

# ENGINEERING STANDARD PRACTICE

ESP

120.6

SUBJECT: ***DRAWING NUMBERING SYSTEM FOR  
STRUCTURE-RELATED PROJECTS***

EFFECTIVE

27 APR 09

SUPERSEDES

1 MAR 99

## ***I. PURPOSE***

The purpose of this ESP is to establish and maintain a drawing numbering system for structure-related projects originating within the Engineering and Construction Department.

## ***II. APPLICATION***

This drawing numbering system applies to all new District drawings, including those produced in-house and by contractors, vendors and subcontractors. Existing drawings numbered under previous systems that are revised for or affected by new projects should be renumbered under this system. All new District drawings for structure-related projects will be 22"x34" in size.

This ESP does not apply to property-related drawings (drawings showing the legal descriptions, meets and bounds of District property, property sales, rights-of-way, outgrants and quitclaims), Standard Drawings and Master Drawings.

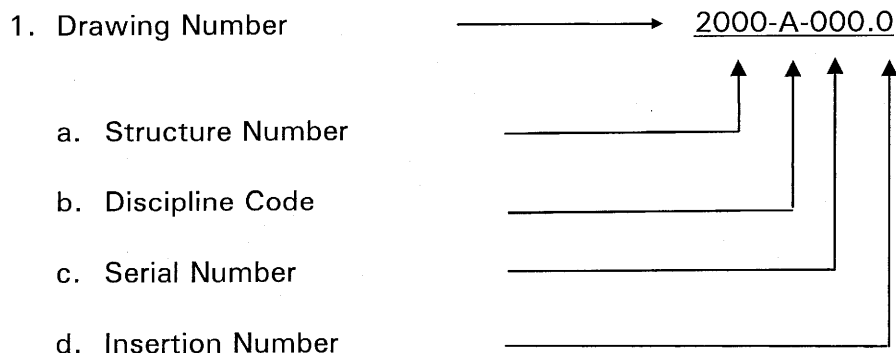
## ***III. INTENT***

The intent of this ESP is:

- A. To establish a method of providing a unique identity number for each District drawing that contains specific information about the subject of the drawing.
- B. To accommodate current and future computer drafting and Engineering Records requirements to file and retrieve drawings systematically.
- C. To promote reuse of existing drawings.

## ***IV. FORMAT***

A. Format for drawing numbers will conform to the following example:



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B. A **Structure-Number-Based (SNB) drawing number** consist of three to five elements:

1. A **Structure Number** is from one to four digits. These are assigned to new structures sequentially from a list maintained on the Asset and Infrastructure Management site. The structure number is applied to all new and revised drawings prepared for a project, but not to Standard Drawings or reference drawings. It is the first required element of an SNB drawing number.
  - a. A **substructure number** is a two-digit extension of the structure number and is assigned per ESP 120.1, 'Drawing Control: Assigning Structure Numbers to District Facilities.' A period is placed between the structure and substructure numbers. Substructure numbers are to be used for all facilities at Water Treatment Plants (WTP) and Water Supply Reservoirs (WSR). If the location of work shown on a drawing for a project at a WTP or WSR is not wholly contained within the confines of one substructure, it will use substructure number ".00." For example, if a wiring diagram shows a panel location in one building at a WTP and a termination inside another building at the same WTP, that wiring diagram requires the use of substructure number ".00" as part of its drawing number. The lists of substructure numbers are maintained by Engineering Records.
  - b. A **station** for an aqueduct is used in this context to identify a general location along an aqueduct. Stations are not used as or with substructure numbers, but they are analogous in that they identify a location and appear in the same position as a substructure number in an SNB drawing number. The station will appear after an aqueduct's structure number as a whole number suffix preceded by a period. All new SNB aqueduct drawings, and drawings with structure numbers for facilities which are appurtenant to a District aqueduct, will include a station, e.g., 253.**4905**, Orinda Diversion Works on Lafayette Aqueduct No. 1.
2. A **Discipline Code** is a single letter that identifies the appropriate engineering design group or type of drawing. It appears between hyphens and follows the 1) structure number or 2) the substructure number or aqueduct station number, if either is present. It is the second required element of an SNB drawing number. The discipline codes are maintained by Engineering Records and are limited to the following:

**A** Architectural

**C** Civil

**D** Corrosion

**E** Electrical

**I** Instrumentation & Control

**J** Process Controls

**L** Landscaping

**M** Mechanical

**S** Structural

**T** Topographic/Survey

**Z** Miscellaneous

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3. A **Serial Number** is a three-digit number that appears after the trailing hyphen of a discipline code letter. A serial number less than 100 will use leading zeros. A serial number is assigned to a specific drawing by an engineer from among those serial numbers given to the Project Engineer by Engineering Records. (See the procedure outlined in ESP 120.4, 'Drawing Control: Issuing New Drawing Numbers.'). A serial number is the final required element for an SNB drawing number. Combined, the three elements produce a permanent, unique number for each District drawing.

This ESP does not require specific use of serial numbers within a discipline code except for Miscellaneous (Z) Drawings. Z drawings are used for the Lists of Drawings, Vicinity and Location Maps, General Notes, Materials Lists and Schedules for a project.

The original construction drawings of a structure will use project code (project number) Z-000. Drawings for any subsequent project will use the next serial number in sequence as a project code. The second project will use Z-001, the third project will use Z-002. Project codes are assigned by Engineering Records when the Project Engineer submits a completed Drawing Number Request form for new drawing numbers, unless the request pertains to a project for which a code has already been assigned.

The first miscellaneous drawing number for project Z-000 at fictitious Virga Reservoir, structure number 2209, would be 2209-Z-000.1. If more miscellaneous drawings are needed on the project, the drawing numbers will consist of the project code followed by a period and up to two numbers (in ascending order from the range 1-99) for each drawing. The second miscellaneous drawing would be numbered 2209-Z-000.2. The first miscellaneous drawing for project Z-001 is 2209-Z-001.1, the second is 2209-Z-001.2, the third is 2209-Z-001.3.

4. An **Insertion Number** is one or more digits following a serial number and separated by a period. It can be used as an extension to a serial number to insert a new drawing into an existing drawing number sequence. The first insertion number to be used will be ".1." Compounding insertion numbers is to be avoided. *Prior to the drafting or revising of a drawing*, the Project Engineer may assign insertion numbers as necessary, *with the concurrence of Engineering Records*. This will prevent drawing number duplication and ensure consistency in numbering practices. New drawings with numbers independently assigned by engineers that duplicate existing drawings maintained by Engineering Records will not be filed by Engineering Records, but will be returned to the engineer with a recommended alternative number.
5. A **demolition designator** is a capital D placed immediately after a drawing insertion number or after the drawing serial number if there is no insertion number. It will be the same size and font as the drawing number characters in the lower right corner of the drawing title block. (See ESP 208.1, 'Title Block Format.'). A drawing with the D

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suffix will be referred to as a Demolition Drawing, with the D signifying that all or part of what a drawing depicts is to be demolished. If a demolition drawing shows partial demolition, subsequent demolition drawings with the same drawing number will be numbered as revisions of the first demolition drawing in order to distinguish demolition drawings from each other. Engineers will designate demolition drawings and notify Engineering Records.

### ***V. DRAWING REVIEW AND PROCEDURE***

- A. Before obtaining new drawing numbers, the Project Engineer must know if the facility in question is a new facility, a replacement facility or an existing facility as defined in ESP 120.4. If the facility is a new or replacement facility, then a new structure number must be obtained from Engineering Records. If it is an existing facility, it will retain its assigned structure number. If that number is shared by another facility, a new structure number will be issued for differentiation. See also ESP 120.1.
- B. Before design work commences on a new project at an existing facility, drawings specific to that facility will be reviewed and processed per ESP 120.4. Drawings deemed obsolete or superseded will be processed under ESP 120.5, 'Drawing Control – Drawing Disposal.' Drawings requiring renumbering will be processed under ESP 120.4.

### ***VI. ADMINISTRATIVE RESPONSIBILITIES***

#### **A. Project Engineers will:**

1. Ensure that contractors, subcontractors and vendors comply with the applicable requirements of this ESP, using only drawing numbers obtained by the Project Engineer in consultation with Engineering Records, and using the District Title Block format specified in ESP 208.1, 'Title Block Format.'
2. Review procedures outlined in **V.** above, along with the referenced ESPs, and take required actions before requesting new drawing numbers.
3. Designate demolition drawings as necessary.

#### **B. Engineering Records will:**

1. Review an engineer's drawing renumbering and insertion numbers prior to drawing revision in Facilities Drafting, and furnish the engineer with alternative numbers as needed to prevent duplication of drawing numbers, ensure consistency of numbering practices and accommodate any renumbering that has already taken place.

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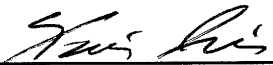
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2. Assign new drawing numbers per this ESP and ESP 120.4 when requested by Project Engineers.
3. Maintain the following files:
  - Engineering Records Document Drawing Files.
  - Engineering Records Electronic Drawing Files (in Excel spreadsheets and DOX).
4. File drawings with structure numbers in the following order:
  - Structure Number
  - Substructure Number
  - Discipline Code
  - Serial Number
  - Insertion Number
  - Demolition Designator
  - Drawings with stations will be filed as a group, and then according to the order above using station number instead of substructure number, within the group.

  
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**XAVIER J. IRIAS**  
Director of Engineering & Construction