

DATE: February 17, 2006

TO: Mayor and Members of the City Council

FROM: Wayne Bush, P.E., Director of Public Works/City Engineer

SUBJECT: Follow up on Flooding Actions

With regard to the Dec 31 storm, flooding and preparedness, the following actions and research have been taken or will be undertaken:

**MEANS:** The Marin Emergency Activation Notification System is being set up. An invitation to activate telephone or pager notification was sent to all properties in the affected flood area, and 240 participants have requested notifications.

**PUMPS:** As advised at the City Council meeting, the pumps were fully functional before and during the flooding. They were not a factor with regard to reduction of floodwaters because the creek level rose high enough to cover their inlets as well as their outlets. There was also a question about whether more modern pumps would have helped. This was researched by SASM, who maintains the pumps for the City, and found that there are no technological changes to pumping systems since the pumps were installed.

**DREDGING:** Staff has been in contact with Marin County Flood Control about the possibility of performing dredging in the creek from La Goma to beyond Camino Alto. Additionally, staff is looking into getting survey data to compare historic creek bed levels to present, to determine amount of siltation, particularly at potential obstructions such as bridges. The last dredging was performed in 1995, and was significantly reduced in scope due to environmental mandates. Costs for an engineering study are also being researched in order to fully identify the expected benefit, feasibility, and environmental and construction costs of dredging operations.

**TIDAL PROJECTS:** Marin County Flood Control is investigating the feasibility of a project to address the issue of tidal encroachment, which when combined with heavy rains can lead to flooding of roadways and property. This is a large scale project and will take several years before any possible implementation, and City staff will stay abreast of the County's efforts, and keep the Council advised of progress.

**CREEK GAGE:** Marin County Flood Control operates a rain gage in Arroyo Corte Madera Del Presidio near the Marin Theater Company. This gage records water height at the gage as well as incremental and cumulative rainfall. Real time and historical levels are broadcast from the gage. Residents may wish to go

online to <http://marin.onerain.com>, then click on “Map Sites,” and then select Mill Valley on the map. By clicking “Stage” the present level of the creek at the gage is shown, and selecting times and clicking “submit” can provide tables or graphs of whether it is rising or falling. This link has also been posted on the City’s web page.

For reference purposes, a check of the December 30-31 storm finds that between 4 AM and 8 AM, the creek height at the gage was over 8.5 feet, and had risen nearly 3 feet between 8PM and 10PM. Cumulative rainfall tables from the site also show that in December nearly 25 inches of rain fell, making it the wettest December in 50 years.

**CREEK GAGE NOTIFICATION:** The Creek Gage broadcasts a radio feed that can be used to notify the County Communication Center and/or City emergency response staff. This feed can be sent to dispatch or individual pagers, and staff is in the process of coordinating this effort with the County of Marin. A combination of gage notifications and rainfall conditions will be evaluated when activating the MEANS system.

**EMERGENCY SIRENS:** Staff has reviewed the possibility of using sirens for flood notification and recommended against this approach. In Mill Valley, sirens have historically been used for evacuation during fires. As the Fire Department advises, there are flooding levels at which they recommend residents shelter in place; in other words if the flooding is great enough, it would be dangerous for residents to hear a siren and leave their houses. The MEANS system can be the equivalent notification. Additionally, the Fire Department may be able to roll through the neighborhood with warnings. However, this action is dependent on resources, as life threatening situations will take precedent over property losses.

**FEMA:** On February 16, staff attended a workshop hosted by County OES to describe the FEMA reimbursement process. Mill Valley has already filed the requisite designating resolution, and was the first agency at the workshop to file papers starting the field review process. We are expecting a FEMA kickoff meeting in the next few weeks. By filing at the meeting, it is anticipated that the City will get early scheduling of review, processing, and reimbursement.