



The State of New Hampshire SEP 23 '15 PM 12:55 009  
**DEPARTMENT OF ENVIRONMENTAL SERVICES**



**Thomas S. Burack, Commissioner**

September 18, 2015

Her Excellency, Governor Margaret Wood Hassan  
 and The Honorable Council  
 State House  
 Concord, NH 03301

REQUESTED ACTION

Authorize the Department of Environmental Services to award a **SOLE SOURCE** grant to the University of New Hampshire, Sponsored Programs Administration (VC #177867-B046), Durham, NH, in the amount of \$108,798 to perform culvert vulnerability analyses in ten coastal communities and create a new hazard dataset for the web-based Coastal Viewer, effective upon Governor and Council approval through March 31, 2017. 100% Federal Funds.

Funds to support this request are anticipated to be available in the following account in State FY 2016 upon the availability and continued appropriation of funds in the future operating budget:

	<u>FY 16</u>
03-44-44-442010-3651-072-500573	\$108,798
Dept. Environmental Services, Coastal Restoration, Grants-Federal	

EXPLANATION

This agreement is **SOLE SOURCE** because the University of New Hampshire Stormwater Center is the only such entity in New England that focuses on watershed impairments resulting from drainage infrastructure. In addition, the UNH Earth Systems Research Center (ESRC) is the only multi-jurisdictional, multi-sector geospatial data repository in New Hampshire. Further, ESRC serves as the state's designated link to the National Spatial Data Infrastructure/Federal Geographic Data Committee's international network of GIS data repositories. ESRC maintains the New Hampshire Geographically Referenced Analysis and Information Transfer System (NH GRANIT) database.

DES was awarded a grant from the National Oceanic and Atmospheric Administration (NOAA) to advance resiliency and adaptation planning for coastal hazards by integrating tools, research, outreach, and technical assistance. DES will have UNH perform hydraulic analyses and vulnerability assessments for culverts in ten coastal communities (Newfields, Exeter, Stratham, Greenland, Newington, Rollinsford, Madbury, Dover, Newmarket, and Durham). The overall goal of the culvert modeling is to assess the hydraulic capacity of existing road stream crossings within

Her Excellency, Governor Margaret Wood Hassan

And the Honorable Council

Page 2

the watershed as well as their aquatic organism passage attributes for various flows. The results of the culvert assessments and the flood vulnerability mapping will be incorporated by UNH into the web-based NH Coastal viewer. Other project partners, Rockingham Planning Commission and Strafford Regional Planning Commission, will use the culvert vulnerability assessments as part of their efforts to update the communities' Hazard Mitigation Plans.

Total project costs are \$108,798. A budget breakdown is provided in Attachment A. In the event that Federal funds become no longer available, General funds will not be requested to support the project.

This agreement has been approved by the Office of the Attorney General as to form, execution and content.

We respectfully request your approval.

  
Thomas S. Burack, Commissioner

**COOPERATIVE PROJECT AGREEMENT**

between the

STATE OF NEW HAMPSHIRE, **Department of Environmental Services**

and the

**University of New Hampshire** of the UNIVERSITY SYSTEM OF NEW HAMPSHIRE

- A. This Cooperative Project Agreement (hereinafter "Project Agreement") is entered into by the State of New Hampshire, **Department of Environmental Services**, (hereinafter "State"), and the University System of New Hampshire, acting through **University of New Hampshire**, (hereinafter "Campus"), for the purpose of undertaking a project of mutual interest. This Cooperative Project shall be carried out under the terms and conditions of the Master Agreement for Cooperative Projects between the State of New Hampshire and the University System of New Hampshire dated November 13, 2002, except as may be modified herein.
- B. This Project Agreement and all obligations of the parties hereunder shall become effective on the date the Governor and Executive Council of the State of New Hampshire approve this Project Agreement ("Effective date") and shall end on **3/31/17**. If the provision of services by Campus precedes the Effective date, all services performed by Campus shall be performed at the sole risk of Campus and in the event that this Project Agreement does not become effective, State shall be under no obligation to pay Campus for costs incurred or services performed; however, if this Project Agreement becomes effective, all costs incurred prior to the Effective date that would otherwise be allowable shall be paid under the terms of this Project Agreement.
- C. The work to be performed under the terms of this Project Agreement is described in the proposal identified below and attached to this document as Exhibit A, the content of which is incorporated herein as a part of this Project Agreement.

Project Title: **Climate Ready Culverts and Coastal Communities**

- D. The Following Individuals are designated as Project Administrators. These Project Administrators shall be responsible for the business aspects of this Project Agreement and all invoices, payments, project amendments and related correspondence shall be directed to the individuals so designated.

**State Project Administrator**

Name: Steve Couture  
 Address: Coastal Program  
 Dept. of Environmental Services  
 222 International Drive, Suite 175  
 Portsmouth, NH 03801  
 Phone: 559-0027

**Campus Project Administrator**

Name: Dianne Hall  
 Address: University of New Hampshire  
 Sponsored Programs Administration  
 51 College Rd. Rm 116  
 Durham, NH 03824  
 Phone: 603-862-1942

- E. The Following Individuals are designated as Project Directors. These Project Directors shall be responsible for the technical leadership and conduct of the project. All progress reports, completion reports and related correspondence shall be directed to the individuals so designated.

**State Project Director**

Name: Steve Couture  
 Address: Coastal Program  
 Dept. of Environmental Services  
 222 International Drive, Suite 175  
 Portsmouth, NH 03801  
 Phone: 559-0027

**Campus Project Director**

Name: Thomas P. Ballestero  
 Address: University of New Hampshire  
 Stormwater Center  
 238 Gregg Hall  
 Durham, NH 03824  
 Phone: 603-862-1405

F. Total State funds in the amount of \$108,798 have been allotted and are available for payment of allowable costs incurred under this Project Agreement. State will not reimburse Campus for costs exceeding the amount specified in this paragraph.

Check if applicable

Campus will cost-share \_\_\_\_\_ % of total costs during the term of this Project Agreement.

Federal funds paid to Campus under this Project Agreement are from Grant/Contract/Cooperative Agreement No. **NA15NOS4190216** from **National Oceanic and Atmospheric Administration (NOAA)** under CFDA# **11.419**. Federal regulations required to be passed through to Campus as part of this Project Agreement, and in accordance with the Master Agreement for Cooperative Projects between the State of New Hampshire and the University System of New Hampshire dated November 13, 2002, are attached to this document as Exhibit B, the content of which is incorporated herein as a part of this Project Agreement.

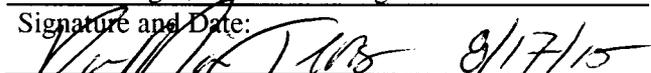
G. Check if applicable

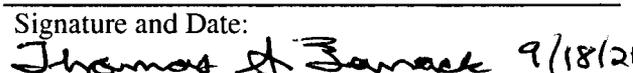
Article(s) \_\_\_\_\_ of the Master Agreement for Cooperative Projects between the State of New Hampshire and the University System of New Hampshire dated November 13, 2002 is/are hereby amended to read:

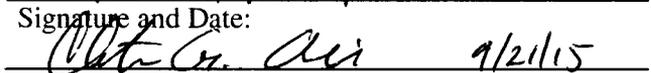
H.  State has chosen **not to take** possession of equipment purchased under this Project Agreement.  
 State has chosen **to take** possession of equipment purchased under this Project Agreement and will issue instructions for the disposition of such equipment within 90 days of the Project Agreement's end-date. Any expenses incurred by Campus in carrying out State's requested disposition will be fully reimbursed by State.

This Project Agreement and the Master Agreement constitute the entire agreement between State and Campus regarding this Cooperative Project, and supersede and replace any previously existing arrangements, oral or written; all changes herein must be made by written amendment and executed for the parties by their authorized officials.

IN WITNESS WHEREOF, the University System of New Hampshire, acting through the **University of New Hampshire** and the State of New Hampshire, **Department of Environmental Services** have executed this Project Agreement.

**By An Authorized Official of:**  
**University of New Hampshire**  
Name: Karen M. Jensen  
Title: Manager, Sponsored Programs Administration  
Signature and Date:  9/17/15

**By An Authorized Official of:**  
**Department of Environmental Services**  
Name: Thomas S. Burack  
Title: Commissioner  
Signature and Date:  9/18/2015

**By An Authorized Official of:** the New Hampshire Office of the Attorney General  
Name: Christopher G. Astin  
Title: Assistant Attorney General  
Signature and Date:  9/21/15

**By An Authorized Official of:** the New Hampshire Governor & Executive Council  
Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Signature and Date: \_\_\_\_\_

## EXHIBIT A

- A. Project Title:** Climate Ready Culverts and Coastal Communities
- B. Project Period:** Date of Governor and Council Approval - 03/31/17
- C. Objectives:** The project has the following goals to assist coastal communities to prepare for climate risks:
1. Increase understanding of how both human and natural systems respond to projected changes in climatic conditions.
  2. Produce a model, adaptable to other communities, that can estimate hydrology and hydraulic capacity of culverts and assess aquatic organism passage characteristics
  3. Assess current culvert hydrologic capacity and future conditions based on climate change hydrology and precipitation.
  4. Incorporate the outputs from vulnerability assessment and culvert model data in the web-based NH Coastal Viewer.

Specific measurable objectives of this project are to:

1. Develop a GIS model to incorporate culvert, NOAA, and GRANIT databases to yield input to a culvert hydrologic and hydraulic model.
  2. Model culvert hydrology and hydraulics for existing culverts that assess culvert hydraulic function and aquatic organism passage characteristics for various flows.
  3. Create a new hazard dataset for the NH Coastal Viewer.
- D. Scope of Work:** The proposed project activities that will be undertaken, and the responsible parties for each, are listed below. Strafford Regional Planning Commission (SRPC), Rockingham Planning Commission (RPC)
1. Organize and meet with a Technical Advisory Committee (TAC). [State, Campus]
  2. Collect data sets for culvert model (topographic, soils, land use, culvert, and precipitation information). [Campus, RPC, SRPC]
  3. Develop culvert hydrologic and hydraulic model under projected climatic conditions. Assessment of culvert hydrology, hydraulic capacity (related to flood events), and aquatic organism passage at various flows. [Campus]
  4. Incorporate culvert model outputs into New Hampshire Coastal Viewer. [State, Campus]
  5. Deliver informational workshops to present modelling and assessment data to TAC and 10 municipalities. [All Partners]
  6. Conduct a series of meetings with emergency management personnel and decision makers in each municipality to evaluate modelling and assessment results, categorize assets and resources impacted by coastal and inland flooding, and prepare recommendations to implement climate adaptation measures. [All Partners]
  7. Finalize Climate Change Chapters for ten municipal hazard mitigation plans. [All Partners]
- E. Deliverables Schedule:** Campus will produce the following deliverables: Culvert and Vulnerability Assessments, and updated NH Coastal Viewer.

A. Culvert Analyses and Vulnerability Assessment

Culvert modeling requires as a first step collection and synthesis of existing data for input into hydrologic and hydraulic analyses. The objective of this culvert GIS step is to generate watershed characteristics such as area, slope, longest flow path, SCS curve numbers, coverage by wetlands, ponds and lakes, and precipitation distribution for any given storm event. These parameters are necessary for the computation of runoff and are essential for running a hydraulic model. The overall goal of the culvert GIS modeling is to assess the hydraulic capacity of existing road stream crossings within the watershed as well as their aquatic organism passage attributes for various flows.

B. Updated NH Coastal viewer

The results of the culvert assessments and the flood vulnerability mapping will be incorporated into NH Coastal viewer with the deliverable being the functioning NH Coastal Viewer.

C. Reports

Campus Project Director shall provide Progress Reports on April 15, 2016 and October 15, 2016, summarizing work to date. Campus Project Director shall submit a Final Report due on April 15, 2017 in PDF format summarizing the project activities.

F. **Budget and Invoicing Instructions:** Campus will submit invoices to State on regular Campus invoice forms no more frequently than monthly and no less frequently than quarterly. Invoices will be based on actual project expenses incurred during the invoicing period, and shall show current and cumulative expenses by major cost categories as shown below. State will pay Campus within 30 days of receipt of each invoice. Campus will submit its final invoice not later than 60 days after the Project Period end date.

Budget Items	State Funding	Cost Sharing	Total
1. Salaries & Wages	56,882	0	56,882
2. Employee Fringe Benefits	10,904	0	10,904
3. Travel	500	0	500
4. Supplies and Services	5,475	0	5,475
5. Equipment	0	0	0
6. Facilities & Admin Costs	35,037	0	35,037
Subtotals	108,798	0	108,798
Total Project Costs:	108,798		

G. Other

Funding credit requirement on final work products and outreach materials: All final work products and outreach materials associated with the work for the items above shall include the NOAA, NHCP and DES logos. All work products and outreach materials shall state that "This project was funded, in part, by NOAA's Office for Coastal Management under the Coastal Zone Management Act in conjunction with the NH Department of Environmental Services Coastal Program." Examples of final work products and outreach materials include, but are not limited to, final reports, press releases, newsletter articles, website pages, and signage.

## EXHIBIT B

This Project Agreement is funded under a Grant/Contract/Cooperative Agreement to State from the Federal sponsor specified in Project Agreement article F. All applicable requirements, regulations, provisions, terms and conditions of this Federal Grant/Contract/Cooperative Agreement are hereby adopted in full force and effect to the relationship between State and Campus, except that wherever such requirements, regulations, provisions and terms and conditions differ for INSTITUTIONS OF HIGHER EDUCATION, the appropriate requirements should be substituted (e.g., OMB Circulars A-21 and A-110, rather than OMB Circulars A-87 and A-102). References to Contractor or Recipient in the Federal language will be taken to mean Campus; references to the Government or Federal Awarding Agency will be taken to mean Government/Federal Awarding Agency or State or both, as appropriate.

Special Federal provisions are listed here:  None or .

**Attachment A  
Budget Estimate**

<b>Budget Item</b>	<b>State Funding</b>	<b>Match</b>	<b>Total</b>
Salaries & Wages	\$56,882.00	\$0.00	\$56,882.00
Employee Fringe Benefits	\$10,904.00	\$0.00	\$10,904.00
Travel	\$500.00	\$0.00	\$500.00
Supplies & Services	\$5,475.00	\$0.00	\$5,475.00
Equipment	\$0.00	\$0.00	\$0.00
Facilities and Administrative Costs	\$35,037.00	\$0.00	\$35,037.00
<b>Subtotals</b>	<b>\$108,798.00</b>	<b>\$0.00</b>	<b>\$108,798.00</b>
In-Kind Contribution		\$0.00	\$0.00
<b>Total Project Cost</b>			<b>\$108,798.00</b>