CITY OF POSTFALLS
Community Development Department

Engineering Division

DRAFTING AND DIGITAL SUBMITTAL STANDARDS

PURPOSE:
These policies are intended to aid in the management, design, construction, maintenance and operation of public improvements. These polices are intended to provide minimum standards that will expedite plan review, reduce construction delays, improve project certification and allow for the efficient incorporation of as-built data into the City's Geographical Information System (GIS). These policies' are subject to the review and interpretation of the City Engineer.

Adopted: 12/04/2018

STANDARD:
All projects subject to the site plan review or subdivision process are required to submit plans and specifications pertaining to the construction of improvements. Those projects that require the Developer to enter into a Construction Improvement Agreement (CIA) with the City or significantly modify the City's Sanitary Sewer, Domestic Water or Transportation Facilities are further required to submit electronic as-built drawing as part of the project's completion and certification.

All projects that require the submittal of plans for review and approval by the City of Post Falls, as required by City Code Chapter 17 (Subdivisions) or Chapter 18 (Zoning), shall utilize the **Drafting Standards** contained within this policy for subdivisions, plats, and the publicly owned improvements associated with commercial site plans (roadway improvements, storm swales and all extensions of public utilities).

All plats and projects that require a developer to submit as-built drawings, shall submit with the final hard copy(s) an electronic copy, in either a (.dwg) or (.shp) format; along with a spreadsheet of attribute data in a (.xls) format. As-built drawings and attribute data shall conform to the **Digital Submittal Standards** contained within this policy, as part of the project's completion and certification.

POLICY:

DRAFTING STANDARDS

These drafting standards shall be utilized for all plats, subdivision construction plans, capital improvement construction plans and the publicly owned improvements associated with commercial site plans.

1. General Formatting - All submitted plan sets shall be assembled and submitted in the quantities and format requested by the City. Standard sheet size for all submittals is 24-inch by 36-inch or 22-inch by 34-inch media. Half-size sheets

are 11-inches by 17-inches. The standard electronic submittal of drawing is in a .pdf format.

a. Conceptual, draft and approved plan sets shall be assembled on a minimum 20# coated bond. The quantity and media type for each submittal shall be provided as required by the City. Typical submittals are as follows:
    i. Commercial Site Plan Review (Commercial Development) – 1 standard size paper, 1 half-size paper, 1 standard electronic. Resubmittals 1 standard electronic.
    ii. Approved Commercial Site Plan (Commercial Development)– 3 standard size paper, 3 half-size paper and 1 standard electronic.
    iii. Subdivision / Plat Review – 1 full size paper, 1 standard electronic.
    iv. Subdivision / Plat Approved for signature – 3 standard size mylar, 1 standard electronic
    v. Subdivision / Plat Recorded (conform copies) – 1 standard paper, 1 standard mylar, 1 standard electronic, 1 electronic copy in (.dwg) or (.shp).
    vi. Subdivision / Construction Review – Initial review 1 standard paper and 1 standard electronic; resubmittals 1 standard paper and 1 standard electronic.
    vii. Subdivision / Construction Approved – 1 standard paper or mylar for City Signature. After signature, 3 standard paper and 1 standard electronic copy of the signed and approved plans returned to the City by Developer.

b. As-built drawings, when required, shall consist of 1 set of standard Mylar, 2 standard paper, 1 standard electronic, and 1 electronic in either (.dwg) or (.shp) formats. As built drawing shall be accompanied with the City of Post Falls Standard Attribute Spreadsheet (.xls), completed by the Engineer of Record as part of the project certification.

2. All projects shall be geo-referenced to the Idaho State Plane Coordinate System with horizontal datum being the NAD 83, 1992 adjustment. Vertical elevations shall be tied to the NAVD 1988 datum. All projects shall include the project scale factor for grid/ground conversions.
    a. Horizontal Control – Horizontal geo-referencing for subdivision plats and subdivision construction plans shall be accomplished by providing the state plane coordinates of the projects referenced section corners. For all other projects, Horizontal geo-referencing shall be accomplished by providing the ground bearing and distance from one of the projects property corners or control points to the end of a line between two section corners; the state plane coordinates of the section corners and the ground bearing and distance between them shall additionally be shown.
    b. Vertical Control – Vertical geo-referencing for Subdivision construction plans and capital improvement projects shall be accomplished by designing all improvements on the NAVD 1988 Datum. The benchmark location and elevation for each project shall be indicated on the plans. Commercial projects that do not include the extension of City Sanitary

Sewer or Water systems are not required to be constructed on the City's vertical datum.

3. Fonts- Lettering shall be legible so as to be easily read and understood by the reviewer. The lettering shall be of sufficient size and scale to produce clear, readable images when scanned digitally, in the standard size format, by an optical scanner in black and white with a (.pdf) format at a resolution of 300 dpi.
4. Lines and Symbols- All drawings submitted for review shall use industry standard line types and symbols and shall provide a complete legend within the plan set. Legends may be located on the projects cover sheet or on individual plan sheets as appropriate. Line weights and color shall be of sufficient size, shade, scale, type and weight to allow for the ready determination of existing versus proposed or as-built facilities and to produce clear, readable images when scanned digitally, in a standard size format, by an optical scanner in black and white with a (.pdf) format at a resolution of 300 dpi..
5. Plans and Profiles - shall be scaled, organized and prepared with such precision and in such detail to permit the convenient layout of the project in the field for construction and inspection. The plans shall allow for the development of accurate estimates of the quantities of materials necessary to complete construction. Typical items to be included on the plans are listed below, the provided list should not be construed to limit other data that is necessary to meet professional expectations for standard of care and the intentions of this policy:
    a. Typical all sheets
        i. Project Title
        ii. North Arrow
        iii. Scale bars – vertical and horizontal as appropriate
        iv. Section Lines and lot lines
        v. Roadway names
        vi. One-call system notification
        vii. Engineers stamp
        viii. City approval block
        ix. Supplemental comments or notes
    b. Cover Sheet
        i. Vicinity map (1/4 Section, Section, Township, Range)
        ii. Sheet index
        iii. Legend
        iv. Overview of project
        v. Control (horizontal and vertical) with project scale factor
    c. Roadway
        i. Existing and proposed rights-of-way and easements
        ii. Roadway Centerline – Stationing every 100 feet and at all PC's, PT's, PI's, angle points (horizontal and vertical). Include bearing and distance of all centerline's and long chords
        iii. Curve Data – Radius, delta, arc length (roadway centerline and curbs)
        iv. Elevations – high points, low points, curb returns (beginning, middle, end), PI's, deflection points.

v. Dimensioning – road width (face of curb to face of curb), grass strips or swales, sidewalk
vi. Existing and proposed utilities
vii. Topographic features – sufficient to resolve issues regarding setbacks, slope, drainage, access, road continuation and connection to existing facilities
viii. Roadway marking- color, size, material, stationing
ix. Roadway Signage – station, MUTCD designation, size, color, common name, reflectivity
x. Illumination – owner (utility provider), style, wattage, stationing, arm orientation
xi. Mailboxes – station and offset for proposed gang boxes, existing mailboxes and any relocations thereof.
xii. Typical cross sections for each roadway or differing sections thereof – structural sections, horizontal and vertical dimensions (roadway, lane, shoulders, swales, sidewalk, right-of-way, easements), slopes, curb type.
xiii. Access points – centerline stationing and width
xiv. Pedestrian ramp details – dimensioning, centerline alignment, slopes, elevations
xv. Profile – centerline only profiles are acceptable when the curb profiles are the same on both sides of the roadway and are a consistent elevation from the roadway centerline. Separate curb profiles of both sides of the roadway will be required when constructing along an existing roadway.

d. Storm water
   i. Stationing - High points, Low points, curb cuts, drywells, catch basins, manholes
   ii. Elevations – low point curb cuts and sidewalk under drains, curb cuts and sidewalk underdrains discharging to swales with drywells, swale bottom (when not part of a continuous road side swale), dry well rims, manholes (rim and inverts), catch basin (rim, pipe invert, sump invert).
   iii. Dimension – curb cut opening width if not standard size, swale widths and slopes, swale area, flow direction, pipe (material, size, slope), catch basin type, drywell size, separation from other utilities
   iv. Profile view of any storm water mains relative to the proposed roadway and any other underground utilities.
   v. Drainage basins and sub-basins.
   vi. Erosion control measures
e. Sanitary Sewer
   i. Proposed and existing facilities
   ii. Manholes – Station, offset, size, invert elevations (in / out, direction), rim elevation, depth.

iii. Pipe – material, size, slope, inverts at start and end, length and offset from centerline when parallel to the roadway centerline, length and bearing of pipe when not parallel to centerline.
iv. Services – size, station & offset at property line, invert elevation, depth at property line.
v. Profile view of sewer facilities relative to proposed roadway and other underground utilities
vi. Dimension – separation from other utilities (horizontal and vertical)
vii. Additional sheets and details as required for sanitary sewer lift stations, force mains and associated fittings.

f. Water
   i. Proposed and existing facilities
   ii. Pipe – material, size, bury, start and end stationing, length and offset from centerline when parallel to the roadway centerline, length and bearing of pipe when not parallel to centerline.
   iii. Stationing and offset – valves, fittings, blow offs, fire hydrants
   iv. Services – size, station & offset at property line, meter box type
   v. Casings – size, length, station
   vi. Profile view relative to the proposed roadway and any other underground utilities
   vii. Dimension – separation from other utilities (horizontal and vertical)
   viii. Location of nearest existing system valves to the tie in location(s)

g. Landscaping
   i. Plant type and size
   ii. Within the Public rights-of-way stationing and offset of each tree shall be provided.
   iii. Irrigation meter – station, offset and meter size
   iv. Backflow prevention device – station, offset and type
   v. Irrigation controller – For systems to be owned and maintained by the City, the plans shall include the station and offset of the controller in addition to the manufacturer and model of the system.
   vi. Irrigation valves, heads and lines – size. For systems to be owned and maintained by the City, the plans shall include the station and offset of each valve and head, in addition to the manufacturer and model of unit, flow rate of head and zone assignment.

h. Details and notes
   i. All standard details and notes that apply to the project from the City of Post Falls and any associated water purveyor.

i. Plats
   i. Plats shall conform to all applicable State and County regulations. Plats shall include the State Plane Coordinates for all referenced section corners.

DIGITAL SUBMITTAL STANDARDS

These digital submittal standards shall be utilized for final plats and as-built drawings that are required to be submitted to the City as part of the project's completion and certification. Digital submittals of as-built drawings shall be accompanied with the City of Post Falls Standard Attribute Spreadsheet, completed by the Engineer of Record. All final copies of as-built drawings, regardless of format, shall be submitted to the City of Post Falls free of any copyright, limitations of use, or waiver of liability.

1. General formatting – A (.dwg) format or a (.shp) format of the approved plat and as-built drawings, assembled to the standards contained herein, such that the required data can be accessed with AutoCAD software by Autodesk or ESRI GIS software that is at least one (1) release older than the most current release available.
2. Geo-referencing - Electronic drawings shall be geo-referenced as identified within the Drafting Standards. Reference corners shall be located within the drawing at their state plane coordinates with no breaks or abridgement between the corners and / or the project.
3. Lines and Symbols- All as-built drawings shall provide documentation of the layer naming convention and the associated symbols for the layering standard utilized. Each feature that requires attributes for the City of Post Falls Standard Attribute Spreadsheet shall have its own layer within the drawing.
4. Assembly –
    a. Field survey data of the constructed facilities shall be utilized to locate the existing and as-built locations of valves, meters, fire hydrants, blow offs, manholes, curb cuts, dry wells, storm drains, planted trees, publicly owned irrigation systems, culvert ends, luminaries, street signs and service line termination points.
    b. Water mains, force mains, sanitary and storm sewer mains shall be constructed with lines that extend to and from the center of structures or fittings. The end of one pipe shall connect directly to the end of the next pipe; ends shall not be trimmed within manholes, valves or other structures and fittings.
    c. Centerline – roadway centerlines shall be constructed as line segments broken at street intersections, angle points, points of curvature, radius points of knuckles or cul-de-sacs, and the project limits. Roadway widths shall be measured to/from the face of curb or from the edge of pavement when no curb is present.
    d. Right-of-way lines shall be constructed with individual segments of right-of-way constructed from block corner to block corner. Right-of-way lines may overlap property lines and easement boundaries.
    e. Property Lines – Property lines shall be constructed with lines constructed from the center of lot corner to the center of lot corner for all property lines with no trimming of ends. Measured distances and bearings of property lines within the electronic drawing shall match the bearing and distance on the recordation document for parcels created with the project
    f. Easements - Easements shall consist of closed polygons around the easements limits. Easements shall be congruent with Lot lines, right-of-

way lines or other ownership lines as appropriate and snapped to Lot corners as applicable. Easements running parallel to roadways may be constructed on a lot by lot or block by block basis.

g. Storm Drainage Basins – Storm drainage basins shall consist of closed polygons around the limits of each drainage basin within the project
h. Storm Swales – Storm swales shall consist of closed polygons around the bottom area of each swale.

5. Attribute Data – Some constructed facilities require attribute data from the engineer of record or surveyor as part of the project certification process. Attribute data shall be provided for all facilities constructed or modified as part of the project. Attribute data shall be provided by completing the City of Post Falls Standard Attribute Spreadsheet. The City of Post Falls Standard Attribute Spreadsheet can be downloaded from the City of Post Falls Website (https://www.postfallsidaho.org/departments/community-development/engineering/) under Standard Drawings / Electronic Drawing Submittal / Attribute Spreadsheet. A listing of all symbols and line types that require attribute data is contained herein along with associated attribute fields and sample data.

Prepared By	Date	Adoption
RSP	11/19/2018	12/04/2018

NAME / LAYER	ATTRIBUTE FIELD	SAMPLE DATA
General		
	Project Name	
	Year of Installation	
Datum		
	Bench Mark	Horizontal, Vertical, Horizontal & Vertical
	Datum	NAD 1983, 1992 adjustment (Horizontal) NGVD 1988, 1992 adjustment (vertical
	Northing	ddddddddd.dd
	Easting	ddddddddd.dd
	Elevation	dddd.dd
	description of datum	row mon., SE corner lot "x" blk "x", RXR spike in Ppole
MeterBoxes		
	water/utility purveyor	Post Falls, EGAID, Ross Point
	box material	concrete / plastic box
	box type	brooks #37/#65, raven/midstate
	service size	inches (xx)
	meter size	x" or n/a
	northing	ddddddddd.dd
	easting	ddddddddd.dd
	general comments	If any ?
WaterLines		
	Utilty Purveyor	City of Post Falls, East Green Acres, Ross Point
	Pipe Material	C-900 PVC, C-905 PVC, Other
	Pipe Diameter	xx (inches)
	Pipe Length	xx.xx (feet)
	General Comments	If any ?

NAME / LAYER	ATTRIBUTE FIELD	SAMPLE DATA
WaterValve		
	water/utility purveyor	Post Falls, EGAID, Ross Point
	Valve Type	back flow, ball, blow off, butterfly, check, gate, plug
	Fire Valve	True / False
	Manufacturer	Waterous, Mueller, other
	Valve Size	inches (xx)
	Northing	ddddddddd.dd
	Easting	ddddddddd.dd
	general comments	If any ?
WaterFitting		
	water/utility purveyor	Post Falls, EGAID, Ross Point
	fitting type	cap, coupler, reducer, sleeve, tap, transition, elbow (size)
	fitting size	inches (xx)
	Northing	ddddddddd.dd
	Easting	ddddddddd.dd
	general comments	If any ?
FireHydrants		
	water/utility purveyor	Post Falls, EGAID, Ross Point
	hydrant manufacture	mueller, waterous, u.s. pipe
	model	American Flow Control, WB-67, Metroflow, Pacer, Centurion,
	# Ports	2, 3
	Northing	ddddddddd.dd
	Easting	ddddddddd.dd
	general comments	If any ?

NAME / LAYER	ATTRIBUTE FIELD	SAMPLE DATA
Street light		
	utility company	KEC or Avista
	Pole #	If known
	luminair standard	steel, alum, wood, existing util pole
	type	cobra head, town & Country, other
	wattage	100 watt, 200 watt
	Pole Height	feet (xx)
	Northing	ddddddddd.dd
	Easting	ddddddddd.dd
	general comments	If any ?
SewerFitting		
	fitting type	cap, coupler, reducer, sleeve, tap, transition, elbow (size)
	fitting size	inches (xx)
	Northing	ddddddddd.dd
	Easting	ddddddddd.dd
	general comments	If any ?
SewerValves		
	Valve Type	back flow, ball, blow off, butterfly, check, gate, plug
	Manufacturer	Waterous, Mueller, Other
	Valve Size	inches (xx)
	Northing	ddddddddd.dd
	Easting	ddddddddd.dd
	general comments	If any ?

NAME / LAYER	ATTRIBUTE FIELD	SAMPLE DATA
Manholes		
	Diameter	inches (xx)
	rim elevation	xxxx.xx ft.
	depth rim to invert	xx feet, +/- 0.1 feet
	NInvertElev	xxxx.xx ft. (N, S, E or W)
	SinvertElev	xxxx.xx ft. (N, S, E or W)
	EinvertElev	xxxx.xx ft. (N, S, E or W)
	WinvertElev	xxxx.xx ft. (N, S, E or W)
	Northing	ddddddddd.dd
	Easting	ddddddddd.dd
	Drop Manhole	True / False
	general comments	If any ?
Pressurized Sewer Line		
	FromNorthing	ddddddddd.dd
	FromEasting	ddddddddd.dd
	ToNorthing	ddddddddd.dd
	ToEasting	ddddddddd.dd
	Material	ASTM 3034 PVC, C-900 PVC, C-905 PVC
	Pipe diameter	xx (inches)
	Length	xx.xx (feet)
	general comments	If any ?
Sanitary Service		
	Pipe Material	ASTM 3034 PVC, PVC - SDR 35
	Pipe diameter	xx (inches)
	Pipe Length	xx.xx (feet)
	Pipe Slope	x.xx (%)
	Depth at Property Line	xx.x (feet) from top of curb elevation
	Northing	ddddddddd.dd
	Easting	ddddddddd.dd
	Sewerline connect Point Northing	ddddddddd.dd
	Sewerline connect Point Easting	ddddddddd.dd
	general comments	If any ?

Attribute Data Summary

NAME / LAYER	ATTRIBUTE FIELD	SAMPLE DATA
SewerCleanout		
	Owner	City of Post Falls / Private
	size	2, 4, 6, 8
	rim elevation	xxxx.xx
	depth rim to invert	xx feet, +/- 0.1 feet
	Northing	ddddddddd.dd
	Easting	ddddddddd.dd
	general comments	If any ?
Storm Drain Catch Basin		
	Owner	City of Post Falls, private
	structure type	Type 1 low point, Type 1 bypass, Type 1 rolled curt, Type 1 ITD
	depth rim to invert	xx feet, +/- 0.1 feet
	rim elevation	xxxx.xx
	NInvertElev	xxxx.xx
	SInvertElev	xxxx.xx
	EInvertElev	xxxx.xx
	WInvertElev	xxxx.xx
	Northing	ddddddddd.dd
	Easting	ddddddddd.dd
	general comments	If any ?
Storm Drain Manhole		
	Owner	City of Post Falls, Private
	Diameter	xx (inches)
	rim elevation	xxxx.xx
	depth rim to invert	xx feet, +/- 0.1 feet
	NInvertElev	xxxx.xx ft. (N, S, E or W)
	SinvertElev	xxxx.xx ft. (N, S, E or W)
	EinvertElev	xxxx.xx ft. (N, S, E or W)
	WinvertElev	xxxx.xx ft. (N, S, E or W)
	Northing	ddddddddd.dd
	Easting	ddddddddd.dd
	general comments	If any ?

NAME / LAYER	ATTRIBUTE FIELD	SAMPLE DATA
Storm Drain Drywell		
	Owner	City of Post Falls, Private
	Structure Type	single depth, double depth
	rim elevation	xxxx.xx
	depth rim to invert	xx feet, +/- 0.1 feet
	NInvertElev	xxxx.xx ft. (N, S, E or W)
	SinvertElev	xxxx.xx ft. (N, S, E or W)
	EinvertElev	xxxx.xx ft. (N, S, E or W)
	WinvertElev	xxxx.xx ft. (N, S, E or W)
	Northing	ddddddddd.dd
	Easting	ddddddddd.dd
	general comments	If any ?
StormDrainPipe		
	Owner	City of Post Falls / Private
	FromNorthing	ddddddddd.dd
	FromEasting	ddddddddd.dd
	ToNorthing	ddddddddd.dd
	ToEasting	ddddddddd.dd
	Pipe Material	
	Pipe diameter	xx (inches)
	Pipe Length	xx.xx (feet)
	Pipe Slope	x.xx (%)
	general comments	If any ?
StormCurb Cut		
	Owner	City of Post Falls, Private
	curb cut width	xx (inches)
	low point	true / false
	sidewalk underdrain	true / false
	Northing	ddddddddd.dd
	Easting	ddddddddd.dd
	general comments	If any ?

NAME / LAYER	ATTRIBUTE FIELD	SAMPLE DATA
Pedestrian Ramp		
	Owner	City of Post Falls, Private
	ADA Compliant	true / false
	Tactile Warning	Brand - "ADA Solutions" "Armor Tile" "Tuf Tile"
	material	ductile iron, polimer
	Northing	ddddddd.dd
	Easting	ddddddd.dd
	general comments	If any ?