



THE CITY OF SAN DIEGO

HOW TO OBTAIN APPROVAL FOR

Cross-Connection Control

CITY OF SAN DIEGO DEVELOPMENT SERVICES
1222 FIRST AVENUE, MS 301, SAN DIEGO, CA 92101-4101
CALL (619) 446-5300 FOR APPOINTMENTS AND (619) 446-5000 FOR INFORMATION

INFORMATION
BULLETIN

113

OCTOBER 2007

CROSS-CONNECTION CONTROL

This information bulletin describes the City standards and minimum requirements related to cross-connection control/backflow protection review. For further clarification of the requirements or review process, call (619) 446-5300 for an appointment at the Development Services Center, located at 1222 First Avenue, 3rd Floor.

I. DEFINITIONS

In order to avoid any confusion the following definitions are provided. They are excerpted from the University of Southern California Foundation for Cross-Connection Control and Hydraulic Research *Manual of Cross-Connection Control (Ninth Edition)* <http://www.usc.edu/dept/fccchr/intro.html>

A. Cross-Connection:

Any unprotected actual or potential connection or structural arrangement between a public or a consumer's potable water system and any other source or system through which it is possible to introduce into any part of the potable system any used water, industrial fluid, gas or substance other than the intended potable water with which the system is supplied.

B. Backflow:

The undesirable reversal of flow of water or mixtures of water and other liquids, gases or other substances into the distribution pipes of the potable supply of water from any source or sources.

C. Reduced Pressure Principle Backflow Prevention Assembly ("RP"):

An assembly containing two independently acting approved check valves together with a hydraulically operating, mechanically independent pressure differential relief valve located between the check valves and at the same time below the first check valve.

Approved "RPs" in the City of San Diego must be installed consistent with San Diego Regional Standard Drawings WR-01, WR-02 and City of San Diego Standard Drawings SDW-100 & 120. For the San Diego Regional Standard Drawings go to: <http://www.regional.stds.com/pdf/book/BookW.pdf> (see pages 22 & 23) For the City of San Diego Standard Drawings go to: <http://www.sandiego.gov/engineering/cip/pdf/water.pdf>.

Documents referenced in this Information Bulletin

- [Information Bulletin 104](#), Schedule for Water and Sewer Fees
- [Information Bulletin 122](#), How to Prepare a Single Dwelling Unit Plot Plan and Vicinity Map
- [Information Bulletin 147](#), How to Obtain Permits for Commercial Tenant Improvement
- [Information Bulletin 503](#), Fee Deposit Schedule for Development & Policy Approvals/Permit

D. Reduced Pressure Principle-Detector Backflow Prevention Assembly ("RPDA"):

A specially designed assembly composed of a line-size approved reduced pressure principle backflow prevention assembly with a bypass containing a specific water meter and an approved reduced pressure principle backflow prevention assembly.

Approved "RPDA's" in the City of San Diego must be installed consistent with the City of San Diego Standard Drawing, SDW-120. <http://www.sandiego.gov/engineering-cip/pdf/water.pdf>

II. A BACKFLOW PREVENTION ASSEMBLY IS REQUIRED!

State of California Title 17 mandates that the City of San Diego, as the Water Purveyor, maintain a cross-connection control program to ensure that the drinking water supply remains pure. In response to this mandate, the City requires that all new water services be equipped with an approved backflow prevention assembly. Additionally, an existing water service not equipped with an approved backflow prevention assembly must have such an assembly installed if plumbing work on the system is proposed.

Please note the following exemptions: (1) domestic service for a single-family dwelling only; (2) fire services solely utilized for hydrants; and (3) in the case of an existing fire service, plumbing work involving fewer than six sprinkler heads.

III. WHAT BACKFLOW ASSEMBLY IS REQUIRED?

A. Domestic & Irrigation Services

A Reduced Pressure Principle Assembly ("RP") per San Diego Regional Standard Drawings WR-01, WR-02 & City of San Diego

Standard Drawings SDW-100 & SDW-120, located immediately to the rear of the meter, on private property.

B. Fire Services

A Reduced Pressure Principle Detector Assembly (“RPDA”) per San Diego Regional Standard Drawing WF-05 & City of San Diego Standard Drawing SDW-118, located on private property, as close to the property line as practical.

For a list of make and model numbers of approved assemblies, a list of certified backflow prevention testers, or the approval of an alternate assembly type or location which deviates from the above criteria, please contact the Cross-Connection Control Section at (619) 527-7548.

IV. A PLUMBING PERMIT IS REQUIRED

The installation of a backflow prevention assembly requires a plumbing permit.

Please note that plumbing permits do not require plans; see Section VII of this bulletin for information regarding plan check requirements, and see Information Bulletin 147, “How to Obtain Permits for Commercial Tenant Improvements.”

If the project’s scope of work necessitates submittal of the plans (typically applies to a new building, or addition to a multi-family or nonresidential building), the plan routing will include cross-connection control review.

Plans for fire sprinkler systems, which had been deferred from the associated building permit, must be submitted. However, preliminary Cross-Connection Control review is available “over-the-counter”, to ensure that plans meet acceptable criteria prior to submittal. The review should be done by appointment. Call (619) 446-5300 for scheduling an appointment. Please describe your project in detail so that the correct type of appointment can be scheduled for most efficient service.

V. PLAN SPECIFICATIONS/DRAWINGS TO INCLUDE

Plans must be drawn to scale and must be of sufficient clarity to indicate the location, nature and extent of the work proposed for the overall project. The Cross-Connection Control review is one element of a plan check process that may include a number of other disciplines reviewing for compliance with their respective regulations. Consequently, plans must show in detail that the proposed work will conform to the applicable provisions of the, California Building Code, California Code of Regulations (CCR), Title 17 & Title 22 and all other relevant laws, ordinances, rules and regulations.

In addition to any other requirements based upon the specific type of project proposed, the following must be provided for Cross-Connection Control plan review:

A. Intended Use/Building Type.

Plans must identify the use of the building(s) upon which work is proposed, and specify if those building(s) are equipped with an automatic fire sprinkler system.

B. Plot Plan/Site Plan.

This plan shows the general layout of the existing building site and indicates the location of the proposed work.

The drawing must include the following information:

1. Property lines and dimensions.
2. The existing building footprint including dimensions and distances to adjacent property lines.
3. The location of all new water meters and services to the property, as well as any existing water meters/services supplying a system upon which plumbing work is proposed.
4. The backflow prevention assembly type and location, refer to Section III of this bulletin for requirements.
5. Indication of whether backflow assembly is existing or proposed.

See Information Bulletin 122, “How to Prepare a Typical Plot Plan, Vicinity Map.” It is acceptable to use a copy of an existing plot plan for the existing buildings as long as the scope of work is clear and the plan is readable and suitable for microfilming.

C. Floor Plan.

This shows the configuration of the building’s interior walls, and typically delineates existing walls, the walls to be removed and new walls.

The drawing must include the location of plumbing fixtures, specifying “new,” “existing,” “relocated” and/or “removed.”

D. Fire Sprinkler Plan/Calculations.

As applicable, fire sprinkler plans must be provided for review by the Fire Sprinkler plan checker. In general, the installation of a new backflow prevention assembly on an existing fire service additionally requires fire sprinkler system calculations. These calculations serve to demonstrate that the sprinkler system functionality is not compromised by the resulting reduction in water pressure.

For further information regarding system calculation, please contact Fire & Life Safety Services, at (619) 446-5440.

VI. THE PLAN REVIEW PROCESS

Plan review for cross-connection control is required when the project's scope of work involves a fire sprinkler system, a new multi-family or nonresidential building, or plumbing work on such an existing building. See Section II of this bulletin for specific exemptions.

Development Services will make every effort to approve the plans for the project during the first plan review. If plans do not meet criteria specified in Section III of this bulletin, contact Cross-Connection Control staff of Water Department to determine if deviation can be approved.

City of San Diego Water Department
Water Operations Division
Cross-Connection Control
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Plans will be stamped approved, or a comment sheet will be prepared detailing what revisions or corrections to the plans are necessary. The comment sheet will specify the appropriate means of obtaining plan recheck.

VII. FEES

A. Plan Review Fees:

There is a \$44.00 plan review fee associated with Cross-Connection Control plan check.

B. Permit Fees:

See Information Bulletin 503, "Fee Deposit Schedule for Development & Policy Approvals/Permit," for the permit fee schedule related to the installation of a backflow prevention assembly.

Installation Fees: Backflow assemblies for domestic and/or irrigation services less than 3" in size are ordinarily privately-installed and maintained. All backflow assemblies for fire services are privately installed and maintained.

Backflow assemblies for domestic and/or irrigation services 3" or larger are generally installed with the meter as they are part of the meter assembly. The size is determined with the meter from the water meter data card.

See Information Bulletin 104, "Water and Sewer Fees" for fees associated with City-installed backflow prevention assemblies for domestic and/or irrigation services less than 3" in size.

VIII. INSPECTION

A site inspection of the backflow assembly installation will be done in conjunction with the issuance of a Plumbing Permit. Call the Inspection Services office at (858) 581-7111 to schedule an inspection.

Additionally, privately-installed backflow assemblies are inspected by the Cross-Connection Control Section, Water Operations Division/Water Department, for consistency with applicable City of San Diego and/or Regional Standard Drawings. Call (619) 527-7548 for further information.