

TABLE OF CONTENTS

SUMMARY	S-1
A. ADMINISTRATIVE ACTION	S-1
B. ADDITIONAL INFORMATION.....	S-1
C. DESCRIPTION OF PROPOSED ACTION/PURPOSE AND NEED.....	S-1
D. ALTERNATES RETAINED FOR DETAILED STUDY	S-3
E. SOCIOECONOMIC RESOURCES AND LAND USE.....	S-5
F. HISTORIC PROPERTIES.....	S-7
G. NATURAL ENVIRONMENT	S-7
H. NOISE.....	S-10
I. AIR QUALITY.....	S-10
J. HAZARDOUS MATERIALS	S-10
K. SECTION 4(F).....	S-11
L. SUPPORTING TECHNICAL REPORTS.....	S-11
M. PERMITS AND APPROVAL REQUIRED.....	S-12
N. PUBLIC HEARING	S-12
I. PURPOSE AND NEED	I-1
A. EXISTING CONDITIONS.....	I-1
B. PURPOSE OF THE PROJECT	I-2
C. PROJECT NEED	I-3
1. Geometric Inconsistencies	I-3
2. Capacity Limitations.....	I-3
a. Capacity Analysis	I-3
b. Vehicle Classification	I-4
3. Traffic Operations and Safety.....	I-4
a. Travel Demand Volumes	I-4
b. Peak Hour Traffic	I-4
c. Travel Demand Trends	I-5
d. Crash History	I-6
4. Other Considerations	I-7
a. Emergency Evacuation Capacity	I-8
b. Bridge Maintenance	I-8
c. Transportation Significance	I-8
D. CONCLUSION.....	I-9
II. ALTERNATES CONSIDERED	II-1
A. DESIGN GUIDELINES	II-1
B. PRELIMINARY ALTERNATES	II-2
C. ALTERNATES RETAINED FOR DETAILED STUDY	II-4

III.	EXISTING ENVIRONMENT AND ENVIRONMENTAL IMPACTS	III-1
A.	SOCIOECONOMIC RESOURCES AND LAND USE.....	III-1
1.	Demographics	III-1
2.	Communities and Community Facilities	III-3
a.	Existing Conditions.....	III-3
b.	Potential Effects	III-7
3.	Environmental Justice.....	III-10
a.	Minority Populations	III-11
b.	Low-income Populations	III-11
c.	Additional Sources.....	III-12
d.	Potential Effects on Environmental Justice	III-12
e.	Title VI Statement.....	III-12
4.	Visual Quality	III-13
5.	Economic Environment	III-14
a.	Employment Characteristics.....	III-14
b.	Effects on Local and Regional Business Activity.....	III-15
6.	Land Use.....	III-16
a.	Existing and Future Land Use.....	III-16
b.	Potential Effects on Land Use.....	III-18
B.	HISTORIC PROPERTIES.....	III-20
1.	Historic Structures	III-20
a.	Description of Historic Structures	III-20
b.	Effects to Historic Structures	III-21
2.	Archeological Resources	III-22
a.	Description of Archeological Resources	III-22
b.	Potential Effects.....	III-23
C.	NATURAL ENVIRONMENTAL RESOURCES.....	III-23
1.	Physiography/Topography and Geology	III-24
a.	Existing Conditions.....	III-24
b.	Potential Effects	III-25
c.	Avoidance, Minimization and Mitigation Measures	III-25
2.	Soils.....	III-25
a.	Existing Conditions.....	III-25
b.	Potential Effects	III-26
c.	Avoidance Minimization and Mitigation Measures	III-26
3.	Waters of the US including Wetlands.....	III-28
a.	Existing Conditions.....	III-28
b.	Potential Effects	III-30
c.	Avoidance, Minimization, and Mitigation Measures	III-30

4. Surface Water and Water Quality	III-31
a. Existing Conditions.....	III-31
b. Potential Effects	III-33
c. Avoidance and Minimization Measures	III-33
5. Floodplains.....	III-34
a. Existing Conditions.....	III-34
b. Potential Effects	III-34
c. Avoidance, Minimization and Mitigation Measures	III-35
6. Shorelines.....	III-35
a. Existing Conditions.....	III-35
b. Potential Effects	III-36
c. Avoidance, Minimization and Mitigation Measures	III-36
7. Water Supply/Groundwater	III-36
a. Existing Conditions.....	III-36
b. Potential Effects	III-37
c. Avoidance, Minimization and Mitigation Measures	III-37
8. Aquatic Habitat and Wildlife	III-37
a. Existing Conditions.....	III-37
b. Potential Effects	III-39
c. Avoidance, Minimization and Mitigation Measures	III-40
9. Terrestrial Habitat and Wildlife	III-41
a. Existing Conditions.....	III-41
b. Potential Effects	III-44
c. Avoidance, Minimization and Mitigation Measures	III-44
10. Rare, Threatened, and Endangered Species (RTE).....	III-45
a. Existing Conditions.....	III-45
b. Potential Effects	III-46
c. Avoidance and Minimization Measures	III-48
11. Unique and Sensitive Areas	III-49
a. Existing Conditions.....	III-49
b. Potential Effects	III-49
12. Chesapeake Bay Critical Areas.....	III-49
a. Existing Conditions.....	III-49
b. Potential Effects	III-50
c. Avoidance, Minimization and Mitigation Measures	III-50
D. NOISE.....	III-51
1. Existing Conditions.....	III-51
2. Impact Assessment.....	III-51
3. Reasonable and Feasible Noise Abatement	III-54

E.	AIR QUALITY.....	III-54
1.	Carbon Monoxide Micro-scale Evaluation.....	III-54
2.	PM _{2.5} Regional and Hot-Spot Conformity Determination.....	III-55
3.	Mobile Source Air Toxics Analysis (MSATs).....	III-55
4.	Ozone (O ₃).....	III-56
5.	Construction Emissions.....	III-56
F.	CLIMATE.....	III-57
1.	Existing Conditions.....	III-57
2.	Potential Effects.....	III-57
G.	HAZARDOUS MATERIALS.....	III-57
1.	Existing Conditions.....	III-57
2.	Potential Effects.....	III-58
H.	INDIRECT AND CUMULATIVE EFFECTS (ICE) ANALYSIS.....	III-59
1.	Resources.....	III-59
2.	ICE Analysis Boundaries.....	III-60
3.	Land Use Scenarios.....	III-60
4.	Indirect Effects.....	III-60
5.	Cumulative Impacts.....	III-60
IV.	COORDINATION AND COMMENTS.....	IV-1
A.	INTERAGENCY COORDINATION, MEETINGS, AND CORRESPONDENCE.....	IV-1
1.	Interagency Coordination.....	IV-1
2.	Interagency Meetings.....	IV-1
3.	Interagency Correspondence.....	IV-3
4.	Naval Support Facility Dahlgren Community.....	IV-3
B.	FOCUS GROUP MEETINGS.....	IV-3
C.	PROJECT INITIATION.....	IV-5
D.	ALTERNATES PUBLIC WORKSHOP AND CITIZEN CORRESPONDENCE.....	IV-5
E.	BRIEFINGS TO ELECTED OFFICIALS AND COMMUNITY/BUSINESS ORGANIZATIONS.....	IV-6
F.	ENVIRONMENTAL JUSTICE OUTREACH.....	IV-6
G.	PROJECT WEBSITE.....	IV-7
V.	DRAFT SECTION 4(f) EVALUATION.....	V-1
A.	INTRODUCTION.....	V-1
B.	PROPOSED ACTION.....	V-1
1.	Purpose and Need.....	V-1
2.	Description of Action.....	V-1
C.	SECTION 4(F) RESOURCES.....	V-2
1.	Governor Harry W. Nice Memorial Bridge (CH-376).....	V-2

2. Publicly Owned Public Park Properties in Virginia	V-3
a. Barnesfield Park.....	V-4
b. Dahlgren Wayside Park	V-5
c. Potomac Gateway Welcome Center	V-6
d. Captain John Smith Chesapeake National Historic Trail	V-7
D. SECTION 4(F) USES	V-7
1. Alternate 1: No Build.....	V-9
2. Alternate 2: New Two-lane Bridge to the South; Rehabilitate Existing Bridge.....	V-9
3. Alternate 3: New Two-lane Bridge to South; Replace Existing Bridge	V-10
4. Alternate 4: New Two-lane Bridge to the North; Rehabilitate Existing Bridge.....	V-10
5. Alternate 5: New Two-lane Bridge to the North; Replace Existing Bridge	V-11
6. Alternate 6: New Four-lane Bridge to the South; Take Existing Bridge Out of Service	V-11
7. Alternate 7: New Four-Lane Bridge to the North; Take Existing Bridge Out of Service	V-11
E. AVOIDANCE ANALYSIS	V-12
1. Alternate 1–Modified: Rehabilitation Without Affecting the Historic Integrity of the Bridge.....	V-12
2. Alternate 8: Off Existing Alignment.....	V-13
a. Alternate 8-North.....	V-13
b. Alternate 8-South.....	V-14
3. Alternate 10: Tunnel	V-15
4. Alternate 13: Transportation Systems Management / Travel Demand Management.....	V-15
5. Alternate 14: Transit	V-16
F. LEAST OVERALL HARM ANALYSIS.....	V-16
1. Alternate 1: No Build.....	V-17
2. Alternate 2: New Two-lane Bridge to the South; Rehabilitate Existing Bridge.....	V-17
3. Alternate 3: New Two-lane Bridge to South; Replace Existing Bridge	V-18
4. Alternate 4: New Two-lane Bridge to the North; Rehabilitate Existing Bridge.....	V-18
6. Alternate 6: New Four-lane Bridge to the South; Take Existing Bridge Out of Service	V-18
7. Alternate 7: New Four-lane Bridge to the North; Take Existing Bridge Out of Service	V-19
8. Alternate 9: Roadway Shift.....	V-19
a. Alternate 9-MD North.....	V-19

b. Alternate 9-MD North.....	V-19
9. Alternate 11: Stacked Deck	V-20
10. Alternate 12: Three-lane Bridge with Movable Barrier.....	V-20
11. Alternate 15: Replace Existing Bridge on Existing Alignment	V-21
G. ALL POSSIBLE PLANNING TO MINIMIZE HARM.....	V-21
H. COORDINATION	V-22
1. Officials with Jurisdiction.....	V-22
a. US Department of Interior / National Park Service (NPS).....	V-22
b. King George County	V-23
c. Virginia Tourism Corporation	V-23
2. State Historic Preservation Officer	V-23
3. Localities.....	V-23
a. Charles County.....	V-24
b. King George County	V-24
4. US Department of Agriculture (USDA) and Housing and Urban Development (HUD).....	V-24
5. Other	V-24
a. US Navy/Naval Support Facility (NSF) Dahlgren	V-24
b. Virginia Department of Conservation and Recreation (VDCR).....	V-24
c. Public at Large	V-24
VI. REFERENCES.....	VI-1
VII. LIST OF PREPARERS	VII-1
VIII. DISTRIBUTION LIST	VIII-1
A. FEDERAL AGENCIES.....	VIII-1
B. STATE AGENCIES	VIII-2
C. COUNTY/LOCAL AGENCIES.....	VIII-3

LIST OF APPENDICIES

Appendix A: Alternate Plates
Appendix B: Agency Correspondence
Appendix C: Relocation Assistance Program
Appendix D: Draft Compensatory Mitigation Plan
Appendix E: Public Involvement Correspondence
Appendix F: Interagency Coordination Plan
Appendix G: Acronym List
Appendix H: Supporting Environmental Data
Section 6(f) Supporting Documentation for Barnesfield Park
Farmland Protection Policy Act Correspondence
Environmental Assessment Form

LIST OF TABLES

Table S-1:	Summary of Environmental Impacts Without (and with*) Bike/Ped. Path Option	S-4
Table S-2:	Summary of the Section 4(f) Evaluation by Alternates Retained for Detailed Study.....	S-11
Table I-1:	Existing Roadway Geometry along US 301 Within the Nice Bridge Study Area	I-2
Table I-2:	Average Daily Traffic Volumes.....	I-5
Table I-3:	Two-Way Peak Hour Volumes.....	I-5
Table I-4:	Crash Types Occurring on the Northern Approach Roadway to the Nice Bridge.....	I-7
Table I-5:	Crash Types Occurring on the Southern Approach Roadway to the Nice Bridge.....	I-7
Table I-6:	Overall Nice Bridge Study Area (MD 234 to VA 206) Crashes by Severity	I-8
Table II-1:	Design Guidelines for Nice Bridge Improvement Project.....	II-1
Table III-1:	Census Tracts and Block Groups within the Study Area.....	III-1
Table III-2:	Population Statistics for Charles County, King George County, and the Study Area	III-3
Table III-3:	Property Acquisitions by Alternate, Without (and With) Bike/Ped Path Options.....	III-7
Table III-4:	Household Income and Poverty Data	III-11
Table III-5:	Income Characteristics.....	III-14
Table III-6:	Employment Characteristics	III-15
Table III-7:	Existing Study Area Land Use.....	III-16
Table III-8:	Impacts to Wetlands and Waters Within the Study Area Without (and With) Bike/Ped Path Options.....	III-30
Table III-9:	Floodplain Impacts by Alternate Without (and With) Bike/Ped Path Options.....	III-35
Table III-10:	Forest Stands.....	III-42
Table III-11:	Wildlife Potentially Present Within the Study Area.....	III-42
Table III-12:	Potential Reptiles and Amphibians Present Within the Study Area.....	III-43
Table III-13:	Impacts to Forest Communities Without (and With) Bike/Ped Path Options.....	III-44
Table III-14:	Summary of Essential Fish Habitat (EFH) in the Study Area	III-46
Table III-15:	Impacts to Critical Area Within the Study Area Without (and With) Bike/Ped Path Options (in acres)	III-50
Table III-16:	Predicted Noise Levels for Existing, No Build and Design Year No-Barrier Conditions.....	III-53
Table III-17:	Regulations Contributing to the Avoidance, Minimization and Mitigation of Cumulative Effects	III-68

Table IV-1:	Lead, Cooperating, and Participating Agencies.....	IV-2
Table IV-2:	Nice Bridge Improvement Project Focus Group Members	IV-4
Table IV-3:	Summary of Focus Group Meetings.....	IV-4
Table IV-4:	Briefings to Stakeholders.....	IV-7
Table V-1:	Comparison of Alternate Impacts.....	V-25
Table V-2:	Preliminary Least Overall Harm Analysis.....	V-27

LIST OF FIGURES

Figure S-1:	Nice Bridge Study Area.....	S-2
Figure II-1:	Alternates Retained Comparison	II-6
Figure III-1:	Census Block Groups.....	III-2
Figure III-2A:	Community Facilities and Resources (MD)	III-5
Figure III-2B:	Community Facilities and Resources (VA).....	III-6
Figure III-3:	Existing Land Use (2002).....	III-17
Figure III-4:	Priority Funding Areas.....	III-19
Figure III-5:	Prime Farmland and Statewide Important Soils	III-27
Figure III-6:	Wetlands and Waters of the US	III-29
Figure III-7:	Watershed Boundaries and Critical Areas	III-32
Figure III-8:	Noise Sensitive Areas and Air Quality Receptors	III-52
Figure III-9:	ICE Boundary	III-61
Figure III-10A:	Past Land Use (1973) in Maryland within the ICE Boundary.....	III-62
Figure III-10B:	Past Land Use (1973) in Virginia within the ICE Boundary	III-63
Figure III-11A:	Present/ Near Future Land Use in Maryland within the ICE Boundary	III-64
Figure III-11B:	Present/ Near Future Land Use in Virginia within the ICE Boundary	III-65
Figure III-12A:	Future Land Use in Maryland within the ICE Boundary.....	III-66
Figure III-12B:	Present/ Near Future Land Use in Virginia within the ICE Boundary	III-67
Figure V-1:	Section 4(f) Resources	V-29
Figure V-2:	1980 Barnesfield Park Site Plan	V-30
Figure V-3:	Alternates 2, 3, and 6 - Potomac River Bridge Administration Building...	V-31
Figure V-4:	Alternates 4, 5, and 7 - Potomac River Bridge Administration Building...	V-32
Figure V-5:	Alternate 2 Section 4(f) – Use Park Properties in Virginia	V-33
Figure V-6:	Alternate 3 Section 4(f) – Use Park Properties in Virginia	V-34
Figure V-7:	Alternate 4 Section 4(f) – Use Park Properties in Virginia	V-35
Figure V-8:	Alternate 5 Section 4(f) – Use Park Properties in Virginia	V-36
Figure V-9:	Alternate 6 Section 4(f) – Use Park Properties in Virginia	V-37
Figure V-10:	Alternate 7 Section 4(f) – Use Park Properties in Virginia	V-38