Big Picture

✓ Environmental Review Process (ERP)
✓ National Environmental Policy Act (NEPA)
✓ State Environmental Review Process (State)
✓ Endangered species
✓ Water Quality Permits
  • Cultural Resource (Section 106)
  • Hazardous Materials
  • Noise
  • Air
Why Consider Environmental Factors?

- It’s the law
- Civil penalties
- Criminal penalties
- Criminal prosecution
- Basis for lawsuits
- Loss of efficiencies
- Loss of federal funds
- Resource agency relations
- Public relations
- Travel and tourism
- Schedule and budget
Environmental Factors to Avoid/Minimize

- Wetlands
- Streams
- Endangered species
- Historic properties
- Hazardous materials
- Outdoor easements
- Public parks, recreational areas, wildlife refuges
- Agricultural / Forestal Districts
- Noise
- Environmental Justice

TPMI 2017
Cumulative Number of Federal Environmental Laws

- Years
- Cumulative number of laws

- 0 10 20 30 40 50 60 70
- CAAA PPA CERCLA CWA RCRA TSCA CAA NEPA
ERP

• Coordinate with environmental staff to use studies identified in ERP to inform scoping process

• Manage project changes, and communicate project design and schedule changes to environmental staff

• Use input from Environmental staff to adjust budget and schedule (task durations)
Primarily additional project details to environmental staff.

- Avoid/minimize impacts to facilitate lowest level of NEPA document.
- Recommend increasing footprint of your study areas/NEPA Study window to be larger than the project footprint to avoid repeated survey efforts.

Purpose & Need
## Reality Check: External influence - FHWA

<table>
<thead>
<tr>
<th>Document Type</th>
<th>Time (Duration)</th>
<th>Cost</th>
<th>Controlling Entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCE</td>
<td>1 Week</td>
<td>&lt;$500</td>
<td>FHWA</td>
</tr>
<tr>
<td>PCE</td>
<td>3 Months</td>
<td>&lt;$1,000</td>
<td>FHWA</td>
</tr>
<tr>
<td>CE</td>
<td>Up to 8 months</td>
<td>$1,000-$10,000</td>
<td>FHWA</td>
</tr>
<tr>
<td>EA</td>
<td>14 months</td>
<td>$30,000-$500,000</td>
<td>FHWA*</td>
</tr>
<tr>
<td>EIS</td>
<td>3+ years</td>
<td>3 million+</td>
<td>FHWA*</td>
</tr>
</tbody>
</table>

*FHWA influenced by federal environmental agencies
VDOT’s Record: NEPA Documents for FHWA (April 2016-April 2017)

• Blanket Categorical Exclusion – 16.2%

• Programmatic Categorical Exclusion – 75.0%

• Categorical Exclusion – 5.8%

• Environmental Assessment / Environmental Impact Statement – 3%
Endangered Species

- Provide project details to environmental lead
- Avoid/minimize impacts to:
  - Facilitate lowest level of effect determination
  - Eliminate or reduce time of year restrictions
- Consider requirement to update endangered species review, ex survey have expirations and must be revisited
- Manage project changes, and communicate project design and schedule changes to environmental staff
- Critical Path, determine presence of species within action areas due to seasonal constraints for surveys. Long Durations for “Biological Opinions” from USFWS on impacts
- Endangered species
  - Time of year restrictions (up to 7 months; construction season)
  - Surveys (up to $20,000 and 2 years) and relocations
Threatened & Endangered Species

Federal Species

- James Spinymussel *Pleurobema collina*
- Madison Cave Isopod *Antrolana lira*
- Swamp Pink *Helonias bullata*
- Indiana Bat *Myotis sodalis*
- Northern Long-eared Bat *Myotis septentrionalis*
Endangered Species

State Species

• Peregrine Falcon
• Loggerhead Shrike
• Bald Eagles
• Little Brown Bat
• Tri-colored Bat
• Anadromous Fish
Section 106 NHPA

Historic Resources:

• The terms “historic resources” or “cultural resources” refer to properties such as buildings, bridges, archaeological sites, cemeteries, battlefields, designed landscapes, traditional cultural properties, and districts (a geographically- and thematically-defined group of resources), usually 50 years of age or older, that may have historical significance.

• Ensure that potential harmful effects to historic properties are identified and considered early in project planning so that these effects can be avoided or minimized.

• Consider this to be a critical path and should be started early to avoid future schedule delays, ex. Consulting parties, MOA’s, etc…
Historic Districts

- Jefferson Carter Rural Historic District
- Southern Albemarle Rural Historic District
- Greenwood Afton Historic Districts
- Yancey Mills Historic District
### Reality Check: External Influence – FHWA and Others

<table>
<thead>
<tr>
<th>Study/Evaluation</th>
<th>Time (Duration)</th>
<th>Cost</th>
<th>Controlling Entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Section 106</td>
<td>6 months-1 year</td>
<td>$50,000-$500,000</td>
<td>FHWA, DHR*, ACHP*</td>
</tr>
<tr>
<td>Agricultural/Forestal District</td>
<td>5 months</td>
<td>$1,000-$5,000</td>
<td>Local Government</td>
</tr>
<tr>
<td>4(f)</td>
<td>6-8 months</td>
<td>$50,000+</td>
<td>FHWA/DOI*</td>
</tr>
</tbody>
</table>

*DHR - Department of Historic Resources; *ACHP - President's Advisory Council on Historic Preservation; *DOI - Department of Interior
Water Quality Permits

- Identify potential impacts associated with culvert replacements/extensions, bridges, roadway widening, etc...
- Requires delineation of WOUS to identify Streams & Wetlands
- Utilize VDOT IACM (Inter Agency Coordination Meeting) process
Permit Costs

• Processing fees
• Public notice
• Mitigation
  – Design, ROW, construction, monitoring
  – Wetlands: $100,000+/acre
  – Streams: $650+/linear foot
• Erosion and sedimentation control
  – Design, construction, monitoring
• Monitoring and reporting (including post-construction)
# Reality Check: External Influences – Corps of Engineers

<table>
<thead>
<tr>
<th>Permit Type</th>
<th>Time</th>
<th>Compensatory Mitigation Required</th>
<th>Public Notice</th>
<th>Agency Pre-Const. Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Permit / Non-Reporting Permit</td>
<td>15-30 days</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Nationwide</td>
<td>60-75 days</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Regional</td>
<td>60-120+ days</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>State Program General Permit</td>
<td>60-75 days</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Standard</td>
<td>180-360+ days</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
## Reality Check: External Influences – Department of Environmental Quality (DEQ)

<table>
<thead>
<tr>
<th>Permit Type</th>
<th>Time</th>
<th>Compensatory Mitigation Required</th>
<th>Public Notice</th>
<th>Agency Pre-const. Review</th>
<th>State Water Control Board Hearing</th>
</tr>
</thead>
<tbody>
<tr>
<td>No permit</td>
<td>15-30</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>VWPP* General</td>
<td>45 days</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>VWPP*</td>
<td>180 - 220 days</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*VWPP-Virginia Water Protection Permit*
# Reality Check: External Influence – Virginia Marine Resources Commission (VMRC)

<table>
<thead>
<tr>
<th>Permit Type</th>
<th>Time</th>
<th>Compensatory Mitigation Required</th>
<th>Public Notice</th>
<th>Agency Pre-Const. Review</th>
<th>VMRC Hearing</th>
</tr>
</thead>
<tbody>
<tr>
<td>VA General Permit 1</td>
<td>45-75 days</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>(VGP-1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standard</td>
<td>180+ days</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

TPMI 2017
Hazardous Materials

- UST
- AST
- Contaminated Soil & Groundwater
- Solid Waste
- Evaluated potential to impact previously reported release sites and new sites.
Noise

• A highway is being built on a new location
• An existing highway is being redesigned with a significant change in its alignment
• The number of through traffic lanes on an existing highway is being increased
• The addition of a new or substantial alteration of a weigh station, rest stop, ride-share lot or toll plaza
VOF Easements

• An open-space easement is an interest in property voluntarily offered by a landowner that limits the property’s uses in order to protect its conservation and open-space values

• Numerous VOF Easements along I-64 corridor in Albemarle County
Take Control

• Avoiding and minimizing impacts will reduce FHWA and regulatory agency control of your schedule and budget
How do you manage your destiny?

- Understand your environmental role on Project Team
- Involve environmental staff
- Manage project scope
- Identify environmental issues early
- Avoid/minimize impacts:
  - Project footprint
  - Shift alignment
  - Modify typical section
  - Retaining walls
  - Pier spacing
  - Countersink pipes
  - Eliminate channelization and stream relocation; stream impacts
  - Use bridges, bottomless arches
  - Construction BMPs