PART I

Intro, Processes, Special Provisions to the Oregon Standard Specifications for Construction General Conditions

1 Introduction Statement

The purpose of this document is to provide the City of Bend community with a clear process for designing, bidding, and constructing City infrastructure for both public and private development.

This document is available on the City of Bend website and can be downloaded as a PDF file that can be printed if desired. The City will not provide printed versions of this document, but an electronic version on a CD can be purchased from the City Permit Counter. This document will be maintained and kept current on the City's website. Anyone using this document is encouraged to sign up for the email list ~~serve~~ so they can be notified of any changes or modifications. If users are working from a printed version they should check the City of Bend website for any revisions or changes prior to using. A table of revisions and revision dates, along with what was modified will be maintained on the City website.

The City Engineer is ultimately responsible for maintaining this document and implementation of it. Small technical changes can be made to the Design Standards and Construction Specifications without City Council approval. Substantive changes that have policy ramifications must be approved by the City Council.

2 Change Process Overview

On at least an annual basis, the City will review this document to maintain its consistency and ensure that best practices are being followed. This review will look at consistency with industry design standards, issues specific to the City of Bend including impacts to operations, and changes necessary to maintain compliance with the Oregon Standard Specifications for Construction. These changes may occur on a less than annual basis if the City determines the change as significant and needed. Refer to the City's website to obtain the most up to date version of this document.

Users can also request a change. There are two types of changes that users can request~~:~~:

1) Changes to this document
2) ~~A waiver~~A Standards and Specifications Exception (Exception) from a requirement within this document

A change request to this document can result in the document being modified which would apply to all projects from that point forward. ~~A waiver~~An Exception is a onetime change of City Standards and/or Specifications that would only apply to a specific project.

Change Request

A change request from a user must start with filling out the required change request form. ~~See the link below for the location of the~~The Change Request form can be found on the City of Bend's ~~website;~~Standards and Specifications webpage.

~~*https://www.bendoregon.gov/home/showpublisheddocument/34137/637057280696570000*~~

All applicable change requests sections must be filled out with as much detail as possible. This form can either be mailed to the City, or can be submitted electronically at *engineering@bendoregon.gov*.

The decision process for consideration of the change will follow the steps below ~~(also see Exhibit A):~~:

1) The Assistant City Engineers (ACEs) will determine if the City staff has the qualified expertise to make a decision on the request
    a. If it is determined that City staff lacks this expertise, City Engineering will retain the services of a qualified expert to review the change request
2) The ACEs, or the qualified expert, will develop a written response with the recommendations on the decision
    a. If the decision is to not accept the change, the original requestor will be notified and the decision for not accepting the change will be provided. If the decision is to accept the change, the written decision with the acceptance recommendation will be provided to affected divisions and staff to receive input with considerations of impacts to operations, financial, and legal. The feedback gathered will be documented in the written recommendations.

3) The ACEs, or the qualified expert, along with the City Engineer will review all feedback and make a final recommendation for acceptance or rejection. This final recommendation will include consideration of cause and effect of accepting the change.

4) If the change is accepted it will be implemented and the original requestor will be notified of the decision

Once reached, the ACEs and/or City Engineer's decision will be final.

~~Waivers~~

Standards and Specifications Exception

All ~~waivers~~Exceptions from a design standard or construction specification must be approved by the ~~Assistant City Engineers (~~ACEs~~).~~. The request for ~~a waiver~~an Exception must be submitted in writing to the ACEs by the ~~Waiver~~Standards and Specifications Exception request form posted on the City's website and must specify how it meets the criteria set forth below. The request can either be mailed to the City, or can be submitted electronically at *engineering@bendoregon.gov*.

The criteria for ~~a waiver~~an Exception will be based on the following determination:

1) The ~~waiver~~Exception or modification will not harm, or will be beneficial to, the public in general

2) The ~~waiver~~Exception and modification are not inconsistent with the general purpose of ensuring adequate public facilities

3) One or more of the following conditions are met:

    a. The modification or ~~waiver~~Exception is necessary to eliminate or reduce impacts on existing drainage patterns or natural features such as riparian areas, significant trees or vegetation, or steep slopes

    b. An existing structure such as a substantial retaining wall makes widening a street or right-of-way or required placement of lines impractical or undesirable

    c. Vehicular or utility access to an existing lot would be eliminated without the ~~waiver~~Exception or modification

    d. Building on an existing lot would be infeasible without the ~~waiver~~Exception or modification

    e. Existing structures make future widening of the remainder of a street or right-of-way unlikely and the additional width would not be beneficial for sidewalks or parking without the extension for the rest of the block

    f. Needed to allow development of, or street access to, the property because of topographical constraints

    g. The existing infrastructure:

        i. Does not meet current standards

ii. Is and will remain functionally equivalent to current standards

iii. There is little likelihood that current standards will be met in the area

h. The installation of the required improvements would likely cause unacceptable significant adverse environmental impacts and the ~~waiver~~Exception / modification would avoid such impacts

i. There is insufficient right-of-way to allow a full width street cross section and additional right-of-way cannot be provided

j. There is no street or right-of-way adjacent to the property and easement access has been obtained across private property

k. Required street frontage improvements for individual single-family dwellings could best be accomplished by planned area-wide improvements at a future date

l. The City has conflicting or inconsistent standards and the proposal would comply with one set of adopted standards. Standards are conflicting or inconsistent only when it is not possible to comply with both. In most situations, the more recently adopted standard should be followed and the older standard may be waived.

The process for review will also follow the four-step process as outlined for a change request, see previous section. All of the steps outlined will be followed ~~with the exception that a waiver~~however, an Exception will not result in a change to this document. Only the applicant will be granted ~~a waiver~~an Exception if it is approved. If ~~a waiver~~an Exception is not approved, the applicant must use the criteria set forth in this document. ~~A waiver~~An Exception will be processed as quickly as possible~~.~~; however, the applicant should understand that this process could take several weeks depending on the amount of review required.

Once reached, the ACEs and/or City Engineer's decision will be final.

3 Community Development Department Overview

The City of Bend Permit Center is located ~~with~~within the Community Development Department (CDD) and provides a 'one-stop shop' for all private development related permitting. Permit Center staff are dedicated to meeting the needs of new development interests while protecting the City's vital infrastructure. Permit processes are a coordinated effort of the developer, Private Development Engineering, Planning, and Building Departments, as well as other affected agencies.

Development permit applications are processed through the Online Permit Center including land use proposals, engineering construction plans, work in the public right-of-way and lane closures, grading, drainage, revocable uses within public right-of-way, plats, and various development related dedications, releases, and agreements. Applications received at the Permit Center are routed to the appropriate departments and agencies for review and comment prior to final approval.

~~The link below is to the City of Bend's Online Permit Center where additional~~Additional information can be found for application processes, responsibilities, and timelines as well as additional review and training materials on the City of Bend's Online Permit Center webpage.

~~https://www.bendoregon.gov/government/departments/community-development/online-permit-center~~

4 Abbreviations

AASHTO	American Association of State Highway and Transportation Officials
AC	Asphalt Concrete
ACE	Assistant City Engineer
ADA	Americans with Disabilities Act
ADAAG	Americans with Disabilities Act Accessibility Guidelines
AFD	Adjustable Frequency Drive
AI	Analog Input
AMR	Automatic Meter Reading
ANSI	American National Standards Institute
AO	Analog Output
APWA	American Public Works Association
AS	Adjustable Speed
ASAE	American Society of Agricultural Engineers
A.S.L.A	American Association of Landscape Architects
ASTM	American Society for Testing and Materials (ASTM International)
ATS	Automatic Transfer Switch
AWWA	American Water Works Association
AWG	American Wire Gauge
BMP	Best Management Practice
CAD	Computer-aided Design
CBR	California Bearing Ratio
CC&R	Conditions, Covenants and Restrictions
CDR	Concept Drainage Report
cfm	Cubic Feet per Minute
CFR	Code of Federal Regulations
cfs	Cubic Feet per Second
CIP	Capital Improvement Project
CIS	Oregon Legislative Commission on Indian Services
CMP	Corrugated Metal Pipe
CN	Curve Number

COIC	Central Oregon Intergovernmental Council
COSM	Central Oregon Stormwater Manual
CS	Constant Speed
CT	Current Transformer
CTAPE	Chemical Technology Assessment Protocol
DBH	Diameter at Breast Height
DCCS	Deschutes County Coordinate System
DCP	Dynamic Cone Penetrometer
DEQ	Oregon Department of Environmental Quality
DI	Discrete Input
DI-120	Discrete Input, 120VAC
DI-24	Discrete Input, 24VDC
DO	Discrete Output
DO-120	Discrete Output, 120VAC
DO-24	Discrete Output, 24VDC
DSL	Oregon Division of State Lands
DTM	Digital Terrain Model
Ecology	Washington State Department of Ecology
ENT	Ethernet
EPA	U.S. Environmental Protection Agency
ESAL	Equivalent Single-axle Load
ESC	Erosion and Sediment Control
ET	Evapotranspiration
DTM	Digital Terrain Model
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
fps	Feet per Second
ft2	Square Feet
ft/ft	Feet per Foot
FHWA	Federal Highway Administration
FPN	Fine Print Note
FROPT	Flow Restrictor Oil Pollution Control Tees

FRP	Fiberglass-Reinforced Plastic
FWD	Falling Weight Deflectometer
GFCI	Ground Fault Circuit Interrupter
gpad	Gallons per Acre Day
gpcd	Gallons per Capita per Day
GFI	Ground Fault Indicator
gpm	Gallons per Minute
GPS	Global Positioning System
GSC	Geotechnical Site Characterization
GUI	Graphical User Interface
HCl	Hydrochloric Acid
HGL	Hydraulic Grade Line
HMI	Human-Machine Interface
HPS	High-Pressure Sodium
HOA	Homeowner's Association
HVAC	Heating, Ventilating, and Air Conditioning
IBC	International Building Code
I/O	Input / Output
I&C	Instrumentation and Control
ICC	International Code Council
ICEA	Insulated Cable Engineers
I-D-R	Rainfall Intensity-Duration-Recurrence Interval
IEEE	Institute of Electrical and Electronics Engineers
IES	Illuminating Engineering Society
IFC	International Fire Code
ISA	Instrument Society of America
kcmil	1,000 Circular Mil
kW	Kilowatt
LCCA	Life-Cycle Cost Analysis
LDP	Local Datum Plane
mA	Milliampere
mgd	Million Gallons per Day

mg/kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
MCC	Motor Control Center
MDFT	Minimum Dry Film Thickness, mils
MDFTPC	Minimum Dry Film Thickness per Coat, mils
mil	1/1,000 inch
NACE	National Association of Corrosion Engineers International
mph	Miles per Hour
MTS	Manual Transfer Switch
MUTCD	Manual on Uniform Traffic Control Devices
NACE	National Association of Corrosion Engineers
NEC	National Electrical Code
NECA	National Electrical Contractors Association
NEMA	National Electrical Manufacturers Association
NETA	International Electrical Testing Association
NFPA	National Fire Protection Association
NGVD	National Geodetic Vertical Datum
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPGS	Non-pollutant Generating Surface
NRCS	Natural Resource Conservation Service
O&M	Operations and Maintenance
O.A.L.A.	Oregon Association of Landscape Architects
OAR	Oregon Administrative Rules
ODFW	Oregon Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
OISC	Oregon Invasive Species Council
OPRD	Oregon Parks and Recreation Department
OR-OSHA	Oregon Occupational Safety and Health Department
ORS	Oregon Revised Statutes
OSS	Oregon Standard Specifications
OSHA	Occupational Safety and Health Act

OSU	Oregon State University
P&ID	Process and Instrumentation Diagram
PDS	Product Data Sheet
PFCC	Power Factor Correction Capacitor
PGS	Pollutant-Generating Surface
PLC	Programmable Logic Controller
P.O.C.	Point of Connection
PROWAG	Public Rights-of-Way Accessibility Guidelines
PSDS	Paint System Data Sheet
psi	Pounds per Square Inch
PVC	Polyvinyl Chloride
ROW	Right(s)-of-Way
RPBA	Reduced Pressure Backflow Assembly
RPBD	Reduced Pressure Backflow Prevention Device
RTU	Remote Terminal Units
SBUH	Santa Barbara Unit Hydrograph
SCADA	Supervisory Control and Data Acquisition
SDA	Special Drainage Area
SFPG	Square Feet per Gallon
SFPGPC	Square Feet per Gallon per Coat
SHPO	State Historic Preservation Office
SP	Surface Preparation
SSPC	Steel Structures Painting Council; Society for Protective Coatings
SWAT	Smart Watering Advanced Technology
TAPE	Technology Assessment Protocol
TCP	Traffic Control Plan
TPH	Total Petroleum Hydrocarbons
TSS	Total Suspended Solids
TVSS	Transient Voltage Surge Suppressor
UIC	Underground Injection Control
UL	Underwriters Laboratories, Inc.
ULC	Ultrasonic Controller

UPS	Uninterruptible Power Supply
USACE	U.S. Army Corps of Engineers
USCG	U.S. Coast Guard
USDA	U.S. Department of Agriculture
USGS	United States Geological Survey
V	Volt
VAC	Volt, Alternating Current
VDC	Volt, Direct Current
WQC	Water Quality Certification
WSDOT	Washington State Department of Transportation