TO MEMBERS OF THE COMMITTEE ON GROUNDS AND BUILDINGS:

ACTION ITEM

For Special Meeting of January 19, 2010

APPROVAL OF PHASE 1 OF THE UTILITY LINE REMEDIATION PROJECT RELATED TO THE MISSION BAY DILLER BUILDING, ROCK HALL AND NEUROSCIENCES BUILDING (19A), SAN FRANCISCO CAMPUS

EXECUTIVE SUMMARY

Campus: San Francisco

Property: Mission Bay site, San Francisco Campus.

Proposed Action: Approval of Phase 1 of the Utility Line Remediation project at a cost of $11,700,000 funded from campus funds.

Previous Actions: November 2007: Approval of the Mission Bay Utilities and Distribution Phase 1 project for the development of a central utility system at Mission Bay.

Related Actions: ● Committee on Finance: Approval of the Campus Funding Plan and Related Changes to the Previous Regents’ Action, Mission Bay Neurosciences Building (19A), San Francisco Campus.

Future Action: As Phase 1 of the Utility Line Remediation project proceeds, the campus will bring a future action item to the Regents for Phase 2 of the Utility Line Remediation project.

Project Summary: This project is the first phase for the remediation of extreme damage done to the underground utility piping system that provides chilled water, hot water, high pressure steam and steam condensate return. It is necessary for the Regents to consider this request at a special meeting, so the remediation work can begin immediately and not cause a delay with
attendant costs to the Neurosciences building project scheduled to start in March, 2010 and minimize any impact on the infrastructure project in support of Blocks 19A, 15, 16 and 18. This Phase 1 of the Utility Line Remediation project, which is to repair existing infrastructure, is completely separate from the Committee on Grounds and Buildings’ regular meeting agenda item Mission Bay Infrastructure in Support of Blocks 19A, 15, 16 and 18, which is to build new infrastructure.
RECOMMENDATION

The President recommends that the Committee on Grounds and Buildings recommend to the Regents that:

The San Francisco Campus’ 2009-10 Budget for Capital Improvements and Capital Improvement Program be amended to include the following project:

San Francisco: Phase 1 of the Utility Line Remediation project – working drawings and construction – $11,700,000 to be funded from campus funds.

BACKGROUND

The Mission Bay Utilities and Distribution Phase 1 project, approved by the Regents in November 2007, represented the first phase development of a proposed centralized utility system at the Mission Bay Campus which will lead to construction of a full-scale Central Utility Plant and an extensive underground utility distribution system. The Mission Bay Utilities and Distribution Phase 1 project was designed to supply, via an underground piping system, high pressure steam, steam condensate return, hot water, and chilled water to various buildings at the Mission Bay Campus.

The system built during the Mission Bay Utilities and Distribution Phase 1 project allowed three research buildings (the Diller Cancer Research Building, occupied and connected to the system on block 17C; the Cardiovascular Research Building Block, in late stages of construction on Block 17A/B; and the Neurosciences building that is about to begin construction located on block 19A) to connect to centrally-produced high temperature hot water, steam and chilled water, as well as for steam condensate return. Also connected is the existing Rock Hall building located on Block 19B. See Attachment 1 for a map of the Mission Bay campus.

Each of the three piping systems has both supply and return piping which were buried in a common trench. Seven vaults (or manholes) were constructed to allow access to the piping system. The piping systems were insulated with foam to prevent water intrusion or extrusion.

Problem Analysis

In February 2009, excessive rainwater flooded four of the vaults (manholes) which were a part of this piping system serving the Mission Bay Campus. The water in the vaults began boiling, causing all control equipment (including pumps) to fail or suffer extensive damage. As well, a combination of the super-heat and water compromised the foam insulation around the hot water piping systems. A claim was filed under the University’s Builders’ Risk insurance policy for heat and water damage specific to these vaults.

In June 2009, during the process of investigating the earlier loss, water was discovered exiting the underground piping and entering the vaults. Further investigation determined that extensive damage to the piping systems, foam insulation, connecting joints, and related equipment throughout the system existed. A second claim was filed under the University’s Builders’ Risk
policy for heat and water damage although noting that it was likely that this loss was linked to the earlier loss. The University’s excess property insurer was also placed on notice for possible claims exceeding the University’s self-insured retention of $5 million. These discoveries did not preclude the move into the Diller Cancer Research Building at the end of March 2009 and use of the new system to support building operations.

Remediation plans for the underground vaults were developed, and have for the most part been completed within the campus’ funding authority. However, during June 2009, while completing repairs to the underground vaults, groundwater was noticed entering several manholes through the penetrations in the walls of the vaults that allow underground utility piping to enter. As this additional source of water was investigated, damage to the underground piping outside of the vaults was discovered. The underground piping is very extensive, is buried anywhere from ten feet to twenty feet below grade, and is overlain by shallower utility systems such as fire water lines, gas lines, sanitary and storm sewers, conduits containing control wiring, duct-banks containing telecommunications cabling and electrical wiring, and the like, which is in service and must remain so during the investigation (and any subsequent remediation). For this reason, the investigation of damage to the underground piping system is time-consuming, complex, and costly, and these same factors in turn drive the cost of replacement or repair of the underground piping as well.

Forensic investigation of the cause(s) of the damage to the manholes and the underground piping has been underway since initial discovery in June 2009. These efforts expanded in scope and intensity as more damaged piping was discovered during the course of the investigation. A major effort was made in November and December 2009 to uncover significant areas of underground piping in order to allow forensic evaluation and to determine the full scope of remediation. This evaluation of the scope of the remediation has been completed for the portion of the system located on Mission Bay Block 19, and is the subject of this emergency approval request for project approval.

The forensic investigation into the cause(s) of the damage continues for those portions of the system located on Block 17 and in Nelson Rising Lane, as does the effort to determine the scope of repair and/or replacement in those portions of the system. Block 19 has been the initial focus of the investigation because of the plan to construct a new Neurosciences laboratory building on Block 19A starting in March 2010 and the likelihood that remediation of the damaged piping could delay the start of construction of the building. As the forensic analysis concludes and the scope of repair and replacement in the rest of the system is determined over the next weeks and months, the campus will bring a future action item to the Regents relating to the cost of Phase 2 of the Utility Line Remediation project.

The campus has provided timely notice to the Builders' Risk carrier, the contractor and the design professional. The contractor and design professional have to date been part of a collaborative process to diagnose the cause and to determine an appropriate and cost effective repair. Based upon the information gleaned so far, the campus believes the damages and repair work described above are covered by the University's Builder's Risk policy. However, the carrier to date has not agreed to coverage. The campus is also exploring whether the damages were
caused by defective manufacturer specifications with respect to the field joints for the hot water and other piping, and/or contractor installation error.

Delaying the remediation of the piping system could cause a very costly and serious delay to the UCSF Neurosciences building project set to begin in March 2010. The developer of the project may not be able to hold his subcontractors, causing a further delay and a potentially significant cost increase to Neurosciences project. For this reason, UCSF is requesting that this project be recommended for approval at this special meeting of the Committee.

**Project Description**

On Block 19, the High Temperature Hot Water Supply and Return piping and the Steam Supply and Condensate Return piping require replacement. The Chilled Water Supply and Return piping require repair to the field joints (between pipe segments) and only in some places would the piping need to be replaced. The piping to be repaired in the remediation project’s Phase 1 extends from manholes in Nelson Rising Lane along the north side of Block 19 south almost to Gene Friend Way (including an expansion loop beneath the Block 19 courtyard) and then turns east and enters the south end of Rock Hall.

The piping on Block 19 runs in a narrow gap between the Neurosciences Building site and Rock Hall. The schedule for piping repair and replacement overlaps the schedule for construction of the Neurosciences Building, and the contractor for the repair and the contractor for the building both need access to the same ground. In order to mitigate the impact of piping repair on the construction schedule for the building, the campus and the developer of the Block 19A Neurosciences Building are studying ways in which the construction of both the building foundation systems and the underground piping repair can overlap in use of the site.

**Project Schedule**

The Phase 1 of the Utility Line Remediation project will commence immediately upon Regental approval and is expected to be completed as early as late March 2010 — though, depending on exact conditions, the project may be extended into April.

**CEQA Classification**

The proposed project is exempt under CEQA Guidelines Section 15269 (b) as an emergency project, and categorically exempt under Class 1 (repair of existing facilities) and Class 2 (replacement or reconstruction of existing facilities).

**Funding**

This project cost of $11,700,000 will be funded from campus funds available to the Chancellor. Additional information on the project cost may be found on Attachment 2.

**Future Regental Action**

The cost of repair described in this item does not include the cost of providing temporary steam service to the Diller Cancer Research Building, nor does the cost include the cost of delay impact to the Cardiovascular Research Building, or cost of delay to the repair work from coordination of use of the site with the Neurosciences building construction, as any delay impacts to the piping
repair and replacement work are yet to be determined. The full scope of repairs to exterior surfaces and waterproofing of underground manholes associated with this pipe replacement has yet to be fully determined as well, and will not be able to be determined until excavation for repair of the piping is complete in any given location. These costs will be included in a future action item requested of the Regents for Phase 2 of the Utility Line Remediation project.

(Attachments)
### PROJECT BUDGET CCCI 5260

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Group 2 & 3 Equipment \(^{(e)}\)

**Project Total**

$ 11,700,000

### COST DATA

**Analytical Data**

None for this remediation infrastructure project.

**Comparable University Projects**

None for this remediation infrastructure project.

**Notes**

The underground piping is very extensive, is buried anywhere from ten feet to twenty feet below grade, and is overlain by shallower utility systems such as fire water lines, gas lines, sanitary and storm sewers, conduits containing control wiring, duct-banks containing telecommunications cabling and electrical wiring, and the like, which is in service and must remain so during the investigation (and any subsequent remediation). For this reason, the investigation of damage to the underground piping system is time-consuming, complex, and costly, and these same factors in turn drive the cost of replacement or repair of the underground piping as well.

\(^{(a)}\) Fees include engineering services.

\(^{(b)}\) Campus Administration includes project and contract management staff.

\(^{(c)}\) Special Items includes special and legal consultants.

\(^{(d)}\) Contingency is higher due to the nature of the remediation project and anticipated unknown conditions.

\(^{(e)}\) Group 2 & 3 Equipment consists of equipment which is not built-in or permanently affixed to the structure of the building.