** |
| Stormwater  Are we adding any new impervious areas (pavement) or changing the existing roadway drainage (e.g. adding curb where curb did not previously exist)? | **[YES / NO]** | **[Partner Agency / Partner Agency with Assistance from EFLHD / EFLHD]** | **[Contact Person]**  **[Agency/Title]** |
| Other Concerns  Are there any seasonal construction restrictions due to trout waters, nesting seasons, hunting seasons, visitation, etc.?  Are there any recent environmental documents that we can use for reference?  [Specify other concerns or remove] | **[YES / NO]**  **[YES / NO]** | **[Partner Agency / Partner Agency with Assistance from EFLHD / EFLHD]** | **[Contact Person]**  **[Agency/Title]** |
| Hazardous Waste  Is there any known or possible hazardous waste on the project? (lead paint, asbestos, underground storage tanks, unidentified 55 gallon barrels, abandoned buildings, etc.) | **[YES/NO]**  **[If YES, Specify TYPE]** | **[Partner Agency / Partner Agency with Assistance from EFLHD / EFLHD]** | **[Contact Person]**  **[Agency/Title]** |
| Section 4(f)  Is the road/facility on, adjacent to, or providing access to Federal lands? | **[YES/NO/**  **N/A]** | **[Partner Agency / Partner Agency with Assistance from EFLHD / EFLHD]** | **[Contact Person]**  **[Agency/Title]** |

1. Initiation and implementation of sustainable practices are listed in the attached Sustainability Checklist.

*Complete and attach the most suitable Sustainability Checklist from [EFL-FM-ENV-04](http://169.135.226.20/files/qbs/forms/EFL-FM-ENV-04_Sustainability-Checklist.pdf) that applies to this project.  Use the extended checklist for new alignment or expanded capacity projects and the shorter basic checklist for all other projects.  The purpose of the prompts in the checklist is to improve the initiation and implementation of more sustainable practices into our projects. Contact Environment for assistance in completing the checklist and to ensure appropriate collaboration and involvement during Scoping.*

**N. Right-of-Way/Federal Lands Transfer**

ROW contact person(s) is listed in Section VI.

1. Are right-of-ways or easements needed?

**YES  NO**

**[If yes, then describe your answer in detail and cite your sources; have they been acquired? When? If not acquired, list the agency(s) who obtains, who coordinates, and who pays for ROW. If known, list the expected date(s) of any acquisition(s) or transfers]**

Do ROW plans need to be prepared?

**YES  NO**

*If ROW plans need to be prepared, list agency responsible for preparation (EFLHD or other) and list which agency's format they should follow (obtain sample set of ROW plans in agency's format)*

**[Agency responsible for preparation]**

**[Identify Agency Format]**

1. Is a RR Permit or Special Highway Occupancy Permit required for the project?

**YES  NO**

**[Support your answer in detail and cite your sources]**

**O. Utilities**

Utility contact person(s) listed in Section VI.

1. List existing utilities:

* **[Identify existing utility type, company and location; specify if underground or above ground.]**

1. Does the partner have an agreement in place with a locating service to locate underground utilities?

**YES  NO**

Will any utilities need to be relocated or avoided?

**YES  NO**

**[If so, describe location and type of utility, list the owner of the utility, the agency responsible for utility coordination, and the agency which will pay for the utility work. If known, list the expected date(s) of any relocation(s).]**

Any special considerations regarding utilities (i.e. any hazardous or environmentally-sensitive situations, any time restrictions on the interruption of utility service, any security-sensitive utilities, etc.)?

**YES  NO**

**[Describe your answer in detail and cite your sources]**

Any existing utility agreements between the roadway owner and utility owner? Who has prior rights?

**YES  NO**

**[If YES, then indicate who has prior rights and support your answer]**

**P. Applicable Design Standards/Regulations**

1. For each roadway, identify the applicable highway design standard in accordance with Section 4.4 and 9.1.2 of the FLH Project Development and Design Manual.

**[Applicable Design Standard]**

1. Identify other applicable design criteria to be followed such as NPS Park Road Standards; AASHTO “Green” book; AASHTO Roadside Design Guide; FLH Barrier Guide For Low Volume and Low Speed Roads; and the MUTCD.

**[Applicable Design Manuals/Guides]**

1. Will local or state design procedures be used on this project?

**YES  NO**

**[If so, list the latest associated design manuals and source.**

**Also indicate that an applicable set of sample plans from the state/local agency has or will be obtained]]**

**Q. Innovation and Technology Deployment**

Identify or recommend potential innovations and technologies to be incorporated in this project.

| **TECHNOLOGIES** | **DESCRIPTION** | | **SELECT POTENTIAL TECHNOLOGIES** |
| --- | --- | --- | --- |
|
| **Bridge** | | | |
| Ultra High- Performance Concrete (UHPC) for Bridge Preservation and Repairs – *EDC-6* | UHPC is a fiber-reinforced, cementitious composite material with mechanical and durability properties that far exceed those of conventional concrete materials. Bridge infrastructure preservation and repair (P&R) is a new application of UHPC that offers enhanced performance and improved life-cycle cost over traditional methods. A few examples of UHPC P&R applications include bridge deck overlays, girder end repairs, expansion joint repairs, PBE construction joint repairs, and column or pile jacketing. Some applications, such as bridge deck overlays and replacing expansion joints with UHPC link slabs, can extend the service life of bridges well beyond that of traditional repair strategies and are more cost-efficient than bridge replacement. ***For more information:*** [https://www.fhwa.dot.gov/innovation/everydaycounts/edc\_6/uhpc\_bridge\_preser vation.cfm](https://www.fhwa.dot.gov/innovation/everydaycounts/edc_6/uhpc_bridge_preser%20vation.cfm) | |  |
|
| Ultra High- Performance Concrete (UHPC) Connections for Prefabricated Bridge Elements (PBEs) *– EDC 3 and 4* | UHPC is a fiber-reinforced, cementitious composite material with mechanical and durability properties that far exceed those of conventional concrete materials. Field-cast UHPC has emerged as a solution for creating connections between prefabricated concrete components with more robust long-term performance than conventional PBE connection designs. ***For more information:*** <https://www.fhwa.dot.gov/innovation/everydaycounts/edc_4/uhpc.cfm> | |  |
|
| Accelerated Bridge Construction (ABC):    - Slide-In Bridge Construction (SIBC) – *EDC 2* | SIBC is a cost-effective technique for deploying PBES and quickly replacing an existing bridge. A new bridge is built on temporary supports parallel to an existing bridge. During construction, traffic continues uninterrupted on the existing bridge. Once construction is complete, the road is closed temporarily and the existing bridge structure is demolished or slid out of the way. The new bridge is slid into place, tied in to the approaches, and opened to traffic. ***For more information:*** <https://www.fhwa.dot.gov/innovation/everydaycounts/edc-2.cfm> | |  |
| Accelerated Bridge Construction (ABC):    - Prefabricated bridge elements and systems (PBES) – *EDC 1 and 2* | PBES are bridge components constructed offsite then brought to the project location, ready to erect. With traditional bridge construction, foundations for piers and abutments must be built first. Pier columns and caps must be built before beams and decks are placed. With PBES, these components can be fabricated concurrently and shipped in as needed. In addition, traditional onsite construction exposes work crews to moving traffic and to working over water or near power lines. Using PBES shortens onsite construction time so that fewer workers need to be exposed to traffic control. It results in durable bridges that can be built faster, more safely, and with fewer traffic delays. ***For more information:*** <https://www.fhwa.dot.gov/innovation/everydaycounts/edc-2.cfm> | |  |
| **Engineering Support** | | | |
| Design Visualization (DV) for Stakeholders Involvement –    *EFL Technology, also part of Virtual Public Involvement in EDC 5 and 6* | Design Visualization (DV) for Stakeholders Involvement is the representation of a design concept and its contextual impacts or improvements in a format that is widely accessible and does not require the audience to have a technical background. Visualizations aid in establishing a common vision and help ensure the opinions and needs of our partners and the public are understood and considered during the planning and project development processes. Visualizations also help the designers to better visualize their designs and to communicate more effectively with their colleagues. Examples include 3D models and animations, 2D graphics and maps, and others. ***For more information on Visualization, including resources to help determine if Visualization is a good fit for this project, go to:*** <https://usdot.sharepoint.com/teams/fhwa-efl-DesignVisualization> | |  |
| **Geotechnical** | | | |
| Embedded Data Collector – *EFL Technology* | Embedded Data Collector is a stand-alone dynamic testing method to monitor pre-stressed reinforced concrete pile installation for bridge foundations. Are sensors built into the piles that detect and wirelessly transmitted, to a computer monitor onsite, real time stress levels as the pile is driven into the ground. Successful application of it may result in considerable savings in the foundation system. The Embedded Data Collector can also be used for long term data collection, the data can then be used to evaluate the performance of the pile foundation. ***For more information:*** [http://aii.transportation.org/Pages/EmbeddedDataCollector.aspx#begin-more](http://aii.transportation.org/Pages/EmbeddedDataCollector.aspx%23begin-more) | |  |
| **Construction/Materials** | | | |
| Ground Penetrating Radar (GPR) Rolling Density Meter – *EFL Technology* | The rolling-density meter (RDM) is a ground-penetrating radar (GPR)-based system tailored for rapidly and continuously measuring asphalt mixture density. ***For more information:*** <https://www.geophysical.com/products/pavescan-rdm> ***and*** <https://static.tti.tamu.edu/tti.tamu.edu/documents/0-6889-R1.pdf> | |  |
|
| Hybrid Anodes – *EFL Technology* | The possible use of Hybrid Anodes is for corrosion mitigation in reinforced concrete repairs projects where we need a longer service life for the repair that the one provided with a standard zinc sacrificial anode. For spall repairs in reinforced concrete structures, we typically include sacrificial anodes around the perimeter of the patch to mitigate continued corrosion of reinforcing steel and spalling around the patch. There are now Hybrid Anodes available, that combine the advantages of both passive and active corrosion protection technologies into one system. Like the standard anode, the Hybrid is installed in the reinforced concrete. Initially, the Hybrid Anode is powered by a battery that impresses a current into the steel reinforcement to re-passivate or re-alkalize the reinforcement. Once the battery is consumed, the anode switches into a passive state, similar to the standard anode. Although each Hybrid Anode costs more than the standard passive anode, the Hybrid Anodes can be spaced farther apart, thus reducing the overall quantity of anodes and manpower to install. ***For more information:*** [https://www.vector-corrosion.com/galvashield-fusion-t2](https://www.vector-corrosion.com/galvashield-fusion-t2%20) ***and*** [https://www.vector-corrosion.com/images/pdf/BRO\_VCT%202018-11-01%20-%20Galvashield%20FUSION%20NA%20DM%20Rev04%20[WEB].pdf](https://www.vector-corrosion.com/images/pdf/BRO_VCT%202018-11-01%20-%20Galvashield%20FUSION%20NA%20DM%20Rev04%20%5bWEB%5d.pdf) | |  |
|
| Internally Cured Concrete (ICC) – *EFL Technology* | Internally Cured Concrete (ICC) delivers more durable concrete by reducing the cracking risk for critical structural elements by substituting highly water absorptive lightweight fine aggregate for a portion of the normal fine aggregate. ***For more information:*** [https://www.nist.gov/el/materials-and-structural- systems-division-73100/inorganic-materials-group-73103/concrete-0-0](https://www.nist.gov/el/materials-and-structural-%20systems-division-73100/inorganic-materials-group-73103/concrete-0-0) | |  |
|
| Infrared (IR) Scanner for Asphalt Pavements Applications - *EFL Technology* | Infrared (IR) Scanner is a nondestructive QC technique for measuring uniformity and potential defect areas in hot mix or warm mix asphalt pavements during construction. IR scanner focuses on the thermal uniformity equipment, which enables inspectors and paving crews to measure the real-time mat temperature and make adjustments in the field to minimize segregation problems that can occur when the temperature is too low. ***For more information:*** https://www.fhwa.dot.gov/goshrp2/Solutions/Renewal/R06C/Technologies\_to\_E nhance\_Quality\_Control\_on\_Asphalt\_Pavements | |  |
|
| Life Cycle Cost Analysis (LCCA) for Reinforced Concrete Structures exposed to Chlorides - *EFL Technology* | Life Cycle Cost Analysis for Reinforced Concrete Structures exposed to Chlorides is the modeling of a reinforced concrete structure and its various elements following a methodology that gives research-based estimates of the effects of concrete design, chloride exposure, environmental temperature, concrete mixes and barriers, and steel types on the service life and life-cycle cost of a structure. Output is a set of tables in the SCR that the contractor can pick from that contain the concrete mix design requirements that will satisfy service life of the structure at a cost that is economical. ***For more information:*** <https://ascelibrary.org/doi/10.1061/%28ASCE%29BE.1943-5592.0000248> | |  |
|
| **Pavements** | | | |
| Pavement Mechanistic- Empirical (ME) Design – EFL Technology | In conventional design methods, various inputs are considered and used to produce the design requirements for the pavement structure. In mechanistic- empirical design, the design of the pavement structure is initially assumed on a trial basis, along with inputs for traffic and climate. Mechanistic empirical design software can compute how the trial design will respond to the load and environmental stresses created by these inputs. This leads to an estimate of the level of damage the pavement will sustain over time, in terms of pavement distresses and deterioration in ride quality. ***For more information:*** [https://pavementinteractive.org/what-is-mechanistic-empirical-design-the- mepdg-and-you/](https://pavementinteractive.org/what-is-mechanistic-empirical-design-the-%20mepdg-and-you/) | |  |
| Inverted Pavement –EFL Technology | Inverted Pavements is an alternate flexible pavement structure comprised of a relatively thin asphalt concrete, unbound aggregate base, cement-treated base and compacted subgrade that can reach up to 25% less cost compared with conventional pavement structure for similar performance. ***For more information:*** <http://onlinepubs.trb.org/onlinepubs/webinars/160718.pdf> | |  |
|
| Porous Asphalt Pavements – *EFL Technology* | Porous Asphalt Pavements with stone reservoirs are a multifunctional low impact development technology, which not only do they provide a strong pavement surface for parking, walkways, trails, and low-volume roads; they are designed to manage and treat storm water runoff. ***For more information:*** [https://www.fhwa.dot.gov/pavement/asphalt/pubs/hif15009.pdf](https://www.fhwa.dot.gov/pavement/asphalt/pubs/hif15009.pdf%20) [http://www.asphaltpavement.org/index.php?option=com\_content&view=article &id=359&Itemid=863](http://www.asphaltpavement.org/index.php?option=com_content&view=article%20&id=359&Itemid=863) | |  |
|
| Highly Modified Asphalt (HiMA) –    *EFL Technology (Only applicable to Washington, DC projects), also part of EDC-6 Targeted Overlay Pavement Solutions (TOPS)* | The highly-modified asphalt (HiMA) mixture is produced using asphalt binder containing 7 to 8 percent polymer, mostly styrene-butadiene-styrene, which is more than twice what is used in conventional polymer modified binders. By increasing the polymer content, the binder-polymer structure changes from asphalt binder, with a dispersed swollen polymer phase, to a swollen polymer with a dispersed asphalt binder phase. The phase reversal in the HiMA acts as an elastic reinforcement in the asphalt binder and improves asphalt mixture cracking resistance. In addition, considerable improvement to the rutting performance of HiMA mixtures has been reported. A special low viscosity polymer eliminates the compatibility and workability problems during production and construction, as well as concerns associated with heavily modified mixes. ***For more information:*** [https://www.fhwa.dot.gov/innovation/everydaycounts/edc\_6/docs/tops\_asphalt\_ overlays.pdf](https://www.fhwa.dot.gov/innovation/everydaycounts/edc_6/docs/tops_asphalt_%20overlays.pdf) | |  |
| **Project Support (Survey, Mapping, Right of Way, Utilities and Traffic Counting)** | | | |
| Remote control drone boat system equipped with underwater bathymetric scanning – *EFL Technology* | The Next Generation remotely-operated hydrographic survey boat with unmatched usability, exceptional design, survey-grade construction and high- quality instrumentation. Is a state of the art, high-performance survey boat incorporating a single beam echo sounder, GNSS positioning, live video, and on-board data management. A high bandwidth radio link to the dedicated CEE- LINK™ shore station allows the operator to see precise bathymetric survey results in real time. ***For more information:*** <https://www.ceehydrosystems.com/products/unmanned-survey-vessels/cee-usv/> | |  |
|
| Unmanned Aerial Systems (UAS) – *EDC-5* | Unmanned aerial systems (UAS), sometimes referred to as drones, are multi-use aircraft controlled from a licensed operator on the ground. UAS provide high- quality survey and data mapping that can be collected automatically or remotely. Large areas can be mapped relatively quickly in comparison to traditional survey and mapping practices. Other uses include survey and imagery as part of emergency response events, where traditional surveying and mapping practices may be inadequate or sites impossible to access. ***For more information:*** <https://www.fhwa.dot.gov/innovation/everydaycounts/edc_5/uas.cfm> | |  |
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| **Transportation Operations (Safety and Traffic)** | | | |
| Safe Transportation for Every Pedestrian (STEP) – *EDC-4* | Safe Transportation for Every Pedestrian (STEP) is the application of cost- effective countermeasures with known safety benefits that can help reduce pedestrian fatalities at both uncontrolled and signalized crossing locations. These countermeasures are: Rectangular rapid flash beacons (RRFBs); Leading pedestrian intervals (LPIs); Crosswalk visibility enhancements; Raised crosswalks; Pedestrian crossing/refuge islands; Pedestrian hybrid beacons (PHBs) and Road Diets. ***For more information:*** <https://www.fhwa.dot.gov/innovation/everydaycounts/edc-4.cfm> | |  |
| Data-Driven Safety Analysis (DDSA) – *EDC 3 and 4* | Data-Driven Safety Analysis (DDSA) is the use of cutting-edge software to analyze crash and roadway data and determine the expected safety performance of roadway projects more reliably. This tool allows agencies to target investments with more confidence and reduce severe crashes on the roadways. ***For more information:*** <https://www.fhwa.dot.gov/innovation/everydaycounts/edc_4/ddsa.cfm> | |  |
|
| Traffic Simulations –EFL Technology | Traffic Simulations are the mathematical modeling of transportation systems (e.g., freeway junctions, arterial routes, roundabouts, downtown grid systems, etc.) through the application of computer software to better help plan, design, and operate transportation systems. Traffic operations software in EFL are: HCS, VISSIM and Synchro. ***For more information:*** <https://ops.fhwa.dot.gov/trafficanalysistools/type_tools.htm> | |  |
| **Transportation Operations and Pavements** | | | |
| High Friction Surface Treatment (HFST) – *EDC 2* | High Friction Surface Treatments (HFST) are the site-specific application of very high-quality, durable aggregates using a polymer binder that restores and maintains pavement friction where the need for a safer pavement surface is the greatest. ***For more information:*** <https://www.fhwa.dot.gov/innovation/everydaycounts/edc-2/hfst.cfm> | |  |
|
| **RECOMMEND OTHER POTENTIAL TECHNOLOGY** | | | |
| Name: | | Description: | |

**V. RISK MANAGEMENT**

See attached Risk Management Register

*Prepare and attach a Risk Management Register form [EFL-TM-OPD-01](http://169.135.226.20/files/qbs/templates/EFL-TM-OPD-01_Risk-Management-Register-for-Project.xls) on the QBS. Refer to the [Risk-Management-Register-Terminology Reference](http://169.135.226.20/files/qbs/Reference/ProjectMangt_TSL/Risk-Management-Register-Terminology.pdf) and the follow instructions:*

*Identify both negative (threats) and positive (opportunities) risks for later qualitative analysis of impacts. Note that negative risks are events or conditions that can have adverse impacts to project design or construction, scope, cost, schedule, and as a result, quality. Positive risks identify opportunities to lower project design or construction costs, shorten schedules, and enhance the scope and quality of the finished project. For the scoping process, identify only the high, level risks. High level risks are those risks identified by review of the site’s existing conditions and through discussion with Partner Agency representatives and other stakeholders participating in the scoping process. After identification and listing in the Design Scoping Report document, these risks can then be more thoroughly analyzed for their impacts and mitigation strategies using procedures defined by Federal Lands Highway Project Risk Management Policy.*

*Examples of negative risks may include political and legal concerns; expected materials shortages; difficult construction access, staging, and material stockpile storage; finding replacement materials for historical or aesthetic features such as stone walls, drainage swales, etc.; unidentified underground utilities and their location; the potential need for ROW or easement acquisition; potentially impacted property owners; any compensatory work regarding impacted property, and any public opposition to the project; the potential existence of historical and archaeological features to be avoided, and their need for identification and monitoring; the potential existence of unexploded ordinances and hazardous waste, and buried fuel containers; the existence of wetlands, sinkholes and other Karst features, rock and soft soils, muck and presence of springs and seeps; required work within floodplains or their need for determination; the existence of threatened or endangered species and need for avoidance in disturbing; existing complex and high temporary traffic management requirements for design and during construction; federal, state, county and local agency review requirements, especially any determined to have difficulty in providing timely reviews and response, or overly restrictive policies affecting timely acquisition of permits; restraints in acquiring of needed survey such as restriction on aerial flights, thick vegetation, or difficult terrain; the need for complex technical design for which experienced and trained staff are lacking; unique construction requirements for which specialty contractors may need to be identified; and any potentially dangerous situations to EFLHD employees.*

*Examples of positive risk would be the potential for use of new technology and construction materials; opportunity for use of new design tools and strategies for reduced design time and increase in quality; a unique project to showcase and market FLH abilities and qualities; the development of a new partnership for future work opportunities; an environmental improvement by increase of wetlands, protection and consideration of species such as wildlife crossings, etc.; an increased FLH program; a unique project for exploring new construction funding opportunities; and identification as a project for increasing in-house experience knowledge base and increasing employee morale.*

**VI. PRINCIPAL CONTACTS**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Project Role** | **Name/Title** | **Agency/Address** | **Phone** | **E-Mail** |
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*List all principal contacts including: NPS Regional Contact, NPS-DSC Project Manager, FS Engineer, FS Ranger, FWS Regional Contact, Refuge Manager, FHWA Area Engineer, NEPA Contact, SHPO, ROW Contacts, Utility Contacts, and others pertinent to project scope.*

**VII. CERTIFICATION**

Prepared by: **[Preparer’s Name]** Date: **[DATE]**

[title]

Recommended by: **[Proj. Mgr’s Name]** Date: **[DATE]**

Project Manager

Approved by:

Project Management Branch Chief *Upon completion, save as a pdf; follow the standard file naming convention. Provide to the PM Engineer as a pdf for review and approval. Upon approving, the PM Engineer will use the “Sign & Certify” feature under “Tools” in Adobe to “Place Signature” in the box above.*

*Upon final approval of this report, Scoping Report Updates may be submitted at any time up to award of the project.* ***As a minimum****, provide interim Scoping Report Updates using [EFL-TM-PMB-02](http://169.135.226.20/files/qbs/Templates/EFL-TM-PMB-02_Design-Scoping-Report-Update.docx), whenever there is a change in scope or any change in information that should be communicated, at the following times:*

*1) Initial Preliminary Plan Distribution / Initial Conceptual Design Distribution (A&E)*

*2) Final Preliminary Plan Distribution / Final Conceptual Design Distribution (A&E)*

*3) Plan-in-Hand Distribution (70% Complete)*

*4) Internal Review Distribution (95% Complete)*

*5) External Review Distribution (100% Complete)*

*6) Project Advertisement*

*7) Project Award*

*Attachments/Insert the following where applicable*

**LOCATION AND PROJECT MAP**

**(Section I.A.1)**

**ENGINEERING ESTIMATE**

**(Section II.B)**

**GENERAL PHOTOGRAPHS**

**(Section III.D)**

**ROADWAY SECTIONS: EXISTING AND PROPOSED**

**(Section IV.A)**

**PHOTOS OF HISTORICAL/AESTHETIC FEATURES**

**(Section IV.D)**

**PAVEMENT CONDITION PHOTOS**

**(Section IV.J)**

**EXISTING STRUCTURES**

**(Section IV.K)**

**EXISTING ABUTMENT, PIER OR CHANNEL SCOUR PHOTOS**

**(Section IV.K)**

**HYDRAULIC PHOTOGRAPHS**

**(Section IV.L)**

**SUSTAINABILITY CHECKLIST**

**(Section IV.M)**

**RISK MANAGEMENT REGISTER**

**(Section IV.R)**