

STANDARD PLANS



COUNTY OF ORANGE

**ORANGE COUNTY
PUBLIC WORKS DEPARTMENT**

APRIL 2013 EDITION

IGNACIO G. OCHOA, CHIEF ENGINEER

STANDARD PLANS

RESOLUTION NO. 13-026

STANDARD PLANS 112 THROUGH 633

**STANDARD PLANS FOR PUBLIC WORKS
CONSTRUCTION (2009 EDITION)**

PUBLIC WORKS STANDARDS, INC.

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STANDARD PLANS 1100 THROUGH 1810

**STANDARD PLANS FOR COUNTY OF ORANGE
ORANGE COUNTY PUBLIC WORKS DEPARTMENT**

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PREFACE

The Standard Plans for Public Works Construction of the Public Works Standards, Inc. are hereinafter called SPPWC.

It is County of Orange, OC Public Works Department (OCPW)'s intent to adopt the latest edition of the SPPWC Standard Plans and Standard Specifications for Public Works Construction (Greenbook) as published by BNI Building News (except for Sections 209, 214, 307 and 312) except where current OCPW Standard Plans, or portions thereof, should be retained on the basis of cost or safety or where portions of OCPW Standard Plans can be used with SPPWC Standard Plans in a way that meets special OCPW needs and does not adversely affect the benefits of standardization.

There are three categories of Standard Plans:

- 1) OCPW has adopted SPPWC Standard Plans with or without conditions.
- 2) OCPW has a Standard Plan which addresses a subject but SPPWC does not.
- 3) SPPWC has a Standard Plan which addresses a subject but OCPW does not.

This edition of the OCPW Standard Plans includes the first two categories. The third category has not yet been adopted by OCPW. SPPWC has a number of Standard Plans that have no equivalent OCPW Standard Plans. Although it is intended to consider such Standard Plans for adoption by OCPW, time has precluded a review of such SPPWC Standard Plans and, therefore, such SPPWC Standard Plans shall not be used for OCPW projects at this time.

The adopted SPPWC Standard Plans (with and without conditions) are now included in this edition of OCPW Standard Plans. The SPPWC Standard Plans are copyrighted and published by BNI Books, Division of Building News, Inc., (990 Park Center Drive, Suite E, Vista, CA 92081, (760) 734-1113). Therefore, OCPW has included the adopted SPPWC Standard Plans in their entirety without making revisions directly on the SPPWC Standard Plans. OCPW conditions, if any, are located immediately following the SPPWC Standard Plans.

Construction plan call-outs should include the appropriate letter prefix: such as "Construct per SPPWC 312-1" or "Construct per OCPW 1101". Where the call-out omits the letter prefix, the OCPW Standard Plan shall apply unless otherwise directed by the Engineer (see definition below). Where an SPPWC Standard Plan is called out which has been approved by OCPW with conditions, the plan call-out as an example would be identified as "OCPW 100-0-OC". In this case, the SPPWC Standard Plan is given the suffix OC. However, a plan call-out for an SPPWC Standard Plan shall automatically include the OCPW conditions, if any.

OCPW and SPPWC Standard Plans may be used by reference, for example, "Construct per OCPW 100-0-OC" or the standard plans may be reproduced on project drawings submitted for OCPW approval. However, where standard plans are reproduced in the drawings, the entire standard plan shall be reproduced. The SPPWC Standard Plans are copyrighted and may not be reproduced except for use on OCPW plans as noted above.

The users of these Standard Plans should also be aware that the SPPWC Standard Plans are unsigned. Where Standard Plans (either OCPW or SPPWC) have been approved by OCPW, OCPW's approval is an approval that the adopted Standard Plan is suitable for general OCPW use. The project proponent, by including the Standard Plans (by reference or reproduction) in project plans, assumes a professional engineer's responsibility for their use.

In addition to the adoption of a portion of SPPWC Standard Plans, OCPW has also adopted a portion of the Department of Transportation, State of California Standard Plans and Specifications latest Edition. Due to their availability those Standard Plans are not included in this booklet. The following are the portion of Standard Plans, Department of Transportation, State of California, OCPW has adopted:

1. The portion covering "Signals, Lighting and Electrical Systems."
2. The portion covering "Bridges".
3. Standard Plans A77A1 through A77K2 covering "Metal Beam Guard Railing".

The term "ENGINEER" as it appears in this document is defined as: The Chief Engineer, OC Public Works Department, acting either directly or through authorized agents (such as Resident Engineer or Resident Inspector), such agent acting within the scope of the particular duties delegated to them.

The term "GEOTECHNICAL ENGINEER" as it appears in this document is defined as: The Professional Engineer and Manager in responsible charge for the operation and performance of the OC Public Works, Materials Laboratory and all reports and tests performed therein or on his behalf, or his duly assigned designee.

<u>Acronym or Abbreviation</u>	<u>Word or Words</u>
AASHTO	American Association of State Highway and Transportation Officials
AB	Aggregate Base
ABS	Acrylonitrile Butadiene Styrene
AC	Asphalt Concrete
ACP	Asbestos-Cement Pipe
ADA	Americans with Disabilities Act
ADAAG	Americans with Disability Act Accessibility Guidelines
ADT	Average Daily Traffic
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute
Approx.	Approximate
ARHM	Asphalt Rubber Hot Mix
ASTM	American Society for Testing and Materials
AWS	American Welding Society
AWWA	American Water Works Association
BC	Beginning of Curve
BCR	Beginning of Curb Return
Bldg.	Building

BMP	Best Management Practice
CAB	Crushed Aggregate Base
CAPA	Corrugated Aluminum Pipe Arch
CAP	Corrugated Aluminum Pipe
CASQA	California Stormwater Quality Association
CCTV	Closed Circuit TV
CF	Cubic Feet
CHDPE	Corrugated High Density Polyethylene
CI	Cast Iron
CIP	Cast-In-Place or Cast Iron Pipe
CIPCP	Cast-In-Place Concrete Pipe
CIPP	Cured-In-Place Pipe
CL	Centerline
Clr.	Clearance
CMB	Crushed Miscellaneous Base
CMP	Corrugated Metal Pipe
CMU	Concrete Masonry Unit
Conc.	Concrete
Const.	Construction
CSP	Corrugated Steel Pipe
CSPA	Corrugated Steel Pipe Arch
Ctr.	Center
CY	Cubic Yard
Det.	Detail
Dia.	Diameter
DIP	Ductile Iron Pipe
Dwy.	Driveway
EC	End of Curve
ECR	End of Curb Return
EG	Edge of Gutter
Elev.	Elevation
EM	Engineer Manual
EP	Edge of Pavement
EPA	Environmental Protection Agency
Exist.	Existing
Exp. Jt.	Expansion Joint
FG	Finished Grade
FL	Flow Line
fps	Feet Per Second
FS	Finished Surface
FT	Feet
Gal	Gallon
Galv.	Galvanized
HC	House Connection
HCSP	High Carbon Steel Pipe
HD	Hole Diameter
HDPE	High Density Polyethylene
Hex.	Hexagon
HPSV	High Pressure Sodium Vapour

ID	Inside Diameter
in	Inch
Inv.	Invert
ITE	Institute of Transportation Engineers
JS	Junction Structure
LS	Lump Sum
Max.	Maximum
Min.	Minimum
MUTCD	Manual on Uniform Traffic Control Devices
N/A	Not Applicable
NC	National Coarse
NEC	National Electrical Code
Non-Reinf.	Non-Reinforced
NS	Native Soil
oc	On-Center
OCVCD	Orange County Vector Control District
OD	Outside Diameter
PC	Portland Cement
PCC	Portland Cement Concrete
PE	Polyethylene
PI	Point of Intersection
PL	Property Line
PLI	Pounds Per Linear Inch
psf	Pounds per Square Foot
psi	Pounds per Square Inch
PVC	Polyvinyl Chloride
R	Radius or Resistance Value
RC	Reverse Curve
RC	Relative Compaction
RCB	Reinforced Concrete Box
RCP	Reinforced Concrete Pipe
RCV	Remote Control Valve
RPM	Raised Pavement Marker
RW	Reclaimed Water
R/W or ROW	Right-of-Way
SDR	Standard thermoplastic pipe dimension ratio (ratio of pipe OD to minimum wall thickness)
sf	Square Foot
Sq. Ft.	Square Foot
SI	International System of Units (Metric)
SPPWC	Standard Plans for Public Works Construction
Std.	Standard
SWPPP	Storm Water Pollution Prevention Plan
TC	Top of Curb
TCP	Traffic Control Plan
Typ.	Typical
UL	Underwriters' Laboratories Inc.
Var.	Varies
VCP	Vitrified Clay Pipe

Vert.	Vertical
WATCH	Work Area Traffic Control Handbook
WPJ	Weakened Plane Joint
WWM	Welded Wire Mesh
UF	Underground Feeder
Ult.	Ultimate
USACE	United States Army Corps of Engineers

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