

NEW HAMPSHIRE DEPARTMENT OF TRANSPORTATION PROCESS FOR STATE BRIDGE AID MUNICIPALLY-MANAGED PROJECTS

A municipality desiring to manage the design and construction of a bridge rehabilitation or replacement project and to receive State Bridge Aid under the applicable provisions of RSA 234 shall comply with the following requirements:

The municipality shall apply for a preliminary estimate of the total cost of rehabilitating or replacing a bridge on the form titled "Application for Preliminary Estimate - Bridge Aid" available from the NH Department of Transportation (NHDOT), Bureau of Planning and Community Assistance or the District maintenance office. The form is also available on NHDOT's website (www.nhdot.com).

Upon receipt of the Application, NHDOT will conduct an examination of the site and send the municipality a preliminary cost estimate that will indicate the approximate scope and limit of work and minimum design standards for alignment (horizontal and vertical) and width (roadway and bridge). This will establish the baseline criteria for the project. **NOTE:** NHDOT will accept variances to the established minimum criteria provided the municipality acknowledges in its written request that it recognizes that the proposed bridge width or alignment of roadway approaches do not meet the minimum design standards of NHDOT and the municipality accepts all responsibilities associated with construction that is in variance with NHDOT's standard design practice.

Under the Municipal Managed process, a municipality has two options available to conduct both the design and the construction phases of work.

Design Phase

1. Design may be performed with municipal staff, provided the designer is a Licensed Professional Engineer registered in the applicable branch classification required (i.e. Structural Engineer for bridge design) or
2. The municipality may hire a consultant based on a qualification selection procedure per RSA 21-I:22 (see **Attachment A** for generalized procedure).

Construction Phase

1. Construction may be performed by municipal forces ("Force Account") using existing municipal contracts for materials acquisition or
2. The municipality may contract out all or portions of the work by the competitive bid process.

Bridge Aid provided to a municipality under this process shall consist of reimbursement at the rate of 80% of all qualifying costs that are found in compliance with the process, which includes costs incurred for design, construction, and construction engineering.

In general, this process will encompass the following steps and required procedures:

- A. After receipt of NHDOT's Preliminary Estimate, the municipality shall notify NHDOT's Municipal Highways Engineer in the Bureau of Planning and Community Assistance of its intent to conduct the project and whether it will perform the work with municipal forces or with consultant engagement and contract construction.
- B. Should a consultant be engaged, the municipality shall provide complete documentation of selection process and subsequent fee negotiation (refer to **Attachment A**).
- C. The municipality shall process the design in accordance with "Design Procedures for Municipally-Managed Bridge Aid Projects" (**Attachment B**).
- D. Upon approval of finalized plans and specifications by NHDOT, the municipality may proceed by "Force Account" method or advertise the work for bid and send a copy of the advertisement to the Bureau of Planning and Community Assistance.
- E. Upon receipt of bids, the municipality shall submit a tabulation of bids received to the Bureau of Planning and Community Assistance for approval of the award to the low bidder.
- F. The municipality shall provide on-site construction inspection by a licensed professional engineer.

REIMBURSEMENT

Reimbursement shall occur in the following manner:

Design Costs

NHDOT will reimburse the municipality 80% of design costs incurred that are deemed appropriate and within an acceptable range for the type and magnitude of project designed or are otherwise justifiable in the opinion of NHDOT. Reimbursement will occur after approval of the finalized plans and specifications and submittal of "municipality-paid" invoices if consultant-designed or submission of staff-related charges if designed by the municipality.

Construction Costs

At the time of approval to proceed with Force Account work by the municipality or upon approval of award to the low bidder, NHDOT will reimburse the municipality one-half (1/2) of the State's 80% share of the Force Account estimate or of the contract award.

Upon final completion of the work and NHDOT inspection for conformity with the approved plans and specifications, NHDOT will reimburse the balance of the State's Share of qualifying costs. Reimbursement will be based on "municipality-paid" invoices to the contractor. Only work included in the approved bid documents as participating elements or extra work orders approved by NHDOT shall qualify for reimbursement.

Construction Engineering Costs

Qualifying costs for Construction Engineering, whether provided by municipal staff or contracted services (to include shop drawing, fabrication and falsework review, laboratory and field testing of materials, and construction inspection), shall be reimbursed at the rate of 80%

provided they do not exceed the acceptable range of costs for a project of this type and magnitude, or type of services provided, or are otherwise justifiable in the opinion of NHDOT.

Miscellaneous Costs

Costs incurred in the production of contract plans and proposals, advertisement for bid, and property rights-of-way to include appraisals, land damages, deed preparation, and recording fees at the County Registry of Deeds qualify for reimbursement if deemed reasonable by NHDOT.

Consultant and Contractor Evaluations

NHDOT engages many consultants and contractors to perform work. In order to maintain a level of quality, NHDOT prepares performance evaluations of these firms. This material assists in determining on an annual basis whether these firms should continue to be classified as qualified to provide services to NHDOT.

In order to expand our information base and to provide some insight to a municipality on prospective consultant or contractor providers, we ask that the performance evaluation forms provided in **Attachment C** be completed at completion of services and submitted to NHDOT's Assistant Director of Project Development. Your cooperation in this regard is appreciated.

The information gathered is considered confidential. Access to the submitted evaluations through NHDOT will be limited to a categorization of the assessed performance without provision of the actual written report. Municipalities may contact NHDOT's Contracts Administration Office at (603) 271-3466 for this information. NHDOT will indicate the source of the evaluations by municipality so that others may consult with them regarding their experience with consultant or contractor providers.

ATTACHMENT A

**CONSULTANT SELECTION PROCESS
FOR
STATE BRIDGE AID COMPLIANCE**

Selection of a Consultant to provide design services (see **Attachment B**) will comply with RSA 21-I:22.

Firms to be considered for selection must demonstrate experience in the discipline required (bridge design) and have a minimum of two licensed professional engineers on staff, one of whom shall be registered in the branch classification of structural engineer.

A minimum of three firms shall be selected to provide a brief technical proposal which should address the following issues: Firm qualifications, project understanding, project approach, project schedule, and resumes of the project design team to be assigned to the project. This procedure may be supplemented with an interview of the firms being considered. Solicitation of the Request for Proposal (RFP) should include a description of the anticipated scope of work.

The above selection process may be waived upon approval by NHDOT if the municipality has either staff qualified to do the design or the municipality has presently under contract for services a firm meeting the noted requirements and selection for those services conformed to the procedure herein.

Upon review of the RFP's and conductance of interviews if so used, the municipality's selection committee shall rate the firms in order of preference. The top rated firm shall be notified of their standing and be requested to submit a fee proposal for services. The municipality shall provide the top rated firm with a copy of **Attachment B**, "Design Procedures for Municipally-managed State Bridge Aid Program Projects" to ensure that the Consultant understands the level of design detail and submittal requirements for NHDOT approval.

Should the municipality be unsuccessful in reaching a satisfactory negotiated fee with the top rated firm, it may terminate without prejudice and commence negotiations with the second rated firm. If no agreement can be reached with the second, the municipality can move onto the third. Once negotiations are terminated with a firm, they may not be reopened.

A copy of the negotiated contracted fee should be submitted to NHDOT prior to execution so that we may advise the municipality of any provisions or excess costs not qualifying for reimbursement.

ATTACHMENT B

DESIGN PROCEDURES FOR MUNICIPALLY-MANAGED STATE BRIDGE AID PROGRAM PROJECTS

1. Purpose

These administrative procedures are applicable to all bridge projects designed by Licensed Professional Engineers for municipally-managed projects. All studies and plans shall be submitted through the municipality to NHDOT's Municipal Highways Engineer in the Bureau of Planning and Community Assistance for review and approval.

2. Engineering Study

The municipal Engineer or Consultant shall prepare an Engineering Study for the project to include the following:

A. Existing Conditions

This section shall contain a description of the existing bridge and roadway to include bridge width and length; type of bridge superstructure and substructure; and general alignment of the approach roadway, including any significant geometric or topographical conditions.

B. Design Criteria

This section shall contain a listing of the relevant design criteria and manuals to be used, including bridge loading and design speed. At a minimum, the design of roadway elements shall conform to the current standards, specifications, policies and guidelines enumerated in the Department's Highway Design Manual and Bridge Design Manual, except as approved. Further, the contract documents for construction of the project shall require that all items of work shall comply with the material and construction requirements of the current Standard Specification for Road and Bridge Construction of the New Hampshire Department of Transportation, except as approved.

C. Proposed Roadway Alignment

This section shall include a description of the methodology and reasoning used to determine the proposed roadway alignment. The discussion shall include horizontal and vertical curves; travel way and shoulder widths; and impacts of the proposed roadway alignment, to include wetlands, utilities, other existing structures, and private property.

D. Bridge Type Studies and Recommendations

Bridge types studied shall be indicated in narrative and the recommended bridge type shown in plan, elevation and typical section along with the requisite reasoning therefor. The typical section shall portray the components of the substructure and superstructure, materials of construction, beam spacing, and dimensions of pavement, curbs, etc.

E. Boring Layout and Logs

Borings shall be taken if determined necessary by the municipal Engineer or Consultant. The number and content of the boring logs shall be sufficient to present a reasonably accurate picture of subsurface conditions.

F. Hydrologic and Hydraulic Studies

The hydrologic and hydraulic parameters at the bridge sites shall be determined using accepted engineering methods.

G. Cost Estimate

An itemized cost estimate shall be furnished for the proposed bridge type and roadway alignment. Item numbers and names shall conform to the Item Description Master File as furnished by NHDOT.

H. Environmental Considerations

The Engineering Report should identify the natural, cultural, social and economic resources that may be affected by each of the alternatives considered. The final design should comply with applicable environmental laws, rules, regulations, and guidelines regarding, but not necessarily limited to, RSA 482-A (NH Fill and Dredge in Wetlands Act), RSA 227-C:9 (Directive for Cooperation in the Protection of Historic Resources) and Section 404 of the Clean Water Act (Federal Dredge and Fill Permit). Federal involvement in a project (e.g. Section 404 Permit) can trigger other Federal environmental regulations or requirements.

To facilitate compliance with RSA 227-C:9, the municipality/Consultant should schedule an initial meeting with the NH Division of Historical Resources (NHDHR) early in the Engineering Study Phase to identify potential historical or archeological concerns. To assist all participants in the process, that meeting should be scheduled through NHDOT's Bureau of Environment Cultural Resources Manager as part of NHDHR's attended bimonthly meetings conducted at the NHDOT to review cultural resource issues on a multitude of projects.

The Consultant is advised to describe the scope of the project and bring pictures of not only the bridge, but also of the property in the four quadrants that might be affected by the project construction. NHDHR can then advise the municipality/Consultant of concerns it may have regarding potential historical or archeological issues. Results of the meeting may require engagement of one or more cultural resource sub-consultants to research and provide pertinent information in compliance with RSA 227-C:9, leading to additional meeting(s) with NHDHR, or a determination made that no further contact is required as there is no affect on cultural resources.

A list of State and Federal environmental regulations/requirements, which may be applicable, is provided at the end of **Attachment B**.

3. Preliminary Plans

Preliminary plans, which may later be incorporated into the final plans, shall include, but not be limited to:

- a) Location plan (small scale, as 1" per mile) (to be removed from contract drawings).
- b) General plan and elevation of the bridge.
- c) Cross-section of the approach roadway adjacent to the bridge.
- d) Cross-section of the lower roadway or water course through the bridge area.
- e) Cross-section of the bridge.
- f) General notes, including design loading, foundation type, allowable foundation loads, minimum frost cover, superstructure type, and seismic design category.
- g) Hydrologic and hydraulic data, including drainage area and design flood volume, velocity, and elevation.
- h) Profiles of all roadways affected by the project.
- i) Boring locations and logs if available.
- j) Existing ground contours and proposed finished channel contours, including proposed channel and slope protection.
- k) Roadway plan and critical cross-sections.

4. Finalized Plans and Contract Proposal

Following review of the Preliminary Plans by the NHDOT, finalized plans and contract proposal, including specifications, shall be prepared and submitted to the NHDOT for review and approval. This submission shall include an up-dated quantity list and cost estimate.

Before finalized plans and contract proposal are submitted, it shall be independently checked in detail by a structural and highway designer, other than the original designer, and reviewed by the Consultant's supervising engineer in responsible charge of the project.

The municipal Engineer's or Consultant's Licensed Professional Engineer stamp for the State of New Hampshire shall appear on the plans and contract proposal to be advertised. The stamp shall be that of the professional engineer who prepared the plans and contract proposal or under whose direct supervisory control it were prepared.

5. Bridge Load Rating Analysis

The Consultant shall perform a load rating analysis for the bridge using the AASHTO Strength Design Method (Load Factor Design), to be submitted on a form as provided by the NHDOT.

6. Construction Services

The Consultant shall render services to the municipality including, but not restricted to, the following:

A. Consultation

If and when required during the construction of the project, the Consultant shall provide general consulting services and advice and review of all detail construction drawings.

B. Checking Shop Drawings, Interpretation, Etc.

- a) Review, check and approve all working drawings prepared by others to include the construction contractors or their subcontractors. This work shall include, but not be limited to, all structural steel and architectural shop plans; erection plans; and plans for cofferdams, falsework, evaluation of designs of temporary structures, and any other items required to conform to the NHDOT's Standard Specifications.
- b) Render interpretations, as necessary, of the drawings and specifications and submit recommendations for necessary modifications in either or both to meet unanticipated construction conditions and prepare necessary drawings and specifications to cover same.
- c) Prepare such detailed drawings as may be needed to supplement the contract drawings to permit the proper completion of the project.

C. Field Inspection Services - as deemed necessary by the municipality.

7. As-Built Plans

The municipality or Consultant shall submit one (1) set of reproducible as-built plans (sepias not acceptable) to the NHDOT's Municipal Highways Engineer in the Bureau of Planning and Community Assistance. The as-built plans will be due following approval of the completed construction work and prior to reimbursement by the NHDOT of the municipality for their share of construction costs.

State & Federal Environmental Regulations/Requirements

State

1. NH Dredge & Fill Permit (Wetlands) RSA 481-A
2. Water Quality Certificate (Section 401)
3. Coastal Zone Management Consistency
4. NH Rivers Management & Protection Program
5. NH Lakes Management & Protection Program
6. NH Shoreland Protection Act
7. NH Native Plant Protection Action of 1987
8. NH Endangered Species Conservation Act of 1979
9. Directive for Cooperation in the Protection of Historic Resources RSA 227-C:9
10. Public Waters Access Advisory Board

Federal

1. National Environmental Policy Act
2. Federal Highway Administration (FHWA) Env. Regs. 23 CFR 771,772
3. FHWA Technical Advisory T6640.8A
4. Section 4(f), DOT Act
5. Uniform Relocation Assistance and Real Property Acquisition Act of 1970
6. Title VI of Civil Rights Act of 1964/Executive Order 12898
7. Surface Transportation and Uniform Relocation Assistance Act of 1987; Section 123(f) (Historic Bridges); Section 130 (Wildflowers)
8. Safe Drinking Water Act
9. Sections 106/110 of the National Historic Preservation Act
10. Wild & Scenic Rivers Act
11. Land and Water Conservation Fund Act (Section 6f)
12. Executive Order 11990 (Protection of Wetlands)
13. Rivers and Harbors Act of 1899
14. Federal Water Pollution Control Act (1972), as amended by Clean Water Act
15. Executive Order, 11988 (Floodplain Management)
16. National Flood Insurance Act
17. Coastal Zone Management Act
18. Farmland Protection Policy Act of 1981
19. Resource Conservation and Recovery Act of 1976 (Haz. Waste)
20. Comprehensive Environmental Response, Compensation and Liability Act of 1980 (Haz. Mats.)
21. Superfund Amendments and Reauthorization Act (Haz. Waste)
22. Endangered Species Act of 1973
23. Fish and Wildlife Coordination Act
24. Clean Air Act

Other regulations/requirements may also apply, during project development (pre-construction), construction, or post-construction (maintenance).

ATTACHMENT C

**TOWN/CITY OF _____
CONSULTANT PERFORMANCE EVALUATION**

Project Name: _____ **Date:** _____

Project Number: _____

Project Description: _____

Town/City

Project Manager: _____

Consultant Name: _____

Address: _____

Consultant Lead Person: _____

Type of Work: _____

A. General:

Organization and Management

NOTE: Additional remarks required for all items rated as "Below Expectations".

	Expectations			Comments
	Above	Meets	Below	
1. Technical Capability of Personnel				
2. Adequacy of Supervision				
3. Communication and Cooperation with Municipality				
4. Attitude Toward the Project				
5. Invoicing				
6. Administration of Subconsultants				
7. Anticipate and Resolve Design Issues				

Comments: _____

8. Did the Consultant file any extras? (Provide brief explanation for all extras.)

Comments: _____

9. Indicate below the names of any of the consultant's employees whose performance was outstanding on this project and what their contribution was. Similarly, indicate the names of those whose performance was below expectations and in what way.

Comments: _____

B. Design Services: Ratings and comments should consider completeness, timeliness, accuracy, and quality (ability to anticipate and resolve design issues) of Submissions.

Expectations

	Above	Meets	Below	Comments
Support for Environment Process				
Conceptual Alternatives				
Engineer Report				
Public Participation Support				
Preliminary Plans				
Final Plans				
Bid Phase				
Construction Services				

Comments: _____

Evaluation Submitted By:

_____ Date: _____
Town/City Project Manager

_____ Date: _____
Chairman, Board of Selectmen/Town or City Manager

Consulting Firm (Attach responses or comments if appropriate)

Comments: _____

*I/We acknowledge that I/we have read this report and have discussed it with the municipality.
My/Our signature(s) does not necessarily mean that I/we agree with the report.*

Project Manager: _____ Date: _____

Principal: _____ Date: _____

Mail to: Asst. Director of Project Development, NHDOT
PO Box 483, Concord, NH 03302-0483

ATTACHMENT C

**TOWN/CITY OF _____
CONTRACTOR PERFORMANCE EVALUATION**

Date: _____

Contractor: _____

Name

Address

Contract Administrator: _____

Name

Project Name: _____ **Project Number:** _____

Type of Project: Road Signals Bridge Other

Original Contract Amount: _____ **Contract Completion Date:** _____

Project Start Date: _____ **Project Completion Date:** _____

Extension Date Granted: _____ **Over/Under:** _____

If contract over-ran in time, was it due to the fault of the Contractor? Yes No
If yes, briefly give the reasons why:

Check Correct Response	Above Expectations			Met Expectations			Below Expectations			Comments (See back)
Quality of Work										
Public Relations/ General Attitude										
Organization & Personnel										
Contract Compliance										
Equipment Amount/ Condition										
Supervision										

Cooperation										
Payment of Accounts										
Subcontractor Performance										

Contract Administrator/Date
(Consultant Resident Engineer)

Consultant Project Manager/Date

Town/City Project Manager, Town/City Manager,
Chairman Board of Selectmen

Mail to: Asst. Director of Project Development, NHDOT
PO Box 483, Concord, NH 03302-0483