Environmental Requirements in Project Development

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Environmental Division
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VDOT Guidance & Requirements

Information & forms available on VDOT Web site

- http://www.virginiadot.org/
Why Do We 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
Environmental Requirements

Multiple state and federal environmental regulations

– Endangered Species Act (ESA)
– National Environmental Policy Act (NEPA)
– National Historic Preservation Act
– Clean Water Act (CWA)
– Land and Water Conservation Fund Act
– VA Solid Waste Management Regulations
– Etc.
Roles & Responsibilities - Locality

- Comply with Project Agreement
- Responsible to VDOT for compliance with State & Federal Environmental requirements
- Implement environmental commitments
- If not, project funding is jeopardized
Roles & Responsibilities - VDOT

- Comply with Project Agreement
- Responsible to state agencies for State Environmental Review Process (SERP)
- Responsible to FHWA for National Environmental Policy Act (NEPA)
- Adopt & sign NEPA documents prepared by Locality
- Technical assistance & guidance to Locality
Info needed to initiate Environmental reviews

- USGS topographic location map marked with project limits/shape
- Project description and purpose
- Existing vs. proposed pavement width, number of traffic lanes and RW width
- Any known project factors or issues:
  - Streams and wetlands
  - Bridges and major drainage structures
  - Parks or recreational areas
  - Historic buildings/districts
  - State or federal forest lands
  - Industrial/commercial land uses
National Environmental Policy Act (NEPA)

- Critical element in project schedule
  - Basis for approval of use of federal funds
  - Basis for location decisions
  - Required for willingness or public hearing
  - Supports permitting process
Roles & Responsibilities

Locality

Prepares NEPA documentation in accordance with VDOT / FHWA agreements

Conducts all technical studies

Provides NEPA documentation to VDOT

VDOT

Signs document

Coordinates NEPA with FHWA
Types of NEPA documents

- **Blanket Categorical Exclusion (BCE)** [1- 2 weeks]
- **Programmatic Categorical Exclusion (PCE)** [1 - 2 months]
- **Categorical Exclusion (CE)** [4 - 6+ months]
- **Environmental Assessment (EA)** [12+ months]
  - Draft EA – Revised EA - Finding of No Significant Impact (FONSI)
- **Environmental Impact Statement (EIS)** [2+ years]
  - Draft EIS – Final EIS - Record of Decision (ROD)
BCE project categories

1. Activities which do not involve or lead directly to construction, such as planning and research activities; grants for training; engineering to define the elements of a proposed action or alternatives so that social, economic, and environmental effects can be assessed; and Federal-aid system revisions which establish classes of highways on the Federal-aid highway system.
2. Ridesharing activities that don’t lead to construction.
4. Program administration, technical assistance activities, and operating assistance to transit authorities to continue existing service or increase service to meet routine changes in demand.
5. The purchase of vehicles by the applicant where the use of these vehicles can be accommodated by existing facilities or by new facilities which themselves are within a CE.
6. Feasibility studies such as: preliminary investigations, data collection, study of alternatives, cost benefits, etc. and recommendations.
7. Incidental construction such as: installation of flood detection unit; installation of video surveillance and fiber optic cable; SSR closed loop system; upgrade of terminal sections; waterproofing.
8. ITS related activities including traffic signal interconnect and synchronization projects and equipment upgrades or replacement.
9. The restoration of statues or monuments.
10. Installation or maintenance of signs; rumble strips; pavement markings/raised pavement markers/sensors and/or replacement fencing with the existing right of way; line painting or striping.
11. Purchase and installation of operating or maintenance equipment to be located within the transit facility and with no significant impacts off the site.
PCE Project Categories

45 Separate categories including:

Bridge or drainage structure rehabilitation, reconstruction, or replacement when said work is on or adjacent to the same alignment; construction of grade separation to replace existing at-grade railroad crossings at the same location.

Modernization of a highway by restoration, rehabilitation, reconstruction, the addition of shoulders or adding auxiliary lanes (e.g. parking, weaving, turning, climbing, but no through lanes).
PCE Qualifying Conditions/Criteria
(Answer must be “No” to all, or a standard CE is required)

<table>
<thead>
<tr>
<th>The action involves:</th>
<th>YES</th>
<th>NO</th>
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<tbody>
<tr>
<td>Significant environmental impacts as described in 23 CFR 771.117(a)</td>
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<td>Unusual circumstances as described in 23 CFR 771.117(b)</td>
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<td>Significant impacts to planned growth or land use</td>
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<td>The relocation of significant numbers of people</td>
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<td>More than minor amounts of temporary or permanent right of way acquisition</td>
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<td>Significant air, noise, or water quality impacts</td>
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<td>A determination of adverse effect on historic properties</td>
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<td>A determination that the action is likely to adversely affect any federally listed</td>
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<td>endangered species or their designated critical habitat</td>
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<td>Significant impacts on travel patterns</td>
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<td>Changes in Interstate access control requiring FHWA approval</td>
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<tr>
<td>A use of properties protected by Section 4(f), (with exception of de minimis</td>
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<td>impact finding)</td>
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<td>Individual or cumulative significant environmental impacts</td>
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<td>Hazardous material sites or potential for hazardous materials within existing right</td>
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<td>of way</td>
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<td>Encroachment on regulatory floodway of water courses or water bodies of</td>
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<td>greater than one foot</td>
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<td>USCG construction permit, USACE Individual Section 404 permit</td>
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<td>Cause disproportionately high and adverse effects on any minority or low-income</td>
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<td>populations</td>
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Environmental Assessment (EA) and Environmental Impact Statement (EIS)

• Very few projects are EA or EIS level (majority are PCE/CE level)
  • Construction of roads on new alignment

• Draft EA – Revised EA - Finding of No Significant Impact (FONSI)

• Draft EIS – Final EIS - Record of Decision (ROD)

• Public hearing requirements between draft and final documents and substantive comments must be addressed before revised/final document completed
Info needed to initiate NEPA document

- Purpose and need
- Logical termini (rational end points)
- Alternatives considered
- Typical section
- Preliminary plans, or worst case study limits
  - Inclusive of potential right-of-way, easements, utility relocations, stormwater management, MOT, etc.
Range of studies for NEPA document

- Water quality
- Wetlands
- Streams
- Floodplains
- T&E species
- Cultural resources
- Hazmat

- Land use
- Farmland
- Relocations
- Environmental justice
- Noise
- Air
Major ticket items supporting NEPA

• Section 106 of National Historic Preservation Act*
• Section 7 of Endangered Species Act*
• Section 4(f) of Department of Transportation Act
• Noise study

Effect determinations, agency concurrence, resolution required prior to completion of NEPA document

*These two items also support permit acquisition
Section 106 of National Historic Preservation Act

- Cultural Resources – Historic properties
  - Buildings, districts, structures, objects (markers), sites (archaeological and battlefields)
    - Age - Generally at least 50 years old
    - Integrity - Still look much the way it did in the past
    - Significance - Associated with events, activities, people or developments that were important in the past
  - Listed on National Register of Historic Places vs. eligible for listing
    - Treated the same
Phoenix truss in Botetourt County
Green Valley Farm Rural Historic District, Giles County
Cultural Resources

- **Locality:**
  - Conducts archaeological and/or architectural studies
  - Obtains VDHR effect determination; may be commitments

- **An adverse effect determination will trigger 4(f)**

- **VDOT must be part of any Memorandum of Agreement negotiated**
Section 4(f) of Department of Transportation Act

- Protected 4(f) properties
  - Cultural resources/historic properties
  - Public recreational facilities/park
  - Wildlife refuges (publicly owned and open to public)
- 4(f) impact results from transportation use of land: fee simple, permanent easement, temporary easement, constructive use (proximity impacts impair activities, features and attributes of the property)
- Full 4(f) evaluation vs. de minimis impact finding
  - Adverse effect vs. no adverse effect
  - For a full 4(f) evaluation, FHWA and U.S. Dept. of Interior must agree there is no feasible alternative to impacting the 4(f) property
  - FHWA makes 4(f) de minimis impact decision
- Entire evaluation, coordination, clearance process can take 9 - 12+ months for a full 4(f) evaluation
Bridge replacement within Piedmont Mill Historic District, Franklin County

Section 4(f) requires evaluation of avoidance alternatives


4(f) *de minimis* requirements

- **2005 revision to regulation**
  - Impact is generally minor in nature and results in no adverse effect to the activities, features, or attributes qualifying a site, park, recreation area or refuge for protection under Section 4(f)

- **Historic sites**
  - VDHR has agreed the project will have no adverse effect to historic properties
  - VDHR is advised that FHWA intends to make a *de minimis* finding

- **Park, recreation area, or wildlife and waterfowl refuge**
  - Official with jurisdiction over the property agree the activities, features, and attributes that qualify the resource for protection under Section 4(f) are not adversely affected
  - Official with jurisdiction over the property are informed of FHWA’s intent to make the *de minimis impact finding*
  - Public is afforded an opportunity to review and comment on the effects of the project on the protected activities, features, and attributes of the Section 4(f) resource.
Other Protected Properties

- Protects land from development and controls eminent domain
- Applicable regardless of funding type

- **Section 6(f) of Land and Water Conservation Fund Act**
  - VA Department of Conservation and Recreation and U.S. Department of Interior/National Park Service
  - Conversion process can be a 12+ month process

- **Conservation Easements**
  - Virginia Outdoors Foundation
  - Conversion process can take 6+ months

- **Agricultural and Forestal Districts (AFD)**
  - AFD’s created/administered by local government with absolute authority
  - Conversion process can take 3 – 5 months
Natural Resources

- **Locality:**
  - Coordinates with DCR, DGIF and USFWS (using IPaC) for T&E Species

- **Documentation provided to VDOT in Natural Resource Due Diligence form (EQ-555)**
Section 7 of Endangered Species Act

• Protects threatened and endangered (T&E) species
• Environmental agencies with T&E oversight in Virginia
  • U.S. Fish and Wildlife Service (USFWS)
  • Virginia Department of Game and Inland Fisheries (VDGIF)
  • Virginia Department of Conservation and Recreation (VDCR)
  • Virginia Department of Agriculture and Consumer Services (VDACS)

• Federally Protected
  58 animals
  18 plants

• State Protected
  All federally protected species, plus:
  66 animals
  11 plants

TOTAL  153

Roanoke logperch (endangered)
Most Common

- Small whorled pogonia
- Bald eagle
- Northern long-eared bat
- Indiana bat
- Atlantic sturgeon
- Dwarf wedge mussel
- Roanoke logperch
- Swamp pink
- Peregrine falcon
- Sensitive joint vetch
- Tennessee Drainage mussels
Endangered Species

Northern long-eared bat (proposed)

Indiana bat

Virginia big-eared bat
Plus....

Anadromous fish (shad, herring, etc.)
Migratory birds

Protected species occupy a variety of habitats
- Tidal streams and wetlands
- Nontidal streams and wetlands
- Upland forest, trees and towers
- Bridges and other structures (bats, birds)
- Beaches and shoreline

Rare or Species of Concern?
Not a protected species
Section 7 of Endangered Species Act

- Entire evaluation, coordination, clearance process can take depending on the circumstances
  - Field work
  - Habitat assessments and surveys by qualified consultants
  - USFWS Information Planning and Conservation (IPaC) process
    - Effect determinations
  - **Formal consultation under Endangered Species Act**
    - Potential for a federally listed species to be adversely affected
    - 135 day process
    - USFWS produces a Biological Opinion with Terms and Conditions
Section 7 of Endangered Species Act

• Level of NEPA document dependent on type of effect to T&E species

• Coordination with USFWS regarding effect must be completed before NEPA document can be finalized (unless FHWA agrees otherwise)

• Permits will not be issued without Section 7 coordination being completed

• 1 – 12+ months
• **Locality:**
  - Conducts noise & air analyses
  - Coordinate results with VDOT

• **Construction of noise barriers decided by FHWA & VDOT Noise Abatement Committee**

• **Noise barriers can affect R/W & project cost**
Noise Requirements

• **Required for Type I Projects**
  - New Location
  - Substantially altered horizontal or vertical alignment
  - Add through lanes
  - Add auxiliary lanes

• **Time**
  - 1-3 months for traffic data
  - 6 weeks to 4 months for study

• **Cost**
  - $50,000 - >$100,000
Air Requirements

- **Required for large projects that:**
  - Add capacity
  - Add through lanes and/or auxiliary lanes
  - Add turn lanes

- **Parameters**
  - Carbon Monoxide
  - Ozone
  - Particulate Matter
  - Mobile Source Air Toxics

- **Time**
  - 1-3 months for Traffic data

- **Cost**
  - $5,000 - $35,000
Noise/Air

• Important to meet Ad Date

• If Ad Date missed, will have to update Design Year & noise & air analyses
  • Update may result in noise barriers late in project development
  • Update can result in more R/W required & utility relocation conflicts with new barriers
Hazmat

- **Applicable regardless of funding type**
- **Phase I and II Environmental Site Assessments**
  - Petroleum contamination
  - Heavy metals
  - Lead paint on bridges
  - Asbestos in buildings and on bridges
- **Contaminated Soils**
  - Locality:
    - Performs studies to determine presence prior to acquisition of R/W
    - Provides VDOT with Hazardous Materials Due Diligence form (EQ-121)
Haz-Mat Studies: How long do they take?

- **Phase I ESA** (records search, site visit, non-intrusive)
  - 30-45 days parcel; corridors 45-60 days

- **Phase II** (intrusive sampling and analysis)
  - 60-90 days (additional); corridors longer

- **Rail line work adds more time**
  - Workplan Review
  - Separate Agreement
  - Insurance/Bonding
  - Rail consultant coordination

- **Asbestos Inspections** – 30 days
Environmental Justice

• Distribution and effects of environmental problems and the policies and processes to reduce differences in who bears environmental risks.

• Concern for the disproportionate risk burden placed upon any population group as defined by gender, age income, and/or race.

• The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect environmental laws, regulations, and policies.
Environmental Justice Analysis

- Study Area should be determined by the NEPA environmental impact study area.

- Provide demographic information in the NEPA document in socioeconomic section (race, income level, etc…)
  - Minority- Black or African American, Hispanic, Asian American, American Indian/Alaskan Native, and Native Hawaiian or Pacific Islander. [http://www.census.gov/2010census/](http://www.census.gov/2010census/)
  - Low-income- DOT and FHWA use the Department of Health and Human Services poverty guidelines. [http://www.usa.com/virginia-state.htm](http://www.usa.com/virginia-state.htm)

- Are Environmental Justice Populations present within the study area?
  - The minority or low-income population of the environmental justice study area exceeds 50 percent or;
  - The minority or low-income population percentage of a Census Block is meaningfully greater (Greater than 10%) than the average minority or low-income population percentage of the environmental justice study area

- “No minority or low-income populations have been identified that would be adversely impacted by the proposed project as determined above. Therefore, in accordance with the provisions of E.O. 12898 and FHWA Order 6640.23, no further EJ analysis is required.”
Environmental Permits

• Locality conducts permit determination for every project regardless of funding type and secures all permits

• 1 – 15+ month process
  • Dependent on scope of project and level of stream and wetland delineations required
  • Locality prepares Joint Permit Application (JPA) for projects requiring the acquisition of reporting permits

• Documentation provided to VDOT in Natural Resource Due Diligence form (EQ-555)
Obtain Environmental Permits

- **Permitting agencies in Virginia**
  - U.S. Army Corps of Engineers (COE)
  - Virginia Marine Resources Commission (VMRC)
  - Virginia Department of Environmental Quality (DEQ)

- **Acquisition of permits involves coordination with the permitting agencies**
Water Quality Permits

Types of Permits:
- Nationwide Permits (USACE)
- SPGP (USACE)
- VWP GP (DEQ)
- Individual Permits (USACE, DEQ)
- Standard Permit (VMRC)
Federal Consistency Determination

• **CZM Concurrence**
  - Demonstrate compliance with Enforceable Policies
  - DEQ administers in Coastal Zone

• **Not required for NEPA if FHWA is lead**

• **Required for:**
  - Corps of Engineers Individual Permit
  - Coast Guard Permits
VDOT verifies environmental compliance before advertisement authorization

- Reports, forms, correspondence from Locality to VDOT allows completion
- 2 - 4 week process
- VDOT conducts Environmental Quality Assurance reviews once a year on localities

Memorandum
To: District Construction Engineer
   IPM Project Manager
Re: Certification Checklist Verifying Completion of Environmental Activities Needed to Advertise a Project and Identify Relevant Environmental Commitments

(COMPLETE ON ALL PROJECTS REGARDLESS OF FUNDING SOURCE)

ENVIRONMENTAL CERTIFICATION/COMMITMENTS CHECKLIST

1. SERP complete?
   - Yes
   - No
   - Exempt
   - Not Required
   - Data Source:
   - Comments:

2. NEPA complete?
   - Yes
   - No
   - No Federal Action
   - Data Source:
   - Comments:
   - If yes, provide document type:

3. Water quality permits required?
   - Yes
   - No
   - Data Source:
   - Comments:
   - If yes, provide permit types:
   - If yes, have all water quality permits been obtained?
   - Yes
   - No
   - Comments:
Locality

- Failure to implement commitments jeopardizes funding
- Permit violations have fines / jail time
- VDOT conducts environmental monitoring during construction
Richmond District Contacts

HB2

Mark Riblett – 804/524-6150
Assistant District Administrator - Planning, Investment Management, & Project Development

Locally Administered Projects

Jorg Huckabee-Mayfield – 804/524-6260

Environmental Technical Assistance

Kirk Millikan – 804/524-6108