



**REPORT TO MAYOR AND CITY COUNCIL**

AGENDA ITEM

**TO: THE HONORABLE MAYOR  
AND CITY COUNCIL**

**DATE:** May 20, 2008

**SUBJECT:** Emergency Well Repair Authority – Well 24

**Report in Brief**

In February the water distribution staff observed a sinkhole behind and adjacent to the newly constructed Well 24 building in Spring Lake. Staff immediately shut down the well and stabilized the building's foundation by filling the sinkhole with approximately 7 cubic yards of concrete slurry. An immediate subsurface investigation was initiated using Brown and Caldwell, expending \$25,000 of available O&M maintenance funds. The investigation is nearing completion and the evident recommendation will be to expedite a subsurface pressure grouting project to further protect the Well 24 facility.

Staff recommends that Council approve Resolution No. \_\_\_\_\_ declaring that the public interest and necessity demand immediate expenditure of public funds to prevent the failure of Well 24, located in the Spring Lake Subdivision, and authorize the Public Works Director to enter into contracts to effect emergency repairs.

**Background**

Well 24 was completed in 2006 for \$2.3 million dollars. This newest well in the City is currently threatened by a serious subsidence next to the foundation of the building. After discovery by maintenance staff, the well was immediately shut down to prevent additional damage that might be caused by the vibrations from the well pump itself. The initial investigation by City engineers indicated that the sinkhole itself needed urgent stabilization and 7 cubic yards of cement slurry was injected to fill the void.

The Brown and Caldwell investigation is using both underground imaging (ground penetrating radar) and core drilling to inspect and determine the cause(s) of the sink hole. The purpose of the investigation is to develop a stabilization plan for the site to protect the well facility and allow the well to return to production before summer peak demand.

### **Discussion**

The investigation discovered a loose lens (layer) of sandy material at a depth of about 25' that could allow for the movement or transportation of fine materials and could be the possible cause of the sinking surface. The investigation team is initially recommending the immediate pressure injection of cement slurry and/or bentonite materials at strategic locations surrounding the well site to contain further movement of material away from the well foundation. Additional investigations are continuing to identify if the failure has impacted the sanitary seal around the well itself. If this repair is not implemented, there is a risk for further degradation of the well facility and, in the worst case, the functional loss of the entire well building and above ground facilities.

The unexpected nature and amount of the expense for the City of Woodland Water Enterprise Fund has triggered this emergency appropriation request. City staff is also reviewing questions about the initial cause of the problem to determine if there was construction or design related issues during the well development. Staff will continue to explore the initial triggering source of the failure to determine if a claim for a latent defect may exist, but stabilization of the facility is of primary importance.

If the emergency appropriation for the injection of slurry is approved and the contract moves forward, then each injection hole that is drilled will give the engineers additional information on the subsurface conditions and the sand layer being stabilized and will guide the need for the number of injection sites needed and their location. Based on this, it is estimated that the project could cost as little as \$125,000 or as much as \$200,000 to complete the stabilization. An additional \$50,000 has been added for contingencies.

At this point it is unknown to what extent, if any, the sinkhole has adversely affected the sanitary seal that blocks shallow high nitrate level water from blending with the lower water bearing zones that are utilized as the source of ground water. If the well begins to show increasing nitrate levels further investigation will be needed.

### **Emergency Contracting Procedures**

Pursuant to Section 22050 (c) (1) of the Public Contracts Code (attached), the City Engineer will provide updates to Council at the regular bi-monthly City Council meetings until the project is complete. The Code requires the City Council to review the emergency action at regularly scheduled meetings to determine the need to continue the action. These updates will include a full accounting of project related costs, an assessment of the cause of the problem and if the cause is related to a latent defect associated with the design and/or construction of the well and building.

### **Fiscal Impact**

The estimated cost is in the \$125,000 to \$250,000 range and would be paid for by the Water Enterprise Fund. If this work is deferred and the well fails, the costs for repair would be significantly higher.

**Public Contact**

Public contact consisted of posting of the City Council agenda.

**Recommendation for Action**

Staff recommends that Council approve Resolution No. \_\_\_\_ declaring that the public interest and necessity demand immediate expenditure of public funds to prevent the failure of Well 24, located in the Spring Lake Subdivision, and authorize the Public Works Director to enter into contracts to effect emergency repairs.

Prepared by: Mark Cocke  
Senior Civil Engineer

Reviewed by: Dick Donnelly  
Acting Public Works Director

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Mark G. Deven  
City Manager

Enclosure: Public Contract Code Section 22050  
Resolution

**Resolution No. \_\_\_\_\_**

**RESOLUTION OF THE CITY COUNCIL OF THE CITY OF WOODLAND  
APPROVING ACTION TO CONDUCT EMERGENCY REPAIRS AND  
WAIVING COMPETITIVE BIDDING REQUIREMENTS**

**NOW, THEREFORE, BE IT RESOLVED**, that the Council of the City of Woodland (“City”) makes the following findings based on substantial evidence regarding the condition of Well 24 located in the Springlake Subdivision.

1. We have reviewed the preliminary report from the geotech investigation which indicates a very loose lens/layer of material about 25’ below the building that is the probable cause of the surface drop; and
2. The sinkhole is right up against the foundation of the building; and
3. If the sinkhole is not immediately remedied, City well and water main may be severely damaged; and
4. Failure to immediately remediate the well damage may result in danger to the health, safety and welfare of the City’s citizens and/or public facilities; and
5. The City Council has taken evidence regarding the condition of the well damage, the structure and the need to take immediate action to remediate this situation.

**NOW, THEREFORE, BE IT FURTHER RESOLVED**, that the Council of the City of Woodland make the following findings based on substantial evidence regarding the proposed remediation of the damaged well:

1. Given the condition of the well and related subsistence, an emergency exists that will not permit a delay from a competitive solicitation of bids.
2. Immediate remediation of the damaged well and related subsistence is necessary to respond to the emergency.
3. Due to the condition created by the well damage, public interest and necessity demand the immediate expenditure of public money to safeguard life, health or property.

**BE IT FURTHER RESOLVED**, that the Council of the City of Woodland approves the immediate expenditure of public money to remediate the well damage and restore damaged sinkhole, and is hereby authorized to take any directly related and immediate action required to conduct such remediation, without giving notice for bids to let contracts.

**BE IT FURTHER RESOLVED**, that the Council of the City of Woodland approves and ratifies the expenditure of public money for the emergency work to begin on May 21, in response to the emergency situation created by the well damage.

**BE IT FURTHER RESOLVED**, that the Council of the City of Woodland delegates to the City Engineer the authority to take any directly related and immediate action required to remediate the well damage, without giving notice for bids to the let contracts.

**BE IT FURHTER RESOLVED**, that the City Council hereby directs the City Engineer to make status reports at each regularly scheduled Council meeting, pursuant to Section 22050 of the Public Contracts Code.

**PASSED AND ADOPTED** by the Council of the City of Woodland by no less than four-fifths vote, this 20<sup>th</sup> day of May, 2008 by the following vote on roll call:

AYES:

NOES:

ABSENT:

ABSTAIN:

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David M. Flory, Mayor

ATTEST:

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Sue Vannucci, City Clerk