Environmental Document Process Improvement within the SC Department of Transportation

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ACRONYM LIST

CEC. Categorical Exclusion, Type C
EA. Environmental Assessment
ESD. Environmental Services Division
FHWA. Federal Highway Administration
GPS. Global Positioning System
NEPA. National Environmental Policy Act
PAR. Program Action Request
PDCA. Plan, Do, Check, Act
PM. Program Manager
PPR. Project Planning Report
RPG. Regional Production Group
SCDOT. South Carolina Department of Transportation
**Problem Statement**

The South Carolina Department of Transportation's (SCDOT) core mission is to provide a safe, properly maintained road and bridge network supporting citizens, visitors, and commerce. SCDOT's Environmental Services Division (ESD) is responsible for securing the necessary environmental documentation required for all SCDOT construction and maintenance projects throughout the state. The ESD is responsible for coordinating with the Federal Highway Administration (FHWA) to acquire the appropriate environmental document for each federally funded project. Even if a project is only partially funded with federal funds, it still requires an environmental document. An environmental document is necessary to obligate right-of-way funds for any federal-aid project. As such, the timely completion of environmental documents is imperative to the efficient operation of SCDOT to achieve its core mission. No work completed with federal funds can be initiated until an environmental document is completed. If the process to develop an environmental document is not efficient, then all subsequent efforts are delayed.

Consultants hired by SCDOT complete environmental documents in a condensed timeframe, as compared to when environmental documents are completed in-house. If a more efficient process can be developed to approve environmental documents, then the entire project development process through construction would benefit.
Data Collection

Step #1 - Comparison of Timeframes to Validate Problem Statement

To confirm the problem statement, timeframes for environmental documents completed by consultants and in-house by SCDOT staff were compiled. A Categorical Exclusion, Type C (CEC) and an Environmental Assessment (EA) are the two types of environmental documents chosen for comparison because they are routinely completed by both consultants and internally by SCDOT. SCDOT’s project tracking system, Primavera P6, version 6.2, was used to obtain a common start and end date for various projects.

For CEC documents completed internally by SCDOT, the timeframes for 11 projects were compiled (refer to Appendix A). The median number of workdays to complete these 11 projects internally was calculated to be 634 workdays. For comparison, timeframes for 12 projects that were completed by consultants were evaluated (refer to Appendix A). The median number of workdays for a consultant to complete these 12 projects equaled 521 workdays. Overall this indicates that a consultant is able to complete a CEC approximately 114 workdays more efficiently than SCDOT can internally.

The median number of workdays for three EA documents to be completed by SCDOT was 654 workdays (refer to Appendix A). Timeframes for eight projects completed by consultants were
compiled for comparison. The median number of workdays for a consultant to complete an EA was 510 workdays, which is 145 workdays less than SCDOT (refer to Appendix A). With the problem statement confirmed, the next step was to outline the existing ESD process for CEC and EA documents.

Step #2 – Consensus on Existing Environmental Document Process

The Team Leadership Course taught by Mr. Nathan Strong through the Certified Public Manager Course illustrated the importance of selecting a decision-making process. A consensus decision-making option was chosen due to the following factors:

- The decisions made to the Environmental Document Process would affect a large number of people;
- The group of ESD staff collaborating is small (seven members);
- The seven ESD members are experts in the field;
- They have an equal level of investment in the Environmental Document Process;
- An attempt to create a high acceptance of the decisions; and
- The potential for a higher level of teamwork.

Employees within the ESD that complete CEC and EA documents were requested to review the existing ESD Document Process and provide comments (Appendix B). A meeting was held with the seven members to discuss the existing ESD process and reach a consensus. By obtaining a consensus from the ESD staff on the existing Environmental Document Process, the next step was to identify any wasted time in the process.
Step #3 – Identify Waste in Existing Environmental Document Process

The System Process Improvement Module taught through the Certified Public Manager Course “wasted” time consists of waiting for someone to take action and similar unproductive activities. Removing wasted times reduces cycle time. Five areas were identified within the existing Environmental Document Process as waste, refer to Appendix B for illustration.

1. After requesting surveyors to notify the ESD when the site visit is scheduled, the process goes on hold waiting for the notification. This period of “wasted” time can range from weeks to months.

2. Once the stream/wetland areas are flagged, they are surveyed in by the crew. The ESD staff waits until the surveyed areas are incorporated into the overall survey file and then provided electronically. Depending on the overall complexity of the project, this “wasted” time can also range from weeks to months.

3. After the survey file is provided electronically the engineers begin to design the project. ESD staff members are not consulted or notified that the design has begun until the Project Planning Report (PPR) is submitted by the program manager. The time lapse from initiating the design effort and notifying the ESD also ranges from weeks to months depending on the program manager.

4. Following receipt of the PPR, the environmental studies are begun. The overall process is on hold until the results of the various studies are compiled and analyzed. Typically this is a significant effort of 1-3 months.

5. Outsourcing environmental studies require contracts, which take additional time. Jurisdictional Determinations, cultural resource surveys, noise analyses and permit packages are all regularly outsourced due to the lack of staff to complete tasks internally.
The delay that this effort costs can range from 1 week to 3 months depending on the complexity of the contract to be executed.

*Step #4 – Consultant Environmental Document Process*

Seven consulting firms were asked to review and comment on their environmental document process, as illustrated in Appendix C. Four professionals from three consulting firms provided comments (Appendix C). Each comment was reviewed during a meeting with the seven ESD members that had previously reached consensus on the Existing ESD Document Process. The comments were evaluated based on a comparison of the Existing ESD Document Process and the Consultant Document Process to identify key differences.

**Data Analysis**

The key differences between the Existing ESD Document Process with the Consultant Environmental Document Process are detailed in Table 1.0. Potential solutions to reduce or eliminate the wasted time identified in the ESD Document Process were developed by engaging the same ESD staff members that were part of the earlier consensus team. A meeting was held with the seven members to review the wastes, the key differences of the consultant environmental document process, to discuss the potential solutions and come to a consensus on an improved ESD Document Process. All the potential solutions are listed in Table 2.0.

The ESD staff developed an improved ESD Document Process based on the solutions identified, refer to Figure 1. The key difference between the existing and the improved process is when the ESD is engaged. Rather than waiting on the submission of the PPR to initiate ESD involvement,
### Table 1.0
Existing ESD Document Process vs. Consultant Environmental Document Process

<table>
<thead>
<tr>
<th></th>
<th>Existing ESD Document Process</th>
<th>Consultant Environmental Document Process</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PPR</strong></td>
<td>Prepared by PM and submitted to ESD. Initiates ESD involvement.</td>
<td>Not prepared. The ESD is engaged immediately when a contract is executed.</td>
</tr>
<tr>
<td><strong>Wetland delineations in electronic format</strong></td>
<td>Wait on surveyors to meet in the field and then wait for survey file to be completed.</td>
<td>Done by wetland scientist in the field and provided to designers.</td>
</tr>
<tr>
<td><strong>Environmental studies</strong></td>
<td>Studies begin at various times dependent on availability of internal staff or contracting.</td>
<td>Studies begin at same time, a parallel process.</td>
</tr>
<tr>
<td><strong>Project design begins</strong></td>
<td>Design begins internally before NEPA documentation level is determined, before any preliminary environmental studies.</td>
<td>Design begins after preliminary environmental studies are completed.</td>
</tr>
</tbody>
</table>

### Table 2.0
Potential Solutions

<table>
<thead>
<tr>
<th>Topic</th>
<th>Identified Waste</th>
<th>Potential Solutions</th>
<th>Time Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Requesting Surveyors to notify ESD for site visit</td>
<td>Waiting on surveyors is dependent on their workload</td>
<td>• Eliminate step by utilizing GPS equipment (below)</td>
<td>Weeks-Months</td>
</tr>
<tr>
<td>Obtaining wetland delineations in electronic format</td>
<td>Waiting on surveyors and processing is dependent on the workload of others</td>
<td>• Utilize GPS equipment and have wetland scientists complete in field and provide to designers (as consultant process does)</td>
<td>Weeks-Months</td>
</tr>
<tr>
<td>Receiving PPR from PM</td>
<td>Waiting on PM</td>
<td>• Eliminate step by having NEPA Coordinator prepare PPR at PAR notification</td>
<td>Weeks-Months</td>
</tr>
<tr>
<td>Environmental studies</td>
<td>Waiting on contracts to be completed</td>
<td>• Begin studies at same time, a parallel process (as consultant process does)</td>
<td>1-3 months</td>
</tr>
<tr>
<td></td>
<td>Waiting on ESD staff availability</td>
<td>• Hire additional ESD staff</td>
<td></td>
</tr>
<tr>
<td>Project design begins before preliminary environmental studies completed</td>
<td>Defects in the design occur due to steps having to be redone to take into account issues that were not considered initially</td>
<td>• Initiate ESD involvement, PPR and studies at PAR notification</td>
<td>Weeks-Months</td>
</tr>
</tbody>
</table>
Figure 1: Improved ESD Environmental Document Process

PAR Notification via e-mail to ESD Administration

PAR distributed to NEPA & Permitting Coordinator

NEPA/Permit Coordinators begin PPR with Desktop GIS Review & enter date into Primavera

Coordination with PM
- PPR provided to PM
- Level of NEPA & Permit Discussed
- Reasonable Availability of Funding
- Purpose & Need

Update PPR

Initiate Studies

GPS Wetlands/Streams and provide to PM

Complete PD

Jurisdictional Determination

Outsource

Submit to USACE

Approval

Permit Package

Submit to USACE

USACE Review/Comment

Revise Permit

Public Notice

Permit Approval

SCDOT Approval

FHWA Approval (CE-C only)

Public Involvement (if needed)

Quantify Impacts

Alternative Development

Design Begins

LOI

EA

Provide results of Initial Studies to PM and Design Group to be incorporated

SCDOT & FHWA Approves EA

EA Distributed (Electronic) (Entered into Primavera)

FONSI Distributed (Electronic) (entered into Primavera)

Review/Revise Preferred Alternative

Complete EA

FHWA Review/Comment

Revise EA

Public Information Meeting

Page 7
the ESD is more proactive and engages at the PAR notification. The ESD staff enters the date into SCDOT's project tracking system, Primavera P6, version 6.2 and begins the PPR with a desktop survey of available information. The PPR is then provided to the PM and coordination between ESD and the PM initiates. As further information is developed in coordination with the PM, the PPR is updated to include the project charge code, verification of study area limits, level of the NEPA documentation required, reasonable availability of funding, and purpose and need. With the receipt of the project charge code and verification of the study area limits the environmental studies are initiated. Field visits are conducted with Global Positioning System (GPS) equipment to electronically locate the wetlands, streams, threatened and endangered species, as well as any archaeological survey boundaries. By using GPS, ESD is no longer waiting for the survey crew notifications or for the processing of the electronic data. The GPS data is provided directly to the PM for inclusion in the design files, prior to the start of the design effort. This eliminates the design beginning before preliminary environmental studies are completed, which in turn should reduce the defects in the design that would occur due to steps having to be redone to take into account issues that were not considered initially.

After obtaining consensus from the ESD staff on the improved Environmental Document Process, the next step was to identify the implementation plan.

**Implementation Plan**

The four phases of the continuous improvement process include Plan, Do, Check, Act also known as the PDCA process. The first phase “Plan” defines the project’s purpose and scope,
identifies the gap between the current state and the desired state, identifies the impact on customers, and identifies how to know if things are better.

The following steps were outlined for implementation of the improved Environmental Document Process, refer to Table 3.0. The lead engineers in the Regional Production Groups (RPG) have been designated as key stakeholders and potential resources for the implementation plan. Communication with them during the implementation is integral to the success of the improved process.

<table>
<thead>
<tr>
<th>Action Step</th>
<th>Responsible Person</th>
<th>Timeframe &amp; Cost</th>
<th>Potential Obstacles</th>
</tr>
</thead>
</table>
| Revise PPR  | C. Long & T. Miller | • Complete before June 2014  
• $0 Cost | None forecasted |
| Review how improved process integrates with standard operation procedure (i.e. preconstruction design process) | T. Miller & H. Robbins | • Complete before August 2014  
• $0 Cost | None forecasted |
| Communication with Stakeholders – Meeting with RPG Leaders | H. Robbins & R. Williamson | • Complete before November 2014  
• $0 Cost | Management unwilling to change current procedures |
| Update PPR on intranet site | J. Craver | • Complete before January 2015  
• $0 Cost | None forecasted |
| Communication with Stakeholders – Memo from ESD Director to RPG Leaders | Draft - H. Robbins  
Final - R. Williamson | • Complete before March 2015  
• $0 Cost | Management unwilling to change current procedures |
The main obstacle was identified as the potential unwillingness of management to alter the current procedures. As stated previously, communication with the RPG Leaders will be crucial during the implementation plan. The ESD has a good relationship with the RPG Leaders and the majority of the Program Managers, which would be instrumental in getting this new process into the standard operating procedure. Fortunately, the onus will be on the ESD personnel to initiate the new process, as the first four steps in the Improved ESD Environmental Document Process will be completed by ESD personnel.

**Evaluation Method**

During the Implementation Plan, the comments from the RPG Leaders and Program Managers will be incorporated and the process improved where possible. Once the ESD has successfully implemented the Improved ESD Environmental Document Process on more than 10 projects, a survey will be conducted utilizing online survey software, such as Survey Monkey. This will enable the RPG Leaders and Program Managers to remain anonymous and provide truthful feedback. It is important to keep the survey brief and to the point, as not to be a time burden on the engineers. The survey will include the following questions to be scored on a 1-5 scale, with 1 representing unsatisfactory, 3 being satisfactory, and 5 being exceeded expectation.

- Overall satisfaction with improved ESD Process?
- Overall satisfaction with the service you are receiving from the ESD?

The following questions will be included in the survey as fill in the blank so that the Program Managers are able to elaborate.

- What steps in the process need improvement? Why?
- What suggestions do you have to improve the process?
- Recommendations to improve service you are receiving from the ESD?
Summary and Recommendations

The key finding that was identified during this effort was the “wasted” time that has plagued the ESD over the years. It has been the standard operating procedure for the ESD to be blamed when timelines were not met or schedules were delayed. Based on the review of the internal process that has existed over the years, as compared to the methodology that consultants utilize it was obvious where the ESD was not measuring up. Putting the responsibility for project notification into the hands of the ESD, rather than waiting for the Program Manager to submit the project, will allow the ESD to be in front of any potential issues that may arise during the development of the project.

Future action will be the implementation of the Improved ESD Environmental Document Process, evaluation by the Program Managers and further refinement of the process based on the input received. With innovations in technology and more efficient methods to capture environmental data, the ESD process should be ever evolving. An annual review of the process will be recommended for the future, as well as, additional communication with the Program Managers to ensure that the process is still meeting their needs. This additional communication may be completed by initiating more online surveys or one-on-one meetings. Ongoing communication and improvement of the process will encourage cooperation between ESD and the Program Managers.
## SCDOT Internal CE-C Documents

<table>
<thead>
<tr>
<th>Project Name</th>
<th>PIN</th>
<th>Advertise Eminent Domain</th>
<th>Survey Request</th>
<th>PPR Received</th>
<th>Document Completed</th>
<th>Work Days Elapsed</th>
</tr>
</thead>
</table>

## Consultant CE-C Documents

<table>
<thead>
<tr>
<th>Project Name</th>
<th>PIN</th>
<th>Advertise Eminent Domain</th>
<th>Survey Request</th>
<th>PPR Received</th>
<th>Document Completed</th>
<th>Work Days Elapsed</th>
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<tr>
<td>S-97</td>
<td>38510</td>
<td>10/15/2010</td>
<td>11/12/2012</td>
<td></td>
<td>12/12/2012</td>
<td>564</td>
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<tr>
<td>US 17</td>
<td>40663</td>
<td>8/25/2011</td>
<td>10/15/2012</td>
<td></td>
<td>10/15/2012</td>
<td>298</td>
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### SCDOT Internal EA Documents

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<th>Project Name</th>
<th>PIN</th>
<th>Advertise Eminent Domain</th>
<th>Survey Request</th>
<th>PPR Received</th>
<th>Document Completed</th>
<th>Eminent Domain to Document Completed</th>
<th>Work Days Elapsed</th>
</tr>
</thead>
</table>

### Consultant EA Documents

<table>
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<tr>
<th>Project Name</th>
<th>PIN</th>
<th>Advertise Eminent Domain</th>
<th>Survey Request</th>
<th>PPR Received</th>
<th>Document Completed</th>
<th>Eminent Domain to Document Completed</th>
<th>Work Days Elapsed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Camden Truck Route</td>
<td>40309</td>
<td>2/10/2010</td>
<td></td>
<td>6/13/2012</td>
<td>8/15/2012</td>
<td>611</td>
<td></td>
</tr>
</tbody>
</table>
Existing EMO Environmental Document Process

PAR → Eminent Domain → PM Submits Survey Request → Survey Assigned and EMO Copied on E-mail → Desktop Survey for Wetland/Stream → Field Visit Needed → No → Complete PD → Request Surveyors to notify us → Site Visit → Stream/Wetlands Flagged

In House Approval → CE-A or CE-B → FHWA Approval → SCDOT Approval → CE-C → Study Area Defined; P & N established → Reasonable Availability of Funding → Staff Field Visit → Coordinator LOI (Electronic) → Coordinator Initiate Studies → Public Info Meeting → Review/Revise Preferred Alternative → Complete EA → FHWA Review/Comment → Revise EA → SCDOT & FHWA Approves EA → EA Distributed (Electronic) (Entered into PPMS & Primavera)

Biological → T & E → EFH → C.H. → FONSI Distributed (Electronic) (Entered into PPMS & Primavera) → FONSI → Respond to Comments → Public Hearing → USACE Review/Comment

Cultural → 4(f) → 6(f) → USACE Approve

Relocations/Farmland/Floodplains → USACE Prepare Permit Package

Haz Mat/Socioeconomic/EJ → USACE Submit

Noise/Air Quality → USACE Submit

Wetlands/Streams/Water Quality

Mitigation → Jurisdictional Determination Outsourced → USACE Mitigate

Alternative Development & Analysis → USACE Approve

Indirect and Cumulative → USACE Approve

Public Notice → Revise Permit
Existing EMO Environmental Document Process

- PAR
  - (PM validates)
  - Eminent Domain
  - Advertised
- PM Submits Survey Request
- Survey Assigned and EMO Copied on E-mail
- Desktop Survey for Wetland/Stream
- Field Visit Needed
  - Yes
  - Request Surveyors to notify us
  - Site Visit
  - Stream/Wetlands Flagged
  - GIS #1
  - Species Identified
- No
  - Complete PD

In House Approval
- CE-A or CE-B
- FHWA Approval
  - SCDOT Approval
  - CE-C
- Reasonable Availability of Funding
  - Study Area Defined; P & N established
- Staff Field Visit
- Coordinator LOI (Electronic)
- Coordinator Initiate Studies
- Public Info Meeting
- Review/Revise Preferred Alternative
  - Complete EA
  - FHWA Review/Comment
  - PD Completed
  - SCDOT & FHWA Approves EA
- FM
- T & E
- EFH
- ESA
- FONSI
- Respond to Comments
- Public Hearing
- EA Distributed (Electronic)
  - (Entered into PPMS & Primavera)
  - CE 3
  - FONSI
- USACE Review/Comment
- Submit to USACE
- Approve by USACE
- Prepare Permit Package
- Submit to USACE
- Permit Approval
- Public Notice
- Revise Permit
Existing EMO Environmental Document Process

PAR → Eminent Domain → PM Submits Survey Request
Survey Assigned and EMO Copied on E-mail → Desktop Survey for Wetland/Stream → Field Visit Needed

No → Complete PD
Yes → Request Surveyors to notify us

Site Visit → Stream/Wetlands Flagged

In House Approval → CE-A or CE-B
FHWA Approval → SCDOT Approval → CE-C

Reasonable Availability of Funding → Study Area Defined; P & N established

Staff Field Visit → Coordinator LOI (Electronic) → Coordinator Initiate Studies

Public Info Meeting → Review/Revise Preferred Alternative → Complete EA

FHWA Review/Comment → Revise EA → SCDOT & FHWA Approves EA

PPR to Coordinators → PM Submits PPR to EMO and entered into PPMS and Primavera

PM Begins Design → PD Completed

Biological → T & E → EFH → C.H.

Cultural → 4(f) → 6(f)
Relocations/Farmland/Floodplains
Haz Mat/Socioeconomic/EI
Noise/Air Quality

Wetlands/Streams/Water Quality
Mitigation → Jurisdictional Determination Outsourced
Submit to USACE → Approve by USACE → Prepare Permit Package → Submit to USACE

FONSI Distributed (Electronic) (entered into PPMS & Primavera)

FONSI → Respond to Comments → Public Hearing → EA Distributed (Electronic) (Entered into PPMS & Primavera)

USACE Review/Comment

Permit Approval → Public Notice → Revise Permit

Seems to follow, I do have a few discussion.

Henry
Existing EMO Environmental Document Process

1. PAR → Eminent Domain → PM Submits Survey Request → Survey Assigned and EMO Copied on E-mail → Desktop Survey for Wetland/Stream → Field Visit Needed
   - No → Complete PD
   - Yes → Request Surveyors to notify us → Site Visit → Stream/Wetlands Flagged

2. FHWA Approval → CE-A or CE-B → In House Approval → CE-C
   - FHWA Approval → SCDOT Approval → CE-C
   - Reasonable Availability of Funding → Study Area Defined; P & N established → EA

3. Staff Field Visit → Coordinator LOI (Electronic) → Coordinator Initiate Studies → Public Info Meeting → Review/Revise Preferred Alternative → Complete EA
   - FHWA Review/Comment → Revise EA → SCDOT & FHWA Approves EA

4. Biological
   - T & E → EFH → C.H.
   - Cultural → 4(f) → 6(f)

5. Relocations/Farmland/Floodplains

6. Haz Mat/Socioeconomic/EJ

7. Noise/Air Quality

8. Wetlands/Streams/Water Quality
   - Mitigation
   - Jurisdictional Determination Outsourced → Submit to USACE → Approve by USACE → Prepare Permit Package → Submit to USACE
     - USACE Review/Comment → Permit Approval → Public Notice → Revise Permit
Existing EMO Environmental Document Process

1. PAR → Eminent Domain → PM Submits Survey Request → Survey Assigned and EMO Copied on E-mail → Desktop Survey for Wetland/Stream → Field Visit Needed
2. Determination of NEPA Documentation
   - FHWA Approval
   - SCDOT Approval
   - Reasonable Availability of Funding
   - CE-A or CE-B
3. Determination of NEPA Documentation
   - CE-C
   - Study Area Defined; P & N established
4. Staff Field Visit → Coordinator LOI (Electronic) → Coordinator Initiate Studies → Public Info Meeting → Review/Revise Preferred Alternative → Complete EA
5. FHWA Review/Comment → Revise EA → SCDOT & FHWA Approves EA

Branches:
- Biological
  - T & E
  - EFH
  - C.H.
- Cultural
  - 4(f)
  - 6(f)
- Relocations/Farmland/Floodplains
- Haz Mat/Socioeconomic/EJ
- Noise/Air Quality
- Wetlands/Streams/Water Quality
  - Mitigation
  - Jurisdictional Determination Outsourced
  - Submit to USACE
  - Approve by USACE
  - Prepare Permit Package
  - Submit to USACE
  - USACE Review/Comment
  - Permit Approval
  - Public Notice
  - Revise Permit

Notes:
- I believe with this and maps/enclosures/rough sketches we can begin GIS review of projects and with PM help can get a start on it then begin contract for consultant.
- I typically have a PPR before PD is complete.
Existing EMO Environmental Document Process

1. PAR → Eminent Domain → PM Submits Survey Request → Survey Assigned and EMO Copied on E-mail → Desktop Survey for Wetland/Stream → Field Visit Needed
   - Yes: Request Surveyors to notify us → Site Visit → Stream/Wetlands Flagged
   - No: Complete PD

2. In House Approval → CE-A or CE-B
   - FHWA Approval
   - SCDOT Approval
   - CE-C

3. Reasonable Availability of Funding → Study Area Defined; P & N established → Staff Field Visit
   - Staff Field Visit (Electronic)
   - Coordinator LOI
   - Coordinator Initiate Studies → Public Info Meeting → Review/Revise Preferred Alternative → Complete EA → FHWA Review/Comment → Revise EA → SCDOT & FHWA Approves EA

4. Biological → T & E
   - Cultural → 4(l) → 6(I)

5. Relocations/Farmland/Floodplains → Haz Mat/Socioeconomic/EJ → Noise/Air Quality → Wetlands/Streams/Water Quality
   - Mitigation
   - Jurisdictional Determination Outsourced → Submit to USACE → Approve by USACE → Prepare Permit Package → Submit to USACE → USACE Review/Comment
   - FONSI Distributed (Electronic) (entered into PPMS & Primavera)
   - FONSI
   - Respond to Comments → Public Hearing → EA Distributed (Electronic) (entered into PPMS & Primavera)
   - PH Package partial file
   - Only for EAs

6. Permit Approval → Public Notice → Revise Permit

7. Nothing major Ed

Comment on Flowchart: Nothing major Ed
Existing EMO Environmental Document Process

PAR → Eminent Domain → PM Submits Survey Request → Survey Assigned and EMO Copied on E-mail → Desktop Survey for Wetland/Stream → Field Visit Needed → No → Complete PD → Yes → Request Surveyors to notify us → Site Visit → Stream Wetlands Flagged

In House Approval → CE-A or CE-B

FHWA Approval → SCDOT Approval → CE-C

Reasonable Availability of Funding → Study Area Defined, P & N established → E.A.

Staff Field Visit → Coordinator LOI (Electronic) → Coordinator Initiate Studies → Public Info Meeting → Review/Revise Preferred Alternative → Complete EA → FHWA Review/Comment → Revise EA → SCDOT & FHWA Approves EA

Biological → T & E → EFH → C.H. → Cultural → 4(0) → 6(0)

Relocations/Farmland/Floodplains → Haz Mat/Socioeconomic/EJ → Noise/Air Quality → Wetlands/Streams/Water Quality → Mitigation → Jurisdictional Determination Outsourced → Submit to USACE → Approve by USACE → Prepare Permit Package → Submit to USACE → USACE Review/Comment → Permit Approval → Public Notice → Revise Permit

FONSI Distributed (Electronic) (entered into PPMS & Primavera) → FONSI → Respond to Comments → Public Hearing → EA Distributed (Electronic) (Entered into PPMS & Primavera)
Existing EMO Environmental Document Process with Waste Identified

PAR → Eminent Domain → PM Submits Survey Request → Survey Assigned and EMO Copied on E-mail → Desktop Survey for Wetland/Stream → Field Visit Needed

No → Complete PD
Yes → Request Surveyors to notify us

PM Begins Design → PD Completed

Study Area Defined; P & N established → EA → CE-C → Determination of NEPA Documentation → PPR to Coordinators → PM Submits PPR to EMO and entered into PPMS and Primavera

PM Begins Design

FHWA/agency coordination

FONSI Distributed (Electronic) (entered into PPMS & Primavera)

Public Hearing

USACE Review/Comment

Revise Permit

*Wait = "waste" to be eliminated or reduced*

*Need to represent coordination with PM throughout process*

*Coast Guard*

*Need to show FHWA/agency coordination*
Consultant Environmental Document Process

1. Determine Level of NEPA document
2. Study Area Defined
3. Purpose and Need
4. Signed Contract or Notice to Proceed
5. Initiate Studies
6. Letter of Intent
7. Reasonable Availability of Funding
8. Design Begins
9. Alternative Development & Analysis
10. Public Info Meeting
11. Review/Revise Preferred Alternative

- Biological: T & E, EFH, C.H.
- Cultural: 4(f), 6(f)
- Relocations/Farmland/Floodplains
- Haz Mat/Socioeconomic/EJ
- Noise/Air Quality
- Indirect and Cumulative
- Wetlands/Streams/Water Quality

- Desktop Survey
- Flagged/GPS
- Permit Determination
- Mitigation
- Jurisdiction Determination
- Submit to USACE
- Approve by USACE
- Prepare Permit Package
- Submit to USACE
- USACE Review/Comment
- Permit Approval
- Public Notice
- Revise Permit
- FONSI Received and Distributed
Consultant Environmental Document Process

1. Signed Contract or Notice to Proceed
2. Purpose and Need
3. Reasonable Availability of Funding
4. Study Area Defined
5. Letter of Intent
6. Design Begins
7. Alternative Development & Analysis
8. Public Info Meeting
9. Determine Reasonable Alternatives
10. Detailed Resource Area Studies

** Optional Public Meeting Here.**

** Suggest sequencing these tasks until a more defined corridor or Build Alt is established to limit field time/expense. At step 10. **

- Biological
- T & E
- EFH
- C.H.
- Cultural
- 4(f)
- 6(f)
- Relocations/Farmland/Floodplains
- Haz Mat/Socioeconomic/EJ
- Noise/Air Quality
- Indirect and Cumulative
- Wetlands/Streams/Water Quality

- Desktop Survey
- Permitted Determination
- Mitigation
- Jurisdiction Determination
- Submit to USACE
- Approve by USACE
- Prepare Permit Package
- Submit to USACE
- USACE Review/Comment
- Permit Approval
- Public Notice
- Revise Permit

- FHWA
- USACE
- SCDOT & FHWA
- Public Hearing
- Respond to Comments

DRAFT EA
- Complete EA
- Final EA
- Final
- EA Distributed
- USACE Review/Comment
-Revise EA
- FHWA Review/Comment
- Final EA

Suggest sequencing these tasks until a more defined corridor or Build Alt is established to limit field time/expense. At step 10.
Project Development Process

Date: July 2013

Kickoff meeting with SCDOT Program Manager (PM)/Environmental Coordinator (EC)

1. Project study area / corridor identified:
   - Collect GIS data
     - Census data (demographics, income, employment, major employers, etc)
     - Land use/zoning
     - Water quality classifications
     - NWI
     - Soils
     - Topos
     - Hazardous materials database search
     - FIRM maps
     - NRHP-listed sites
     - Navigable waters
   - Scoping field visit
     - Identify key community features/resources
     - Identify low-income and/or minority areas
     - Verify GIS data
   - Project information needed from SCDOT
     - PIN
     - File No.

2. Purpose and Need
   - Request traffic data
   - Request accident data
   - Reasonable availability of funding / STIP information
   - Project history/background
   - Address, as appropriate:
     - Logical termini/independent utility
     - System linkage
     - Safety
     - Roadway deficiencies

3. LOI
   - Project description
   - Project location map
   - Request distribution list from EC
   - Review by EC / PM
   - Confirm distribution process
   - Request agency comments, if required.
4. Development of alternatives:

- Continual coordination with Engineers, PM, etc.
- Initiate studies/fieldwork:
  - Biological/habitat assessment, T&E, EFH, Carolina Heelsplitter, if needed.
    - NRTM (signed and dated)
    - Coordination with USFWS if determination any except No effect.
  - Wetlands delineation, stream identification
    - Permit determination form to EC
    - Wetland flagged and GPS
    - Mapping & drawings for JD package
    - Impact assessment form
    - JD package
    - Review by Permit Coordinator (PC)
    - Submitted to USACE
  - Water quality
  - Determine permits needed:
    - GP / IP
    - 401 Water quality certification
    - Coastal zone Consistency or Critical Area permit
    - Nav GP
    - Coast Guard
  - Wild and scenic rivers
  - Floodplains checklist
    - Bridge Scope and Risk Assessment form
    - Coordinate with Water Resources
  - Farmlands
    - Prepare NRCS LESA Form AD 1006 (for projects not within city/town limits)
    - Submit coordination letter to NRCS
  - Cultural Resources (sub)
    - Review CR report
    - Review by SCDOT CR staff
    - Submission to SHPO for concurrence
  - Noise analysis
    - Prepare noise assumption document
      - Need traffic data
      - Model input
      - Design files
      - Noise tech memo
  - Bike/pad considerations
  - Air Quality
    - MSAT
  - Relocations
    - ID relocations
    - Verify with field visit
    - Conceptual relocation report/checklist
  - Hazardous Materials
    - Identify any sites recommended for Phase II assessment
Project Development Process
July 2013
Page 3

- Haz Mat tech memo, if required
  - 4(f) / 6(f)
    - 4(f) documentation, if required
    - deMinimis use form, if required
  - Socioeconomic/EJ/Community Impact Assessment
  - Indirect Impacts
    - NCHRP 8-step process
  - Cumulative Impacts
    - CEQ Guidance on Considering Cumulative Impacts During NEPA (8-step process

5. Public Involvement:
   - Scoping meeting
     o Reserve location
     o Arrange for security
     o Develop materials (displays, presentation, handouts, displays, sign in sheets, comment forms, nametags using SCDOT templates)
     o Materials reviewed by SCDOT and FHWA
     o Revisions & production
     o Summarize comments, if necessary.

   - Public info meetings
     o Reserve location
     o Arrange for security
     o Develop materials (displays, presentation, handouts, sign in sheets, comment forms, nametags using SCDOT templates)
     o Materials reviewed by SCDOT and FHWA
     o Revisions & production
     o Summarize comments, if required
     o Document demographic information

6. Document preparation:
   - Environmental commitments
   - Executive summary, if needed
   - TOC
   - Project description, history/background.
   - Existing facility
   - Purpose and need (brief purpose statement; needs = problems the project intends to correct)
     o Funding
   - Alternatives analysis
     o Alts considered but eliminated
     o No-build
     o Build alternatives
     o TSM, mass transit, etc, if required.
     o Preferred alternative
       - Typical section
       - Opening year LOS
       - Design year LOS
Project Development Process
July 2013
Page 4

- Alternatives Impacts matrix
- Existing conditions / Impacts
- Permits
- Mitigation
- Construction impacts
- Public involvement
- Agency Coordination
- Mapping:
  - Project location map/study area
  - Alternatives
  - Preferred alternative
  - SEE impact maps
  - Project specific mapping
- Appendices/Tech memos
  - Coordination letters
- FHWA Review Guidance checklist complete!!!
- QA/QC
- Printing
- Submit to SCDOT for review
- FHWA review & comment
  - Address comments in document and provide response to FHWA comment sheet.
- Signed EA distribution/availability – discuss with EC
  - District copies
  - Agency copies
  - CD’s
- Develop PDF of entire signed EA with Appendices for project file and for future print.
- Administrative Record

7. Public Hearing
- Meeting Preparation:
  - Reserve location
  - Arrange for security
  - Develop materials (displays, presentation, handouts, sign in sheets, comment forms, nametags, using SCDOT templates)
  - Prepare PH ad using SCDOT template and submit to EC for review and advertising (must be advertised 15-30 days prior to meeting)
  - Materials reviewed by SCDOT & FHWA
  - Revision & production
  - Confirm court reported with SCDOT EC
  - Document demographic information
- Respond to PH comments
  - Confirm with EC/PM that we have all comments received during comment period.
  - Submit response letters to EC/PM for review.
- Public hearing certification package (using SCDOT template), include:
  - Meeting summary
  - Sign in sheets
Project Development Process
July 2013
Page 5

- Handout
- Transcript
- Comments & responses
- Comment summary

8. FONSI
   - Check with EC/PM for agency comments on EA to be addressed in FONSI
   - Check with EC/PM on any project changes
   - FONSI request letter – using SCDOT template/example
   - FONSI Attachment A – using SCDOT template/example
     - Describe changes to project based on public and/or agency input
     - Summarize EA – project description, impacts, etc
     - Environmental commitments table

9. Permitting