All Agency Project Request

2011 - 2013 Biennium

Agency	Institution	Building No.	Building Name
University of Wisconsin	Madison	285-0A-9920	Utility - Site Mechanical

Project No. 12A2Z **Project Title** Langdon St. Utility Tunnel Repl

Project Intent

This project replaces a brick utility tunnel and upgrades a concrete tunnel that is located between Science Hall and Memorial Library along Langdon Street. New compressed air (CA), high pressure steam (HPS), and pumped condensate return (PCR) lines will be installed in a new accessible concrete tunnel.

Project Description

Project work includes constructing a new accessible concrete utility tunnel to replace 500 LF section of brick utility tunnel, repairing a 100 LF section of concrete utility tunnel, and replacing a 60 LF section of concrete box conduit between Science Hall and Memorial Library along Langdon Street. Piping in the utility tunnel consists of 8-inch HPS, 4-inch PCR, and 2-inch CA. Utility connections along the length of tunnel include connections to Science Hall, Memorial Union, the State Historical Society, the Red Gym, and Memorial Library. The 4-inch chilled water supply and return to Science Hall is currently located within the tunnel between the State Historical Society and Science Hall. Chilled water will be relocated using the 8-inch connections provided during the East Campus Utility Improvements project along Observatory Drive on the north side of Science Hall. All areas disturbed by the project will be fully restored, including roadways and associated gutters, pedestrian walkways, landscaping features, and site structures.

Coordination of project construction schedules and final surface repair features will be required with the project team currently designing the State Historical Society Headquarters Accessible Entry project (10K2K).

Project Justification

The deteriorating oval arched brick utility tunnel, which is more than 100 years old, is becoming a safety concern. Because it is one of the smallest tunnels on campus, it is both difficult and dangerous to access. Portions of the utility tunnel have been previously replaced. One section was replaced more than 40 years ago and requires upgrades to the pipe supports, piping, and external tunnel waterproofing. Recently, a connection of the utility tunnel to Phase 4 of the East Campus Utility Improvements project was constructed. The concrete walls and ceiling at this location required significant reconstruction with additional and unanticipated cost.

Nearly one-half the length of this utility tunnel project is directly adjacent to the State Historical Society. The State Historical Society Headquarters Accessible Entry project, which is currently in design, will construct a code-compliant barrier free access adjacent to the existing north entrance of the State Historical Society. This project is located directly above the utility tunnel. The utility tunnel replacement project is required now to avoid disturbing the future construction that will be completed as part of the Headquarters Accessible Entry project.

A/E Consultant Requirements

☑ A/E Selection Required?

Consultants should have specific expertise and experience in the design and coordination of underground utility systems including accessible utility tunnels and inaccessible concrete box conduits as part of a design team. Work includes site surveys, acquiring field data, and verifying as-built conditions to assure accurate development of design and bidding documents, and production of necessary design and bidding documents. Consultants should indicate specific projects from past experience (including size, cost, and completion date) in their letter of interest and when known, include proposed consulting partners and specialty consultants.

Commissioning

☑ Level 1

☐ Level 2

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Project Budget		
Construction Cost:		$3,704,000
Haz Mats:		$25,000
Construction Total:		$3,729,000
Contingency:	15%	$559,200
A/E Design Fees:	8%	$298,300
DFD Mgmt Fees:	4%	$171,500
Equipment/Other:		$0
		$4,758,000

Funding Source	Total
GFSB - Utilities Repair & Renovation [Z080]	$3,473,300
PRSB - []	$0
Agency/Institution Cash [AGF0]	$1,284,700
Gifts	$0
Grants	$0
Building Trust Funds [BTF]	$0
Other Funding Source	$0
	$4,758,000

Project Schedule

SBC Approval:	02/2012
A/E Selection:	03/2012
Bid Opening:	08/2012
Construction Start:	09/2012
Substantial Completion:	02/2013
Project Close Out:	05/2013

Project Contact

Contact Name:	Jeffrey A. Pollei
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Telephone No.:	(608) 890-1067 x

Project Scope Consideration Checklist

	Y	N
1. Will the building or area impacted by the project be occupied during construction? If yes, explain how the occupants will be accommodated during construction.	☑	☐
All project work will be coordinated through campus physical plant staff to minimize disruptions to daily operations and activities.		
2. Is the project an extension of another authorized project? If so, provide the project #...	☐	☑
3. Are hazardous materials involved? If yes, what materials are involved and how will they be handled?	☑	☐
Required hazardous materials abatement (mechanical pipe insulation) has been included in the estimated project schedule and project budget. Comprehensive building survey inventory data is not available on Wisconsin's Asbestos & Lead Management System (WALMS) <http://walms.doa.state.wi.us/>.		
4. Will the project impact the utility systems in the building and cause disruptions? If yes, to what extent?	☑	☐
All project work will be coordinated through campus physical plant staff to minimize disruptions to daily operations and activities.		
5. Will the project impact the heating plant, primary electrical system, or utility capacities supplying the building? If yes, to what extent?	☐	☑
6. Are other projects or work occurring within this project's work area? If yes, provide the project # and/or description of the other work in the project scope.	☑	☐

State Historical Society Headquarters Accessible Entry (10K2K)

7. Have you identified the WEPA designation of the project...Type I, Type II, or Type III? ☑ ☐

   Type III.

8. Is the facility listed on a historic register (federal or state), or is the facility listed by the Wisconsin Historical Society as a building of potential historic significance? If yes, describe here. ☐ ☑

9. Are there any other issues affecting the cost or status of this project? ☑ ☐

   Project work must be coordinated with 10K2K.

10. Will the construction work be limited to a particular season or window of opportunity? If yes, explain the limitations and provide proposed solution. ☑ ☐

    Portions of the project work are seasonal.

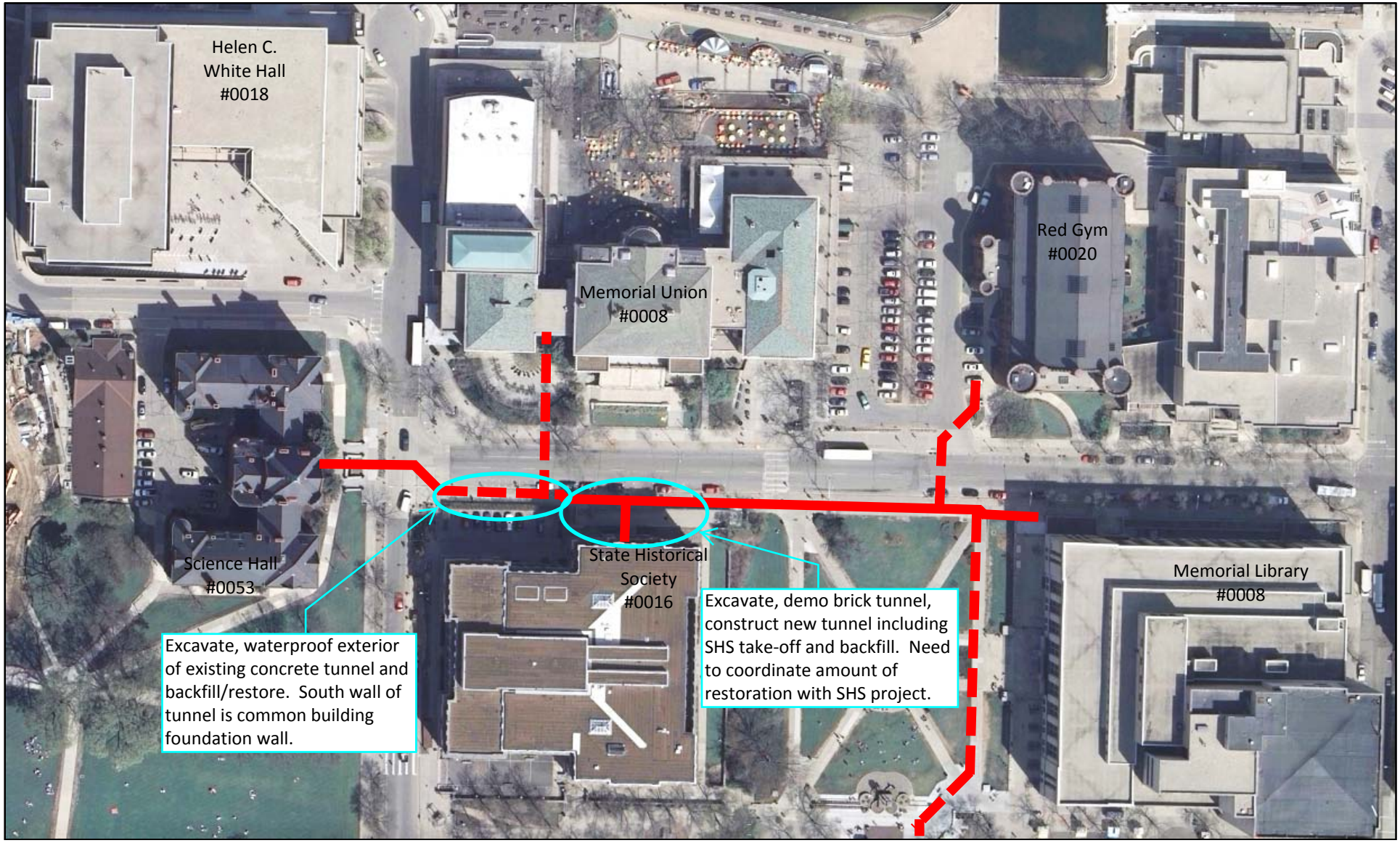
11. Will the project improve, decrease, or increase the function and costs of facilities operational and maintenance budget and the work load? If yes, to what extent? ☑ ☐

    Completion of this project will decrease operational maintenance costs.

12. Are there known code or health and safety concerns? If yes, identify and indicate if the correction or compliance measure was included in the budget estimate, or indicate plans for correcting the issue(s). ☐ ☑

13. Are there potential energy or water usages reduction grants, rebates, or incentives for which the project may qualify (i.e. Focus on Energy <http://www.focusonenergy.com> or the local utility provider)? If yes, describe here. ☐ ☑

14. If this is an energy project, indicate and describe the simple payback on state funding sources in years and the expected energy reduction here. ☐ ☑



Potential Project Phasing/Coordination with SHS Project

Required scope to coordinate with SHS project shown in cyan color above.

Remainder of project scope:

- Replace brick tunnel with concrete tunnel from Science Hall to existing concrete tunnel at SHS
- Replace piping, supports and lighting in existing concrete tunnel
- Replace brick tunnel with concrete tunnel from east side of SHS to Memorial Library

Langdon Street Utility Tunnel Replacement – January 2012

Steam Tunnel (To Be Replaced)

Steam Tunnel (Existing to Remain)