Gannett Fleming

Excellence Delivered ***As Promised***

July 9, 2013

Mr. Judson Cross
Department of the Treasury
Division of Purchase and Property
9th Floor, 33 West State Street
Trenton, NJ 08625

RE: Best and Final Offer
Environmental Assessment Field Contractors for Environmental and Historic Preservation Reviews - New Jersey's CDBG-DR Grant Program
RFQ787923S

Dear Mr. Cross:

Per your request for a best and final offer (BAFO) in accordance with Section 6.8 of the above referenenced RFQ, Gannett Fleming is pleased to provide our response.

The attached BAFO Price Schedule for EAF Contractors provides our updated firm-fixed pricing and loaded hourly rate pricing for our team. In response to the state's request for aggressive price reductions, we have lowered our per unit prices for exempt and categorically excluded subject to 58.5 program reviews.

There are no changes to our commitments or other requirements as provided in our June 27, 2013 RFQ response submittal.

Please contact me if you have questions on our pricing or abilities to perform the services required. We appreciate your consideration of our Team for this important assignment.

Sincerely,
GANNETT FLEMING, INC.

Michael A. Morgan, P.E., P.P., P.T.O.E.
Vice President

Southfield Center • Suite 205 • One Cragwood Road • South Plainfield, NJ 07080-2448
t: 908.755.0040 • f: 908.755.9849
www.**gannettfleming**.com

Gannett Fleming, Inc. RFQ 787923S July 9, 2013

BAFO Cost Quote Price Schedule 3 EAF Contractor –Firm Fixed Pricing

Pricing for services required under this RFQ will be a blend of firm fixed rates and hourly rates. Bidders must complete all price cells within the Price Schedule or be deemed non-responsive.

Line No.	Description	Unit	Estimated Quantity (A)	Year 1 (B)	Year 1 Total (A) * (B)	Year 2 (C)	Year 2 Total (A) * (C)	Year 3 (D)	Year 3 Total (A) * (D)
1	Base Price per application for Exempt (Volume 1 to 100) Section 3.2.2	Each	100	$545.90	$54,590.00	N/A	N/A	N/A	N/A
2	Base Price per application for Exempt (Volume 101 to 200) Section 3.2.2	Each	100	$534.06	$53,406.00	N/A	N/A	N/A	N/A
3	Base Price per application for Exempt (Volume >200) Section 3.2.2	Each	100	$492.60	$49,260.00	$507.38	$50,738.00	$522.60	$52,260.00
4	Base Price per application (Fixed Fee) for Categorically Excluded Subject to 58.5 (Volume 1 to 100) Section 3.2.4	Each	100	$1,187.08	$118,708.00	$1,222.69	$122,269.00	$1,266.58	$126,658.00
5	Base Price per application (Fixed Fee) for Categorically Excluded Subject to 58.5 (Volume 101 to 200) Section 3.2.4	Each	100	$1,175.23	$117,523.00	$1,210.49	$121,049.00	$1,246.80	$124,680.00
6	Base Price per application (Fixed Fee) for Categorically Excluded Subject to 58.5 (Volume GT 200? Section 3.2.4	Each	100	$1,163.39	$116,339.00	$1,198.29	$119,829.00	$1,234.24	$123,424.00
7	Base Price per application (Fixed Fee) for non-tiered Environmental Assessments (Volume 1 to 100) Section 3.2.2	Each	100	$5,153.00	$515,300.00	$5,308.00	$530,800.00	$5,468.00	$546,800.00
8	Base Price per application (Fixed Fee) for non-tiered Environmental Assessments (Volume 101 to 200) Section 3.2.2	Each	100	$5,025.00	$502,500.00	$5,176.00	$517,600.00	$5,331.00	$533,100.00

9	Base Price per application (Fixed Fee) for non-tiered Environmental Assessments (Volume GT 200) Section 3.2.2	Each	100	$4,936.00	$493,600.00	$5,084.00	$508,400.00	$5,236.00	$523,600.00
10	Base Price per application for Tier 2 Site Specific Reviews (Volume 1-100) Section 3.2.8	Each	100	$8,728.00	$872,800.00	$8,990.00	$899,000.00	$9,260.00	$926,000.00
11	Base Price per application for Tier 2 Site Specific Reviews (Volume 101-200) Section 3.2.8	Each	100	$8,461.00	$846,100.00	$8,715.00	$871,500.00	$8,976.00	$897,600.00
12	Base Price per application for Tier 2 Site Specific Reviews (Volume GT 200) Section 3.2.8	Each	100	$8,196.00	$819,600.00	$8,442.00	$844,200.00	$8.695.00	$869,500.00
13	FEMA Addendum Section 3.2.3, 3.2.8	Each	UNK	$8,728.00	$	$8,990.00	$	$9,260.00	$
14	Reporting Functions Section 3.2.13, 3.2.14,3.2.15	Month	12	$11,845.00	$142,140.00	$12,200.00	$146,400.00	$12,566.00	$150,792.00
15	Environmental Impact Statement Fee Section 3.2.2	Each	UNK	$100,000	$	$100,000	$	$100,000	$

Gannett Fleming, Inc. RFQ 787923S July 9, 2013

BAFO Cost Quote Price Schedule 4 EAF Contractor –Loaded Hourly Rate Pricing

A bidder must fit its existing personnel and that of proposed subcontractors into the following Labor Titles.

Line #	Labor Title	Hourly Rate Year 1	Hourly Rate Year 2	Hourly Rate Year 3
Office and Management Staff				
16	Principal	$128.75	$132.61	$136.59
17	Program Director	$118.45	$122.00	$125.66
18	Task manager	$118.45	$122.00	$125.66
Project Field Staff				
19	Field Manager	$118.45	$122.00	$125.66
20	Field Professional	$106.00	$109.18	$112.46
21	Principal/Senior EnvH. Scientist/Engineer/ Architect	$118.45	$122.00	$125.66
22	Principal/Senior Biologist	$118.45	$122.00	$125.66
23	Principal/Senior Historic Preservation Specialist	$118.45	$122.00	$125.66
24	Senior Hydrogeolgist	$118.45	$122.00	$125.66
25	Junior Hydrogeolgist	$77.25	$79.57	$81.96
26	Field Associate	$77.25	$79.57	$81.96
27	Field Observer	$59.74	$61.53	$63.38
28	Staff Environmental Scientist, Engineer, Architect	$77.25	$79.57	$81.96
29	Hydrogeologist	$77.25	$79.57	$81.96
30	Senior Technician	$59.74	$61.53	$63.38
31	Junior Technician	$54.59	$56.23	$57.92
32	Senior GIS Specialist	$118.45	$122.00	$125.66
33	Junior GIS Specialist	$77.25	$79.57	$81.96
34	Administrative Support/Data Entry	$42.62	$43.90	$45.22

Cover Page

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RFQ for Program Manager Contractor and Environmental Assessment Field Contractors

Contract for which the Bidder is Competing: Environmental Assessment Field Contractor

Name of the Bidder: Gannett Fleming, Inc.

Firm Address: Southfield Center, Suite 205
One Cragwood Road
South Plainfield, NJ 07080

Firm Telephone Number: 908-755-0040

Firm Federal Tax Identification Number: [redacted]

Contact Name and Title: Michael A. Morgan, P.E., P.P., P.T.O.E.

Contact Address: Southfield Center, Suite 205
One Cragwood Road
South Plainfield, NJ 07080

Contact Telephone Number: 908-755-0040

Contact Fax Number: 908-755-9849

Contact Email Address: mmorgan@gfnet.com

Quote Letter

Gannett Fleming

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June 27, 2013

Mr. Judson Cross
Department of the Treasury
Division of Purchase and Property
9th Floor, 33 West State Street
Trenton, NJ 08625

RE: Technical and Cost Quote
Environmental Assessment Field Contractors for Environmental and Historic Preservation Reviews - New Jersey's CDBG-DR Grant Program
RFQ787923S

Dear Mr. Cross:

The purpose of this Request for Quote is to provide contractor assistance with environmental assessment expertise for performing environmental and historic preservation reviews to satisfy compliance with the U.S. Housing and Urban Development (HUD) Community Development Block Grants - Disaster Recovery (CDBG-DR) and Federal Emergency Management Agency (FEMA) funded programs.

The Gannett Fleming Team has comprehensive qualifications and experience in all required areas detailed in the scope of work and has provided capsules of some of our prior experiences and qualifications in our Technical Quote. Our Team includes many small and disadvantaged businesses, most of which are located in New Jersey. We are fully committed to meeting the subcontracting requirements of this contract.

We are fully registered to do business and licensed to provide services in the State of New Jersey. We have fully staffed offices in South Plainfield, Mount Laurel, and Newark, and will lead the execution of the services under this contract from our in-state offices.

We certify that we do not have an organizational conflict of interest with performing the services required under this contract.

Our firm has not engaged in, nor has been accused of, unethical practices.

We understand, if selected, our responsibilities under the contract and commit to timely payments to our subcontractors.

Please contact me if you have questions on our qualifications and experience or abilities to perform the services required. We appreciate your consideration of our Team for this important assignment.

Sincerely,
GANNETT FLEMING, INC.

Michael A. Morgan, P.E., P.P., P.T.O.E.
Vice President

Southfield Center • Suite 205 • One Cragwood Road • South Plainfield, NJ 07080-2448
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1. Management Overview

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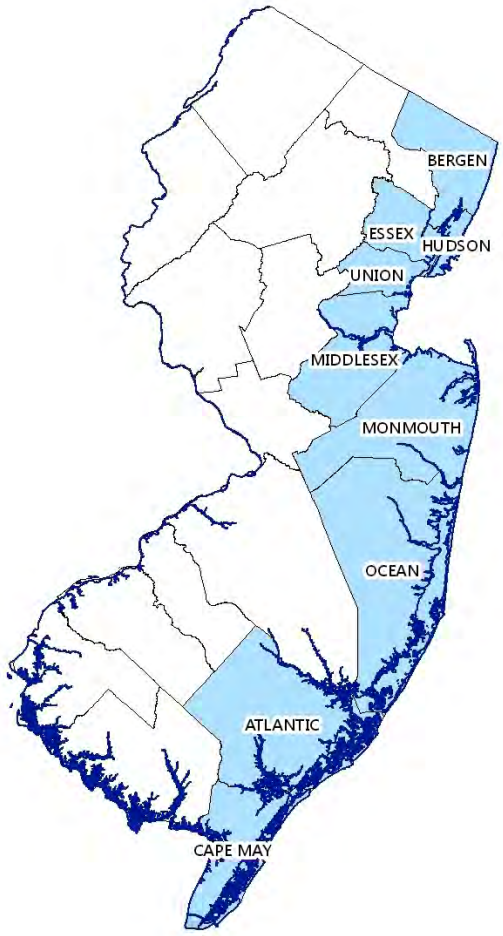
1.1 Introduction

In the wake of disasters such as Superstorm Sandy, individuals and neighborhoods face immense challenges to rebuild, replace, and restore both the physical fabric and social spirit of communities. Through the Disaster Relief Appropriations Act of 2013 (PL 113-2, January 29, 2013), $5.4 million in Community Development Block Grant Disaster Recovery (CDBG-DR) funds were appropriated to New Jersey to assist in meeting unmet disaster relief needs, with a focus on providing assistance to those nine coastal counties most affected. The New Jersey CDBG-DR Action Plan, approved by the U.S. Department of Housing and Urban Development (HUD) on April 29, 2013, establishes an overall strategy for disbursement of the initial $1,829,500,000 in funds. While the needs of the state greatly exceed the funds available under the initial CDBG allocation, these programs will begin to address unmet needs related to primary residences and rental housing, economic recovery and revitalization, infrastructure, environmental needs and public services activities.

RFQ787923S involves the provision of environmental review services for the initial distribution of HUD resources under the Homeowner Assistance; Rental Housing and Renter; Economic Revitalization; Support for Governmental Entities; Supportive Services; and Planning, Oversight and Monitoring program categories and the Federal Emergency Management Agency (FEMA) Hazard Mitigation Grant Program (HMGP). The commitment of federal funds through HUD and FEMA grant and loan programs can not occur until compliance with the applicable National Environmental Policy Act implementing procedures (promulgated at 24 CFR Part 58 for HUD and 44 CFR Part 10 for FEMA) and applicable associated statutes, including but not limited to, Section 106 of the National Historic Preservation Act (36 CFR Part 800) and agency floodplain and wetland regulations (24 CFR Part 55 for HUD and 44 CFR Part 9 for FEMA) has been demonstrated.

Figure 1-1: Hurricane Sandy - Most Impacted and Distressed Counties



1.2 Contract Objectives

Under the state's Action Plan, the New Jersey Department of Environmental Protection (DEP) has been given the responsibility to ensure compliance with HUD and FEMA environmental regulatory requirements are met for the distribution of federal CDBG-DR funds. To assist in meeting the technical and management challenges posed by the need for a potential 10,000 to 50,000 individual environmental reviews, the DEP is seeking assistance in program management and environmental and historic preservation compliance. To meet both HUD time constraints and the desire to maximize efficiency in distributing funds to impacted citizens, businesses,

and communities, work under this program will require contractors to meet aggressive performance timelines and criteria. Gannett Fleming, Inc. is proposing to provide services as an Environmental Assessment Field (EAF) Contractor under this program and, in concert with our subcontractor team, committed to performance as a **Level 1 contractor** (more than 3,000 Reviews of varying types within the first 90-180 days).

1.3 Scope of Services

This contract involves multiple levels of environmental review to ensure compliance with HUD and FEMA environmental review procedures and applicable environmental laws, statutes, and regulations. Environmental review levels, analysis requirements, and documentation involved in this contract would generally consist of those classes of actions noted in Figure 1-2: Environmental Compliance Overview. Services provided would involve coordinated environmental compliance desktop review and technical field analyses, generally in the areas of cultural resources (including background research and Section 106 consultation), natural resources (including floodplain and wetland analysis and species/habitat evaluations), and environmental health and safety services (including hazardous materials, asbestos, lead, mold, and noise analyses). The overall objective of the HUD and FEMA environmental review process is to ensure that proposed projects does not negatively impact the surrounding environment and that the property site itself is safe for development.

1.4 Technical Approach

Our approach to supporting the DEP on this contract is based on efficient use of resources to strategically align Task Order assignments with the most appropriate personnel considering required experience and skills, geographic location and knowledge, and existing workload/availability. Gannett Fleming is committed to partner with the state in meeting their aggressive goals for the distribution of disaster recovery funds.

As an EAF contractor, Gannett Fleming is committed to perform as a Level 1 Contractor (Over 3,000 Reviews of varying types within the first 90-180 days).

To supplement our responsiveness to this RFQ, we have added several well-respected subcontractors to our team:

- AK Environmental LLC, based in West Trenton, NJ
- Amy S. Greene Environmental Consultants, based in Flemington, NJ
- ASC Group, Inc., based in Harrisburg, PA
- Dovetail Cultural Resources Group, based in Fredericksburg, VA
- PARS Environmental, Inc., based in Robbinsville, NJ, and
- Richard Grubb & Associates, Inc., based in Cranbury, NJ

1.4.1 Workflow Process

To perform environmental reviews using a "lock-step" manner, we propose to utilize the following work flow process (Figure 1-3).

Program Management

Upon receiving a Task Order, our Program Director will coordinate with our Discipline Managers (Environmental Review, Section 106 Compliance, Natural Resources, and Environmental Health and Safety) to determine the appropriate staffing requirements and performance criteria, including schedule.

Environmental Review

All tasks under the contract will involve a desktop review for environmental compliance evaluation using the information system/GIS tools developed by the Program Manager. This evaluation will serve to confirm the environmental class of action, adequacy of the application information, and initial environmental compliance determinations and/or additional field analysis needs.

Figure 1-2: Environmental Compliance Overview

Class of Action	Typical Applicable Program Activities	Documentation Requirements	Potential Support Field Services
Exempt (24 CFR 58.34)	▪Administration ▪Public services ▪Planning ▪Engineering design ▪Technical assistance ▪Temporary improvements ▪Environmental inspections or testing	▪Describe activity and provide written determination of exemption ▪Document compliance with 24 CFR 58.6 (National Flood Insurance Program, Coastal Barrier Resource Act, Airport Runway Clear Zones)	None anticipated
Categorical Excluded Not Subject to 24 CFR 58.5 (CENST)	▪Tenant-based rental assistance ▪Housing support services ▪Public service operating costs/capital financing	▪Describe activity and provide written 24 CFR 58.35(b) determination ▪Document compliance with 24 CFR 58.6 (National Flood Insurance Program, Coastal Barrier Resource Act, Airport Runway Clear Zones)	None anticipated
Categorically Excluded Subject to 24 CFR 58.5	▪Replacement/repair of public infrastructure ▪Single Family Housing Rehab ▪Multifamily Housing Rehab ▪Non-Residential Structures Rehab ▪New single or multifamily dwellings	▪Complete Statutory Worksheet and Finding ▪Document compliance with 24 CFR 58.6 (National Flood Insurance Program, Coastal Barrier Resource Act, Airport Runway Clear Zones) ▪Public Notice of Intent and Request for Release of Funds (Form 7015-15) (if required)	▪Section 106 Compliance desktop assessment ▪Cultural resources background research ▪PA applicability
Environmental Assessment (24 CFR 58.36) (non-tiered)	Activities not exempt or categorically excluded, generally construction of 5 or more dwelling units and land use conversions	▪Complete Statutory Worksheet ▪Complete Environmental Assessment Checklist ▪Document compliance with 24 CFR 58.6 ▪Document FONSI ▪Public Notice of Intent and Request for Release of Funds (Form 7015-15) ▪If no FONSI, document finding and publish NOI for EIS	▪Section 106 Compliance desktop assessment ▪Cultural resources background research ▪PA applicability ▪Potentially additional Section 106 consultation ▪Natural resource and environmental health and safety analyses as required
Environmental Assessment – Tier II Site Specific Review (tiered)	RREM and Small Rental Properties Program providing rehabilitation (elevation) or reconstruction assistance	▪Complete DEP Site=Specific Review Form ▪Document FONSI ▪Public Notice of Intent and Request for Release of Funds (Form 7015-15) ▪If no FONSI, document finding and publish NOI for EIS	▪Section 106 Compliance desktop assessment ▪Cultural resources background research ▪PA applicability ▪Potentially additional Section 106 consultation ▪Natural resource and environmental health and safety analyses as required
Environmental Impact Statement	Actions not covered by exempt, CE, or EA. Most likely limited to large-scale actions in Neighborhood and Community Revitalization Program or Small Business Programs.	▪Prepare and publish Draft EIS in accordance with CEQ regulations ▪Opportunity for Public Review (including public hearing) ▪Prepare and publish Final EIS ▪Prepare and publish Record of Decision ▪Public Notice of Intent and Request for Release of Funds (Form 7015-15)	Additional detailed Section 106 consultation, natural resource, and environmental health and safety analyses as required, building on EA

We propose to use multiple environmental review - desktop assessment squads under the direction of our Environmental Review Team discipline managers. For ease of management, our discipline manager would be responsible for management of Gannett Fleming squads, while our assistant discipline manager would work with subcontractor squads from AK Environmental, LLC; Amy S. Greene Environmental Consultants; and ASC Group, Inc. In addition to our discipline managers, we have identified seventeen (17) additional staff dedicated to the environmental review elements of the work program. These personnel have extensive background in NEPA and environmental regulatory compliance.

Our Environmental Review Team discipline managers would assist our Program Director and other management staff for coordination of environmental support services in Section 106 Compliance, Natural Resources, and Environmental Health and Safety areas to address environmental review and compliance requirements.

Section 106 Compliance

Upon receipt of a Task Order or assignment, our Section 106 Compliance Team disciple managers would determine the needed expertise and assign appropriate personnel. Our discipline manager would be responsible for overall Section 106 compliance management with a focus on archaeological services, with our assistant discipline manager focusing on architectural historian services.

Initial workflow activities for Section 106 compliance will involve a desktop review, including review of the FEMA/NJ Historic Preservation Office NJ Historic Districts and Properties GIS application. This mapping and data tool provides information on known above-ground historic properties and areas with no historic properties in targeted communities affected by Hurricane Sandy. Additional background research and site analysis may be required to further document characteristics of a potential historic property in order to determine applicability with the applicable Section 106 Programmatic Agreement (PA). If properties and associated actions are found to not be consistent with the PA, formal Section 106 consultation would be required to be initiated to support the environmental review.

Our Section 106 Compliance personnel, including subcontractors AK Environmental, LLC; Dovetail Cultural Resource Group; and Richard Grubb & Associates, would work with the applicable Environmental Review personnel to ensure adequate information is included within the Environmental Review Record and field data is appropriately verified and uploaded into the state's information management system. In addition to our Section 106 Compliance Discipline Mangers, we have identified thirteen (13) dedicated cultural resource professionals to support our efforts.

Natural Resources

Our Natural Resources Team would provide floodplain, wetland, biological and other related services in response to Task Order needs, specifically floodplain and wetland analysis in accordance with EO 11988 and EO 11990 and HUD and FEMA regulations outlining the eight-step analysis process. Our discipline managers would work with their team members to identify the most appropriate personnel based on skills and location to most quickly respond to field analyses needs. Natural Resource personnel would coordinate with the applicable Environmental Review staff to ensure data and information is appropriately documented. Our discipline manager would manage our subcontractors consisting of AK Environmental, LLC. and Amy S. Greene Environmental Consultants, while our assistant discipline manager, would facilitate use of Gannett Fleming personnel. In addition to our discipline managers, we have dedicated ten (10) science professionals to support natural resource services.

Figure 1-3: Environmental Compliance Workflow

Environmental Health and Safety

Hazardous materials, asbestos, lead, noise and other environmental health and safety services would be provided to support environmental compliance and protection of citizens and communities. Our discipline managers would work with their team members to identify the most appropriate personnel based on skills and location to most quickly respond to field analyses needs. We have included PARS Environmental as a subcontractor in this service area. In addition to our discipline managers, we have identified thirteen (13) environmental health and safety professionals to support services on this contract. This group of professionals includes geologists and hydrogeologists experienced in Phase I/II Environmental Site Assessments, industrial hygienists for asbestos, lead and radon testing, and noise specialists.

1.4.2 Quality Assurance/Quality Control

All work will be performed in conformance to the approved work plans, with day to day task management under the direction of the assigned Discipline Manager. Overall work will be monitored by the Program Director and scrutinized by the QA/QC team. A variety of proven in-process review methods will be applied as appropriate for scope and complexity of a particular Task Order to maintain efficiency and quality in the work to ensure that the State's expectations and needs are met. Progress will be continually assessed by the applicable Discipline Managers and monitored by the Program Director through integrated budget, scope, and scheduled performance reviews. The reviews will occur through regularly scheduled team meetings. With the performance demands of this contract, added emphasis will be focused on Quality Assurance for identification of process improvements and the lessons learned from corrective actions to proactively seek to reduce quality issues. Our QA/QC program will be structured to parallel procedures of the Program Manager.

1.4.3 Contract Scheduling and Control

As an EAF Contractor, management of personnel and resources is of utmost importance to ensure performance criteria are achieved. To assist in scheduling and control, we envision using a suite of tools to address task order portfolio performance and earned value management. We would develop a task order performance system using Microsoft Office to track progress and analyze workload and resource commitments. To complement task order tracking, our internal accounting system (BST) provides real-time work charges and earned value metrics.

1.4.4 Performance Timeframes

As a Level 1 EAF contractor, we understand the time constraints and manpower demands inherent to the CDBG-DR program. As shown in Figure 1-4, Gannett Fleming anticipates aggressive timeframes

for completion of the various environmental review categories included in the contract and the anticipated number of environmental reviews which could be completed by our team on a weekly/monthly basis. The timeframes provided in Figure 1-4 attest to our ability to provide service as a Level 1 EAF contractor.

Figure 1-4: Anticipated Contract Work Order Timeframes

Class of Action	Typical Timeframe (days)	Completion (weekly/monthly)
Exempt (24 CFR 58.34)	0.5 days	150/600
Categorical Excluded Not Subject to 24 CFR 58.5 (CENST)	1.0 day	75/300
Categorically Excluded Subject to 24 CFR 58.5 (CEST)	2.0 days	10/40
Environmental Assessment (24 CFR 58.36) (non-tiered)	5.0 days	4/16
Environmental Assessment – Tier II Site Specific Review (tiered)	Less than 30 days	0/2
Environmental Impact Statement	120-150 days	0/
Total Monthly Completion - 30 days		950
Total Completion – first 90-180 days		2,850 – 5,700

2. Start-up Team

Gannett Fleming

*Excellence Delivered **As Promised***

State of New Jersey Department of the Treasury Division of Purchase and Property

Environmental Assessment Field Contractors for Environmental and Historic Preservation Reviews; New Jersey's CDBG-DR Grant Program

Team Member	Firm	Role	% FTE Work	Office Location
Management Team				
Michael A. Morgan, P.E., P.P., P.T.O.E.	GF	Principal	10%	South Plainfield, NJ
Theresa A. Albanese, PWS	GF	Program Director	75%	Mt. Laurel, NJ
Kristen Maines	GF	Assistant Program Director	75%	Harrisburg, PA
William M. Plumpton, CEP	GF	Corporate Resources	10%	Harrisburg, PA
Craig S. Shirk, AICP	GF	Quality Assurance/Quality Control	35%	Harrisburg, PA
Environmental Review Team				
Scott W. Duncanson, AICP, LEED Green Associate	GF	Discipline Manager: Environmental Review Team	75%	Harrisburg, PA
Robert P. O'Neil	GF	Assistant Discipline Manager: Environmental Review Team	65%	Valley Forge, PA
Alicia M. Blair	GF	Senior Environmental Scientist	75%	Valley Forge, PA
Katherine E. Sharpe	GF	Senior Environmental Scientist	75%	Harrisburg, PA
David A. Bishop	GF	Staff Environmental Scientist	75%	Woodbury, NY
Elizabeth K. Hancock	GF	Staff Environmental Scientist	75%	Woodbury, NY
Steven J. Wittig, C.E.	GF	Staff Environmental Scientist	75%	Valley Forge, PA
Amy Gonzales, PWS, CPESC	AK	Subcontractor Lead – Senior Environmental Scientist	10%	West Trenton, NJ
Matt D'Aprile	AK	Senior Environmental Scientist	50%	West Trenton, NJ
Andy Kuder	AK	Staff Environmental Scientist	50%	Mechanicsburg, PA
Jon Libbon	AK	Staff Environmental Scientist	50%	Mechanicsburg, PA
Laura Vrabel	AK	Staff Environmental Scientist	50%	Mechanicsburg, PA
Amy S. Greene, PWS	ASG	Subcontractor Lead – Senior Environmental Scientist	10%	Flemington, NJ
Lynn Brass-Smith	ASG	Senior Environmental Scientist	50%	Flemington, NJ
David Brotherton	ASG	Staff Environmental Scientist	50%	New Cumberland, PA
Kerri Quaglia	ASG	Staff Environmental Scientist	50%	Flemington, NJ
Brian Yates	ASG	Staff Environmental Scientist	50%	Flemington, NJ
Susan Peters	ASC	Subcontractor Lead – Senior Environmental Scientist	10%	Harrisburg, PA
J.T. Graupensberger	ASC	Senior Environmental Scientist	75%	Harrisburg, PA
Michelle Rehbogen	ASC	Staff Environmental Scientist	75%	Harrisburg, PA
Section 106 Compliance Team				
John W. Martin, RPA	GF	Discipline Manager: Section 106 Compliance (Archaeology)	60%	Mt. Laurel, NJ
John P. Kurth	GF	Assistant Discipline Manager: Section 106 Compliance (Architectural Historian)	50%	Mt. Laurel, NJ
Mark C. Brosnan	GF	Archaeologist	50%	Mt. Laurel, NJ
Richard F. Veit, Ph.D., R.P.A.	GF	Senior Archaeologist	25%	Mt. Laurel, NJ
Seth Mitchell	AK	Senior Archaeologist	10%	Mechanicsburg, PA
Fred Mayhew	AK	Archaeologist	25%	Mechanicsburg, PA
Kerri Barille, Ph.D.	DCRG	Subcontractor Lead – Senior Archaeologist	10%	Fredericksburg, VA
Marco Gonzalez	DCRG	Archaeologist	25%	Fredericksburg, VA
Sean Maroney	DCRG	Architectural Historian	35%	Fredericksburg, VA
Danae Peckler	DCRG	Architectural Historian	35%	Fredericksburg, VA
Paul McEachen	RGA	Subcontractor Lead - Archaeology	10%	Cranbury, NJ
Allison Gall	RGA	Archaeology	35%	Cranbury, NJ
Ilene Grossman-Bailey	RGA	Archaeology	35%	Cranbury, NJ

Team Member	Firm	Role	% FTE Work	Office Location
Philip Hayden	RGA	Architectural Historian	35%	Cranbury, NJ
Damon Tvaryanas	RGA	Senior Architectural Historian	35%	Cranbury, NJ
Natural Resources Team				
Kristin L. Civitella	GF	Discipline Manager: Natural Resources	45%	Valley Forge, PA
David H. Graff, PWS, CE	GF	Assistant Discipline Manager: Natural Resources	35%	Harrisburg, PA
Jillian N. Arnold, CFM	GF	Senior Biologist	35%	Harrisburg, PA
Steven C. Smith, WPIT	GF	Senior Environmental Scientist	35%	Harrisburg, PA
Amy Gonzales, PWS, CPESC	AK	Subcontractor Lead – Senior Environmental Scientist	10%	West Trenton, NJ
Tony Dilella	AK	Senior Environmental Scientist	25%	West Trenton, NJ
Amy S. Greene, PWS	ASG	Subcontractor Lead – Senior Environmental Scientist	10%	Flemington, NJ
Willian Romaine, PWS	ASG	Senior Environmental Scientist	25%	Flemington, NJ
Susan Quackenbush, PWS	ASG	Senior Environmental Scientist	25%	Flemington, NJ
Douglas Chabrak, PWS	ASG	Senior Environmental Scientist	25%	Flemington, NJ
Harry Strano	ASG	Biologist	35%	Flemington, NJ
J. Maxwell DeVane	ASG	Senior Biologist	25%	Flemington, NJ
Jennifer LaStella	ASG	Biologist	35%	Flemington, NJ
Environmental Health and Safety Team				
Michael J. Brady, P.E.	GF	Discipline Manager: Environmental Health and Safety	45%	South Plainfield, NJ
Helen C. Pappas, CHMM	GF	Assistant Discipline Manager: Environmental Health and Safety	35%	Mt. Laurel, NJ
Ahmed El-Aassar, Ph.D., P.E.	GF	Senior Noise Analyst	10%	Harrisburg, PA
Sondra K. Peterson	GF	Noise Analyst	10%	Harrisburg, PA
Peter J. Falnes	GF	Senior Environmental Scientist	25%	Mt. Laurel, NJ
Scott F. Narod	GF	Staff Environmental Scientist	25%	Woodbury, NY
Peter F. Papamichael	GF	Senior Environmental Technician	25%	Woodbury, NY
Robert M. Bennett	GF	Staff Environmental Scientist	25%	Woodbury, NY
Kiran Gill, CIHM	PARS	Subcontractor Lead – Senior Environmental Scientist	10%	Robbinsville, NJ
Eric White, P.G.	PARS	Senior Hydrogeologist	25%	Robbinsville, NJ
Hunter Blair	PARS	Hydrogeologist	25%	Robbinsville, NJ
Matt Abraham	PARS	Staff Environmental Scientist	25%	Robbinsville, NJ
Emily Esche	PARS	Staff Environmental Scientist	25%	Robbinsville, NJ
Michael Moore	PARS	Senior Hydrogeologist	25%	Robbinsville, NJ
Paul Lawless, CIH	PARS	Industrial Hygienist	25%	Robbinsville, NJ
Technical Support/Resources Team				
Matthew D. Houtz, GISP	GF	Senior GIS Specialist	50%	Harrisburg, PA
Russell A. Spangler	GF	Graphic Artist/Technical Editor	50%	Harrisburg, PA
Sean Ronan	ASG	Senior GIS Specialist	50%	Flemington, NJ
John Pabish	ASG	GIS Specialist	50%	Flemington, NJ
Alana Dormer	GF	Administrative Support/Data Entry	50%	Harrisburg, PA

Legend:

AK = AK Environmental, LLC
ASC = ASC Group, Inc.
ASG = Amy S. Greene Environmental Consultants, Inc.
DCRG = Dovetail Cultural Resource Group, Inc.
GF = Gannett Fleming, Inc.
PARS = PARS Environmental, Inc.
RGA = Richard Grubb & Associates, Inc.

3. Contract Management

Gannett Fleming

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Quality services and work products are the foundation of the Gannett Fleming organization and essential to our ability to meet customer needs. We recognize that a commitment to quality is one of the fundamentals that enables organizations to continue to grow and thrive. All employees embrace the spirit of our quality policy and contribute their own intellect and energies to quality improvement. Gannett Fleming believes quality is ultimately personal; every employee is responsible for the quality of their work.

Gannett Fleming has a unified ISO 9001:2008 certified Quality Management System (QMS) and our customers' projects are performed in accordance with the requirements of this comprehensive QMS.

3.1. Quality Management Plan

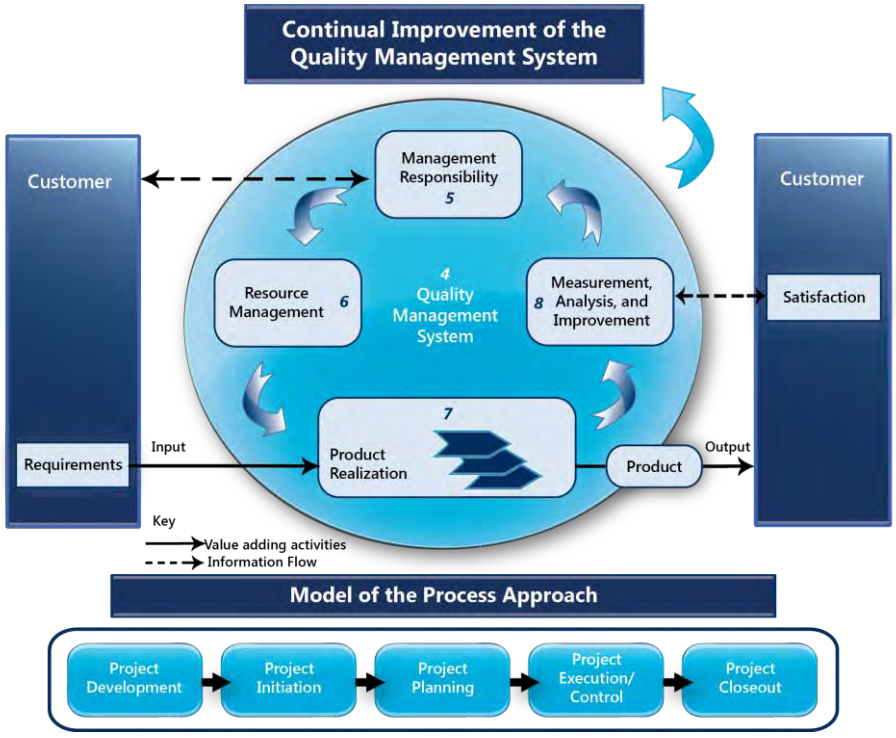
Our Corporate Quality Management Plan (QMP) sets requirements that ensure we deliver high quality products and services. Specific Quality Control (QC) procedures are included in associated reviews and audits. The QMP is reviewed regularly to be updated, expanded, and refined as needed.

Our QMP:

- Provides the basis for an effective and efficient QC program
- Assigns QC responsibilities to the team and establishes QC objectives and criteria
- Establishes policies and procedures for internal review processes and metrics for deliverables
- Provides prescribed policies, procedures, and guidelines for delivering quality products and services
- Sets a framework for project-specific QMPs within the framework of our overall quality management system.

Gannett Fleming's approach to serving the needs of our customers is derived from our firm's *Project Management and Quality Guidelines*. These Guidelines describe Gannett Fleming's processes for project management and quality. They are used in conjunction with contract-specific and project- or task order-specific requirements. These Guidelines have five main sections: I. Project Development, II. Project Initiation, III. Project Planning, IV. Project Execution and Control, and V. Project Closeout.

Figure 3-1: Quality Management System



They ensure that staff, regardless of their discipline or location, function in a consistent and cost-effective manner. In support of project planning and execution, Gannett Fleming's Project Management and Quality Guidelines require and provide a system for technical performance. Technical performance includes procurement of subcontractors and vendors, safety and health considerations, and development of a project execution plan (PEP).

The PEP includes the project goals and objectives, project organization, a work breakdown structure, a detailed description of each task to be performed, the key project personnel, a breakdown of the man-hours and costs required to complete each task, the resources needed for each task, the project deliverables, and communication protocol and frequency. Our PEPs also contain project specific Quality Assurance (QA)/QC activities that address specific client requirements and contributes to the overall success of performance and ultimate quality of the products and services we deliver.

3.2. QC/QA

Implementation of the quality procedures presented in our PEPs generally consist of the verification of work products (i.e., checking) and the review of the QC activities (i.e., QA).

Work products produced by Gannett Fleming are carefully checked or "verified" in accordance with the requirements of our detailed work instructions. These QC activities are thorough and consistent across the organization. The work instructions guide our professionals' verification processes as they conduct their review. The work instructions also describe the iterative process followed by the producer and reviewer of the work products to result in work products that meet the requirements of the project scope of work and the standard of practice.

Following the verification of the work products, they are reviewed by a higher-level professional who verifies that the work products have been checked and that they meet the requirements of the scope of work and standard of practice. No work products or services are delivered to our customers before they undergo both QC and QA processes. All work products provided by our subconsultants are subjected to the same QA review applied to Gannett Fleming work products.

When preparing or evaluating environmental documentation, we verify that technical analyses have fully met the relevant guidance and findings are clearly stated and defended. We ensure that environmental documentation presents an unbiased, adequate level of detail to facilitate comprehension and independent decision-making. Relevant issues must be properly addressed, and documentation must comply with applicable laws, regulations, policies, guidance, and standards.

3.3. Task Order Project Teams

Upon receipt of a Task Order, our Program Director will evaluate the order details and ensure our understanding of the tasks and related performance criteria through communication with the State Contract Manager/Program Manager. Upon confirmation of the Task Order requirements, Ms. Albanese will work with our Environmental Review Team Discipline Managers and Section 106 Compliance Discipline Managers to identify the most appropriate review Team for assignment of the Task Order. Considerations for the appropriate Team would include staff experience and skills, geographic understanding and grouping of field tasks, schedule, and workload. We commit to assigning the most qualified Team to meet Task Order needs while meeting contract performance criteria.

Upon acceptance of a Task Order and Notice to Proceed, as the prime contractor Gannett Fleming will assure that adequate and appropriate management of personnel and resources will be provided to accomplish the scope of work within the price and schedule. Task Order management of all services would be provided by Gannett Fleming personnel to ensure consistent guidance, procedures, and priorities are set for all personnel, including subcontractors. Through effectively

managed subcontracts with our Team members, we will assure that their internal management of assignments or portions of assignments match the level demanded under the Task Order and the overall CBDG-DR program. We are familiar with requirements for progress reporting, including Earned Value Analysis information and invoicing.

3.4. Business Relations

Gannett Fleming understands that excellent communication is the key to successful management of assignments for technical support to federal agencies. We begin each assignment with a clear understanding of direction from the State Contract Manager/Program Manager, obtained through a detailed review of the Task Order. We maintain this understanding over the course of the project through our willingness to ask clarifying questions; we never make unfounded assumptions. Gannett Fleming adheres to established lines of communication and responsibilities between the State Contract Manager, the Program Manager, and Gannett Fleming project management regarding changes in terms, conditions, or scope. We focus on recognizing potential problems before they occur and meeting the requirements and expectations of the agency.

3.5. Subcontractor Management

Gannett Fleming has had considerable experience in managing multiple subcontractors under large state and federal contracts with multiple and concurrent assignments. We also have the experience of working as a subcontractor under similar contracts. Our management approach represents a compilation of the best practices that we have developed and that we have functioned under. Following execution of a contract, subcontracts with flow-down clauses will be put in place by our Program Manager.

3.5.1. Communication with Subcontractors

Communications pertaining to statements of work, schedule of deliverables, budget, and staffing matters on individual Task Orders will be between—or occur with the participation of—our project managers and the subcontractor counterpart. Task Orders will not be led by a subcontractor, unless requested.

Gannett Fleming is committed to weekly status teleconferences with all active subcontractors to review task order status and upcoming activity, identify and implement management measures to address any anticipated issues, review performance, and to provide a forum for the distribution of improvement measures or changes in reporting and documentation to ensure the highest level of efficiency and performance.

3.5.2. Subcontractor Technical Performance Oversight and Monitoring

The primary responsibility for quality technical work by each subcontractor rests with our Program and Discipline Managers. Our Discipline Managers will lead performance of the statement of work with assistance from subcontractor key personnel. Gannett Fleming requires that subcontractors provide evidence that their deliverables have been subject to verification before delivery. By contract, we establish the right to evaluate subcontractor quality management processes, to ask subcontractors to confirm that they have followed those processes, and to audit subcontractor QA/QC on deliverables.

3.5.3. Subcontractor Cost and Schedule Oversight and Monitoring

Gannett Fleming's procedures for managing subcontractor costs begin with providing clear written direction to our subcontractor before costs are incurred, include careful monitoring of costs as they are incurred, and conclude with prompt payment.

3.5.4. Subcontractor Invoicing and Reporting

Our subcontractors will be required to prepare invoices and progress reports in the same format and on the same schedule as Gannett Fleming so consistent information can be provided. Guidance to

our subcontractors will include: invoicing and reporting templates, invoicing and progress reporting submittal deadlines, and administrative requirements. Subcontractor invoices are reviewed by our Discipline Managers and approved for contract compliance by our Program Manager.

3.6. Project Scheduling and Cost Control

Our Project Management Team has comprehensive experience preparing project schedules. Our key personnel are skilled in the use of management tools to develop work plans, assign resources to tasks, track progress, manage budgets, and analyze workloads, and create resource loaded critical path schedules.

Our Project Management Team recognizes the development of project schedules as an iterative process. Our enterprise-wide management information system requires our Project Management Team to prepare work breakdown structures in detailed phases and tasks so that Team members can understand how the work is to be done and can see the dependencies and relationships between phases and tasks. Schedule control is maintained by measuring actual and projected performance against completion dates and reporting projected variances to our program manager, before they occur. We thoroughly document assumptions and constraints and identify the logical interdependencies and relationships between phases and tasks and the order in which phases and tasks need to be performed.

Our enterprise-wide management information system provides real-time cost information to our project managers on demand. Time charges and other direct costs on an assignment are known at all times. Our system allows management to evaluate project performance and progress using earned value management principles. This allows Gannett Fleming management to foresee potential performance problems and implement management adjustments to ensure successful project completion.

3.7. Proposed Program Schedule

The following conceptual Program Schedule, Exhibit 3-2, illustrates management and performance milestones applicable to the services involved in this contract. Gannett Fleming would develop a more detailed and defined program schedule to manage all Team activities and personnel after award of a contract and additional coordination with the State Program Manager regarding procedures, schedules, and performance criteria.

Exhibit 3-2: Proposed Program Schedule

Activity	Management Schedule
Confirm Understanding of Scope and Schedule with Program Manager after receiving Task Order/Notice To Proceed	Within 1 day after receiving TO
Designate appropriate Team Personnel and Initiate Environmental Review	Within 1 day after receiving TO
Initiate Field Work (if known and required)	Within 2 days after receiving TO (or in compliance with TO schedule)
EAF Team Meeting (including subcontractor management and personnel)	Every Thursday while under active work
Weekly Status Reports (submittal to Program Manager)	Every Monday by 9:00 a.m.
Monthly Status Reports (submittal to Program Manager)	Every 2nd Monday of the month by 9:00 a.m.

4. Potential Challenges

Communications

High-volume orders create potential communication difficulties not encountered on most projects. Thoughtful and frequent communications are keys to success. Communications include progress reporting, team and customer communications, and records management. Our management approach and team is structured to minimize communication difficulties. Communication takes many forms and is the cornerstone to successful execution. Our key personnel know that communication with our customers, regardless of the form, is best when initiated by our key personnel. To complement the progress reporting required by the contract, we will institute similar internal progress reporting on a cycle preceding the weekly and monthly reporting required by the contract. We understand that progress reports primarily serve as documentation of past events and discussions and are only one form of communication.

In all external communications, whether written or verbal, our personnel will immediately identify themselves as contractors and never present themselves in any way that would suggest they are employees of the State. When in meetings, they will wear name badges identifying themselves as contractors. Gannett Fleming has a company policy of never discussing a customer's project with a third party. This is strictly enforced and extends to and includes our subcontractors.

We would develop lines of communication for contractual and administrative matters between our Corporate Resources and our subcontractor counterparts allowing our key and technical staff to remain focused on execution at all times.

Record-keeping Associated with High-Volume Orders

High-volume orders create potential unique difficulties not encountered with most projects. Gannett Fleming has work processes and procedures for project management and maintaining accurate records of activities at all times. They are used in conjunction with contract-specific and project-specific requirements. They ensure that all staff, regardless of their discipline or location, are able to function in a consistent and cost-effective manner. The Gannett Fleming staff identified in this proposal have copies of the work processes and procedures and have attended training on its use.

Our internal information management system (MIS) is a commercially produced MIS that is used throughout our company. Our key and technical personnel are skilled in using it.

Our subcontractors would be required to create and use a file structure consistent with Gannett Fleming. Consistent use of this structure promotes efficiency in document filing and retrieval, expedites audits, and facilitates closeout and records retention. If selected for an EAF contract, we would train our subcontractors in our record keeping processes and procedures as part of other start-up activities.

Our records retention policy exceeds the requirements specified in the RFP.

Subcontractor management

Subcontractor managemant can be an impediment if not done well. Our personnel know, under the direction of our Program Director and Assistant Program Director, one of their key functions is subcontractor management and, more specifically, ensuring the technical quality of work by advising the technical staff during execution and monitoring progress. Our management approach requires that subcontractors provide evidence that their deliverables have been subject to appropriate verification before delivery to us. All of our key personnel have comprehensive experience managing subcontractors. Our management approach represents a compilation of the best policies and procedures that we have developed ourselves and that we have functioned under for others. Our management approach is a proven one and one that we have used many times. This approach is a flexible and allows us to add resources easily, both internal and external, to meet demands.

Our subcontracts would include flow-down clauses promoting awareness of issues and common priorities at all times.

Our subcontractors would be required to perform their services and prepare invoices and progress reports in the same formats and on the same schedule as Gannett Fleming, thereby standardizing our overall approach and instilling consistency in work procedures, products and information at all times.

Personnel and Resources

To meet the demands of this contract, EAF vendors must not only possess personnel with the right skill sets and experience but also provide a large pool of such personnel. We believe our team, including some of the most respected New Jersey small business environmental service firms, provides an excellent balance of highly qualified personnel and substantial depth of availability. However, we recognize that the demands of the contract may require additional qualified staff to achieve efficient environmental compliance for the important task of delivering disaster relief funding. Our Corporate Resources manager, with assistance from our corporate human resources staff

5. Organizational Support and Experience

Gannett Fleming

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Gannett Fleming, Inc. is a global infrastructure firm providing planning, design, technology, and construction management services for a diverse range of markets and disciplines. Operating since 1915, the firm has completed over 45,000 assignments for clients in all 50 states and more than 60 countries. Currently, we have nearly 2,000 employees in approximately 60 offices and are ranked as 51st among the Top 500 United States engineering design firms (*Engineering News Record, 2013).*

Since 1970, we have provided ongoing engineering and environmental services to state agencies and local governments within the State of New Jersey through our Mt. Laurel office and expanded our presence in 1980 with the opening of our South Plainfield office. Our Newark office opened in 2009. Currently, our offices in New Jersey employ approximately 160 professionals and support personnel.

Gannett Fleming has been privileged to work with New Jersey agencies and staff professionals across the state. We invite you to contact the following New Jersey references to provide evidence of our technical abilities and performance.

5.1. References

5.1.1. New Jersey Department of Transportation

Contact: John McCleerey, Project Manager
Address: CN 600, Trenton, NJ 08625-0600
Telephone: 609-530-2466
E-mail: John.Mccleerey@DOT.STATE.NJ.US
Relevant Projects: Environmental assessment (EA) for Route 18 Extension, Section 2A; EA for Route 18 New Brunswick; and categorical exclusion (CE) for Route 18 extension, Section 3A.

5.1.2. New Jersey Turnpike Authority

Contact: Stephen Buente, Supervising Engineer - Planning/Environmental
Address: P.O. Box 5042, Woodbridge, NJ 07095
Telephone: 732-750-5300
E-mail: buente@turnpike.state.nj.us
Relevant Projects: Preliminary engineering and environmental services, NJTA Interchange 14A; EA for NJ Turnpike Widening.

5.1.3. New Jersey Department of Environmental Protection, Division of Land Use Regulation

Contact: Charles Welch, Project Manager, Roadways & Infrastructure Unit
Address: 501 East State Street, PO Box 0439, Trenton, NJ 08625
Telephone: 609-633-2696
E-mail: charlie.welch@dep.state.nj.us
Relevant Projects: 48-inch water main bypass, beach thoroughfare, design, environmental permitting, and construction management, Atlantic City Municipal Utilities Authority; Ocean Drive scour damage repairs, Cape May County Department of Public Works.

5.2. Personnel Experience

5.2.1. Environmental Review

Gannett Fleming offers a committed and knowledgeable interdisciplinary staff of National Environmental Policy Act (NEPA) compliance and documentation, and our Team is led by discipline managers with strong backgrounds in NEPA compliance, planning, and the sciences. We have significant experience and skills supporting NEPA compliance, environmental policy, and management services and related natural and cultural resource assessments and studies. Gannett Fleming has been a nationwide NEPA contractor to the U.S. Environmental Protection Agency (U.S. EPA) Office of Federal Activities since 1997, providing NEPA compliance and environmental technical and policy assistance under three consecutive IDIQ contracts.

Gannett Fleming offers you a committed and knowledgeable interdisciplinary staff of NEPA compliance and documentation specialists -

environmental planners, social scientists, economists, biologists and natural resource specialists, engineers, archeologists, architectural historians, and other technical staff - providing creative approaches to environmental impact assessment, combined with public involvement, and agency coordination. Our specialty is integrating issues and concerns into practical concurrence-based solutions.

The majority of NEPA-related environmental compliance reviews for federal actions (upwards of 90 percent) are classified as CEs. While classification of an action as categorically excluded does not exempt or waive NEPA compliance, the typical impacts of these actions are generally well-understood and the scope and complexity of environmental review is typically greatly reduced. Gannett Fleming has extensive experience assisting federal and state agencies complete NEPA compliance for CE actions. We have provided NEPA compliance services for CEs directly for the New Jersey Department of Transportation and the New Jersey Turnpike Authority, and coordinated extensively with the New Jersey Department of Environmental Protection on project environmental reviews and permitting activities. We have completed CE and EA checklists similar to those applicable to the Department of Housing and Urban Development and Federal Emergency Management Agency environmental review procedures for the Federal Transit Administration, the Federal Railroad Administration, the Federal Highway Administration, and the U.S. Army Corps of Engineers.

Additionally, we have prepared Environmental Impact Statements (EISs) and EAs for a wide range of major federal actions, including:

- Water and wastewater system construction grant programs
- Government buildings and facilities
- Coastal wetlands restoration
- Highways and bridges
- Transit lines and stations
- Intermodal truck/rail facilities
- Dams
- Pipelines
- Dredging operations
- Offshore oil and gas drilling.

5.2.2. Section 106 Compliance

Gannett Fleming offers a full range of Cultural Resources Management services for projects that involve historic preservation issues. These include projects requiring compliance with Section 106 of the National Historic Preservation Act, as well as additional federal, state, and local municipal regulations relating to historic preservation. Our services for archaeology and historic structures include preliminary assessments and survey (Phase I), evaluation according to National Register of Historic Places criteria (Phase II), and mitigation measures including archaeological data recovery and HABS/HAER recording (Phase III). During all project stages, Gannett Fleming works closely with clients, State Historic Preservation Officers (SHPO), local historical commissions, and other review agencies to ensure that preservation and economic considerations, such as project design and avoidance measures are properly addressed.

Our primary corporate cultural resource staff is located in New Jersey and the staff is experienced with all phases of Cultural Resources Management. Specialists on staff include historians, archaeologists and architectural historians who meet the Secretary of the Interior's Professional Qualification standards. Gannett Fleming also provides personnel skilled in photography, scale-drawing documentation, geomorphology, and soils analysis. Our multidisciplinary Cultural Resources Team can draw on Gannett Fleming expertise in environmental management, planning, transportation, land development, and architecture to arrive at the best solutions for any type of undertaking. Our staff is ready to assist in exploring design alternatives for a variety of project types and developing and executing innovative mitigation strategies, if necessary.

5.2.3. Natural Resources

Gannett Fleming provides natural resource services to federal, state, local, and private clients through our team of environmental scientists, biologists, wetland professionals, and ecologists. Our professionals are leaders in the identification, delineation, mitigation, and management of Waters of the U.S., including wetlands. Our services are guided by the regulations, policy, and principles of the 1987 USACE Wetland Delineation Manual, Regional Supplements, the U.S. Department of Agriculture (USDA) Food Security Act Manual, plus federal, state, and local regulations.

Gannett Fleming provides permitting services for projects that involve temporary or permanent impacts to Waters of the U.S., including wetlands. We routinely prepare and submit permit applications to local, state, and USACE offices for review and approval.

We provide wetland planning, research, design, construction observation, and post-construction monitoring for projects that require preservation, enhancement, restoration, and creation of compensatory wetland or watercourse mitigation.

Gannett Fleming enjoys a solid reputation for offering innovative and cost-effective solutions for mitigation projects. Our wetland mitigation design and construction services have recently won awards from the Pennsylvania and National Consulting Engineers Council.

Our Natural Resource Services include:

- Amphibian, reptile, avian, bat and other small mammal surveys
- Endangered, threatened and/or rare species surveys, and Section 7 ESA consultation
- Botanical surveys, invasive species surveys, and plant community mapping
- Ecological risk assessments
- Bioassessment of streams using U.S. EPA rapid protocols and state Indexes for Biological Integrity
- Natural channel designs for stream mitigation
- Macroinvertebrate and fish surveys
- Water quality testing, analyses, and reporting
- Wetland identification, delineation and mapping with global positioning system (GPS) and geographic information system (GIS)
- Function and value assessments
- Wetland mitigation (banking, restoration,creation)
- Compensatory mitigation for wetlands and stream impacts, including planning, design, construction bid packages, construction management, and post-construction monitoring
- State permitting for National Pollutant Discharge Elimination System (NPDES) compliance and wetlands encroachments
- Federal authorizations for Clean Water Act Sections 401 and 404 compliance

5.2.4 Environmental Health and Safety

Gannett Fleming provides a comprehensive suite of due diligence services in the areas of brownfields, site investigation/characterization, remediation planning and design, human health risk assessment, and program management support. We provide experience in due diligence Phase I and Phase II environmental site assessments (ESAs) and investigations for refinancing, prepurchase, and pre-foreclosure property transactions for a variety of property types, including industrial, commercial, and residential properties. Our Team provides complete site assessment services, including thorough qualitative site reviews based on field observations, personal interviews, and public records search. We adhere to ASTM Standard E-1527-05 and tailor our approach to the unique needs of each client.

Our brownfields capabilities include environmental services, program management and funding, preliminary cost/benefit analysis, public involvement, community planning, land development, transportation planning, landscape architecture, and associated capabilities and services. Our firm provides acquisition support for Federal, private, and public sector clients by

conducting environmental compliance audits and assisting in regulatory negotiations.

Gannett Fleming also has significant site investigation and remediation experience; including thousands of site assessments and underground storage tank site closures and hundreds of successful remedial actions, including work at numerous Superfund sites. We have provided oversight and inspection for a wide range of construction and remediation projects, valued from tens of thousands to billions of dollars. We have previously held Regional Oversight Contracts in U.S. EPA Regions 1 and 3 for federal facilities under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Resource Conservation and Recovery Act (RCRA) activities. Gannett Fleming has completed remedial design projects involving soil removal, in-situ bioremediation, and groundwater pump and treat technologies, including ongoing operation and maintenance. We have also supported the U.S. EPA Region 3 through a Response Action Contract for preremedial investigation, remedial investigation/feasibility study (RI/FS), remedial design (RD), remedial action (RA), operations and maintenance (O&M), non-time-critical removal, potentially responsible party negotiation support, and oversight services.

Gannett Fleming provides environmental services including the management of asbestos-containing material (ACM) and lead-containing paint (LCP) associated with commercial and industrial sites. Gannett Fleming has extensive experience providing ACM and LCP services in the private and public sector. Gannett Fleming has on staff of certified environmental professional, including but not limited to Certified Industrial Hygienist (CIH), Certified Safety Professional (CSP), and Certified Hazardous Materials Manager (CHMM), able to provide ACM inspections, design, monitoring, and planning services, as well as providing LCP inspections and risk assessments. Project experience include railroad yard maintenance shops, commercial and industrial buildings, roadways/highways, bridges, commuter rail stations, cogeneration plants, as well as wastewater treatment facilities.

Our Environmental Acoustics Division of Gannett Fleming provides cutting-edge services for transportation and community noise impact assessment and control. Our staff is highly experienced using noise analysis model including the FHWA Traffic Noise Model (TNM) and has performed acoustic evaluations for proposed land developments in accordance with HUD rules (24 CFR 51 and the HUD Noise Guidebook).

5.3. Organizational Chart

Exhibit 3-1, Organizational Chart, provides the names of management and other key personnel from the Project Team. Exhibit 3-2 presents the key personnel's labor titles.

Exhibit 3-2: Key Personnel Labor Titles

Team Member	Firm	Labor Title
Michael A. Morgan, P.E., P.P., P.T.O.E.	GF	Principal
Theresa A. Albanese, PWS.	GF	Program Director
Kristen Maines	GF	Program Director
William M. Plumpton, CEP	GF	Principal
Craig S. Shirk, AICP	GF	Program Director
Scott W. Duncanson, AICP, LEED Green Associate	GF	Task Manager
Robert P. O'Neil	GF	Task Manager
John W. Martin, RPA	GF	Task Manager
John P. Kurth	GF	Task Manager
Kristin L. Civitella	GF	Task Manager
David H. Graff, PWS, CE	GF	Task Manager
Michael J. Brady, P.E.	GF	Task Manager
Helen C. Pappas, CHMM	GF	Task Manager
Amy S. Greene, PWS	ASG	Task Manager
Susan Peters	ASC	Task Manager
Amy Gonzalez, PWS, CPESC	AK	Task Manager
Kerri Barille, PhD	DCRG	Task Manager
Paul McEachen, RPA	RGA	Task Manager
Kiran Gill, CIHM	PARS	Task Manager

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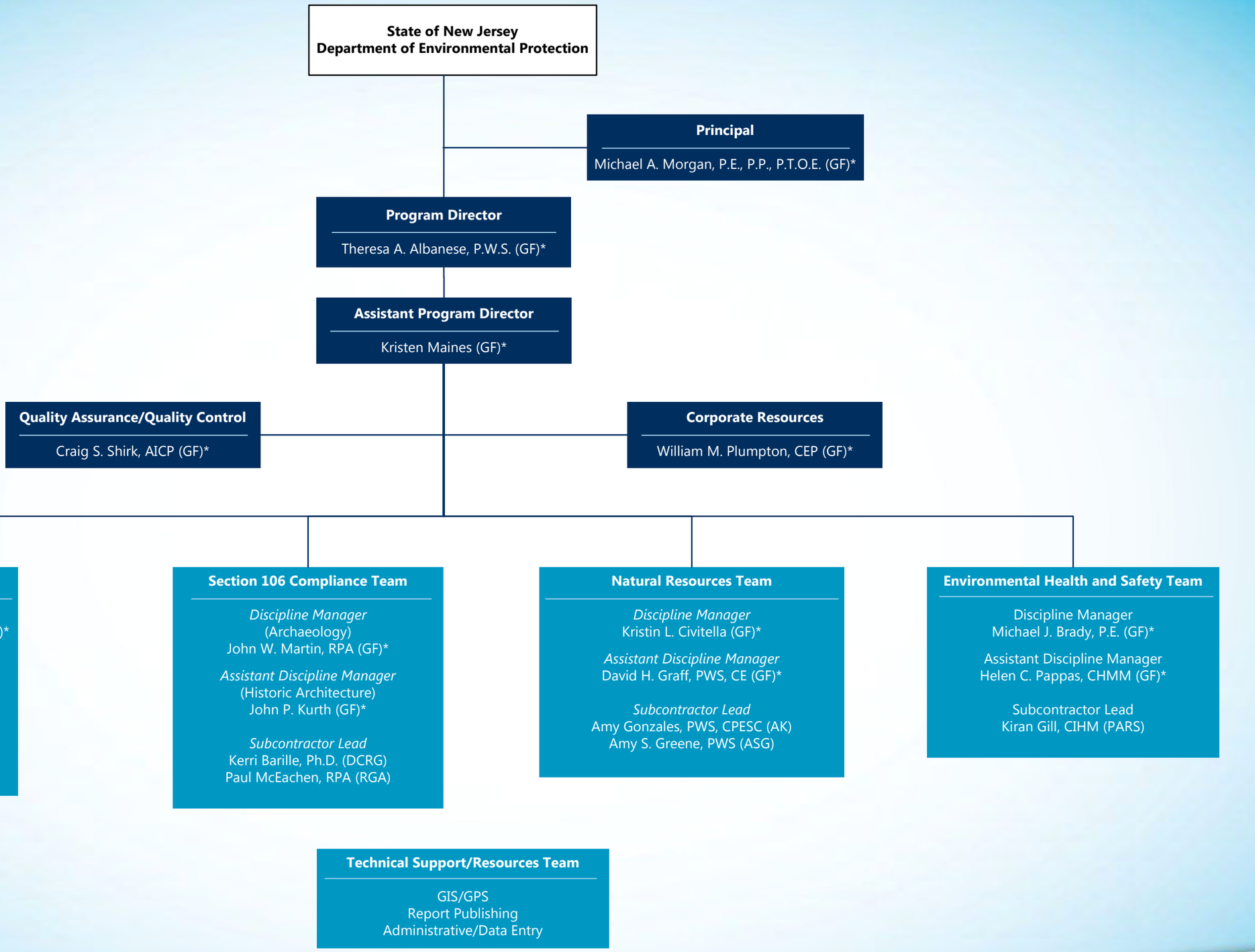
GF = Gannett Fleming, Inc.
PARS = PARS Environmental, Inc.
RGA = Richard Grubb & Associates, Inc.

Exhibit 5-1: Organizational Chart
Environmental Assessment Field Contractors

Legend:
(AK) = AK Environmental, LLC
(ASG) = Amy S. Greene Environmental Consultants, Inc.
(ASC) = ASC Group, Inc.
(DCRG) = Dovetail Cultural Resource Group, Inc.
(GF) = Gannett Fleming, Inc.
(PARS) = PARS Environmental, Inc.
(RGA) = Richard Grubb & Associates, Inc.

* = Key Personnel Resumes located in 6. Resumes



6. Resumes

Gannett Fleming

*Excellence Delivered **As Promised***

State of New Jersey Department of the Treasury Division of Purchase and Property

Environmental Assessment Field Contractors for Environmental and Historic Preservation Reviews; New Jersey's CDBG-DR Grant Program

On the following pages are brief resumes for the management and key personnel proposed for this project. No key Team Member or subcontractors are listed on any state or federal suspension, debarment, or disqualification list.

State of New Jersey Department of the Treasury Division of Purchase and Property

Project Assignment: Principal

Years Experience with Current Firm: 17

Years Experience with Other Firms: 9

Education:

B.C.E., Civil Engineering, Villanova University, 1987

M.S., Civil Engineering (Urban and Transportation Engineering), New Jersey Institute of Technology, 1992

Professional Registrations:

P.E.: New Jersey - No. 24GE03790000 (1993)

Connecticut - No. PEN.0028788 (2012)

P.P.: New Jersey - No. 33LI00563200 (2001)

Professional Traffic Operations Engineer (P.T.O.E.) - No. 1630 (2005)

Underground Storage Tank Installation, Closure, Tank Testing, and Corrosion Specialist License: New Jersey - No. 553087 (2011)

Current Responsibilities:

Vice President/Transportation Planning Department Manager/Traffic Engineer responsible for transportation planning activities and corridor studies, traffic engineering services, and traffic signal system designs. Also manages interdisciplinary teams providing environmental analysis and NEPA compliance for complex projects.

Summary of Experience:

Garden State Parkway Interchange 142 Improvements, Essex and Union Counties, NJ, *New Jersey Turnpike Authority, Garden State Parkway Division.* [2004-2007] Planning Task Leader for the preliminary design of new ramp connections. Oversaw traffic and environmental activities including noise monitoring and study, environmental site assessments, and stream encroachment and general wetland permits. **Reference:** John Withers, 732-750-5300, withers@turnpike.state.nj.us

NJ Route 18 Improvements, Sections 2F, 7E, and 11H, New Brunswick, NJ, *New Jersey Department of Transportation*. [2003-2007] Transportation and Environmental Task Leader for preliminary engineering and final environmental services for the project. Spearheaded the preparation of technical environmental studies and the environmental assessment document. Significant elements included wetland delineation, establishment of river floodway limits, flood hazard encroachment, relocation/impact of historic properties, parkland acquisition, and contaminated soils. Project permits obtained included Green Acres, Waterfront Development, Stream Encroachment and Floodway Re-delineation, Water Quality Certificate, Freshwater Wetland, Tidelands, Re-forestation Plan, Division of Consumer Affairs, Sewer Extension and Treatment Works Approval, and State Historic Preservation Office Memorandum of Agreement. **Reference:** John McCleerey, 609-530-2466, john.mccleerey@dot.state.nj.us

Environmental Assessment Field Contractors for Environmental and Historic Preservation Reviews; New Jersey's CDBG-DR Grant Program

New Jersey Turnpike Interchange 14A Improvements, Bayonne and Jersey City, NJ, *New Jersey Turnpike Authority*. [2009-present] Project Manager for preliminary engineering and environmental studies for improvements to the New Jersey Turnpike at Interchange 14A. The project consisted of evaluating existing interchange deficiencies, projecting future traffic volumes, developing a traffic simulation model, developing concepts to accommodate future traffic growth, and providing preliminary engineering for the preferred alternative meeting the project's purpose and need. Environmental efforts included conducting stakeholder outreach and preparing technical environmental studies and an environmental impact statement in accordance with Executive Order 215. **Reference:** Stephen Buente, 732-750-5300, x8240, buente@turnpike.state.nj.us

On-Call Architectural and Engineering (A&E) Services Term Agreement, Various Locations, NJ, *New Jersey Transit*. [2010-present] Project Manager for this task-order agreement with New Jersey Transit for general A&E services Responsible for managing a team of subject matter experts to provide analysis and design services for work tasks involving architectural evaluation and civil, structural, rail systems, mechanical, environmental, value, industrial, and electrical engineering. **Reference:** Shelley Harris, 973-491-7538, sharris@njtransit.com

State of New Jersey Department of the Treasury Division of Purchase and Property

Project Assignment: Program Director

Years Experience with Current Firm: 10

Years Experience with Other Firms: 16

Education:

B.S., Natural Resources Management and Applied Ecology, Cook College of Rutgers, The State University of New Jersey, 1986

Professional Registrations:

Professional Wetland Scientist: Society of Wetland Scientists - No. 000153 (1994)

Professional Affiliations:

Dover Township (Ocean County, New Jersey) Environmental Commission, 1991-2003

Current Responsibilities:

Natural Resources Group Manager responsible for managing and conducting wetland and waterway identifications, delineations, and analyses; wetlands and stream mitigation and enhancement/restoration; state and federal permitting, including New Jersey Department of Environmental Protection, New Jersey Pinelands Commission, and U.S. Army Corps of Engineers permits; and NEPA compliance involving categorical exclusions (CE), environmental assessments (EA), and environmental impact statements (EIS).

Summary of Experience:

NJ Route 18 Extension, Section 3A, Hoes Lane Corridor, Piscataway Township, Middlesex County, NJ, *New Jersey Department of Transportation.* [2004-present] Senior Environmental Scientist for environmental studies, a feasibility assessment, and permitting for a categorical exclusion document. Environmental tasks included wetland and floodplain forest delineation, threatened and endangered species consultation, riparian buffer impacts, and overseeing cultural and hazardous waste investigations. Permitting efforts included the preparation of a NJDEP Freshwater Wetlands Individual Permit application and a NJDEP Green Acres Minor Diversion/Disposal of Parkland pre-application.
Reference: John Mccleerey, 609-530-2466, John.Mccleerey@dot.state.nj.us

Environmental Assessment Field Contractors for Environmental and Historic Preservation Reviews; New Jersey's CDBG-DR Grant Program

North White Plains Station Access and Parking Improvements, Environmental Impact Statement, White Plains, NY, *MTA Metro-North Railroad.* [2004-2008] Senior Environmental Scientist for technical environmental studies related to threatened and endangered species and habitat assessments for an EIS in accordance with National Environmental Policy Act requirements. Also tabulated fisheries data for compliance with Magnuson-Stevens Fishery Conservation and Management Act; performed impact assessments; and analyzed alternatives for station access and parking improvements.
Reference: James Hoegler, 212-499-4489, hoegler@mnr.org

Route 206 Over Black River Rehabilitation, Chester, NJ, *New Jersey Department of Transportation (NJDOT).* [2008-2010] Senior Environmental Scientist for environmental studies and permits related to a superstructure replacement. Tasks included wetland delineation, organizing bog turtle habitat survey (Phase 1 survey); coordinating and consulting with the NJDOT ,NJDEP and U.S. Fish and Wildlife Service; developing environmental commitments for construction contract drawings; and attending NJDEP/NJDOT meetings to review the project schedule and potential permit applications.
Reference: Tina Shutz, 609-530-2543, tina.shutz@dot.state.nj.us

Canoe Brook Water Treatment Plant, Millburn, NJ, *New Jersey American Water.* [2011] Senior Environmental Scientist performing environmental investigations and assessments of various locations for soil stockpile. Performed regulatory assessment of applicable local, county, and state permits and approvals. Analyzed specific areas and potential encroachments to environmentally sensitive areas; developed a stockpile assessment report, which included mapping of potential stockpile areas and layouts, wetlands and transition areas, and flood hazard areas; report documented discussion of jurisdiction NJDEP, county Soil Conservation District, and local regulations.
Reference: Robert Biehler, 908-431-3256, robert.biehler@amwater.com

State of New Jersey Department of the Treasury Division of Purchase and Property

Project Assignment: Assistant Program Director

Years Experience with Current Firm: 1

Years Experience with Other Firms: 13

Education:

B.S., Resource Economics and Political Science, University of Massachusetts, 1995

M.A., Economics, North Carolina State University, 1999

M.A., Policy Studies, University of Washington, 2011

Current Responsibilities:

Senior Environmental Planner/Project Manager responsible for providing environmental and economic planning services such as environmental assessments (EAs), environmental impact statements (EISs), alternatives analysis, benefit-cost analysis, feasibility studies, and survey analysis. Leads multidisciplinary teams including plan formulation, alternative evaluation, engineering feasibility and discipline reports, and environmental compliance documentation. Recognized as an expert in National Environmental Policy Act (NEPA) documentation, possessing comprehensive knowledge of NEPA requirements.

Summary of Experience:

On-Call Program Management Consultant Services for the Red Line Transit System, Baltimore, MD, *Maryland Transit Administration.* [2012-present] Member of the Project Management Consultant team responsible for reviewing NEPA environmental documents and managing the General Engineering Consultant.
Reference: Ray Moravec, 443-451-3729, rmoravec@baltimoreredline.com

I-405 Corridor General Engineering Consultant - Environmental and Resource Management Component, Bellevue, WA, *Washington State Department of Transportation.* Project Manager/Senior Planner in charge of the preparation of the EA for the S.R. 520 to I-5 project as part of a joint venture contract. Responsible for managing and directing NEPA/Washington State Environmental Policy Act (SEPA), Section 4(f), Section 6(f), Section 106 documents and discipline reports and technical memoranda. Also served as Assistant Project Manager for the environmental documentation for the I-405, Renton to Bellevue Project, responsible for the coordination and quality assurance/quality control of discipline reports and technical memoranda. Authored multiple-discipline reports and several chapters of the EA.
Reference: Allison Hanson, 206-716-1136, HansonA@wsdot.wa.gov

Environmental Assessment Field Contractors for Environmental and Historic Preservation Reviews; New Jersey's CDBG-DR Grant Program

Elliott Bay Seawall Replacement Project, Seattle, WA, *Seattle Department of Transportation/U.S. Army Corps of Engineers, Seattle District*. Senior Environmental Planner for preparation of the EIS, authoring technical discipline reports, assisting in the management of day-to-day project activities, and supporting the USACE with alternatives screening.
Reference: Jennifer Wieland, 206-733-9970, Jennifer.Wieland@seattle.gov

Bay Delta Conservation Plan (BDCP) Environmental Impact Report (EIR)/EIS, Sacramento, CA, *California Department of Water Resources (DWR).* Member of the Core Management Team preparing the joint EIR/EIS for DWR to evaluate the environmental impacts of the BDCP, created with the purpose of providing for the conservation of at-risk species in the Delta and improving its reliability as the hub of the state's water supply system.
Reference: Betty Dehoney, 858-712-8324, betty.dehoney@hdrinc.com

Skokomish General Investigation Study, NEPA Scoping and Public Outreach, Mason County, WA, *U.S. Army Corps of Engineers (USACE), Seattle District.* Consultant providing services for NEPA EIS scoping as well as study-related public outreach efforts for the Skokomish general investigation study. The team worked in coordination with the USACE Civil-Environmental Branch and the Program Manager to make sure a there was a comprehensive and thorough NEPA scoping process and associated study-related public outreach.
Reference: Patrick Cagney, 206-764-3654, Patrick.T.Cagney@usace.army.mil

State of New Jersey Department of the Treasury Division of Purchase and Property

Environmental Assessment Field Contractors for Environmental and Historic Preservation Reviews; New Jersey's CDBG-DR Grant Program

Project Assignment: Quality Assurance/Quality Control

Years Experience with Current Firm: 17

Years Experience with Other Firms: 3

Education:

B.A., Geoenvironmental Studies, Shippensburg University, 1989

M.S., Environmental Science, State University of New York - College of Environmental Science and Forestry, 1994

Professional Registrations:

AICP: No. 016935 (2001)

Current Responsibilities:

Project Manager and Senior Environmental Scientist/Planner responsible for technical analyses and directing interdisciplinary teams for National Environmental Policy Act (NEPA) compliance; environmental policy and management initiatives; and comprehensive planning, transportation, and land use studies. Responsibilities include project management, alternatives analysis, document preparation, agency coordination, and quality assurance/quality control.

Summary of Experience:

Brookhaven Rail Terminal EA, Suffolk County, NY, *U.S. Department of Transportation, Surface Transportation Board.* [2008-2010] Senior Environmental Scientist responsible for the preparation of an EA for a proposed intermodal rail yard on Long Island. Development of the EA included analysis of local and regional traffic impacts, noise effects and analysis of particulate matter generated from rail and site construction.
Reference: Troy Brady, 202-245-0301, troy.brady@stb.dot.gov

Purple Line Light Rail Transit FEIS, Montgomery and Prince George's Counties, MD, *Maryland Transit Administration.* [2011-present] Senior Environmental Planner and Discipline Manager managing the development of socioeconomic and community assessment components of the Final EIS for a proposed 16-mile light rail line. Managed interdisciplinary personnel in addressing land use, community services and facilities, local and regional economic impacts, visual effects, and environmental justice concerns and served as lead planner for assessing indirect and cumulative effects.
Reference: Leslie Roche, 609-310-3177, leslie.roche@aecom.com

U.S. 301 Waldorf Area Transportation Improvements, Charles and Prince George's Counties, MD, *Maryland State Highway Administration.* [2006-2009] Environmental Project Manager for environmental analysis and preparation of a complex EIS. Significant issues included business disruptions, construction impacts, high-quality wetlands, species habitats, and community impacts. Developed a SHA environmental stewardship program to evaluate, select natural resource and community improvements. This project was the recipient of a 2009 FHWA Exemplary Ecosystem Initiative Award.
Reference: Allison Grooms, 410-545-8568, agrooms@sha.state.md.us

Environmental Justice and Socioeconomic Analyses for Lands Unsuitable for Mining (LUM) Environmental Impact Statement (EIS), Anderson, Campbell, Morgan, and Scott Counties, TN, *U.S. EPA, Region 4.* [2012] Project Manager leading an environmental justice analysis, a socioeconomic analysis, and a community engagement plan supporting the U.S. Office of Surface Mining. Issues of concern included economic/employment effects, involvement of low-income residents, and potential land use and community effects.
Reference: Natale Kajumba, 404-562-9620, kajumba,ntale@epa.gov

Eastern Adams County Joint Comprehensive Plan, Adams County, PA, *Adams Count, PA.* [2009-2010] Lead Planner for a detailed community services, economic development, and transportation evaluation of future land use scenarios. Efforts included creation of development scenarios, evaluation of effects using IMPLAN, assessment of community service impacts, and development of corridor vision and planning/ordinance recommendations.
Reference: Andy Merkel, 717- 334-9824, amerkel@adamscounty.us

State of New Jersey Department of the Treasury Division of Purchase and Property

Project Assignment: Corporate Resources

Years Experience with Current Firm: 24

Years Experience with Other Firms: 5

Education:

B.S., Environmental Resource Management, The Pennsylvania State University, 1984

Professional Registrations:

Certified Environmental Professional: Academy of Board Certified Environmental Professionals (2003)

Professional Affiliations:

National Association of Environmental Professionals

Elected to 3-year term on the Board of Directors, 2012

International Association for Impact Assessment

Pennsylvania Association of Environmental Professionals

Academy of Board Certified Environmental Professionals

Current Responsibilities:

Vice President and Project Manager responsible for the planning and arrangement of facilities and the preparation of environmental assessments (EAs) and environmental impact statements (EISs) in accordance with the National Environmental Policy Act (NEPA) for transportation facilities, utilities, and land development projects. Responsibilities include overall project planning and execution, document preparation, adherence to budgets and schedules, and quality assurance/quality control.

Summary of Experience:

Nationwide NEPA Compliance Mission Contract #EP-W-08-024, Various Locations Nationwide, *U.S. Environmental Protection Agency (U.S. EPA).* [2008-present] Program Manager responsible for nationwide contractor support services to the U.S. EPA's Office of Federal Activities (OFA) and its counterparts across the country. Services under this mission contract consist of:

- Review of Other Federal Agency EISs.
- NEPA Compliance for EPA.
- International Enforcement, Compliance, and Environmental Impact Assessment.

Task orders under these programs require analysis of complex information concerning potential impacts to environmental resources, cultural resources, and public health; development and analysis of measures to avoid and minimize impacts; and development and analysis of mitigation measures.
Reference: Julie Roemele, 202- 564-5632, Roemele.Julie@epamail.epa.gov

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EA for Proposed Mixed-Use Facility and Intermodal Center, Easton, PA, *Lehigh and Northampton Transportation Authority (LANTA).* [2007] Project Manager responsible for preparation of an EA in accordance with NEPA for a proposed mixed-use facility and intermodal center in Easton. The primary issue of concern was the impact to the downtown historic district, a resource listed in the National Register of Historic Places.
Reference: Armand Greco, 610- 435-4052, agreco@lantabus-pa.gov

Calais-St. Stephen Area International Bridge Crossing, Calais, ME, to St. Stephen, New Brunswick, Canada, *Maine Department of Transportation.* [2005-2009] Project Manager in charge of the preparation of the reevaluation of the EA, the preparation of select permit applications, and related activities in support of final design. Permit services included preparation of a presidential permit application for the U.S. Department of State and a bridge permit for the U.S. Coast Guard. Other applications or requests for approvals were prepared and submitted to the International Boundary Commission and the International Joint Commission.
Reference: Ernie Martin, 207- 624-3381, ernest.martin@maine.gov

EAs for U.S. Army Reserve Centers, Nationwide, *U.S. Army Corps of Engineers, Louisville District.* [2010-2011] Environmental Planner responsible for the QA/QC for 11 EAs prepared in accordance with NEPA and the Department of the Army requirements for compliance with NEPA for proposed U.S. Army Reserve Centers as a part of the "Grow the Army" initiative.
Reference: Cristie Mitchell, 502- 315-6319, Cristie.L.Mitchell@usace.army.mil

State of New Jersey Department of the Treasury
Division of Purchase and Property

Project Assignment: Discipline Manager: Environmental Review Team

Years Experience with Current Firm: 19

Years Experience with Other Firms: 8

Education:

B.A., Political Science, University of New Hampshire, 1984

M.S., Urban Affairs and Regional Planning, Boston University, 1990

Professional Registrations:

AICP - No. 12804 (1997)

USGBC - LEED Green Associate - No. 10715892 (2011)

Professional Affiliations:

American Institute of Certified Planners

Current Responsibilities:

Project Manager and Senior Environmental Planner responsible for coordinating and preparing environmental studies and documentation in accordance with the National Environmental Policy Act (NEPA), including environmental assessments (EAs), environmental impact statements (EISs), and categorical exclusion evaluations (CEEs). Proficient in using the PennDOT Categorical Exclusion/ Environmental Assessment (CE/EA) Expert System.

Summary of Experience:

NEPA Documentation Assistance for More Than 425 Emergency Flood Repair Projects: North Central PA, *PennDOT, District 3-0.* [2011] Senior Environmental Planner providing NEPA documentation services for more than 425 emergency bridge and roadway projects associated with Hurricane Irene and Tropical Storm Lee in September 2011. NEPA documentation in the form of Level 1a CEEs and Bridge and Roadway Programmatic Agreement CE Applicability Matrices were prepared and processed via PennDOT's CE Expert System for the projects.
Reference: Ray Kennedy, 570-368-4354, rakennedy@pa.gov

Engineering Open-End Work Order No 1. And No. 14: NEPA Compliance and Documentation, North Central, PA, *PennDOT, District 3-0.* [2008-2009] Senior Environmental Planner responsible for

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environmental studies and NEPA documentation for 29 projects. Responsible for preparation of Level 1b CEEs or environmental documents using PennDOT's CE/EA Expert System. Many of the projects were processed under aggressive schedules as part of PennDOT's Accelerated Bridge Program and/or in advance of the American Recovery and Reinvestment Act of 2009.
Reference: Ray Kennedy, 570-368-4354, rakennedy@pa.gov

Three Bridge Preservations Projects: Open-End Engineering/Environmental E02221, Work Order #8, Lancaster County, PA, *PennDOT, District 8-0.* [2012-present] Environmental Manager for environmental documentation for three bridge preservation projects. Documentation included the development of a Bridge and Roadway Programmatic Agreement CE Applicability Matrix using PennDOT's CE Expert System, the preparation of E22-9999 Pennsylvania DEP General Maintenance Permit applications for two bridges over waterways, and a Section 4(f) De Minimis Checklist for the S.R. 1005 bridge over Amtrak.
Reference: Jessee Sabitsky, 717-787-5054, jesabitsky@pa.gov

Downeaster Portland North Passenger Rail Extension, Three Additional Minor Projects, Cumberland County, ME, *Northern New England Passenger Rail Authority.* [2011-2012] Senior Environmental Planner for the preparation of three categorical exclusion worksheets in accordance with the Federal Railroad Administration.
Reference: Marina Douglas, 207-780-1000, marina@nnepra.com

Bus Maintenance, Storage, and Administrative Facility Expansion CE, Allentown, PA, *Lehigh and Northampton Transportation Authority.* [2010-2011] Environmental Manager for the development of a CEE in accordance with Federal Transit Administration checklist requirements for compliance with NEPA.
Reference: Armand Greco, 610-435-4052, agreco@lantabus-pa.gov

State of New Jersey Department of the Treasury Division of Purchase and Property

Project Assignment: Assistant Discipline Manager: Environmental Review Team

Years Experience with Current Firm: 14

Years Experience with Other Firms: 11

Education:

B.S., Environmental Resource Management, The Pennsylvania State University, 1987

Certified U.S. Fish and Wildlife Service Habitat Evaluation Procedure, 1992

Professional Affiliations:

Society of American Military Engineers

Pennsylvania Association of Environmental Professionals

Current Responsibilities:

Environmental Manager responsible for the planning, implementation, and management of environmental tasks on transportation, infrastructure, and site development projects. Coordinates and prepares environmental documents and studies including environmental impact statements (EISs), environmental assessments (EAs), and categorical exclusion evaluations (CEEs) for transportation projects. Specialties include National Environmental Policy Act (NEPA)/Section 404 documentation and permit processing. Conducts coordination with government agencies, including the Pennsylvania Department of Environmental Protection (PADEP) and the public.

Summary of Experience:

U.S. Route 422, Section 4TR Reconstruction, Montgomery and Chester Counties, PA, *Pennsylvania Department of Transportation, District 6-0*. [2009-present] Environmental Manager for the completion of CEE reevaluations and supporting technical studies. Tasks included the management of project NEPA documentation, wetland field studies, Phase I bog turtle surveys, wild and scenic rivers coordination, agency coordination, and socioeconomic studies. Coordinated and provided direction to subconsultants performing surveys and providing cultural and natural resources services to our firm.
Reference: Robert Morrison, 215-922-8080, rrmorrison@urbanengineers.com

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Open-End Engineering and Environmental Services Agreement, Berks, Carbon, Lehigh, Monroe, Northampton, and Schuylkill Counties, PA, *Pennsylvania Department of Transportation, District 5-0.* [2010-2011] Environmental Manager assisting District bridge maintenance personnel with clearing numerous bridge maintenance projects using bridge programmatic categorical exclusions, programmatic maintenance permits (E39-9999), and Level 1b CEE packages. Coordinated closely with District environmental staff, cultural resource professionals, and bridge engineers to ensure selected projects fit within the programmatic requirements and necessary environmental and cultural clearances were obtained.
Reference: Heather Heeter, 610-871-4569, hheeter@pa.gov

Dillerville Yard, Proposed Track Improvements for Norfolk Southern, Lancaster, PA, Franklin & Marshall College. [2006-2010] Environmental Manager for obtaining NEPA (categorical exclusion) approvals and managing environmental staff and subconsultants in the execution of technical studies and report preparation. Conducted extensive agency coordination with the City of Lancaster, Lancaster County, Pennsylvania Department of Transportation, Federal Highway Administration, and the Federal Railroad Administration.
Reference: Keith Orris, 215-571-4463

Navy Yard Access, Philadelphia, PA, *Pennsylvania Department of Transportation, District 6-0.* [2005-2008] Environmental Manager for development of access roads to the Philadelphia Naval Shipyard to facilitate the redevelopment of the site. Tasks included Phase I and II hazardous waste investigations, NEPA compliance, Section 4(f) compliance, Coastal Zone Management Consistency, agency coordination, and subconsultant coordination. Technical work included wetland studies, threatened and endangered species investigations, permitting, Sole Source Aquifer coordination, floodplain management, and NPDES compliance.
Reference: Tim Gunner, 215-735-0832, timothy.gunner@aecom.com

State of New Jersey Department of the Treasury Division of Purchase and Property

Project Assignment: Discipline Manager: Section 106 Compliance Team (Archaeology)

Years Experience with Current Firm: 17

Years Experience with Other Firms: 16

Education:

B.A., Anthropology, University of Delaware, 1992

M.A., Anthropology, Rutgers, The State University of New Jersey, 1999

Ph.D.-Level Courses in Anthropology, Rutgers, The State University of New Jersey, 1998-2001

Professional Registrations:

RPA: Register of Professional Archaeologists - No. 11390 (1999)

Professional Affiliations:

Archaeological Society of New Jersey

Archaeological Society of Delaware

Other national and regional CRM organizations

Current Responsibilities:

Cultural Resources Manager responsible for a full range of cultural resource services supporting planning, design, and construction of transportation, building, and other of actions involving Section 106, the National Environmental Policy Act (NEPA), Section 4(f), and NJ Executive Order 215 compliance. Qualified as a historic and prehistoric principal investigator. Experienced in field investigations for archaeology and historic architecture, development of programmatic memordana, construction monitoring, data analyses, and reporting.

Summary of Experience:

On-Call Cultural Resources Studies, Ocean County, NJ, *Ocean County*. [2008-2009] Project Manager/Principal Investigator responsible for conducting on-call Phase I archaeological and architectural investigations. Three Phase I archaeological surveys were conducted during the course of the contract, one in Little Egg Harbor Township, Ocean County, and two on the border between Plumstead Township, Ocean County, and Upper Freehold Township, Monmouth County.
Reference: Frank Scarantino, 732-929-2130, fscarantino@co.ocean.nj.us

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Cultural Resource Services, Garden State Parkway Widening, Atlantic, Burlington, and Ocean Counties, NJ, *New Jersey Turnpike Authority, Garden State Parkway Division*. [2002-present] Project Manager/Principal Investigator for cultural resource services for the widening of the Garden State Parkway from Milepost (MP) 30 in Somers Point to MP 80 in Toms River. Responsibilities included project management, surveying and evaluating structures, contributing to the project EIS, and developing a public participation plan and memorandum of agreement. Also directed and reported on a Phase I archaeological survey for the entire project corridor.
Reference: Lamis Malak, 732-750-5300, lmalak@turnpike.state.nj.us

Pitman Substation Bulkhead Repairs, Gloucester County, NJ, *Delmarva Power*. [2012-present] Principal Investigator for a Phase IA assessment of the potential cultural resources impacts from the repair/replacement of an existing bulkhead along Mantua Creek. The project requires a NJ DEP individual Flood Hazard Area Permit at the crossing of Mantua Creek due to the proximity of the proposed work to the stream and the need for temporary construction access within the riparian zone.
Reference: Kristin Stanfill, 609-625-6924, Kristin.Stanfill@atlanticcityelectric.com

Stage I Archaeological Survey for Shadow Lake Dredging, Middletown Township, NJ, *Middletown Township*. [2011-2012] Project Manager/Principal Investigator supervising fieldwork and preparing a Phase I archaeological survey report for construction of a temporary confined disposal facility for the dewatering of sediment from the dredging of Shadow Lake. In addition, an adjacent early 18th century house and farmstead required updating of documentation on file at the New Jersey Historic Preservation Office.
Reference: Anthony P Mercantante, 732-615-2010, planning@middletownnj.org

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Project Assignment: Assistant Discipline Manager: Section 106 Compliance (Historic Architecture)

Years Experience with Current Firm: 5

Years Experience with Other Firms: 7

Education:

B.A., History/Art History, University of Wisconsin-Milwaukee, 1998

M.A., Public History-Historic Preservation, University of Wisconsin-Milwaukee, 2001

Current Responsibilities:

Architectural Historian responsible for conducting historic/cultural resource studies for a variety of local, state, and federal government agencies and private industries. Responsible for historical research, fieldwork, and photography needed to meet federal and state requirements for architectural documentation, surveys, and evaluation, and for preparing determination of eligibility reports, criteria of effects reports, memoranda of agreement, programmatic agreements, and other historic preservation planning documentation.

Summary of Experience:

West Bay Avenue over the Garden State Parkway Project, Barnegat Township, Ocean County, NJ, *New Jersey Turnpike Authority and Ocean County.* Architectural Historian responsible for the documentation of the Interchange 67 overpasses that are contributing elements to the Garden State Parkway Historic District. West Bay Avenue (County Route 554) is being widened as part of roadway improvements and the original structures will be replaced. Because of the historic significance of the Parkway, the bridges required documentation to Secretary of the Interior Standards to mitigate their loss.
Reference: Paul Cinko, 732-671-6400, pcinko@tandmassociates.com

Pennsylvania Turnpike Northeast Extension Widening and Reconstruction, Milepost (MP) A-38 to MP A-44, Montgomery and Bucks Counties, PA, *Pennsylvania Turnpike Commission.* [2012-present] Architectural Historian responsible for conducting historic architecture investigations for the total reconstruction and widening of approximately 7 miles of the Pennsylvania Turnpike Northeast Extension from MP A-38 to MP A-44. Specific tasks include research of known resources and prior investigations to develop investigative methodologies for the identification and evaluation of project corridor resources.
Reference: Todd Morris, 717-975-4681, tmorris@pennoni.com

PA Route 52/Lenape Unionville Road/Wawaset Road Intersection Improvement Project, Pocopson Township, Chester County, PA, *Pennsylvania Department of Transportation and Pocopson Township***.** Architectural Historian responsible for the survey and evaluation of two properties affected by the proposed project. The effort included an updated PA Historic Resource Survey Form for the Amos Harry/Eusebius Barnard House property and a form for the Pocopson Home, a Chester County operated nursing home built in 1954. The Harry/ Barnard House is *eligible* for inclusion on the National Register of Historic Places and a Criteria of Effects report recommended that there would be no adverse effect from the proposed project.
Reference: Steve Conary, 610-793-2151, info@pocopson.org

New Art Education Facility for the Barnes Foundation, City of Philadelphia, PA, *The Barnes Foundation.* Architectural Historian responsible for the evaluation of the Youth Study Center complex in advance of the proposed construction of a new facility for the Barnes Foundation along the Ben Franklin Parkway. The Youth Study Center was a two building complex that was constructed in 1951-52 to house juveniles awaiting processing and trial in the juvenile justice system of the city. The center included health and educational facilities in recognition of the need to house and treat juveniles separately from adult populations. The effort included the completion of a PA Historic Resource Survey Form to comply with the Pennsylvania Historical and Museum Commission requirements.
Reference: William McDowell, 610-667-0290, wmcdowell@barnesfoundation.com

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Project Assignment: Discipline Manager: Natural Resources Team

Years Experience with Current Firm: 13

Years Experience with Other Firms: 4

Education:

B.S., Environmental Biology, Kutztown University, 1994

M.S., Environmental Pollution Control, The Pennsylvania State University, 2001

Current Responsibilities:

Senior Environmental Scientist responsible for environmental services including wetland delineation field investigations and report preparation; wetland mitigation site selection and design; U.S. Army Corps of Engineers wetland permit requirements; National Environmental Policy Act (NEPA) documentation; categorical exclusion evaluations (CEEs); agency and public meetings; ecological evaluations and habitat assessments; and technical report writing.

Summary of Experience:

Fire and Mill Road Intersection Improvements, Atlantic County, NJ, *Atlantic County Department of Regional Planning and Development.* [2009-present] Environmental Scientist responsible for environmental activities involving wetland mitigation site selection and report preparation.
Reference: Joseph D'Abundo, 609-645-5898, d'abundo_joseph@aclink.org

Ocean Drive Scour Damage Revetment, Cape May County, NJ, *Cape May County Department of Public Works.* [2007-present] Environmental Scientist for environmental activities involving wetland mitigation site development, construction, and agency coordination.
Reference: Dale Foster, 609-465-1035, countyengineer@co.cap-may.nj.us

Springton Dam/Palmers Mill Road Bridge Replacement, Delaware County, PA, *Aqua Pennsylvania, Inc.* [2011-present] Environmental Scientist for the Scoping Field View and Categorical Exclusion, the necessary NEPA documentation, and the facilitation of agency coordination for project

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permit development and associated documents. The project involves the replacement of the Palmers Mill Road Bridge over the Springton Dam spillway.
Reference: Tony Fernandes, 877- 987-2782, tlfernandes@aquaamerica.com

S.R. 0052, Section JWJ, Chester County, PA, *Pocopson Township*. [2011-present] Environmental Scientist for environmental activities involving wetland delineation; threatened and endangered species issues; categorical exclusion, permit preparation, agency coordination; and oversight of cultural resource studies. The project involves the construction of a roundabout on PA Route 52.
Reference: Steve Conary, 610-793-2151, info@pocopson.org

Water Main Restoration, Valley Forge National Historical Park, Chester County, PA, *Aqua Pennsylvania.* [2008-2010] Environmental Manager for NEPA approval (CEE) activities involving the National Park Service. Provided natural resource investigations, agency coordination, bioengineering techniques on engineering design, and construction oversight.
Reference: Rick Giangiulio, 877- 987-2782, ergiangiulio@aquaamerica.com

District 6-0 Plans Unit Open-End Design Services, Bucks County, PA, *PennDOT, District 6-0.* [2011-2012] Environmental Scientist for wetland delineation and report preparation, threatened and endangered species issues, categorical exclusions, permit preparation, and agency coordination involving two bridge replacements.
Reference: Viola Gaudiosi, 610-205-6819

Jenkintown-Wyncote Station Improvements, Montgomery County, PA, *Southeastern Pennsylvania Transportation Authority.* [2008-present] Environmental Manager for an Environmental Assessment, natural resource investigations, agency coordination, and bioengineering techniques on engineering design.
Reference: David Koerner, 215-580-3766, dkoerner@septa.org

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Project Assignment: Discipline Manager: Natural Resources Team

Years Experience with Current Firm: 7

Years Experience with Other Firms: 7

Education:

B.S., Environmental Studies, The Richard Stockton College of New Jersey, 1998

M.A.Ed., Environmental Studies, Arcadia University, 2000

Professional Registrations:

Professional Wetland Scientist (PWS), Society of Wetland Scientists: No. 1385 (2003)

Certified Ecologist (CE), Ecological Society of America (2005)

Certified Wildlife Biologist (CWB), The Wildlife Society (2011)

Current Responsibilities:

Senior Environmental Scientist leading terrestrial and aquatic ecosystem studies, developing environmental impact reports, obtaining permit authorizations, and coordinating with federal and state regulatory agencies. Technical field responsibilities include threatened and endangered species surveys, wetland delineations, habitat evaluations, herpetological surveys, soil and water quality sampling, stream surveys, macro-invertebrate collections, and Phase I bog turtle surveys. Prepare ecological risk assessments (ERAs), biological evaluations (BEs), categorical exclusions (CEs), health and safety plans (HASPs), and wetland mitigation plans.

Summary of Experience:

S.R. 0235 Bridge Removal Over Millrace, Beaver Springs, Snyder County, PA, *PennDOT, District 3-0.* [2010] Senior Environmental Scientist and Ecologist responsible for surveying the proposed limits of disturbance for *Schoenoplectus acutus* (hard-stemmed bulrush), a state-listed endangered plant species. Prepared the Botanical Survey Report and coordinated with the Pennsylvania Department of Conservation and Natural Resources for clearance of the project study area.
Reference: Luke Franzen, 570- 368-4309, lfranzen@state.pa.us

Environmental Assessment Field Contractors for Environmental and Historic Preservation Reviews; New Jersey's CDBG-DR Grant Program

New Creek – Whites Run Sub-Watershed of the Potomac River Watershed, New Creek Site 14 Rehabilitation Project, Grant County, WV, *U.S.D.A., Natural Resources Conservation Service.* [2010] Senior Environmental Scientist responsible for designing a wetland mitigation plan to lessen wetland and stream losses associated with the rehabilitation of the New Creek dam structure. Mitigation components consisted of restoring and creating 3.5 acres of palustrine-emergent and scrub-shrub wetlands and creating 887 LF of stream.
Reference: Andy Deichert, 304-284-7563, Andy.Deichert@wv.usda.gov

Goose Creek Watershed Assessment, West Goshen Township, Chester County, PA, *Chester County Water Resources Authority*. [2011-present] Senior Environmental Scientist and Project Manager responsible for developing and implementing a watershed assessment plan to evaluate the proposed TMDL limits on Goose Creek by conducting water quality sampling, collecting algae, and performing macro-invertebrate surveys throughout the Goose Creek watershed.
Reference: Max Stoner, 717- 731-1579, max@glaceeng.com

Emergency Permit and General Permit No. 11 (GP-11), Stoudt Road Culvert Replacement Project, South Hanover Township, Dauphin County, PA, *South Hanover Township.* [2011-present] Senior Environmental Scientist for an emergency water obstruction authorization application to replace a 70-inch-diameter culvert that was overwhelmed during Hurricane Irene and Tropical Storm Lee.
Reference: Penny Pollick, 717-566-0224, ppollick@southhanover.org

Ivy Industrial Park Area Water Service Project, Lackawanna County, PA, *Sandvik, Inc.* [2007-2010] Senior Environmental Scientist responsible for the field data collection and preparation of an Ecological Health Evaluation Screening Report. Participated in the identification and delineation of waterways and wetlands within the proposed 30-mile potable water pipeline alignment.
Reference: Cydney Faul-Halsor, 570-327-3636, cfaulhalso@state.pa.us

State of New Jersey Department of the Treasury Division of Purchase and Property

Project Assignment: Discipline Manager: Environmental Health and Safety Team

Years Experience with Current Firm: 4

Years Experience with Other Firms: 22

Education:

B.S., Environmental Engineering, The Pennsylvania State University, 1986

Professional Registrations:

P.E.: New Jersey - No. 24GE04191800 (1999)

Professional Affiliations:

American Society of Civil Engineers

Current Responsibilities:

Senior Environmental Engineer responsible for the development, implementation, and management of environmental investigation and remediation projects. Works closely with public and private entities and state and federal regulatory agencies, such as the New Jersey Department of Environmental Protection, the New York State Department of Environmental Conservation, and the U.S. Environmental Protection Agency, to develop plans and specifications involving contaminated soil and groundwater as part of larger transportation projects. Has also worked with numerous private owners, developers, and public agencies to develop plans and specifications for remediation projects.

Summary of Experience:

Environmental Site Assessments, Jamaica, NY, *Greater Jamaica Development Corporation.* [2008-2009] Senior Environmental Engineer assisting in the assessment of several brownfield opportunity areas (BOAs). The purpose of these assessments was to evaluate historic site usage, site regulatory compliance, and current site conditions to determine whether the client should purchase the BOAs for redevelopment. The assessment documentation recommended the implementation of Phase I environmental site assessments (ESAs) and/or Phase II ESAs and provided budgetary cost estimates.
Reference: Richard Werber, 718-291-0282, x140, rwerber@gjdc.org

Environmental Assessment Field Contractors for Environmental and Historic Preservation Reviews; New Jersey's CDBG-DR Grant Program

Remediation Investigation in Support of Phase IV Construction at the Harmon Yard, Croton-on-Hudson, NY, *MTA Metro-North Railroad.* [2008-present] Senior Environmental Engineer for implementation of a remediation investigation work plan for the cleanup of contamination at the Harmon Yard. The purposes of this investigation are to characterize concrete and subsurface soil for demolition and construction activities and to characterize subsurface soil in support of future construction activities.
Reference: Karen Timko, 914-461-0592, timko@mnr.org

Remediation Investigation, Brooklyn, NY, *Frito-Lay, Inc.* [2008-present] Senior Environmental Engineer for implementation of a remediation investigation work plan. The property was impacted throughout by polychlorinated biphenyls (PCBs) from use as a solid waste storage facility. The purpose of this investigation was to quantify and delineate impacted subsurface soil and groundwater; evaluate actual and potential threats to human health, fish, wildlife, and the environment; and evaluate and develop remedial alternatives in accordance with the New York State Department of Environmental Conservation's Brownfield Cleanup Program and a signed consent decree.
Reference: Keith Massa, 972-334-5717, keith.d.massa@pepsico.com

Armonk Square Remediation Investigation, Armonk, NY, *Brown Rudnick, L.L.P.* [2008-present] Senior Environmental Engineer assisting in the development of the scope of work; the implementation of a remediation investigation work plan; and the upgrading of a remedial system for the proposed Pembroke Square development site. The site is classified as an inactive hazardous waste site due to historical releases of tetrachloroethylene from a dry-cleaning facility. The purpose of this investigation is to quantify and delineate volatile organic compound-impacted soil, which may require special handling and disposal efforts during construction activities.
Reference: Dominick Dioguardi, 914-273-5700

State of New Jersey Department of the Treasury
Division of Purchase and Property

Environmental Assessment Field Contractors for Environmental and Historic Preservation Reviews; New Jersey's CDBG-DR Grant Program

Project Assignment: Assistant Discipline Manager: Environmental Health and Safety

Years Experience with Current Firm: 6

Years Experience with Other Firms: 2

Education:

B.A., Environmental Studies, Temple University, 2005

M.S., Environmental Protection and Safety Management, Saint Joseph's University, 2007

Professional Registrations:

Certified Hazardous Materials Manager (CHMM) - No. 14668 (2008); U.S. EPA Lead Risk Assessor - No. NY-R-15574-1 (2007); District of Columbia Lead Risk Assessor - No. DC12-6913 (2012); New York State/AHERA Asbestos Inspector - No. 659265 (2007); New York State/AHERA Asbestos Project Monitor - No. 659281 (2007); New York State/AHERA Asbestos Project Designer - No. 658227 (2008); New York State/AHERA Asbestos Management Planner - No. 659277 (2011); New York City Asbestos Investigator - No. 114994 (2009)

Current Responsibilities:

Environmental Scientist responsible for conducting and coordinating environmental site investigations, preparing site-specific work plans, and coordinating multimedia sampling activities, including soil, groundwater, air, paint chip, and asbestos sampling. Assists clients with environmental compliance issues, including the preparation of spill prevention control and countermeasure plans for various industries and stormwater pollution prevention plans for industrial and construction activities. Conducts oversight of various environmental projects during construction activities, including inspection of erosion and sediment control measures.

Summary of Experience:

Asbestos Abatement Project Management, New York, NY, *New York City Housing Authority.* [2011-present] Project Manager responsible for providing asbestos abatement services at various sites in the Borough of Manhattan. Tasks included collecting pre-abatement air samples at each designated asbestos work area; monitoring abatement activities, including collecting samples during abatement; conducting visual inspection of abated areas to confirm no residue or debris of asbestos-containing materials remain; collecting post-abatement air samples and final clearance air samples; and preparing final report, including a narrative of project activities, air sample results, daily logs, and other information pertaining to the asbestos project monitoring activities.
Reference: Sabrina Steverson, 212-306-4042, Sabrina.Steverson@nycha.nyc.gov

Wastewater Treatment Plant Hazardous Material Abatement Oversight, Great Neck, NY, *Great Neck Water Pollution Control District*. [05/2010-09/2010] Environmental Scientist/Task Manager responsible for providing on-site coordination and oversight for the removal of asbestos, lead-based paint, and mercury vapor-impacted buildings that are scheduled to be demolished, as well as buildings that will remain in place as part of the plant operations.
Reference: Chris Murphy, 516-482-0238, cmurphy@gnwpcd.net

Maritime College Hazardous Materials Assessment, Throgs Neck, NY, *New York State University Construction Fund.* [2009-present] Environmental Scientist/Task Manager responsible for the preparation of a hazardous materials assessment findings report for areas associated with renovation activities of the heating, ventilating, and air-conditioning (HVAC) system within the Science and Engineering Building located on a small college campus. Conducted an asbestos and lead-containing paint assessment, and identified potential polychlorinated biphenyls (PCBs) in work limits.
Reference: Richard Brown, 518-320-3204, richard.brown@suny.edu

Brownfield Opportunity Area Study, Huntington, NY, *Town of Huntington.* [2009-2010] Environmental Scientist responsible for assessing and documenting potential brownfield and underused sites for a pre-nomination study for a New York State Brownfield Opportunity Area. Prepared proposals, participated in meetings, and distributed information required for the study.
Reference: Doug Alosie, 631-351-2881, daloise@town.huntington.ny.us

7. Experience of Bidder on Contracts of a Similar Size and Scope

Gannett Fleming

*Excellence Delivered **As Promised***

Gannett Fleming understands the challenges involved with working on projects with multiple, concurrent tasks and the best methods to overcome those challenges. Our Team has direct experience in assisting state and federal agencies with similar environmental project reviews under emergency and disaster relief circumstances. Our experience includes environmental review work using standardized forms and operational procedures and processes, web-based environmental spatial data and analysis tools, and project tracking and monitoring systems.

We are confident that we can lead our Team to successfully deliver environmental compliance reviews under aggressive schedules for the Superstorm Sandy Community Development Block Grants – Disaster Recovery program. The following project examples demonstrate our experience and success providing similar service to state and federal agencies.

7.1. NEPA Documentation Assistance for More Than 425 Emergency Flood Repair Projects

Location: North Central PA
Client: Pennsylvania Department of Transportation (PennDOT), District 3-0
Period of Performance: October 2011 – December 2011

Gannett Fleming prepared National Environmental Policy Act (NEPA) documentation for more than 425 emergency bridge and roadway projects associated with heavy rains and subsequent flooding from Hurricane Irene and Tropical Storm Lee in September 2011. NEPA documentation, in the form of Level 1a categorical exclusion evaluations (CEEs), and Bridge and Roadway Programmatic Agreement Categorical Exclusion Applicability Matrices were prepared and processed via PennDOT's online CE Expert System for the projects in a compressed three month timeframe due to the emergency nature of the work. Development of these environmental clearances involved desktop geographic information system (GIS) analysis and agency coordination. Gannett Fleming developed organizational and scheduling tools to assist in remote work management and also supervised a subconsultant supporting NEPA compliance and environmental reviews.

Contacts:

- Ray Kennedy, Environmental Manager
  PennDOT, Engineering District 3-0
  P.O. Box 218, 715 Jordan Avenue, Montoursville, PA 17754
  Phone: 570-368-4354
  E-mail: rakennedy@pa.gov

- Kyle Bunce, Assistant Environmental Manager
  PennDOT, Engineering District 3-0
  P.O. Box 218, 715 Jordan Avenue, Montoursville, PA 17754
  Phone: 570-368-4409
  E-mail: kbunce@pa.gov

7.2. Accelerated Bridge Program, NEPA Compliance and Documentation

Location: North Central PA
Client: PennDOT, District 3-0
Period of Performance: October 2008 – April 2009

Gannett Fleming provided environmental studies and NEPA documentation for 29 bridge projects across the district. NEPA documentation in the form of Level 1a CEEs and Bridge and Roadway Programmatic Agreement Categorical Exclusion Applicability Matrices were prepared and processed via PennDOT's online CE Expert System. These projects were processed under aggressive schedules as part of PennDOT's Accelerated Bridge Program and/or in advance of the American Recovery and Reinvestment Act of 2009. GIS database and mapping information was utilized to support development of NEPA compliance.

Contacts:

- Ray Kennedy, Environmental Manager
  PennDOT, Engineering District 3-0
  P.O. Box 218, 715 Jordan Avenue, Montoursville, PA 17754
  Phone: 570-368-4354
  E-mail: rakennedy@pa.gov

- Kyle Bunce, Assistant Environmental Manager
  PennDOT, Engineering District 3-0
  P.O. Box 218, 715 Jordan Avenue, Montoursville, PA 17754
  Phone: 570-368-4409
  E-mail: kbunce@pa.gov

7.3. Environmental and NEPA Support Services for the U.S. Army Reserve

Location: Nationwide
Client: U.S. Army Corps of Engineers (USACE), Louisville District
Period of Performance: March 2010 – Ongoing

In support of the U.S. Army Reserve's Grow the Army initiative, Gannett Fleming, as a subcontractor to PARS Environmental, provided environmental and NEPA compliance services for the development of 15 training facilities throughout the United States. For each facility, Gannett Fleming prepared an Environmental Condition of Property Report, a Phase 1 Cultural Resource Survey, a Biological Evaluation, and a NEPA Environmental Assessment (EA) and Draft Finding of No Significant Impact. Preparation of the EAs has involved a variety of scientific analyses and studies involving: wetlands identification and delineation, air quality, noise, land use, aesthetics, floodplains, surface and groundwater, soils, threatened and endangered species, socioeconomics, environmental justice, Section 106 cultural resources, utilities and energy consumption, hazardous and toxic substances, and cumulative effects. The majority of these projects were developed through aggressive schedules to meet funding and construction deadlines. Each report was developed using master templates and the team made extensive use of the ProjectMates file sharing application for preparing and documenting environmental review data and reports.

Contacts:

- Cristie Mitchell, P.E.
  USACE, Louisville District, Environmental Branch
  600 Dr. M.L. King Jr. Place, Louisville, KY 40202
  Phone: 502-315-6319
  E-mail: Cristie.L.Mitchell@usace.army.mil

- Lenard Gunnel
  USACE, Louisville District, Environmental Branch
  600 Dr. M.L. King Jr. Place, Louisville, KY 40202
  Phone: 502-315-6317
  E-mail: Lenard.P.Gunnell@usace.army.mil

8. Additional Experience of Bidder

Gannett Fleming

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8.1. Gannett Fleming Experience

8.1.1. Knowledge of NEPA Requirements and Associated Laws, Authorities, and Regulations

8.1.1.1. NEPA (42 U.S.C. 4321 et seq) and Implementing Regulations (40 CFR 1500-1508)

The National Environmental Policy Act (NEPA) is the most important environmental statute in the U.S., both in terms of its broad statement of federal environmental policy and the practical effect of its procedural requirements on the activities and programs of federal agencies. NEPA has had far-reaching influence, not only on environmental protection and conservation, but the decision-making process of federal agencies and how those decisions affect communities and the environment throughout the nation. NEPA sets forth a congressional declaration of national environmental policy, which seeks to 1) encourage productive and enjoyable harmony between humans and their environment, 2) promote efforts that will prevent or eliminate damage to the environment and biosphere and stimulate human health and welfare, and 3) enrich the understanding of the ecological systems and natural resources important to the nation.

The statute requires federal agencies to use a systematic, interdisciplinary environmental analysis approaching in action planning and decision-making, including the granting of federal funds, so that environmental considerations are given appropriate consideration and that decision makers and the public are aware of the potential consequences.

8.1.1.2. National Historic Preservation Act (16 U.S.C 470) and Implementing Regulations (36 CFR 800)

The National Historic Preservation Act establishes preservation as a national policy and directs the federal government to provide leadership in preserving, restoring, and maintaining the historic and cultural environment of the nation. Preservation is defined as the protection, rehabilitation, restoration, and reconstruction of districts, sites, buildings, structures, and objects significant in American history, architecture, archeology, or engineering. Agencies having direct or indirect jurisdiction over a proposed federal or federally assisted undertaking shall take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register.

Section 106 of the implementing regulations requires federal agencies to take into account the effects of their undertakings on historic properties. The Section 106 process seeks to accommodate historic preservation concerns with the needs of federal undertakings through consultation among the agency official and other parties with an interest in the effects of the undertaking on historic properties, commencing at the early stages of project planning. The goal of consultation is to identify historic properties potentially affected, assess the effects and seek ways to avoid, minimize, or mitigate adverse effects.

8.1.1.3. Floodplain Management (Executive Order 11988), HUD Floodplain Regulations (24 CFR 55.20), FEMA Floodplain Regulations (44 CFR 9)

The purpose of EO 11988 is "to avoid to the extent possible the long and short term adverse impacts associated with the occupancy and modification of floodplains." EO 11988 requires federal agencies to evaluate the potential effects of actions within a floodplain to avoid, to the extent possible, adverse effects associated with direct and indirect development of a floodplain.

EO 11988 and HUD and FEMA regulations prescribe an eight-step decision-making process for evaluating potential floodplain impacts to for federal actions. This process includes: determination of floodplain or wetland presence/involvement with proposed action, early public notice, evaluation of alternative actions, analysis of impacts of the proposed action,

minimization of adverse impacts, reevaluation of proposed action/practicable alternative with mitigation, findings and notification, and project implementation.

8.1.1.4. Wetland Protection (EO 11990), HUD Wetland Regulations (24 CFR Part 55.20), FEMA Wetland Regulations (44 CFR 9)

EO 11990 requires federal agencies conducting certain activities to avoid, to the extent possible, the adverse impacts associated with the destruction or loss of wetlands and to avoid support of new construction in wetlands, if a practicable alternative exists. HUD and FEMA regulations utilize the same eight-step process as used for floodplain analysis to analyze potential wetland impacts and demonstrate compliance with EO 11990.

8.1.1.5. Coastal Zone Management Act (16 U.S.C. 1451 to 1464)

The Coastal Zone Management Act establishes a policy, 1) to preserve, protect, develop, and, where possible, restore and enhance the resources of the nation's coastal zone for current and future generations, and 2) to encourage and assist states in their responsibilities in the coastal zone through development and implementation management programs to achieve wise use of the land and water resources of the coastal zone, giving full consideration to ecological, cultural, historic, and esthetic values, as well as the needs for compatible economic development (16 U.S.C. 1452). If a state has an approved coastal zone management program through the Office of Coastal Zone Management (NOAA), federal agencies with development projects within the coastal zone must assure that those activities or projects are consistent to the maximum extent practicable, with the approved state program.

8.1.1.6. Sole Source Aquifers (Safe Drinking Water Act 42 U.S.C. 300f) and Implementing Regulations (40 CFR 149)

The Safe Drinking Water Act contains a provision in Section 1424(e) providing for the determination of vital aquifers serving as sole or principal drinking water source for an area which, if contaminated, would create a significant hazard to public health. A sole source aquifer is defined as an aquifer that supplies at least 50 percent of the drinking water consumed in the area overlying the aquifer. The designation protects an area's ground water resource by requiring the U.S. Environmental Protection Agency (U.S. EPA) to review certain federal actions within the designated area. All proposed actions receiving federal funds are subject to review to ensure that they do not endanger the water source.

In New Jersey, the Coastal Plain aquifer is identified as a sole source aquifer and includes all or a portion of the following counties eligible for CDBG-DR funds: Ocean, Atlantic, Cape May, Monmouth, and Middlesex.

8.1.1.7. Endangered Species Act (16 U.S.C. 1531 et seq) and Implementing Regulations (50 CFR 402)

Under the Endangered Species Act, federal agencies are prohibited from jeopardizing threatened or endangered species or adversely modifying habitats essential to their survival. Under the implementing regulations (50 CFR 402), federal agencies must review their actions and determine whether the action may affect federally listed and proposed species or proposed or designated critical habitat. If a listed species or supportive habitat may be affected, formal consultation under Section 7 of the act is undertaken with the U.S. Fish and Wildlife Service or the National Marine Fisheries Service. Formal consultation routinely involves the completion of a detailed biological assessment, including field surveys to confirm the presence or determine the potential presence of listed species. If the consultation reveals that the action may

jeopardize a listed species or habitat, mitigation measures are considered.

8.1.1.8. Magnuson-Stevens Fishery Conservation and Management Act (16 U.S.C. 1801 et seq) and Implementing Regulations (50 CFR 600-695)

The Magnuson-Stevens Fishery Conservation and Management Act requires Federal Fishery Management Councils to designate Essential Fish Habitat (EFH) for all federally managed fish species. Essential Fish Habitat is broadly defined as those waters and substrates necessary to fish for spawning, feeding, breeding, and growth to maturity. Section 305 (b)(2) of the act requires that Federal agencies proposing to authorize, fund, or to undertake actions which may adversely affect EFH consult with National Marine Fisheries Service (NMFS) regarding the action. New Jersey is a member of the Mid-Atlantic Fishery Management Council

8.1.1.9. Wild and Scenic Rivers Act (16 U.S.C. 1271-1287) and Implementing Regulations (36 CFR 297)

The Wild and Scenic Rivers Act establishes a National Wild and Scenic Rivers System and prescribes the methods and standards through which additional rivers may be identified and added to the system. The Act describes procedures and limitations for control of lands in federally administered components of the system and for dealing with disposition of lands and minerals under federal ownership. The Maurice River and the Great Egg Harbor River are part of the National Wild and Scenic Rivers System and flow through portions of the 9-county CDBG-DR program area.

8.1.1.10. Clean Air Act (42 U.S.C. 7401-7671) and Implementing Regulations (40 CFR 50, 58, 60, 61, 82, 93)

The Clean Air Act is a federal law designed to control air pollution on a national level. Its goal is to protect public health and welfare by the control of air pollution at its source and to set forth primary and secondary National Ambient Air Quality Standards (NAAQS) to establish criteria for states to attain, or maintain, these minimum standards. States are responsible for developing a State Implementation Plan (SIP) for the prevention, control and abatement of air pollution. The U.S. EPA General Conformity Rule (40 CFR 93) provides the framework for federal agencies to address that activities in which they engage, support, permit, or approve conform to the SIP. General conformity at a regional scale has been addressed through the Department of Environmental Protection (DEP) Tiered Environmental Assessment for the nine counties; however, air quality effects must also be considered for individual projects.

8.1.1.11. Farmland Protection Policy Act (7 U.S.C. 4201) and Implementing Regulations (7 CFR 658)

The Farmland Protection Policy Act requires federal agencies to identify and consider the adverse effects of federal programs on the protection of farmland. The agencies are to consider alternative actions, as appropriate, that could lessen such adverse effects, and assure that such federal programs, to the extent practicable, are compatible with State, unit of local government and private programs and policies to protect farmland. Completion of the Farmland Conversion Impact Rating Form (AD 1006) and coordination with local offices of the Natural Resources Conservation Service is necessary to fulfill compliance.

8.1.1.12. Environmental Justice (EO12898)

EO 12898 was signed to address effects on low-income and minority populations. It requires that "each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations." Environmental justice considerations have been included in the DEP Tier 1 Environmental Assessments.

8.1.1.13. HUD Noise Abatement and Control (24 CFR 51)

HUD considers locations with an average sound level above 65 decibels to be a high noise area. Grantees proposing new construction or rehabilitation in high noise areas must provide sound attenuation measures. Gannett Fleming has some of the leading technology available through our Interactive Sound Information System (ISIS) noise modeling technologies using real, calibrated sounds to demonstrate noise effects and the impact of attenuation measures.

8.1.1.14. HUD Explosive and Flammable Operations (24 CFR 51, 58)

HUD establishes standards for the location of proposed HUD-assisted projects near hazardous operations handling petroleum products or chemicals of an explosive or fire-prone nature in order to minimize the possibility of loss of life and substantial property loss from such hazards. We understand the procedures for identification of applicable operations, the application of Acceptable Separation Distance criteria, and the development of mitigation measures including site design revisions and construction of effective barriers.

8.1.1.15. HUD Toxic Chemicals and Radioactive Materials (24 CFR 58.5)

Property proposed for use in HUD programs must be free of hazardous materials, contamination, toxic chemicals and gases, and radioactive substances, where a hazard could affect the health and safety of occupants of the property or conflict with the intended utilization of the property. Similar to the evaluation of explosive and flammable operations, identification of potential hazards, buffer distances and design/barrier mitigation must be considered. These considerations are typically part of Phase 1 ESAs that we routinely perform.

8.1.1.16. HUD Airport Clear Zones and Accident Potential Zones (24 CFR 51)

No project assisted with HUD funds can be located in the runway protection zone of a commercial airport or in the runway protection zone of a military airfield. In addition, projects proposed in an accident potential zone of a military airfield must be consistent with the land use plans that have been developed for these areas. For the NJ CDBG-DR program, the only airport facilities potentially involved are Newark International Airport (Essex, Union), Atlantic City Airport (Atlantic), and McGuire-Dix/Lakehurst Joint Base (Ocean).

8.1.1.17. FEMA Statutory Requirements for NEPA Compliance

44 CFR Part 10 implements the FEMAs regulations for NEPA compliance and provides policy and procedures to enable FEMA officials to be informed of and consider the environment when authorizing or approving major FEMA actions that significantly affect the environment in the United States. Effectively, FEMA regulations implement the regulations of the Council on Environmental Quality for NEPA compliance (40 CFR 1500-1508).

8.1.1.18. New Jersey EO 215

New Jersey EO 215 requires state agencies to consider the environment in the planning of major construction projects and to submit to the Department of Environmental Protection, Office of Permit Coordination and Environmental Review an environmental assessment or environmental impact statement. Applicable state actions include projects directly initiated by state departments, agencies, or authorities, and those projects which are receiving state financial assistance encompassing at least 20 percent of total construction cost.

EO 215 EAs and EISs generally mirror federal NEPA compliance documents and include the following major sections: Description of the Project; Description of the Environment Prior to Project Implementation; Probable Environmental Impacts; Mitigation of Adverse Environmental Impacts;

Avoidance of Adverse Impacts; and Alternatives to the Proposed Project. Projects greater than $1 million in construction cost are classified as Level 1 projects and require preparation of an environmental assessment. Level 2 project are defined as those with construction costs in excess of $5 million and land disturbance of more than 5 acres. An environmental impact statement must be prepared for Level 2 state actions.

8.1.1.19. Clean Water Act (33 U.S.C. 1251) and Implementing Regulations (33 CFR 320-332)

The Clean Water Act (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Section 404 of the CWA authorizes the USACE to issue permits regulating the discharge of dredged or fill material into the waters of the United States, including wetlands. Under Section 404(b) (1), the permit review follows a process that encourages avoidance of impacts, followed by minimizing impacts and, finally, requiring mitigation for unavoidable impacts to the aquatic environment. In New Jersey, a Nationwide Permit or Individual Permit may be required for activities in non-delegable waters (navigable waters, tidal waterways, and wetlands including impacts to non-tidal freshwater wetlands within 1,000 feet of head of tide). Additionally, activities resulting in a discharge to surface waters and requiring a Federal permit require a state 401 water quality certification (WQC) pursuant to section 401 of the Clean Water Act, or a waiver, from the State, or U.S. EPA where applicable.

8.1.1.20. New Jersey Coastal Area Facilities Review Act (P.L. 1973, c. 185)

Under the CAFRA Act, a permit is required for development located in the coastal area on any beach or dune and development located in the coastal area between the mean high water line of any tidal waters, or the landward limit of a beach or dune. A permit shall not be required for the reconstruction of any development that is damaged or destroyed, in whole or in part, by fire, storm, natural hazard or act of God, provided that such reconstruction is in compliance with existing requirements or codes of municipal, State and federal law.

8.1.1.21. New Jersey Wetlands Act of 1970 (N.J.S.A. 13:9A)

The Wetlands Act authorizes the NJDEP to regulate activities on coastal wetlands that have been delineated and mapped by the State of New Jersey. Regulated activities include excavation, dredging, fill or placement of a structure on a mapped coastal wetland.

8.1.1.22. Waterfront Development Act (N.J.S.A 12:5-3)

This law authorizes the NJDEP to regulate the construction or alteration of a dock, wharf, pier, bulkhead, bridge, pipeline, cable, or other similar development on or adjacent to tidal waterways throughout the State of New Jersey. Outside of the CAFRA area and Hackensack Meadowlands District, the law applies in upland areas adjacent to tidal waters extending from the mean high water line to the first paved public road, railroad, or surveyable property line..

8.1.1.23. New Jersey Tidelands Act (N.J.S.A. 12:3)

Under Title 12, Commerce and Navigation, the State of New Jersey claims ownership of riparian lands, all lands that are currently and formerly flowed by the mean high tide of a natural waterway, and holds them in trust for the people of the state. All tidelands are overseen by the Tidelands Resource Council, along with NJDEP Bureau of Tidelands Management staff. Written permission from the state along with payment of a fee is required in order to use these lands such as in the form of a Riparian Grant, Tidelands License or Lease.

8.1.1.24. New Jersey Freshwater Wetlands Protection Act (N.J.S.A. 13:9B-1)

The State of New Jersey assumed the federal wetlands protection program under the Clean Water Act Section 404 program. The Freshwater Wetlands Protection Act gives the state lead agency authority to regulate freshwater wetlands, transition areas (buffers) and state open waters (streams, ditches, ponds, etc.) including authorization of regulated activities by issuance of general permits, individual permits and waivers. Any development or regulated activities would require a general permit authorization or an Individual freshwater wetlands or open water fill permit. A project in non-delegable waters requires two permits, one from New Jersey under this Act and one from the USACE under the Federal 404 program.

8.1.1.25. No Net Loss Reforestation Act

New Jersey state entities are required to replant trees when trees are removed during development or construction projects involving one-half acre or more. The NJDEP Division of Parks and Forestry coordinates and reviews projects and applicability of the No Net Loss Reforestation Act, N.J.S.A. 13:1L-14.1 et seq. The State entity is required to submit a reforestation plan to the Division, pursuant to this act, in order to establish a goal of no net loss of existing forested area based upon a reasonable and practical Tree Replacement Factor developed due to the act of deforestation.

8.1.1.26. Flood Hazard Area Control Act

Under N.J.S.A. 58:16A-50 et seq., in addition, to relevant aspects of the New Jersey Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq. and the Water Quality Planning Act, N.J.S.A. 58:11A-1 et seq. the State of NJ controls, manages and regulates development within flood hazard areas and riparian zones.

The purpose is to minimize damage to life and property from flooding caused by development within fluvial and tidal flood hazard areas, to preserve the quality of surface waters, and to protect the wildlife and vegetation habitat. The Flood Hazard Area (FHA) Control Act Rules, N.J.A.C. 7:13, implement the New Jersey Flood Hazard Area Control Act.

8.1.1.27. Delaware and Raritan Canal Commission

The Delaware and Raritan Canal Commission (DRCC) protects the D & R Canal as a State park, a State and national historic district, and a source of drinking water for approximately 1.5 million people in the State of NJ. The Delaware and Raritan Canal State Park Law of 1974, P.L.1974, c.118 (C.13:13A-1 et seq.), established the DRCC, who is responsible for planning for the Canal Park's future. The DRCC administers a land-use regulatory program within the area where new development could have drainage, visual or other ecological impact on the Park. Major projects involving an acre or more of impervious surface must comply with the Commission's standards for managing storm water runoff.

8.1.1.28. Pinelands Protection Act (N.J.S.A. 13:18)

The Pinelands Protection Act (P.L.1979, c. 1ll, s. 1) in addition to the enactment of section 502 of the "National Parks and Recreation Act of 1978" (PL 95-625) insure the realization of pinelands protection through the establishment of a regional planning and management commission empowered to prepare and oversee the implementation of a comprehensive management plan for the pinelands area. Under N.J.S.A. 13:18A-1 et. seq. the Pinelands Comprehensive Management Plan was implemented and provides regulations and standards designed to "promote orderly development of the Pinelands so as to preserve and protect the significant and unique natural, ecological, agricultural, archaeological, historical, scenic, cultural and recreational resources of the Pinelands."

8.1.1.29. Hackensack Meadowlands Reclamation and Development Act (N.J.S.A. 13:17-1 *et. seq.*)

The Hackensack Meadowlands Reclamation and Development Act recognizes the importance of the Meadowlands as a unique place for new jobs, thriving communities and recreational opportunities in New Jersey. The Act created the Hackensack Meadowlands Development Commission (HMDC) which was subsequently renamed to NJ Meadowlands Commission (NJMC). The Act also created the Hackensack Meadowlands Municipal Committee (HMMC), charged with reviewing all proposed codes and standards, master plans or amendments, development and redevelopment, improvement plans or other major decisions of the NJMC.

8.1.1.30. Soil Erosion and Sediment Control Act (P.L. 1975 C. 251, § 1)

The Soil Erosion and Sediment Control Act enables the state to establish and implement, through the State Soil Conservation Committee and the Soil Conservation Districts, counties, municipalities and the NJDEP, a statewide comprehensive erosion and sediment control program to reduce the danger from storm water runoff, to retard nonpoint pollution from sediment and to conserve and protect the land, water, air and other environmental resources of the State. A project with any disturbance of more than 5,000-square-feet of the surface area of land would require a construction permit and endorsement of a certificate of a plan for soil erosion and sediment control by the local Soil Conservation District.

8.1.1.31. Site Remediation Reform Act (P.L.2009, c.60)

The NJ Site Remediation Reform Act known as was established to speed up and streamline the current NJDEP site remediation process. The Act also requires NJDEP to establish presumptive remedies for residential development, schools and childcare facilities to ensure that the remedy implemented at the site is protective of human health and safety and of the environment.

8.1.1.32. NJ Pollution Discharge Elimination (N.J.A.C. 7:14A)

As authorized by the Clean Water Act, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into waters of the United States. The State of NJ has implemented NJPDES Rules for authorization of a permit for discharge of Stormwater to surface and ground water discharges.

8.1.1.33. Green Acres Program (N.J.A.C. 7:36-4.1, Title 7, Chapter 36)

The Green Acres Program was created in 1961 to meet New Jersey's growing recreation and conservation needs. The program's mission is to achieve, in partnership with others, a system of interconnected open spaces, whose protection will preserve and enhance New Jersey's natural environment and its historic, scenic, and recreational resources for public use and enjoyment. Green Acres shall assist local government units and nonprofits in their efforts to increase and preserve permanent outdoor recreation areas for public use and an adequate supply of lands.

8.1.1.34. The New Jersey Register of Historic Places Act (N.J.S.A. 13:1B-15.108 et. seq)

The New Jersey Register of Historic Places Act requires State, county, municipal government, or any agency, to receive authorization from the NJDEP Commissioner for any project that could encroach upon a property listed on the New Jersey Register of Historic Places. Under this law, the Commissioner can authorize a project, authorize a project with conditions, or deny a project. The NJDEP Historic Preservation Office is committed to enhancing the quality of life for the residents of New Jersey through the preservation and appreciation of our collective past. The Office assists with identifying, preserving, protecting and sustaining our historic and archaeological resources through the implementation of the state's historic preservation program. Additionally, consideration of

historic and archaeological resources is also required in NJ when freshwater wetlands and waterfront development permitting, CAFRA permitting, or a Highlands Preservation Area Approval is required.

8.1.1.35. New Jersey Solid Waste Management Act (N.J.S.A. 13:1E-1 et seq)

Besides compliance with FEMA 325 guidelines, debris removal is regulated under several NJDEP programs including the Solid Waste Management Act and the NJ Statewide Mandatory Source Separation and Recycling Act, N.J.S.A 13:1E-99.11 et seq. One permit typically needed for debris removal is an A-901 license in addition to the requirements of N.J.S.A. 13:1E-128, 133, and 135. Other applicable permits and approvals may also be required by the New Jersey Air Pollution Control Act and the regulations at N.J.A.C. 7:27-1 et seq., for the operation of mobile and stationary construction equipment.

8.1.2. Experience in Working with Federal, State, or Local Governments in the Area of Environmental Reviews for HUD Projects and FEMA Compliance Reviews

Gannett Fleming has comprehensive experience providing NEPA compliance and environmental review services for a wide range of actions and a successful track record of service to a long list of federal and state agency clients. Gannett Fleming is a leader and innovator in providing NEPA compliance and environmental review services. We offer a committed and knowledgeable interdisciplinary staff of NEPA compliance and documentation, and our project teams are led by project managers with strong backgrounds in NEPA compliance, planning, and the sciences. As a testament to our NEPA qualifications, we have served the U.S EPA as one of three nationwide NEPA contractors since 1997. While we have not directly prepared HUD or FEMA environmental reviews, we have prepared all levels of NEPA documentation (CE, EA, and EIS) for a wide variety of projects in accordance with the Council on Environmental Quality at 40 CFR Part 1500 NEPA regulations, the implementing regulations of numerous federal agencies, and cross-cutter federal and state environmental regulations.

8.1.3. Years of Experience with HUD Environmental Review Records for Governmental Agencies

Gannett Fleming has been involved with NEPA compliance and related environmental reviews since approximately 1976. Over the past five years, we have completed hundreds of CE documents, and over 50 EA/EISs for a variety of agencies including FHWA, FTA, FRA, and USACE.

8.1.4. Experience in Completing at least 20 HUD Environmental Review Records in the Past Five Years

Over the past five years, we have completed hundreds of CE documents, and over 50 EA/EISs for a variety of agencies including FHWA, FTA, FRA, and USACE. Our experience in the past five years in completing similar environmental review records includes experience performing large numbers of categorical exclusion reviews under disaster relief conditions.

8.1.5. Experience Producing Professional Quality Environmental Reports, including GIS-based Maps

Gannett Fleming has comprehensive experience providing NEPA compliance and documentation services for a wide range of actions for many lead federal agencies. We typically use InDesign software to design attractive and effective reports to enhance public understanding. Gannett Fleming also employs a staff of highly experienced GIS analysts and graphic designers that are able to create detailed graphics and mapping for use in electronic or traditional hard-copy documentation.

8.1.6. Experience Performing Environmental Assessments or Cultural Resource Surveys using State of the Art Equipment

We typically use a variety of computer models and equipment in performing environmental and cultural resource surveys. GIS tools are typically engaged for development of archaeology probability models and environmental impact analysis. Specialized models, such as the FHWA Traffic Noise Model and SYNCRO traffic models are also used by our engineering support personnel to supplement environmental impact analyses.

8.1.7. Experience Using Web-based Tools to Conduct and Document HUD 24 CFR Part 58 and 24 CFR Part 55 and FEMA 44 CFR Part 10 Reviews

Gannett Fleming has extensive experience processing NEPA documentation for projects via the Pennsylvania Department of Transportation's (PennDOT's) online NEPA documentation system for the past 11 years. Gannett Fleming has been involved in the use and testing of the PennDOT's online Categorical Exclusion/Environmental Assessment (CE/EA) Expert System since its inception in 2002. Beginning in 2002, Gannett Fleming assisted PennDOT in beta testing of the original pilot system. Since 2002, Gannett Fleming has continually assisted PennDOT by provided system testing on subsequent versions of the CE/EA Expert System prior to their release and implementation. Gannett Fleming has also been an active member of PennDOT's CE/EA Expert System User Group attending quarterly meetings and providing feedback and input to assist PennDOT in improving the online system to be more efficient and user friendly.

Over the past 11 years Gannett Fleming has processed hundreds of NEPA documents online via PennDOT's CE/EA Expert System. Gannett Fleming's extensive use, familiarity and understanding of PennDOT's online CE/EA ES played in critical role in quickly and successfully assisting PennDOT District 3-0 in processing NEPA documentation for over 425 projects in a three-month timeframe following flooding from Hurricane Irene and Tropical Storm Lee in September 2011.

8.1.8. Integrating Web-based Data Entry with GIS Mapping and Field Data Collection and Potential Updating Online and Field-based Data Entry Tools, Databases, and Forms

Gannett Fleming developed an innovative field reconnaissance system for evaluating dam failure zones involving 36 NRCS dams. The team was charged with identifying and photographing all structures within the zones, some of which were nearly 30 miles long and included hundreds of structures. Traditional data collection methods were not feasible. Gannett Fleming utilized mobile software and GPS technology to develop an efficient way to geo-reference project photos and collect large amounts of data. To deliver the data to the client, an interactive GIS database that included aerial photography, topographic maps, street maps, hydraulic data, GPS inspection tracks, and geo-referenced photos was developed.

Having collected more than 1,000 channel cross sections and hydraulic structures in compliance with FEMA standards, our methodology for data collection has been refined utilizing automated field collection techniques along with tools to automatically format Digital Capture Standard (DCS) data for Mapping Information Platform (MIP) submittals including metadata.

One example of innovation utilized by Gannett Fleming Professional Wetland Scientists, includes an effective and time-efficient method for delineations and assessments of wetlands and waters with specialized, state of the art equipment and software. Gannett Fleming Scientists use a Trimble ProXH 6000 GPS to delineate wetland boundaries and the ordinary high water mark of waterways. The Trimble ProXH 6000 GPS is capable of sub-meter

accuracy. In the field, WetCollect® software will be used for mobile wetland data collection. Gannett Fleming Scientists perform wetland function and value assessments at each wetland using the methods outlined in The Highway Methodology Workbook Supplement, Wetland Functions and Values: A Descriptive Approach, USACE New England Division (NEDEP-360-1-30a 1995).

8.1.9. Capability of Managing Paperless Environmental Workflows, including Online Preparation and Review of Documents and Maps, and Management of Subcontractors via Extranet Workflow Software

Gannett Fleming uses a host of software tools to improve efficiency and connectivity among team members. For our work on multiple EAs across the country for the USACE, we developed standardized templates for report and graphics preparation and used Project Mates software to manage work products between Team members. We also routinely use ProjectWise software to manage workflow among multiple team members, including engineering and CADD work. Gannett Fleming recently made extensive use of ProjectWise to facilitate the planning and design of two new major transit systems in Maryland.

8.1.10. Proof of Previous Experience in Writing Environmental Review Records by submitting two completed HUD (24 CFR Part 58) Environmental Review Records of a CENST, CEST, and EA (a tiered and non-tiered), with at least one including an 8-Step Floodplain or 8-Step Wetlands Analysis, and two completed (36 CFR Part 800) Cultural Resource Review Records

As evidence of our experience in related environmental review records and NEPA compliance, we have included examples following this Section of comparable environmental reviews using standardized agency checklists and templates:

- FHWA/PennDOT Bridge and Roadway Programmatic Agreement Applicability Matrix
- FHWA/PennDOT Categorical Exclusion (web-based documentation)
- FRA Categorical Exclusion Checklist.

8.1.11. Proof of Previous Experience in Completing FEMA Environmental Reviews by Submitting two completed FEMA Records of Environmental Consideration

While we have not directly performed FEMA Environmental Reviews, our long and diverse experience in similar environmental services provides Gannett Fleming with the necessary skills and understanding to effectively complete these services. Additionally, all of our key management personnel have completed the IS-253 course "Overview of FEMA Environmental and Historic Preservation Review Responsibilities" through the Emergency Management Institute.

As evidence of our experience in related environmental review records and NEPA compliance, we have included the following examples of comparable environmental reviews using standardized agency checklists and templates:

- USACE Environmental Assessment in support of Section 404 Joint Permit Application
- FHWA/New Jersey DOT Environmental Assessment.

8.1.12. Expertise and Resources to Directly Enter Data and Upload the Full ERR into the ERMS, including Individuals who have the Necessary Federal and State and Local Licenses, Certification, and Training to Conduct Any and All Services Required to Perform the Scope of Services within this RFQ

As noted, Gannett Fleming has extensive experience completing and uploading environmental review records into with web-based management and documentation systems. Additionally, personnel identified to provide services on this contract hold numerous advanced education degrees, professional certifications, and licenses demonstrating their applicable skills and knowledge. These certifications include Professional Engineer, Certified Planner, Certified Environmental Professional, Professional Wetland Scientist, Professional Geologist, Registered Professional Archaeologist, Certified Industrial Hygienist, and Certified Hazardous Materials Manager. All appropriate documentation will be provided as requested prior to work under the contract.

8.1.13. Oversight and Management Experience of Elements a through l

Our Principal, Mr. Morgan, and Corporate Resources Director, Mr. Plumpton, are both Vice Presidents of the firm and have full internal authority to carry out the requirements of this contract. In keeping with our Guidelines, these gentlemen will be responsible for negotiating and executing contractual documents and providing resources to our Program Management Team necessary to meet schedule and budget goals. Our Program Director, Ms. Albanese has the experience and support to effectively provide day-to-day oversight and management of our contract Team. She has spent the majority of her 26-year career directing environmental work for New Jersey State agencies and is thoroughly familiar with the federal and state regulatory framework and the services to be provided under this contract.

Package Document

Related Packages: 13164 (Scoping - Approved 01/06/12)

Funding

Federal Funding? Yes **Federal Oversight?** No **Federal Oversight Agreement** (June 2007)

Type

Is this project being documented as an emergency project? (•) Yes ( ) No

Is there a formal Emergency Declaration by either the President of the United States or the Governor of PA? (•) Yes ( ) No

In accordance with 23 CFR 771.117(c), actions that qualify as an emergency repair under 23 USC 125 can be documented as a Level 1a CE under item #9.

Which type of repair does this project involve? ( ) Emergency (•) Permanent

For emergency (not permanent) repairs, use the Add Appendix button to attach the Damage Inspection Report (DIR).

Phase: Evaluation

Classification: CE Bridge and Roadway Programmatic Agreement (BRPA)

To document a BRPA...
--- generate package and complete required documents
--- submit package for concurrence of applicability
--- approval is as of the date of the last signature of the BRPA in effect when the package was submitted

CE Level:

CE Action:

Reevaluation Reason: ☐ Change in scope, impacts and/or mitigation.
☐ Three or more years since major authorization or phase change.
☐ Other:

The preferred process for creating an Evaluation is to use the Create Eval button from an existing Scoping to link it to this package.
- If an approved Scoping Package does not exist in the Expert System, provide reason and explanation below.
- If waived, provide direction/authority information. For paper copies, include file location.

Reason: ( ) Waived ( ) Paper Copy ( ) Other

Explanation:

Projects

PDOT Project Manager: Mark Malhenzie

Federal Project Number: pending

MPMS Projects					
Lead?	**MPMS Status/Title**	**District/County**	**SR/Sec**	**Description**	
☑ **93787**	Active / **Luxemburg Bridge Repair**	08 / Dauphin	4002 / 011	SR 4002 (Luxemburg Road) over Pine Creek; Lykens Township; Emergency Bridge Repair	

***The last time MPMS data was added or refreshed was on Thursday, 19 January 2012 01:31 PM.**

Project Funding & Fiscal Constraint						
MPMS	**FD $**	**ROW $**	**UTL $**	**CON $**	**TIP**	**LRTP Date**
93787	0	0	0	0		
Remarks:	This is a permanent emergency repair. Federal funding is through FEMA only and will be established as the project progresses.					

For federally funded projects where the construction phase (and if needed, ROW and/or utilities phases) is not programmed on the current TIP, remarks provide a detailed reference to the current LRTP identifying full funding for the project.

"LRTP Date" is the date of the last adopted Long Range Transportation Plan.
Refer to Supplement to January 28, 2008 "Transportation Planning Requirements and Their Relationship to NEPA Process Completion"

Editors

Names & Groups:
Barbara W Weedon/PennDOT BP-001485
Brian L Stevenson/PennDOT BP-000064
Jay Lightcap/PennDOT
Scott W Duncanson/PennDOT BP-000064
All District 08 Users

Reviewers

	System User Names	**Non-System / Other Addresses**
Notify These Additional Emails Upon Approval:	Brian L Stevenson/PennDOT BP-000064 David A Hamlet/PennDOT BP-000064 Scott W Duncanson/PennDOT BP-000064	

Package was submitted on Monday, 23 January 2012 01:10 PM by Sharon Okin/PennDOT.

REVIEW LEVEL	EMAIL NOTIFY	REVIEWED BY	DATE / TIME
EM:	Sharon Okin/PennDOT	Sharon Okin/PennDOT	Mon, 01/23/12 01:10 PM

Bridge and Roadway Programmatic Agreement (BRPA)
Applicability Matrix
for Bridge, Roadway and Non-Complex Projects
CEES Package Number: 14256

○ Scoping ◉ Evaluation ○ Reevaluation

Project Information			
MPMS 93787	**BMS** 22-4002-0340-1988	**BRKEY** 14576	**SR/Sec** 4002 / 011
County Dauphin	**Municipality** Lykens Township	**Seg/Offset Start** 0340/1786	**Seg/Offset End** 0340/2546
Project Luxemburg Bridge Repair			

Project Description

Description of Activity

SR 4002 (Luxemburg Road) over Pine Creek; Lykens Township; Emergency Bridge Repair. The bridge carrying SR 4002 over Pine Creek in Lykens Township, Dauphin County was damaged by heavy rains and flooding associated with Tropical Storm Lee and has been closed. The activity documented in this BRPA form is an emergency bridge repair and rehabilitation. The present scope of work is for major rehabilitation of the two primary spans and minor work to the third mill race span. As a part of the project, the two spans over the creek will be temporarily dismantled in order to replace the foundation for the pier which is approximately 8' in width. Upon replacement of the pier foundation, the two spans will be restored to their original configuration using the original stones from the arch ring, spandrel, and stone masonry wall. The span over the mill race will also be rehabilitated, without being temporarily dismantled. The stone masonry wall and spandrels will be re-pointed where necessary.

Identify activity from Stipulation 1 of Part A and/or Stipulations 1 and/or 2 of Part B and/or Stipulation 1 of Part C of the PA (ex. Act B2-4 = Part B, Stipulation2, Activity 4). **If the proposed activity is not included in Stipulation 1 of Part A, or Stipulation 1 or 2 of Part B, or Stipulation 1 of Part C, the PA is not applicable. Identify multiple activities, if appropriate.**

B.1-1 Replacement within same approximate footprint or reconstruction of bridge superstructure and/or substructure.

B.1-2 Deck, parapet, substructure repair.

Are Temporary Easements required? ◉ Yes ○ No

A temporary construction easement will be required on the downstream (north) side of the bridge from two properties totalling approximately 0.08 acre and on the upstream (south) side in the SW quadrant from a single property totaling approximately 0.04 acre.

Will there be any permanent Right-Of-Way acquisition? ◉ Yes ○ No

Permanent right-of-way easement will be acquired along the upstream (south) side of the bridge from two properties totaling approximately 0.21 acre and on the downstream (north) side in the northeast quadrant adjacent to the existing abutment from a single property totaling approximately 0.001 acre.

Resource Analysis

Answer Yes or No to indicate whether each resource is present or absent.
If Yes, briefly discuss potential impacts and related commitments to minimize or mitigate.
Attach additional documentation as required to document project impacts and any mitigative measures.

1. Potential for impacts to Wild or Stocked Trout Streams?	◉ Yes ○ No This section of Pine Creek (from SR 4017 in Schuylkill County to its confluence with Mahantango Creek) is a trout stocked stream. In-stream work restrictions would likely be in effect from March 1 through June 15. Initial coordination with the PFBC revealed that since this is an emergency project the PFBC may be willing to relax the in-stream work restrictions. Additional coordination with the PFBC should be performed prior to construction. This section of Pine Creek is not designated as a wild trout stream.
2. Potential for impacts to High Quality/EV	○ Yes ◉ No

Streams?	Pine Creek has a Chapter 93 designation of a cold water fishery with migratory fishes (CWF, MF).
3. Potential for impacts to Wetlands?	○ Yes ◉ No Gannett Fleming performed a Wetlands Identification and Delineation Survey (copy in project file). Based on field investigation activities and existing mapped features of the study area, there are no wetlands within or immediately adjacent to the proposed area of disturbance.
4. Potential for impacts to Federally proposed, candidate or listed; or State listed Threatened and Endangered Species?	○ Yes ◉ No No impacts per PNDI (9/12/11).
5. Potential for impacts to Agricultural Resources?	○ Yes ◉ No No active farming immediately adjacent to bridge. Land in the NE quadrant is enrolled in the Conservation Reserve Enhancement Program (CREP), which is a federally funded program of the United States Department of Agriculture (USDA) that offers farmers the opportunity to take highly erodible and environmentally sensitive lands out of production, thereby improving water quality, reducing soil erosion and increasing grassland, wetland and riparian habitat for wildlife. See mitigation section.
6. Potential for effects to Historic Properties or Archaeological Resources? If Yes, identify effect and whether a standard treatment is included in the design. If No, provide exemption activity(ies) from the Section 106 Programmatic Agreement.	◉ Yes ○ No Historic Structures - The existing bridge is listed on the National Register of Historic Places and is a contributing element to the NR eligible Lykens Valley Rural Historic District. Properties adjacent to the bridge in all four quadrants are not contributing elements to the Lykens Valley Rural Historic District. Potential effects from reconstructing bridge - No adverse effect to NR listed bridge and NR eligible Lykens Valley Rural Historic District. The PHMC concurred with the No Adverse Effect finding for both resources conditional upon their review of project plans and specifications and their conformance with the Secretary of Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings in a letter dated December 28, 2011 (copy in project file). Archaeology - NW, NE and SE quadrants are disturbed; SW quadrant contains an archaeological site with no eligibility determination based on a Phase I Archaeological Survey performed by Department personnel (copy in project file). The SW quadrant will be used for staging of equipment during construction/rehabilitation. It is recommended that the archaeological site in the SW quadrant will be protected during construction by using geotextile and fill. A No Adverse effect finding was recommended. The Phase I Archaeology Report also documented a historic midden in the NW quadrant, on the bank of Pine Creek. The midden was recommended to be ineligible for listing on the NR. The PHMC concurred with the conclusions of the Phase I Archaeological Survey report in a letter dated December 15, 2011 (copy in file). **Exempt Project Activity(s):** N/A **Individual Making Exemption:** N/A **Date of Exemption:** **Exemption Comments:**
7. Potential for Public Controversy on Environmental Grounds?	○ Yes ◉ No No public controversy is anticipated. Conversation between PennDOT consultant and Plain Sect Elder was conducted 1/16/12. The Elder confirmed that the existing detour was the shortest route around the bridge. He was not aware of any concerns regarding the need for school children or farmers to use the bridge to cross the creek. See project file for details.
8. Potential temporary or permanent impacts (use) to resources protected under Section 4(f)/Section 2002? If an Individual Section 4(f)/Section 2002 Evaluation is required (excluding de minimis), this PA does not apply.	○ Yes ◉ No Two Section 2002 resources are present; the existing bridge, which is listed on the NR, and the Lykens Valley Rural Historic District, which is eligible for listing on the NR; however no temporary or permanent use of the Section 2002 resources would occur as a result of the project. A Section 2002 Non-Applicability/No Use checklist will be prepared. (The resources are not considered 4(f) since it is anticipated that federal funding will be through FEMA not FHWA.)
9. Potential for temporary or permanent impacts to Water Trail?	○ Yes ◉ No Pine Creek is not a designated water trail.
10. Potential temporary or permanent impacts to Hazardous/Residual Waste Site?	○ Yes ◉ No There was a slight smell of diesel fuel in the air near west end of bridge during field view 9/14/11. This may be due to a possible minor spill or emmissions from unconfirmed source. Rural residential area with no indication of AST/UST in project area. No impacts are anticipated since this is a bridge rehabilitation project with minimal earth disturbance.
11. Potential impact to regulated Floodplain within or beyond the project limits? If there is a significant floodplain encroachment which	○ Yes ◉ No No impacts are anticipated.

requires a Floodplain Finding, the PA does not apply.	
12. Potential for impacts to Navigable Watercourses which requires U.S. Coast Guard coordination or to a Waterway which requires an Aids to Navigation Plan?	(●) Yes ( ) No According to Edward Gertler's Keystone Canoeing guide, Pine Creek is canoeable winter and spring during snowmelt or within three days of hard rain. Work is proposed to occur in the spring of 2012, with a full width causeway utilized for access. Portage around the work zone is anticipated. An ATON plan will be prepared and submitted to PAFBC for approval.
13. DEP/USACE Permit required?	(●) Yes ( ) No GP-11 and GP-3 to be obtained by the contractor.
14. Mitigation or other commitments included?	(●) Yes ( ) No 1. Pine Creek is a stocked trout stream and in-stream work restrictions are from March 1 through June 15. Initial coordination with the PFBC revealed that since this is an emergency project the PFBC may be willing to relax the in-stream work restrictions. Additional coordination with the PFBC will need to be performed 10 days prior to construction. 2. The archaeological site in the southwest quadrant will be protected during construction by using geotextile and fill material. 3. Land in the NE quadrant of the bridge is enrolled in the CREP program. The construction contractor is to minimize earth disturbing activities and the removal of low lying vegetation in the northeast quadrant. Select tree trimming will be allowed as directed by the engineer. If the northeast quadrant is impacted during construction, the land is to be restored to its current condition upon the completion of construction activities. Contractor is to install protective fencing along the temporary contruction easement boundary of this quadrant. Unless a waiver from USDA has been secured, the following time restrictions apply; No disruption of vegetation is permitted from April 1 through July 15. 4. Project plans and specifications are to be prepared in confromance with the Secretary of Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings. Prior to construction, these project plans and specifications are to be forwarded to and reviewed by Jeremy Ammerman (CRP), District 8-0 Environmental Unit, prior to forwarding to PHMC, BHP. 5. An approved ATON plan will be implemented during the construction phase.

The projects identified on this form are in full compliance with the Bridge and Roadway Programmatic Agreement dated April 2010, and found not to have significant social, economic or environmental impacts, and therefore qualify as a CE under 23 CFR 771.117(a) and (b).

Prepared By:	Scott Duncanson / Senior Environmental Planner - Gannett Fleming	01/17/12
	Name / Title	**Date**
Reviewed for Applicability By:	Sharon Okin / Environmental Manager	01/23/12
	Name / Title	**Date**

Additional Information

Remarks, Footnotes, Supplemental Data

Attachments

1. **09-14-11 Scoping field view minutes.pdf** **(20KB / 0MB)**
2. **Dauphin4002-011ProjectLocationMap.pdf** **(867KB / 0.8MB)**
3. **PNDI 09 12 2011.pdf** **(50KB / 0MB)**
4. **4002-011 plan.pdf** **(732KB / 0.7MB)**

Engineering District 8-0
Highway Design Unit
Harrisburg, PA

DATE: September 14, 2011
TO: FILE
FROM: Mark A. Malhenzie, Senior Project Manager
District 8-0 Highway Design Unit
SUBJECT: Dauphin County
SR 4002-011
MPMS #93787
Scoping Field View Minutes

A Scoping Field View was held for the subject project on September 14, 2011. The purpose of the site visit was to determine what scope of work (preservation, rehabilitation or replacement) would be needed for the bridge based on the damage caused by the September 2011 flood. The following individuals in were in attendance:

1. John Hardy, 8-0 District 8-0 Traffic Unit, 772-0033
2. Mike Deiter, District 8-0 Construction Unit, 315-4043
3. Dave Fratangeli, District 8-0 Pavement and RMS Unit, 705-6176
4. John Lyter, District 8-5 Maintenance Unit, 362-8445
5. Phillip Spear, District 8-5 Maintenance Unit, 787-5391
6. Brent Adams, District 8-0 Construction Unit, 443-1764
7. Shannon S. Weltmer, District 8-0 Design Unit, 787-5241
8. Jay Lightcap, District 8-0 Environmental Unit, 705-2263
9. Nexa M. Giboyeaux, District 8-0 Design Unit, 705-6184
10. Jeremy Ammerman, District 8-0 Environmental Unit, 705-2667
11. Joel Cross, District 8-0 Utilities Unit, 787-7140
12. Andy Hamann, District 8-0 Design Unit, 705-4551
13.Chad Knavel, District 8-0 Bridge Unit, 783-5007
14. Rebecca Knapp, District 8-0 Environmental Unit, 783-5148
15. Dan Stuart, B.O.P.D, H.Q.A.D, 787-1456
16.Mark A. Malhenzie, District 8-0 Design Unit, 783-5080
17.Kevin Keefe, District 8-0 Construction Unit, 991-9669
18.Ray J. Deppen Jr., Supervisor Lykens Township, lyktwp@epix.net, 717-365-3617
19.Jean M. Deppen, Secretary Treasurer Lykens Twp. (h) dfijmd@epix.net (h)717-365-3269

PROJECT DESCRIPTION:

MPMS 93787 - State Route 4002-011 (Luxemburg Road Bridge Repair) over Pine Creek between Bellevue Road and Erdman Road in Lykens Township, Dauphin County. The bridge is located rural local road that is not a federal aid route. The bridge (BMS 22400203402017) is listed as an historic 3 span closed spandrel masonry arch bridge built in 1860. The bridge is closed due to the September 2011 storm damage Current scope of work is to rehabilitate the bridge. A construction contract would be bid within the next few months.

TIMELINE OF EVENTS:

09-12-11 Non Emergency Project inherited by Mark Malhenzie and preparation for scoping field view commences

09-14-11 PennDOT performed a scoping field view with a full team. More extensive damage had occurred than originally thought with substantive settlement of center pier, spandrel bulging and span cracking. Scope of work is now determined to be either rehabilitation or replacement. It was determined necessary to perform underwater inspection of the footers and foundation to make the final determination of final scope of work.

09-16-11 District Bridge Engineer and Construction Unit met with 4 contractors on site and underwater investigation was performed. Consultations lead District to believe the bridge could potentially be rehabilitated.

09-19-11 District Management makes decision to rehabilitate the two primary bridge spans.

09-20-11 Meeting with consultant engineering firm Gannet Fleming to discuss scope of work to rehabilitate the bridge, and quickly prepare a PSE package for the District, for a potential Dec 2011/January 2012 bid.

The following items were discussed at the 09-14-11 scoping field view and are to be considered and/or incorporated in moving forward with final design approach.

Construction Design:
Remarks: Left Parapet, Looking ahead, Upstream arch; has gone from being one continuous arch to a double arch. A 9.5" depression was measured from a string-line to bottom of dip on parapet wall. The string-line from crest to crest was 45'L. The dip is directly above the main pier between the 2 major arches. The dip was also found to be 15' from arch #1.
Remarks: Construction offered names of 4 contractors for reconstruction or replacement bid: 1. Deblin, 2. Conewago, 3. J.D. Eckman, 4.J. Faulkroad
Remarks: Construction noted that a current scour repair project has been suspended thru the Construction Unit
Remarks: Main pier footing is gone. Footing has settled and pier and spandrels are cracked.
Remarks: Footing under main pier apparently failed – replacement may be necessary.
Remarks: If replacement, consider an adjacent box for the mill if it's needed.

Environmental Design:
Remarks: If rebuilt, re-point with mortar.
Remarks: Yes, structure is listed on National Register. Bridge and is also located in Lykens Valley Historic District
Remarks: Small stand of about 6 trees, 18"-24" in diameter are within 25' of structure, left side may need to be removed for replacement
Remarks: Southeast quadrant (upstream small arch) has archaeological consideration.
Remarks: Northwest quadrant (ahead left, near side) bottle dump found.

Remarks: Mill race may be ineligible; mill race was part of historic registered building no longer existing.

Utility Design:
Remarks: Electrical Aerial left and Fiber Aerial right utilities are on both sides of the structure.
Remarks: 1 Utility pole in each quadrant (4 total) may need to be relocated
Remarks: No utilities are under the structure.
Remarks: Gas is located outside the anticipated limits of work and would be potentially affected only on an extensive rebuilding of over 500+/-.

Design Unit:
Remarks: Same alignment if replacement.
Remarks: Suggestion made for 2 @ 10'w lanes and 2 @ 2' shoulders. Federal criteria to be considered
Remarks: Upstream of bridge 2 adjacent tributaries occur; southwest quadrant. The near stream is from 48" Corrugated Metal Pipe at segment 0340 offset 1794. 48" CMP shows minimal deflection but 1' of bottom is rusted our. 2'W x 2'D hole above pipe off edge of shoulder right. Maintenance Unit will fix the hole ASAP.
Remarks: Existing Mill Race arch bridge contiguous to larger double span bridge; 2-3 barrel blocks have dropped 3-5"
Remarks: Mill Race arch bridge shows undermining and erosion at footer
Remarks: FEMA funds considered as this is on a non federal aid route.
Remarks: Both main arches have thru tie-rods, running from side to side. Each arch has three (3) tie rods keeping the arch attached to the spandrel walls using large plates (+/- 1'L). The plates span from the stone spandrels to the block arch. The rods also appear to keep the walls from pushing outwards.

Bureau of Project Delivery, Highway Quality Assurance Division
Remarks: First determine scope
Remarks: Tear down (structure) is adverse affect
Remarks: Follow Secretary of Interior to get a no adverse affect
Remarks: Bridge and BQAD discussed BRPA agreement.

Bridge Design:
Remarks: No guide rail presently exists. If rehabilitation, initial intent would be to not add guide rail in keeping with the historic nature of the bridge. A replacement would include guide rail.
Remarks: The Bridge has been closed due to sub-structure damage.
Remarks: There were no posted weight restrictions.
Remarks: Foundation settlement and barrel cracking at main channel pier
Remarks: If load removed to repair arch, arch could fail due to lack of weight.
Remarks: If bridge is restored it would be done piece by piece. A cofferdam would be built and a sub-footer placed.
Remarks: The question was raised: Is restoration technically feasible? Replacement was discussed.
Remarks: The current bridge will not pass a 25 year storm.
Remarks: Under-pin pier was discussed but the pier has already settled.

Remarks: Jean M. Deppen, Secretary Treasurer Lykens Twp. offered to search bridge history through local Historical Society. Any pertinent information would be of use. If replacement than Jean could help with pamphlet for bridge mitigation measures. Township offered flood photos which the District accepted to possibly see high water mark.
Remarks: Sub-structure has foundation and settlement issues.
Remarks: Spandrel wall, right is bowing outward. Spandrel wall, left is also bowing inward, but to a lesser degree.

Maintenance Design:
Remarks: Maintenance installed the current detour for 4002 bridge since Tropical Storm Lee.
Remarks: Maintenance asked for a copy of the Detour Plans. Design to follow-up.
Remarks: A concurrent detour exists on SR 1015/Lubold's School Road. Maintenance is finishing up a box culvert installation. Completion is expected in the Fall of 2011. The 1015 detour doubles for the 4002 bridge damage. SR 1013/Erdman Road. This conflict should be resolved in the next 2 weeks with the completion of the SR 1015 box.

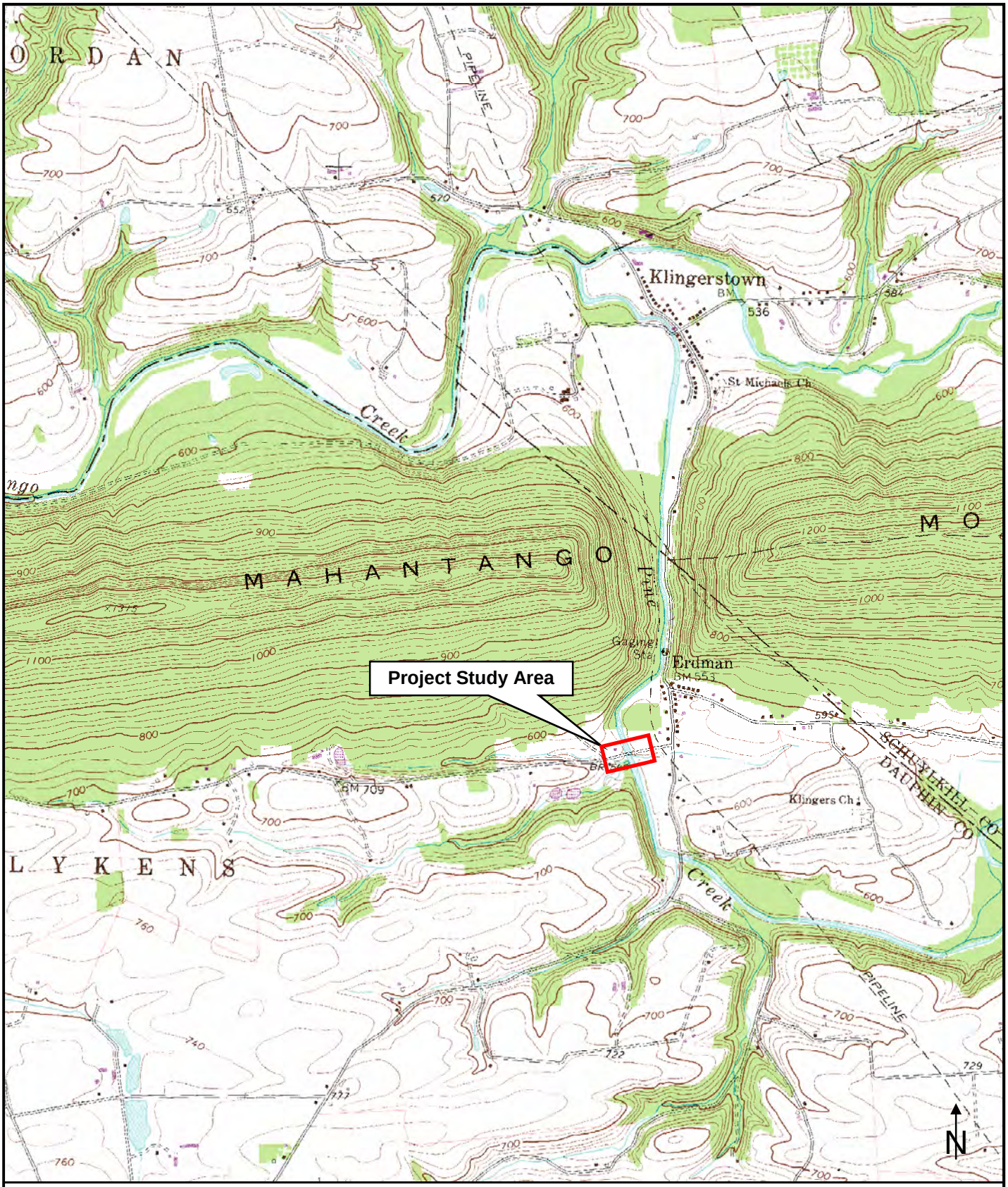
Traffic Design:
Remarks: Traffic has initially prepared detour plans and is awaiting refinements and signatures as of 09-20-11.

Pavement Design:
Remarks: Pavement design will be based upon project scope. Currently there is only 4" of bituminous material on subbase.

ROW:
ROW width is 33'. TCE and/or permanent ROW likely based on final SOW.

These minutes should be considered a reasonably accurate record of statements made and conclusions reached. Any questions or comments should be directed to Mark A. Malhenzie, Senior Project Manager, at 717-783-5080.

Dale Good, County Maintenance Manager
Luis Villegas, District Construction Manager
Dave Fratangeli, Pavement Manager
Karl Wink, Utilities Manager
Pharon Bertsch, P.E., Traffic Engineering & Operations Supervisor
ECMS - Project Development Checklist
ROUTING: S. A. Moore, P.E.
Mark Malhenzie
Nexa M. Giboyeaux
File
AHH/ahh



Attachment 1: Site Location Map
SR 4002, Section 011 Bridge Rehabilitation Project
Lykens Township, Dauphin County, PA
Map Source: USGS 7.5 Minute Klingerstown, PA Quadrangle
Scale: 1 inch = 2,000 feet

Gannett Fleming
Your Trusted Advisor Since 1915

1. PROJECT INFORMATION

Project Name: **Luxemburg Road Brdg.**
Date of review: **9/12/2011 11:38:12 AM**
Project Category: **Transportation,Bridge - demolition and/or construction (replacement) on existing alignment (Boring, piers, abutments, causeways, temporary stream crossings)**
Project Area: **13.4** acres
County: **Dauphin** Township/Municipality: **Lykens Twp**
Quadrangle Name: **KLINGERSTOWN** ~ ZIP Code: **17048**
Decimal Degrees: **40.641507 N, -76.691565 W**
Degrees Minutes Seconds: **40° 38' 29.4" N, -76° 41' 29.6" W**

2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate no known impacts to threatened and endangered species and/or special concern species and resources within the project area. Therefore, based on the information you provided, no further coordination is required with the jurisdictional agencies. This response does not reflect potential agency concerns regarding impacts to other ecological resources, such as wetlands.

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for one year** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jursidictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Department of Conservation and Natural Resources

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Fish and Boat Commission

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

U.S. Fish and Wildlife Service

RESPONSE: No impacts to **federally** listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.* is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. For cases where a "Potential Impact" to threatened and endangered species has been identified before the application has been submitted to DEP, the application should not be submitted until the impact has been resolved. For cases where "Potential Impact" to special concern species and resources has been identified before the application has been submitted, the application should be submitted to DEP along with the PNDI receipt, a completed PNDI form and a USGS 7.5 minute quadrangle map with the project boundaries delineated on the map. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. DEP and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a **preliminary** screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources

Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552, Harrisburg, PA. 17105-8552
Fax:(717) 772-0271

U.S. Fish and Wildlife Service

Endangered Species Section
315 South Allen Street, Suite 322, State College, PA. 16801-4851
NO Faxes Please.

PA Fish and Boat Commission

Division of Environmental Services
450 Robinson Lane, Bellefonte, PA. 16823-7437
NO Faxes Please

PA Game Commission

Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA. 17110-9797
Fax:(717) 787-6957

7. PROJECT CONTACT INFORMATION

Name:_____
Company/Business Name:_____
Address:_____
City, State, Zip:_____
Phone:(_____)_____Fax:(_____)_____
Email:_____

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

_____ _____
applicant/project proponent signature date

PLOTTED: 12/28/2011 1:20:32 PM

FILE NAME: c:\pwworking\gfpw01\prohrbaugh\dms67008\54493_004_P01_CT_CONS1_0002.dgn

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
8-0	DAUPHIN	4002	011	6 OF 7
LYKENS TOWNSHIP				

REVISION NUMBER	REVISIONS	DATE	BY

TBM #2 ELEV 565.18'
20.76' RT, STA 847+94.22
RAILROAD SPIKE IN A
14" FIR

TBM #1 ELEV 540.65'
38.01' RT, STA 858+65.99
RAILROAD SPIKE IN THE
BASE OF A 12" OAK

PI STA 849+11.00
Δ = 14°10'21" LT
D = 7°43'46"
T = 97.81'
L = 195.00'
R = 1000.00'
E = 4.77'
PC STA 848+13.20
PT STA 850+08.19

PI STA 855+02.26
Δ = 10°09'50" RT
D = 4°55'51"
T = 103.34'
L = 206.13'
R = 1162.00'
E = 4.59'
PC STA 853+98.92
PT STA 856+05.05

1 LARRY E KISSINGER

2 LEROY J KESSLER AND DIANE KESSLER, HIS WIFE

LEROY J KESSLER AND DIANE L KESSLER, HIS WIFE, AS TENANTS BY THE ENTIRETIES FOR 1/3 INTEREST AS A FIRST UNIT, MICHAEL E KISSINGER, SINGLE MAN, FOR A 1/3 INTEREST AS A SECOND UNIT, AND LARRY E KISSINGER, SINGLE MAN, FOR A 1/3 INTEREST AS A THIRD UNIT

4 BRUCE D IMHOF AND RUTH A IMHOF, HUSBAND AND WIFE

7 T ROBERT GRUVER

8 CHRISTIAN B STOLTZFUS

9 NORMAN E BAKELAAR AND CAROLINE S BAKELAAR, HIS WIFE

10 DAVID KESSLER, AS OWNER OF 1/2 INTEREST, EDWIN KESSLER, AS OWNER OF 1/4 INTEREST, MICHAEL KESSLER, AS OWNER OF 1/4 INTEREST

LEGAL RIGHT-OF-WAY LINE

TEMPORARY CONSTRUCTION EASEMENT

SR 4002 SURVEY & CONSTR ℄

SR 4002 (LUXEMBURG RD)

PINE CREEK

WOODED AREA

GRAVEL

GRASS

FIELD

LANDSCAPED AREA

FRAME GARAGE

METAL SHED

FRAME BUILDING

1 STORY BRICK DWELLING

BASEMENT ENTRANCE

CONC WALK

CONC CARPORT

BRICK AND STONE PORCH

ELEC METER

SATELLITE DISH

10"MAPLE

12"MAPLE

20"OAK

24"WALNUT

4"WALNUT

10"WALNUT

22"SPRUCE

14"SPRUCE

4"HEMLOCK

WOODEN STEPS

WOODEN POST

MULTI STEM WALNUT

CONC BLOCK FOUNDATION

3 STORY FRAME DWELLING

CONC PAD W/CONC LID

WELL

WOODEN DECK

SHRUB

FRAME SHED

2 STORY CONC BLOCK AND FRAME BARN

SEPTIC TANK

5'H WOODEN POST

RIP-RAP

METAL GATE

MULTI STEM MAPLE

REFLECTOR

NEWSPAPER BOX

1/4" IRON PIPE FND

5/8" REBAR FND

1" REBAR FND

1/2" REBAR FND

48" CMP

4'H WOOD

3.5'H WOOD

PPL 29328-S47889

PPL 29329-S47882

PPL 29345-S47879

PPL 29393-S47890 100K

N72°51'04"E

N83°00'54"E

+63.00 21.50'

+68.00 21.50'

+68.00 16.5'

+63.00 16.5'

+85 36.5'

+85 16.5'

+23 36.5'

+23 16.5'

+40

+70

+50 16.5'

+50 35'

+58 49'

+95.00 16.5'

+95.00 52.00'

+98.92 52.00'

+50.00 16.5'

+50.00 52.00'

R=1110.00'

PC

PT

849 850 851 852 853 854 855 856 857

33'

PROPOSED STRUCTURE DATA:
SR 4002 OVER PINE CREEK
STATION: 852+88.00
TYPE OF STRUCTURE: 3-SPAN STONE MASONRY ARCH BRIDGE
SPAN LENGTH: 2 @ 39.0' (±) AND 1 @ 11.0' (±)
CLEARANCE: 5.0' (±)
SKEW: 90°-00'-00"(±)
CLEAR ROADWAY WIDTH: 14.0' (±)
STRUCTURE NO.: S-32410
RECOMMENDED: DECEMBER 20, 2000

EXISTING STRUCTURE DATA:
SR 4002 OVER PINE CREEK
STATION: 852+88.00
TYPE OF STRUCTURE: 3-SPAN STONE MASONRY ARCH BRIDGE
SPAN LENGTH: 2 @ 39.0' (±) AND 1 @ 11.0' (±)
CLEARANCE: 5.0' (±)
SKEW: 90°-00'-00"(±)
CLEAR ROADWAY WIDTH: 14.0' (±)
STRUCTURE NO.: S-23977 (REHABILITATION DRAWINGS)
RECOMMENDED: DECEMBER 20, 2000

LEGEND:
S.R. 4002 BRIDGE - NR LISTED
PERMANENT IMPACTS
TEMPORARY IMPACTS
LYKENS VALLEY RURAL HISTORIC DISTRICT - NR ELIGIBLE

SCALE
HORIZONTAL 0 25 50 FEET

Note: ALL REQUIRED RIGHT-OF-WAY FOR THIS PROJECT SHALL BE ACQUIRED AS EASEMENT FOR HIGHWAY PURPOSES. AREAS, IF ANY, NOT TO BE ACQUIRED AS EASEMENT FOR HIGHWAY PURPOSES SHALL BE ACQUIRED IN THE LESSER ESTATE OR INTEREST NOTED ON THE PLAN SHEET.

SURVEY BOOK NO. 6657

FOR PROFILE SEE SHEET 7

Package Document

Funding

Federal Funding? Yes **Federal Oversight?** No **Federal Oversight Agreement** (June 2007)

Type

Is this project being documented as an emergency project? (•) Yes ( ) No

Is there a formal Emergency Declaration by either the President of the United States or the Governor of PA? (•) Yes ( ) No

In accordance with 23 CFR 771.117(c), actions that qualify as an emergency repair under 23 USC 125 can be documented as a Level 1a CE under item #9.

Which type of repair does this project involve? (•) Emergency ( ) Permanent

For emergency (not permanent) repairs, use the Add Appendix button to attach the Damage Inspection Report (DIR).

Phase: Evaluation

Classification: Categorical Exclusion (Class II)

CE Level: 1a

CE Action: ☐ 01 ☐ 02 ☐ 03 ☐ 04 ☐ 05 ☐ 06 ☐ 07 ☐ 08 ☑ 09 ☐ 10
☐ 11 ☐ 12 ☐ 13 ☐ 14 ☐ 15 ☐ 16 ☐ 17 ☐ 18 ☐ 19 ☐ 20

Reevaluation Reason:
☐ Change in scope, impacts and/or mitigation.
☐ Three or more years since major authorization or phase change.
☐ Other:

The preferred process for creating an Evaluation is to use the Create Eval button from an existing Scoping to link it to this package.
- If an approved Scoping Package does not exist in the Expert System, provide reason and explanation below.
- If waived, provide direction/authority information. For paper copies, include file location.

Reason: ( ) Waived ( ) Paper Copy ( ) Other

Explanation:

Projects

PDOT Project Manager: Keith E Johnson

Federal Project Number: TBD

MPMS Projects

Lead?	MPMS Status/Title	District/County	SR/Sec	Description	
☑ 94587	Candidate / **I-80 ov Fishing Cr & T360**	03 / Columbia	0080 / 111	Debris removal and rock placement on I-80 over Fishing Creek & T-360 at Segment 2331, Offset 0000 in Hemlock Twp. and the Town of Bloomsburg	

***The last time MPMS data was added or refreshed was on Monday, 07 November 2011 10:48 PM.**

Project Funding & Fiscal Constraint

MPMS	FD $	ROW $	UTL $	CON $	TIP	LRTP Date
94587	0	0	0	0		
Remarks:	This is to document work due to the September 2011 flood event. Funding will be established.					

For federally funded projects where the construction phase (and if needed, ROW and/or utilities phases) is not programmed on the current TIP, remarks provide a detailed reference to the current LRTP identifying full funding for the project.

"LRTP Date" is the date of the last adopted Long Range Transportation Plan.

Refer to Supplement to January 28, 2008 "Transportation Planning Requirements and Their Relationship to NEPA Process Completion"

Editors

Names & Groups: Scott W Duncanson/PennDOT BP-000064
All District 03 Users

Reviewers

	System User Names	Non-System / Other Addresses
Notify These Additional Emails Upon Approval:	Scott W Duncanson/PennDOT BP-000064	

Package was submitted on Wednesday, 16 November 2011 01:49 PM by Kyle J Bunce/PennDOT.

REVIEW LEVEL	EMAIL NOTIFY	REVIEWED BY	DATE / TIME
EM:	Kyle J Bunce/PennDOT	Kyle J Bunce/PennDOT	Wed, 11/16/11 01:53 PM

CEES Package Number: 13945

Categorical Exclusion Evaluation

MPMS: 94587

Project: I-80 ov Fishing Cr & T360

pennsylvania
DEPARTMENT OF TRANSPORTATION

SR: 0080

Section: 111

County: Columbia

District: 03

CE Level: 1a

CE Action: 09

Created: 11/07/11 by Scott W Duncanson

Submitted: 11/16/11 by Kyle J Bunce

Approved: 11/16/11 by Kyle J Bunce

CE Evaluation Part A

General Project Identification & Description

Project Identification

Part A Prepared By: Scott W. Duncanson – Gannett Fleming Inc.

Originating Office: District 03 **Date:** 11/11/11

Federal Project Number: TBD

Township/Municipality: Bloomsburg Township, Hemlock Township

Local Name: I-80 ov Fishing Cr & T360

Limits of Work (Segment/Offset)		**Construction Stations**	
Start:	**End:**	**Start:**	**End:**
Varies	Varies	Varies	Varies

Total Length: Varies ft

Program: TBD **Funding:** **federal** TBD **state** TBD **local**

Have context sensitive solutions and/or smart transportation strategies been integrated into the project? ○ Yes ◉ No

Remarks

Due to the scope of work and being an emergency situation.

Date of First Federal Authorization for Preliminary Engineering: N/A

Date of Federal Authorization Time Extension(s) for Preliminary Engineering (if applicable): N/A

Project Description

Include narrative to describe the general project scope of work.

Attach Location Map(s) and Design Plan (only overview and sheets showing limits of work).

This project entails debris removal from pier 2 at structure carrying I-80 over Fishing Creek & T-360 at Segment 2331, Offset 0000 in Hemlock Twp. and the Town of Bloomsburg.

Project Purpose and Need

Include narrative to describe the project need.

The purpose of this project is to prevent additional damage to the structure.

Project Setting and Distinct Project Features

Provide narrative to adequately describe the project setting (terrain, locale, land use, presence of bicycle/pedestrian or other unique facilities, etc.) and support the evaluation. Any additional information not otherwise covered by this form that is necessary to clearly understand project circumstances should also be included in this section. Narrative should be appropriate for the complexity of the CEE and project circumstances with the length and content varying accordingly.

None

How many right-of-way parcels must be acquired for this project? None anticipated

Describe extent and locations of acquisitions.

Waivers of claim if required.

Describe the involvement with utilities with this project.

TBD

Describe the involvement with any railroad (active or inactive) including all rail lines, crossings, bridges, or signals.

N/A

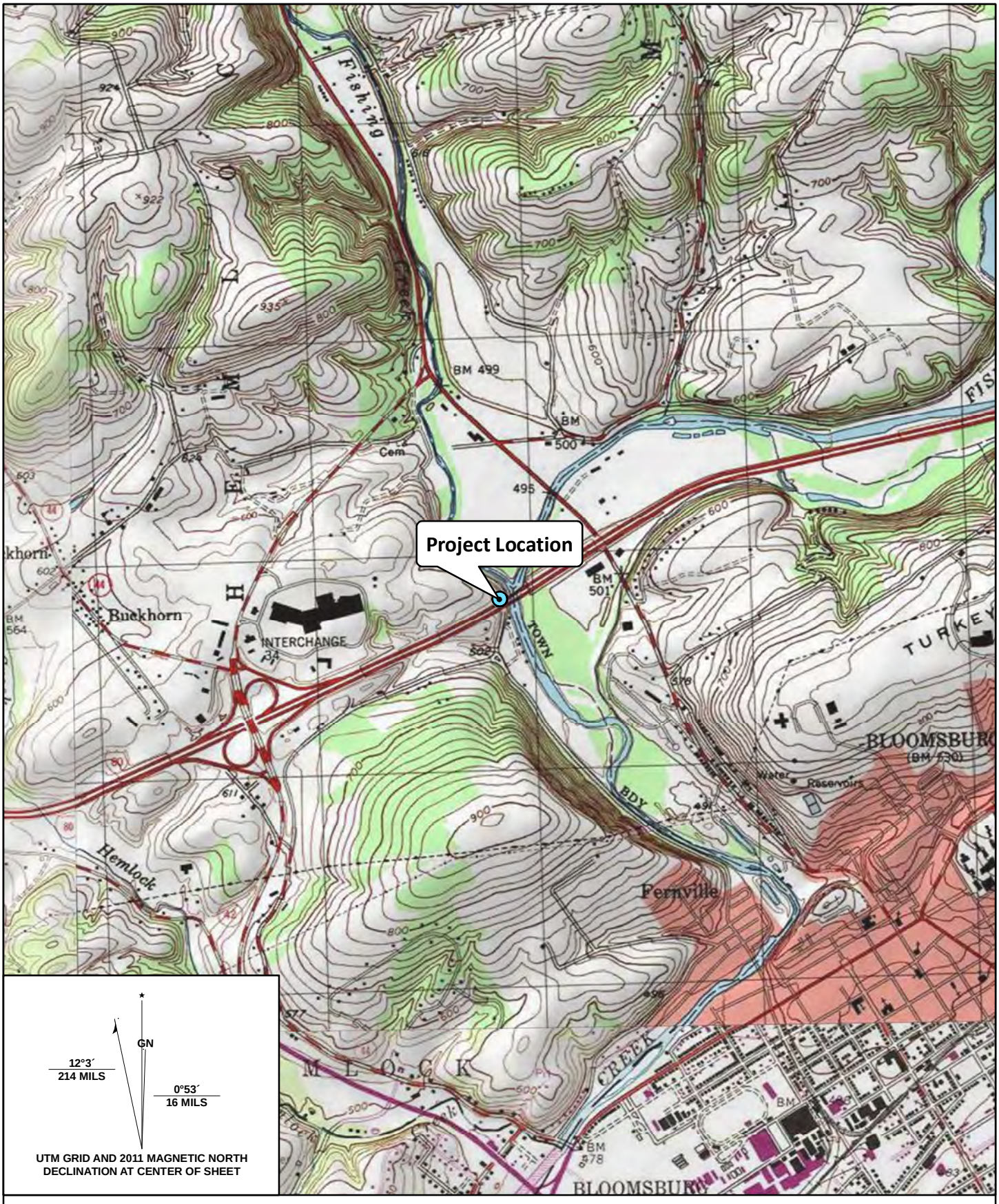
Additional Information

Remarks, Footnotes, Supplemental Data

This CE (1a) is being processed to address emergency repairs. Permanent repairs will be addressed in a CE BRPA evaluation. The Gov Proclamation of Emergency, which was originally issued for Hurricane Irene, is still in effect for Tropical Storm Lee. The President also issued Presidential Declarations of Emergency for Hurricane Irene and Tropical Storm Lee. Copies of the emergency proclamations/declarations are in the project file.

Attachments

1. **Columbia County SR 80-111.pdf** **(297KB / 0.3MB)**



Hemlock Township, Columbia County
Quad Name: Bloomsburg
Date: 10/18/2011
1 inch equals 2,000 feet

Location: 41° 1' 4.171" N 76° 28' 35.635" W NAD83

Caption: Columbia County SR 80-111
MPMS: 94587
Flood Repair September 2011

CE Evaluation Part B, Section A-3

Environmental Evaluation Subject Areas (Wildlife)

---

3. WILDLIFE

	PRESENCE	IMPACTS[2]
WILDLIFE & HABITAT[1]	◉ Not Present ○ Present	
Sanctuaries/Refuges	◉ Not Present ○ Present	◉ No ○ Yes
Resources Meriting Compensation	◉ Not Present ○ Present	◉ No ○ Yes

If any Impacts are "Yes", a Section 4(f) Evaluation may be needed.

Documentation[3]

☐ PAMHEP or Other Accepted Methodology

Describe Any Permanent and Temporary Impacts

Is mitigation incorporated? ◉ No ○ Yes

Describe Mitigation

Remarks

	PRESENCE	IMPACTS[2]
THREATENED & ENDANGERED PLANTS & ANIMALS[1]	◉ Not Present ○ Present ○ No Coordination Needed	☑ No Potential Impacts ☐ Potential Impacts with Avoidance Measures ☐ Potential Impacts with Conservation Measures ☐ Potential Impacts

Reviews, concurrences and approvals for Threatened and Endangered Species searches/coordination are time sensitive.
If the coordination is greater than one-year old, a new coordination effort will be required with the commenting/review agency(s).

Documentation

☑ PNDI ER Receipt

Agency Documentation

☐ PFBC Correspondence

☐ PGC Correspondence

☐ DCNR Correspondence

☐ USFWS Correspondence

Describe Avoidance Measures to be Implemented

Describe Planned Conservation Measures to be Implemented

Describe Other Mitigation

Remarks

T and E search is attached below.

---

1 **If the resource is not present, do not complete the remainder of this subject area.**
2 **If the resource is present but no impacts are anticipated, describe in Remarks why there will be no impact. If there will be no impact because avoidance/mitigation measures will be included, describe those in the mitigation text box provided.**
3 **Unless required as an attachment, documentation for subject areas should be maintained in the project's Technical Support Data and does not need to be submitted with the CEE.**

Additional Information

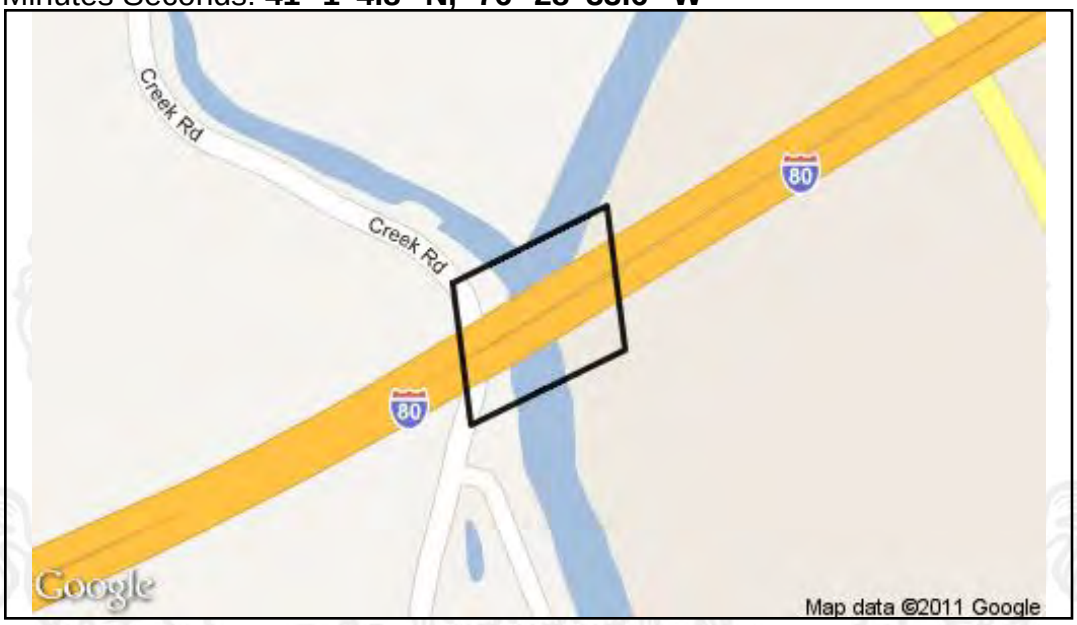
Remarks, Footnotes, Supplemental Data

Attachments

1. **PNDI Columbia 80-111.pdf** **(336KB / 0.3MB)**

1. PROJECT INFORMATION

Project Name: **Columbia 80-111**
Date of review: **10/26/2011 8:14:42 PM**
Project Category: **Transportation,Road -- Maintenance,Bridge maintenance (culvert replacement, abutment repair, etc.)**
Project Area: **4.6** acres
County: **Columbia** Township/Municipality: **Mt Pleasant,Bloomsburg,Hemlock**
Quadrangle Name: **BLOOMSBURG** ~ ZIP Code: **17815**
Decimal Degrees: **41.018 N, -76.476 W**
Degrees Minutes Seconds: **41° 1' 4.8" N, -76° 28' 33.6" W**



2. SEARCH RESULTS

Agency	Results	Response
PA Game Commission	No Known Impact	No Further Review Required
PA Department of Conservation and Natural Resources	No Known Impact	No Further Review Required
PA Fish and Boat Commission	No Known Impact	No Further Review Required
U.S. Fish and Wildlife Service	No Known Impact	No Further Review Required

As summarized above, Pennsylvania Natural Diversity Inventory (PNDI) records indicate no known impacts to threatened and endangered species and/or special concern species and resources within the project area. Therefore, based on the information you provided, no further coordination is required with the jurisdictional agencies. This response does not reflect potential agency concerns regarding impacts to other ecological resources, such as wetlands.

3. AGENCY COMMENTS

Regardless of whether a DEP permit is necessary for this proposed project, any potential impacts to threatened and endangered species and/or special concern species and resources must be resolved with the appropriate jurisdictional agency. In some cases, a permit or authorization from the jurisdictional agency may be needed if adverse impacts to these species and habitats cannot be avoided.

These agency determinations and responses are **valid for one year** (from the date of the review), and are based on the project information that was provided, including the exact project location; the project type, description, and features; and any responses to questions that were generated during this search. If any of the following change: 1) project location, 2) project size or configuration, 3) project type, or 4) responses to the questions that were asked during the online review, the results of this review are not valid, and the review must be searched again via the PNDI Environmental Review Tool and resubmitted to the jurisdictional agencies. The PNDI tool is a primary screening tool, and a desktop review may reveal more or fewer impacts than what is listed on this PNDI receipt. The jursidictional agencies **strongly advise against** conducting surveys for the species listed on the receipt prior to consultation with the agencies.

PA Game Commission

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Department of Conservation and Natural Resources

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

PA Fish and Boat Commission

RESPONSE: No Impact is anticipated to threatened and endangered species and/or special concern species and resources.

U.S. Fish and Wildlife Service

RESPONSE: No impacts to **federally** listed or proposed species are anticipated. Therefore, no further consultation/coordination under the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.* is required. Because no take of federally listed species is anticipated, none is authorized. This response does not reflect potential Fish and Wildlife Service concerns under the Fish and Wildlife Coordination Act or other authorities.

4. DEP INFORMATION

The Pa Department of Environmental Protection (DEP) requires that a signed copy of this receipt, along with any required documentation from jurisdictional agencies concerning resolution of potential impacts, be submitted with applications for permits requiring PNDI review. For cases where a "Potential Impact" to threatened and endangered species has been identified before the application has been submitted to DEP, the application should not be submitted until the impact has been resolved. For cases where "Potential Impact" to special concern species and resources has been identified before the application has been submitted, the application should be submitted to DEP along with the PNDI receipt, a completed PNDI form and a USGS 7.5 minute quadrangle map with the project boundaries delineated on the map. The PNDI Receipt should also be submitted to the appropriate agency according to directions on the PNDI Receipt. DEP and the jurisdictional agency will work together to resolve the potential impact(s). See the DEP PNDI policy at

5. ADDITIONAL INFORMATION

The PNDI environmental review website is a **preliminary** screening tool. There are often delays in updating species status classifications. Because the proposed status represents the best available information regarding the conservation status of the species, state jurisdictional agency staff give the proposed statuses at least the same consideration as the current legal status. If surveys or further information reveal that a threatened and endangered and/or special concern species and resources exist in your project area, contact the appropriate jurisdictional agency/agencies immediately to identify and resolve any impacts.

For a list of species known to occur in the county where your project is located, please see the species lists by county found on the PA Natural Heritage Program (PNHP) home page (www.naturalheritage.state.pa.us). Also note that the PNDI Environmental Review Tool only contains information about species occurrences that have actually been reported to the PNHP.

6. AGENCY CONTACT INFORMATION

PA Department of Conservation and Natural Resources

Bureau of Forestry, Ecological Services Section
400 Market Street, PO Box 8552, Harrisburg, PA. 17105-8552
Fax:(717) 772-0271

U.S. Fish and Wildlife Service

Endangered Species Section
315 South Allen Street, Suite 322, State College, PA. 16801-4851
NO Faxes Please.

PA Fish and Boat Commission

Division of Environmental Services
450 Robinson Lane, Bellefonte, PA. 16823-7437
NO Faxes Please

PA Game Commission

Bureau of Wildlife Habitat Management
Division of Environmental Planning and Habitat Protection
2001 Elmerton Avenue, Harrisburg, PA. 17110-9797
Fax:(717) 787-6957

7. PROJECT CONTACT INFORMATION

Name: Danielle Stemrich
Company/Business Name: Gannett Fleming
Address: 207 Senate Ave
City, State, Zip: Camp Hill, PA 17011
Phone:(717) 763-7211 Fax:(717) 763-8150
Email: dstemrich@gfnet.com

8. CERTIFICATION

I certify that ALL of the project information contained in this receipt (including project location, project size/configuration, project type, answers to questions) is true, accurate and complete. In addition, if the project type, location, size or configuration changes, or if the answers to any questions that were asked during this online review change, I agree to re-do the online environmental review.

Danielle Stemrich — applicant/project proponent signature
10/26/11 — date

CE Evaluation Part B, Section A-4

Environmental Evaluation Subject Areas (Cultural Resources)

4. CULTURAL RESOURCES

Were Cultural Resource Professionals (CRPs) needed for project scoping? ○ Yes ◉ No

CRP Scoping Field View Date:

CRP Architectural Historian in Attendance:

CRP Archaeologist in Attendance:

Was a Project Early Notification / Scoping Results Form completed? ○ Yes ◉ No

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For projects exempted from further Section 106 review under Appendix C of the Statewide Section 106 Programmatic Agreement, determine whether eligible resources are present for application of Section 4(f).

Is the project exempted from review by the District Designee or CRP as per Appendix C of the Statewide Section 106 Programmatic Agreement? ○ Yes ◉ No

Exempt Project Activity(s):

Individual Making Exemption:

Date of Exemption:

Exemption Comments:

Is the project exempted from review by the District Designee or CRP as per Stipulation III of the Emergency Relief Projects Programmatic Agreement (2005)? ◉ Yes ○ No

Exempt Project Activity(s): B.10

Individual Making Exemption: Matt Hamel

Date of Exemption: 11/15/11

Exemption Comments:

	PRESENCE				LEVEL OF EFFECTS		
	Not Present	Potentially Eligible Resource Present	Eligible Resource Present	Listed Resource Present	No Historic Properties Affected	No Adverse Effect	Adverse Effect
CULTURAL RESOURCES	☑	☐	☐	☐	☑		
Archaeology							
Pre-Contact:	☐	☐	☐	☐			
Contact Native American:	☐	☐	☐	☐			
Historic:	☐	☐	☐	☐			

Above-Ground Historic Properties

Structure/Building:	☐	☐	☐	☐
District:	☐	☐	☐	☐

Documentation

Conclusion of Section 106 consultation must be documented in the following ways:

For projects *having an adverse effect*, one of the following:

- ☐ Executed Memorandum of Agreement (MOA)
- ☐ Executed Letter of Agreement (LOA)

For projects *not having a known adverse effect*, one from *each* column:

Above-Ground Historic Properties

- ☐ Above-Ground Historic Properties Field Assessment and Finding
- ☐ Above-Ground Historic Properties Finding Letter
- ☐ Section 106 (Above-Ground Historic Properties) Effect Concurrence Letter
- ☐ TE Project Field Assessment and Finding Checklist

Archaeology

- ☐ Archaeology Field Assessment and Finding
- ☐ Archaeology Finding Letter
- ☐ Section 106 (Archaeology) Effect Concurrence Letter
- ☐ TE Project Field Assessment and Finding Checklist
- ☐ Deferred Archaeological Testing Form
- ☐ Project Specific Programmatic Agreement

Supplemental documentation should be completed as warranted:

- ☐ Historic Structures Survey / Determination of Eligibility Report
- ☐ Phase Ia Archaeological Sensitivity Report
- ☐ Geomorphological Survey Report
- ☐ Archaeological Disturbance Report
- ☐ Archaeology Identification (Phase I) Report
- ☐ Archaeology Negative Survey Form
- ☐ Archaeology Evaluation (Phase II) Report
- ☐ Combined Archaeology Identification/Evaluation Report
- ☐ Determination of Effects Report
- ☐ (Bridge) Feasibility Report
- ☐ Other **(describe in remarks)**

Include Section 106 Public Involvement in Part B, Section C, Public Involvement.

Describe Any Permanent and Temporary Impacts

Are mitigation and/or standard treatments required? ◉ No ○ Yes

Describe Mitigation / Standard Treatments

Remarks

CE Evaluation Part C

CEE Approval Processing

Section A - Level 1a CEE Approval and Design Approval

This project is appropriate to be described by Item Number 09 of Table 3.1 in Publication #10, DM-1B, and is appropriate for a Level 1a Categorical Exclusion in accordance with 23 CFR 771.117.

County: Columbia **SR/Sec:** 0080/111 **MPMS:** 94587 **Project:** I-80 ov Fishing Cr & T360

Prepared By:	Scott W Duncanson		
Title:	Senior Environmental Planner, Gannett Fleming	**Date:**	11/11/11
Approved By:	Kyle J Bunce	**Date:**	11/16/11
Title:	District Environmental Manager		

Additional Information

Remarks, Footnotes, Supplemental Data

Attachments

Federal Railroad Administration (FRA)
CATEGORICAL EXCLUSION WORKSHEET

Note: The purpose of this worksheet is to assist proposal sponsors in gathering and organizing materials for environmental analysis required under the National Environmental Policy Act (NEPA), particularly for proposals, which may qualify as Categorical Exclusions and to assist the FRA in evaluating requests from project sponsors for categorical exclusion determinations. Categorical Exclusions are categories of actions (i.e. types of projects) that the FRA has determined, based on its experience, typically do not individually or cumulatively have a significant effect on the human environment and which generally do not require the preparation of either an environmental impact statement or an environmental assessment.

Submission of the worksheet by itself does not meet NEPA requirements. FRA must concur in writing with the proposal sponsor's Categorical Exclusion recommendation for NEPA requirements to be met. Please complete this worksheet using compatible word processing software and submit and transmit the completed form in electronic format.

For Agency Use		*Date Received:*
Reviewed By: [illegible] *Date:* 7/23/12	*Recommendation for action:* ☒ *Accept* ☐ *Return for Revisions* ☐ *Not Eligible*	
Comments:		
Concurrence by Counsel: ☒ *Accept Recommendation* ☐ *Return with Comments*	*Reviewed By:* [illegible] *Date:* 7/24/12	
Comments:		
Concurrence by Approving Official: Corey Hill	*Date:* 7/27/12	

I. PROPOSAL DESCRIPTION

Proposal Sponsor Northern New England Passenger Rail Authority	**Date Submitted**	**FRA Identification Number (if any)**
Proposal Title Walnut Siding Improvements		
Location (Include Street Address, City or Township, County, and State) Towns of North Yarmouth and Yarmouth, Cumberland County, Maine		
Contact Person Patricia Quinn	**Phone** 207-780-1000	**E-mail Address** patricia@nnepra.com
Note: Fully describe the proposal including specifics that may be of environmental concern such as: widening an embankment to stabilize roadbed; repairing or replacing bridge piers foundations, including adding rip-rap in a waterway; earthwork and altering natural (existing) drainage patterns and creating new water discharge; contaminated water needing treatment; building a new or adding on to a shop building; fueling or collection of fuel or oil and contaminated water; building or extending a siding; and building or adding on to a yard.		

Description of Proposal

The Amtrak Downeaster (Downeaster) service began operating in 2001 and links northern New England communities to ferries, airports, subways, intercity and regional bus trips, and Amtrak's northeast corridor by providing ten daily trips (five found trips) between Boston, Massachusetts and Portland, Maine. The Downeaster's 160 million passenger-miles and two million passengers since service initiation provide evidence of the regional demand for rail service in northern New England. Ridership has grown 87% since FY2005 and is expected to reach over 500,000 passengers in FY2012.

The Northern New England Passenger Rail Authority (NNEPRA) is currently constructing a Portland North Expansion Project that is extending two of the daily trips between Boston and Portland further north to Brunswick, Maine. For the Portland North Expansion Project, NNEPRA is rehabilitating approximately thirty miles of existing freight rail line between the Portland Transportation Center (PTC) in Portland, Maine, and the proposed Maine Street Station in Brunswick, Maine. Construction of Portland North Expansion Project started in the spring of 2010 and is expected to be completed in the fall of 2012.

In accordance with the National Environmental Policy Act (NEPA), the FRA and the NNEPRA prepared an Environmental Assessment (EA) for the Downeaster Portland North Expansion Project in June 2009 and the FRA issued a Finding of No Significant Impact (FONSI) in July 2009. The project continued to advance and a reevaluation in accordance with the NEPA was prepared in October 2009.

As part of the Portland North Expansion Project currently under construction, the FRA and the NNEPRA are considering an additional action: the Walnut Siding Improvements near Royal Junction in Yarmouth and North Yarmouth. The Walnut Siding Improvements are the subject of this categorical exclusion. The Walnut Siding Improvements consist of two key components:

- Walnut Siding Reconstruction - this action entails reconstructing approximately 1.38 miles of existing siding track and installing new turnouts at both ends using rail and other track materials removed from other track work in the area. This work would take place within the existing ballast.

- Walnut Interlocking Improvements - this action consists of the installation of a remote controlled power switch at the eastern end of the Walnut Siding, bringing AC electrical power to the interlocking and associated signal and communications work. The installation of communication and signaling equipment at the Walnut Interlocking would take place within the existing ballast. Bringing AC electrical power to the Walnut Interlocking would require limited ground disturbance outside of the existing ballast and railroad right-of-way because the nearest electric line to the interlocking is at the end of Sweetser Road in North Yarmouth. The power would remain aerial from the last utility pole at the end of Sweetser Road, across the western edge of privately owned property to the beginning of the Pan Am Railways owned gravel access road, a distance of approximately 500 feet. Then the line would be buried in conduit approximately 2 feet below grade in an approximately 2-foot wide trench in the Pan Am Railways owned gravel access road for a distance of approximately 1,400 feet southeasterly to Pan Am's Freight Main Line. The electrical line would then be buried along the rail line within the existing ballast approximately 1 foot deep for a distance of approximately 1,000 feet before connecting to the proposed interlocking.

FRA and NNEPRA have evaluated the Walnut Siding Improvements and their potential environmental impacts individually and collectively in conjunction with the Portland North Expansion Project under construction and determined that a categorical exclusion is approproiate for these actions because they do not individually or cumulatively have a significant effect on the human environment.

Purpose and Need of Proposal
This additional upgrade of existing rail infrastructure in Yarmouth and North Yarmouth is needed to improve service reliability and reduce the potential for delays resulting from freight and passenger train traffic near Royal Junction.

II. NEPA CLASS OF ACTION

Answer the following questions to determine the proposal's potential class of action.

A. Will the proposal substantially impact the natural, social and / or human environment?
☐ YES (Contact FRA) ☒ NO (Continue)
Actions that will significantly impact the environment require preparation of an Environmental Impact Statement. These proposals typically include construction or extension of rail lines or rail facilities including passenger, high speed, or freight rail activities.

B. Is the significance of the proposal's social, economic or environmental impacts unknown?
☐ YES (Contact FRA) ☒ NO (Continue)

C. Does Section 4(f) of the Department of Transportation Act apply? (i.e. proposal requires the use of publicly owned land of a public park, recreation area, or wildlife and waterfowl refuge of national, State, or local significance, or land of an historic site of national, State, or local significance, as determined by the Federal, State, or local officials having jurisdiction over the park, area, refuge, or site.)
☐ YES (Contact FRA) ☒ NO (Continue)

D. Is the proposal likely to require detailed evaluation of more than a few potential impacts?
☐ YES (Contact FRA) ☒ NO (Continue)

E. Is the proposal likely to generate intense public discussion or concern, even though it may be limited to a relatively small subset of the community?
☐ YES (Contact FRA) ☒ NO (Continue)

F. Is the proposal inconsistent with any Federal, State, or local law, regulation, ordinance, or Judicial or administrative determination relating to environmental protection?
☐ YES (Contact FRA) ☒ NO (Continue)

G. Is the proposal an integral part of a program of current Federally supported actions which, when considered separately, would not be classified as major actions, but when considered together may result in substantial impacts?
☐ YES (Contact FRA) ☒ NO (Continue)

If the answer to any of the questions B through G is "YES", contact the FRA to determine whether the proposal requires preparation of an Environmental Assessment.

H. Is the proposal consistent with one of the following potential Categorical Exclusions?
FRA Procedures for Considering Environmental Impacts, 64 FR 28545 (May 26, 1999)
☒ YES (Mark category and continue as indicated) ☐ NO (Contact FRA)

☐ Financial assistance or procurements solely for planning or design activities that do not commit the FRA or its applicants to a particular course of action affecting the environment. *(stop and submit to FRA)*

☐ State rail assistance grants for acquisition. *(Continue to Part III)*

☐ Operating assistance to a railroad to continue existing service or to increase service to meet demand, where the assistance will not result in a change in the effect on the environment. *(stop and submit to FRA)*

☐ Acquisition of existing railroad equipment, track and bridge structures, electrification, communication,

signaling or security facilities, stations, maintenance of way and maintenance of equipment bases, and other existing railroad facilities or the right to use such facilities, for the purpose of conducting operations of a nature and at a level of use similar to those presently or previously existing on the subject properties. *(Complete Part III, Sections H, I, U, & V and submit to FRA)*

☒ Research, development and/or demonstration of advances in signal, communication and/or train control systems on existing rail lines provided that such research, development and/or demonstrations do not require the acquisition of substantial amounts of right-of-way, and do not substantially alter the traffic density [or operational] characteristics of the existing rail line. *(Continue to Part III)*

☐ Temporary replacement of an essential rail facility if repairs are commenced immediately after the occurrence of a natural disaster or catastrophic failure. *(Continue to Part III)*

☐ Changes in plans for a proposal for which an environmental document has been prepared, where the changes would not alter the environmental impacts of the action. *(Continue to Part III describing the full consequences of the changes only)*

☐ Maintenance of: existing railroad equipment; track and bridge structures; electrification, communication, signaling, or security facilities; stations; maintenance-of-way and maintenance-of-equipment bases; and other existing railroad-related facilities. ("Maintenance" means work, normally provided on a periodic basis, which does not change the existing character of the facility, and may include work characterized by other terms under specific FRA programs) *(Continue to Part III)*

☐ Financial assistance for the construction of minor loading and unloading facilities, provided that proposals are consistent with local zoning, do not involve the acquisition of a significant amount of land, and do not significantly alter the traffic density characteristics of existing rail or highway facilities. *(Continue to Part III)*

☒ Minor rail line additions including construction of side tracks, passing tracks, crossovers, short connections between existing rail lines, and new tracks within existing rail yards, provided that such additions are consistent with existing zoning, do not involve acquisition of a significant amount of right of way, and do not substantially alter the traffic density characteristics of the existing rail lines or rail facilities. *(Continue to Part III)*

☐ Improvements to existing facilities to service, inspect, or maintain rail passenger equipment, including expansion of existing buildings, the construction of new buildings and outdoor facilities, and the reconfiguration of yard tracks. *(Continue to Part III)*

☐ Environmental remediation through improvements to existing and former railroad track, infrastructure, stations and facilities, for the purpose of preventing or correcting environmental pollution of soil, air or water. *(Continue to Part III)*

☐ Replacement, reconstruction, or rehabilitation of an existing railroad bridge, including replacement with a culvert, that does not require the acquisition of a significant amount of right-of-way. *(Continue to Part III)*

III. PROPOSAL INFORMATION FOR CATEGORICAL EXCLUSIONS

Complete Part III unless indicated otherwise in Part II and submit to FRA.

For work to fixed facilities, maps displaying the following, as applicable, are required to be attached for FRA review:

- Proposal vicinity
- Proposal Site Plan indicating the USGS Quadrangle and Section
- Other Information as necessary to complete Part III

A. Describe how the proposal satisfies the purpose and need identified in Part I:

The improvements to the Walnut Siding and Walnut Interlocking would expedite through train movements at Royal Junction as well as mitigate delays incurred due to freight train meets, thus protecting both freight and passenger on-time performance. The reconstruction of the siding and installation of a remotely controlled power switch on the eastern end of the siding would be a cost effective start to increasing capacity in advance of future increased frequency. The installation of the power switch on the eastern end of the siding would allow progressive movement of freight trains into and out of the siding (i.e.

the freight train does not have to stop so that the switch can be manually thrown) which would make freight train movements more efficient and would minimize the potential for passenger train delays due to freight movements.

B. **Location & Land Use:** *For fixed facilities, attach a map or diagram, at an appropriate scale, identifying the location of the proposal site and if applicable, the surrounding land uses and zoning of the site and surrounding properties. If the proposal would require many pages of maps or diagrams, include only a location map and contact FRA to determine if additional information is required. A map or diagram that identifies locations of critical resource areas, wetlands, potential historic sites, or sensitive noise receptors such as schools, hospitals, and residences should be included if there is the potential for impacts to these resources.*

Briefly describe the existing land use of the proposal site and surrounding properties and resources.

The proposed action would not have a significant impact on land use, or zoning consistency. The reconstruction of the existing Walnut Siding would take place within the existing ballast; no property acquisition required. Land uses adjacent to the Walnut Siding are primarily undeveloped forested land, with a few agricultural fields near Route 115. Zoning for the Walnut Siding and adjacent lands is designated as Rural Residential in Yarmouth and Village Residential and Farm Forest in North Yarmouth. The Walnut Interlocking improvements would take place partially within the existing ballast. However, bringing AC electrical power to the interlocking would take place partially outside of the existing railroad right of way as the nearest electric line to the interlocking is at the end of Sweetser Road in North Yarmouth. From Sweetser Road the electric line would remain aerial for a distance of approximately 500 feet across the edge of a field and a dirt access road owned by a private citizen, and then be buried underground within an existing gravel access road owned by Pan Am Railways for a distance of approximately 1,400 feet before reaching the existing rail line. It is likely that only one utility pole would need to be installed resulting in very limited ground disturbance. Central Maine Power will make this determination closer to the time of installation. Land use adjacent to the Walnut Interlocking and along the proposed route to bring AC electricity to the interlocking consists of undeveloped forested land and agricultural fields. Zoning is designated as Village Residential and Farm Forest.

C. **Historic Resources:** *If any cultural, historic, or archaeological resources are located in the immediate vicinity of the proposal, check and describe the resource(s) and then describe any potential effect of the proposal on the resource(s). Consultation with the SHPO is necessary when these resources are potentially affected.*

☐ Cultural:

☐ Historical:

☐ Archaeological:

Has consultation with the State Historic Preservation Officer occurred? If so, describe and attach relevant correspondence.

☒ Consultation with SHPO: Coordination and consultation with the Maine Historic Preservation Commission (MHPC) was previously performed as part of the NEPA process for the Portland North Expansion Project. The MHPC concurred that the Portland North Expansion Project would not impact prehistoric archaeological resources (MHPC 2008) and would have

no adverse effect upon historic properties (MHPC 2009).

An online review of the National Park Service's National Register of Historic Places (NRHP) indicated no listed historic resources in the immediate vicinity of the Walnut Siding Improvements. The nearest listed resource is the Prince, Cushing and Hannah House which is approximately 1,200 feet south of the project area located at 189 Greely Road in Yarmouth. It was listed on the NRHP on July 1, 1999.

Additional coordination and consultation was performed with the MHPC as part of this proposed action. The MHPC reviewed this proposed action and concluded that there would be no archaeological or other historic properties affected by the proposed Walnut Siding Improvements, which includes the possible placement of one utility pole. No further work is needed to comply with Section 106 of the National Historic Preservation Act and no further coordination with the MHPC is required.

D. Public Notification: *Briefly describe any public outreach efforts undertaken on behalf of the proposal, if any. Indicate opportunities the public has had to comment on the proposal (e.g., Board meetings, open houses, special hearings).*

The Walnut Siding Improvements are a supplement to the Downeaster Portland North Expansion Project. Extensive public outreach took place prior to the start of the original construction elements of the Portland North Expansion project and public outreach has continued throughout construction and will continue through the beginning of passenger service and other actions.

Public outreach efforts consist of project updates and new action items at all NNEPRA monthly board meetings, weekly construction updates on the NNEPRA website, bi-monthly station committee meetings, various town council/chamber of commerce meetings, discussion and coordination with the various town officials for the construction schedule and other speaking engagement opportunities.

Indicate prominent concerns expressed by agencies or the public regarding the proposal, if any.

E. Transportation: *Would the proposal have a detrimental effect on other railway operations or impact road traffic, or increase demand for parking?*

☒ No (continue) ☐ Yes, describe potential transportation, traffic, and parking impacts, and address capacity constraints and potential impacts to existing railroad and highway operations. Include maps or diagrams indicating any impacts and any proposed modifications to existing railways or roadways or parking facilities. Also, summarize any consultation that has occurred with other railroads or highway authorities whose operations this project will impact.

The additional project would not impact road traffic or parking and would have positive impacts on freight and passenger train operations:

The improvements to the Walnut Siding and Interlocking would expedite through train movements at Royal Junction as well as mitigate delays incurred due to freight train meets thus protecting both freight and passenger on-time performance. The reconstruction of the siding and installation of a remotely controlled power switch on the eastern end of the siding would be a cost effective start to increasing capacity in advance of future increased frequency. The installation of the power switch on the eastern end of the siding would allow progressive movement of freight trains into and out of the siding (i.e. the freight train does not have to stop so that the switch can be manually thrown)

which would make freight train movements more efficient and would minimize the potential for passenger train delays due to freight movements.

F. **Noise and Vibration:** *Are permanent noise or vibration impacts likely?*
☒ No (continue) ☐ Yes, describe how the proposal will involve noise impacts. If the proposal will result in a change in noise sources (number or speed of trains, stationary sources, etc.) and sensitive receptors (residences, hospitals, schools, parks, etc.) are present, apply screening distances for noise and vibration assessment found in FRA noise impact assessment guidance manual (and FTA's manual as needed) and compare proposal location with nearest receptor(s). If the screening distance is not achieved, attach a "General Noise and/or Vibration Assessment."

Noise ☐ Vibration ☐

As a result of the general assessment(s) are there noise or vibration impacts?

☒ No (continue) ☐ Yes (Describe and provide map identifying sensitive receptors):

The proposed action would not have a significant impact on noise or vibration.

G. **Air Quality:** *Does the proposal have the potential to increase concentrations of ambient criteria pollutants to levels that exceed the NAAQS, lead to the establishment of a new non-attainment area, or delay achievement of attainment?*
☒ No (continue) ☐ Yes, attach an emissions analysis for General Conformity regarding Carbon Monoxide (CO), Ozone (O_3), Particulate Matter (PM_{10}), Nitrous Oxides (NO_x), and Carbon Dioxide (CO_2), and include a hot spot analysis if indicated. Describe any substantial impacts from the proposal.

The project area is not located in a non-attainment area but is in an 8-hour Ozone maintenance area.

Is the proposal located in a Non-Attainment or Maintenance area?
☐ No (continue) ☒ Yes, for which of the following pollutants:

☐ Carbon Monoxide (CO) ☒ Ozone (O_3) ☐ Particulate Matter (PM_{10})

H. **Hazardous Materials:** *Does the proposal involve the use or handling of hazardous materials?*
☒ No (continue) ☐ Yes, describe use and measures that will mitigate any potential for release and contamination.

I. **Hazardous Waste:** *If the proposal site is in a developed area or was previously developed or used for industrial or agricultural production, is it likely that hazardous materials will be encountered by undertaking the proposal?* (Prior to acquiring land or a facility with FRA funds, FRA must be consulted regarding the potential presence of hazardous materials)

☒ No, explain why not and describe the steps taken to determine that hazardous materials are not present on the proposal site and then continue to question I.

The proposed action would be entirely within the existing railroad right-of-way with the exception of bringing AC power to the Walnut Interlocking that would entail the installation of an underground electric line within a gravel access road owned by Pan Am Railways for a distance of approximately 1,400 feet. It is unlikely that contaminated sites or hazardous materials would be encountered along the limited area of ground disturbance outside of the existing railroad right-of-way or within it. However, if any such materials were encountered they would be properly handled and disposed of according to

Federal and state laws.

☐ Yes, complete a Phase I site assessment and attach.

If a Phase I survey was completed, is a Phase II site assessment recommended?
☐ No (continue) ☐ Yes, describe the mitigation and clean-up measures that will be taken to remediate any hazardous materials present and what steps will be taken to ensure that the local community is protected from contamination during construction and operation of the proposal.

J. **Property Acquisition:** *Is property acquisition needed for the proposal?*
☐ No (continue) ☒ Yes, indicate whether the acquisition will result in relocation of businesses or individuals. **Note:** *To ensure eligibility for Federal participation, grantees may not acquire property with either local matching or Federal funds prior to completing the NEPA process and receiving written FRA concurrence in both the NEPA recommendation and property appraisals.*

The proposed action would be entirely within the existing railroad right-of-way with the exception of bringing AC power to the Walnut Interlocking that would entail the installation of an aerial electric line across approximately 500 feet of privately owned land along a dirt access road at the edge of an open field at the end of Sweetser Road in North Yarmouth. An easement would be obtained for the utility crossing. No other property acquisition is required. There would be no displacement of residences or businesses. The property owner has been contacted by Pan Am and has been cooperative with regard to the proposed aerial easement across the property. The easement is currently being finalized.

K. **Community Disruption and Environmental Justice:** *Does the proposal present potentially disruptive impacts to adjacent communities?*
☒ No (continue) ☐ Yes, provide a socio-economic profile of the affected community. Indicate whether the proposal will have a disproportionately high and adverse effect on minority or low-income populations. Describe any potential adverse effects and any community resources likely to be impacted. Describe outreach efforts targeted specifically at minority or low-income populations.

The proposed action would not result in disproportionate adverse impacts to minority or low-income residents or populations. The proposed action would improve the Downeaster passenger service reliability and reduce the potential for delays resulting from freight and passenger train meets near Royal Junction.

L. **Impacts On Wetlands:** *Does the proposal temporarily or permanently impact wetlands or require alterations to streams or waterways?*
☒ No (continue) ☐ Yes, show wetlands and waters on the site map and classification. Describe the proposal's potential impact to on-site and adjacent wetlands and waters and attach any coordination with the State and US Army Corps of Engineers.

Wetlands were identified using the U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory (NWI) mapping (http://www.fws.gov/wetlands/Data/Mapper.html). Detailed field investigations were not performed. According to the NWI maps, wetlands are not present in the vicinity of the Walnut Interlock Improvements, but wetlands are adjacent to both sides of the rail line in the vicinity of the Walnut Siding to be reconstructed. However, the proposed track rehabilitation and reconstruction work associated with the Walnut Siding would be performed within the existing ballast and would not impact nearby wetlands, therefore no coordination with the US Army Corps of Engineers is necessary and no permits are required.

M. **Floodplain Impacts:** *Is the proposal located within the 100-year floodplain or are regulated*

floodways affected?
☒ No (continue) ☐ Yes, describe the potential for impacts due to changes in floodplain capacity or water flow, if any. If impacts are likely, attach scale maps describing potential impacts and describe any coordination with regulatory entities.

According to the FEMA online floodplain maps for North Yarmouth and Yarmouth, the Walnut Interlocking Improvements would take place outside of the 100-year floodplain. In the vicinity of the Walnut Siding Reconstruction, the existing rail line crosses over the 100-year floodplain at one location near the eastern terminus of the Walnut Siding (https://hazards.fema.gov/wps/portal/mapviewer). However, the proposed Walnut Siding Reconstruction would take place within the existing ballast and would not impact floodplains.

N. **Water Quality:** *Are protected waters of special quality or concern, essential fish habitats, or protected drinking water resources present at or directly adjacent to the proposal site?*
☒ No (continue) ☐ Yes, describe water resource and the potential for impact from the proposal, and any coordination with regulatory entities.

O. **Navigable Waterways:** *Does the proposal cross or have effect on a navigable waterway?*
☒ No (continue) ☐ Yes, describe potential for impact and any coordination with US Coast Guard.

The proposed action would not impact navigable waterways.

P. **Coastal Zones:** *Is the proposal in a designated coastal zone?*
☐ No (continue) ☒ Yes, describe coordination with the State regarding consistency with the coastal zone management plan and attach the State finding if available.

A portion of the proposed action (within Yarmouth) is within the state of Maine's statutory coastal zone. Coordination was performed with the Maine State Planning Office (SPO). The SPO stated that the proposed action is not subject to consistency review unless state permits or other approvals are required to be obtained. Coordination was performed with the Maine Department of Environmental Protection (DEP) and DEP determined that due to the minimal amount of disturbed area that would be created by this project, review under DEP's Stormwater Management Rules will not be required.

Q. **Prime and Unique Farmlands:** *Does the proposal involve the use of any prime or unique farmlands?*
☒ No (continue) ☐ Yes, describe potential for impact and any coordination with the Soil Conservation Service of the US Department of Agriculture.

The proposed action would be entirely within the existing railroad right-of-way on lands previously developed and therefore not subject to the Federal Farmland Protection Policy Act (FPPA) with the exception of bringing AC power to the Walnut Interlocking that would entail the installation of aerial electric lines across approximately 500 feet along a dirt access road at the edge of an open field at the end of Sweetser Road in North Yarmouth. Prime farmland soils are not present but soils of statewide importance are present along approximately 150 feet of this 500 foot long area. Due to the presence of statewide important farmland soils Form AD-1006, Part VI was completed (see attached). The Total Site Assessment points were 50. This score is below the 60 point threshold, therefore no further action is necessary and the project is considered to be in compliance with the FPPA.

R. **Ecologically Sensitive Areas And Endangered Species:** *Are any ecologically sensitive natural areas, designated wildlife or waterfowl refuges, or designated critical habitat areas*

(woodlands, prairies, wetlands, rivers, lakes, streams, and geological formations determined to be essential for the survival of a threatened or endangered species) within or directly adjacent to the proposal site?

☒ No (continue) ☐ Yes, describe them and the potential for impact. Describe any consultation with the State and the US Fish and Wildlife Service about the impacts to these natural areas and on threatened and endangered fauna and flora that may be affected. If required prepare a biological assessment and attach.

According to the US Fish and Wildlife Service, there are no known, listed or proposed, federal threatened or endangered species in the project area. According to the Maine Natural Areas Program, there are also no known state listed or proposed threatened or endangered plant species in the project area. According to the Maine Department of Inland Fisheries and Wildlife (MDIFW) one state endangered species, the New England Cottontail may potentially be present in the vicinity of the project area; however, based on a field view of the project area performed on June 14, 2012, the proposed action would not impact the state endangered New England Cottontail. A July 3, 2012 formal response from the MDIFW reiterates that the project area is not known to support the New England Cottontail. However, the MDIFW also states that there are several tributary streams throughout the project area that support native brook trout and recommends minimizing vegetation cutting within 100 feet of those streams (see attached letter).

S. **Safety And Security:** *Are there safety or security concerns about the proposal?*

☒ No (continue) ☐ Yes, describe the safety or security concerns and the measures that would need to be taken to provide for the safe and secure operation of the proposal after its construction.

T. **Construction Impacts:** *Are major construction period impacts likely?*

☒ No (continue) ☐ Yes, describe the construction plan and identify impacts due to construction noise, utility disruption, debris and spoil disposal, and address air and water quality impacts, safety and security issues, and disruptions of traffic and access to property and attach scale maps as necessary.

Major construction period impacts are not anticipated.

U. **Cumulative Impacts:** *Are cumulative impacts likely?*

A "cumulative impact" is the impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts may include ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or resulting from smaller actions that individually have no significant impact. Determining the cumulative environmental consequences of an action requires delineating the cause-and-effect relationships between the multiple actions and the resources, ecosystems, and human communities of concern.

☒ No (continue) ☐ Yes, describe the reasonably foreseeable:

(a) Direct impacts, which are caused by the action and occur at the same time and place.

The Portland North Expansion Project and this additional action would have slight beneficial contributions to cumulative impacts. The proposed extension of passenger rail service is expected to provide an overall benefit to air quality. The rail service would provide service to motorists who would otherwise travel between Portland and Brunswick by motor vehicle; this shift in travel mode is expected to reduce overall vehicle emissions. The addition of passenger rail service would also encourage the transit-oriented development already occurring adjacent to the proposed stops.

(b) Indirect impacts, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect impacts may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

The Portland North Expansion Project and this additional action would result in secondary impacts by creating the potential for development of additional platforms and further transit-oriented development near the proposed stops, similar to the Freeport Village Station and the Brunswick Maine Street Station. This transit-oriented development would likely occur in already built-up areas. Local review boards would be responsible for investigating the impacts to water, sewer, and traffic from future transit oriented development.

V. **Related Federal, State, or Local Actions:** *Indicate whether the proposal requires any of the following actions (e.g., permits) by other Agencies and attach copies of relevant correspondence.* It is not necessary to attach voluminous permit applications if a single cover Agency transmittal will indicate that a permit has been granted. Permitting issues can be described in the relevant resource discussion in sections B-S above.

☒ **Section 106** *Historic and Culturally Significant Properties*

☐ **Section 401/404** *Wetlands and Water*

☐ **USCG 404** *Navigable Waterways*

☐ **Executive Orders** *Wetlands, Floodplains, Environmental Justice*

☐ **Clean Air Act** *Air Quality*

☐ **Endangered Species Act** *Threatened and Endangered Biological Resources*

☐ **Magnuson-Stevens Fishery Conservation and Management Act** *Essential Fish Habitat*

☐ **Safe Drinking Water Act**

☐ **Other State or Local Requirements** (Describe)

X. **Mitigation:** Describe mitigation measures which address identified impacts and have been incorporated into the proposal, if any.

The Maine Department of Inland Fisheries and Wildlife recommends minimizing vegetation cutting within 100 feet of streams to minimize potential impacts to native brook trout.

PAUL R. LEPAGE
GOVERNOR

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES & WILDLIFE
284 STATE STREET
41 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0041

CHANDLER E. WOODCOCK
COMMISSIONER

July 3, 2012

Scott Duncanson
Gannett Fleming Inc.
P.O. Box 67100
Harrisburg, PA 17196-7100

RE: Downeaster Portland North Rail Expansion, North Yarmouth

Dear Scott:

On June 14, 2012, Cory Stearns, MDIFW Region A Biologist, visited the proposed Downeaster Portland North Expansion project in North Yarmouth and Yarmouth with three representatives from Pan Am Railways (led by Timothy Kunzler). This portion of the Downeaster Expansion project includes the replacement of approximately 1.38 miles of railway track, installation of communication and signaling equipment, and installation of underground electrical line, including approximately 500 ft above ground that stretches from Sweetser Road to the southwestern corner of a field.

This section of the Downeaster Expansion project intersects with habitat mapped due to historic records of New England Cottontail (NEC), an Endangered species, occurring in the area. New England Cottontail requires large areas of brush, shrubs, and densely growing young trees. In the Northeast, much of the area supporting New England Cottontails has been fragmented and no longer provides habitat patches suitable in quality or size to support this species. As a result, New England Cottontails have drastically declined, with only a few hundred remaining in Maine.

Given that this area is not currently known to support NEC populations, we do not expect that this project will have significant impacts on State rare, threatened, or endangered species. The replacement of railway track and the installation of communication and signaling equipment will take place within the existing railroad right of way. Per federal railroad regulations (according to Timothy Kunzler) railroad companies are required to maintain visibility to signals from a distance. Accordingly, vegetation that is overhanging the existing ballast of the railroad right of way will need to be trimmed for approximately 500 ft from the new signal. All equipment will remain within the existing ballast, and only the vegetation that hangs over the ballast and obstructs the signal will be cut.

Several tributary streams abut the project area. This lower portion of the Royal River watershed, including streams in the project area, is known to support native brook trout populations. Where possible, we recommend that vegetation cutting within 100-feet of these streams be minimized to the extent practicable.

Please feel free to contact my office if you have any questions regarding this information, or if I can be of any further assistance.

Best regards,

Steve Walker
Acting Environmental Review Coordinator

SPO Maine State Planning Office
Executive Department

PAUL R. LEPAGE
Governor

PETER J. ROGERS
Acting Director

June 13, 2012

Mr. Scott W. Duncanson, AICP
Gannett Fleming, Inc.
P.O. Box 67100
Harrisburg, PA 17106-7100

RE: Coastal Zone Management Act/federal consistency review; Downeaster Portland North Expansion Project; Reconstruction of Walnut Siding, Yarmouth and North Yarmouth, Maine

Dear Mr. Duncanson:

This letter is in response to your letter dated May 31, 2012, regarding the consistency of the above-referenced matter with the enforceable policies of Maine's coastal zone management program. As described in your letter, the Northern New England Passenger Rail Authority and the Federal Railroad Authority (FRA) "are planning an additional upgrade of existing rail infrastructure in Yarmouth and North Yarmouth to improve reliability and reduce the potential for delays resulting from freight and passenger train meets near Royal Junction . . . ." In a subsequent e-mail dated June 4, 2012, you clarified that the FRA action addressed by your letter concerns provision of federal funds to support this construction activity.

Federal consistency review of the provision of federal funds or financial assistance for this project is not required under the Maine Coastal Program ("MCP"). Although a federal funding or assistance activity of this kind, which is not listed in the MCP, is not itself subject to consistency review, the project would be required to obtain permits or other approvals under applicable state environmental laws, if any, should the project be funded and undertaken. Please contact Mark Bergeron at the Maine Department of Environmental Protection to discuss potentially applicable state licensing and permitting-related requirements.

Please contact Todd Burrowes (todd.burrowes@maine.gov; (207) 287-1496)) on my staff if you have questions or need additional information.

Sincerely,

Kathleen Leyden
Director, Maine Coastal Program

cc:\ Mark Bergeron, DEP

OFFICE LOCATED AT: 19 UNION STREET, 38 STATE HOUSE STATION, AUGUSTA MAINE
PHONE: (207) 624-7660 internet: www.maine.gov/spo FAX: (207) 287-6489

STATE OF MAINE
DEPARTMENT OF CONSERVATION
93 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0093

PAUL R. LEPAGE
GOVERNOR

WILLIAM H. BEARDSLEY
COMMISSIONER

June 1, 2012

Scott Duncanson
Gannett Fleming, Inc.
207 Senate Avenue
Camp Hill, PA 17011

Re: Rare and exemplary botanical features in proximity to: Northern New England Passenger Rail Authority Portland North Expansion Project, Yarmouth, Maine

Dear Mr. Duncanson:

I have searched the Natural Areas Program's Biological and Conservation Data System files in response to your request received May 31, 2012 for information on the presence of rare or unique botanical features documented from the vicinity of the project site in Yarmouth, Maine. Rare and unique botanical features include the habitat of rare, threatened, or endangered plant species and unique or exemplary natural communities. Our review involves examining maps, manual and computerized records, other sources of information such as scientific articles or published references, and the personal knowledge of staff or cooperating experts.

Our official response covers only botanical features. For authoritative information and official response for zoological features you must make a similar request to the Maine Department of Inland Fisheries and Wildlife, 284 State Street, Augusta, Maine 04333.

According to the information currently in our Biological and Conservation Data System files, there are no rare botanical features documented specifically within the project area. This lack of data may indicate minimal survey efforts rather than confirm the absence of rare botanical features. You may want to have the site inventoried by a qualified field biologist to ensure that no undocumented rare features are inadvertently harmed.

If a field survey of the project area is conducted, please refer to the enclosed supplemental information regarding rare and exemplary botanical features documented to occur in the vicinity of the project site. The list may include information on features that have been known to occur historically in the area as well as recently field-verified information. While historic records have not been documented in several years, they may persist in the area if suitable habitat exists. The enclosed list identifies features with potential to occur in the area, and it should be considered if you choose to conduct field surveys.

This finding is available and appropriate for preparation and review of environmental assessments, but it is not a substitute for on-site surveys. Comprehensive field surveys do not exist for all natural areas in Maine, and in the absence of a specific field investigation, the Maine Natural Areas Program cannot provide a definitive statement on the presence or absence of unusual natural features at this site.

MAINE NATURAL AREAS PROGRAM
MOLLY DOCHERTY, DIRECTOR

PHONE: (207) 287-8044
FAX: (207) 287-8040
TTY: (207) 287-2213

The Natural Areas Program is continuously working to achieve a more comprehensive database of exemplary natural features in Maine. We would appreciate the contribution of any information obtained should you decide to do field work. The Natural Areas Program welcomes coordination with individuals or organizations proposing environmental alteration, or conducting environmental assessments. If, however, data provided by the Natural Areas Program are to be published in any form, the Program should be informed at the outset and credited as the source.

The Natural Areas Program has instituted a fee structure of $75.00 an hour to recover the actual cost of processing your request for information. You will receive an invoice for $150.00 for two hours of our services.

Thank you for using the Natural Areas Program in the environmental review process. Please do not hesitate to contact me if you have further questions about the Natural Areas Program or about rare or unique botanical features on this site.

Sincerely,

Don Cameron
Ecologist
Maine Natural Areas Program
207-287-8041
don.s.cameron@maine.gov

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

PAUL R. LEPAGE
GOVERNOR

EARLE G. SHETTLEWORTH, JR.
DIRECTOR

May 30, 2012

Mr. Scott W. Duncanson
Gannett Fleming, Inc.
P.O. Box 67100
Harrisburg, PA 17106-7100

Project: MHPC# 0911-12 – NNEPRA; Downeaster Portland North Expansion Project; Walnut Siding reconstruction and improvements project; US DOT FRA funding

Town: Yarmouth, ME

Dear Mr. Duncanson:

In response to your recent request, I have reviewed the information received May 25, 2012 to initiate consultation on the above referenced project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA).

Based on the information submitted, I have concluded that there will be **no historic properties affected** by the proposed undertaking, as defined by Section 106.

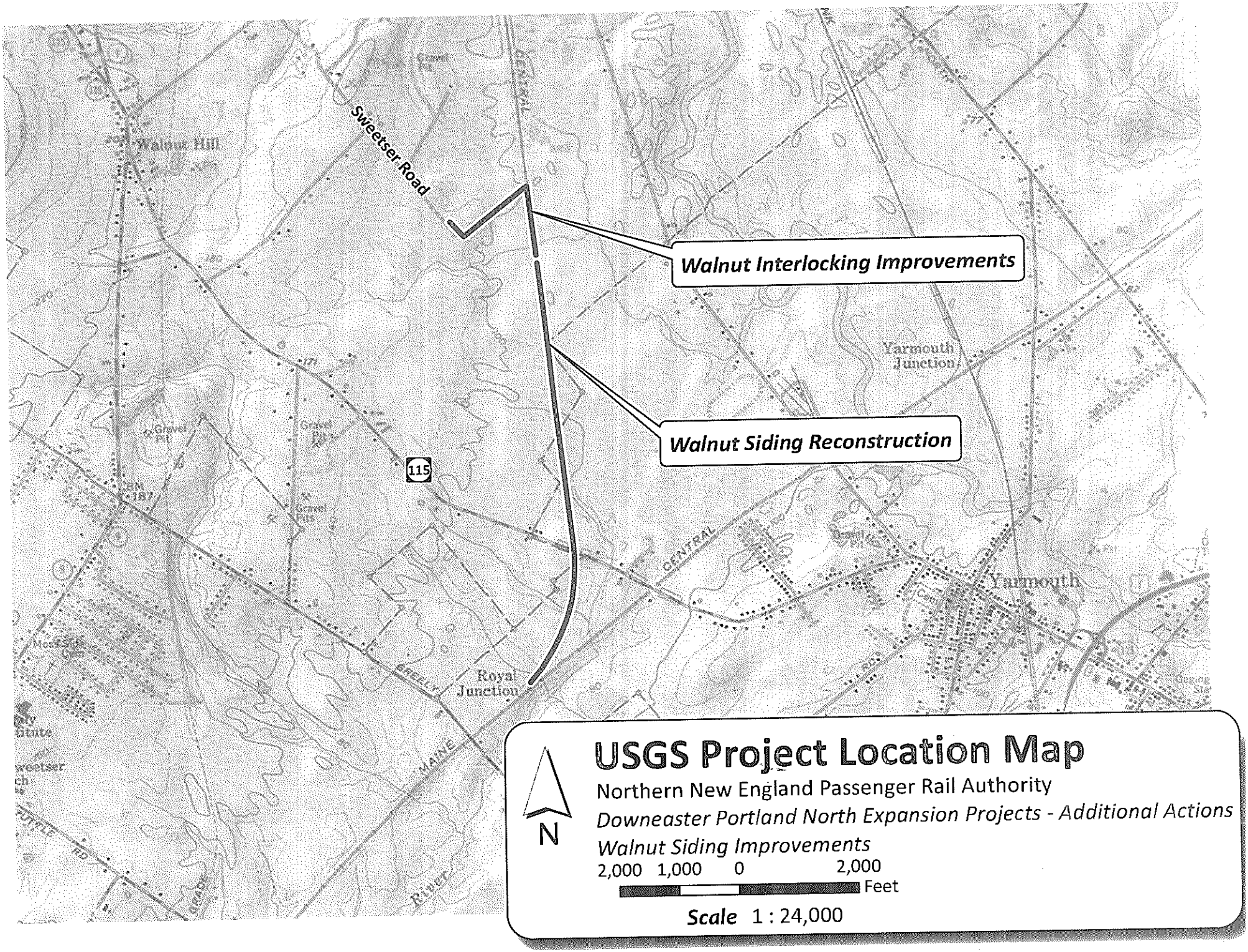
Please contact Robin Reed of our staff if we can be of further assistance in this matter.

Sincerely,

Kirk F. Mohney
Deputy State Historic Preservation Officer

PHONE: (207) 287-2132

FAX: (207) 287-2335


Walnut Hill
Sweetser Road
CENTRAL
Walnut Interlocking Improvements
Walnut Siding Reconstruction
Yarmouth Junction
Gravel Pit
115
CENTRAL
Yarmouth
Royal Junction
GREELY
MAINE
RIVER
N
USGS Project Location Map
Northern New England Passenger Rail Authority
Downeaster Portland North Expansion Projects - Additional Actions
Walnut Siding Improvements
2,000 1,000 0 2,000
Feet
Scale 1 : 24,000

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
and
U.S. ARMY CORPS OF ENGINEERS

ENVIRONMENTAL ASSESSMENT FORM (E.A. Form)

PART 1 - RESOURCE IDENTIFICATION

1. Indicate water resources which exist on the project site.

Name of streams(s) and/or body of water (including wetlands) **Connoquenessing Creek, Doe Run, Buck Run, Lower Hereford Manor Lake, Upper Hereford Manor Lake, Wetlands 1 thru 5 and several unnamed fringe wetlands.**

Size of body of water (in acres) **approximately 10 acres of wetlands and approximately 60 acres of open water (Upper and Lower Lakes)**

Wetland - If wetlands are present at the project site, provide the following information relative to the person(s) or organization performing the wetland identification, delineation and related work:

Steven C. Smith and David H. Graff
Name

Gannett Fleming, Inc.
Organization/Company

P.O. Box 67100
Address

Harrisburg, PA 17106

717-763-7211
Telephone

QUALIFICATIONS

Steven C. Smith
38 Hour U.S. Army Corps of Engineers Wetland Delineator Certification Training Program
Professional Experience: 10 years
Education: B.S. Geoenvironmental Studies

David H. Graff
38 Hour U.S. Army Corps of Engineers Wetland Delineator Certification Training Program
Professional Wetland Scientist, (PWS) No. 1385
Certified Ecologist (CE), Ecological Society of America
Professional Experience: 12 years
Education: B.S., Environmental Studies
M.A.Ed., Environmental Studies

If wetlands are present, attach a copy of the wetland delineation report identified and labeled as **Enclosure A**. Include all field data sheets, denote the size (in acres) of the wetland. If this information details any physical information or features not shown in the "site plan" please attach additional plans which illustrate these features.

Enclosure A

PART 1 - RESOURCE IDENTIFICATION (continued)	YES	NO
2. **Is the site located within or adjacent to any of the following? Please mark either the "yes" or "no" column for each question.**		
A. National, state or local park, forest or recreation area **Hereford Manor Lakes (PFBC)**	☒	☐
B. Natural, wild, or wilderness area	☐	☒
C. National natural landmark	☐	☒
D. National wildlife refuge, or Federal, state, local or private wildlife or plant sanctuaries	☐	☒
E. State Game Lands	☐	☒
F. Areas identified as prime farmland **Gilpin silt loam (GnB) is listed as a prime farmland soil for Beaver County. Located between SR 288 and Lower Hereford Manor Lake, the area is not actively used as farmland. The proposed project will not permanently impact this area of potential prime farmland soil.**	☒	☐
If not included in the permit application package, please attach a map (e.g. 1:2400 scale or greater) indicating the location of the project, all water resources and the features identified above. Label the map as Enclosure B.	**ENCLOSURE B**	
3. Is the water resource listed as stocked waters by the Pennsylvania Fish and Boat Commission? **PFBC stocks the Upper and Lower Hereford Manor Lakes but not the streams.**	☒	☐
4. Is the water resource designated as a wild trout stream by the Pennsylvania Fish and Boat Commission?	☐	☒
5. Is the water resource listed as High Quality or Exceptional Value in Title 25 Pa. Code Chapter 93?	☐	☒
Indicate the stream classification found in Chapter 93. Classification Warm Water Fishery (WWF)		
6. Is the water resource designated as a National Wild or Scenic River or as part of the Commonwealth's Scenic Rivers System or classified as priority 1-A for inclusion in the system?	☐	☒
7. Is the water resource part of or located along a private or public water supply?	☐	☒
(IF COMPLETING A SMALL PROJECT APPLICATION ADVANCE TO PART 3)		
8. Provide a written narrative, identified and labeled as "Enclosure C - Description of Aquatic Habitat," discussing the following ecological functions:		
A. Aquatic habitats including:		
(1) Food chain production		
(2) General habitat a. Nesting e. Migration b. Spawning f. Feeding c. Rearing g. Escape Cover d. Resting h. Other		
(3) Habitat for threatened and endangered plant and animal species (Discuss results of the Pennsylvania Natural Diversity Inventory (PNDI) form)		
(4) Environmental Study Areas a. Sanctuaries b. Refuges		
(5) If project proposes a stream relocation, a stream enclosure, or dredging, provide a description of the instream macroinvertebrate community.		

ENCLOSURE C

PART 1 - RESOURCE IDENTIFICATION (continued)	ENCLOSURE C Description of Aquatic Habitat
B. Water Quantity and Streamflow	
(1) Natural drainage patterns	
(2) Flushing characteristics	
(3) Current patterns	
(4) Groundwater discharge for baseflow	
(5) Natural recharge area for ground and surface waters	
(6) Storm and floodwater storage and control	
C. Water Quality	
(1) Preventing Pollution	
(2) Sedimentation control and patterns	
(3) Salinity distribution	
(4) Natural water filtration	
D. Recreation	
(1) Game Species	
(2) Non Game Species	
(3) Fishing	
(4) Hiking	
(5) Observation (plant/wildlife)	
(6) Other	
E. Upstream and Downstream Property	
F. Other Environmental Factors Determined by Site Investigation	

PART 2 - PROJECT DESCRIPTION	ENCLOSURE D
9. **Project Impacts** For impacts to regulated waters of the Commonwealth, answer fully, completely and in detail the following questions; attach and label as **Enclosure D**.	
A. Discuss the impacts on:	
(1) National, state or local park, forest or recreation area	
(2) Natural, wild, or wilderness area	
(3) National, state, or local historic site	
(4) National natural landmark	
(5) National wildlife refuge	
(6) Cultural or archaeological landmarks	
(7) State Game Lands	

PART 2 - PROJECT DESCRIPTION (continued)	ENCLOSURE D Project Impacts
(8) Federal, state, local or private plant or wildlife sanctuaries	
(9) Areas identified as prime farmland	
B. Discuss the environmental impacts on:	
(1) Aquatic habitats including:	
a. Food Chain production	
b. General habitat (1) Nesting (5) Migration (2) Spawning (6) Feeding (3) Rearing (7) Escape Cover (4) Resting (8) Other	
c. Habitat for threatened and endangered plant and animal species	
d. Environmental Study Areas (1) Sanctuaries (2) Refuges	
(2) Water Quantity and Streamflow	
a. Natural drainage patterns	
b. Flushing characteristics	
c. Current patterns	
d. Groundwater discharge for baseflow	
e. Natural recharge area for ground and surface waters	
f. Storm and floodwater storage and control	
(3) Water Quality	
a. Preventing Pollution	
b. Sedimentation control and patterns	
c. Salinity distribution	
d. Natural water filtration	
(4) Recreation	
a. Game Species	
b. Non Game Species	
c. Fishing	
d. Hiking	
e. Observation (wildlife)	
f. Other	
(5) Upstream and downstream property	
(6) Other Environmental Factors	

PART 2 - PROJECT DESCRIPTION (continued)

C. Identify all environmental impacts on other adjacent land and water resources associated with the construction, modification or operation of the dam, reservoir, water obstruction, or encroachment in the area of the project.

D. Identify and evaluate the potential cumulative environmental impacts of this project and other potential or existing projects like it, and the impacts that may result through numerous piecemeal changes to the resource.

E. Identify and describe all other dams, water obstructions or encroachments which may or will be needed, in addition to those described in this Application, to fulfill the purpose of the current project.

ENCLOSURE D

PART 3 - CERTIFICATION

I certify that the above statements, attachments including those labeled and identified as Enclosures, and all conclusions are true, correct, and based upon current environmental principles and science, to the best of my knowledge and belief.

Signature of Person Completing the Environmental Assessment Form

August 25, 2010

Date

The Department may waive a specific information requirement in writing, at the request of the Applicant, during the pre-application review process if the Department determines that specific information is not necessary to review the application.

PART I: RESOURCE IDENTIFICATION

(Responses to questions 1 through 7 found on pages 1-2 of the EA form)

Enclosure C: Description of Aquatic Habitat

8. Provide a written narrative identified and labeled as "Enclosure C: description of Aquatic Habitat," discussing the following ecological functions:

A. Aquatic habitats including:

(1) Food Chain Production. All of the wetlands and waters (streams and lakes) within the project area are expected to contribute to the ecological function of food chain production. The wetlands within the study area do so largely through autotrophic means. Their major contribution is the assimilation of radiant energy and inorganic materials into their biomass. They subsequently serve as a source of energy for the herbivore component of the ecosystem. Carnivores surely tap into this energy source by feeding upon the herbivores. Wetland 2, with its relatively large size, is expected to make the greatest contribution to the ecological function of food chain production of all the wetlands (see Attachment A). The streams and lakes within the study area contribute to the ecological function of food chain production largely through heterotrophic means. They rely heavily upon an organic matter input carried to them from the outside. Once in the lakes and streams, the organic matter becomes a food source for the decomposers and herbivores, which in turn become a food source for the carnivores. The organic matter's time of residence is much more limited in the streams than in the wetlands or lakes.

(2) General Habitat. All of the aquatic resources are located within PFBC property. The wetlands, streams and lakes are located on public lands at Hereford Manor Lakes near the City of Zelienople. All of the aquatic resources have the potential to support benthic and lentic invertebrates, especially crustaceans and insects. These invertebrates provide a food base for larger transient animals, which may or may not use the features as temporary habitat. The waters also have the potential to support amphibians and reptiles, notably frogs, toads, turtles, and snakes. Due to their relatively large size, Wetlands 2 and 5 are expected to make the greatest habitat contribution. Doe Run and Connoquenessing Creek are listed as being warm-water fisheries (WWF) in Chapter 93 of the Pennsylvania Code. The canopy of Doe Run and Buck Run is primarily closed. The oxbow channel of Connoquenessing Creek is entirely open within the project area. Doe Run stream habitat is primarily shallow pools with a sand and silt streambed. Buck Run is predominantly shallow riffle and shallow run with a mixture of cobble, gravel, and sand/silt streambed materials. Due to significant beaver activity, the Connoquenessing Creek oxbow is a deep pool within the project area. Doe Run, Buck Run and Connoquenessing Creek offer habitat suitable for benthic invertebrates and surface insects, as well as amphibians, reptiles, and fish.

(3) Habitat for threatened and endangered plant and animal species. Habitat evaluation for threatened and endangered species was conducted through coordination with the Pennsylvania Natural Diversity Inventory (PNDI), Pennsylvania Fish and Boat Commission (PFBC), the Pennsylvania Game Commission (PGC) and the U.S. Fish and Wildlife Service (USFWS). The PNDI Receipt (#20100217229513) indicated that coordination with the Pennsylvania Game was required to resolve one potential conflict (See Section E – PNDI Search). The project area is located within a 10-mile radius of a known Indiana bat (***Myotis sodalis***) hibernacula. The Indiana bat is a federally listed endangered species. Therefore, the PGC deferred comments on potential impacts to the USFWS. The USFWS response is pending and will be provided upon receipt. It is anticipated that the USFWS will require an avoidance measure that would require any trees to be cleared between November 16th and March 31st.

(4) Environmental Study Areas. No environmental study areas exist within or directly adjacent to the project area.

(5) If project proposes a stream relocation, a stream enclosure, or dredging, provide a description of the instream macroinvertebrate community. The proposed dam breaches will result in the creation of approximately one mile of stream habitat when Doe Run is allowed to return to its original course through the lakebeds.

B. Water Quantity and Stream Flow

(1) Natural Drainage Patterns. Surface water drainage within the project area is towards Doe Run and the Upper and Lower Hereford Manor Lakes. The Upper Hereford Manor Lake flows into Doe Run. Doe Run flows into Buck Run. Buck Run flows into Connoquenessing Creek. Connoquenessing Creek Flows into the Beaver River, which flows into the Ohio River. The Lower Hereford Manor Lake flows into Buck Run though an emergency spillway. Seepage from the Lower Hereford Manor Lake also flows through a culvert under S.R. 288 into Conoquenessing Creek.

(2) Flushing Characteristics. Flushing of the wetlands and streams may occur during and immediately after heavy rain events.

(3) Current Patterns. Table 1 summarizes the Wetlands of the study area.

Table 1. Wetland Summary.

Wetland ID	Area (acres)	Classification
Wetland 1	0.52	PEM
Wetland 2	5.18+	PEM/PSS/POW
Wetland 3	0.13	PEM
Wetland 4	0.25	PEM
Wetland 5	1.13	PEM/PSS/PFO/PUB

Doe Run, Buck Run and Connoquenessing Creek are perennial streams.

(4) Groundwater discharge for baseflow. Numerous seeps were encountered along the fringe of both lakes. Some of the fringe wetlands and the project area streams are believed to be supported by groundwater discharge.

(5) Natural recharge area for ground and surface waters. The surrounding ridges (uplands) are believed to provide a recharge area for ground and surface waters.

(6) Storm and floodwater storage and control. The wetlands are expected to make some contributions to storm and floodwater storage and control. However, the two lakes make a significant contribution to storm and floodwater storage and control.

C. Water Quality.

(1) Preventing Pollution. Pollution sources are minimal in the project area. The existing riparian buffer strips along the streams and lakes are expected to provide some control of pollution-laden runoff. Furthermore, the wetlands of the project area have the ability to trap pollutants and removed nutrients.

(2) Sedimentation control and patterns. Based on bathymetric surveys of the two lakes, little sedimentation is expected in this setting. The wetlands do have the ability to trap sediments.

(3) Salinity Distribution. N/A

(4) Natural Water Filtration. The wetlands are expected to provide natural water filtration when flooded.

D. Recreation.

(1) Game Species. The project area has rabbits, gray squirrel, white-tailed deer and beaver.

(2) Non-Game Species. Many common non-game terrestrial species are expected to occur within the project area (i.e. eastern chipmunks, meadow voles, mice). From a non-game, aquatic species perspective, the aquatic resources of the project area support an abundant macroinvertebrate population. The macroinvertebrates, in turn, are expected to support multiple non-game fish species (i.e. blacknose dace).

(3) Fishing. Ample fishing opportunities exist within the project area. The primary function of the Hereford Manor Lakes is recreational fishing. Hereford Manor Lakes are stocked with rainbow trout by the PA Fish & Boat Commission. According to the PFBC website, the lakes also support a healthy population of largemouth bass, channel catfish and saugeye.

(4) Hiking. Hiking opportunities exist along the perimeter of the Lower Hereford Manor Lake and along the west side of the Upper Hereford Manor Lake.

(5) Observation. Observation points for wildlife were observed at various points along the perimeter of both lakes.

E. Upstream and Downstream Property. Both lakes are located on PFBC property. Private property bordering the PFBC parcel is rural residential and agricultural. The Zelienople Municipal Airport is located downstream of the project area.

F. Other Environmental Factors Determined by Site Investigation. No additional environmental factors were identified within the study area.

PART 2: PROJECT DESCRIPTION

9. <u>Project Impacts.</u> For impacts to regulated waters of the Commonwealth, answer fully, completely, and in detail the following questions, attach and label as <u>Enclosure D.</u>

A. Discuss the impacts on:

(1) National, state, or local park, forest or recreation area. The project is located at the Hereford Manor Lakes. The state-owned public lands are owned and operated by the Pennsylvania Fish and Boat Commission (PFBC).

(2) Natural, wild, or wilderness area. This project will not impact a natural, wild, or wilderness area.

(3) National, state, or local historic site. This project will not impact a national, state, or local historic site.

(4) National natural landmark. This project will not impact any known national natural landmarks.

(5) National wildlife refuge. No wildlife refuges will be affected by the proposed project.

(6) Cultural or archaeological landmarks. No cultural or archaeological landmarks will be impacted by this project.

(7) State Game Lands. No state game lands will be impacted by the proposed project.

(8) Federal, state, local, or private plant or wildlife sanctuaries. No known plant or wildlife sanctuaries will be affected by the proposed project.

(9) Areas identified as prime farmland. Gilpin silt loam (GnB) is listed as a prime farmland soil for Beaver County. Located between SR 288 and Lower Hereford Manor Lake, the area is not actively used as farmland. The proposed project will not permanently impact this area of potential prime farmland soil.

B. Discuss the environmental impacts on:

(1) Aquatic Habitats. The two proposed dam breaches will eliminate the Upper and Lower Hereford Manor Lakes. The two lakes are approximately 20 acres and 40 acres, respectively. The deep, open water habitat of the two lakes will be replaced by the restored Doe Run stream channel through the drained lakebeds. The fringe wetlands along the edge of the two lakes will likely relocate to the bottom of the drained lakebeds. It is expected that the volunteer wetlands within the drained lakebeds will meet or exceed

the mitigation requirement for replacement. No compensatory mitigation for the loss of the deep, open water habitat is proposed.

(2) Water Quantity and Streamflow. From the time the original dam was constructed in the 1950s, the flow from Doe Run was diverted through the man-made spillway channel to Buck Run. After the proposed breaches, flow will be directed back into the original Doe Run stream channel through the drained lakebeds. No other changes in water quantity and streamflow are expected to occur after the two dams are breached. Buck Run flow levels will return to pre-1950 levels.

(3) Water Quality. No adverse, permanent impacts to water quality are anticipated. Proper erosion and sedimentation control devices will be employed during the construction phase of the project. No significant pollutant loads should occur.

(4) Recreation. The two proposed dam breaches will eliminate the Upper and Lower Hereford Manor Lakes and many of their recreational opportunities. Fishing and boating will no longer exist. Hiking and wildlife observation opportunities will continue.

(5) Upstream and Downstream Property. No impacts to upstream and downstream property are anticipated. Breaching the two dams will not increase the 100-year flood elevation upstream or downstream of the project area.

(6) Other Environmental Factors. To meet the Indiana bat avoidance measures mandated by the U.S. Fish and Wildlife Service, any trees to be cleared for the proposed project will be cut down between November 16th and March 31st.

C. Identify all environmental impacts on other adjacent land and water resources associated with the construction, modification, or operation of the dam, reservoir, water obstruction, or encroachment in the area of the project.
The dam breaches will result in indirect impacts to fringe wetlands located along the edge of the two lakes. The fringe wetlands are located on PFBC property. It is anticipated that new wetlands will form within the drained lakebed to mitigate for these unavoidable indirect impacts.

D. Identify and evaluate the potential cumulative environmental impacts of this project and other potential or existing projects like it, and the impacts that may result through numerous piecemeal changes to the resource. Cumulative environmental impacts will be limited to the indirect impacts to fringe wetlands located along the edge of the two lakes after the dams have been breached. The fringe wetlands are located on PFBC property. It is anticipated that new wetlands will form within the drained lakebed to mitigate for these unavoidable indirect impacts. The project will not spur numerous piecemeal changes.

E. Identify and describe all other dams, water obstructions or encroachments which may or will be needed, in addition to those described in this application, to fulfill the purpose of the current project. No other encroachments are required for this project.

FHWA-NJ-EA-01-01 Federal Project No. STP-29 (155)
Federal Highway Administration

Route 18; Section 2F, 7E and 11H
Route U.S. 1 to Northeast Corridor Bridge
City of New Brunswick
Middlesex County, New Jersey

Environmental Assessment/Draft Section 4(f) Evaluation

Pursuant to 42 U.S.C. 4332(2)(c)
16 U.S.C. 470(f)
49 U.S.C. 303

U.S. Department of Transportation
Federal Highway Administration
and
New Jersey Department of Transportation

For New Jersey Department of Transportation Date

For Federal Highway Administration Date

The following persons may be contacted for
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EXECUTIVE SUMMARY

Project Summary

The New Jersey Route 18 Section 2F, 7E and 11H transportation improvement project is located in the City of New Brunswick, Middlesex County, New Jersey **(Figure 1, Project Location)**. The purpose of the project is to improve the safety and operations of the State highway from north of Route U.S. 1 to the Amtrak Northeast Corridor Bridge **(Figure 2, Project Corridor)**. The project will improve corridor traffic operations through the elimination of substandard roadway geometric features, management of access to the City of New Brunswick, and enhancements to multi-modal access and mobility for pedestrians, bicyclists, and transit users.

NJDOT began a plan for Route 18 corridor improvements in the 1980s. The initial plan was essentially a resurfacing project. However, in response to agency and local concerns, the NJDOT developed a number of design schemes to address specific problems in the corridor and to improve traffic flow in the project area. During this time, an evaluation of alternatives, including the No-Build alternative, was conducted, and an Initially Preferred Alternative (IPA) was selected **(Figures 3-1 thru 3-5, Preferred Alternative)**. The IPA was further evaluated and refined through the process of a comprehensive Value Engineering and Community Partnering Team/community involvement effort to obtain the Preferred Alternative. The goal of the Preferred Alternative is to satisfy the Route 18 corridor project purpose and need while minimizing resource impacts.

This Environmental Assessment (EA) quantifies impacts of social, economic, natural and cultural resources as a result of implementing the Preferred Alternative. Potential mitigation and avoidance measures are discussed. This EA also documents the need for the project, the alternatives considered and rejected, and project coordination. This EA was prepared in compliance with the National Environmental Policy Act (NEPA) of 1969, as amended.

Summary of Impacts

The anticipated impacts to natural, social, economic and cultural resources, as documented in this EA, are based on the various Technical Environmental Studies and subsequent studies prepared for the proposed project. The impacts are as follows:

- The Preferred Alternative will require minor to moderate cutting of the underlying Brunswick shale formation. However, it is not anticipated the cutting will adversely alter the geologic formation.

- Although the proposed project will involve the addition of approximately 5.1 hectares (12.6 acres) of impervious surface, excavation and filling, water quality will not be adversely effected. The project will include sedimentation and soil erosion control measures, as well as stormwater management facilities where practicable. In addition, measures outlined in the New Jersey Department of Environmental Protection (NJDEP) Technical Manual for handling acid-producing soil deposits will be followed.

- Major disruptions of the aquatic habitat within the Raritan River, the Delaware and Raritan Canal, and their tributaries are not expected, and fisheries impacts will be negligible. No significant surface water quality impacts are anticipated as a result of the proposed project.

- The Preferred Alternative will require the placement of approximately 3900 cubic meters (5100 cubic yards) of fill within the floodplain of the Raritan River. In addition, the project will also involve the placement of retaining walls within the floodplain. The placement of fill will be minimized to the greatest possible extent with the use of these structures. Retaining walls will be designed so as not to restrict the flow of floodwaters across the floodplain.

- The proposed project will require minor disturbance of vegetated areas. Those impacts will be as a result of cartway widening and intersection improvements. In total 0.70 hectares (1.72 acres) of existing vegetated area will be converted to highway use. No threatened or endangered species are within the areas to be disturbed and the disturbances are negligible in comparison to the remaining habitat surrounding the project area.

- It is anticipated that 0.058 hectare (0.143 acres) of freshwater wetlands and 135 linear meters (443 linear feet) of wetland transition area will be impacted as a result of implementation of the Route 18 project. Because impacted wetland areas will be less than 0.4 hectare (1 acre), wetland mitigation will not be required.

- The improved traffic flow resulting from project implementation will result in improved air quality of the project area for some receptors and will not exceed the National Ambient Air Quality Standards (NAAQS) for any receptor.

- Soils in some areas along the project corridor have been found to contain levels of volatile organic compounds (VOCs), semivolatile organic compounds and the metal arsenic above the NJDEP's Non-Residential Soil Cleanup Criteria, and in some areas, soils were above the more stringent Residential Soil Cleanup Criteria. Groundwater samples in some areas have indicated VOCs and the metal arsenic, which exceed the NJDEP Groundwater Quality Criteria. Contaminated non-hazardous soils may be re-used on site for fill and capped by clean soil, or capped under roadways. Soil re-use would be subject to NJDEP approval. Soil re-use areas would also be placed under a Deed Notice. In areas of contaminated groundwater, any groundwater generated from dewatering activities would need to be properly handled, stored and disposed of in accordance with applicable state and federal regulations. Any health and safety concerns related to handling of contaminated soils or groundwater during construction would be addressed during the final design and in a project specific Health and Safety Plan (HASP) developed for construction.

- Currently, two residences, one business and one community facility will be displaced as a result of the project. The residence and business owners will be provided relocation assistance and compensation by NJDOT. Plans for relocating the maintenance and storage facilities at the former police station will be coordinated with the City of New Brunswick and NJDOT. Other property related impacts resulting from the project will be minor, and include

changes in landscape, minor parking loss or reconfiguration, and changes in accessibility.

- The Preferred Alternative will result in total tax revenue loss of approximately one tenth of one percent ($53,046) due to taxable property acquisitions. This is not considered significant.

- The Preferred Alternative and associated right-of-way impacts will not hinder access to any community facilities within the project corridor. Improved pedestrian/bicycle circulation and safety, and access to public transportation will result from project implementation. Temporary impacts to the local community during construction will result from roadway detours and route changes. A detailed detour plan will be developed in coordination with local officials and emergency service providers to minimize these impacts.

- The Preferred Alternative will not result in disproportionately high or adverse effects on minority or low income populations as defined in FHWA Order #6640.23*, FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, (USDOT, FHWA, 12/02/98). No adverse impacts on stability or the character of the community will result from the project.

- The Preferred Alternative will have an Adverse Effect on two cultural resources, the Thomas Agnew House, which is listed on the National Register of Historic Places, and the archaeological resources in the northwest quadrant of the Route 18/Route 27 (Albany Street) interchange. A Memorandum of Agreement will need to be executed to mitigate these effects. Additionally, there will be No Adverse Effect regarding Antilles Field, a resource located within the National Register eligible New Jersey College for Women Historic District.

- The project will have a minimal to moderate visual impact to the community with regard to the addition of new pedestrian/bicycle and vehicular overpasses. Affected visual resources include the Riverwatch Commons, residential apartment facilities (New Brunswick Riverside Towers and Raritan Garden), Rutgers – The State University (Rutgers University), single family residences and the Agnew House. These impacts will be offset by minimizing right-of-way acquisition, constructing retaining walls, and maintaining/providing landscape buffers where applicable.

- The Preferred Alternative will impact approximately 0.73 hectare (1.80 acres) of Boyd Park along the park's western boundaries. The proposed project will not impact the use of Boyd Park.

- As a result of the project implementation, 36 residences, 86 apartment units, Riverside Towers, Boyd Park and a portion of Rutgers University (Antilles Field) will be subjected to noise levels that approach or exceed the NAC. However, based upon a 1997 noise measurement study, none of these sites were identified as being subjected to a substantial increase in noise levels over existing noise levels.

Project Coordination and Comments

The public involvement component of this project has been both extensive and unique. Public comments were received in 1995, when the NJDOT presented the original resurfacing project plans. In response to the input and concerns from the City of New Brunswick and other major business and residential community stakeholders, the NJDOT reexamined the prior design. Other alternatives were developed and studied, and the development of the IPA was a direct result of the public comments. An Officials Briefing was held in 1998 to inform the local officials of the improvements proposed under the IPA. The IPA was then further developed and refined by the Community Partnering Team.

The formation of the Community Partnering Team (CPT) in May 1999 afforded significant opportunity for public input in the decision-making and design of the project. The CPT was established as part of the public outreach program to provide a unique mechanism to keep stakeholders and the public informed of the progress and development of the project. The purpose of the CPT is to discuss the issues and concerns of the local community, organizations, and regional agencies of which the team represents. In addition, the CPT provides pertinent information and feedback to the Steering Committee regarding the development of options for transportation improvements along the Route 18 corridor. Twelve CPT meetings have been held to date and copies of the meeting agendas for each of these CPT meetings are provided in **Appendix D**. As a result of the CPT process, the Preferred Alternative has been developed which has the support of the major stakeholders – City officials, the business community and the local community representatives.

As part of the early coordination effort for this project, a Notice of Planned Action (NOPA) was forwarded to federal, state and local agencies to solicit comments. A copy of the NOPA, a list of the agencies contacted and the response comments received from these agencies are provided within **Appendix A** of this document.

I. INTRODUCTION

This Environmental Assessment (EA) describes the findings of the Technical Environmental Studies conducted for the proposed Route 18 Section 2F, 7E and 11H project, within the City of New Brunswick, Middlesex County, New Jersey (**Figure 1, Project Location**). Potential environmental impacts resulting from the Preferred Alternative are addressed in this EA. The Route 18 Section 2F, 7E and 11H Project will involve the design and reconstruction of 2.9 kilometers (1.8 miles) of the existing Route 18 infrastructure from north of Route 1 to the Amtrak Northeast Corridor Bridge crossing over the Raritan River.

This EA was prepared in compliance with the *National Environmental Policy Act (NEPA)* of 1969, as amended, and implemented by the Council on Environmental Quality Regulations, 40 CFR 1500 and Federal Highway Administration (FHWA) procedures, 23 CFR 771.

A. Project History

The NJDOT recognized that the Route 18 Section 2F, 7E and 11H project corridor, between Route 1 and the Amtrak Northeast Corridor Bridge in the City of New Brunswick, was subject to delays and congestion. The initial plan for improvements began in the 1980s as a resurfacing project. However, in response to agency and local concerns, the NJDOT developed a more detailed design scheme to address specific safety problems in the corridor and to improve traffic flow in the region. This improvement plan had been called the NJDOT Phase II design.

The NJDOT Phase II design proposed to widen Route 18 northbound at the Route 1 southbound ramp, in order to merge to four lanes to provide a dedicated entrance lane for Route 1 southbound motorists traveling onto Route 18 northbound. The fourth lane was to extend through the Paulus Boulevard-Route 18 intersection to the George Street overpass, in order to provide a deceleration lane at the George Street exit. The design did not propose widening by reconstructing the piers for the George Street Bridge; the three northbound lanes were to be narrowed in width to fit between the existing bridge piers.

Route 18 southbound under George Street was also to be reconfigured to convert the existing shoulder into a third southbound travel lane. Between the southbound entrance ramp from George Street and Paulus Boulevard, the southbound roadway was to be widened to four lanes to provide an auxiliary lane and shoulder.

North of the George Street Bridge, Route 18 was to be widened to provide an additional approach lane in both directions at Commercial Avenue. This would have resulted in an eight-lane Route 18 cross-section at Commercial Avenue. The lanes would have been constructed within the existing center grass median; and a concrete median barrier would have been installed. The signal at Commercial Avenue was to remain, and the approach was not going to be improved. Shoulders were not proposed in this area. Conditions for pedestrian crossing of Route 18 would have worsened with the planned widening under this proposal.

The features of the Phase II design previously described were generally to be achieved by widening yet maintaining much of the existing Route 18 horizontal and vertical alignment. Many substandard conditions of the current roadway would have been retained. The initial improvement plan would have included a total of seventeen "design exceptions," or violations of standard highway design safety criteria.

In an attempt to determine locations where design exceptions could be eliminated, and to meet safety objectives, improve traffic flow and pedestrian mobility along the corridor, a reinvestigation and feasibility assessment of the Phase II Route 18 design was undertaken by the NJDOT.

A review of the corridor's accident statistics was performed. The roadway was found to have a high accident occurrence history. It was concluded that the high accident rates were the result of poor horizontal geometry, narrow outside lanes, traffic queues, and significant side friction, numerous intersections, local streets and driveways that force turns directly into and out of the active travel lanes. The proximity of interchanges was found to contribute to the accident and traffic flow problems within the corridor. The poor operations along the corridor are attributable to substandard features in the existing facility that resulted from changes in accepted minimum design criteria since the roadway's construction in the mid-1930s; and from subsequent spot improvements over the years. The tight physical constraints of land uses and natural features along both sides of the roadway also contribute to the substandard geometric features.

The result of the reinvestigation and feasibility studies led to a recommended design scheme, very similar to the NJDOT-developed design, but with an expanded scope. This new design scheme – called the Initially Preferred Alternative (IPA) – was selected from a group of corridor improvement alternatives. It maintained many of the improvement concepts of the Phase II design but also proposed elements to improve upon it. The project limits of the IPA were from north of Route 1 to the New Street overpass area. One of the major improvements of the IPA over the NJDOT Phase II design was the introduction of a collector-distributor roadway to segregate through-traveling vehicles from traffic accessing the City of New Brunswick.

With the selection of the IPA during feasibility assessment, the NJDOT moved into the Final Scope Development phase of the Route 18 Section 2F, 7E and 11H improvement project. A key element in this phase of the project was the development of an extensive community outreach and public involvement program, the Route 18 Community Partnering Team (CPT). This team consisted of local, county, regional, and state officials and stakeholders. The purpose of the CPT was to assist with the refinement of the IPA into the development of the Preferred Alternative. A NJDOT Value Engineering review of the IPA recommended that the project limits be extended north to the Amtrak Northeast Corridor Rail Bridge. The CPT endorsed this recommendation. The goal of the Preferred Alternative is to satisfy the Route 18 corridor project purpose and need while minimizing resource impacts.

B. Project Area

The Route 18 Section 2F, 7E and 11H project is located entirely within the City of New Brunswick, Middlesex County, New Jersey. The study corridor extends from north of the Route 1 Interchange, northward, to the Amtrak Northeast Corridor Bridge north of the Route 27 Interchange **(Figure 2, Project Corridor)**. The corridor is bounded on the east by Boyd Park, the Raritan River, the Delaware and Raritan Canal, residential development and wooded areas. The Route 18 project corridor is bounded on the west by various residential, commercial and educational development. A more detailed description of the land use within and adjacent to the project area is presented in the **Socio-economics and Land Use** Section of this EA.

Special features and characteristics within and adjacent to the Route 18 Section 2F, 7E and 11H project corridor include the Raritan River and its associated freshwater wetlands and floodways, and the historic Delaware and Raritan Canal. Rutgers University has a significant presence in the project area; Rutgers University Cook and Douglass Campuses are situated west of Route 18 within the City of New Brunswick. Boyd Park, a Middlesex County recreational facility, extends along the Raritan River east of Route 18.

In addition, the Agnew House, a National Register historic property, is located at Route 18 and Crest Road near the southerly terminus of the project corridor.

C. Existing Facility

Route 18 is a nominal north-south State highway. The southern terminus of the project corridor is north of Route 1 and the northern terminus is the Amtrak Northeast Corridor Bridge. Overall, the Route 18 alignment runs generally northwest from the coastal area of Monmouth County to central New Jersey's Middlesex County. In the vicinity of New Brunswick, Route 18 provides access to Route 1 and the New Jersey Turnpike. Further south, U.S. Route 9 and the Garden State Parkway intersect with Route 18. Route 18 is a controlled access highway through New Brunswick to its terminus at River Road in Piscataway.

Existing Route 18 Project Corridor

Route 18 is classified as an urban principal arterial. In the project corridor, the roadway is a six-lane arterial highway without shoulders. (In the southbound direction in the area of the George Street Bridge, there is a short two-lane section.) Route 18 is the "gateway" to the City of New Brunswick, the municipality that serves as the Middlesex County seat. North of the project area, the Route 18 freeway segment provides two travel lanes in each direction.

Operations along Route 18 are characterized by congested conditions and significant traffic flow delays during the peak travel periods. Preliminary evaluations indicate that, in general, the mainline roadway between intersections has sufficient capacity. The primary causes for the deterioration of overall traffic flow and operational conditions along the Route 18 corridor are the signalized

intersections, unsignalized intersections, proximity of interchanges and land use access driveways, all of which restrict and impede traffic movement and reduce travel speeds. These factors contribute to decreased corridor safety, exhibited in the accident history of the project segment, and reduced vehicle-processing capacity.

This section of the Route 18 corridor has not been subject to access control; that is, street connections and driveways have generally not been prohibited over the years. The signalized intersections at Paulus Boulevard and Commercial Avenue provide for all turning movements, while 14 local street intersection points and numerous site driveways allow entering and exiting right turns.

Major local roadways in the area include George Street, Commercial Avenue, New Street and Route 27. These roads are depicted in **Figure 2** and are described in the following text:

George Street

George Street (Route N.J. 172) begins at an interchange with Route 18 and is aligned in a north-south direction, generally parallel with Route 18. The four-lane roadway travels through Rutgers University Cook and Douglass campuses. George Street narrows to two-lanes and on-street parking is permitted as the roadway proceeds through the central business district of the City of New Brunswick and terminates at the intersection of Landing Lane. Land use along George Street is generally residential and commercial.

Commercial Avenue

Commercial Avenue is an east-west, two-lane roadway that runs between Route 18 and Cedar Street in New Brunswick. The roadway intersects with Georges Road (Route N.J. 171) also in New Brunswick. Commercial Avenue is a local roadway and is fronted primarily by residential land uses.

New Street

New Street is a local east-west, two-lane roadway that travels between Route 18 and French Street in New Brunswick. New Street provides access to the central business district of the City of New Brunswick and signals at intersecting cross streets exist along its entire length. Adjacent land uses include residential, commercial, and public/quasi-public uses.

Route N.J. 27

Route 27 is an urban principal arterial roadway that travels between Route U.S. 206 in Princeton and Route N.J. 21 in Newark. In the project area, Route 27 is four-lanes in width and provides access to the central business district of the City of New Brunswick. The roadway crosses the Raritan River into Highland Park via the Albany Street Bridge. The land uses adjacent to Route 27 in the project area include commercial and office uses.

II. PROJECT PURPOSE AND NEED

The purpose of the Route 18 Section 2F, 7E and 11H project is to improve the safety and operations of the highway from north of Route 1 to the Amtrak Northeast Corridor Bridge. The project will improve corridor traffic operations through the elimination of substandard roadway geometric features, management of access to the City of New Brunswick, and enhancements to multi-modal access and mobility for pedestrians, bicyclists, and transit users.

Implementation of the Route 18 Section 2F, 7E and 11H project will address the following within the project area:

- Improved Motorist Safety
- Efficient Corridor Traffic Operations
- Elimination of Substandard Roadway Geometrics
- System Linkage
- Transportation Demand
- Enhancement of Multi-Modal Access and Mobility
- Socio-economic Considerations
- Master Plan Consistency

Each project purpose and need issue is discussed below.

Safety

The Route 18 Section 2F, 7E and 11H corridor has a history of accidents well above the statewide average for similar roadways throughout the state. In addition, specific locations within the Route 18 Section 2F, 7E and 11H corridor have a history of accidents above the statewide average. This accident history is due to a number of factors including both substandard geometric roadway conditions, as well as significant traffic congestion. The project will improve the safety conditions throughout the corridor by eliminating the substandard geometric conditions and reducing traffic congestion. In addition, safety improvements will include upgrading of corridor signing.

The NJDOT has conducted an accident analysis for the Route 18 Section 2F, 7E and 11H corridor. Four locations within the project limits experience an over-representation of accident types when compared to the statewide average. These locations are the Route 18-Paulus Boulevard intersection, the Route 18 northbound exit to the George Street overpass, the Route 18-Commercial Avenue intersection, and the segment of Route 18 northbound between New Street and Route 27.

Route 18 Section 2F, 7E and 11H
Accident Summary Data

Cross-Section	Statewide Average	Corridor Accident Rate
Four Lanes or More, Grass Median, No Shoulders	**3.36 Accidents/MVM**	3.73 Accidents/MVM
Four Lanes or More, Barrier Median, Shoulders	**1.91 Accidents/MVM**	3.33 Accidents/MVM

Type of Accident	Statewide Average	Paulus Boulevard Area	Commercial Avenue Area	Between New Street and Route 27	Northbound George Street Exit Ramp
Same Direction (Rear End and Side Impact)	**57.2%**	72%	72%	85%	-
Fixed Object Impact	**10.7%**	-	-	-	33%

Operations

The Route 18 Section 2F, 7E and 11H segment has ten local streets, numerous driveways, two signalized intersections, and three grade-separated interchanges. The local streets and the driveways have right-in/right-out access directly onto through travel lanes of Route 18.

Route 18 experiences excessive delays and queues during the peak travel periods of the day. Evaluations of the corridor indicate sufficient capacity of the roadway exists, but the delays and queues experienced are associated with traffic flow impedance and restrictions along the roadway associated with the signalized intersections, the close proximity of interchanges, and the substandard geometric conditions throughout the project corridor.

The existing operations of the signalized intersections during both the morning peak hour period and the evening peak hour period are Level of Service "F". In the morning peak hour, extensive northbound delays occur at Commercial Avenue. Field observations of the southbound Route 18 traffic queue at the Commercial Avenue intersection during the evening peak travel period found the queue to regularly exceed 600-meters (1,969 feet). The southbound Route 18 queue also affects Burnet Street, which acts as a Route 18 collector-distributor road for several local New Brunswick streets.

The existing operation of the Route 18 northbound weaving section between New Street and Route 27 during the morning peak travel period is operating at Level of Service "D". The headquarters for the New Brunswick police department was also located in this weave area prior to their relocation. The facility is currently accessed and utilized for storage and vehicle maintenance. Access driveways to the police station and the short weaving area between the interchanges cause this area to operate worse than the analysis indicates. The poor operation of the segment causes "friction" for through traffic, which results in delay to traffic flow, and it is the primary reason for over-representation of same direction accidents in this area.

Along the Route 18 corridor segments north of the project area, and for approximately 1.6 kilometers (one mile) south of the project area, fewer access points exist. Therefore, motorists entering the Route 18 project corridor tend to travel at higher rates of speed, anticipating that the reduced side friction and lack of conflicting vehicular activity associated with fewer access points will continue. However, due to the many driveways, local streets, interchanges, and signalized intersections within the corridor, travel is impeded. These factors result in wide speed variations, increased frequency of braking, and traffic queues. These conditions cause accidents and limit the capacity of the highway, making Route 18 travel in this area and access to New Brunswick difficult.

Substandard Geometric Roadway Conditions

Substandard geometric roadway conditions compromise the safe operation of the Route 18 roadway. Within the project limits, numerous substandard conditions currently exist. These features include insufficient stopping sight distance, substandard outside (outer) shoulder width, substandard horizontal alignment, substandard vertical geometry, and substandard vertical bridge clearance. Some of these conditions can be traced to changes in the minimum safe design criteria since the road was originally constructed. Many of the conditions are related to the tight constraints along both sides of the roadway including the Raritan River, existing residential development and the vertical rock outcropping.

The existing George Street structure will be replaced and the new structure will meet current structural design and seismic requirements. In addition, this area has a fixed object accident rate that is three times the statewide average for similar roadways. Contributing geometric factors include the lack of deceleration lanes, a reduced cross section prior to the bridge piers, and a substantial difference in vertical geometry within the area of the structure. These conditions will be addressed by the project.

This project will eliminate substandard geometric roadway conditions to meet existing State and Federal design criteria. It will not only create a safer roadway, but also will improve operations.

System Linkage

Route 18 is an important highway linking Monmouth and Middlesex Counties. It serves as part of the regional roadway transportation system, providing access to the Garden State Parkway, Route 9, Route 1, and the New Jersey Turnpike (Route Interstate 95). Completion of the planned Route 18 Extension to the north will also provide access to Route Interstate 287. The highway is also the

major arterial for access to the City of New Brunswick, which serves as the Middlesex County Government Seat. New Brunswick also houses the main campus of Rutgers University, and many corporate and healthcare facilities that are dependent on Route 18 for access.

Existing roadway congestion and travel delays along Route 18 make trips to and from New Brunswick time consuming. This has adverse affects on the regular commuters (employees and students) to New Brunswick, on emergency vehicle access to the city's hospitals which serve the region, and to visitors to the city's academic, government, corporate, and cultural attractions.

The Route 18 project will modernize the corridor, improve the system linkage by eliminating existing traffic flow restrictions along the roadway, and maintain the State highway system continuity through the City of New Brunswick and the region.

Transportation Demand

The year 1996 average daily traffic volume between Commercial Avenue and New Street was 80,570 vehicles per day. This represents significant traffic volume that must be processed by Route 18 and the signalized intersections at Commercial Avenue and Paulus Boulevard. Under existing peak travel hour conditions, these signalized intersections operate at a failing level of service.

New land use development, expansion of existing land uses, and general area-wide increases in traffic will result in additional volume on Route 18 in the future. Projections for traffic growth in the corridor for the Year 2021, assuming a one percent (1%) increase per year, indicate that the traffic volumes will increase to approximately 100,000 vehicles per day. Under these future year conditions, the intersection operations and safety conditions at the two signalized intersections will worsen. This project will accommodate the future traffic volume activity in this corridor.

Multi-Modal Access and Mobility

New Brunswick's street and sidewalk network enables bicyclist and pedestrian circulation, and access to Boyd Park and the newly renovated Delaware and Raritan Canal from many different locations throughout the city. A pedestrian overpass exists in the vicinity of Tabernacle Way to provide access to the riverfront. Pedestrians may also access the park via the at-grade intersection at Commercial Avenue. Crossing at this intersection poses pedestrian safety concerns.

Public transit buses have a number of routes along Route 18 throughout the project area. Bus stops are located at the Paulus Boulevard intersection and near Commercial Avenue. Transit passengers must cross these at-grade intersections in order to board the buses. The buses do not have a refuge area to pull over and must stop in an active travel lane to accept passengers. This compromises the safety of both transit users and motorists in the corridor.

The New Brunswick train station provides access to the Northeast Corridor line of New Jersey Transit and Amtrak. Providing access to Trenton and points south, and New York City and points north, the New Brunswick train station plays an integral role in regional mobility. Route 18 provides the means to gain access to this rail station.

Rutgers University utilizes portions of the Route 18 corridor within the project limits for its extensive intercampus transit service between Cook/Douglass College, Busch, and Livingston College campuses.

The Route 18 project will increase pedestrian and bicyclist safety and mobility throughout the project corridor. In addition, the project will incorporate bus stop locations that are safe for passengers boarding and disembarking, and that do not compromise the safety of the motoring public by forcing stops in the highway's active travel lanes.

Socio-economic Conditions

There are a variety of different land uses within the project limits. These land uses include both high density and single family residential, commercial, institutional, and parks/recreational development.

There are also many cultural and recreational resources within the project area. These include Boyd Park, the Raritan River, the Delaware and Raritan Canal, the State Theater, the Crossroads Theater, and the George Street Playhouse. Access to these resources is critical to their viability, enjoyability, and thus to the quality of life in New Brunswick. The Route 18 project will improve access to these resources and maintain the aesthetic character of the area.

This project will foster economic growth, urban revitalization, and improve the connections between Boyd Park and the newly renovated Delaware and Raritan Canal along the Raritan River and the City of New Brunswick.

Master Plan Consistency

The Route 18 Section 2F, 7E and 11H project is consistent with the transportation planning objectives of the City of New Brunswick. The City's Master Plan discusses the Route 18 project and endorses improvements of the corridor. This exhibits the City's need for and commitment to the project. The project's goals coincide with the goals contained in the Circulation Plan Element chapter of the City's Master Plan. These goals include providing improved inter- and intra-municipal traffic movement, providing for safe and efficient circulation for pedestrians, bicyclists, and vehicles, providing for a variety of modes of transportation, and providing linkages among the various modes of transportation.

The Route 18 project is also supported by Rutgers University, as this is the major roadway that connects the campuses between the City of New Brunswick and Piscataway Township.

The Route 18 corridor will be able to serve as the "gateway" to the City of New Brunswick by providing mobility to its population - both residential and business.

III. ALTERNATIVES CONSIDERED

Comprehensive studies have been performed in association with the Route 18 project. The studies included corridor evaluations, environmental studies, feasibility studies, preliminary engineering, congestion management investigations and value engineering analysis. The studies resulted in the selection of a Preferred Alternative. The following summarizes the corridor considerations and the alternatives for the Route 18 Section 2F, 7E and 11H project.

A. Alternatives Considered

The analysis of several corridor alternatives was conducted during the course of the Route 18 Section 2F, 7E and 11H project. These studies led to the selection of an IPA during the Feasibility Assessment stage of the project. The following summarizes the alternatives studied during the Feasibility Assessment stage. The complete evaluation of alternatives can be found in the *Route 18 Section 2F, 7E and 11H Alternatives Analysis* (Gannett Fleming, 8/00) document. The summary table presented a the end of this section gives a synopsis of each alternative considered and how these alternatives either meet or do not meet the project purpose and need, as established in **Section II** of this document.

No-Build Alternative

The No-Build alternative assumed that major corridor improvements would not be made. Only minor improvements would be implemented, such as spot intersection improvements and roadway maintenance. With the anticipated traffic growth in the Route 18 corridor, the delays and queues that currently exist would only be exacerbated and accidents would become more prevalent under the No-Build conditions. The impacts of the traffic congestion would increase noise pollution and vehicle emissions along the corridor and adversely affect the quality of life of area residents. The No-Build alternative is inconsistent with the goals of the City of New Brunswick and Middlesex County development plans; and this alternative is not a viable solution as it would not remedy the current or future corridor operational and safety deficiencies. In addition, this alternative would continue unsafe travel conditions for pedestrians, bicyclists, and motorists; and does not meet the purpose and needs of the project.

Phase II Alternative

The Phase II alternative provided only for corridor operational improvements. This option included a fourth northbound lane at the Paulus Boulevard signalized intersection and a dedicated acceleration lane from the Route U.S. 1 southbound entrance ramp to Route 18 northbound. The corridor would have been reconfigured to allow three travel lanes in each direction under the George Street overpass; and widened to four-lanes in each direction at the Commercial Avenue signalized intersection. A total of seventeen design exceptions would be required. This alternative was not accepted or advanced due to its provision of only limited improvements to corridor safety, and due to strong public opposition.

Feasibility Assessment Alternative 1 - Collector-Distributor Roadway (IPA)

The collector-distributor roadway alternative was the most comprehensive design scheme. The collector-distributor roadway was proposed to separate Route 18 vehicle flows into "express" and "local" traffic, with a barrier curb between the roadways, and each roadway having two-lanes. The northbound "express" lanes and shoulders were to be introduced north of George Street, carried through the New Street interchange and continued northbound to the project limits south of Route 27. The "local" lanes were to facilitate safer access for traffic movements to and from Boathouse Drive, Commercial Avenue, and New Street. The southbound "express" lanes and shoulders were to be introduced at Route 27 and carried through the Commercial Avenue interchange. The "local" lanes would facilitate safer access for traffic movements to and from Burnet Street, New Street, Tabernacle Way and Commercial Avenue. The collector-distributor roadways were planned to be lower speed facilities more appropriate for local traffic and interchange movements. This alternative would provide pedestrian sidewalks and bus pullout locations. This alternative was selected as the IPA because the design would improve safety and operations of the entire corridor and correct the majority of the existing substandard design features.

Feasibility Assessment Alternative 2 - Grade Separated Tee Interchange – Commercial Avenue

The alternative for a grade separated tee interchange at Commercial Avenue addressed many of the substandard features of the Phase II design, with only five design exceptions remaining. This alternative improved operations and safety in some portions of the project, but also created additional operational problems. Pedestrian sidewalks and bus pullout facilities were to be included in this alternative. This alternative was eliminated from further study due to the poor traffic operations created on Route 18 northbound between Commercial Avenue and New Street. In addition, pedestrian safety concerns at the Route 18 northbound George Street exit ramp was another factor that led to the elimination of this alternative.

Feasibility Assessment Alternative 3 - Re-routed Traffic – Commercial Avenue

The re-routed traffic alternative was nearly identical to Alternative 2 in all segments of the corridor except at Commercial Avenue. The existing Commercial Avenue signal and jughandle were to be eliminated; and the Route 18 northbound left-turn traffic at Commercial Avenue would either exit at the George Street ramp or continue north to the New Street interchange. Commercial Avenue was to intersect as a right-in/right-out unsignalized intersection onto Route 18 southbound only and a continuous barrier curb was to be constructed between the Route 18 northbound and southbound roadways in the area of Commercial Avenue. Neilson Street was to be converted to a one-way street northbound, in the direction opposite that it now operates. A new traffic signal was to be installed at the Commercial Avenue and Neilson Street intersection due to the projected increase in traffic on Neilson Street. As the New Brunswick Housing Authority operates assisted-living housing complexes in the Neilson Street and New Street areas, environmental justice regulations would have been a concern with this alternative due to the potential unbalanced adverse impacts to the low-income housing units along Neilson Street. This alternative was dismissed from further consideration.

B. Preferred Alternative

To summarize, the result of the Feasibility Assessment phase of the project was the advancement of Alternative 1 – the collector-distributor roadway scheme, as the IPA.

To improve motorist and pedestrian safety, traffic operations and highway system linkage, while minimizing community disruption and impacts to environmental, socio-economic and cultural resources, the proposed action will include various elements as described in this section. The Preferred Alternative is shown in **Figures 3-1 thru 3-5**.

The Preferred Alternative will improve the traffic operations and safety along the Route 18 corridor. In the area of Paulus Boulevard, auxiliary lanes will be constructed to facilitate necessary speed changes and access movements between Route 18 and the entrance ramp from Route 1 southbound and residential side streets. The southern Carpender Road access point will be closed and be provided with a cul-de-sac. The northbound jughandle will be reconfigured to prohibit left-turning movements onto Paulus Boulevard to cross Route 18, and a turn-around roadway configuration will be constructed at the end of Paulus Boulevard East. The southbound Route 18 access point at Dewey Drive will be closed. The alignment of the southbound exit jughandle to Paulus Boulevard will be corrected to standardize the geometrics and increase the available queuing area at the signal. Outside shoulders and bus pullouts will be provided in the Paulus Boulevard area. Direct access to Route 18 southbound from Crest Drive will be eliminated.

In the area of George Street, the Preferred Alternative will replace the existing George Street bridge. A tee structure for the intersection of George Street and the Route 18 northbound collector-distributor roadway will be constructed. This will allow access to the Route 18 northbound collector-distributor roadway, and ultimately to Route 18 northbound from George Street. The Preferred Alternative will require the northbound collector-distributor roadway to be introduced south of the George Street interchange. Route 18 northbound and southbound through traffic will travel unimpeded through the George Street area on the "express" roadways below. In the northbound direction, a signal will control the left-turn movements between the Route 18 northbound collector-distributor roadway and George Street.

The collector-distributor roadway will separate Route 18 vehicle flows into "express" and "local" traffic, with barrier curb between the roadways. The "express" lanes and its shoulders will be carried from south of George Street through the Route 27 interchange. The "local" lanes will facilitate safer access for traffic movements to and from George Street, Boathouse Drive, Commercial Avenue, New Street, and Route 27; this collector-distributor roadway will be a lower speed facility and more appropriate for local traffic and interchange movements.

The Commercial Avenue intersection will be grade-separated over Route 18, and a diamond interchange will be constructed to allow Commercial Avenue traffic access to the Route 18 collector-distributor roadways. Route 18 northbound and southbound through traffic will travel unimpeded through the Commercial Avenue area on the "express" roadways below. In the northbound

direction, a signal will control the left-turn movements between the Route 18 northbound collector-distributor roadway and Commercial Avenue. Bus stop pullouts will be constructed in the area of Commercial Avenue. In the southbound direction, on the collector-distributor roadway, a deceleration lane will be provided for the traffic exiting to Commercial Avenue.

At New Street, all movements between the Route 18 collector-distributor roadway and New Street will be provided. The Richmond Street access point will be eliminated and a cul-de-sac will be constructed. The existing New Street structure will be replaced. Also, the existing pedestrian overpass that is currently located at Tabernacle Way will be removed and a new pedestrian overpass will be constructed that will meet current accessibility design requirements.

Along Route 18 southbound, the existing Route 27 structure will be widened to accommodate the northbound collector-distributor roadway. The entrance ramp roadway to Route 18 southbound from Johnson Drive will be modified to allow southbound Johnson Drive traffic to turn left onto the Route 18 entrance ramp to access the Route 18 southbound "express" lanes. The Route 18 southbound collector-distributor roadway will begin south of the Route 27 area as Route 18's Burnet Street exit ramp joins the departure lane from the signalized intersection of Route 27 and Johnson Drive.

Throughout the entire length of the project, pedestrian and bicycle mobility will be addressed. In the northbound direction, a sidewalk/multi-use path will be constructed between the Route 1 southbound entrance ramp and Route 27. A pedestrian overpass will be constructed in the area of Route 18 between Carpender Road and Phelps Avenue to allow pedestrians to cross Route 18 safely and access the bus pullouts to be located on both sides of the roadway. The Commercial Avenue structure will have multi-use paths on both sides of the roadway, with benches and plantings to enhance the connection of this area of New Brunswick with Boyd Park. A path on the structure will allow access from the overlook area down to Boyd Park, and be a main entrance into the park. In the southbound direction a sidewalk will be constructed from Route 27 and continue to the Commercial Avenue area. A sidewalk/multi-use path will be constructed on the southern side of George Street and continue from Gibbons Court down to and along Route 18 southbound and run to Paulus Boulevard, linking to Newell Avenue, Phelps Avenue, and Dewey Drive. The path will also be constructed down to Route 1, just outside the project area.

C. Other Proposed Projects in the Vicinity of the Preferred Alternative

Route 18 Extension, Section 2A

The Route 18 Extension, Section 2A, project will create a continuous travel route through Piscataway Township from the John A. Lynch, Sr. Memorial Bridge to Interstate Route 287. Located at River Road, approximately 3 kilometers (1.9 miles) north of the Section 2F project, the Section 2A project directly connects Hoes Lane (Section 1A) and eliminates the bottleneck condition along Metlars Lane. North of Hoes Lane (Section 1A), improvements are also proposed for the Hoes Lane corridor (Section 3A) to upgrade the existing facility to current design standards. Anticipated construction date is Spring 2002.

Route 18 Bikeway Improvements from Route 27 to John Lynch Bridge

The Route 18 Bikeway Improvement Project essentially involves the development of a bikeway/pedestrian path which would connect the Rutgers Cook Campus, Douglass Campus and College Avenue. Previously known as the George Street Bikeway project, proposed improvements would connect the Rutgers campus Johnson Park, Boyd Park and student housing areas. The project is currently in the feasibility study stage.

Route U.S. 1 Corridor Improvements

In September 1994, the Tri-State Transportation Campaign (TSTC) met to discuss New Jersey's growing traffic problems. The group identified key areas (corridors) which exhibited need of improvement. The Route 1 corridor from New Brunswick to Woodbridge was one corridor identified. Subsequently, the TSTC initiated a study to identify problems, develop solutions and complete various technical studies for the corridor. As a result, several studies were initiated for the corridor. These studies include pedestrian/bicycle, traffic, cars and feasibility studies. A work plan was finalized in March 1996, which identified thirteen tasks to be executed for the improvement of the corridor.

Route 18 Section 2F, 7E and 11H
Evaluation of Alternatives Considered and
Project Purpose and Need Assessment

Project Purpose and Need	No-Build Alternative	Phase II Alternative	Alternative I (IPA) C-D Roadway	Alternative II Commerical Avenue "T" Interchange	Alternative III Re-routed Traffic
Safety	Does not alleviate existing unsafe roadway conditions	Retains some existing safety concerns within the corridor	Alleviates all existing safety concerns within the corridor	Retains some existing safety concerns within the corridor	Retains some existing safety concerns within the corridor
Operations	Does not improve operations within the corridor	Does improve operations by providing additional travel lanes	Improves operations within the corridor, and provides acceptable Levels of Service	Improves operations within portions of the corridor but also creates operational problems	Improves operations within portions of the corridor but also creates operational problems

Route 18 Section 2F, 7E and 11H
Evaluation of Alternatives Considered and
Project Purpose and Need Assessment
Continued

Project Purpose and Need	No-Build Alternative	Phase II Alternative	Alternative I (IPA) C-D Roadway	Alternative II Commerical Avenue "T" Interchange	Alternative III Re-routed Traffic
Substandard Geometry & Roadway Conditions	Does not correct existing substandard conditions	Would require seventeen (17) design exceptions	Corrects existing substandard roadway and geometric conditions, requires no design exceptions	Would require five (5) design exceptions	Would require design exceptions
System Linkage	Does not provide necessary system linkage within corridor	Improves system linkage within the corridor	Provides for system linkage on both the local level and at the regional level	Improves system linkage within the corridor	Improves system linkage within the corridor
Transportation Demand	Does not satisfy current and future transportation demands	Satisfies current and future transportation demands	Satisfies current and future transportation demands	Does not satisfy current and future transportation demands	Does not satisfy current and future transportation demands
Multi-Modal Access & Mobility	Does not provide needed improvements for multi-model access and mobility	Does not provide needed improvements for multi-model access and mobility	Provides adequate and safe points of multi-model access and mobility	Provides adequate and safe points of multi-model access and mobility	Provides adequate and safe points of multi-model access and mobility

Route 18 Section 2F, 7E and 11H
Evaluation of Alternatives Considered and
Project Purpose and Need Assessment
Continued

Project Purpose and Need	No-Build Alternative	Phase II Alternative	Alternative I (IPA) C-D Roadway	Alternative II Commerical Avenue "T" Interchange	Alternative III Re-routed Traffic
Socio-economic Conditions	Does not improve access for residents and businesses to social, cultural and natural resources within the corridor	Does not provide needed access for residential and businesses to social, cultural and natural resources within the corridor	Provides needed access for residential and businesses to social, cultural and natural resources within the corridor	Provides limited improvements in access for business and residences	Would not comply with the Environmental Justice Regulations
Master Plan	Inconsistent with regional or local planning objectives	Alternative is not in consistent with regional or local planning objectives	Consistent with the regional and local planning objectives	Inconsistent with regional or local planning objectives	Inconsistent with regional or local planning objectives

IV. EXISTING CONDITIONS, IMPACTS AND MITIGATION OF ADVERSE IMPACTS

A. Soils, Geology & Groundwater

Existing Conditions

1. Soils

Information utilized to document the existing soil units within the Route 18 Section 2F, 7E and 11H project corridor has been compiled from various sources including, but not limited to government publications, prior technical reports and extensive field research. The primary reference material was the United States Department of Agriculture, Soil Conservation Service (USDA-SCS) publication, *Soil Survey for Middlesex County, New Jersey* (Prowley, 1987). Secondary resources included topographic maps of the Route 18 Section 2F, 7E and 11H project corridor. Field research included verification of the topography within project limits. Field activities were performed during the month of February 2000.

The soils within the project area have been identified and mapped from the soil survey. Generally, the following soil series occur within the immediate project area: Urban Land, Klinesville Shaly Loam, Humaquepts, and Nixon Urban Land Complex. The soils are discussed in the following text and their locations relative to the project corridor are depicted on **Figure 4**.

Urban Land (UL)

Urban Land typically refers to areas where more than 80% of the surface is covered by industrial or commercial development. These areas are nearly level to moderately sloping. Fill material has typically been placed to build up wet soils and most areas have been significantly disturbed.

Klinesville Shaly Loam (KvE)

The Klinesville Shaly Loam is typically located on moderately steep to steep terrain and is well drained. It principally occurs on side slopes. The KvE soil layer is typically thin with bedrock occurring at depths as shallow as 30 centimeters (12 inches). Permeability is moderately rapid, runoff is rapid, and the erosion hazard is severe due to steep slopes. The available water capacity is low and the organic matter content is moderate. The surface soils are extremely acid while the subsoil is very strongly acidic. This soil type is subject to frost heaving. It is poorly suited for roadways, road fill and topsoil.

Humaquepts (HU)

This unit, as described in the soil survey, typically consists of nearly level, deep, somewhat poorly drained to very poorly drained soils in flood prone areas. Slopes range from 0 to 2 percent. The area where the HU is mapped consists of moderately steep to steep terrain more consistent with the KvE

unit. The Humaquepts soils consist of materials that range from sandy to clayey. Most of these areas are covered by recent alluvium, mainly loam, and consist of sediments deposited by the river during flooding. The water covering some areas is up to 1-meter (3.3 feet) deep during flood stage. Flooding, instability, and variability of the soil material make this unit generally unsuitable for crops, pasture, or most urban uses.

Nixon Urban Land Complex (NCB)

This unit consists of nearly level to gently sloping well-drained soils and areas that are used for urban development. The unit is characterized by the variability of soil types too intricately patterned to be mapped separately. Approximately 40% of the soils within the corridor are mapped as Nixon soils.

The permeability of the NCB unit is moderate in the subsoil and moderately rapid in the substratum. Runoff is slow to medium and the hazard of erosion is moderate. Most unlimed areas are strongly acidic. Concrete and asphalt pavement, buildings or other impervious surfaces cover approximately 40% of the mapped NCB unit. Soils between and around structures are well suited for lawns, trees, and vegetable gardens. Areas that have been disturbed are generally droughty and have poor suitability for planting.

2. Geology

Information utilized to document the geology of the Route 18 project corridor has been compiled from various sources, including, but not limited to, government publications and prior technical reports. Cited references were primarily provided in previous technical reports and not reviewed directly. Portions of the information provided in prior reports were verified by review of the USGS produced *Geologic Map of New Jersey* (Lewis and Kummel, 1910-1912).

The Route 18 Section 2F, 7E and 11H project lies within the Piedmont physiographic province, which is located centrally within New Jersey. This physiographic province is characterized by a gently undulating topography, sloping from the Highlands in the north to the Coastal Plain region in the south. Elevations within the project corridor range from approximately 1-meter (3.3 feet) above mean sea level along the shoreline of the Raritan River to approximately 33-meters (108 feet) above mean sea level at the southern terminus of the project corridor approaching the Route 1 interchange **(Figure 5)**. The topography of the project corridor can be described as gently sloping along the longitudinal axis of the existing Route 18 alignment between the Route 27 interchange and Boathouse Drive. The ground surface rises steeply to the south and west of Boathouse Drive to elevations of 22-meters (72 feet) and 33-meters (108 feet) respectively. The shoreline of the Raritan River, to the east of the existing Route 18 alignment, remains at approximately 1-meter (3.3 feet) at the northern end of the project corridor and transverse to the existing Route 18 alignment. In general, beginning at Boathouse Drive, the ground surface slopes steeply up from the Raritan River, levels off across the roadway, then rises steeply again, west of Route 18.

The Piedmont physiographic province is underlain by Triassic age materials including shales, argillites, sandstone and conglomerates identified collectively as the Newark Group rock formation. The Newark Group is comprised of three minor formations including the Stockton, the Locatong, and the Brunswick Formations.

The oldest member of the Newark Group, the Stockton Formation, consists mostly of arkose conglomerates, sandstone, siltstone and micaceous mudstone and averages 152-meters (500 feet) in thickness. Above the Stockton is the Locatong Formation. This formation, which is about 1,143-meters (3,750 feet) in thickness, consists of black shale, dark argillite, flagstone and impure sandstone.

The uppermost formation, the Brunswick, lies conformably over the Locatong and is between 1,829 and 4,877-meters (6,000 and 16,000 feet) thick. The Brunswick Formation consists of soft, hematite-stained red shale with minor amounts of interbedded sandstones. The reddish-brown color of the shale was produced by oxidizing iron-bearing minerals to hematitic clay during repeated wetting and drying of sediment during their deposition within shallow water, continental environment. Although red shale is predominant here, some purple, green and black layers can occur in lower portions of this formation.

Stress cracks and fractures occur throughout the Brunswick Formation, allowing for moderately high quantities of groundwater to be stored. On exposure to weathering, as when outcropping occurs at the surface or in streambeds, Brunswick shales break up into blocky fragments until, eventually, the rock disintegrates into dense red clay.

Underlying the above formations is the Wissahickon. This formation was created nearly 600 million years ago from muddy sediments that were deposited, later folded and metamorphosed, and intruded into molten rock. Later, this formation was again metamorphosed and recrystallized.

The project corridor exhibits evidence of the Wisconsin glaciation of the Quaternary Era, although it is located south of the terminal moraine in Perth Amboy. According to the *Geologic Map of New Jersey*, stratified drift, consisting of sands and gravels, occurs in the valleys leading south in the terminal moraine.

3. Groundwater

Information utilized to document the groundwater attributes within the Route 18 Section 2F, 7E and 11H project corridor have been compiled from various sources, including but not limited to, government publications, prior technical reports and contact with local officials. Cited references were provided in previous technical reports and not reviewed directly. The primary source of information regarding water supply and usage was the City of New Brunswick Water Utility. In addition, the NJDEP Bureau of Water Allocation was consulted for information pertaining to wells and groundwater usage in the project corridor and vicinity.

Of the geologic formations occurring in the project area, the Triassic Aged Brunswick Formation is the largest potential water bearing formation. In areas overlain by tight impervious clay soils or residual soils occurring above the bedrock, this formation is incapable of transmitting or storing much water, and specific well yields are low here. However, in areas overlain by permeable materials, this formation yields moderately large quantities of groundwater. The most important groundwater resource within the project area lies between the Raritan River and the previously mentioned Wisconsin terminal moraine. Permeability and yield within the Brunswick Formation are highly dependent upon the degree of cracking, which decreases with depth.

The presence of streams and ponds also aid in supplying a ready, continuous recharge to the Brunswick Formation. Notably, the Raritan River has cut down into the underlying Brunswick Formation.

Although once serviced by groundwater with yields ranging from 380 to 1,895 liters/minute (100 to 500 gallons/minute) for home and farm use, the City of New Brunswick Water Utility presently provides water service to all residents as well as commercial and industrial businesses within the City of New Brunswick. The City of New Brunswick Water Utility draws the majority of its supply from the Delaware and Raritan Canal near Buccleuch Park. The Park is located approximately 2.3 kilometers (1.4 miles) upstream of the project corridor, south of the Landing Lane Bridge. The Delaware and Raritan Canal fed by the Delaware River, supplies approximately 39.7 million liters/day (10.5 million gallons/day). Farrington Lake, located south of Route 1 and east of Route 130 in North Brunswick, provides a secondary source of water to the City of New Brunswick Water Utility. Approximately 2.8 to 8.4 million liters/day (1 to 3 million gallons/day) are drawn from Farrington Lake.

The quality of the ground water in the New Brunswick area, except where contaminated by salt-water intrusion, is more mineralized compared to other areas within Middlesex County. Total solids range from 200 to 300 parts per million (ppm) but may possess several hundred ppm in dissolved solids. Ground water is also generally high in calcium and magnesium, resulting in water hardness. Sulfates are high when compared with carbonates and bicarbonates, as is iron. Chlorides on the other hand, are low.

Within the Brunswick Formation, water quality improves with the increased occurrences of cracks and crevices. It is believed that a greater circulation of water through these crevices removes objectionable soluble water materials.

Impacts and Mitigation of Adverse Impacts

1. Soils

Of the soils encountered within the project corridor, the Klinesville Shaly Loam is the most susceptible to erosion and is described as being extremely to very strongly acidic. The Nixon Urban Land Complex unit is also considered strongly acidic and a moderate erosion threat. The remaining soils are predominantly fill, consisting of relocated materials or disturbed in-situ soils or decomposed Brunswick shale. Specific details regarding erosion concerns and the acidity of soils will need to be

determined from surface sampling or subsurface boring information. These materials may not be considered acceptable for use in embankments or as a source of borrow material.

Although the Route 18 project is located outside of the area typically considered to contain significant acid producing deposits (*Technical Manual for Stream Encroachment*, NJDEP 1988), limited deposits are known to occupy the southern end of the alignment. The Klinesville Shaly Loam (KvE), located south of the George Street exit, is described as being very strongly to extremely acidic (pH < 4.5 to 5.0). Upon exposure to oxygen from the air or surface waters, iron sulfide materials oxidize and produce sulfuric acid. Sulfuric acid increases the solubility of metals and may become toxic to aquatic life or land vegetation, or reach undesirable concentrations for potable water supplies.

Engineering standards, as described within the *NJDOT Soil Erosion and Sediment Control Manual*, will be followed and maintained during construction to limit the amount of displaced soils leaving the immediate work area and entering adjacent surface water bodies. If acid producing soils are encountered, methods for handling such soils will be done in accordance with NJDEP procedures.

Necessary and appropriate soil erosion and sediment control abatement and mitigative measures, devices and practices will be incorporated into the construction specifications to ensure that impacts to adjacent areas, vegetation and water quality are maintained. These methods may include silt fencing, sediment barriers, slope stabilization and inlet filters, as appropriate.

2. Geology

The topography of the land traversed by the Route 18 Section 2F, 7E and 11H project between the Route 27 interchange and Boathouse Drive can be described as gently sloping. The ground surface rises steeply to the south and west of Boathouse Drive to elevations of 22-meters (72 feet) and 33-meters (108 feet) respectively. Construction of the proposed roadway widening between Route 27 and Boathouse Drive will require moderate cuts through overburden material.

Between Boathouse Drive and Route 1, where bedrock is more evident in the form of outcropping, it may become necessary to remove quantities of rock to perform the roadway widening. In addition, improvements to the roadway to the east of the existing alignment between Boathouse Road and Paulus Boulevard will require sections of existing slope to be reconfigured.

Although the proposed Route 18 project will involve moderate earthmoving and excavation throughout the corridor, no significant impacts are anticipated, nor do the soils located within the corridor present any constructability issues that can not be overcome by employing sound engineering and construction techniques.

Since cut faces of the Brunswick shale are subject to weathering and erosion, mitigative measures may be required where major cuts are made. These mitigative measures to geologic impacts (excavations) may include the use of slope stabilization techniques, such as the installation of gabions or other similar devices, or the lessening of exposed vertical slopes by cutting back and removing more rock, thereby creating a gentler slope.

3. Groundwater

The Brunswick Formation is capable of storing moderately high quantities of groundwater, depending upon the degree of existing stress cracks, fractures and the presence of overlying permeable materials. Despite the capacity of the Brunswick Shale unit, few source wells utilize this aquifer in the City of New Brunswick. The City of New Brunswick Water Utility supplies water to the residents, commercial and industrial businesses within the City of New Brunswick. The source of this water supply is generally the Delaware and Raritan Canal and Farrington Lake. The section of the canal that is utilized for drinking water withdrawal is not contiguous with the restored, historic portion of the canal within Boyd Park.

According to the Groundwater Recharge Area and Sole Source Aquifer maps, several State-designated sole source aquifers or designated groundwater recharge areas occur outside the Route 18 project corridor. These areas include the Coastal Plain to the southeast, the Buried Valley to the northwest, and the New Jersey State aquifer to the west. The Route 18 Section 2F, 7E and 11H roadway improvements will not directly or indirectly impact any of the State designated sole source aquifers or groundwater recharge areas.

Increases to impervious surface areas, resultant from the construction of additional roadway, will immediately increase surface water quantities occurring in the form of runoff. Additions to impervious surface areas will decrease water supplies that may otherwise be captured as groundwater in subsurface permeable materials, or in stress cracks or fractures of the underlying Brunswick Formation.

Impacts to groundwater within the Route 18 project corridor will be mitigated through the implementation of erosion and sediment control measures as mandated by the NJDOT standards. In addition, the project design will incorporate stormwater treatment measures, such as grassy swales and overland sheetflow, into the roadway drainage system where right-of-way and topographic conditions permit. Stormwater management basins will be installed within the proposed infield areas to the extent possible, to provide the opportunity for groundwater recharge from collected surface runoff.

Excavations required for construction of the majority of the proposed project are not anticipated to expose groundwater. However, installation of sheeting, columns and piles for the construction of the retaining walls and bridge structures may expose groundwater for short periods of time. Any excavations exposing groundwater would require dewatering operations, which would require consultation and possible permits from the NJDEP.

B. Surface Water & Aquatic Ecology

Existing Conditions

1. Surface Water

Waterways within the project area include the Raritan River, its associated tributaries and the Delaware and Raritan Canal as depicted on **Figure 6**. According to the NJDEP, *Surface Water Quality Standards* (NJAC 7:9-4.1 et seq.), the Raritan River is classified as a SE-1 (saline water of estuaries) river. In addition, the Raritan River is defined by the U.S. Army Corps of Engineers as a navigable waterway.

Records indicate average annual precipitation for this region to be 114 centimeters (45 inches), which is distributed through normal precipitation patterns, with somewhat greater incidence of rainfall in the spring. During periods of heavier than usual precipitation, flooding within the project corridor and surrounding area can become a severe problem.

Raritan River

The water quality assessment for the Raritan River indicated that nutrient and bacterial levels were elevated, and macroinvertibrate assessments indicated moderately impaired conditions. Dissolved oxygen was at acceptable levels, and ambient temperature was within criterion for non-trout waters. Inorganic nitrogen and total phosphorus levels were elevated, as was arsenic.

The New Jersey State Water Quality Inventory Report (SWQIR), prepared pursuant to Section 305(b) of the Federal Clean Water Act, provides a biannual assessment of the quality and condition of major New Jersey water bodies. The report indicates that the waters of the Raritan Bay have not significantly changed since the last re-evaluation report in 1996, and recommends the present classification of Prohibited remain in place. In addition, there is a fishing advisory in effect due to PCB contamination of particular fish species that inhabit the tidal portions of the river. The portion of the Raritan River within the project study area is affected by tidal action from the Raritan Bay, upstream to head of tide, beyond the Landing Lane Bridge.

Tributaries

The tributaries associated with the Raritan River within the project corridor receive stormwater runoff from the surrounding commercial, residential and roadway development. There are currently no stormwater management facilities in place to treat runoff prior to discharge into the Raritan River. The NJDEP Division of Water Resources has not monitored the water quality of these various surface waters.

Delaware and Raritan Canal

The Delaware and Raritan Canal, fed by the Delaware River, Round Valley and Spruce Run Reservoirs, is a source of drinking water for many municipalities, including the City of New Brunswick. The withdrawal point for water from the Delaware and Raritan Canal is located north of the project limits, at Buccleuch Park. The recently restored historic portion of the canal, which includes the canal locks, is located within Boyd Park adjacent to the Raritan River. The section of the Canal that is utilized for drinking water withdrawal is not contiguous with the section of the Canal within Boyd Park.

2. Aquatic Ecology

Fish species common to that portion of the Raritan River adjacent to the project corridor are included within the following table.

Route 18 Section 2F, 7E and 11H
Representative Fish Species

Common Name	Scientific Name
american shad	*Alosa sapidissima*
striped bass	*Morone saxatilis*
american eel	*Anguilla rostrata*
brown bullhead	*Ictalurus nebulosus*
alewife herring	*Alosa pseudoharengus*
white sucker	*Catostomus commersoni*
common carp	*Cyprinus carpio*
rock bass	*Ambloplites rupestris*
green sunfish	*Lepomis cyanellus*
atlantic croaker	*Micropogon undulatus*
bluefish	*Pomatomus saltatrix*
creek chubsucker	*Erimyzon oblongus*
goldfish	*Carassius auratus*
redfin pickerel	*Esox americanus*
striped killifish	*Fundulus majalis*
bluegill	*Lepomis cacrochirus*
bay anchovy	*Anchoa mitchilli*
butterfish	*Peprilus triacanthus*
golden shiner	*Notemigonus rysoleucas*
northern puffer	*Sphoeroides maculatus*
sea lamprey	*Petromyzon marinus*
summer flounder	*Paralichthys dentatus*
yellow perch	*Perca flavescens*
mummichog	*Fundulus heteroclitus*

Source: NJDEP Bureau of Marine Fisheries, Nacote Creek, NJ

Macroinvertebrate species common to that portion of the Raritan River, associated tributaries and the Delaware and Raritan Canal are included within the following table:

Route 18 Section 2F, 7E and 11H
Representative Macroinvertebrate Species

Common Name	Scientific Name
tubifex worms	*Tubificida*
water fleas	*Claudocera*
true bugs	*Hemiptera*
water boatmen	*Arctocorixa interrupta*
aquatic beetles	*Coleoptera*
clams	*Pelecypoda*
leeches	*Hirudinea*
dragonflies	*Odonata*
water striders	*G. marginatus*
water scorpions	*Ranatra fusca*
freshwater snails	*Gastropoda*
crayfish	*Decapoda*

Source: Route 18 Extension, Section 11B Ecology Technical Environmental Study, 1989

Impacts and Mitigation of Adverse Impacts

1. Surface Water

Impacts to existing surface water quality within the Route 18 project corridor will potentially result from roadway construction activities and from an increase in post construction impervious surface area. In addition, increased sediment loads in surface runoff will result from roadway construction activities.

Under the Preferred Alternative, with the construction of the George Street tee intersection, a total of approximately 5.1 hectares (12.6 acres) of additional impervious surface area will result from the proposed Route 18 roadway design, widening and sidewalk construction.

Some of the most common pollutants found on highway surfaces include: bacteria, heavy metals, inorganic salts, nutrients (i.e., nitrogen, phosphorus), organic matter, pesticides and dropped or windblown particulates, including dust, glass, silt and clay. These pollutants find their way into the surrounding environment, including surface water via precipitation and stormwater runoff.

The heaviest pollutant loads occur immediately after rainfall, flushing the contaminants from roadway surfaces. The short term loadings that occur immediately after rainfall result in an elevated biological oxygen demand and an increase of suspended solids. Long term pollutant loading, over time, may result in heavy metal and chemical contaminant settlement into the riverbed sediments.

The water from the Delaware and Raritan Canal, outside the project corridor, is also used as a source

of potable drinking water, providing approximately 39.7 million liters (10.5 million gallons) of water per day to the City of New Brunswick. The Delaware River, Round Valley and Spruce Run Reservoirs feed the canal. Water is drawn from the canal and pumped from a point near Buccleuch Park, through the George Street pumping station east of Landing Lane Bridge, and then to the water treatment plant located near Rutgers University Cook Campus. The proposed roadway construction project will not affect either the existing water quality of the canal or water treatment process currently in place as the portion of the canal utilized for drinking water withdrawal is not contiguous with the portion of the canal adjacent to Boyd Park.

The existing brooks and tributaries that cross beneath the Route 18 roadbed are all currently piped. The need for new headwall construction, piping and/or outfall installation will be determined during the final design process. Construction activities that may be required to replace or upgrade the existing surface water drainage system linking the west side of the Route 18 corridor to the Raritan River will result in temporary impacts.

It is not anticipated that the increase in impervious surface area along the Route 18 corridor will impact the water surface elevation of either the Raritan River or Delaware and Raritan Canal.

Temporary impacts to existing surface water quality within the Route 18 project corridor will result from roadway construction activities. Increased sediment loads in surface runoff resulting from roadway construction activities will be minimized through the use of erosion and sediment control measures in accordance with NJDOT standards.

The surface runoff generated from the proposed Route 18 construction project will be managed through the utilization of the existing stormwater drainage system currently in place. The proposed project will incorporate stormwater treatment measures, including grassy swales and overland sheetflow, into the roadway drainage system where right-of-way and topographic conditions permit. Stormwater management basins will be installed within the proposed infield areas to the extent possible.

The existing brooks and tributaries draining the project corridor and vicinity are currently piped beneath the Route 18 roadbed. Stormwater runoff from the proposed roadway surface will be directed to roadway inlets, and where possible, grassy swales and infield basins. It is not anticipated that the proposed project will have any adverse affect on the water quality of the Raritan River or its tributaries.

It is anticipated that the improvements proposed above, in conjunction with construction of storm water management measures where possible, will aid in mitigating and reducing overall impacts to surface water quality within the project corridor.

2. Aquatic Ecology

Impacts to aquatic ecology from construction activities and increased surface runoff will result in increased turbidity and sediment loads within the brooks and tributaries. There are no NJDEP classified trout maintenance or trout production waters within the project area. Temporary impacts to

fish habitat may occur due to construction activities, however, no long-term adverse effects to the aquatic ecology of the Raritan River or tributaries thereof are expected to occur as result of project implementation.

Although construction activities will take place within the Raritan River floodplain, no construction activities are scheduled to take place directly within either the Raritan River or Delaware and Raritan Canal. New installation or upgrade of existing headwalls, piping and/or outfall structures will be required as part of the final roadway design. Impacts for these construction activities are expected to be temporary. The associated tributaries crossing the Route 18 roadway within the project corridor are currently piped.

No shading of these tributaries is anticipated and no destruction of aquatic vegetated cover or streambed substrate will result from construction activities.

Impacts to aquatic ecology from construction activities will be minimized through the implementation of soil erosion measures in accordance with State requirements. There are no NJDEP classified trout maintenance or trout production waters within the project area.

Impacts to surface water bodies will be predominately in the form of increased stormwater runoff. The use of the existing stormwater drainage system and construction of new infrastructure within the project corridor will minimize overall disruption to aquatic ecology. Stormwater treatment measures in the form of infield basins and grass swales will be implemented, where practicable, to improve water quality prior to its discharge into aquatic environments.

C. Vegetation & Wildlife

Existing Conditions

Land cover types within the project corridor were classified according to Level II Categories of *A Land Use Cover Classification System for Use with Remote Sensor Data* (Anderson et al., 1976). Land cover types were first mapped upon aerial photography then field verified. Land cover types within the project corridor are depicted on **Figure 7**. Each land cover type was field investigated to determine dominant and associated vegetative species.

The NJDEP, Natural Heritage Program, was contacted for information pertaining to endangered or threatened species and their habitats within the project area. In addition, the USFWS was also consulted for information pertaining to endangered or threatened species. Correspondence with both the NJDEP Natural Heritage Program and USFWS are contained within **Appendix A** of this EA document. Neither agency indicated they maintain any records of endangered or threatened species within the project corridor.

1. Vegetation

Eleven land use and land cover classifications were determined to exist within the project corridor and immediate surrounding area. The classifications present within the study area are presented in the following table. Level II land uses and cover types within the study corridor included urban and built-up land, rangeland, wetland, forestland, water and barren land. Of the eleven land use and land cover classifications, five were identified as vegetative cover types. Each of the five vegetative land use and land cover classifications are described in the following text.

Route 18 Section 2F, 7E and 11H
Level II Land Use and Land Cover Classifications

Level II	Land Use and Land Cover Classifications
11	Residential
12	Commercial and Services
14	Transportation, Communications and Utilities
16	Mixed Urban or Built-up Land
17	Other Urban or Built-up Land
31	Herbaceous Rangeland
33	Mixed Rangeland
41	Deciduous Forest Land
51	Streams and Canals
61	Forested Wetland
76	Transitional Area

Herbaceous Rangeland (31) and Mixed Rangeland (33)

Herbaceous Rangeland and Mixed Rangeland are limited within the project corridor to areas along the southbound travel lanes of Route 18 just north of Newell Avenue.

Deciduous Forest (41)

The most abundant vegetative cover type within the project corridor was Deciduous Forest. Deciduous Forest extends along the Raritan River from Paulus Boulevard, north, to approximately George Street. In addition, Deciduous Forest exists along the southbound lanes of Route 18 between Commercial Avenue and George Street. Isolated areas of Deciduous Forest also were identified along Route 18 northbound in the vicinity of the New Street Interchange.

Forested Wetland (61)

The Forested Wetland land cover type was identified along the Raritan River shoreline, approximately 75-meters (245 feet) northeast of Carpender Road. Forested wetland was also identified along Route 18 southbound between Newell Avenue and George Street, and approximately 175-meters (575 feet) north of George Street.

Transitional Area (76)

The Transitional Area land cover type was identified southeast of the Route 18/Route 27 Interchange. Vegetation identified within the Transitional Area land cover type consisted of overgrown grass resulting from transition from a former construction staging area.

Nonvegetated Land Uses

Nonvegetated land uses identified within the project study corridor were: Residential (11); Transportation, Communication and Utilities (14); and other Urban or Built-up Land (17).

Components of the residential classification included both single-family and apartment type housing along both sides of Route 18. The transportation, communication and utilities classification include the electrical substation located in the vicinity of New Street, along Route 18 northbound. The other urban or built-up land classification includes the Rutgers University campus, gas stations and Boyd Park.

Threatened and Endangered Species

The NJDEP, Natural Heritage Program, was consulted for records pertaining to any threatened or endangered flora species within the project study area. The NJDEP has records for occurrences of four rare species that may be present within the study corridor. A copy of the NJDEP correspondence is contained within **Appendix A** of this EA document. In the fall of 1918, bur-marigold (*Bidens bidentoides*) and Nuttall's mudwort (*Micranthemum micranthemoides*) were observed along the Raritan River, opposite New Brunswick. In the summer of 1916, American purple vetch (*Vicia americana*) was observed below New Brunswick, presumably along the Raritan River or one of its unnamed tributaries. More recently, in the 1980s, tidal arrowhead (*Sagittaria spathulata*) was observed along the north shore of the Raritan River within Highland Park. Based upon field investigations conducted in the spring and fall of 1999 and winter of 2000, no rare species listed by the NJDEP were identified within the project corridor, nor was the preferred habitat for those species identified.

2. Wildlife

An inventory of wildlife present within the project study corridor was compiled based upon several site investigations conducted between the months of September 1999 and March 2000. Within this period, eight site visits were completed, three specific to inventorying wildlife within the project corridor. A list of all species of birds, mammals, reptiles and amphibians witnessed, observed evidence of, or anticipated/expected to be found within the project corridor was prepared. Observed evidence of wildlife included tracks, trails, animal scat, scrapes, rubs, or animal remains (e.g., feathers, snake skins, fur, skeletal remains, etc.). Anticipated or expected wildlife within the project study corridor was based upon *The Field Guide to Wildlife Habitats of the Eastern United States* and familiarity with the project corridor and surrounding area.

Consultation with the Middlesex County Parks Commission revealed that no wildlife inventories were conducted within the project corridor. Therefore, an inventory of wildlife species observed, evidenced or anticipated within the project corridor was developed. The following tables list the various wildlife species inventoried within the project corridor.

Route 18 Section 2F, 7E and 11H
Wildlife Species Anticipated or Observed Mammals

Wildlife Species	Anticipated or Observed
Cottontail rabbit	Observed
Field mouse	Anticipated
Gray squirrel	Observed
Opossum	Anticipated
Raccoon	Anticipated*
Striped skunk	Anticipated
White tail deer	Anticipated*
Muskrat	Observed
Chipmunk	Observed
Brown bat	Anticipated

*Site inspections revealed evidence of these species (e.g., scat, tracks, etc.)

Route 18 Section 2F, 7E and 11H
Wildlife Species Anticipated or Observed Birds

Wildlife Species	Anticipated or Observed
American woodcock	Anticipated
Warbler	Anticipated
Blue jay	Anticipated
Canada goose	Observed
Common crow	Observed
Eastern bluebird	Anticipated
Red tailed hawk	Observed
Yellow breasted chat	Anticipated
Red breasted robin	Anticipated
Cardinal	Anticipated

Route 18 Section 2F, 7E and 11H
Wildlife Species Anticipated or Observed Reptiles and Amphibians

Wildlife Species	Anticipated or Observed
Eastern box turtle	Observed
Eastern painted turtle	Anticipated
Garter snake	Anticipated
Bull frog	Anticipated
Redback salamander	Anticipated
Leopard frog	Anticipated

Threatened and Endangered Species

The NJDEP, Natural Heritage Program, was contacted for information pertaining to endangered or threatened faunal species and their habitats within the project area. No threatened or endangered faunal species were listed by the NJDEP as occurring within or in the immediate vicinity of the project corridor. Correspondence with the NJDEP Natural Heritage Program is contained within **Appendix A** of this EA document.

Impacts and Mitigation of Adverse Impacts

1. Vegetation

The proposed Route 18 project will affect five Level II Land Cover Classifications as described by Anderson *et al*. The land cover types are part of five broader Level I Classifications. The following table lists the vegetated land cover types that would be converted to highway use as a result of the proposed project. For the purposes of assessing impacts to vegetative land cover types, areas of herbaceous rangeland; mixed rangeland; deciduous forestland; forested wetland; and transitional area, which were not within the existing right-of-way but would be within the proposed right-of-way, were considered areas of an impact.

Route 18 Section 2F, 7E and 11H
Vegetative Land Cover Type Impacts

Level II Classification	Vegetative Area Converted to Highway Use hectare (acre)
31 – Herbaceous Rangeland	.009 (.022)
32 – Mixed Rangeland	No Impact
41 – Forestland	.603 (1.49)
61 – Forested Wetland	.058 (.143)
76 – Transitional Area	.031 (.078)

Although not directly converted to highway use, vegetation adjacent to the proposed right-of-way (ROW) may be affected by maintenance of the roadway. To the outside of the proposed ROW, a "clear zone" will be maintained for the safety of errant vehicles that may stray from the highway. The width of this zone will vary along the corridor depending on design of the roadway. Maintenance of the roadway that would affect vegetative cover would include mowing, the application of herbicides and the application of deicing materials, all of which would have a direct or indirect impact on vegetation adjacent to the roadway. In addition, toxins discharged from passing vehicles, including petroleum products, airborne emissions and particulates, may affect adjacent vegetation. Plants affected by these pollutants may become discolored, deformed or defoliate, resulting in the appearance of yellowish-brownish vegetation. However, this is similar to existing conditions and vegetation tolerant of these urbanized areas will persist along the Route 18 roadway.

Existing vegetation within the project area will be preserved to the greatest extent practical. Vegetation outside of the proposed right-of-way will be protected from damage due to construction activities by the installation of snow and silt fencing. In addition, the contractor will be restricted from disturbing any areas of natural flora, beyond what is required for implementation of the project.

Areas temporarily disturbed as a result of grading or construction activities will be seeded or planted with native species. Finally, the landscaping plan for the corridor will be compatible with the surrounding environment. The right-of-way will be planted with species that blend into the existing vegetation. No trees will be planted within areas defined as a "clear zone" adjacent to the travel lanes.

2. Wildlife

The conversion of existing areas of vegetation to highway use will have a minimal impact upon faunal species within the project area. Overall, the loss of available habitat will be negligible, as the proposed project will remain generally on the same alignment as the existing Route 18 roadway. In addition, secondary impacts to faunal species are not anticipated, as the project corridor is already a highly urbanized area and those species that utilize the habitat surrounding the roadway are accustomed to the noise resultant from motorists travelling the existing roadway. Most species would avoid the roadway, utilizing areas of habitat adjacent to the Raritan River that are removed from the mainline. This was evidenced through consultation with the City of New Brunswick Police Department, that revealed animal-vehicle collisions and accidents resultant from wildlife wandering onto the roadway are extremely uncommon along this section of Route 18.

No mitigation measures are proposed for impacts to existing wildlife populations within the Route 18 corridor. It is not anticipated that the implementation of the Route 18 project will impact any existing wildlife populations as the proposed new roadway alignment maintains the existing Route 18 footprint to the greatest extent possible, minimizing impacts to surrounding habitats. No threatened or endangered wildlife species were identified as occurring within or in the immediate vicinity of the project corridor.

D. Floodplains

Existing Conditions

The Raritan River flows parallel to the project corridor along the eastern side of the project limits. Floodwater inundation within the project corridor is mainly due to the backwater from the Raritan River. Although each of the existing tributaries to the Raritan River has an associated floodplain limit, the Raritan River floodplain elevation within the project corridor controls the extent of the floodplain impact within the project corridor. Limits of the Raritan River floodplain are depicted on **Figure 6**.

The Raritan River is a State Delineated watercourse with established Floodway and Flood Hazard Limits. Maps have been developed by the State and the defined limits reflect results of detailed studies. The Floodway and Flood Hazard Area Flood limits along a State Delineated watercourse are generally more accurate than a Federal Emergency Management Agency (FEMA) studied stream. According to these flood hazard maps, the flood elevation along the Raritan River varies between elevation 4.9-meters (16.3 feet) at the intersection of Route 18 with Route 27, to elevation 4.5-meters (14.5 feet) near the area below the George Street interchange.

The Raritan River floodplain is developed on the southbound side of Route 18 with residential and commercial facilities and extensive roadway infrastructure in place. On the northbound side of Route 18, development includes the Route 27 and New Street ramps, the former New Brunswick police station, Boyd Park, the Rutgers Boathouse and a staging area for recent canal renovations.

Impacts and Mitigation of Adverse Impacts

As a result of the proposed roadway improvements, impacts to the Raritan River floodplain consist of the following:

1. Placement of approximately 3,900 cubic meters (5,100 cubic yards) of net fill.
2. A net increase of about 5.1 hectares (12.6 acres) of impervious area within the project corridor.
3. Additional stormwater runoff.
4. Disruption to the natural flow of floodwaters due to the proposed construction of retaining walls and noise barriers within the floodplain limits of the Raritan River.

The net fill proposed to be placed within the Raritan River floodplain will be within the NJDEP allowable 20% fill limit as stipulated within the Stream Encroachment Regulations. A HEC-2 hydraulic computer model analyses will be performed during final drainage design efforts to demonstrate that the hydraulic impacts of encroaching into the State established floodway limits are minimal. It is anticipated that the hydraulic impact will be negligible. The project will comply with 23 CFR 650 subpart A regarding work activities that encroach into the floodplain.

Retaining walls will be required along the eastern edge of the proposed project to enable the northbound Route 18 collector-distributor roadway to rise in grade to meet the Commercial Avenue overpass. These walls will restrict the natural flow of floodwaters and result in the redistribution of these waters in comparison to existing conditions. However, the retaining walls are necessary in order to minimize encroachment of the roadway into Boyd Park and also assist in providing noise mitigation for the park. Any flow restriction and redistribution of the natural floodwater that would result from the retaining walls of the northbound Route 18 collector-distributor roadway are anticipated to be minimal and not significantly affect the hydraulics of the Raritan River.

E. Wetlands

Existing Conditions

Initial wetland investigations for the Route 18 Section 2F, 7E and 11H were completed in the Spring of 1999. These studies entailed limited field investigations to determine the presence or absence of any wetlands that did not appear on either the US Fish and Wildlife (USFWS) National Wetlands Inventory (NWI) maps or NJDEP Freshwater Wetlands Maps (FWWM), to investigate any low-lying areas as indicated on the USGS Topographical Quadrangle and to investigate any areas of hydric soils as indicated on the County Soil Survey. Suspected wetland areas were then generally depicted upon project mapping.

Subsequently, more investigative field studies were conducted in the months of February and March 2000, to delineate the boundaries of wetland areas previously identified. These investigations were conducted using the methods documented in the 1989 *Federal Manual for Identifying and Delineating Jurisdictional Wetlands*. The Federal Manual requires the identification of three parameters: hydric soils, hydrophytic vegetation and wetland hydrology, for an area to be classified as a wetland. The presence of any US Environmental Protection Agency (EPA) Priority Wetlands was determined through the review of the *Priority Wetlands List for the State of New Jersey* (EPA, 1989).

Three wetland areas were identified within the project study corridor limits as a result of the investigations. These areas have been designated as Wetland Area No. 1 through Wetland Area No. 3 and are depicted on **Figure 6**. All three wetland areas are palustrine systems associated with tributaries to the Raritan River. Each wetland is classified according to the Cowardin classification. Although the final Resource Value determination will be made by the NJDEP, the anticipated Resource Value and associated Transition Area width have been identified for each wetland area.

Wetland Area No. 1

Wetland Area No. 1 is comprised of both a palustrine, forested, broad-leaved deciduous (PFO1) class and a palustrine emergent (PEM) class. This wetland is located along the west side of Route 18, just north of Newell Avenue. Wetland Area No. 1 is associated with the Brook Down Deep Gully waterway, a tributary to the Raritan River that discharges along the steep slopes of the river.

The County Soil Survey maps soils within this area as Humaquepts soils. These soils include a group of soils that occupy low-lying areas along waterbodies and are frequently flooded. Humaquepts may exhibit hydric conditions. Wetland Area No. 1 would most likely be classified as Intermediate Resource Value by the NJDEP, and therefore, have an associated Transition Area of 16-meters (50 feet).

Wetland Area No. 2

Wetland Area No. 2 is a palustrine, forested, broad-leaved deciduous (PFO1) system located along the Raritan River shoreline, approximately 75-meters (245 feet) northeast of Carpender Road. This forested wetland area is associated with Brook Down Deep Gully, a tributary to the Raritan River that discharges along the steep slopes of the Raritan River.

The County Soil Survey maps soils within this area as Humaquepts soils. These soils include a group of soils that occupy low-lying areas along waterbodies and are frequently flooded. Humaquepts may exhibit hydric conditions. Wetland Area No. 2 would most likely be classified as Intermediate Resource Value by the NJDEP, and therefore, have an associated Transition Area of 16-meters (50 feet).

Wetland Area No. 3

Wetland Area No. 3 is a palustrine, forested, broad-leaved deciduous (PFO1) system located along the west side of Route 18, north of George Street. This forested wetland area is associated with one of the unnamed tributaries to the Raritan River that discharges via a concrete culvert to the Raritan River.

The County Soil Survey maps soils within this area as Klinesville shaley loam. These soils are not listed as hydric by the National Technical Committee for Hydric Soils (NTCHS), nor do they typically exhibit hydric conditions. Wetland Area No. 3 would most likely be classified as Intermediate Resource Value by the NJDEP, and therefore, have an associated Transition Area of 16-meters (50 feet).

Impacts and Mitigation of Adverse Impacts

Under the Preferred Alternative, it is anticipated that 0.058 hectare (0.143 acre) of freshwater wetlands and approximately 135 linear meters (443 linear feet) of Transition Area will be affected by the proposed project. The wetland impacts have been based upon the review of existing information, field investigations and the proposed Route 18 Section 2F, 7E and 11H alignment and interchange locations. It is anticipated impacts to wetlands and wetland Transition Areas will be permitted in accordance with the Freshwater Wetland Protection Act Regulations through a General Permit application. Furthermore, as the impacts are less than 0.4 hectare (1 acre), no mitigation will be required.

Wetland mitigation will not be required to mitigate the wetland losses due to construction, as wetland impacts will be less than 0.4 hectares (1 acre). It is anticipated the NJDEP will require a General Permit Number 6 for the proposed wetland impacts and a Transition Area Wavier for Linear Development will be required for activities within the Transition Areas. No impacts to tidal wetlands are anticipated as a result of the project.

F. Noise and Air Quality

1. Noise

Existing Conditions

Noise is an undesirable or unwanted sound perceived subjectively by the individual. Public health can be affected by the degree of noise in the environment. Sounds heard in the environment usually consist of a range of frequencies, each at a different level. The human ear does not respond equally to identical noise levels at different frequencies. The method of correlating human response to noise is called weighting. The weighting system used for this purpose is "A-weighting" and the resultant noise level is called the "A-weighted noise level" (dBA).

According to 23 CFR 772, FHWA's regulations for determining impacts, a project is defined as having noise impacts should either of the following conditions occur:

1. Predicted L_{eq} noise levels that approach or exceed the Noise Abatement Criteria (NAC).

Noise levels that approach the criteria are defined as occurring at 1 dBA less this criteria.

2. A substantial increase in predicted noise levels over existing noise levels even though the impact criteria level is not reached. This increase is considered to be 10 dBA or greater, which is roughly a doubling or more of the perceived noise levels.

Existing Noise Levels

The existing noise levels were monitored in 1997 utilizing automated digital noise measurement instrumentation at various locations in the project vicinity. Twelve measurement sites were selected for noise monitoring. The levels ranged from 57 to 76 dBA L_{eq}. **Figure 8A** depicts the measurement sites and the existing noise levels recorded at each site. Noise levels measured at six of the sites approached or exceeded the NAC for Category B land use indicating that currently there is a substantial impact of noise in these areas. **Figure 8B** depicts the Build and No-Build noise contours along the project corridor. All the sites had noise levels that were above the Threshold of Noise Interference indicating there is currently some effect of noise throughout the project corridor.

Route 18 Section 2F, 7E and 11H
Summary of Noise Impacts

LIMITS	ROUTE 18 NORTHBOUND	ROUTE 18 SOUTHBOUND
Route 1 to George Street	12 Residences 52 Apartments	4 Residences 6 Apartments Rutgers University Gibbons Campus
George Street to New Street	Boyd Park	28 Apartments Rutgers University-Antilles Field Riverside Towers
New Street to Northeast Corridor Rail Bridge	Boyd Park	None
TOTAL	**36 Residences 86 Apartments Riverside Towers Boyd Park Rutgers University – Gibbons Residence and Antilles Field**	

Impacts and Mitigation of Adverse Impacts

Predicted traffic noise levels for the No Build condition will increase 3 dBA or less over the existing noise levels. Noise level increases with the construction of the project are approximately 1 dBA or less for the project corridor with the exception of Boyd Park, where noise levels will decrease for a portion of the park. In the design year 2021, 36 residences, 86 apartment units, Riverside Towers, Boyd Park and a portion of Rutgers University (Gibbons Residences and Antilles Field) will be subjected to noise levels that approach or exceed the NAC Category B level of 67 dBA L_{eq} in the No-Build and Preferred Alternative Build conditions.

It should be noted that there are no situations where sensitive receptors below the NAC will experience a substantial increase in noise levels.

A recent inquiry with local officials indicated that one new development is currently planned in the project area. This proposed development consists of townhouses and apartments and will be located adjacent to Route 18 southbound, south of New Street. This development will replace the City of New Brunswick high-rise public housing complex (New Brunswick Homes).

No-Build Noise Levels

The No-Build condition assumes that major corridor upgrades would not be made. While minor improvements could be implemented, such as spot intersection improvements and roadway maintenance, the improvements would not significantly improve corridor mobility or meet the purpose and need as a safety improvement project. With the anticipated traffic growth in the Route 18 corridor, the predicted No-Build traffic noise levels will increase up to 3 dBA over the existing noise levels. Noise impacts to the communities fronting and exposed to Route 18 will worsen under the No-Build action. In the design year 2021, 36 residences, 86 apartment units, Riverside Towers, Boyd Park and a portion of Rutgers University (Gibbons Residences and Antilles Field) will be subjected to noise levels that approach or exceed the Noise Abatement Criteria Category B level of 67 dBA L_{eq} in the No-Build condition. The No-Build 66 dBA noise contour line is shown in **Figure 8B**.

Noise barriers, when properly designed and installed, are an effective means for reducing traffic noise at noise sensitive areas located along a roadway. The construction of noise barriers was found to be recommended for several areas within the project limits and are discussed in the following text.

Raritan Gardens Locations - A noise barrier 5.5-meters (18 feet) in height and 340-meters (1115 feet) long would eliminate the noise impact to 52 apartment units in the Raritan Gardens complex. No supplemental benefits will occur with this barrier because of extensive shielding from the apartment buildings. A barrier at this location is within the NJDOT/FHWA cost-benefit criterion, not including aesthetic treatments.

Carpender Road Location - All twelve residences on Carpender Road will have noise levels that approach or exceed the NAC for the No-Build and Preferred Alternative Build conditions. A barrier 5-meters (16 feet) high and 320-meters (1050 feet) long would eliminate all twelve residential noise

impacts. Two residences would receive little noise reduction in their front yards because of the access required at Route 18 and Carpender Road. There are no supplemental benefits for this noise barrier. A barrier at this location is within the NJDOT/FHWA cost-benefit criterion, not including aesthetic treatments.

Dewey Heights Location - The area known locally as Dewey Heights is adjacent to Route 18 southbound between Route 1 and the Rutgers University Cook/Douglass Campus. The at-grade intersection of Paulus Boulevard and Route 18 will remain under the Preferred Alternative. During the CPT meetings held for this project, residents of the Dewey Heights area who live on Phelps and Newell Avenues requested that if their streets continue to have access to Route 18 , they would want noise mitigation provided in the form of earthen berms. Noise mitigation was still found to be effective with the access provided in this area. Noise barriers with a total length of 690-meters (2,260 feet) and averaging 5-meters (16 feet) in height would reduce noise levels an average of 7 dBA for the Dewey Heights area. The earthen berm would be approximately 290-meters (950 feet) in total length. A total of twenty-four residences and six apartment units would receive a direct benefit from the barriers and six residences would receive supplemental benefit. A barrier at this location is within the NJDOT/FHWA cost-benefit criterion, not including aesthetic treatments.

Rutgers University-Gibbons Residences Location - The Gibbons residences house approximately 575 students and include a developmental center and four tennis courts. Although the area as a whole does not have noise levels high enough to warrant noise mitigation, a significant portion of the area does warrant mitigation. A barrier 3-meters (10 feet) high and 320-meters (1,050 feet) long would reduce noise levels to well below the NAC for the Gibbons residences.

New Brunswick Apartments Location - The New Brunswick Apartments Complex is located on Route 18 southbound between Tabernacle Way and Commercial Avenue. A barrier 5.5-meters (18 feet) in height and 190-meters (625 feet) in length would provide mitigation for all twenty-eight apartment units impacted by traffic noise with the direct benefit of the barrier, and four units would receive a supplemental benefit. A barrier at this location is within the NJDOT/FHWA cost-benefit criterion, not including aesthetic treatments.

Boyd Park Location - A significant portion of Boyd Park will have a reduction in noise levels with the construction of the Preferred Alternative. The Route 18 northbound collector-distributor roadway will be elevated in areas adjacent to Boyd Park thus shielding a portion of the park from Route 18 mainline traffic noise. Despite the elevated collector-distributor roadway, portions of Boyd Park will have noise levels that approach or exceed the Noise Abatement Criteria. Noise mitigation in the form of noise barriers was therefore investigated.

One noise barrier is recommended for Boyd Park with the Preferred Alternative. This barrier extends from north of Commercial Avenue to New Street. The barrier will vary in height from 3-meters (10 feet) to 5-meters (15 feet) and is 200-meters (650 feet) long. A barrier at this location is within the NJDOT/FHWA cost-benefit criterion, not including aesthetic treatments.

Rutgers University-Antilles Field - A small portion of the Rutgers University Antilles Field will have noise levels that approach or exceed the NAC under the Preferred Alternative build conditions. The field is elevated over 15-meters (50 feet) above Route 18. The closest portion of the field,

approximately within 9-meters (30 feet) of the parapet wall bordering the field, will have noise levels high enough to warrant noise mitigation. Noise barrier is not being proposed due to the limited impact of traffic noise.

Conclusions - In the final design phase of project, the NJDOT will conduct a Final Noise Study for the corridor. The Final Noise Study will reassess all the results in this report as well as address remaining issues with regards to traffic noise mitigation. These issues would include the selection of the type of noise barrier, changes in the land use within the project area, community input and any design changes to the project.

The area adjacent to the Route 18 construction limits will experience an increase in noise levels during construction. Construction noise levels are estimated to be as high as 90 dBA during the peak of construction. Standard NJDOT construction noise specifications will be incorporated in this project.

Construction of the proposed Route 18 Section 2F, 7E and 11H project will alleviate current traffic congestion and provide more free-flow conditions. This will have an end result of an overall improvement of the air quality in the project area. Therefore, no mitigation measures are proposed.

2. Air Quality

An Air Quality assessment was conducted for the proposed Route 18 Section 2F, 7E and 11H Project. This assessment was prepared pursuant to requirements set forth by the FHWA in Title 23, Code of Federal Regulations (CFR) Part 771, Title 40 CFR Part 51 Subpart T USEPA Guideline for Modeling Carbon Monoxide from Roadway Intersections (USEPA, 1992) and DEP, February 1995 Publication on Air Quality Analysis for Intersections were used in preparing this assessment.

This assessment is consistent with legislation requiring air quality assessment for Federally funded projects. In order to obtain Federal funds for a highway project, the project must be certified to be in conformance with an approved State Implementation Plan (SIP), and State Transportation Improvement Plan (STIP).

Methodology

The following information was used for the analysis.

1. Project Plans
2. LOS traffic data for the signalized intersection
3. STIP Status

Carbon Monoxide (CO) Analysis

In CO nonattainment or maintenance areas, quantitative analysis (mathematical modeling) of Carbon Monoxide (CO) for those project related intersections which yield LOS D, E. or F or will change to LOS D, E, or F only will be required.

This project is located in a **CO Attainment Area**.

The proposed project will provide a new interchange at Commercial Avenue which will eliminate the existing traffic light at this Intersection. This in turn will eliminate the congestion and "Stop and Go" traffic conditions now experienced at this signalized intersection, and will help improve the air quality in the area.

The Route 18 Paulus Boulevard intersection will be maintained as a signalized intersection with the proposed traffic data for this intersection clearly indicating that the Design Year peak hour (AM and PM) LOS for this intersection will be better than No-Build peak hour (AM and PM) LOS. The Design Year LOS for the ETC year 2006 will be "B" for both AM peak hour and PM peak hour traffic conditions. The Design Year LOS for the Design Year 2021 will be "C" for both AM peak hour and PM peak hour traffic conditions.

This project therefore does not require CO quantitative (mathematical modeling) analysis, and will not have a negative impact on the local air quality.

Carbon Monoxide (CO) NJDEP Air Monitoring Data

The national Carbon Monoxide (CO) standard is 9.0 parts per million (ppm) averaged over an eight-hour period.

Conformity Determination

The USEPA promulgated the Transportation Conformity Rules (TCR) under the Clean Air Act Amendments (CAAA), effective December 27, 1993. The TCR provides Criteria and Procedures for Determining Conformity to State Implementation Plans (SIP) of Transportation Plans, Programs, and Projects funded or approved under Title 23 U.S.C. or the Federal Transit Act. This project is located in a **Carbon Monoxide (CO) attainment area** and in Ozone nonattainment area, hence a conformity determination is required. The conformity requirements are as follows:

1. The project must come from a conforming Transportation Plan and Program.
2. In CO nonattainment areas, the project must eliminate or reduce the severity and number of violations of the NAAQS for CO.

Route 18 Section 2F, 7E, and 11 H project is included in the approved Fiscal Years 2000-2002 STIP. This project was also included in the Regional Emissions Analysis performed by the North Jersey Transportation Planning Authority (NJTPA) for the Northern New Jersey Air Quality Conformity Determination of FY2000-2002 Transportation Improvement Program/SIP. This project is located in a **CO attainment area**. This project, therefore, complies with the conformity requirements established by the Clean Air Act Amendments of 1990.

This project will have no adverse impact upon air quality.

G. Socio-economic and Land Use

Existing Conditions

Socio-economic and land use planning impacts were evaluated by first establishing a Study Area for review of these issues. For the socio-economic analysis, the Primary Study Area was established as the census tracts adjacent to the Route 18 corridor within the City of New Brunswick. **Figure 2** shows the Project Corridor. The Secondary Study Area was established as the City of New Brunswick. In order to evaluate land use impacts for the Route 18 project, the area within 305-meters (1000 feet) of the roadway corridor was reviewed. Land use data was obtained through a review of the *1995 Master Plan* for the City of New Brunswick and a review of mapping of the area.

1. Social and Economic Profile

Social Profile

The Primary Study Area lies entirely within the City of New Brunswick in Middlesex County. The Primary Study Area includes census tracts 0054, 0059 and 0060, which are further subdivided into ten block groups, eight of which are located adjacent to the Route 18 corridor. The Secondary Study Area refers to the City of New Brunswick.

The Primary Study Area contains a mix of commercial, institutional and residential uses, with the concentration of commercial uses focused around the central portion of the City of New Brunswick. The residential uses are distinct communities within the block groups. The communities are Riverwatch Commons, New Brunswick Homes, New Brunswick Apartments and Riverside Towers, Rutgers Cook/Douglass Campus, Raritan Garden Apartments and Carpender Road residences, Newell Avenue and Dewey Heights Neighborhoods, University Mews and TOV Manor.

<u>Population</u>

The total population of the Primary and Secondary Study Areas, and Middlesex County is summarized in the following table. Population estimates developed by the Middlesex County Planning Board indicate that for the Secondary Study Area there have been very marginal changes in population since the 1990 U.S. Census, which indicated a city population of 41,711 people. The Primary Study Area population in 1990, 10,056 people, represented approximately 24% of the city's population. It is reasonable to assume, therefore, that the population of the Study Area is fairly represented in the Middlesex County Planning Board Population estimates for the city.

Route 18 Section 2F, 7E and 11H
Study Area and Regional Population Estimates

Source	U.S. Census		Middlesex Co. Planning Board Estimates		
Date	1980	1990	1992	1994	1996
Primary Study Area	N/A	10,056	N/A	N/A	N/A
Secondary Study Area	41,442	41,711	42,138	41,266	41,534
Middlesex County	595,893	671,810	682,661	692,900	708,118

The following table indicates the estimated changes in population and the growth rates for the Secondary Study Area and for Middlesex County. The county grew at a substantially faster rate between the 1980 and 1990 censuses than the City of New Brunswick. Based on Middlesex County population estimates, the county continued in the 1990s to grow at more than double the average rate of the Secondary Study Area, which lost population between 1992 and 1994.

Route 18 Section 2F, 7E and 11H
City of New Brunswick and Middlesex County Growth Rates

Source	U.S. Census			Middlesex County Planning Board Estimates			
Date	1980	1990	Growth Rate From 1980 – 1990	1992	1994	1996	Avg. Growth Rate From 1992 – 1996
Secondary Study Area	41,442	41,711	0.65%	42,138	41,266	41,534	-1.43%
Middlesex County	595,893	671,810	11.30%	682,661	692,900	708,118	1.82%

The characteristics of the population within the Primary Study Area are consistent with the Secondary Study Area. The racial demographics for the U.S. Census block groups within the Primary Study Area and for the Secondary Study Area are shown in the following table. Persons of Hispanic background are counted as an overlapping group of the racial demographic in the U.S. Census.

Route 18 Section 2F, 7E and 11H
1990 U.S. Census Racial Distribution

Source	White	Black	Native American	Asian	Other	Total	Persons Of Hispanic Origin*
Primary Study Area	5,487 (54.6%)	3,449 (34.30%)	70 (0.70%)	371 (3.69%)	679 (6.75%)	10,056	1,481 (14.72%)
Secondary Study Area	23,929 (57.37%)	12,337 (29.58%)	1,651 (3.96%)	130 (0.31%)	3,664 (8.78%)	41,711	7,769 (18.63%)

Source: US Bureau of The Census, Table STF3A, 1990.
* Note: Hispanic Population can be of any race and includes overlapping groups

Communities

An examination of census data at the block group level gives an insight of the population and housing characteristics of the communities and neighborhoods within these block groups. **Figure 9** shows the location of communities within the Primary Study Area. The largest portion of the overall population in both the Primary and Secondary Study Areas is between the ages of 18 and 29 years of age. This statistic is reflective of the large student population (4,000 +) associated with nearby Rutgers University.

Housing

The housing stock within the Primary Study Area can be characterized by a larger percentage (88%) of multi-family housing of two or more units, than single-family units, attached and detached. There is a slightly higher concentration of high-rise and multi-family housing within the Primary Study Area, approximately 88% as compared to 70% within the Secondary Study Area. The Primary Study Area contains and borders the central commercial concentration of the City of New Brunswick where a number of high-rise apartment buildings are located. The Riverwatch Commons, New Brunswick Homes, New Brunswick Apartments, and Riverside Towers, and the residences west of Neilson Street, between New Street and Tabernacle Way, consist mostly of multi-family units. The majority of single-family homes within the Primary Study Area are located in the communities along Newell Avenue, Carpender Road, and Dewey Heights, and west of Neilson Street between Tabernacle Way and Bishop Street.

Nearby Rutgers University also affects the housing trends within the City of New Brunswick. The *1995 Master Plan* for the City of New Brunswick indicates that lower rates of owner-occupied housing as well as lower tenure of occupancy can in large part be attributed to the growing demand for off-campus student housing. Single family housing stock is frequently converted to rental housing to meet this demand. Based upon 1990 U.S. Census data, the rate of owner-occupied housing is roughly 30% for the Secondary Study Area. Within the Primary Study Area this rate is even lower at approximately 7%. The Dewey Heights and Newell Avenue neighborhoods and also the community west of Neilson Street between Tabernacle Way and Bishop Street has the largest number of owner-occupied housing. The communities north of New Street and on the Rutgers campus have no owner occupied units. This conversion of single-family homes to rental units also affects the availability of affordable housing. The *1995 Master Plan* for the City of New Brunswick indicates a clear objective to "improve affordability of housing units for low and moderate income families and to increase home ownership in the city." The housing characteristics within the Primary and Secondary Study Areas are shown in the table below. This table also includes data for vacant homes within the Primary and Secondary Study Areas which indicates that both areas have relatively low rates of unoccupied housing, a marker of the economic well-being of a community.

Route 18 Section 2F, 7E and 11H
Overall Housing Characteristics Based On 1990 U.S. Census Data

Study Area	Total Households	Owner Occupied Households	Vacant Homes
Primary Study Area	3,046	224 (7.35%)	226 (7.42%)
Secondary Study Area	13,556	4110 (30.32%)	845 (6.23%)

Economic Profile

As shown in the following table, the 1990 unemployment rate for the Primary Study Area is high in comparison to that of the Secondary Study Area. Employment estimates for 1995 from the Middlesex County Planning Board indicated that the unemployment rate for the county increased from 4.6% to 5.7% between 1990 and 1995. The New Jersey Department of Labor data for the same period shows an increase in the county unemployment rate from 4.5% in 1990 to 5.5% in 1995. The Planning Board and Department of Labor data are similar and indicate a comparable change. While there are no existing unemployment estimates at the U.S. Census tract level, based on the consistent estimates from both the NJ Department of Labor and the Middlesex County Planning Board it is reasonable to assume that the Secondary Study Area unemployment rates apply to the Primary Study Area as well.

Route 18 Section 2F, 7E and 11H
Unemployment Rates and Unemployment Estimates

Source	1990 U.S. Census Data			Middlesex County Planning Board	NJ Dept. of Labor
Date	Primary Study Area	Secondary Study Area	Middlesex County	Middlesex County	Middlesex County
1990	10.32%	5.62%	3.52%	4.6%	4.5%
1995	N/A	N/A	N/A	5.7%*	5.5%

** The 1995 data is estimated.*

The employed population within both the City of New Brunswick and the Primary Study Area is primarily employed within technical, sales, and administrative fields, followed by professional and service fields. This data supports City of New Brunswick data which list the five largest employers as Rutgers University, the three major medical institutions: Robert Wood Johnson Medical Center, St. Peter's University Hospital, and University of Medicine and Dentistry of New Jersey, and Johnson & Johnson. All are employers with large professional and support staff.

Based upon 1990 U.S. Census data, the average median income in the Primary Study Area ($27,237) was slightly below the average for the Secondary Study Area ($28,289). The 1990 U.S. Census data indicates that the average median income was $40,927 for the state and $45,623 for the county. These figures demonstrate that in 1990, Middlesex County was somewhat representative for the state; however, the Primary Study Area has a much lower average median income than that of the county or state. According to 1989 data from the U.S. Census, the residences west of Neilson Street, between Tabernacle Way and New Street, and the Rutgers University Campus have the lowest median income ($8,057) within the Study Area. The Newell Avenue and Dewey Heights Neighborhoods, University Mews and TOV Manor Apartments have the highest median income ($46,932).

2. Land Use Profile

Community Facilities

There are many important community facilities located within the Primary Study Area, as illustrated in **Figure 9.** However, the most prominent facility with regard to this project is Boyd Park, located along the Raritan River east of the Route 18 project corridor. The location of this park restricts pedestrian accessibility, because Route 18 lies between the park and the residential communities of the City of New Brunswick. This recently renovated 4.2 hectare (10.3 acre) park includes the following active recreation facilities: two tennis courts; a performance pavilion; a playground; and fishing facilities. For passive recreation, there are trails, two picnic areas, and scenic views. Recent renovations expanded the park facility to the Rutgers University Boathouse, improved pedestrian and vehicular access, and included preservation/restoration of the historic Delaware and Raritan Canal lock facility. The park is currently accessible to pedestrians via two existing pedestrian overpasses located at New Street and Tabernacle Way. It is also accessible from Commercial Avenue, requiring

pedestrians to cross six Route 18 travel lanes and the wide median at the traffic signal.

There are a number of schools and religious institutions located within the Primary Study Area that serve the surrounding community, including the Mount Zion African Methodist Episcopal Church located between Hildebrant Way and Neilson Street. The center of local government, City Hall and City Hall Annex, located within the Primary Study Area on Bayard Street, house city administration offices and the Departments of Welfare, Recreation, Code Enforcement and Fire Prevention for New Brunswick. Cultural resources include the Agnew House and the restored Delaware and Raritan Canal Locks within Boyd Park. Other important community facilities include the regional medical center of Robert Wood Johnson University Hospital (RWJUH) and St. John's Community Center health clinic. The former New Brunswick police department headquarters, located at the west end of Boyd Park, was vacated after recent flooding. The facility is used by the police department for storage and maintenance. The city's police department administrative offices are temporarily located on Morris Road, between Livingston Avenue and George Street. The site is currently being considered for other uses by the city, but plans were only conceptual at the time this EA was prepared.

Land Use Profile

As noted earlier, the City of New Brunswick is bounded by the Raritan River and Route 18 on the northeast, and is intersected by both the Amtrak Northeast Corridor Bridge and Route 1. The city's growth adjacent to these transportation facilities has stimulated its current land use diversity.

The predominant land use types are residential institutional and mixed-use commercial/residential. Primary commercial and business development spreads along the 'spokes' of the city's radial street pattern and adjacent to the heavily trafficked crossing streets such as George Street. The major public core developed within the area bounded by the Amtrak Northeast Corridor rail line to the northwest, George Street to the west and along New Street to the south. This is also the center of the heaviest commercial development of the Primary Study Area, including the land toward Route 18 and Hamilton Street.

Large residential neighborhoods can be found occupying the land north of Suydam Street southwest of the Route 18 and Route 1 interchange. These neighborhoods are characterized by a variety of housing types ranging from high-density (apartment complexes) to single-family dwellings. The Rutgers University Cook/Douglass Campuses also represent a major residential sector within the City, housing over 4,200 students. The Douglass Campus is adjacent to Route 18 and extends along approximately 25% of the Route 18 corridor. This portion of the Douglass Campus includes the New Gibbons and Old Gibbons student residences which provide housing for 570 students. The Cook Campus is primarily west of George Street and closer to Route 1. Both campuses are connected by common central facilities which are shared by the students. The campuses include a diversity of land use comprised of agricultural fields, woodland stands, herbaceous and wooded wetlands, and residential and recreational lands. As described earlier, Boyd Park and its adjacent land provide an essential recreational and open space resource for city residents.

Based on conversations with local officials, development along the immediate corridor is currently at a standstill; however, there are three proposed projects that are in various stages of the planning process. These include the HOPE VI development at the New Brunswick Homes property, the Matrix Development Corporation residential project between New Street and Richmond Street at southbound Route 18, and redevelopment of the former police station site on the east side of Route 18. These proposed developments are summarized in the following table.

Route 18 Section 2F, 7E and 11H
Summary of Proposed Developments

Project Description	Location	Size	Status
HOPE VI	New Brunswick Homes (Tabernacle Way and Route18) and in the surrounding Lower George Street neighborhood	198 new housing units on 7 sites. At New Brunswick Homes, 246 high-rise public housing units are replaced with 70 mixed income low-rise units.	Approvals have been obtained and construction of off-site units are underway.
MATRIX DEVELOPMENT	Between New and Richmond Streets along southbound Route 18	400 apartment units.	Conceptual plans only. No formal approvals from the City.
POLICE STATION	Between Route 27 and New Street on the east side of Route 18, adjacent to Boyd Park.	Undetermined	Conceptual stage

Source: City of New Brunswick, Department of Community and Economic Development

Impacts and Mitigation of Adverse Impacts

1. Social and Economic

Social Impacts

Social impacts include actions that result in displacement of people and businesses, affect community cohesion, and result in changes to the accessibility of community facilities or services. Each of these subcategories is discussed in this section.

Property Impacts

One business, one former community facility, and two residential properties are proposed to be displaced under the Preferred Alternative. The Gulf Service Station business, located on the west side of Route 18 at Commercial Avenue, will have to be acquired to accommodate the project improvements and enable placement of a new pedestrian overpass to Boyd Park. The former New Brunswick police station, between Route 27 and New Street on the east side of Route 18, is proposed for demolition due to impacts to the existing building. Two residential properties, the first located adjacent to the existing jughandle at southbound Route 18, between Paulus Boulevard and Dewey Drive, and the second, the Agnew House, located south of the proposed Route 18 southbound slip ramp to Route 1 southbound, will be acquired. The locations of these properties in relation to the Route 18 corridor are described in the following table and shown on **Figure 10**.

Route 18 Section 2F, 7E and 11H
Properties Proposed for Displacement

Location	Description	Approximate Size	Comments
East Side of Route 18, South of Route 27 and North of New Street	Former Police Station Primarily vacant but used for limited maintenance and storage by New Brunswick Police Dept.	1.3 hectare (3.2 acres) (total parcel)	Impacts approximately 0.24 hectares (0.6 acres) including frontage, access, and existing building. Building will need to be demolished**.** At this time, property will remain under city ownership.
Residential property along southbound Route 18 between Paulus Boulevard and Dewey Drive.	Private Residence	0.29 hectare (0.71 acre) (total parcel)	Improved and relocated jughandle and expanded berm impact entire property. Building will need to be demolished and site acquired by NJDOT.
West side of Route 18 southbound, at Commercial Avenue intersection.	Gulf Service Station	0.23 hectare (0.57 acre)	Improvements for southbound collector-distributor Road will encroach upon building. Structure will need to be acquired and demolished by NJDOT.
Residential property along southbound Route 18, along slip ramp to Route 1 southbound	Private residence	0.37 hectare (0.92 acre)	Improved and relocated slip ramp impact property frontage and northeast corner of building. Building potentially may be demolished or relocated on property.

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In addition to the above property impacts, a number of other properties will be impacted under the Preferred Alternative, by primarily partial right-of-way acquisitions resulting in the loss or change of landscaping, reduction of lot size, and changes to general access or parking. One property will be impacted by a full acquisition of four lots in the City Docks area; however, these lots will be acquired by NJDOT and then returned to public use. These property impacts and acquisitions are not expected to adversely impact the existing use of the properties. Properties that will be impacted but not displaced are summarized in the following tables.

Route 18 Section 2F, 7E, and 11H
Properties Impacted By Route 18 Project
(Northbound Route 18)

Location	Description	Approximate Area to be Acquired (Preliminary Estimate)	Impact
Raritan Gardens Apartments, south of Paulus Blvd. cul-de-sac	Buffer area along Ramp H to Route 1.	0.03 hectare (0.08 acre)	Widen Ramp H - Minor impact along buffer area.
Raritan Garden Apartments, north of Paulus Blvd. cul-de-sac	Buffer area along Route 18 northbound as it approaches Paulus Blvd. Entrance	0.02 hectare (0.06 acre)	Minor impact along buffer area. Also, proposed reconfiguration of entrance at Paulus Blvd. with new loop road.
North side of Paulus Blvd. along northbound Route 18 to Carpender Road	Heavily wooded, steep slope, vacant	0.13 hectare (0.33 acre)	Minor impact along top of slope.
Residences on Carpender Road	4 homes with rear yards along northbound Route 18	0.06 hectare (0.15 acre)	Minor acquisition along rear property lines for Route 18 improvements. Addition of noise walls along northbound Route 18. [1]
Residence on north side of Carpender Road entrance	1 single-family residence with rear yard facing northbound Route 18	0.065 hectare (0.16 acre) (Includes adjacent vacant land)	Minor acquisition along rear yard for Route 18 improvements.

Route 18 Section 2F, 7E, and 11H
Properties Impacted By Route 18 Project
(Northbound Route 18)
Continued

Location	Description	Approximate Area to be Acquired (Preliminary Estimate)	Impact
City Docks Area along Raritan River, north side of George Street intersection and Boathouse Drive	City Docks to Raritan River, Rutgers Boathouse Drive	0.71 hectare (1.76 acre)	Boathouse Drive elevation modifications results in the loss of 24 existing parking spaces from the parking lot. Cul-de sac will be provided for easier access to site and to provide 32 new parking spaces and expanded Boyd Park area.
Boyd Park, from Boathouse Drive along northbound collector-distributor road to Commercial Avenue	Parkland, buffer area	0.36 hectare (0.89 acre)	Minor acquisition along northbound collector-distributor road for structural walls to Commercial Avenue Overpass.
Boyd Park, from ramp at Commercial Avenue to New Street Ramp NS, including connection to new pedestrian overpass near Tabernacle Way	Parkland along northbound collector-distributor road	0.299 hectare (0.74 acre)	Minor acquisition needed for Commercial Avenue Overpass.

Notes: [1] Visual impacts to residential properties described in Aesthetic TES. Noise impacts addressed in Noise TES.

Route 18 Section 2F, 7E, and 11H
Properties Impacted By Route 18 Project
(Southbound Route 18)

Location	Description	Approximate Area to be Acquired (Preliminary Estimate)	Impact
Richmond Street at southbound collector-distributor road	Riverwatch Commons	0.008 hectare (0.02 acre)	Minor R.O.W. at corner of Richmond and southbound collector-distributor road for roadway improvements and new cul-de-sac. No impact on property.
Matrix site/parking lot North side of Richmond St. south to New Street	Parking lot	0.28 hectare (0.69 acre)	R.O.W. needed for southbound collector-distributor road and new ramp to New Street. Minor impacts to parking lot. [1]
Southbound collector-distributor road between New Street and north side of Tabernacle Way	New Brunswick Homes Towers	0.053 hectare (0.1293 acre)	R.O.W. needed for collector-distributor road and replacing existing pedestrian overpass. Minor impacts to buffer area on east side of property.
Southbound collector-distributor road Tabernacle Way to Commercial Avenue.	New Brunswick Apartment Parking lot and Gulf Service Station	0.32 hectare (0.8013 acre) (total required along both southbound collector-distributor road and Commercial Ave. See below)	R.O.W. needed for collector-distributor road and area for new pedestrian overpass at Tabernacle Way. R.O.W needed for pedestrian access to new overpass at Commercial Avenue. [2] Minor impact to parking lot. Gulf Service Station will be acquired and displaced.
North side of Commercial Avenue from southbound Route 18 to Neilson Street	New Brunswick Apartment Complex Parking lot entrance and buffer areas	Above total includes Commercial Street acquisition	Minor impact to parking lot driveway and buffer areas along buildings. [2]
Southbound collector-distributor road from Commercial Ave. to Exxon Service Station Property	Riverside Towers Apartment Building Parking Lot (front)	0.129 hectare (0.32 acre)	R.O.W. along parking lot for new overpass and retaining wall. Impact to parking lot of approximately 5-10 spaces. Lot to be redesigned and spaces replaced.
South side of Commercial Avenue from southbound collector-distributor road to Neilson Street	Riverside Towers Parking lot (rear) and buffer area along street.	Above total includes Commercial Street acquisition	Minor impacts to buffer area and rear parking lot. No parking spaces will be lost.

Route 18 Section 2F, 7E, and 11H
Properties Impacted By Route 18 Project
(Southbound Route 18)
Continued

Location	Description	Approximate Area to be Acquired (Preliminary Estimate)	Impact
Frontage between Riverside Towers property and Exxon Service Station	Exxon Service Station	No R.O.W. required	Change in access driveway location.
Frontage between Exxon property and George Street Ramp	Rutgers University Cook/Douglass Campus buffer areas along roadway.	0.30 hectare (0.75 acre)	Impacts to rock outcrop and vegetated areas along campus.
George Street Entrance Ramp to southbound Route 18 merge point.	Buffer and Parking areas adjacent to Gibbons Court Housing.	0.81 hectare (2.0 acres)	Minor impacts to vegetated areas along Route 18 southbound. Parking lot area will be impacted, but not parking spaces.
Southwest Corner of Phelps Avenue and southbound Route 18	Parking lot for University Mews Condo units 20-30.	464.5 sq. meters (5,000 sq. feet)	Berm to be constructed along southbound Route 18 will be designed to avoid loss of parking for units. [3]
Residences along Taylor Drive to Crest Road	Rear yards of 8 single-family homes	0.06 hectare (0.14 acre) (Total for all properties)	Minor impacts to rear yards that are heavily vegetated for noise wall.
Residential and vacant land along southbound Route 18 from Crest Road to Ramp C of US Route 1	Agnew House (listed on National Register of Historic Places) Single-Family Residential	0.37 hectare (0.92 Acre) Includes Agnew house and adjacent parcel	Impacts approximately 0.089 hectares (0.22 acres) of historic property including structure, due to widening. Structure to be potentially relocated on same property.

Notes: [1] Residential complex will be redeveloped on this site. See description in **Land Use Profile** section of this EA.

[2] Relocation and construction of a new pedestrian overpass at Tabernacle Way will require modifications to the existing parking lot now serving the New Brunswick Apartments at the corner of Tabernacle Way and Route 18, southbound. Although land will be acquired from this existing parking lot, the lot will be reconfigured so that no parking spaces are lost.

[3] Based on currently proposed plans, a portion of a parcel serving as a parking lot for the University Mews Complex, located at Route 18 southbound and Phelps Avenue, will be used to construct a large landscaped berm. The parking lot currently contains approximately 20 spaces and serves approximately 10 units. The berm will be designed so as to avoid loss of parking spaces for the residents.

In addition to the impacts previously summarized, widening will be required along the north side of New Street along the parking lot area from southbound Route 18 to Neilson Street. This parking lot will be minimally impacted, as most of the widening will involve buffering vegetation. However, 20 parking spaces may be affected due to the shifting of the road. Re-striping of the existing parking spaces will minimize the number of actual spaces lost.

Based on the information summarized in the preceding tables, the majority of impacts to properties adjacent to Route 18 under the Preferred Alternative will be minor and involve changes in landscaping, access, and slight reductions in lot size. Impacts to the City Docks will not be significant, as the lots are currently not improved. The land is owned by the New Brunswick Development Corporation, a public/private partnership, and will become part of the improvements to Boyd Park and its access. The potential relocation of the Agnew House, a residential property listed on the National Register of Historic Places, on the existing parcel would significantly mitigate impacts to the site (Historic Architecture TES considers the project's impacts and implications on the Agnew House in greater detail).

Community Cohesion Impacts

Communities are defined as self-contained areas in which residents share common demographic characters such as income, race, housing type, etc. A number of communities were identified within the Primary Study Area for this project including Riverwatch Commons, the New Brunswick Homes, the New Brunswick Apartments, Riverside Towers, Raritan Gardens Apartments, University Mews, TOV Manor, and the Newell Avenue, Carpender Road and Dewey Heights neighborhoods. The locations of these communities are illustrated on **Figure 9.**

The characteristics of the neighborhoods varied significantly from the western edge of the corridor to the eastern limit. Data suggests that low-income communities and disadvantaged populations (i.e. minority, elderly, and disabled) are more sensitive to highway related impacts such as displacements and access to community facilities and services. These types of communities are present in the Primary Study Area and include Riverwatch Commons, New Brunswick Homes, New Brunswick Apartments, and Riverside Towers.

An examination of the types of impacts related to the project, including minor acquisitions, displacements, and changes in access and traffic operations, are not expected to result in significant adverse effects upon community cohesion.

One commonly used indicator of community cohesion is the stability of the neighborhood or community. The stability can be gauged by examining home ownership, length of ownership and type of dwelling data. Neighborhoods that are more stable tend to be less sensitive to highway-related impacts. Displacement is generally considered a disruption to community cohesion. Other social characteristics indicating sensitivity to impacts include the presence of handicapped persons, median income, and persons per household.

The Preferred Alternative requires that Route 18 be widened and improved at many locations within the Primary Study Area. As this project involves improvements to an existing highway, and the majority of the right-of-way acquisitions will only slightly reduce property size, there will be little negative effect on community cohesion or existing land use. Rather, these acquisitions and the associated improvements will serve to improve traffic circulation and operations within the project corridor, improve pedestrian access to community facilities, and increase pedestrian and bicyclist safety through additional pedestrian walkways, bike trails, overpasses and improved intersections.

The multi-use path and sidewalk to be incorporated in the Preferred Alternative will beneficially impact Community Cohesion by enhancing and improving mobility for residents. Providing safe and adequately designed paths solely for pedestrian and bicycle travel will greatly improve the interconnection of the various communities along Route 18. Residents in the Route 18 communities will be able to gain access more easily to the social, recreational, cultural and employment opportunities available in the City of New Brunswick and along Route 1. Access to Boyd Park will also be improved, enabling Route 18 community residents to take full advantage of this resource.

However, all points of conflict with vehicular traffic and users of the multi-use paths and sidewalks have not been eliminated. Locations where pedestrians must cross active travel lanes will be retained, but they will occur on the collector-distributor roadway. This facility's physical and operational conditions will be more pedestrian friendly, as travel speeds will be lower and the number of lanes to cross will be minimized. Traffic signals with pedestrian actuation features will be provided to make the crossing points as safe as possible.

Displacements

Displacements (residential and commercial) were previoulsy discussed under the **Impacts, Social and Economic** Section of this EA document.

Social/Economic Mitigation Measures

As part of the Route 18 project, an important community involvement process was initiated and continues to keep the public informed of project progress, as well as provide an opportunity for public input. This on-going process involves coordination among municipal leaders, business representatives, community representatives and state and federal agencies. Through this public involvement process, the majority of concerns regarding community cohesion and accessibility are being identified and addressed. Furthermore, the NJDOT Relocation Assistance Program will work to ameliorate impacts to the residents of the one residential displacement and to the businesses displaced within the Primary Study Area. The NJDOT Relocation Assistance Program assists displaced families or individuals in finding suitable replacement housing.

Relocation assistance is provided under provisions of the Federal Uniform Relocation Assistance and Real Property Policies Act of 1970.

Mitigation measures include relocation payments and services provided under provisions of the Federal Uniform Assistance and Real Property Acquisition for Federal and Federally Assisted Programs Act of 1970, as amended in the Federal Uniform Act Amendment, effective March 2, 1989 (Chapter 50 NJ Public Laws of 1989). This law is designed to ensure the prompt and equitable relocation of persons displaced as a result of federally funded projects. The services and payment provided include the following:

- Assistance in finding replacement dwellings;
- Moving expense reimbursement;

- Payment of replacement housing supplements, mortgage interest rate differentials, and closing costs to assist in the purchase of a new home;
- Payment of rent supplements that may be converted to a down payment, enabling a tenant to become a homeowner;
- Last-resort housing, if needed; and
- Provision of related support services and assistance.

Sufficient available residential listings exist in the area to accommodate relocation for the displaced households. Relocation of these households could be accomplished in a period not to exceed 24 months from the start of the relocation process.

Where necessary, a determination will be made during the ROW negotiating phase regarding the continued viability of an affected business due to the loss of considerable parking spaces; i.e., a "cost-to-cure" mitigation proposal will be weighed against the cost of displacing a business. If mitigation is not viable, the business may be considered displaced and eligible for the full array of relocation benefits.

The required business relocations would occur without any difficulties; and no substantial impacts to local employment would result. The loss of area jobs will be minimal, because the businesses that will be taken are willing to be relocated to the nearby project area.

Relocation assistance to displaced businesses will be provided under the provisions of the Federal and Federally Assisted Programs Act of 1970 as amended in the Federal Uniform Act Amendment, effective March 2, 1989. This law is designed to ensure the prompt and equitable relocation and re-establishment of business displaced as a result of a federally funded project. Based on this law, the NJDOT's Bureau of Property and Relocation offers a relocation assistance program with the following services:

- Assistance in finding replacement business locations;
- Moving expense reimbursement;
- Allowance to businesses in lieu of moving reimbursement; and
- Business re-establishment expenses.

These services will be made available to all affected businesses in the project area.

The Agnew House, also discussed in the Historic Architecture TES, will be relocated on its present site to ameliorate any significant impacts to this residence. All actions taken on this property are being coordinated between NJDOT and the NJHPO. For the police station site, the majority of the administrative activities were moved from this location. The police currently use the site for maintenance activities and storage. Suitable locations for replacement of these storage and maintenance facilities will be coordinated between the city and NJDOT.

Part of the mitigation proposed for the impacts to Boyd Park include the acquisition of the City Docks area at the terminus of Boathouse Drive in the vicinity of the Rutgers Boathouse. This area is

comprised of underutilized waterfront and open space which is generally not maintained. Fishing is conducted in this area. As part of the Route 18 project, the City Docks area is proposed to be acquired and converted to a passive recreation area for use as part of Boyd Park, in effect, serving to mitigate the project impacts to other sections of the Park. The proposed project will reconstruct Boathouse Drive, which provides access to the Boyd Park parking lot, by raising it to meet the profile of the Route 18 northbound collector-distributor at their intersection. Currently Boathouse Drive does not provide user-friendly access to the park and is easily missed by motorists traveling along Route 18. Redesign of Boathouse Drive will provide improved access to the park and to the Rutgers Boathouse and will also include signage to more prominently identify Boyd Park. The redevelopment of the City Docks area will include providing a parking lot to replace the existing Boyd Park lot impacted by the Boathouse Drive modifications, and will incorporate the placement of picnic tables, park benches, landscaping, walkways along the waterfront and revitalization of the existing bulkhead area to provide for safe fishing, and scenic access to the river to enhance and expand recreational opportunities in Boyd Park.

Increased traffic and accessibility impacts that may occur as a result of lane closures during the construction phase of the Route 18 project will be minimized through the implementation of a detailed detour plan. This plan will be developed in coordination with local officials, transit and emergency service providers, and Rutgers University to minimize traffic disruptions within the community during the construction periods. Transit routes currently utilizing Route 18 may need to be re-routed during construction. These efforts will be coordinated between the city, NJDOT, NJ Transit and Rutgers University to ensure that commuters are aware of route changes and possible delays.

2. Land Use Impacts

Community Facilities

Although some portions of Boyd Park will be directly affected by the proposed highway improvements, the impact is not considered to be adverse as the functions and services this park provides to the community will not be reduced, but rather enhanced. The proposed project will not result in significant adverse air or noise quality impacts within the Primary or Secondary Study Area.

Part of the mitigation proposed for the impacts to Boyd Park include the acquisition of the City Docks area at the terminus of Boathouse Drive in the vicinity of the Rutgers Boathouse. This area is comprised of underutilized waterfront and open space which is generally not maintained. Fishing is conducted in this area. As part of the Route 18 project, the City Docks area is proposed to be acquired and converted to a passive recreation area for use as part of Boyd Park, in effect, serving to mitigate the project impacts to other sections of the Park. The proposed project will reconstruct Boathouse Drive, which provides access to the Boyd Park parking lot, by raising it to meet the profile of the Route 18 northbound collector-distributor at their intersection. Currently Boathouse Drive does not provide user-friendly access to the park and is easily missed by motorists traveling along Route 18. Redesign of Boathouse Drive will provide improved access to the park and to the Rutgers Boathouse and will also include signage to more prominently identify Boyd Park. The redevelopment of the City Docks area will include providing a parking lot to replace the existing

Boyd Park lot impacted by the Boathouse Drive modifications, and will incorporate the placement of picnic tables, park benches, landscaping, walkways along the waterfront and revitalization of the existing bulkhead area to provide for safe fishing, and scenic access to the river to enhance and expand recreational opportunities in Boyd Park.

There will be no adverse impacts on land use resulting from the proposed project. The project is consistent with the transportation goals and objectives of the 1995 City of New Brunswick Master Plan. The realignment and improvement of the Route 18 project corridor is consistent with the goals set forth by the New Jersey State Development and Redevelopment Plan and the current Transportation Improvement Program of the North Jersey Transportation Planning Authority.

Community Facilities Accessibility - Under the Preferred Alternative, associated right-of-way impacts will not hinder access to any community facilities within the project corridor, and in fact, will include several important improvements for pedestrian/bicyclist circulation and safety, and public transportation. The local schools, churches and medical facilities are situated on the west side of Route 18. Thus for the majority of residents, access to these facilities does not require crossing the highway. However, Boyd Park, a major recreational resource, is located on the east side of the highway, requiring that residents cross at the existing New Street Bridge, Tabernacle Way overpass or at-grade at Commercial Avenue. The Preferred Alternative will provide additional access over the highway for residents who live on the east side of the highway (Carpender Road and Raritan Gardens, for example) and increase accessibility to Boyd Park with the creation of three additional pedestrian overpasses.

New pedestrian overpasses are planned for three locations: Commercial Avenue, George Street and the Phelps Avenue/Carpender Road area. The existing pedestrian overpass at Tabernacle Way will be reconstructed. These connections will make crossing Route 18 to access the newly renovated Boyd Park more convenient and much safer. In addition, the overpasses create connections between the community and facilities such as the Rutgers University Boathouse, as well as any future development that may be located at the former police station site and along the river. The overpass improvement planned for Commercial Avenue includes landscaping, sidewalks and connections to handicapped accessible ramps for Boyd Park. Sidewalk improvements to Route 18 will be included from Route 27 to Paulus Boulevard, and will continue to Route 1, further improving pedestrian and bicycling connections within the community. Boyd Park access will also be improved at Boathouse Drive. Parking and roadway improvements will be made to Boathouse Drive, and the park will also be expanded.

One community facility which may be impacted under the Preferred Alternative is the Mount Zion AME Church between Hildebrant Way and Neilson Street. Widening on the south side of New Street will encroach upon the church property. The impact will result in shifting the existing sidewalk and fence closer to the churchyard and stairway adjacent to New Street, along the north side of the property. Impacts to the existing stairway will be avoided and the impact will not result in restricting access to the church building or property.

Under the Preferred Alternative the land uses that are most affected are existing commercial properties, residential parcels, and institutional lands.

Construction along Route 18 west and northwest of the Route 27 interchange will have a negligible affect on the existing land uses and will not impact land use patterns in the Primary Study Area. With the exception of the three property displacements described earlier, the majority of the right-of-way acquisition along the corridor will be areas of buffering vegetation, sidewalks, peripheral areas of parking lots, or vacant land. Right-of-way acquisition will occur along the western boundary of Boyd Park and will result in a total taking of the City Docks property. These impacts are described in further detail below.

Boyd Park - Approximately 0.73 hectares (1.80 acres) along the western edge of Boyd Park is proposed for acquisition to facilitate the highway improvements and widening. This land is currently utilized for buffering vegetation. However, the majority of parkland to be acquired will improve the use and enjoyment of the park facilities, as many of the land conversions are related to the additional pedestrian/bicyclist overpasses, pathways, and expansion of trail facilities.

City Docks Property and Boathouse Drive - The Preferred Alternative will require revisions to the current access drive to Boyd Park's parking lot and the Rutgers Boathouse area. These revisions will result in a loss of the 24 existing Boyd Park parking spaces. To mitigate this impact, as well as Boyd Park impacts referenced above, current plans are to acquire the City Docks parcels and provide a new cul-de-sac that will be wide enough to accommodate approximately 32 parking spaces. This will provide two benefits: 1) it will improve circulation through the site, and 2) it will provide more parking spaces than those lost through the access road revisions. In addition to the parking lot, the City Docks area will be developed into usable parkland, in effect extending the Boyd Park facilities for public enjoyment.

Commercial Property Impacts - Encroaching into existing commercial properties will be necessary to widen Route 18 around the New Street interchange and the Commercial Avenue ramp near the Riverside Towers. The primary properties impacted include the Gulf Service Station and the Exxon Service Station. The modifications will improve traffic access to and from Route 18. This strategy is consistent with the New Brunswick *1995 Master Plan* that points out the need for increased local access to the highway, without impeding existing traffic patterns on both local streets and Route 18.
Institutional and Residential Impacts - A minor amount of institutional and residential land will be converted for highway use within and adjacent to the Cook/Douglass Campuses of Rutgers University. This land will be utilized for improving the connections from Route 18 to the campus, providing greater pedestrian and bicycle mobility and access along the corridor. The proposed land to be acquired currently serves as buffering landscape to the Cook/Douglass Campus areas. The reconfiguration of the George Street interchange will result in bringing the Route 18 southbound ramp closer to the Douglass Campus. Noise walls are warranted and will be added to this area.

The residence parking area associated with the Gibbons Student housing complex will be impacted. Although the parking area will be affected, no parking spaces will be lost. The reconfiguration of the George Street interchange will also shift the highway closer to the Rutgers University Music Building. The impacts to the Music Building are described in other sections of the EA (Noise, Historic Architecture).

The construction of the highway improvements encroaches on properties fronting on Route 18 northbound located from Newell Avenue south to Dewey Drive. This area will be utilized for aesthetically landscaped berms to mitigate views from the new construction to the neighborhoods adjacent to the highway.

As indicated earlier, noise walls are warranted adjacent to the Dewey Heights community, adjacent to the Carpender Road neighborhood and in front of the New Brunswick Apartment Complex along southbound Route 18. The walls would minimize noise impacts to these residential areas. Other locations along the corridor (Raritan Gardens and along Rutgers University's Gibbons Court Campus area) are also warranted according to the noise wall study and these locations are still being considered by the city and local residents.

Proposed Development Impacts - The proposed improvements to Route 18 will not adversely impact the three proposed development projects. Both the New Brunswick "HOPE VI" project and the Matrix Development proposal are in the final phase of development and the improvements along Route 18 would not impede or prevent these projects from moving forward. The plans for the police station site are conceptual and therefore site-specific impacts would not be possible to evaluate. However, the Route 18 project would not prevent future development from occurring at this location.

It should be noted that this property is part of a $30 million Federal Housing and Urban Development HOPE VI project. The project is aimed at creating a new "mixed income" neighborhood at New Brunswick Homes and in the surrounding lower George Street neighborhood. The project includes the removal of the existing 246 public housing units in the four high-rise towers in order to create low-rise housing. There will be 198 new units on 7 sites, with a mix of public housing and mixed-income units. A total of 70 mixed income low-rise units will be located at the present New Brunswick Homes site. The timetable for construction is as follows:

Phase 1 Construction (off-site units): *Spring 2000*
Completion of Demolition of New Brunswick Homes: *Fall 2001*
Phase 2 Construction (on-site units): *Fall 2001*
Full Completion: *Fall 2002*

The proposed HOPE VI plan considered Route 18 in its design and incorporated landscaping to minimize the impacts of the traffic along Route 18 on the new housing units. The Route 18 improvement project will not impact any proposed landscape improvements.

Secondary Impacts - The Route 18 project is not anticipated to result in secondary impacts related to individual developments or changes to land uses. Improvement to the traffic circulation patterns, pedestrian and bicycling accessibility as well as increased accessibility to Boyd Park and the Raritan River may provide opportunities for future development or redevelopment in the Primary Study Area, but this is consistent with the Goals and Objectives set forth in the City of New Brunswick 1995 Master, Land Use Plan.

Cumulative Impacts - Route 18 Section 2F, 7E and 11H is one part of the principal arterial highway network linking Monmouth and Middlesex Counties. The entire Route 18 corridor serves as part of the regional roadway transportation system, providing access to the Garden State Parkway, Route 9,

Route 1, and the NJ Turnpike. Completion of the planned Route 18 Extension to the north will also provide access to Interstate 287. The highway is also a major arterial for access to the City of New Brunswick which serves as the Middlesex County Government Seat. In conjunction with planned or on-going transportation improvement projects along Route 18 and Route 1, the Route 18, Section 2F, 7E and 11H project will modernize the corridor and improve the system linkage by eliminating existing traffic flow restrictions along the roadway. This project will also assist in maintaining the State highway system continuity throughout the City of New Brunswick and the region. The cumulative effect of this project, along with the others planned or ongoing within the regional system, is not considered adverse because it is part of the Fiscal Year (FY) 2000 Transportation Improvement Program (TIP) for the North Jersey Region and consistent with the New Jersey State Development and Redevelopment Plan.

Consistency with Local and State Plans - The realignment and improvements to the Route 18 project corridor are consistent with the goals set forth by the New Jersey State Development and Redevelopment Plan. The City of New Brunswick is within a Metropolitan Planning Area and is designated an Urban Center. These two designations represent locations where resources, development and infrastructure should be most concentrated within the State. Furthermore, the policy states that "the preservation and maintenance of the existing transportation network is the highest transportation priority" as well as indicating that infrastructure investments should "… support and promote energy efficient land development patterns that support public transportation systems and other alternatives to the automobile." The improvement of Route 18 helps to maintain an important regional transportation route. The planned multi-use path to be located throughout the corridor and the pedestrian overpasses further improve the local transportation network by increasing pedestrian mobility and access to existing community facilities.

The project is consistent with the transportation goals and objectives of the 1995 City of New Brunswick Master Plan. The City's Master Plan discusses the Route 18 project and endorses improvements of the corridor. This exhibits the City's need for and commitment to the project. The project's goals coincide with the goals contained in the Circulation Plan Element chapter of the Master Plan. These goals include providing improved inter- and intra-municipal traffic movement, providing for safe and efficient circulation for pedestrians, bicyclists, and vehicles, providing for a variety of modes of transportation, and providing linkages among the various modes of transportation.

The Route 18, Section 2F, 7E and 11H project is included in the North Jersey Transportation Planning Authority's FY 2000 Transportation Improvement Program.

The Route 18 project is also supported by Rutgers University as the roadway connects the Cook and Douglass campuses in New Brunswick with the Livingston and Busch campuses in Piscataway Township.

Transportation Accessibility

As with any roadway construction project, the local communities will be inconvenienced due to possible detours during construction. These detours may result in increased traffic through the neighborhood streets. These types of impacts can be disruptive, but are temporary in nature. With

proper coordination between transit providers, emergency service providers and local police as well as proper traffic control measures, these temporary impacts will be minimized.

Improved access to and placement of bus stop facilities are included in plans for the intersection of Paulus Boulevard and Route 18. The current northbound bus stop will be moved from the southeast corner to the northeast corner in conjunction with sidewalk improvements. The addition of a bus turnout lane will allow Route 18 traffic flow to continue while the bus loads passengers. The southbound bus stop will be moved to the area of the Phelps Avenue/Carpender Road pedestrian bridge also in conjunction with sidewalk improvements and the addition of a bus turnout lane. During construction, a number of NJ Transit and Rutgers University bus lines may require temporary re-routing. A total of 12 routes pass through the project area including six that use Route 18 as part of their route. Coordination will be required with the various transit providers to minimize delays to transit users during the construction period.

3. Environmental Justice

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires federal agencies to take appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. The goal of Executive Order 12898 is stated as:

"…each federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States…"(Section 1-101, Executive Order 12898, 1994).

The purpose of the Environmental Justice review is to determine if a disproportionate share of the proposed project's socioeconomic impacts that may be considered significantly adverse are borne by low-income and minority communities. The review consists of two parts:

1. *The identification of low-income and /or minority populations.*
2. *A determination of whether any low-income and/or minority populations are disproportionately impacted by the proposed project.*

<u>Identification of Low-income and /or Minority Populations and the Affected Area</u>

Low-income and/or minority populations are identified on the basis of their percentage of the population of the affected area. Guidance for interpreting these concepts in terms of geographic analysis is based on EO 12898 and subsequent guidance documents prepared by US DOT, "*Department of Transportation (DOT) Order to Address Environmental Justice in Minority Populations and Low-Income Populations*", *Federal Register*, Vol. 62. No. 72, April 5, 1997, p 18377; Federal Highway Administration (FHWA), "*FHWA Actions to Address Environmental Justice in Minority Populations and Low-Income Populations"*, Order 6640.23, December 2, 1998; US EPA, "*Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA*

Compliance Analyses", April, 1998 and Council on Environmental Quality, *"Environmental Justice Guidance Under the National Environmental Policy Act"* December 10, 1997.

Based on the EPA guidance document, the affected area is interpreted as that area which the proposed project will or may have an effect on. The document's guidance for identifying minority populations is either 1) the minority population comprises over 50% of the affected area, or 2) the minority population percentage of the affected area is "meaningfully greater" than the minority population percentage in the general population or other appropriate unit of geographic analysis. The selection of the appropriate unit of geographic analysis may be a governing body's jurisdiction, a neighborhood census tract, or other similar unit.

EPA's *Final Guidance* recommends that low-income populations in an affected area (that area in which the proposed project will or may have an effect) should be identified with the annual statistical poverty thresholds from the Bureau of Census's Current Population Reports, Series P-60 on Income and Poverty.

The data compiled to address the above low-income and minority population criteria, and to define the affected area, are based on the census tracts and block groups that comprise the Primary Study Area for the socio-economic analysis. Data for the City of New Brunswick and Middlesex County, NJ is provided for comparison purposes. For the Route 18, Section 2F, 7E, and 11H project, the affected area is defined to include the three census tracts (0054, 0059, and 0060). These census tracks are further divided into ten block groups (0054-001, 0054-002, 0059-001, 0059-002, 0059-003, 0060-001, 0060-002, 0060-003, 0060-004, and 0060-005). **Figure 10** shows the location of the census tracts and block groups adjacent to the Route 18 corridor. Information pertaining to each block group (e.g., race, poverty levels) as well as averages for the City and County, is presented in the following tables.

Route 18 Section 2F, 7E and 11H
Population Data Based on Census Data

Census Tracts	Block Numbers within Primary Study Area	Block Groups Having a Majority of White Population	Block Groups Having a Majority of Minority Population
0054	0054-001		X
	0054-002		X
0059	0059-001		X
	0059-002		X
	0059-003	X	
0060	0060-002	X	
	0060-003	X	
	0060-005	X	

Route 18 Section 2F, 7E and 11H
Population and Poverty Data Based on Census Data

	White Population	Hispanic Population	Average Poverty Rate (1989 Data)
Primary Study Area	55%	15%	16.77%
City of New Brunswick	57%	19%	22%
Middlesex County	82%	N/A	5.1%

Determination of Disproportionate Impacts on Disadvantaged Populations

The nature of the proposed improvements along Route 18 - interchange reconstruction and widening in a highly developed urban area - does not easily permit alternative alignments with fewer adverse impacts. The Route 18 project is adjacent to Tracts 0054 and 0059 where a majority of the residents are minority. Tract 0054 also represents the tract with a majority of Hispanic residents. The representation of minorities in these two tracts is higher than in the City of New Brunswick and Middlesex County. These tracts include the residential communities of Riverwatch Commons, New Brunswick Homes, and New Brunswick Apartments and Riverside Towers.

Displacements

The displacement of residences is limited to two properties. The first displaced property is a private residence, located adjacent to Paulus Boulevard and Dewey Drive along Route 18 southbound within Tract 0060, Block Group 003. The property will be acquired to accommodate the improved jughandle for southbound Route 18 onto Paulus Boulevard. This displacement occurs in the block group with the highest number of single-family homes, highest median household incomes and lowest poverty level.

The second displacement is also the displacement of a private residence located adjacent to the Route

18 southbound exit ramp to Route 1 southbound, east of Paulus Boulevard. This property is also located in Tract 0060, Block Group 003. The property will be acquired to facilitate improvements to the existing ramp from Route 18 southbound to Route 1 southbound.

The displacements of these two residential structures will not represent a disproportionate impact upon minority or low-income populations. In fact, the displacements are occurring in tracts with some of the highest levels of income and housing in the project study corridor.

4. Public Involvement

The public involvement component of this project is both extensive and unique. The formation of the Community Partnering Team (CPT) in May, 1999 afforded significant opportunity for public input in the decision-making and design of the project. The CPT was established as part of the public outreach program to provide a unique mechanism to keep stakeholders and the public informed of the progress and development of the project. The purpose of the CPT is to discuss the issues and concerns of the local community, organizations, and regional agencies of which the team represents. In addition, the CPT provides pertinent information and feedback to the Steering Committee regarding the development of options for transportation improvements along the Route 18 corridor.

The CPT members represent a wide range of stakeholders including City representatives, the NJ Turnpike Authority, NJ Transit, Middlesex County, and Rutgers University. Community members include representatives from many of the Primary Study Area neighborhoods including, Riverside Towers, University Mews Homeowners, Newell Avenue, Dewey Heights, New Brunswick Apartments, Raritan Gardens, and Carpender Road. This process afforded these communities opportunity for meaningful involvement in the project. Twelve CPT meetings have been held to date. A public information center was also held to inform the general public of the proposed improvements. The format of the meetings included discussions of issues and areas of concern which were evaluated by breakout groups representing the various team members. Major issues and areas of concern included Boyd Park access, bikeway considerations, pedestrian safety improvements, transit improvements, noise impacts, corridor aesthetics, and issues at Commercial Avenue, George Street, Paulus Boulevard, New Street and the Route 27 area. The issues were discussed within the breakout groups and then presented for consensus. This process resulted in recommendations for the various improvements incorporated into the design of the project alternatives and ultimately led to the development of the Preferred Alternative. A summary of each CPT meeting is presented within **Appendix D** of this EA document.

H. Hazardous and Solid Waste

Existing Conditions

The proposed project will be constructed almost entirely within existing NJDOT right-of-way. The only exceptions are proposed partial property acquisitions that will be taken through eminent domain and are not subject to NJDEP review under the State Industrial Site Recovery Act (ISRA).

The hazardous screening was conducted by contacting local and state regulatory agencies, reviewing historical maps, and performing site visits in order to identify properties with landfills, aboveground storage tanks or underground storage tanks, current or former industrial site uses, hazardous waste generators, and other areas of environmental concern. Tasks undertaken as part of this review include the following:

- Review of historical plans, aerial photographs, Sanborn Fire Insurance maps and tax map parcel information for previous land use including the review of available previous environmental studies and files pertaining to uses and conditions in the project corridor including consultations with project archaeologists to determine historical conditions in the project corridor;

- A site visit to determine the present use and condition of properties in the project corridor, and to identify any areas of stained soils or stressed vegetation, or other areas of concern; and

- Review of Federal and State databases including USEPA's NPL, CERCLIS, RCRIS, RCRA, and ERNS, as well as NJDEP's list of Known Contaminated Sites List (KCSL) and placement of inquiries to the City of New Brunswick, Middlesex County and the New Jersey Department of Environmental Protection regarding any information that knowledgeable parties may have on storage tanks or the presence of hazardous materials in, or adjacent to, the project corridor. The database reviewed included the following:

  National Priority List (NPL) - The NPL is a compilation of sites investigated by the USEPA and identified as uncontrolled or abandoned hazardous waste sites.

  Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) - CERCLIS sites are those identified as hazardous, or potentially hazardous,which may require action. These sites are currently being investigated, or an investigation has been completed regarding the release of hazardous substances on the property.

  Resource Conservation and Recovery Act - Treatment, Storage, and Disposal Facilities (RCRA TSD) - The Resource Conservation and Recovery Information System (RCRIS) database contains information on hazardous waste handlers regulated by the USEPA under the Resource Conservation and Recovery Act (RCRA).

  RCRA Generator - The generators database is part of the RCRIS file which compiles hazardous waste generators that generate more than 100 kilograms (220.5 pounds) of hazardous waste per month or meet other requirements of RCRA, RCRA Notifiers, Transporters, and formerly regulated RCRA Sites.

  DOCKET - Civil Enforcement Docket. The Civil Enforcement Docket is a listing of civil and administrative actions filed by the Department of Justice for the USEPA

Emergency Response Notification System (ERNS) - The ERNS listing is a compilation of sites subjected to a reported release of oil or hazardous substances.

PCB Activity Database System (PADS) - The PADS database collects information about facilities that handle PCBs and file EPA form 7710-53. The information is grouped into facilities, disposers, generators, and transporters.

Toxic Release Inventory (TRI) - The TRI contains information on facilities that manufacture, process, or import any of the over 300 listed toxic chemicals which are released directly into the air, water, land or transported off site.

Section Seven Tracking System (SSTS) - Formally FATES, this database tracks the registration of pesticide-producing establishments and tracks the types and amounts of pesticides, active ingredients, and the tracking of sales, production, and distribution.

New Jersey Solid Waste Facilities - This directory includes information on known solid waste facilities in the state of New Jersey.

New Jersey Known Contaminated Sites List (KCSL) - The KCSL provides a listing of New Jersey sites where contamination of soil or groundwater is confirmed, and remedial action is either current or pending.

New Jersey Leaking Underground Storage Tank List (LUST) – This list reports known leaking underground storage tank sites in the State of New Jersey. The LUST list has been discontinued by the NJDEP, which is now including LUST information in the KCSL and the Regulated UST Contamination Sites – New Jersey.

Regulated UST Contamination Sites – New Jersey List – This list provides the status of a Regulated UST contamination site and the assigned BUST case manager for those sites which have documented releases.

New Jersey Underground Storage Tank (UST) List - The UST list reports the location of known underground storage tanks in the State of New Jersey.

Results

Regulatory Review

The regulatory review consisted of inquiries to federal, state and local officials and the inspection of the previously discussed databases containing information regarding properties and businesses that may constitute areas of environmental concern. A synopsis of the findings of the regulatory review is presented within the following tables. Properties of potential environmental concern within the project corridor are depicted on **Figure 11**.

CERCLIS Sites

Site Name	Site Address	Site Status
New Brunswick Coal Gas (P.S.E.&G.)	Raritan Ave. & Nielson Ave.	Delisted with no further action planned

RCRA Sites

Site Name	Site Address	Site Status
Exxon Service Station	80 Memorial Parkway	RCRA Notifier
CD Automotive, Inc.	22 Dennis Street	RCRA Notifier
Rutgers, Chapel Drive	Chapel Drive	Evaluated by the NJDEP in 1995

Docket Sites

Site Name	Site Address	Site Status
The State University of Rutgers	Livingston Campus	02-96-0288A

KCSL Sites

Site Name	Site Address	Site Status
Exxon Service Station	80 Memorial Parkway	NJD986608370
New Riverwatch Commons	Burnet Street & Richmond Street	NJL800248510
New Brunswick Police Department	225 Memorial Parkway	NJL000064261
19 Dennis Street	19 Dennis Street	NJL000067454
New Brunswick Coal Gas (P.S.E.&G.)	Raritan Ave. & Nielson Ave.	NJD981084718
Raritan Garden Apartments	Chester Circle	NJ800018079

Regulated UST's

Site Name	Site Address	Site Status
Rutgers Boathouse	Boathouse Road	No Further Action (NFA)
Exxon Service Station	80 Memorial Parkway	93-06-22-0819-27 96-01-14-2117-19 97-01-02-1254-50
Gulf Service Station	110 Memorial Parkway	98-12-04-1059-37 99-08-12-1529-16
New Brunswick Police Department	225 Memorial Parkway	94-04-04-1105

Registered UST's

Site Name	Site Address	Site Status
Exxon Service Station	80 Memorial Parkway	1-10,000 gallon unleaded gas 2-8,000 gallon unleaded gas 1-1,000 gallon waste oil
Riverside Apartments	100 Memorial Parkway	1-15,000 gallon #4 heating oil
Gulf Service Station	110 Memorial Parkway	3-unknown size gas tanks 1-unknown size waste oil tank
New Brunswick Police Department	225 Memorial Parkway	1-8,000 gallon #2 heating oil 1-4,000 gallon unleaded gas 1-500 gallon medium diesel fuel
Hyatt Regency	2 Albany Street	1-2,000 gallon medium diesel fuel
TOV Manor Apartments	55-C Phelps Avenue	2-10,000 gallon heating oil
New Brunswick Apartments	33 Commercial Avenue	2-20,000 gallon heating oil

Industrial Site Recovery Act (ISRA) – There were no industries subject to ISRA within the project corridor, therefore the requirements of ISRA are not applicable.

Asbestos/Lead Based Paint – Under the Preferred Alternative, the Gulf Service Station and the former New Brunswick police station are slated for demolition as part of this project. A comprehensive asbestos and lead based paint investigation is recommended to determine if asbestos containing materials or lead based paint will be encountered before planned demolition of the Gulf Service Station and police station sites is to begin. Site inspections for building interiors was not part of the currently authorized scope of the project.

Historical Review

As part of this study, a review was performed of historical plans, aerial photographs, Sanborn Fire Insurance maps, tax map parcel information and previous environmental studies to identify the presence of potentially contaminated areas in the project corridor. Aerial photograph coverage of the project area was found for the following years: 1940, 1947, 1961, 1977 and 1995. Sanborn Fire Insurance map coverage of the project area was reviewed for the years 1986, 1912, 1950, 1977, and 1989.

Route 1 to George Street - Historical research revealed that the section of the Route 18 corridor surrounding the intersection of Route 1 and Route 18 was historically undeveloped parcels of farmland. There were structures visible from a 1940 aerial photo on the northbound side of Route 18, adjacent to the intersection of Route 1 and Route 18, that are believed to be associated with a farm; the cluster of buildings were surrounded by cultivated fields. The aerials revealed no development from this area down to George Street. The farm was developed into the Raritan Garden Apartments beginning in the late 1940s and has grown over the years to a 440 family residential apartment

complex. The historical review of the southbound side of Route 18 revealed sparse residential development mixed with farmland. The farmland and sparsely developed residential area has changed over the years to a small community of single-family residential homes with apartment complexes developing on the southbound side along Phelps Avenue. Newell Avenue to George Street, on the southbound side of Route 18, is a ravine which historically revealed a U-shaped road known as Acton Place which no longer exists. There was no other development in this location. Between the ravine and George Street are residential buildings which form the Gibbons campus of the former New Jersey College for Women; these buildings are still present today and are now a part of Rutgers University Douglass Campus. The only other improvement seen on the northbound side of Route 18, just north of the Raritan Garden Apartments, is along the U-shaped Carpender Road. Historically the road can be seen in 1940 with a couple of residential homes, which has developed over the years to thirteen residential homes.

George Street to Commercial Avenue - Route 18 northbound runs under the George Street overpass and starts descending down to the flood plain of the Raritan River, passing along the high shale outcroppings to the west and a sloping bank to the east of Route 18. Due to the presence of these physical barriers, there has been little development along this section of the corridor. Historical research did indicate a building on the east side of Route 18 which was formally a Motor Freight Company and later a Marine Sales and Boat Yard Company. Current traffic patterns have eliminated the former access road to this building and the building itself no longer exists. On the southbound side of Route 18, along the steep walls of the adjacent bluff, is a small recessed area where historical research revealed structures up to the 1950s. The structures no longer exist in this area. From the recessed area to Commercial Avenue the shale bluffs give way to the low lying flood plain area. Historical review has revealed development of mixed residential and light industry such as boatyards, machine shops, and auto shops located in the area of the Delaware and Raritan Canal outlet locks, located on the east side of Route 18. Today these businesses are gone and the buildings have been torn down in what is now a part of Boyd Park. The west side revealed residential buildings at the edge of the shale bluffs that have been replaced by the present day Exxon Service Station and the 14 story Riverside Towers.

Commercial Avenue to Tabernacle Way (formerly Oliver Street) - A mix of residential and light industry on both sides of Route 18 was revealed during the historical review. The businesses included auto and truck repair shops, an auto junkyard, sheet metal shop, boat yards and machine shops. The corridor has developed into more of a residential area with the New Brunswick Apartment complex occupying most of the property along Route 18 southbound between Tabernacle Way (Oliver Street) and Commercial Avenue. The apartment complex consists of two and three story apartment buildings that occupy most of the area between Commercial Avenue and Tabernacle Way with the exception of the Gulf Service Station at the corner of Commercial Avenue and Route 18 southbound. On the northbound side of Route 18 is Boyd Park that has replaced the historical businesses that were once along the river.

Tabernacle Way (Oliver Street) to Richmond Street - Historical review of the northbound side of Route 18 revealed a sewage disposal plant, an auto junk yard, sheet metal shop, auto and truck service shops, a lampshade manufacturer and the Mack Iron and Metal Company scrap yard. Boyd Park now occupies the area on the northbound side of Route 18 with the exception of the PSE&G

substation that is adjacent to the New Street overpass. The southwest side of Route 18 historical review revealed a dense mixture of residential and light industry which included an auto salvage yard, auto repair, and auto body and painting. Presently the New Brunswick Housing Authority property with four, nine story high rises buildings, is located between Tabernacle Way and New Street, and a paved parking lot, now controlled by the Matrix Development Corporation, is located between New and Richmond Streets.

Richmond Street to Route 27 - The northbound side of Route 18 historical review revealed manufacturing companies such as United Engine Rebuilders Machine Shop, Industrial Washing Corporation and the New Jersey Rubber Company. Smaller companies consisted of an automotive machine shop, a coal supply company, a plumbing supply and a gasoline station at the intersection of Route 27 and Route 18. Presently the only structure remaining in this area is the former New Brunswick Police Station, with Boyd Park bordering the station to the northeast and south.

Route 27 to the Northeast Corridor Amtrak Railroad Bridge – The historical review of this section of Route 18 revealed several businesses including the New Brunswick Iron Works, Public Service Electric & Gas Company (PSE&G) Gas Plant, Consolidated Fruit Jar Company, and a laboratory owned by Johnson & Johnson. These businesses were adjacent to the Delaware and Raritan Canal. Presently, the area north of Route 27 serves as the corporate headquarters of the Johnson & Johnson Company with one large administrative building in the approximate location of the old businesses. The Delaware and Raritan Canal is no longer visible north of Route 27 and has been replaced by Route 18.

Site Review

A preliminary site review of the project corridor was performed on April 14 and 15, 1999 and June 28, 2000 to identify potential areas of environmental concern. Access was limited to public ROW, from which properties were observed and evaluated for the potential sources of hazardous materials or areas of concern (e.g., stressed vegetation, soil staining).

The investigation of the Raritan Garden Apartments confirmed the presence of two 37,850 liter (10,000 gallon) heating oil USTs, as per the NJ UST database, as well as seven heating oil aboveground storage tanks. None of these tanks pose a potential threat to the project since Route 18 is up-gradient from the Raritan Garden Apartments. The Raritan Garden Apartments is also identified on the NJ KCSL. Further investigation found that this listing was based upon a sewage discharge event into a storm drain in 1994. According to Mr. Joseph Kazarnovski, part owner of the Raritan Garden Apartments, a pipe leading to the storm sewer was blocked off to correct the problem and prevent future discharges. The case is closed with the NJDEP and will be de-listed from the KCSL.

The residential properties along Route 18 between Route 1 and the George Street Bridge do not appear to pose any threat to the Route 18 project. Site investigations along the corridor did not identify any potential environmental concerns associated with the residential properties. The historical aerial photograph review identified this corridor as farmland prior to the development of the residential homes that are being demolished. The Tov Manor (formerly Joyce Kilmer Village)

Apartments was identified on the NJ UST list as having two 37,850 liter (10,000 gallon) heating oil USTs. According to the apartment complex maintenance manager, the tanks had been recently removed and the complex converted over to gas. A 1,893 liter (500 gallon) diesel fuel UST for an emergency back-up generator remains.

The Music Building on Douglass Campus of Rutgers University was identified by site inspection as having a 100 millimeter (4 inch) fill pipe located in the grass between the building and George Street, there was also a vent pipe located adjacent to the building. The music building was not identified on any of the listings of the regulatory review, likely due to the use of the tank, which appears to be for onsite heating of the music building. This use would exempt the University from requirements to register the tank with the NJDEP. Also, provided there have been no known discharges from the tank, it would not appear on the KCSL.

According to aerial photographs from the 1950s, Boyd Park and Route 18 were constructed on land that was formerly a combination of light industrial, commercial, and residential properties. All of the structures have been demolished and the area has been filled but the origin of the fill is unknown. Based upon this information, land that is proposed to be acquired along Boyd Park from Boathouse Drive to the former New Brunswick Police Department should be screened for potential soil contamination.

The Exxon Service Station was identified by site inspection as having four USTs; one 37,850 liter (10,000 gallon) gasoline, two 30,280 liter (8,000 gallon) gasoline, and one 3,785 liter (1,000 gallon) waste oil. According to the manager, the USTs have been upgraded to conform with current NJDEP regulations. Exxon was identified on the KCSL, Regulated UST Contaminated Sites, and UST Data lists.

The Riverside Towers was identified as having one 56,775 liter (15,000 gallon) UST for heating oil. According to the apartment manager, the tank is supposed to be upgraded in the near future, and it is currently in use. The UST is located in the grass between the apartment building and the Exxon Service Station property, approximately 91-meters (300 feet) from Route 18 southbound.

The Gulf Service Station was identified as having four USTs. According to the station manager, the USTs have been upgraded (lined and monitoring wells provided for leak detection) to conform with current NJDEP regulations. Mr. R.J. Sherman, with Handex of Morganville, New Jersey, provided notification on July 29, 1999 that the Gulf Service Station was currently under a Preliminary Site Investigation for a leaking fuel pump. Mr. Sherman added that groundwater samples have been collected from monitoring wells already installed on the property. The Gulf Service Station property is to be acquired for the proposed Route 18 project. For this reason, soil samples are recommended to be taken from the property. The samples should be located downgradient of the tank fields and the pump islands. Also, a ground penetrating radar (GPR) survey and electromagnetic survey and/or magnetic gradiometer was performed on this property to identify any USTs that are not currently in use or have been abandoned.

The New Brunswick Apartments were identified on the regulatory review UST Data listing as having two 75,700 liter (20,000 gallon) USTs. However, upon conducting a site investigation of the

property it was found that all of the buildings were supplied with natural gas, and no indications of USTs (fill ports, vent pipes) could be found. Aerial photographs from the 1940s and Sanborn Fire Insurance maps from the 1950s identified the land where the New Brunswick Apartments is located as formally mixed residential and light industrial consisting of junk yards, sheet metal works, and various auto service businesses.

The former City of New Brunswick police station was reported to contain three USTs. Upon conducting a site investigation it was discovered that the reported tanks have been removed and two aboveground storage tanks (concrete encased) Convaults have been installed. Visual observations of groundwater monitoring wells and Geoprobe boring points in the vicinity of the former gasoline and heating oil UST locations suggest a subsurface investigation was performed. The NJDEP was contacted about the site and it was confirmed that the gasoline tank had leaked, and the site was undergoing a Site Investigation.

The Crossroads Theater, which is listed in the UST database, could not be found at the 126 Memorial Parkway address, and it is believed that this site existed prior to the Route 18 construction in the area. There is a newer Crossroads Theater in the center of New Brunswick, but the building is not as old as the tank on record (dated 1944).

C D Automotive located at 22 Dennis Street was identified in the regulatory review on the RCRA Data listing. Further investigation identified that C D Automotive has been demolished and the Riverside Towers currently exists in its place. The RCRA listing was for notification only, which is indicative of a site that would use regulated materials and have them disposed of off site, such as degreaser fluid.

The 19 Dennis Street property was identified on the regulatory review NJ KCSL Data listing as being under the Bureau of Field Operations - Southern Division with a pending case. The Bureau of Field Operations was contacted and it was learned that the case was listed as inactive. No clean-up is on record and no further information concerning the case was reported. The site investigation of this property identified the site as having undergone remodeling and is now a well established restaurant called Delta's. Site contacts did not have any information on any past uses.

The Hyatt Regency was identified on the regulatory review NJ UST Data listing as having a 7,570 liter (2,000 gallon) UST for # 2 diesel fuel.

Impacts and Mitigation of Adverse Impacts

A summary of the areas of environmental concern and their potential impacts to the project are presented in the following table.

In general, the sampling plan addressed areas within existing NJDOT right-of-way which would involve excavation as part of the project, or new right-of-way acquisition in areas with environmental concerns. A detailed discussion of the areas of potential environmental concern, and proposed sampling and analyses, is presented in subsequent sections.

Route 18 Section 2F, 7E and 11H
Summary of Hazardous Screening

Site No.	Name	Environmental Concern	Potential Impact	Initial Sampling Parameters
1	Former PSE&G – Gas Plant (corner of Washington and Water Streets) (Block 37)	Industrial site. Natural Gas Storage and various petroleum oils.	Possible soil and groundwater contamination in area of roadway.	PP metals, TCL VOCs & TCL SVOCs
2	Former Brunswick Iron Works (extended from D&R Canal to Water Street to Pease Street) (Block 31, Lots 9, 11, 13, 15, 17 and Block 35, Lots 14, 16, 20, 65, 67, 69)	Former Industrial site. Metals Manufacturer.	Possible soil and groundwater contamination in area of new roadway.	PP metals, TCL VOCs & TCL SVOCs
		Former D&R canal which was filled, nature of fill material unknown.	Possible soil contamination in area of new roadway.	PP metals
3	Former New Jersey Rubber Company (corner of Albany Street and Route 18) (Block 1)	Former Industrial site.	Possible soil contamination in area of construction.	PP metals, TCL VOCs & TCL SVOCs
4	New Brunswick Police Station (Block 1, Lots 6, 7, 8 and Block 102, Lots 1.01, 1.02, 1.03)	Site is on Known Contaminated Sites List (KCSL)	Reported leaking gasoline tank. Possible soil and groundwater contamination.	PP metals, TCL VOCs & TCL SVOCs
5	New River Watch Commons (Block 3, Lot 35.01)	KCSL in block. Former Auto Body Shop and Auto Painting on site.	Possible impact to soil & groundwater. Site is upgradient of roadway.	PP metals, TCL VOCs & TCL SVOCs
6	Matrix Development Corporation (Block 104, Lot 1.01 and Block 105, Lot 1.02)	Former Auto and Truck Body Works. Area was cleared and filled, nature of fill material unknown.	Possible soil contamination in area of new roadway.	PP metals, TCL VOCs & TCL SVOCs
7	Mack Iron and Metal Company (Block 103, Lot 1)	Former Industrial Site area filled, nature of fill unknown.	Possible soil contamination in area of new roadway.	PP metals, TCL VOCs & TCL SVOCs
8	New Brunswick Housing Authority (Block 106.01, Lot 1.01, 1.02 and Block 115.01, Lot 1.01, 1.02)	Former Auto Junkyard Site area filled, nature of fill unknown.	Possible soil contamination in area of new roadway.	PP metals, TCL VOCs & TCL SVOCs

Route 18 Section 2F, 7E and 11H
Summary of Hazardous Screening
Continued

Site	Name	Environmental	Potential Impact	Initial Sampling

No.		Concern		Parameters
9	Boyd Park (Blocks 103, 103.01, 103.02) & PSE&G Substation (Block 103.01, Lot 1.02)	Former Auto Junk, Sewage Disposal Plant, Auto and Truck Repair Facilities Boat Yard. Area cleared and filled, nature of fill unknown.	Possible soil contamination in area of new roadway.	PP metals, TCL VOCs & TCL SVOCs, PCBs
10	Gulf Service Station (Block 109, Lot 1.02)	Reported leaking fill pump, active investigation.	Possible soil and groundwater contamination.	GPR scan/PP metals, TCL VOCs & TCL SVOCs, TPH
11	Riverside Towers(Block 110.01, Lot 1.01)	Former Electrical Repair Shop. Area cleared and filled, nature of fill unknown.	Possible soil contamination.	PP metals, TCL VOCs & TCL SVOCs
12	Exxon Service Station (Block 111, Lot 25.01)	Reported KCSL site. Incident unknown.	Possible soil and groundwater contamination.	PP metals, TCL VOCs & TCL SVOCs
13	Boyd Park (Blocks 103.03)	Area cleared and filled, nature of fill unknown.	Possible soil contamination in area of new roadway.	PP metals, TCL VOCs & TCL SVOCs
14	Mary Ott Music Building (Block 111, Lot 1)	Underground Storage tank in area of partial take.	Possible soil contamination in area of new roadway.	PP metals, TCL VOCs & TCL SVOCs
15	NJDOT Right of Way	Former Industrial Sites. Areas filled, nature of fill unknown.	Possible soil and groundwater contamination.	PP metals, TCL VOCs & TCL SVOCs
16	New Brunswick Apartments (Block 107, 108, 109, 112, 113, 114)	Former Metal Works, Auto Junkyard Site, area filled, nature of fill unknown.	Possible soil contamination.	PP metals, TCL VOCs & TCL SVOCs

PP = Priority Pollutant
TCL VOCs = Target Compound List Volatile Organic Compounds
TCL SVOCs = Target Compound List Semi Volatile Organic Compounds
PCB = Polychlorinated biphenyls
TPH = Total Petroleum Hydrocarbons

Contingent upon final design information and regulatory approval, contaminated non-hazardous soils may be re-used on site for grading or under roadways and side slopes or for use in other fill areas. Additional sampling to confirm that soils are non-hazardous may be required to develop a soil re-use plan specific to the project. Soil re-use would be subject to NJDEP approval. Soil re-use areas would also have be placed under a Deed Notice.

In areas where contamination has been detected in groundwater, any groundwater generated from dewatering activities would need to be properly handled, stored and disposed of in accordance with an approved NJDEP On-Scene-Coordinator Discharge Authority letter and applicable state and

federal regulations.

Health and safety concerns related to handling of contaminated soils or groundwater during construction would be addressed during the final design and in a project specific Health and Safety Plan (HASP) developed for construction.

I. Historic Architectural Resources

The research undertaken pertaining to historic architectural and archaeological resources included a variety of repositories and resources. Primary and secondary source materials examined include National Register nominations, prior reports, historic maps, tax and deed records, books, photographs, and other applicable materials. Research facilities included the New Jersey Historic Preservation Office, Rutgers University Alexander Library (general and special collections), the Free Library of Philadelphia and the Middlesex County Register of Deeds, in addition to the necessary field surveys.

The Area of Potential Effect (APE) for this project was established in consultation with the New Jersey Historic Preservation Office (NJHPO) at the onset of the cultural investigations. It was agreed that the APE would stretch from the Northeast Corridor Amtrak Bridge to Route 1, and be bordered by the Raritan River and Neilson Street in the northern portion and a line running parallel to Route 18, picking up at Taylor Drive near the southern project limit (**Figure 12**). Both sides of Taylor Drive were to be included. The portion of the Gibbons Campus included in this study area was surveyed as well as the portion of the Douglass Campus contained within the APE. Voorhees Chapel, also on the Douglass Campus, does not require consideration.

In evaluating the eligibility of resources for the National Register of Historic Places, the significance of identified resources was determined in accordance with 36 CFR Part 800. The established categories for significance under which the resources were evaluated include the following:

A. Association with "events that have made a significant contribution to the broad patterns of our history;"
B. Association "with the lives of persons significant in our past;"
C. Properties that "embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction;" and
D. Properties that "have yielded, or may be likely to yield, information important in prehistory or history."

In addition, no resources less than 50 years of age were considered for National Register eligibility.

Once an identified resource was determined eligible for inclusion in the National Register, it was necessary to determine the potential effects of the project ("undertaking") on those resources. This was determined according to the criteria contained in 36 CFR Part 800.5. These criteria as stated in the Code of Federal Regulations are as follows:

"An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative."

Existing Conditions

All resources identified in this study are depicted on **Figure 12**. The information presented herein was taken as excerpts from the Historic Architecture Survey and Technical Environmental Study.

Resources Determined Eligible for Listing on the National Register.

Thomas I. Agnew House: The Agnew House is located at 2 Crest Road, with its primary facade facing Route 18 (Memorial Parkway). The property is east of downtown New Brunswick, and near the junction of Route 18 and Route 1. This property was placed on the National Register of Historic Places in 1982. The National Register boundary encompasses two (2) contributing elements including a well and the house itself. The above-ground portion of the well is circular in shape and made of brick. The top opening has been covered to seal the well. The ca. early 20th-century garage near Crest Road and the wooden shed located in the yard southeast of the house are considered to be non-contributing elements within the National Register boundary as per consultation with the NJHPO (verbal concurrence on 4/18/2001). The 19th–century Greek Revival style single-family residence is unique in the New Brunswick area and retains a high degree of integrity. As currently proposed, the new alignment of Route 18 will go through the recently refurbished front portico of the Agnew House, arguably the most significant and visible portion of the property.

Hiram Market: As nominated for the National Register of Historic Places in 1980, the Hiram Market area included significant 19th-century residential and commercial buildings within an approximately 5 block area adjacent to the current central business district in New Brunswick. These structures, in addition to the Hiram Market building itself (market house), formed the center of commercial activity in 19th-century New Brunswick. Private development measures succeeded in razing most of the buildings within the district in the 1980s. The Hiram Market Historic was removed from the New Jersey State Register due to the resulting lack of integrity in 1995.

King Block: The King Block, listed on the National Register in 1988, was a substantial 3-story 13-bay Italianate-style brick building in the center of 19th-century downtown New Brunswick. With four storefronts on the first floor, the building was a hub of activity in the midst of the city's bustling commercial center. Used mostly for retail operations through the 1800s, the uses in this building changed over the years as did other uses in the area. Warehousing and light manufacturing came to occupy the upper stories, then the building became vacant as the area around it declined through the mid-20th century. Eventually, the building was occupied by a small theater company which kept the building in use and maintained to a certain degree. Due to development pressures and proposals, the King Block was razed in the early 1990s.

Poile Zedek Synagogue: This local landmark was placed on the National Register of Historic Places in 1995. Located at 145 Neilson Street, this was the third of five synagogues once located in the Hiram Market district, and it is the only one remaining. Its eclectic architectural detailing based on the Romanesque Revival form places the Poile Zedek among its peers of early 20th-century American synagogues. The building's high degree of integrity is no doubt a result of diligent care provided by the active congregation.

Delaware and Raritan Canal: Opened in 1834, the National Register designated Delaware and Raritan (D&R) Canal was a regional transportation giant through the 19th century. The Canal greatly enhanced the speed of travel, particularly of raw materials such as coal, through New Jersey between the major ports of Philadelphia and New York. The recently restored outlet lock for the Canal is located in Boyd Park.

New Jersey College for Women Historic District: At the urging of many women's groups, particularly the State Federation of Women's Clubs, the New Jersey College for Women (or NJC, later known as Douglass College) was founded as a subsidiary of Rutgers in 1918. Located near the current intersection of George Street and Route 18 (Burnet Street/Memorial Parkway), the NJC soon flourished with classroom buildings, housing, and a burgeoning student population.

After the initial building period circa 1918 - 1930, most College buildings were relatively dispersed, with residential buildings lying to the south and eastern edges of campus and academic buildings in the northern and western parts of campus. Academic buildings, including Recitation, Botany, Science, and the Music building, were all of the Georgian Revival style. In addition, Antilles Field was constructed among the academic buildings on the northern edge of campus. The majority of these structures remain intact today. With the exception of Wood Lawn and its associated buildings (the home and grounds of Rutgers Trustee James Neilson's family), the additional buildings currently seen on campus were constructed after 1950. The styles of these are generally either modern or attempt to blend with the initial campus buildings. Much of the land which was open around 1930, particularly along the south side of George Street, is currently occupied by these later structures.

The campus of the New Jersey College for Women, particularly as it was developed in its early years through about 1935, is significant for its architectural attributes, the College's association with people significant to the history of the institution and the city, as well as the significance of the NJC as a milestone in the higher education of women in New Jersey.

Survey of this eligible district in its entirety was not undertaken as it is outside of the scope of this project. Roughly two-thirds of the proposed district lies outside of the APE.

The following resources were identified as key contributing elements of the New Jersey College for Women Historic District:

- **Biological Sciences:** This building on the Cook/Douglass campus of Rutgers University was built as the Botany building in 1927. The State Legislature had appropriated funds to the New Jersey College for Women for classroom buildings, and this was the last of the series built after Science (Chemistry) and Recitation (Ruth Adams). These three buildings were sited in a cluster away from many other buildings on campus at the time. This location was chosen to avert the rumored construction of Route 1 through the NJC campus. In addition to botany, this building housed history, social sciences and, for a period, modern languages.

  Several alterations have been made to this building, most notably the addition of vents and piping necessary for current uses in the sciences. While some have been fastened to the facade, they have mostly been added through existing window openings, and are therefore reversible. There is an evident need for maintenance on this building, including the need for repainting wooden cornices and other elements and the need for roof repairs. That being said, the building's form and character remain essentially unchanged from the 1920s.

  The Biological Sciences building is recommended as a *key contributing element* of the New Jersey College for Women Historic District. This building is particularly significant when considered in context with the neighboring Ruth Adams and Chemistry buildings. The continued use of Biological Sciences as a classroom building and its degree of integrity are also factors contributing to its significance.

- **Ruth Adams:** Opened as the Recitation building in 1926, this was the second classroom building funded by appropriations from the State legislature in the 1920s. Recitation housed the NJC library on the basement and first floors until 1961, in addition to hosting the English Department, Art Department, and language and math classes at various times and in various degrees. Re-named "Arts" in 1965, the building had also been called "Language" before being re-named in honor of Ruth Adams, Dean from 1960-1966.

  Few alterations have occurred to the exterior of this building, most notably the additional exterior venting, skylights, vinyl and aluminum sash replacements, and industrial window replacements in the basement of the east facade. The building's form and character remain essentially unchanged from the 1920s.

  The Ruth Adams classroom building is recommended as a *key contributing element* of the New Jersey College for Women Historic District. The structure maintains a high degree of architectural and historical significance, particularly when viewed in context with the adjacent Chemistry and Biological Sciences buildings.

- **Music Building:** The State Federation of Women's Clubs was instrumental in both the founding of the New Jersey College for Women as well as the forming of its campus. The Music Building was the second of the buildings built by donations from the State Federation (the first was Federation Hall in 1922). The idea for a music building reportedly came from Dean Douglass, a great lover of music and herself a musician.

  The first music building on campus had been a converted house on land donated by James Neilson in 1923 (part of the same plot as Old Gibbons Campus). This was thoroughly superseded by the new Music Building when it opened to much fanfare in 1928. Located on what was known as "Sonoman's Hill," the building overlooks the Raritan River and much of New Brunswick to the north.

  The Music Building held all of the facilities necessary to support a flourishing music education program, including practice rooms, studies, classrooms, a lecture room, library, faculty room, a performance auditorium, and even a guestroom for visiting artists. Staff and students held recitals there, and other events such as the Christmas Formal also took place in the dignified structure. With few exceptions, the exterior of the building appears the same today as it did when it opened in the late 1920s. The building, therefore, generally maintains a high degree of architectural integrity. The building still operates as the home of the music program at Rutgers.

  The Music Building is recommended as a *key contributing element* of the New Jersey College for Women Historic District. The structure's Georgian Revival design and current integrity of condition contribute to its significance. The Georgian style of architecture was utilized for most of the College's new construction projects in the early years of its formation, through the early 1930s.

- **Antilles Field:** As a subsidiary to Rutgers University, the NJC reaped some benefits from being associated with Rutgers, not the least of which were the support of Trustees and benefactors. James Neilson, of the local Neilson family, gave tracts of land, his family home, and other funding and favors to the fledgling college. Leonore Loree, President of the Delaware and Hudson Railroad, was also a Trustee during the early years of the College. Between the generous contributions of these two men, Antilles Field was constructed.

  Bordered by brick walls capped by stone, the irregularly shaped field overlooked Burnet Street and the Raritan River while offering a wide vista of Piscataway, Highland Park, and Edison Township to the north. The southern edge of the field was bordered by large concrete steps, which served as bleachers for the field. Antilles Field remains in this basic configuration today.

  Antilles Field is recommended as a *key contributing element* to the New Jersey College for Women Historic District. Mr. James Neilson, who donated the land for Antilles Field, was a Trustee at Rutgers University and an ardent supporter of Douglass College. The Neilson family was long established in New Brunswick. Besides the land for Antilles Field, Mr. Neilson also gave money and other gifts of land and his family home to the College. Mr.

Neilson was a well-respected member of the University community and the city at-large. Leonore Loree, President of the Delaware and Hudson Railroad, was also a Trustee during the early years of the College. Mr. Loree brokered a significant donation to Douglass College to cover the regrading of the land and other physical improvement to turn Mr. Neilson's gift of land into the College's athletic field.

Resources Recommended Ineligible for the National Register

29 Dennis Street: The Frog & The Peach restaurant is located on the east side of Dennis Street between Hiram and Richmond Streets, between George Street and Route 18 in downtown New Brunswick, New Jersey. The significance of #29 Dennis Street lies in its association with the Hiram Market district area. The lack of context in light of extensive demolitions in recent years has greatly diminished the integrity of historical significance for this building. Although 29 Dennis Street was included in the Hiram Market Historic District, it lacks the integrity of architectural and historical significance to qualify for the National Register as an individual structure.

19 Dennis Street: Delta's Restaurant is located on the east side of the Dennis Street between Hiram and Richmond Streets, between George Street and Route 18 in downtown New Brunswick, New Jersey. The significance of #19 Dennis Street is primarily with regard to its association with the whole of the Hiram Market district. Although a simple yet handsome structure, like neighboring #29 Dennis Street this building lacks the integrity of architectural and historical significance necessary to qualify for a place on the National Register.

Rutgers University - Cook/Douglass Campus – Old Gibbons Campus: Due to difficulties in financing capital building projects for the growing institution, Rutgers University and NJC were not able to build large conventional dormitories as could be found at other college campuses. Instead, they elected to take advantage of the favorable mortgaging conditions at the time and built houses to lodge the students. A semicircular formation of houses was planned, each house to hold from 12 to 20 students. Constructed in 1926, the Gibbons Campus was the third set of these houses on campus.

Located on lands donated by Mr. James Neilson, twenty-two houses and a central recreational facility made up the Gibbons Campus. All of the initial Gibbons Campus structures can be seen on a 1929 addition to the updated 1912 Sanborn map. Access to the semi-circular drive could be gained from Burnet Street or Clifton Avenue. Now known as the Old Gibbons Campus, the original Gibbons Campus configuration remained intact through the 1960s. In the 1970s, new larger dormitories were constructed closer to Clifton Avenue and several of the Old Gibbons buildings were demolished. Eight of them remain, and they are still in use by the Douglass Developmental Disabilities Center.

The significance of the Old Gibbons Campus lies in its association with the early development of the New Jersey College for Women, particularly with regard to innovative methods of meeting the housing needs of students on campus. However, changes made to the setting, including the demolition of several of the original structures and the replacement of original cladding materials, render the integrity of the grouping compromised. In addition, the Corwin Campus version of this type of student housing is a more intact example still in use. Due to the diminished integrity of the

Old Gibbons Campus, the grouping is recommended as a *non-contributing* element of the proposed New Jersey College for Women Historic District.

The remainder of the structures within the Area of Potential Effects (APE) are not eligible for inclusion in the National Register of Historic Places due to the structure being less than 50 years of age or their lack of the historical or architectural significance required to fulfill the criteria of eligibility.

Impacts and Mitigation of Adverse Impacts

Once the National Register eligibility of all resources was determined, an assessment of the potential effects of the proposed improvements on identified resources was conducted. Issues considered included those defined as examples in 36 CFR 800.5(a), as well as any other potential adverse effects. Only those resources determined or recommended eligible for the National Register of Historic Places are evaluated in the following table.

Route 18 Section 2F, 7E & 11H
Assessment of Effects to Listed and Recommended Eligible Resources (36 CFR 800.5(a))

Effect	None	No Adverse	Adverse*							
Resource			2(i)	2(ii)	2(iii)	2(iv)	2(v)	2(vi)	2(vii)	Other
Agnew House			X							
New Jersey College for Women Historic District (Antilles Field)		X[1]								

*Summary of Assessment of Effects (36 CFR 800.5(a)):
2(i): Physical Destruction of or damage to all or part of the property
2(ii): Alteration of a property including rehabilitation etc. which is not consistent with the Secretary of the Interior's Standards on Rehabilitation
2(iii): Removal of the property from its historic location
2(iv): Change of the character of the property's use or physical features within property's setting that contribute to its significance
2(v): Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features
2(vi): Neglect of a property which causes its deterioration
2(vii): Transfer, lease, or sale out of Federal ownership or control without preservation mandates

These determinations of effect have been made in accordance with the Section 106 regulations (1999). The criteria for making the determinations was dependent upon the proximity of the proposed improvements to the identified resources. The frame of reference was the distance of the existing Route 18 from the residential buildings on Taylor Drive, built along Route 18 in the 1950s. The minimum distance was approximately 15-meters (50 feet); this is also the minimum distance between Route 18 and the sidewalks on the north side adjacent to the Paulus Boulevard/Chester Circle residences.

[1]No Adverse Effect with Conditions. See explanation on page 149.

Summary of Determination of Adverse Affect

Agnew House: As currently proposed, the new alignment of Route 18 will go through the recently refurbished front portico of the Agnew House, arguably the most significant and visible portion of the property. This physical intrusion would constitute an adverse effect to this National Register property. As a means of mitigating the adverse effects posed by the Preferred Alternative, it is recommended that the structure be moved within the present lot to avoid the new roadway. In addition, it may be beneficial to re-orient the structure so that the primary façade faces Crest Road, rather than the proposed noise wall adjacent to the roadway. Prior to acceptance of this mitigation scheme, the Agnew House will need to be assessed for structural integrity and soundness to withstand the move. It is recommended that an archaeological investigation be conducted prior to any relocation to identify associated archaeological deposits or features which may be impacted by the movement of the house. In addition, the structure will need to be documented as it is presently situated prior to any move. Although the Preferred Alignment will not directly impact the well structure, a contributing element of the property, potential impacts to the well will be considered in the development of the mitigation scheme. If moving the structure is not possible, full Historic American Buildings Survey/Historic American Engineering Record (HABS/HAER) documentation of the house would be the minimum requirement to mitigate the adverse effect of the Preferred Alignment.

Summary of Determination of No Adverse Affect with Conditions

New Jersey College for Women Historic District (Antilles Field): At the closest point (northeast corner), Antilles Field currently lies approximately 6-meters (20 feet) in the horizontal direction from the new alignment. Vertically, the new Route 18 roadway alignment is some 15-meters (50 feet) below Antilles Field. Roadway widening to provide for the Preferred Alternative design features will encroach into the rock outcropping along (and below) the northern edge of the Field. The existing rock face will be cut back approximately 6-meters (20 feet) from its current location, and the proposed face of rock will be stabilized by either surface anchoring methods or by constructing a retaining wall. The rock removal process will have to be conducted via a "top-down" procedure, with crews and equipment working from the Antilles Field area and performing excavation activities down into the rock.

This construction activity and the rock face stabilization would result in a temporary adverse effect to this resource, which is recommended as a *key contributing* element in the New Jersey College for Women Historic District. In order to mitigate permanent adverse effects as a result of the temporary construction-related impacts, a field meeting was held with representatives from NJDOT and NJHPO. The result of this meeting was general agreement as to the preferred treatment of Antilles Field.

The stabilization of the proposed rock face will ensure that the structural integrity of the Field will be protected. The proposed project will have *no adverse effect* on this resource *with the implementation of the preferred method of construction agreed to at the November 15, 2000 field meeting and*

outlined in the Memorandum of Findings, and provided the conditions referenced in the April 11, 2001 NJHPO Section 106 consultation letter are followed **(Appendix B)**.

Mitigation for any impacts to historic architecture resulting from the proposed project will be coordinated through consultation with the New Jersey Historic Preservation Office and the Advisory Council for Historic Preservation. These measures may include vegetative buffers, noise barriers, relocation of structures or various roadway construction techniques.

J. Archaeological Resources

The regulations governing and resources employed for this aspect of the project are the same as those discussed for the historic architecture in the preceding section. The following is based on the Phase I and II Archaeological Survey and Technical Environmental Study for the project.

Several investigations have taken place within and adjacent to the project area. The New Jersey Department of Transportation (NJDOT) conducted an archaeological survey in 1991 for Route 18 Section 2F, 7E, and 11H (Zmoda 1991). No significant cultural resources were found as a result of this study and the NJDOT investigation concluded that the reason for this was due to the project area having been disturbed over the years by construction, utilities, landscaping, erosion, and urban revitalization.

Extensive (Phase I and II) cultural resource surveys of Boyd Park in the City of New Brunswick were conducted by the Rutgers University Center for Public Archaeology (RUCPA) between 1993 and 1994 (Porter 1993a, 1993b; Cavallo and Hartwick 1996a, 1996b). The project area was within and adjacent to the Delaware and Raritan Canal Historic District. The district is listed on the National and New Jersey Register of Historic Places.

Prior to fieldwork, RUCPA identified a total of 34 historic features on maps ranging in date from the early nineteenth century to the mid-twentieth century. RUCPA excavated trenches with a backhoe to identify and evaluate surviving cultural resources associated with the D&R Canal within Boyd Park. The investigations succeeded in identifying structural remains interpreted to represent mule barns and the canal office. The resources identified during the work lie outside of the proposed right-of-way for the current project.

RUCPA also conducted a Phase IB survey of the northern portion of Boyd Park in 1994. Archaeological investigations at Boyd Park produced evidence of historic features from the early 19th century to the mid-20th century. The remains of six foundation walls and a number of other structural elements were located during testing by RUCPA. The foundation walls were likely related to factory buildings of the New Jersey Rubber Company (ca. 1877) and the U.S. Rubber Company. The work was completed for the City of New Brunswick in association with the Boyd Park Expansion and Development Project - Phase II (Cavallo and Hartwick 1996a).

RUCPA also conducted archaeological field investigations of the Delaware and Raritan Canal Outlet in New Brunswick, New Jersey in 1995. The investigations centered on archaeological testing of the power house and locktender's shed near the outlet lock, a surface survey of the towpath between the

outlet lock and the Albany Street Bridge, and limited archaeological testing of the overflow structure on the towpath (Cavallo and Hartwick 1996b).

In addition, a detailed visual reconnaissance of the entire length of the Delaware and Raritan Canal towpath between the outlet lock and the Albany Street Bridge was conducted by RUCPA. Limited field investigations were also conducted at the location of the overflow on the towpath. The overflow is a 64.6-meter (212 foot) section of the towpath starting at 244-meters (800 feet) south of the Albany Street Bridge. The construction of the overflow was identified as being quite similar to the timber crib towpath.

A potential 18th century site (28-Mi-127) located on the northwest corner of Commercial Avenue and Route 18 in New Brunswick was destroyed in 1974-1975 by the construction of the New Brunswick Apartments complex (Puniello 1974). The location is directly across from Boyd Park. Presently, there is also a gas station (Gulf) located on this site. Eighteenth to early 20th century artifacts were surface collected after the site was bulldozed.

The last investigation reviewed for the corridor comprises the salvage archaeology conducted at the Route 18/Albany Street interchange in 1978 (Crozier 1980). The investigations were undertaken in an area once bounded by Albany, Peace, Washington, and Water Streets and located primarily within the northwest quadrant of the interchange (southbound Albany Street onto southbound Route 18). Crozier's investigations documented the presence of building foundations and features dating back to 1729. Remains of and features related to the Indian Queen Tavern and the Old Dutch House were identified. It was interpreted that the construction of a gas station and installation of buried tanks caused considerable destruction of archaeological deposits in the location of the Whitehall Tavern/Hotel at the corner of Albany and Peace Streets. Because much of the area was not to suffer direct impacts from the highway construction, the investigation was oriented towards the documentation of in situ remains and preservation in-place and not towards data recovery. Crozier concluded that if the resources within this area were threatened, further investigations and data recovery would be necessary to document this portion of early New Brunswick.

Fieldwork (testing) conducted specific to the Route 18 Section 2F, 7E and 11H project focused on areas adjacent to the National Register Thomas Agnew House and areas along the east side of the existing road between Commercial Avenue and Route 27. In addition, the area on the west side of the existing road between New Street and Richmond Street was investigated. All of the tested areas evidenced prior disturbance, primarily associated with either the construction of existing Route 18, attendant utility installation, or as a result of the razing of former structures and landscaping activities.

The following table lists the archaeological resources and remains identified in these studies and the effects of the proposed project. The current project was divided into five segments, with the southern most located on the Thomas Agnew House (National Register) property. Testing at the Thomas Agnew House property was confined to the portion fronting the ramp to Route 1 and no intact deposits associated with the Agnew House were encountered. If mitigation includes moving the structure to another portion of the lot, an archaeological survey would be necessary to identify the presence or absence of significant archaeological resources.

Route 18 Section 2F, 7E and 11H
Table of Resources and Impacts

Resource	Adv. Effect	No Effect	Undetermined
Agnew House		X[1]	
#119, 121/123 Burnet Street			X[2]
28 Mi 127		X	
D&R Canal		X	
Route 18/Route 27 Taverns	X		

[1] Effects from recommended Architectural Mitigation yet to be determined.
[2] Construction monitoring recommended.

Foundation remains of 119 and 121/123 Burnet Street were encountered between the sidewalk abutting the road and the decorative berms within Boyd park. The structures fronted Burnet Street and were demolished prior to the 1955 dualization of Route 18. Demolition, road construction, and landscaping within the park have all had detrimental impacts to these structures and result in their having little archaeological value. However, rear yard areas currently located under the earthen berms may hold preserved remains which could yield significant archaeological deposits. It is recommended that a program of archaeological monitoring be included for the proposed construction to document any significant deposits adversely effected by the construction.

The third portion extended along the east side of the road between New Street and the ramp to Route 27. Within this segment additional foundation remains were uncovered. Towards the middle of the grassed areas within the ramps, intact remains are present of 139½ and 149 Burnet Street. However, they have suffered severe disturbance immediately adjacent to the road and sidewalk where the current project will have an impact. In front of the former New Brunswick police station and along the Route 27 ramp, no intact archaeological deposits were identified.

The area on the west side of Route 18, between New and Richmond Streets was also examined. The tested area was limited to grassy portions inside and outside of the fence surrounding a parking lot. No intact archaeological deposits were identified.

The final area investigated was located north of Route 27 (Albany Street), in the interchange area with Route 18. Both hand and machine-aided excavations were undertaken, finding foundation and feature remnants which had been exposed during salvage excavations in 1978. The current exploration documented the locations of some of the previously identified remains and demonstrated the presence of significant archaeological deposits in this area. Although excavation of the Route 18/Route 27 (Albany Street) interchange was hampered by the large quantities of fill placed at the site, several of the features (6, 6A, possibly 9, 11, 13, and 15) originally identified by Daniel Crozier were relocated. The fill seems to have served its purpose and provided a protective cap over the archaeological deposits. It is probably that the other remains identified during the 1978 fieldwork are still present on the site and could be relocated through further fieldwork. Crozier focused his efforts on the southern portion of the site. HPO has determined these resources eligible for listing on the New Jersey Register of Historic Places (HPO-P2001-114 PROP) and that a mitigation plan be

developed to offset the adverse effects resulting from this project.

Impacts and Mitigation of Adverse Impacts

A staged mitigation program of data recovery taking place in two parts is recommended for the resources at the Route 18/Route 27 (Albany Street) interchange. The first stage of the effort would remove the overburden from those areas likely to be impacted by construction. This should allow the majority of historic features within the study area to be identified. Limited testing of select features may also be carried out at this point to determine the integrity of the deposits. Based on the number and location of features identified during the mitigation's first stage, a sample of the deposits would be fully investigated and documented, providing a permanent record of the archaeological deposits present within the study area. There is a high probability that other archaeological deposits, unidentified during the 1978 fieldwork, are present on the property. Taken as a group, these deposits have the potential to expand our understanding of 18th and 19th century life in one of New Jersey's cities.

K. Aesthetics

In order to evaluate aesthetic impacts along the Route 18 project corridor, visually sensitive resources that could potentially be impacted from the proposed roadway improvements were identified. Review of existing aerial photographs and maps of the project corridor and the Preferred Alternative plan aided in the identification and evaluation of potentially affected resources.

For this study, visually sensitive resources included residences, schools, parks, recreation areas, and cultural resources. The impact area was limited to properties adjacent to and visible from the proposed Route 18 project corridor.

Following the initial identification of resources, a field reconnaissance was held in February 2000 to further clarify and define project related impacts on visual resources. This reconnaissance included driving along the project corridor, stopping at significant points, and recording the existing conditions on film. To determine the level of visual impact, the existing view shed of each sensitive resource was evaluated and compared to the new view shed that would result from structural or grade changes proposed under the Preferred Alternative for the Route 18 project. In addition, impacts on the views from the Route 18 roadway were considered.

Existing Conditions

The Route 18 project corridor is part of the Lower Raritan River Basin that extends through Middlesex County and other New Jersey counties. Portions of the Raritan River Basin are known for natural scenic beauty and high visual quality. The portion of the basin through which the project corridor runs is less scenic as the corridor winds its way through a very developed urban area, the City of New Brunswick. However, visual quality does exist because this section of Route 18 parallels the Raritan River, which is the dominant scenic feature of area. The corridor is adjacent to the river from the Northeast Corridor Amtrak Bridge at the northern terminus of the project corridor,

south to Carpender Road, where it diverts from the river's course to intersect with Route 1, the southern end of the project limits.

The existing visual character of the area can be described as a prior residential area that has seen growth and the introduction of a mix of land uses: educational facilities (i.e., Rutgers University), highway-oriented commercial uses, high-rise/mid-rise housing, single-family housing, offices, and a hotel. Visually the area has evolved into a mixed-use urban area with buildings of varying heights and scales dotting the corridor.

The dominant character of the landform along the project corridor is level land that slopes toward the Raritan River. An exception to this is the shale outcrop located north of George Street, on the west side of Route 18 to the Rutgers University Cook/Douglass Campus (and Gibbons Court). Another exception is the Brook Down Deep Gully outfall on the west side of Route 18, between Gibbons Court and Newell Avenue, and on the east side of Route 18 north of the Carpender Road residences. The shale outcrop on the west side of Route 18 is visible as the road runs adjacent to the shear face of the steep outcrop. The portion of the Brook Down Deep Gully outfall around Carpender Road is not visible from Route 18 as it drops sharply away from the road to meet the Raritan River. Boyd Park, a city park, is adjacent to the Raritan River on the east side of Route 18, located between Route 18 and the river.

Development extends westward of the project corridor with a mix of commercial, institutional, office, and residential developments and a network of roads. Eastward of Route 18, to the edge of the Raritan River, is a limited amount of developed area. Development includes residential units and recreational facilities. Land cover consists of the river, deciduous wooded wetlands, deciduous forests, and natural vegetation including grass and brush. Boyd Park is attractively landscaped with healthy groves of young cherry trees as well as groupings of mature canopy trees on well-manicured lawns.

Two groups can potentially be visually impacted as a result of implementing the Preferred Alternative. The first group has a view from the road and consists of local and commuter traffic. The second group has a view of the road and is divided among residential, recreational, educational, and commercial users.

The impact area for visual assessment was limited to properties adjacent to, and visible from, the proposed Route 18 project corridor. The following table lists the sensitive visual resources along the approximately two-mile long stretch of the corridor.

Route 18 Section 2F, 7E and 11H
Sensitive Visual Resources within Project Area

West Side of Route 18	East Side of Route 18
Riverwatch Commons	Boyd Park
New Brunswick Homes (New Brunswick Housing Authority)	Carpender Road residences
New Brunswick Apartments	Raritan Garden apartments
Riverside Towers	
Rutgers University - Music Building and Antilles Field	
Rutgers University Cook/Douglass Campus-Gibbons Court	
Newell Avenue and University Mews Neighborhoods	
Dewey Heights residences along Taylor Drive	
Agnew House	

Impacts and Mitigation of Adverse Impacts

The impacts of the Route 18 improvement project on the visually sensitive resources within the project corridor are evaluated below.

1. Riverwatch Commons – This apartment complex is located on the north side of Richmond Street, fronting Burnet Street and Route 18, across from the former police station complex. Burnet Street acts as a collector–distributor roadway to Route 18 and defines the east edge of the Riverwatch Commons property. Riverwatch Commons is in close proximity to, and in the line-of-sight of, Route 18 and will not be changed by the improvements.

   The major effect of the improvements is that the right-of-way line for the proposed collector-distributor roadway will require a taking of a small area of property in the property's south-easternmost corner. This will result in a minor visual impact for viewers to and from the highway.

2. New Brunswick Homes (New Brunswick Housing Authority) – This complex, located between New Street and Tabernacle Way, consists of four nine-story towers. The four towers are oriented perpendicular to Burnet Street, which runs adjacent to Route 18, functioning as a collector-distributor roadway. Route 18 is within the view shed of the complex and motorists along Route 18 have a clear line-of-sight to the housing development.

   The Route 18 improvement project requires right-of-way acquisition from the New Brunswick Homes' property along Burnet Street for the proposed Route 18 southbound collector-distributor road from New Street to Commercial Avenue. The visual impact of the proposed improvements in this area will result in a minor, if any, change of the existing views to or from the highway.

The existing pedestrian overpass is located north of Tabernacle Way in the southeast corner of the New Brunswick Homes site. The proposed demolition and construction of a new pedestrian overpass on the south side of Tabernacle Way could affect the current view of four groups. The four groups are: (1) the residents of New Brunswick Homes; (2) the residents of New Brunswick Apartments; (3) the viewers from the road (i.e. local and commuter traffic); and (4) users of Boyd Park. The common effect on each group is a change in the view at Tabernacle Way because of the shift in the location of the pedestrian overpass. This change would have a minor visual impact as the change in view is neutralized, as it is neither beneficial nor adverse to any viewer.

3. New Brunswick Apartments – This complex, located between Tabernacle Way and Commercial Avenue, consists of twelve garden style apartment buildings. The Preferred Alternative will require right-of-way taking to accommodate the proposed southbound collector-distributor roadway continuing from New Street to Commercial Avenue along the eastern edge of the property, the southbound exit ramp to Commercial Avenue on the south side of the property, the widening and retaining walls required on Commercial Avenue from its grade-separated approach to the Route 18 northbound collector-distributor, and retaining walls along the eastern edge of the property, separating the property from Route 18.

   Currently, a landscaped berm and wall separate the property from Route 18. The right-of-way acquisition will require the demolition of the existing wall and berm. However, the project proposes a noise wall between the property and the roadway. This proposed noise wall is warranted and would replace the existing wall and berm, and reduce the view of traffic and associated noise along Route 18. The barrier would also obstruct the view of the apartment complex from drivers along Route 18. This will affect two groups, the residents of the towers and the drivers along Route 18. The residents will lose the view of the existing landscaped berm and have the back view of the proposed noise wall along Route 18. Drivers traveling along Route 18 will no longer have a direct view into the apartment complex. Should the residences of this area prefer a noise barrier be constructed, the design of the barrier would involve local input to develop an aesthetically pleasing viewscape.

   Right-of-way is required from the northeast corner of the property for the location of the new ADA compliant pedestrian overpass at Tabernacle Way. The area to accommodate the ramps will be taken from the existing parking lot. This proposed change would have a minor visual impact.

   The proposed grade separation of Commercial Avenue over Route 18 will require new structures at Commercial Avenue **(Conceptual View 1)**. New structures will include a vehicular overpass for Route 18, with a diamond interchange and ramps and a new pedestrian overpass and ramps. The proposed changes for the intersection of Route 18 and Commercial Avenue will result in major visual impacts. These elevated structures will have an adverse impact as a visual transformation of the area is proposed. The new view from the New Brunswick Apartments will include the structural walls of the proposed elevated Commercial Avenue roadway **(Conceptual View 2)**.

Conceptual View 1

However, the visual impact could also be beneficial as the Commercial Avenue structure will have multi-use paths on both sides of the roadway, with benches and plantings to enhance the connection of this area, including the New Brunswick Apartment complex, to Boyd Park. This structure has been designated to serve as a "gateway" to the park from the city and also as an overlook to Boyd Park and the river, creating a beneficial visual impact. Drivers will be impacted by new views of the grade-separation of Commercial Avenue over Route 18. The planned enhancements will create a beneficial visual impact for Commercial Avenue drivers and motorists on the Route 18 northbound collector-distributor roadway, as they will have a scenic view of the river and the park from the proposed collector distributor roadway.

For residents of the New Brunswick Apartments landscaping will help to lessen the visual impacts of the highway and recommended noise wall.

4. Riverside Towers – This residential apartment complex is located at the intersection of Commercial Avenue and Route 18 southbound on the south side of Commercial Avenue and overlooks Boyd Park. Approximately 0.13 hectares (0.32 acres) of right-of-way will need to be acquired for the ramp for the proposed pedestrian overpass. The new vehicular overpass at Commercial Avenue will be an obstruction for the residents of this property **(Conceptual View 3 and 4)**. The visual impact will be minimal however, as the height of the proposed Commercial Avenue structure will be below the first five floors of the building, which are non-residential.

5. Rutgers University Music Building and Antilles Field Area – These property area is located on the Rutgers University Cook/Douglass Campus (and Gibbons Court) on the north side of George Street, overlooking Route 18, and much of New Brunswick to the north. The Music Building was the second of the buildings built by donations from the State Federation of Women's Clubs, which was instrumental in the founding of the New Jersey College for Women, a subsidiary to Rutgers University. Antilles Field is a recreation field used by Rutgers University.

   Right-of-way from the property is required for roadway improvements and a proposed pedestrian walkway along George Street. The proposed alignment of George Street and the walkway along George Street puts them in closer proximity to the Music Building.

   Route 18 improvements will encroach into the rock outcrop below Antilles Field, putting the roadway closer to the field in the horizontal plane but in the vertical direction, the field will remain at a much higher elevation than the highway. The groups that will be affected visually are motorists along George Street, motorists along Route 18, and users of the Music Building and Antilles Field. Motorists along George Street will experience a minor visual impact, as their view will change minimally. The visual impact for motorists along Route 18 and the building's and field's users will be moderate. The Music Building and Antilles

Field will now be more visible and the users of the building and field will now have a clearer view of activity along Route 18 below.

For the Rutgers Music Building and Antilles Field area, the visual impacts can be mitigated with landscaping, planting of trees and thick bushes to shield it from the Route 18 corridor.

6. Rutgers University – Cook/Douglass Campus (and Gibbons Court) – This section of the campus is accessible from Route 18 northbound via George Street. It is located on the south side of George Street. The improvement project will require modifications to the existing access to the Gibbons Student Housing parking lot and buffer areas within Rutgers Cook/Douglass Campus (and Gibbons Court). The George Street entrance ramp to Route 18 southbound will be shifted closer to Rutgers Campus and will require right-of-way acquisition of the University's property.

   Approximately 0.44 hectares (1.1 acres) of University property along Route 18 is required to accommodate the new alignment. The existing brush cover that currently acts as a barrier between the campus and Route 18 will be removed and replaced with noise walls, creating a moderate impact for both the motorists and users of the campus.

   For the Rutgers University Cook/Douglass Campus (and Gibbons Court), the visual impacts can be mitigated with landscaping, planting of trees and thick bushes to shield it from the Route 18 corridor.

7. Boyd Park - Boyd Park is located along the Raritan River, east of the Route 18 project corridor, extending generally from George Street to New Street. The location of this park restricts pedestrian accessibility, because Route 18 lies between the park and the residential communities of the City of New Brunswick. The park is currently accessible to pedestrians via two existing pedestrian overpasses located at New Street and Tabernacle Way, and via the at-grade, signalized intersection at Commercial Avenue. A recent $11 million renovation of the 4.17 hectare (10.3 acre) park includes the following active recreation facilities: two tennis courts, a performance pavilion, a playground, and fishing facilities. For passive recreation, there are trails, two picnic areas, and scenic views. The renovations expanded the park facility to the Rutgers University Boathouse area, improved pedestrian and vehicular access, and included preservation/restoration of the historic Delaware and Raritan Canal lock facility. The park offers a beautiful view of the Raritan River and the New Brunswick skyline.

   Right-of-way will be required of the park to facilitate the Route 18 improvements. Acquisition of approximately 0.73 hectares (1.80 acres) along the western edge of Boyd Park is proposed to facilitate Route 18 improvements, construction of the new multi-use path, and construction of the ramps for the new pedestrian overpasses. The majority of parkland to be acquired will improve the use and enjoyment of the park facilities, as many of the land conversions are related to the additional pedestrian/bicyclist overpasses, pathways, and expansion of trail facilities, creating a beneficial visual impact.

The areas of potential adverse visual impact are the areas of construction of the new pedestrian overpass, Route 18 roadway structures and the retaining walls required by the project. These structural elements will affect the view of the park from the Route 18 mainline and southbound collector-distributor roadway, decreasing the view of the River. The new structures will obstruct immediate views of Route 18 from the park, but the design features of the walls and the amount of vegetation in the park will mitigate the impact. The impact will be less on the distant views of the city's skyline. The new structures are not large enough to pose any serious visual obstruction. Although some portions of Boyd Park will be directly affected by the proposed highway improvements, the impact is not considered adverse as the visual landscape will not be reduced, but rather enhanced.

To mitigate the visual impacts on Boyd Park, replacement of any removed vegetation and incorporation of vegetation, landscaping and enhanced lighting for the new walkways and overpasses will provide a pleasant screen of and from the road. Incorporation of design recommendations for the retaining walls will be considered from community representatives resulting from the Community Partnering Team meeting process.

8. Newell Avenue and Phelps Avenue/University Mews Neighborhoods – The Newell Avenue neighborhood consists of residences north and south of Newell Avenue. The University Mews areas are those communities that surround Phelps Avenue: University Mews Condominiums, TOV Manor Apartments, and several single-family residences. Visual impacts are similar for Newell Avenue and University Mews neighborhoods, where landscaped earth berms are proposed along Route 18 as part of the improvement project.

   Berms, approximately 3 to 3.7 meters (10-12 feet) high, will be constructed north of Newell Avenue and continue south between Newell and Phelps Avenues. Dewey Drive will be closed at its intersection with Route 18 and the residence just south of Dewey Drive adjacent to Route 18 will be acquired, which will allow continuation of the landscaped berm between Phelps Avenue and Paulus Boulevard. These berms will have a beneficial visual impact for the residential area, as they will provide a pleasant landscaped view and not a view of the traffic along Route 18. Motorists along Route 18 will also benefit visually from the presence of these berms. The final configuration of the earth berms will be determined based on the noise studies being conducted and reviewed with local officials and members of the Community Partnering Team, which includes representatives from neighborhoods and local agencies.

   The proposed pedestrian overpass south of Phelps Avenue will add a new structure to the landscape affecting the existing vista for motorists and residents. The impact will be minor for both motorists and residents. The proposed berms will lessen the visual impact of the new pedestrian overpass along Route 18 from the existing residences on Newell and Phelps Avenue.

   To lessen the visual impact of traffic along Route 18 for residences in the Newell Avenue and Phelps Avenue neighborhoods, the Route 18 project includes proposed berms between these neighborhoods and the mainline highway.

9. Carpender Road Residences – There are twelve single-family residences along this road, four with their rear yards along northbound Route 18, and eight that border the Raritan River. The current visual characteristic is a highly vegetated residential street. Approximately 0.06 hectare (0.12 acre) from the rear of each of the four properties must be acquired for installation of the proposed multi-use path and the warranted noise barrier between the properties and the roadway.

   This noise wall will reduce traffic noise along Route 18 and eliminate the existing views of Route 18. This is desirable and a positive visual impact for the Carpender Road residences. The wall will also obstruct the view of the Carpender Road residences from drivers along Route 18. The visual impact for motorists along Route 18 would be minor; the view would be of a wall instead of residences and a neighborhood street.

   The proposed improvements include the Phelps Avenue pedestrian overpass, which will touch down on the Route 18 northbound side of the corridor in the area of the existing southernmost intersection of Carpender Road with Route 18 northbound. Under the Preferred Alternative this Carpender Road intersection will be closed. This new pedestrian overpass will create a moderate visual impact for drivers with a new structure over the roadway at this location. There will be little visual impact of the pedestrian overpass for Carpender Road residents, as it will be hidden from the view of the residents by the proposed noise wall.

   For Carpender Road residences, the proposed noise wall will help to mitigate the visual impacts resulting from corridor improvements.

10. Dewey Heights Residences along Taylor Drive – Dewey Heights is the residential community located along Route 18 southbound between Dewey Drive and Clifton Avenue. There are eight single-family houses along Taylor Drive that directly border Route 18 in this neighborhood.

    The improvement project will visually affect the residences of Dewey Heights with the construction of a proposed noise wall **(Conceptual View 5)**. The Dewey Heights noise wall will begin at the intersection of Taylor Drive and Paulus Boulevard and continue along Route 18 to its intersection with Route 1. The Route 18 improvement project will require 0.06 hectare (0.12 acre) from the rear yards of these properties, for roadway widening and the noise wall. Currently, the rear of these properties are heavily landscaped, providing a visual screen between the residences and Route 18. The only perceivable moderate visual impact for the residents will be the new noise wall. However, this would not be adverse, as these walls would be shielded by the existing woodland screening. The Dewey Heights community supports the construction of these noise barriers. The visual impact on motorists would be the loss of view of the woodland area replaced by a wall. This would be a moderate visual impact.

For Dewey Heights residences along Taylor Drive, the proposed noise wall will help to mitigate the visual impacts resulting from corridor improvements.

11. Agnew House – This residential property, which is listed on the National Register of Historic Places, fronts Route 18 southbound at Crest Drive. This property has a clear view of traffic on Route 18 traveling to and from the Route 1 Interchange. Right-of-way required for the widening of Route 18 will impact the structure. In order to avoid impacts to the building, a proposal to move the building intact is underway.

    To mitigate the visual impact for the Agnew House, the recommendation is to orient the house towards Crest Drive away from Route 18 and increase its landscaping buffer.

12. Raritan Garden Apartments – This apartment complex is located between Paulus Boulevard and Route 1 on the east side of Route 18 northbound, across from the Dewey Heights neighborhood. The Route 18 improvement project will require right-of-way of 0.058 hectare (0.143 acre) from the Raritan Garden property, for Route 18 improvements, construction of a sidewalk, and a noise wall. Raritan Garden Apartments is close to, and in the line-of-sight of Route 18. The proposed improvement project will provide a noise wall parallel to Route 18, if the wall is supported by the property's owners and residents. This will result in a minor visual impact for some residents of the apartment and for viewers from the highway, but will shield the property from the Route 18 traffic activity.

V. SUMMARY OF ADVERSE IMPACTS

The following table presents a summary of the potential and unavoidable impacts from the proposed project and the proposed mitigation measures to be employed.

Route 18 Section 2F, 7E and 11H
Summary of Impacts

Environmental Resources or Concerns	Unavoidable Adverse Impacts	Proposed Mitigation Measures
Soils	Potential for encountering acid producing soil deposits and erosion of exposed soils during construction.	Project will comply with NJDEP standards for handling acid producing deposits. Soil Erosion/Sediment Control Plan will be developed and followed during construction.
Geology	Steep slopes as a result of rock cutting activities.	Stabilization of slopes by employing sound engineering practices.
Groundwater	Potential exposing of groundwater during construction.	Consultation and securing of permits from appropriate regulatory agencies.
Surface Waters	Increase in runoff to adjacent surface water systems.	Incorporation of water quality treatment measures into project design.
Aquatic Ecology	No impacts anticipated.	No mitigation proposed.
Vegetation	Removal of limited areas of adjacent roadway vegetation and temporary disturbances to vegetation during construction.	Minimization of permanent removal of vegetation and replanting of areas temporarily disturbed.
Wildlife	No impacts anticipated.	No mitigation proposed.
Floodplains	Placement of fill within floodplains.	Minimization of fill required by the use of retaining walls where feasible. Will secure necessary permits for work within the floodplain from the applicable regulatory agencies.
Wetlands	Filling of 0.058 hectare (0.143 acres) of wetlands and work within wetland transition areas.	Secure permits from regulatory agencies. No replacement of lost wetland habitat anticipated.
Noise Receptors	Increase in noise levels for some receptors adjacent to roadway.	Construction of noise attenuation devices where warranted, and with local support.
Air Quality	No impacts anticipated.	No mitigation proposed.
Residential/Business	One (1) business and two (2)	Relocation assistance to be provided

Environmental Resources or Concerns	Unavoidable Adverse Impacts	Proposed Mitigation Measures
Displacements	residential homes will be displaced.	in conformance with the Federal and Federally Assisted Programs Act of 1970 and the Federal Uniform Assistance and Real Property Acquisition Act of 1970.
Community Facilities	One (1) community facility will be displaced.	Former police station already vacated, no mitigation proposed.
ROW Acquisitions	Several areas of partial takings for required right of way.	Required right of way will be taken in accordance with Federal and State procedures and regulations.
Environmental Justice	Project complies.	No mitigation proposed.
Hazardous/Solid Waste	Potential to encounter contaminated soils and groundwater.	Contaminated media will be handled in accordance with applicable State regulations.
Historic Resources	Affect upon the Agnew house and the NJ College for Women Historic District (Antilles Field).	Project will comply with the Section 106 Guidelines. Conditions for work within the Historic District will be included in the project specifications and relocation of the Agnew house is proposed.
Archaeological Resources	Affect to the "Albany Street" archaeological resource.	Data recovery will be undertaken in consultation with the NJ HPO.
Aesthetics	Changes to various viewscapes within the corridor.	Proposed designs to incorporate landscaping where applicable, construction of a "gateway" to Boyd Park and visual enhancements throughout the corridor.

VIII. REQUIRED PERMITS AND APPROVALS

It is anticipated the following Federal and State permits and/or approvals will be required for implementation of the Preferred Alternative which involves realignment, widening, and intersection improvements.

Federal Permits and Clearances

Section 106 Consultation (Memorandum of Agreement)
Section 4(f) Parklands
Section 4(f) Cultural Resources

State of NJ Permits and Clearances

Delaware and Raritan Canal Commission, Zone A
Freshwater Wetlands Letter of Interpretation
Freshwater Wetlands General Permit
Freshwater Wetlands Transition Area Waiver
Stream Encroachment Permit
Waterfront Development Permit
Water Quality Certificate
Bureau of Tidelands, Riparian Grant, Lease or License
Soil Re-use Plan
On-Scene Coordinator Letter

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1996b *Cultural Resource Survey of the Delaware and Raritan Canal Outlet Lock and Towpath, City of New Brunswick, Middlesex County, New Jersey*. Report prepared for the New Jersey Historic Preservation Office by The Rutgers University Center for Public Archaeology, New Brunswick, New Jersey. On file, New Jersey Historic Preservation Office, Trenton.

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Porter, Richard L.

1993a *Letter Report of Stage I Cultural Resource Survey within Boyd Park, City of New Brunswick, Middlesex County, New Jersey*. Letter report prepared for the New Jersey Historic Preservation Office by The Rutgers University Center for Public Archaeology, New Brunswick, New Jersey. On file, New Jersey Historic Preservation Office, Trenton.

1993b *Letter Report of Stage II Cultural Resource Investigations of the Delaware and Raritan Canal Mule Barn Complex and Office within Boyd Park, City of New Brunswick, Middlesex County, New Jersey*. Letter report prepared for the New Jersey Historic Preservation Office

by The Rutgers University Center for Public Archaeology, New Brunswick, New Jersey. On file, New Jersey Historic Preservation Office, Trenton.

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1991 *Archaeological Survey For Route 18, Sections 2F, 7E, and 11H, Middlesex County, New Jersey*. On file, New Jersey State Museum Bureau of Archaeology/Ethnology, Trenton.

X. LIST OF PREPARERS

Project Manager:	William Birch: NJDOT, Office of Project Management
Project Coordinator:	Pamela Garrett: NJDOT, Bureau of Environmental Support
Environmental Assessment Document Preparation:	Benjamin Gindville, Gannett Fleming, Inc., B.S. Environmental Studies
	Paul Nowicki, Gannett Fleming, Inc., B.S., Civil Engineering
	Sherry L. Roth, Gannett Fleming, Inc., B.S. Environmental Studies
	Edward Di Mond, Gannett Fleming, Inc., B.S. Civil Engineering, M.S. Environmental Engineering, B.S. Chemical Engineering
	Susan Myerov, Gannett Fleming, Inc., B.S. Urban Planning, M.A. City Planning
	Johnette Davies, Gannett Fleming, Inc., M.A. Historic Architecture
	John W. Martin, Gannett Fleming, Inc., B.A. Anthropology

9. Subcontractors

Gannett Fleming

*Excellence Delivered **As Promised***

Gannett Fleming will be supported by the following subcontractors for this project. However, Gannett Fleming takes full responsibly for the entire contract.

9.1. AK Environmental, LLC

Project Role: Desktop Assessment/Compliance and Natural Resources

Located in Trenton, New Jersey, AK Environmental, LLC (AK) is a nationally certified woman-owned small business enterprise (WBE) that provides support to energy, water, and construction industries. AK has three main practice areas—Environmental, Project and Construction Management, and Inspection—which provides a wide range of services and technical skills. In addition to their highly-qualified core staff of scientists and industry professionals, they provide comprehensive staffing services for their clients.

AK's staff of biologists, ecologists, geologists, planners, environmental scientists, and cultural resource specialists possesses the technical skills required to fully assess the resources potentially affected by proposed projects. Some of the tasks AK performs include: Section 106 compliance; cultural resources surveys; National Environmental Policy Act (NEPA) documentation; wetland delineations/ habitat assessments; federal and state permitting; agency coordination; and endangered, threatened, or rare species surveys.

Contact Information:
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E-mail: agonzales@ak-env.com
Website: http://www.ak-env.com/

9.2. Amy S. Greene Environmental Consultants, Inc.

Project Role: Desktop Assessment/Compliance and Natural Resources

Located in Flemington, NJ, Amy S. Greene Environmental Consultants, Inc. (ASGECI) is a woman-owned, disadvantaged small business. They provide award-winning environmental services with emphasis on natural resources analyses and permitting for many types of projects. They also provide environmental planning services for states, counties, municipalities, and federal agencies. Since its inception in 1986, ASGECI has provided professional environmental services to Federal, state and local public agencies and private sector clients for over 3,500 projects in 11 states to facilitate planning, design, permitting and construction.

ASGECI is a women-owned small business, certified as a Small Business Categories 2 and 5 and certified as a WBE with the State of NJ. ASGECI is also registered with SBA as an Economically Disadvantaged Women Owned Small Business

Contact Information:

Amy Greene
4 Walter East Foran Boulevard, Suite 209
Flemington, NJ 08822
Phone: 908-788-9676
Fax: 908-788-6788
E-mail: mail@amygreene.com
Website: http://amygreene.com/index.php

9.3. ASC Group, Inc.

Project Role: Desktop Assessment/Compliance and Natural Resources

ASC Group, Inc. (ASC) is a full-service cultural and environmental resources management company with over 26 years of experience. ASC is a certified WBE/Disadvantage Business Enterprise (DBE). The ASC team possesses extensive knowledge of practical and legal environmental issues, serving as liaison between state and federal agencies and the

public sector. They have a staff of over 40 experienced professionals: the staff includes archaeologists, architectural historians, and environmental scientists.

ASC has completed more than 1,600 archaeological investigations, ranging from stand-alone literature reviews to complete data recovery. The archaeology division employs a full-time, permanent staff of principal investigators and archaeological technicians. ASC also employs a full-time staff of architectural historians and historians to survey, research, and document historic properties and conduct a wide range of preservation studies.

Contact Information:
Susan Peters
801 East Park Drive, Suite 102
Harrisburg, PA 17111
Phone: 717-564-5705
Fax: 717-564-5709
E-mail: speters@ascgroup.net
Website: http://ascgroup.net/index.html

9.4. Dovetail Cultural Resource Group, Inc.

Project Role: Section 106 Compliance

Dovetail Cultural Resource Group, Inc. (DCRG) is a full-service, woman-owned, Cultural Resource Management firm operating out of Fredericksburg, Virginia. They are a certified DBE and Small, Woman, and Minority Business (SWAM). They supply a uniquely wide range of specialized expertise, experience, and qualifications providing a full range of archaeological and architectural history services, as well as National Register of Historic Places nomination forms, historic and archival research, artifact curation and analysis, development of educational materials and programs, historic cemetery identification and analysis, and Civil War Battlefield survey and boundary delineation studies.

DCRG brings more to projects than just the ability to conduct the technical studies. They also have extensive experience working with local, state, and federal agencies and localities on determining resource eligibility, evaluating project effect, writing Memorandum of Agreements, and creating venues for public outreach. In addition, DCRG has ample experience working with consulting parties, local interest groups, and other preservation professionals to understand the legal, historic, and socio-cultural contexts of historic properties. Through these efforts, they strive to achieve their mission to join smart progress and historic preservation through diligent research at a competitive cost.

Contact Information:
Kerri Barile
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Fax: 540-899-9137
E-mail: info@dovetailcrg.com
Website: http://dovetailcrg.com/

9.5. PARS Environmental, Inc.

Project Role: Environmental Health and Safety

Headquartered in Robbinsville, New Jersey, PARS Environmental, Inc. (PARS) is a Woman-Owned Small Business Enterprise (WBE/SBE), a Minority Business Enterprise (MBE), a DBE, an 8(a) certified company, and a small business under NAICS code 541330. They offer innovative solutions to a broad range of engineering, health and safety, and environmental projects. PARS employs a highly trained and experienced staff of Professional Engineers, Professional Geologists, Certified Industrial Hygienists, Safety Professionals, and LEED-accredited Professionals, that hold professional licenses in multiple states. PARS has extensive industrial hygiene, health and safety and environmental experience, a profound understanding of federal and state regulations, and commands remedial technologies and data management systems that demonstrate commitment to sustainable and innovative management approaches. Their clients include federal, state, and local governments, as well as private sector companies.

PARS personnel rely on sophisticated data gathering tools, use the latest technologies, and provide solutions in clear, comprehensive, action-oriented reports that meet and exceed industry standards. PARS personnel approach complex situations with sensitivity, a solid technical foundation, and innovative solutions.

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Fax: 609-890-9116
E-mail: info@parsenviro.com
Website: http://parsenviro.com/

9.6. Richard Grubb & Associates, Inc.

Project Role: Section 106 Compliance

Located in Cranbury Township, New Jersey, Richard Grubb & Associates, Inc. (RGA) is a full-service cultural resource management firm certified as a WBE/DBE. RGA's goal is to assist clients through the process of complying with federal, state, county, and municipal cultural resource and historic preservation regulations. RGA has a multi-disciplinary staff of cultural resource professionals that meet or exceed the Secretary of Interior's Qualifications Standards (36CFR61) for archaeology, architectural history, and history.

The Principal Investigators for archaeology have performed or supervised site assessments and screenings, Phase IA, Phase I and Phase II archaeological surveys and Phase III data recovery investigations of prehistoric and historic sites. The Principal Investigators for architectural history and history have performed or supervised reconnaissance and intensive-level architectural surveys and have successfully competed cultural resource mitigation, including HABS/HAER documentation, interpretive displays, educational brochures, preservation plans, and bridge preservation covenants. All Principal Investigators routinely undertake assessments of National Register eligibility and effects, assess projects for adherence to the Secretary of the Interior's Standards for the Treatment of Historic Properties, and consult and coordinate with the various State Historic Preservation Offices for the preparation and completion of Memorandum of Agreement stipulations and other mitigation measures. RGA also has a full-scale archaeological laboratory and qualified staff to ensure compliance with 36CFR79, Curation of Federally-Owned and Administered Archaeological Collections.

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Website: http://www.richardgrubb.com/

10. Subcontractor References

Gannett Fleming

*Excellence Delivered **As Promised***

10.1. AK Environmental, LLC

References:

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  Energy Midstream
  2 Brush Creek Boulevard, Suite 200
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  rhappach@inergyservices.com

- Tracey Liberi, Operations Engineer
  United Water Toms River
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- Melissa Dettling
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10.2. Amy S. Greene Inc.

References:

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- William McBride, Environmental Specialist
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- Bill Koch, Refuge Manager
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  Bill_koch@fws.gov

10.3. ASC Group, Inc.

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10.4. Dovetail Cultural Resource Group, Inc.

References:

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- Marc Hamel, Director of Rail
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10.5. PARS Environmental, Inc.

References:

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10.6. Richard Grubb & Associates, Inc.

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REQUIRED SUBMISSION IF BIDDER INTENDS TO SUBCONTRACT

STATE OF NEW JERSEY
DIVISION OF PURCHASE AND PROPERTY (DPP)

SUBCONTRACTOR UTILIZATION PLAN

DPP Solicitation No.:
RFQ787923S

DPP Solicitation Title:
Environmental Assessment Field Contractors for Environmental and Historic Preservation Reviews New Jersey's CDBG-DR Grant Program

Bidder's Name and Address:
Gannett Fleming, Inc.
Southfield Center, Suite 205
One Cragwood Road, South Plainfield, NJ 07080

Bidder's Telephone No.: 908-755-0040

Bidder's Contact Person: Michael A. Morgan

INSTRUCTIONS: List all businesses to be used as subcontractors. This form may be duplicated for extended lists.

SUBCONTRACTOR'S NAME ADDRESS, ZIP CODE TELEPHONE NUMBER AND VENDOR ID NUMBER	CHECK HERE IF CONTRACT IS NOT SMALL BUSINESS ☐ SMALL BUSINESS CATEGORY *			TYPE(S) OF GOODS OR SERVICES TO BE PROVIDED	ESTIMATED VALUE OF SUBCONTRACTS
	I	II	III		
AK Environmental, LLC 850 Bear Tavern Rd., Ste. 106 West Trenton, NJ 08628 t: 609-771-1730; ID#	X			Environmental Review and Natural Resources	10%
Amy S. Greene Environmental Consultants, Inc. 4 Walter E. Foran Blvd., Ste. 209 Flemington, NJ 08822 t: 908-788-9676; ID#		X		Environmental Review and Natural Resources	10%
ASC Group, inc. 800 Freeway Drive, north, Suite 101 Columbus, OH 43229 t: 614-310-3540; ID#				Environmental Review	5%
Dovetail Cultural Resource Group, inc. 300 Central Rd., Ste. 200 Fredericksburg, VA 22401 t: 540-899-9170; ID#				Section 106 Compliance	5%
PARS Environmental, Inc. 500 Horizon Dr., Ste. 540 Robbinsville, NJ 08691 t: 609-890-7277; ID#		X		Environmental Health and Safety	5%
Richard Grubb & Associates, Inc. 259 Prospect Plains Rd., Cranbury, NJ 08512 t: 609-655-0692; ID#		X		Section 106 Compliance	10%

* For those Bidders listing Small Business Subcontractors: Attach copies of Division of Revenue - Small Business Enterprise Unit registration for each subcontractor ~~listed. If bidder has not achieved established subco~~ntracting set-aside ~~goals, also attach documentation of good faith effort~~ to do so in the relevant category in accordance with NJAC17:13-4 and the Notice to All Bidders.

I hereby certify that this Subcontractor Utilization Plan (Plan) is being submitted in good faith. I certify that each subcontractor has been notified that it has been listed on this Plan and that each subcontractor has consented, in writing, to its name being submitted for this contract. Additionally, I certify that I shall notify each subcontractor listed on the Plan, in writing, if the award is granted to my firm, and I shall make all documentation available to the Division of Purchase and Property upon request.

I further certify that all information contained in this Plan is true and correct and I acknowledge that the State will rely on the truth of the information in awarding the contract.

PRINCIPAL OF FIRM:

(Signature)	Vice President (Title)	6-27-2013 (Date)

PB-SA-3
Revised 10/11

"N.J.S.A. 52:34-13.2 CERTIFICATION"

SOURCE DISCLOSURE CERTIFICATION FORM

Contractor: Gannett Fleming, Inc. Waiver Number: _____

I hereby certify and say:

I have personal knowledge of the facts set forth herein and am authorized to make this Certification on behalf of the Contractor.

The Contractor submits this Certification in response to the referenced contract issued by the Division of Purchase and Property, Department of the Treasury, State of New Jersey (the "Division"), in accordance with the requirements of N.J.S.A. 52:34-13.2.

Instructions:

List every location where services will be performed by the Contractor and all Subcontractors.
If any of the services cannot be performed within the United States, the Contractor shall state, with specificity the reasons why the services cannot be so performed. Attach additional pages if necessary.

Contractor and/or Subcontractor	Description of Services	**Performance Location[s] by COUNTRY**	Reasons why services cannot be performed in **USA**
Gannett Fleming, Inc.	Environmental Services	NJ, PA, NY	N/A
AK Environmental, LLC	Environmental Services	NJ, PA	N/A
ASC Group, Inc.	Environmental Services	PA	N/A
Amy S. Greene Environmental Consultants, Inc.	Environmental Services	NJ, PA	N/A
Dovetail Cultural Resource Group, Inc.	Cultural Resources	VA	N/A
PARS Environmental, Inc.	Environmental Services	NJ	N/A
Richard Grubb & Associates, Inc.	Cultural Resources	NJ	N/A

Any changes to the information set forth in this Certification during the term of any contract awarded under the referenced solicitation or extension thereof will be immediately reported by the Contractor to the Director, Division of Purchase and Property (the "Director").

The Director shall determine whether sufficient justification has been provided by the Contractor to form the basis of his certification that the services cannot be performed in the United States and whether to seek the approval of the Treasurer.

I understand that, after award of a contract to the Contractor, it is determined that the Contractor has shifted services declared above to be provided within the United States to sources outside the United States, prior to a written determination by the Director that extraordinary circumstances require the shift of services or that the failure to shift the services would result in economic hardship to the State of New Jersey, the Contractor shall be deemed in breach of contract, which contract will be subject to termination for cause pursuant to Section 3.5b.1 of the Standard Terms and Conditions.

I further understand that this Certification is submitted on behalf of the Contractor in order to induce the Division to accept a bid proposal, with knowledge that the Division is relying upon the truth of the statements contained herein.

I certify that, to the best of my knowledge and belief, the foregoing statements by me are true. I am aware that if any of the statements are willfully false, I am subject to punishment.

Contractor: Gannett Fleming, Inc.
[Name of Organization or Entity]

By: _____ Title: Vice President

Print Name: Michael A. Morgan Date: 6-27-13

RFQ787923S - Gannett Fleming, Inc.

Cost Quote Price Schedule 2 EAF Contractor - Firm Fixed Pricing

Line No.	Description	Unit	Estimated Quantity	Year 1	Year 1 Total	Year 2	Year 2 Total	Year 3	Year 3 Total
			(A)	(B)	(A) * (B)	(C)	(A) * (C)	(D)	(A) * (D)
1	Base Price per application for Exempt (Volume 1 to 100) Section 3.2.2	Each	100	$600.00	$60,000.00	$618.00	$61,800.00	$636.00	$63,600.00
2	Base Price per application for Exempt (Volume 101 to 200) Section 3.2.2	Each	100	$565.00	$56,500.00	$582.00	$58,200.00	$600.00	$60,000.00
3	Base Price per application for Exempt (Volume greater than 200) Section 3.2.2	Each	100	$520.00	$52,000.00	$536.00	$53,600.00	$552.00	$55,200.00
4	Base Price per application for (Fixed Fee) for Categorically Excluded Subject to 58.5 (Volume 1 to 100) Section 3.2.4	Each	100	$1,450.00	$145,000.00	$1,494.00	$149,400.00	$1,538.00	$153,800.00
5	Base Price per application for (Fixed Fee) for Categorically Excluded Subject to 58.5 (Volume 101 to 200) Section 3.2.4	Each	100	$1,410.00	$141,000.00	$1,452.00	$145,200.00	$1,496.00	$149,600.00
6	Base Price per application for (Fixed Fee) for Categorically Excluded Subject to 58.5 (Volume greater than 200) Section 3.2.4	Each	100	$1,370.00	$137,000.00	$1,411.00	$141,100.00	$1,453.00	$145,300.00
7	Base Price per application for (Fixed Fee) for non-tiered Environmental Assessments (Volume 1 to 100) Section 3.2.2	Each	100	$5,153.00	$515,300.00	$5,308.00	$530,800.00	$5,468.00	$546,800.00
8	Base Price per application for (Fixed Fee) for non-tiered Environmental Assessments (Volume 101 to 200) Section 3.2.2	Each	100	$5,025.00	$502,500.00	$5,176.00	$517,600.00	$5,331.00	$533,100.00
9	Base Price per application for (Fixed Fee) for non-tiered Environmental Assessments (Volume greater than 200) Section 3.2.2	Each	100	$4,936.00	$493,600.00	$5,084.00	$508,400.00	$5,236.00	$523,600.00
10	Base Price per application for Tier 2 Site Specific Reviews (Volume 1 to 100) Section 3.2.8	Each	100	$8,728.00	$872,800.00	$8,990.00	$899,000.00	$9,260.00	$926,000.00
11	Base Price per application for Tier 2 Site Specific Reviews (Volume 101 to 200) Section 3.2.8	Each	100	$8,461.00	$846,100.00	$8,715.00	$871,500.00	$8,976.00	$897,600.00
12	Base Price per application for Tier 2 Site Specific Reviews (Volume greater than 200) Section 3.2.8	Each	100	$8,196.00	$819,600.00	$8,442.00	$844,200.00	$8,695.00	$869,500.00
13	FEMA Addendum Section 3.2.3, 3.2.8	Each	UNK	$8,728.00		$8,990.00		$9,260.00	
14	Reporting Functions Section 3.2.13, 3.2.14, 3.2.15	Month	12	$11,845.00	$142,140.00	$12,200.00	$146,400.00	$12,566.00	$150,792.00
15	Environmental Impact Statement Fee Section 3.2.2	Each	UNK	$100,000.00		$100,000.00		$100,000.00	

RFQ787923S - Gannett Fleming, Inc.

Cost Quote Price Schedule 2 EAF Contractor - Loaded Hourly Rate Pricing

Line No.	Labor Title	Hourly Rate Year 1	Hourly Rate Year 2	Hourly Rate Year 3
Office and Management Staff				
16	Principal	$128.75	$132.75	$136.73
17	Program Director	$118.45	$122.00	$125.66
18	Task Manager	$118.45	$122.00	$125.66
Project Field Staff				
19	Field Manager	$118.45	$122.00	$125.66
20	Field Professional	$106.00	$109.18	$112.46
21	Principal/Senior Env H. Scientist/Engineer/ Architect	$118.45	$122.00	$125.66
22	Principal/Senior Biologist	$118.45	$122.00	$125.66
23	Principal/Senior Historic Preservation Specialist	$118.45	$122.00	$125.66
24	Senior Hydrogeologist	$118.45	$122.00	$125.66
25	Junior Hydrogeologist	$77.25	$79.57	$81.96
26	Field Associate	$77.25	$79.57	$81.96
27	Field Observer	$59.74	$61.53	$63.38
28	Staff Environmental Scientist, Engineer, Architect	$77.25	$79.57	$81.96
29	Hydrogeologist	$77.25	$79.57	$81.96
30	Senior Technician	$59.74	$61.53	$63.38
31	Junior Technician	$54.59	$56.23	$57.92
32	Senior GIS Specialist	$118.45	$122.00	$125.66
33	Junior GIS Specialist	$77.25	$79.57	$81.96
34	Administrative Support/Data Entry	$42.62	$43.90	$45.22