



Cnapte	r and Section	<u>Page</u>
Execut	tive Summary	S-1
S.1	Federal Highway Administration	S-1
S.2	Contacts	S-1
S.3	Project Description/Purpose	S-1
S.4	Other Government Actions	S-2
S.5	Alternatives Considered	S-3
S.6	Preferred Alternative	S-4
S.7	Major Environmental Impacts	S-6
S.8	Areas of Concern	S-6
S.9	Unresolved Issues	S-6
S.10	List of Other Government Actions Required	S-7
S.11	Project Commitments	S-8
Chapte	er 1. Purpose and Need for Action	1-1
Introdu	ıction	1-1
1.1	What is the I-73 project?	1-1
	1.1.1 Where is the project located?	1-3
	1.1.2 What would the I-73 facility be like?	1-3
	1.1.3 Why was the project initiated?	1-4
	1.1.4 Who is responsible for this project?	1-7
Enviro	nmental Impacts to be Studied	1-8
1.2	Why study impacts to the environment?	1-8
	1.2.1 What type of impacts will be evaluated?	1-9
	1.2.2 How are impacts evaluated?	1-10
	1.2.2.1 How does FHWA evaluate impacts?	1-10
	1.2.2.2 How does USACE evaluate impacts?	1-10
	1.2.2.3 How does SCDHEC evaluate impacts?	1-11
Purpos	e and Need	1-11
1.3	What is the purpose of I-73 and why do we need the project?	1-11





Chanter	and Section	Page
Спарист	1.3.1 What are the primary project needs?	1-12
	1.3.2 What are the secondary project needs?	1-12
	1.3.3 What is system linkage?	1-12
		1-13
	1.3.4 How would this project affect economic development? 1.3.4.1 Who lives in Dillon, Marlboro, Richmond, and Scotland Counties, and what population characteristics shape these counties?	1-14
	1.3.4.2 What are some of the social and housing characteristics of Dillon, Marlboro, Richmond, and Scotland Counties?	1-18
	1.3.4.3 What are the employment characteristics in Dillon, Marlboro, Richmond, and Scotland Counties?	1-20
	1.3.4.4 What are the unemployment rates and poverty levels in Dillon, Marlboro, Richmond, and Scotland Counties?	1-26
	1.3.5 Would this project benefit travel and tourism in the four-county area?	1-28
	1.3.6 How would this project increase safety on current roads in the project study area?	1-30
	1.3.7 How would the project incorporate multimodal planning?	1-32
Tolls		1-33
1.4	Will I-73 be a Toll Road?	1-33
Constru		1-37
1.5	How would the road be constructed?	1-37
Summa		1-39
	r 2. Development of Alternatives	2-1
-	•	
2.1	How were the alternatives evaluated? What is the Agency Coordination Team?	2-1
2.2	What is the Agency Coordination Team?	2-1
2.3	What are the conditions of the No-build Alternative?	2-3
2.4	How were the preliminary Build Alternatives developed?	2-4

Page TOC-2 Table of Contents





Chapter a	and Section	Page
	2.4.1 How was the public involved in developing the preliminary Build Alternatives?	2-10
	2.4.2 How were the 1,896 preliminary Build Alternatives evaluated?	2-11
2.5	How were the reasonable Build Alternatives developed?	2-14
	2.5.1 How was the public involved in developing the reasonable Build Alternatives?	2-14
	2.5.2 How were the Reasonable Build Alternatives designated?	2-16
	2.5.3 How were the preliminary interchange locations designated?	2-22
	2.5.4 What modifications were made to the reasonable Build Alternatives based on input?	2-22
	2.5.4.1 Alternative 1	2-23
	2.5.4.2 Alternative 2	2-26
	2.5.4.3 Alternative 3	2-28
2.6	How were the three reasonable Build Alternatives evaluated to designate the Preferred Alternative?	2-29
	2.6.1 How would the reasonable Build Alternatives meet the primary needs of the project?	2-32
	2.6.1.1 How do the reasonable Build Alternatives meet the primary need of system linkage?	2-32
	2.6.1.2 How do the reasonable Build Alternatives meet the primary need of economic development?	2-33
	2.6.2 How would the reasonable Build Alternatives meet the secondary needs of the project?	2-37
	2.6.2.1 How would the reasonable Build Alternatives improve access for tourism?	2-37
	2.6.2.2 How would the reasonable Build Alternatives incorporate multimodal planning?	2-38
	2.6.3 How were the reasonable Build Alternatives compared in terms of human and environmental impacts?	2-39





Chapter ar	nd Section	Page
-	2.6.4 How have the USACE Public Interest Review Factors	2-40
	been addressed?	
	2.6.5 How would the reasonable Build Alternatives compare	2-41
	in terms of human and environmental impacts?	
	2.6.5.1 Alternative 1	2-42
	2.6.5.2 Alternative 2	2-43
	2.6.5.3 Alternative 3	2-44
	2.6.6 Which reasonable Build Alternative was designated as the Preferred Alternative?	2-45
2.7	What happened after the designation of the Preferred Alternative	2-46
	2.7.1 How was the public involved after the designation of the Preferred Alternative?	2-46
	2.7.2 What modifications were made to the Preferred	2-47
	Alternative based on Public input?	
	2.7.2.1 Fire Tower Road Overpass	2-47
	2.7.2.2 McKinnon Farm Road Shift	2-47
	2.7.2.3 Beauty Spot Motor Court Office Building Shifts	2-47
	2.7.2.4 Beauty Spot Road Relocation	2-51
	2.7.2.5 Family Farm Road Overpass	2-51
	2.7.2.6 Newtonville Shift	2-52
	2.7.2.7 Ghio Road Shift	2-54
	2.7.3 What is the estimated cost of the Preferred Alternative?	2-59
	3. Existing Conditions and Environmental	3-1
Conseque		
Human Er	nvironment	3-1
3.1	Land Use	3-1
	3.1.1 What is the existing land use in the project study area?	3-1
	3.1.2 What are the natural land areas in the project study area?	3-2
	3.1.3 What is the agricultural land use in the project study area?	3-2

Page TOC-4 Table of Contents





Chapter an	nd Section	Page
<u> </u>	3.1.4 What are the residential land uses in the project study	3-2
	area?	
	3.1.5 What are the commercial land uses in the project study	3-3
	area?	
	3.1.5.1 Hotel/Motel	3-4
	3.1.5.2 Industrial	3-4
	3.1.5.3 Institutional	3-5
	3.1.5.4 Public & Semi-Public	3-6
	3. 1.5.5 Schools	3-6
	3.1.6 Do the affected counties have plans for development and future growth?	3-7
	3.1.6.1 Dillon County	3-7
	3.1.6.2 Marlboro County	3-8
	3.1.6.3 Richmond County	3-8
	3.1.7 What are the trends and key indicators of future land use in the four-county area?	3-9
	3.1.8 How is land use expected to change in the project study area?	3-10
	3.1.9 How would the No-build Alternative affect land development?	3-10
	3.1.9.1 How would overall growth be impacted by the Nobuild Alternative?	3-11
	3.1.9.2 How would the No-build Alternative impact development in Dillon County?	3-12
	3.1.9.3 How would development in Marlboro County be impacted by the No-Build Alternative?	3-15
	3.1.9.4 How would No-build Alternative influence development in Richmond County?	3-16
	3.1.10 How would the Preferred Alternatives impact	3-16
	development in the four-county area?	
	3.1.10.1 Would land used for right-of-way be lost for development?	3-16
	3.1.10.2 How would development shift as a result of I-73?	3-16





	r and Section	Page
Спири	3.1.10.3 Would additional new development occur in Dillon, Marlboro, Richmond, and Scotland Counties?	3-17
	3.1.11 How were land use impacts resulting from the Preferred Alternative determined?	3-18
	3.1.11.1 How does the proximity to an I-73 interchange affect development?	3-18
	3. 1.11.2 How does proximity to an existing urban area influence development?	3-18
	3.1.11.3 How does proximity to I-95 and/or I-74 impact development?	3-19
	3.1.11.4 Do infrastructure and availability of land influence development?	3-20
	3.1.11.5 How do new employment opportunities influence development?	3-20
	3.1.11.6 Does site suitability play a role in influencing development?	3-20
	3.1.11.7 How would development in Dillon County be impacted by the Preferred Alternative?	3-21
	3.1.11.8 How would the Preferred Alternative impact development in Marlboro County?	3-22
	3.1.11.9 How would development in Richmond County be impacted by the Preferred Alternative?	3-24
	3.1.12 What other factors influence growth and development?	3-24
	3.1.13 Conclusion	3-25
3.2	Communities	3-26
	3.2.1 How many communities compose the project study area?	3-26
	3.2.2 What is a community impact assessment?	3-26
	3.2.3 How were communities identified within the project study area?	3-27
Dillon	County	3-31

Page TOC-6 Table of Contents





Chapter and Section	Page
3.2.4 What are the characteristics of Dillon County?	3-31
3.2.5 How would Dillon County be impacted by the	3-33
proposed project?	
3.2.6 What are the characteristics of communities located	3-34
within Dillon County and how would they be impacted by	
the proposed project?	
3.2.6.1 Bingham	3-34
3.2.6.2 Minturn	3-36
Marlboro County	3-38
3.2.7 What are the characteristics of Marlboro County?	3-38
3.2.8 How would Marlboro County be impacted by the	3-40
proposed project?	
3.2.9 What are the Characteristics of Cities and Towns	3-41
located in Marlboro County and how would they be impacted by the Preferred Alternative?	
3.2.9.1 Bennettsville	3-41
3.2.9.2 Blenheim	3-46
3.2.9.3 Cho	3-49
3.2.9.4 McColl	3-52
3.2.9.5 Tatum	3-55
3.2.10 What are the characteristics of neighborhoods and	3-57
communities located within Marlboro County and how	
would they be impacted by the proposed project?	
3.2.10.1 Adamsville	3-58
3.2.10.2 Brightsville	3-61
3.2.10.3 Chavistown	3-64
3.2.10.4 Dunbar	3-66
3.2.10.5 Hebron	3-69
3.2.10.6 Lester	3-72
3.2.10.7 Newtonville	3-74
Richmond County, North Carolina	3-77
3.2.11 What are the characteristics of Richmond County?	3-77





IADLE	OF COMENTS	
Chapte	r and Section	Page
	3.2.12 How would Richmond County be impacted by the	3-78
	proposed project?	
	3.2.13 What are the characteristics of Hamlet and how	3-79
	would it be impacted?	
Scotlan	d County, North Carolina	3-82
	3.2.14 What are the characteristics of Scotland County?	3-82
	3.2.15 How would Scotland County be impacted by the proposed project?	3-83
	3.2.16 How many residences and businesses would be	3-86
	relocated within the project study area and how will relocations be addressed?	
Consid	erations for Bicyclists and Pedestrians	3-87
	3.2.17 What considerations have been analyzed relating to pedestrians and bicyclists?	3-87
3.3	Environmental Justice	3-89
	3.3.1 What is Environmental Justice?	3-89
	3.3.2 Are there minority populations in the project study area?	3-91
	3.3.3 Are there low-income populations in the project study area?	3-91
	3.3.4 How were potential environmental justice impacts evaluated?	3-92
	3.3.5 Would any minority and low-income populations be impacted?	3-95
	3.3.6 What other methods were used to consider impacts to environmental justice populations in the project study area?	3-96
	3.3.6.1 Relocations	3-97
	3.3.6.2 Community Cohesion	3-98
	3.3.6.3 Economic Impacts	3-99
	3.3.6.4 Access and Mobility	3-99
	3.3.6.5 Noise	3-99
	3.3.6.6 Visual and Aesthetic Character	3-99

Page TOC-8 Table of Contents





Chapte	r and Section	Page
_	3.3.6.7 Parks and Community Facilities	3-100
	3.3.7 What efforts have been made to ensure full and fair participation of environmental justice populations in the transportation decision-making process?	3-100
	3.3.8 Summary	3-101
3.4	Section 4(f) Resources	3-101
	3.4.1 What is Section 4(f)?	3-101
	3.4.2 What parks, recreational facilities, and wildlife/waterfowl refuges are found in the project study area?	3-102
	3.4.3 Would the Preferred Alternative impact Section 4(f) parks or recreational facilities?	3-103
3.5	Section 6(f) Resources	3-103
	What are Section 6(f) Resources and would any be impacted by the project?	3-103
3.6	Historic Resources	3-104
	3.6.1 What are historic resources?	3-104
	3.6.2 How was the historic resources survey conducted?	3-105
	3.6.3 What above-ground historic resources were found during the survey?	3-105
	3.6.4 What would be the potential impacts to historic resources?	3-106
	3.6.5 What known archaeological resources are within the project study area?	3-109
	3.6.6 What are the potential impacts to historic resources under Section 4(f)?	3-111
3.7	Hazardous Materials	3-111
	3.7.1 What is a hazardous material?	3-111
	3.7.2 Are there any potentially contaminated sites located within the project study area?	3-112
	3.7.3 Would the Preferred Alternative impact potentially contaminated sites in the project study area?	3-113





IADLL	of contents	
Chapter	and Section	Page
	3.7.3.1 What listed hazardous materials and waste sites may be potentially impacted by the Preferred Alternative?	3-113
	3.7.3.2 What other potential hazardous materials and waste sites were identified that could be impacted by the Preferred Alternative?	3-113
3.8	Noise	3-114
	3.8.1 What is noise?	3-114
	3.8.2 How are noise impacts estimated?	3-114
	3.8.3 How was background noise determined in the project study area?	3-116
	3.8.4 How was TNM tested to ensure accuracy?	3-116
	3.8.5 What are the anticipated noise impacts for the Preferred Alternative?	3-118
	3.8.6 What happens when impacts occur and can impacts be mitigated?	3-122
	3.8.6.1 No-build Alternative	3-122
	3.8.6.2 Highway Alignment	3-123
	3.8.6.3 Traffic System Management Measures	3-123
	3.8.6.4 Noise Barriers	3-123
3.9	Air Quality	3-124
	3.9.1 How is air quality measured?	3-124
	3.9.2 What are the potential air quality issues associated with a transportation project?	3-125
	3.9.3 Would air quality be impacted by the Preferred Alternative?	3-133
	3.9.4 Would climate change be affected by the proposed project?	3-135
Natural	Environment	3-137
3.10	Farmlands	3-137
	3.10.1 Why is farmland an important consideration?	3-137
	3.10.2 How is farmland protected?	3-139
	3.10.3 What are the different types of protected farmland?	3-139

Page TOC-10 Table of Contents





Chapter a	and Section	Page
•	3.10.4 What are the types and the amounts of farmland in the project study area?	3-140
	3.10.5 What types of soils are the project study area?	3-140
	3.10.6 What are the typical farm sizes in Dillon, Marlboro, Richmond, and Scotland Counties?	3-143
	3.10.7 What methodology was used to determine farmland impacts?	3-143
	3.10.8 How would the No-Build Alternatives directly impact farmlands?	3-145
	3.10.9 How would the Preferred Alternative directly impact farmlands?	3-145
	3.10.10 What would be the potential indirect and cumulative impacts on farmland?	3-148
	3.10.10.1 How would development that is expected to occur with the No-build Alternative impact farmlands?	3-148
	3.10.10.2 What would be the potential impacts from induced development on farmland by the Preferred Alternative?	3-148
	3.10.10.3 What would be the potential cumulative impacts on farmland from the Preferred Alternative?	3-149
	3.10.11 What Federal/USDA farmland programs are active or found in the project study area and how would they be impacted by the Preferred Alternative?	3-150
	3.10.11.1 Conservation Reserve Program	3-151
	3.10.11.2 Farm and Ranch Lands Protection Program	3-153
	3.10.11.3 Wetlands Reserve Program	3-153
3.11	Uplands	3-153
	3.11.1 What are uplands?	3-153
	3.11.2 Why are uplands important?	3-154
	3.11.3 How were uplands identified in the Preferred Alternative study corridor?	3-154
	3.11.4 What upland natural community types were identified within the Preferred Alternative study corridor?	3-155





Chapte	r and Section	Page
	3.11.4.1 Mesic mixed hardwood forest	3-155
	3.11.4.2 Oak-hickory forest (Dry or Dry-mesic oak-hickory	3-156
	forest)	
	3.11.4.3 Pine flatwoods (Mesic pine flatwoods)	3-156
	3.11.4.4 Upland pine-wiregrass woodland	3-157
	3.11.4.5 Agricultural fields and timberlands	3-158
	3.11.4.6 Developed areas	3-158
	3.11.5 How would upland communities be impacted?	3-159
	3.11.6 What indirect and cumulative impacts to uplands could occur as the result of the project?	3-160
3.12	Wetlands	3-160
	3.12.1 What are wetlands?	3-160
	3.12.2 Why are wetlands important?	3-161
	3.12.3 How were wetlands identified within the Preferred Alternative study corridor?	3-162
	3.12.4 What wetland types were identified in the Preferred Alternative study corridor?	3-164
	3.12.4.1 Aquatic beds	3-165
	3.12.4.2 Bottomland hardwoods	3-166
	3.12.4.3 Deciduous shrub swamp	3-166
	3.12.4.4 Freshwater marsh	3-167
	3.12.4.5 Ponds and borrow pits	3-168
	3.12.4.6 Rivers and canals	3-168
	3.12.4.7 Streamhead pocosin	3-169
	3.12.4.8 Wooded swamp	3-169
	3.12.5 What kind of impacts would occur in wetlands as a result of the proposed project?	3-170
	3.12.6 How were the potential wetland impacts calculated?	3-170
	3.12.7 How many acres of wetlands would be impacted by the proposed project?	3-171
	3.12.8 What other impacts could occur from construction?	3-173

Page TOC-12 Table of Contents





Chapter a	nd Section	Page
	3.12.9 What kind of and how much impact would occur in	3-174
	streams as a result of this project?	
	3.12.10 What indirect impacts to wetlands and streams	3-177
	would occur as the result of the project?	
	3.12.11 What would cumulative impacts be to wetlands and	3-178
	streams in the project study area?	
	3.12.12 What is mitigation?	3-180
	3.12.13 What was done to avoid and minimize wetland and	3-181
	stream impacts?	
	3.12.13.1 Avoidance	3-181
	3.12.13.2 Minimization	3-182
	3.12.14 How will compensation be determined for wetland and stream impacts?	3-184
3.13	Invasive Species	3-188
	3.13.1 What are invasive species?	3-188
	3.13.2 What is FHWA policy on invasive species?	3-188
	3.13.3 What are FHWA recommendations regarding invasive	
	species?	3-189
	3.13.4 What invasive plant species occur within the project	
	study area?	3-190
	3.13.5 How do invasive plant species affect the environment?	3-190
	3.13.6 How could actions from the proposed project create	
	impacts from invasive plant species?	3-192
	3.13.7 What measures have been successful in preventing	
	and/or controlling the spread of invasive plant species?	3-193
3.14	Wildlife	3-193
	3.14.1 What types of wildlife and wildlife habitat are found in the Preferred Alternative study corridor?	3-193
	3.14.2 What species are typically found in upland habitats within the Preferred Alternative study corridor?	3-195
	3.14.2.1 Mesic mixed hardwood forests	3-195
	3.14.2.2 Oak-hickory forest	3-196





	r and Section	Page
<u>enapte</u>	3.14.2.3 Pine flatwoods	3-196
	3.14.2.4 Upland pine-wiregrass woodland	3-197
	3.14.2.5 Disturbed areas	3-198
	3.14.3 What species are typically found in wetland habitats within the Preferred Alternative study corridor?	3-199
	3.14.3.1 Aquatic beds	3-199
	3.14.3.2 Bottomland hardwoods	3-200
	3.14.3.3 Deciduous shrub swamp	3-201
	3.14.3.4 Freshwater marsh	3-201
	3.14.3.5 Ponds and borrow pits	3-202
	3.14.3.6 Rivers and canals	3-203
	3.14.3.7 Streamhead pocosins	3-204
	3.14.3.8 Wooded swamp	3-205
	3.14.4 How would wildlife and their habitat be impacted by the proposed project?	3-206
	3.14.5 What has been done to minimize impacts to wildlife?	3-209
	3.14.6 What indirect and cumulative impacts could occur to wildlife?	3-209
3.15	Protected Species	3-212
	3.15.1 What are protected species?	3-212
	3.15.2 What has been done to avoid impacts to federally protected species on this project?	3-213
	3.15.3 What is the Endangered Species Act and how would species protected under this Act be impacted by the Preferred Alternative?	3-213
	3.15.3.1 What Threatened and Endangered Species may occur within the Preferred Alternative study corridor?	3-214
	3.15.3.2 How could Threatened and Endangered Species be affected by the proposed project?	3-214
	3.15.4 What is the Bald and Golden Eagle Protection Act, and how would species protected under this Act be impacted by the Preferred Alternative?	3-222

Page TOC-14 Table of Contents





Chapte	r and Section	Page
-	3.15.5 What is the Migratory Bird Treaty Act?	3-223
	3.15.5.1 What are migratory birds, and which ones may potentially occur within the project study area?	3-224
	3.15.5.2 What are the potential impacts of roadways to migratory birds?	3-226
	3.15.6 What is the Magnuson-Stevens Fishery Conservation and Management Act?	3-226
	3.15.6.1 What is EFH and HAPC?	3-226
	3.15.6.2 What EFH may occur within the Preferred Alternative study corridor and what direct impacts would occur to it as a result of this project?	3-227
	3.15.7 What indirect and cumulative impacts may occur to federally protected species?	3-228
	3.15.8 What are State Species of Concern, and which ones may occur within the project study area?	3-230
3.16	Groundwater Resources	3-238
	3.16.1 What are the groundwater resources in the project study area?	3-238
	3.16.2 How would groundwater resources be impacted by the proposed project?	3-241
3.17	Surface Water Resources	3-242
	3.17.1 What drainage basin is the proposed project located within?	3-242
	3.17.2 What surface waters are located in the project study area?	3-242
	3.17.3 What drinking water sources are in the project study area?	3-244
	3.17.4 How is surface water quality evaluated?	3-245
	3.17.5 What are the surface water quality conditions in the watershed units crossed by the Preferred Alternative?	3-250
	3.17.5.1 Watershed Units which Drain into the Great Pee Dee River	3-251





Chapte	r and Section	Page
_	3.17.5.2 Watershed Units which Drain into the Little Pee	3-252
	Dee River	
	3.17.6 What are the potential impacts to water quality?	3-253
	3.17.6.1 How much pollutant would runoff into streams due to the No-build and the Preferred Alternatives?	3-253
	3.17.6.2 How would the No-build Alternative impact water quality in the project study area?	3-254
	3.17.6.3 How would the Preferred Alternative impact water quality in the project study area?	3-255
	3.17.7 What best management practices and measures to minimize the amount of runoff pollution into streams could be used?	3-260
	3.17.8 How would water quality impacts be minimized during construction?	3-260
	3.17.9 What are the cumulative impacts to water quality?	3-261
3.18	Floodplain	3-262
	3.18.1 What is a floodplain?	3-262
	3.18.2 What agencies regulate floodplains?	3-263
	3.18.3 How were the floodplain boundaries determined for this study?	3-263
	3.18.4 What floodplains are located within the project study area?	3-263
	3.18.5 What direct impacts would there be to floodplains?	3-266
3.19	Wild and Scenic Rivers	3-267
3.20	Resources Affected Uniformly	3-268
	3.20.1 How would coastal resources be affected?	3-268
	3.20.1.1 Coastal Zone Resources	3-268
	3.20.1.2 Coastal Barrier Resources	3-269
	3.20.2 How would energy be consumed by the project?	3-269
	3.20.2.1 Energy consumption during construction	3-269
	3.20.2.2 Energy consumption during the operation of the facility	3-270

Page TOC-16 Table of Contents





Chapte	r and Section	Page
_	3.20.2.3 Energy conservation potential of the project	3-270
	3.20.2.4 Estimated statewide energy consumption savings with the Build Alternatives	3-270
3.21	Permits	3-271
	What Permits would be necessary to construct the proposed project?	3-271
	3.21.1 Section 404 of the Clean Water Act	3-271
	3.21.2 Section 401 Water Quality	3-271
	3.21.3 Section 402 of the Clean Water Act	3-271
	3.21.4 Stormwater Management and Sediment Reduction Act of 1991	3-272
3.22	Short-term Uses Versus Long-term Productivity	3-272
Chapt	er 4. Public Involvement and Agency	4-1
Coord	ination	
Public	Involvement	4-1
4.1	How was the public engaged in the project?	4-1
	4.1.1 What happened at the Public Scoping Meetings?	4-2
	4.1.2 What took place at the Public Information Meetings?	4-3
	4.1.3 What occurred at the Public Hearings?	4-4
4.2	How did the FHWA and SCDOT reach out to communities?	4-6
4.3	What other meetings took place?	4-7
	4.3.1 Community Information Meetings	4-7
	4.3.2 Other Meetings	4-8
4.4	What other forms of information were available to the public?	4-8
4.5	How were local governments and leadership involved?	4-10
Agency	y Involvement and Coordination	4-12
4.6	What is the Agency Coordination Team?	4-13
4.7	How did the ACT contribute to the project?	4-14





	7 Of CONTENTS	
Chapte	r and Section	Page
4.8	Were there any meetings with agencies prior to the formation of the ACT?	4-14
4.9	Who participated in the ACT meetings and contributed to the project?	4-14
4.10	When did the ACT meetings occur and what happened at the meetings?	4-15
	4.10.1 October 19, 2005 ACT Meeting	4-17
	4.10.2 December 15, 2005 ACT Meeting	4-17
	4.10.3 January 10, 2006 CAT Workshop	4-17
	4.10.4 January 19, 2006 ACT Meeting	4-18
	4.10.5 February 10, 2006 Meeting with SCDHEC-OCRM	4-18
	4.10.6 February 23, 2006 Meeting with SCDAH	4-18
	4.10.7 March 2, 2006 ACT Meeting	4-18
	4.10.8 March 14, 2006 Meeting with SCDAH	4-19
	4.10.9 April 19, 2006 ACT Meeting	4-19
	4.10.10 July 13, 2006 ACT Meeting	4-19
	4.10.11 August 30, 2006 ACT Meeting	4-19
	4.10.12 September 13-14, 2006 Field Trip	4-20
	4.10.13 September 28, 2006 ACT Meeting	4-20
	4.10.14 November 2, 2006 ACT Meeting	4-20
	4.10.15 January 18, 2007 ACT Meeting	4-21
	4.10.16 February 22, 2007 ACT Meeting	4-21
	4.10.17 May 9, 2007 ACT Meeting	4-22
	4.10.18 December 12, 2007 ACT Meeting	4-22
	4.10.19 May 2, 2008 Meeting with SCDAH	4-22
4.11	How were the North Carolina agencies involved in the project?	4-23
	4.11.1 October 13, 2005 Meeting	4-23
	4.11.2 February 23, 2006 Meeting	4-23
	4.11.3 July 20, 2006 Meeting	4-23
	4.11.4 December 6, 2006 Meeting	4-23

Page TOC-18 Table of Contents





Chapter	and Section	Page
	4.11.5 June 14, 2007 Meeting	4-24
	4.11.6 November 15, 2007 Meeting	4-24
Stakeho	older Working Group Involvement	4-24
4.12	What was the Stakeholder Working Group?	4-24
4.13	What happened at the Stakeholder Working Group Meetings?	4-24
Tribal I	nvolvement	4-25
4.14	How was Tribal Consultation handled for this project?	4-25
DEIS C	omment Letters	4-27
Chapte	er 5. List of Preparers	5-1
5.1	Federal Highway Administration	5-1
5.2	South Carolina Department of Transportation	5-1
5.3	North Carolina Department of Transportation	5-2
5.4	The LPA Group, Incorporated	5-2
5.5	Wilbur Smith Associates	5-4
5.6	Adobe Palm Communications, LLC.	5-5
5.7	Brockington and Associates, Inc.	5-5
5.8	Civil Engineering Consulting Services, Inc.	5-5
5.9	Environmental Planning Strategies, Inc.	5-6
5.10	The Grant Group, Inc.	5-6
5.11	OLH International	5-6
5.12	P.J. Noble & Associates, Inc.	5-6
5.13	Press and Potter, LLC	5-6
List of A	Acronyms	A-1
Index		i-1
Appendi	ices	
A	Agency Letters	
В	Corridor Analysis Tool	
C	Environmental Consequences for Reasonable Alternatives	
D	Resolutions and Local Government Letters	



Chapter and Section		Page
E	Draft Section 4(f) Evaluation	
F	Conceptual Relocation Study	
G	MSAT Guidance	
H	Farmland Conversion Impact Rating For Corridor Type Projects (NRCS-CPA-106) Forms	
I	Comprehensive List of Wildlife Species	
J	Tribal Consultation Correspondence	

Page TOC-20 Table of Contents





Tables		Page
Executiv	ve Summary	
S.1	Preferred Alternative Impact Matrix	S-5
Chapter	1. Purpose and Need for Action	
1.1	Project Study Area Population Growth	1-15
1.2	Project Study Area Population Forecasts, 2000-2030 Population Forecasts, In Thousands	1-16
1.3	Demographic Composition of Communities in the Project Study Area	1-17
1.4	Demographic Characteristics of Counties in the Project Study Area	1-18
1.5	Housing Characteristics of Counties in the Project Study Area	1-19
1.6	Project Study Area Educational Attainment Levels	1-20
1.7	Project Study Area Job Training/Adult Education Options	1-21
1.8	Top Twenty Employers in Dillon and Marlboro Counties	1-24
1.9	Top Twenty Employers in Richmond and Scotland Counties	1-25
1.10	2030 Estimated Reduction in Average Annual Daily Traffic Volumes	1-31
Chapter	2. Development of Alternatives	
2.1	Alternative Evaluation Categories	2-2
2.2	Agencies Contacted Regarding GIS Data	2-6
2.3	Available GIS Layers for CAT Program	2-7
2.4	Six Preliminary Alternatives Matrix	2-18
2.5	Alternatives Considered by the ACT	2-22
2.6	Three Reasonable Alternatives Matrix	2-31
2.7	Minimum Trip Time Between I-95 and U.S. Route 74 in Year 2030	2-33
2.8	Economic Impact Summary in 2035 from Travel Efficiencies (Alternatives Compared to No-build)	2-33
2.9	Strategic Development GRP Impact from 2015-2033 (Alternatives compared to No-build)	2-35
2.10	Strategic Development Employment Increases by Alternative and County (Permanent Full-Time Jobs)	2-36
2.11	Strategic Development Annual Income Increases by Alternative and County (Millions of Dollars)	2-36
2.12	Economic Impact Summary in 2030 by Alternative	2-37
2.13	Vehicle Miles Traveled (VMT) and Vehicle Hours Traveled (VHT) in Network for Alternatives using Average Annual Daily Traffic Volumes (Year 2030)	2-38



Tables		Page
2.14	Vehicle Miles Traveled (VMT) and Vehicle Hours Traveled (VHT) in Network for Alternatives using Average Annual Daily Traffic Volumes with I-73 Traffic Removed (Year 2030)	2-39
2.15	USACE Public Interest Review Factors	2-41
2.16	Total Estimated Cost for Alternative 2	2-59
2.17	Preferred Alternative Impact Matrix	2-60
Chapter	3. Existing Conditions and Environmental	
Consequ	nences	
3.1	Projected Population Growth by County, 2000 to 2030	3-10
3.2	No-build Alternative Summary of Land Use Requirements in Acres	3-12
3.3	No-build Alternative, Detailed Land Use Requirements in Acres	3-15
3.4	Proposed I-73 Interchanges along the Preferred Alternative	3-19
3.5	Total Shift in Anticipated Development Resulting from the Preferred Alternative by Census Tract (in acres of new development)	3-21
3.6	Anticipated Development Resulting from the Preferred Alternative by Census Tract (in acres of new development)	3-22
3.7	Total Growth by 2030 including Impact of Preferred Alternative by Census Tract (in acres of new development)	3-23
3.8	Summary of Direct Impacts to Communities in the Project Study Area by the Preferred Alternative	3-28
3.9	Demographic Characteristics of Communities in Project Study Area	3-32
3.10	Economic Characteristics of Communities in Project Study Area	3-33
3.11	Churches in Bennettsville	3-43
3.12	Projected 2030 Development within Marlboro County Communities, in acres	3-46
3.13	Summary of Direct Impacts by the Preferred Alternative to Communities in Project Study Area	3-84
3.14	Summary of Relocations due to the Preferred Alternative	3-86
3.15	2000 USHHS Poverty Thresholds	3-90
3.16	Minority Population, 2000	3-92
3.17	Low-income Population, 2000	3-94
3.18	Total Number of Block Groups with EJ Populations	3-94
3.19	Block Groups Impacted by the Preferred Alternative	3-96
3.20	Community and Block Group Relocations	3-98
3.21	Public Recreational Facilities, Parks, and Wildlife/Waterfowl Refuges Located in Project Study Area	3-103
3.22	Historic Resources within One mile of the Preferred Alternative	3-106

Page TOC-22 Table of Contents





Tables		Page
3.23	Summary of Hazardous Material Sites Identified within the Project Study Area	3-112
3.24	Common Noises and dBA Levels	3-115
3.25	FHWA Noise Abatement Criteria	3-116
3.26	Ambient Noise Levels	3-117
3.27	Noise Model Vehicular Data	3-118
3.28	Approximate Distance to NAC Contours For Existing, Future No-Build, Future Build, in feet	3-119
3.29	Approximate Distance to NAC Contour for the Preferred Alternative (in feet)	3-120
3.30	Noise Impacts Based on GIS Analysis	3-120
3.31	Noise Abatement Analysis	3-124
3.32	Criteria Pollutants Measured Under the NAAQS	3-126
3.33	Top Crops Grown in Dillon, Marlboro, Richmond, and Scotland Counties in 2002, in acres	3-138
3.34	Summary of Prime and Statewide Importance Farmland Soils in the Project Study Area	3-140
3.35	Prime Farmland Soil Types in Project Study Area, by County	3-141
3.36	Types of Farmland Soils of Statewide Importance in Project Study Area, by County	3-142
3.37	Agriculture Land Use in Four-county Area in 2002	3-144
3.38	NRCS Farmland Conversion Evaluation Point Total for the Preferred Alternative	3-145
3.39	Direct Impacts to Prime Total and Statewide Important Total Soils, in Acres	3-146
3.40	Divided Farmland Parcels in the Project Study Area by the Preferred Alternative, in Acres	3-147
3.41	Indirect and Cumulative Impacts to Prime & Statewide Important Farmland Soils in the Project Study Area by the Preferred Alternative, in Acres	3-149
3.42	Land Enrolled in Federal Conservation Programs by Acres	3-151
3.43	Impacts to Land in the Conservation Reserve Program by the Preferred Alternative	3-151
3.44	Forested Upland Community Impacts, in Acres	3-159
3.45	Potential Indirect Forested Upland Impacts (in acres)	3-161
3.46	Potential Wetland Direct Impacts by the Preferred Alternative, in Acres and Wetland Values	3-172
3.47	Potential Borrow Pit Areas by Land Use Type	3-174
3.48	Existing Stream/Riparian Wetland Crossings	3-175





Tables		Page
3.49	Potential Direct Stream Impacts from the Preferred Alternative	3-176
3.50	Potential Indirect Wetland Acres and Stream Impacts	3-177
3.51	Potential Cumulative I-73 Wetland Impacts Relative to Project Study Area Wetlands, in Acres	3-179
3.52	Undisturbed Upland and Wetland Habitats in Project Study Area	3-194
3.53	Potential Wildlife Habitat Impacts, in Acres	3-207
3.54	Relative Roadway Effects on Habitat	3-208
3.55	Federally protected Species in Dillon County and Marlboro County, South Carolina, and Richmond County and Scotland County, North Carolina	3-215
3.56	Migratory Bird Species Potentially Occurring Within the Project Study Area	3-225
3.57	State Listed Rare, Threatened, and Endangered Species Known to Occur in Dillon County and Marlboro County, South Carolina, and Richmond County and Scotland County, North Carolina	3-231
3.58	Sub-basins and Watershed Units Crossed by Preferred Alternative	3-244
3.59	Water Service Providers in the Project Study Area	3-245
3.60	SCDHEC's Use Support Determination System	3-246
3.61	NCDENR's Use Support Determination System for Class C Waters	3-247
3.62	303(d) List of Impaired Streams within Project Study Area	3-248
3.63	Pollutant Discharge, in Pounds per Twenty-day Buildup Period	3-255
3.64	Streams/Ditches Impacted by Predicted Development in the Project Study Area	3-256
3.65	Streams/Ditches Crossings by Preferred Alternative	3-257
3.66	Anticipated Amount of New Impervious Surfaces by Induced Development in the Project Study Area (in acres)	3-258
3.67	National Flood Insurance Program Regulated Floodplains Located Within the Project Study Area	3-264
3.68	Floodplain Crossings Locations and Acres Encroached Upon by the Preferred Alternative	3-266
Chapter	r 4. Public Involvement and Agency Coordination	
4.1	Community Information Meetings	4-7
4.2	Other Public Meetings	4-9
4.3	Summary of Letters and Resolutions Received for Proposed Project	4-11
4.4	Agency Coordination Team Members	4-15
4.5	ACT Meetings and Attendance for Northern I-73 Project	4-16
4.6	Tribal Consultation Process	4-26

Page TOC-24 Table of Contents





Figures		Page
Chapter 1. 1	Purpose and Need for Action	
1-1	Interstate Corridor	1-1
1-2	I-73 Project Study Area	1-3
1-3	I-73 Interim 4 Lanes	1-5
1-4	I-73 Ultimate 6 Lanes	1-6
1-5	Project Study Area Counties	1-13
1-6	Population Density of the Project Study Area	1-14
1-7	Median Household Income of the Project Study Area	1-18
1-8	Percent Unemployed within Project Study Area	1-26
1-9	Population Below Poverty Level	1-27
Chapter 2.	Development of Alternatives	
2-1	Suitability Layer	2-9
2-2	Preliminary Build Segments	2-12
2-3	Six Preliminary Build Alternatives	2-15
2-4	Potential Interchange Design for Preliminary Build Alternatives 1 and 2	2-19
2-5	Potential Interchange Design for Preliminary Build Alternative 6	2-20
2-6	Potential Interchange Design for Preliminary Build Alternatives 3, 4, and 5	2-21
2-7	Reasonable Build Alternative 1	2-24
2-8	Reasonable Build (Preferred) Alternative 2	2-27
2-9	Reasonable Build Alternative 3	2-30
2-10	Alternative 1	2-42
2-11	Alternative 2	2-43
2-12	Alternative 3	2-44
2-13	Fire Tower Road Overpass	2-48
2-14	McKinnon Farm Road Shift	2-49
2-15	Beauty Spot Motor Court Office Building Shifts	2-50
2-16	Beauty Spot Road Relocation	2-52
2-17	Family Farm Road Overpass	2-53
2-18	Newtonville Shift	2-55
2-19	Old Wire Road Shift	2-56
2-20	Newton Road Shift	2-57
2-21	Ghio Road Shift	2-58
2-22	Preferred Alternative	2-61





E'	IENIS	Page
<u>Figures</u>		
Chapter 3. Exis	sting Conditions and Environmental	
Consequences		
3-1	Industrial Parks within Project Study Area	3-5
3-2	Preferred Alternative Year 2030 Potential Land Use Change	3-13
	Areas	
3-3	I-73 Census Tract Map	3-14
3-4	Communities Evaluated by Community Impact Assessment	<i>3-29</i>
3-5	Community Boundaries	<i>3-30</i>
3-6	Dillon County	<i>3-31</i>
3-7	Bingham	3-34
3-8	Minturn	<i>3-36</i>
3-9	Marlboro County	3-39
3-10	Bennettsville	<i>3-42</i>
3-11	Blenheim	<i>3-46</i>
3-12	Clio	<i>3-49</i>
3-13	McColl	<i>3-53</i>
3-14	Tatum	3-55
3-15	Adamsville	<i>3-58</i>
3-16	Brightsville	<i>3-61</i>
3-17	Chavistown	3-64
3-18	Dunbar	3-66
3-19	Hebron	<i>3-69</i>
3-20	Lester	<i>3-72</i>
3-21	Newtonville	<i>3-75</i>
3-22	Richmond County	<i>3-78</i>
3-23	Hamlet	<i>3-79</i>
3-24	Scotland County	<i>3-83</i>
3-25	Environmental Justice Block Groups Impacted by the Preferred Alternative	3-93
3-26	Location of Lake Paul Wallace	<i>3-102</i>
3-27	Known NRHP Sites within one mile of the Preferred Alternative	3-108
3-28	Location of Beauty Spot Motor Court Office Building	3-107
3-29	Noise Impacts	3-121
3-30	Land Enrolled in Conservation Reserve Program	3-152
3-31	Wetlands, Streams, and Floodplains	3-163

Page TOC-26 Table of Contents





<u>Figures</u>		Page
3-32	Potential Roadway Impacts to Wildlife Habitat	3-210
3-33	Groundwater aquifers	3-239
3-34	Potentially Impacted Watershed Units	3-243
3-35	Projects within the Pee Dee Basin	3-261
3-36	State Scenic Rivers in Project Study Area	<i>3-268</i>
Charts		
Chapter 1. Pur	pose and Need for Action	
1.1	Past and Projected Population: 1970-2030	1-15
1.2	2000 Median Household Income	1-19
1.3	Total Employment by County	1-21
1.4	Dillon County Employment by Industry	1-22
1.5	Marlboro County Employment by Industry	1-23
1.6	Richmond County Employment by Industry	1-23
1.7	Scotland County Employment by Industry	1-23
1.8	2002 to 2006 Project Study Area Unemployment Levels (by Percent)	1-26
1.9	Percent Below Poverty Level in 2000	1-27
Chapter 3. Exis	sting Conditions and Environmental	
Consequences		
3.1	U.S. Annual VMT vs. Mobile Source Air Toxics Emissions, 2000 to 2020	3-129
3.2	Total acres of Farmland in Project Study Area	3-144

This page intentionally left blank.