



Please make all submittals to:
Water Services Department, Infrastructure Record Services
200 W Washington St, 8th FL, Phoenix, AZ 85003-1611
E-mail: irspubcounter.wsd@phoenix.gov
Office:602-495-5601 Fax:602-495-5461

a. Identify all WSD facilities and utility lines within 800 feet of the planned blast zone. See also International Fire Code Sections 5607.5 and 5607.6. Call Arizona 811 and/or obtain quarter-section maps, showing water and wastewater utility lines and other facilities, from WSD (City Hall 8th floor).

b. Provide preliminary notification to WSD, of all WSD facilities and utility lines that will be affected by the planned blast (i.e. all WSD utility lines within 800 feet, and all WSD structures or buildings within 500 feet). If possible, this notification should be given at least 90 days prior to the blast.

Based on information you furnish, WSD will notify you of specific requirements. These requirements may include limitation of Peak Particle Velocity (PPV) adjacent to affected utility lines. Following are some examples of potential limits that may apply:

- Utility lines in excellent condition PPV not to exceed 2.0 inches per second
- Utility lines in other than excellent condition PPV not to exceed 0.5 inch per second
- Utility lines for which the condition is unknown PPV not to exceed 0.5 inch per second

Actual limits will depend on the information you supply, and may be less than these example limits.

There are many water and wastewater pipelines within the WSD service area, which are in other than excellent condition, or for which the condition is not known.

WSD pipelines may deteriorate with time, due to corrosion or for other reasons. WSD has programs to assess the condition of pipelines, and to repair or replace as necessary. However, the current condition of a specific pipeline may not be known with confidence at a specific time.

Assessing the condition of an existing pipeline may require up to several months, due to the necessity of removing the pipeline from service during the condition assessment. Please do provide notification to WSD about blasting operations, in sufficient time to allow condition assessments to be completed, or plan to proceed on the basis of an assumption that affected pipelines are in other than excellent condition.

c. Submit credentials and resumes to WSD for personnel who will perform blast monitoring and predictions. If possible, submit at least 60 days prior to the blast.

d. Prepare and submit to WSD a contingency plan for dealing with pipeline failures that may be caused by blasting. If possible, submit at least 30 days prior to the blast.

While proper planning should make failure unlikely, failure may yet have catastrophic consequences, and the contractor should be prepared to deal with those consequences. As a minimum, appropriate crews, equipment, subcontractors, and suppliers, should be available on call at the time of blasting. WSD may request a site visit with the contractor and appropriate subcontractors, to discuss

- where equipment may be staged in the event of a failure.
- where water or wastewater may be pumped from.
- where water or wastewater may be discharged to.



- e. For each blast, submit to WSD a blasting plan and blast monitoring plan prepared by qualified personnel and including:
- a map showing the location of the blast, the location(s) of affected WSD utility lines and facilities, and the distances from the blast zone to the WSD utility lines and facilities.
 - Predicted Peak Particle Velocity (PPV) and frequency at the closest or most critical point for each utility line or facility.

If possible, submit this blasting plan and blast monitoring plan at least 7 days prior to the blast.

Any concerns expressed by WSD must be addressed, and this blasting plan must receive explicit approval from WSD, before the blast may proceed.

- f. Notify WSD of the exact date and time scheduled for the blast, at last 48 hours prior to the blast. Provide a safe location from which WSD staff may witness the blast.

- g. Provide seismic monitoring (seismograph) when blasting is conducted within 500 feet of WSD pipelines or facilities. Measure PPV and frequency at the closest or most critical point for each utility line or facility. Report the results to WSD expeditiously. See also International Fire Code Section 5607.8.

- h. If required by WSD, arrange for WSD staff to enter the blast zone as soon after the blast as safe and practicable, to verify that systems are still operating properly.

In at least one instance reported by CalTrans, a PPV of 0.5 inch/second was sufficient to trip a control switch of a type that is also used in some WSD installations. While this may not actually cause damage, it may result for example in a pump being off when it should be on, or vice versa. In these instances, WSD staff will want to verify operation immediately after the blast.

- i. Notwithstanding any direction from WSD, or approval from WSD, all damage that results from blasting, and all resulting costs, will be the responsibility of the blasting contractor. Notwithstanding any direction from WSD, or approval from WSD, it is the blasting contractor's responsibility to determine safe levels of blasting (Peak Particle Velocity, frequency, air blast levels, etc.) that will result in no damage to WSD utility lines and facilities.