



SUBDIVISION REVIEW CHECKLIST – PART II (DEFERRED FILINGS)

SUBDIVISION NAME: _____

DEVELOPER NAME: _____

ADDRESS: _____

TELEPHONE: _____ FAX: _____ E-MAIL: _____

ENGINEERING FIRM NAME: _____

ADDRESS: _____

TELEPHONE: _____ FAX: _____ E-MAIL: _____

P.E. IN RESPONSIBLE CHARGE: _____ P.E. #: _____

L.S. IN RESPONSIBLE CHARGE: _____ L.S. #: _____

DATE OF SUBMITTAL: _____

Checklist items below are written in abbreviated form. A "Does Comply" response by the applicant indicates an understanding of the checklist item and a certification that the item is shown and complies with the City's design standards. All responses in the "Does Not Comply" space require a brief written explanation in the "Comments" section. If additional space is needed, please include an attachment.

C. CONSTRUCTION PLANS AND PROFILES – DESIGN STANDARDS

1. STREET DESIGN STANDARDS

	<u>Does</u>
	<u>Does</u> <u>Not</u>
	<u>Comply</u> <u>Comply</u>

a. Horizontal Curves

(1) A tangent section of no less than one hundred feet (100') in length shall be introduced between the ends of reverse curves on arterial and collector streets. _____

(2) Provide a spreadsheet listing all of the streets within the subdivision, as well as those that are connected or adjacent to the subdivision, that provides all of the roadway design information in a format similar to the "Roadway Classification Design Standards and Policies" attached at the end of this checklist. Provide superelevation calculations for any horizontal curves having a radius smaller than the minimum for all proposed roadways classified as "Collector, Minor and/or Major Arterial". Use of superelevation will not be allowed for all other roadway classifications. _____

b. Vertical Curves

(1) At all changes in grade of the street where the algebraic difference in the percent of grade is 0.6% or more, a vertical curve shall be designed. _____

(2) The minimum length of vertical curve shall be determined as follows:

Arterial Streets and Collector Streets:

Sixty (60) times the algebraic difference of the percent of grades. The length found by this calculation shall be adjusted to the nearest length in feet, without decimals, which is evenly divisible by ten (10). In no case, however, shall the length of any vertical curve be less than sixty (60) feet. _____

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		<u>Does</u>	<u>Not</u>
		<u>Comply</u>	<u>Comply</u>
<u>Local Streets:</u>			
Thirty-five (35) times the algebraic difference of the percent of grades. The length found by this calculation shall be adjusted to the nearest length in feet, without decimals, which is evenly divisible by ten (10). In no case, however, shall the length of any vertical curve be less than sixty (60) feet.	_____		_____
<u>Alleys:</u>			
Ten (10) times the algebraic difference of the percent of grades. The length found by this calculation shall be adjusted to the nearest length in feet, without decimals, which is evenly divisible by ten (10). In no case, however, shall the length of any vertical curve be less than Thirty (30) feet.	_____		_____
(3) A tangent grade section shall be introduced between crest vertical curves and sag vertical curves. The minimum length of such sections shall be as follows:	_____		_____
Arterial and Collector Streets	50 feet		
Other streets	20 feet		
Alleys	10 feet		
c. <u>Street Grades</u>			
(1) Maximum Grades			
Street grades shall not exceed the following:			
<u>Street Type</u>	<u>Percent of Grade</u>		
Arterial	5		
Collector	7		
Local/Alleys	10		_____
(2) Minimum Grades			
For adequate drainage the grade of any street shall not be less than four-tenths of one percent (0.4%).	_____		_____
d. <u>Street Width</u>			
(1) Width of street shall be the distance between the flow lines of gutter measured horizontally and at right angles to the curb line. Flow line of gutter is defined as that line where the face of the curb joins the gutter pan. The street widths for all streets shall be shown on the Roadway Classification Table.	_____		_____
e. <u>Street Crown and Cross Slope</u>			
(1) Non-curvilinear (straight) Streets			
The crown of the street shall be centered in the street cross section unless the difference between adjacent gutter flow line elevations is greater than or equal to 0.01 times the asphalt street width in which case the crown of the street shall be located a distance of one-fourth (1/4) of the asphalt width from the high side.	_____		_____
For non-curvilinear streets with centerline crown the minimum cross slope shall be 2% and the maximum cross slope shall be 4%.	_____		_____
For non-curvilinear streets with offset crown, the minimum cross slope shall be 2% and the maximum cross slope shall be 4%.	_____		_____

Exception:

Streets having a street width of thirty-two (32) feet or less may have a minimum cross slope of 3%, unless the dry lane requirement and/or the hydraulic capacity of the street section require a flatter slope. _____

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Does
Does Not
Comply Comply

(2) Curvilinear (curved) Streets

The crown of all curvilinear streets shall be centered in the street cross section and the cross slope shall **NOT** exceed 3%. Except at intersections. _____

2. RIGHT-OF-WAY (ROW) WIDTH STANDARDS

a. The dedication of ROW, for new streets shall be as shown on the Roadway Classification Table. _____

3. CURB AND GUTTER STANDARDS

a. Six inch (6") standard curb and gutter shall be installed in commercial areas, along school properties, along Parks, along Drainage Parcels and across fill sections at culverts, and those locations as directed by the Director or Public Works. _____

b. Roll-top curb and gutter or modified ramp curb and gutter may be installed in residential areas. Street width shall be measured flowline to flowline. Transitions from roll-top curb and gutter or modified ramp curb and gutter to standard curb and gutter shall only be at corner radii and not mid block. Whenever transitions occur, the street width (flowline to flowline dimension) shall be maintained. If allowed, transitions at mid-block will be at the discretion of the Director of Public Works. _____

4. SIDEWALK STANDARDS

a. Sidewalks shall have a minimum width of five (5) feet in residential areas and a minimum width of six (6) feet in commercial areas, along arterial & collector roadways, and along school property. Sidewalks along arterial and collector roadways must be detached and have a minimum distance of 8' between the curb head and back of sidewalk. _____

b. Sidewalks adjacent to parks, detention ponds and along all rear lots that abut a roadway are shown on the construction plans and costs included in the Exhibit "B" of the Subdivision Improvements Agreement. _____

5. SANITARY SEWER SYSTEM

a. The sanitary sewer system shown on the construction plans has been designed in accordance with the latest edition of the "Sanitary Sewer Design Criteria and Policies" for the City of Pueblo. _____

b. The minimum grade for public sanitary sewer shall be that which provides a velocity of not less than two feet (2') per second. _____

c. Sanitary sewers have been designed using lengths from face of manhole to face of manhole. _____

d. Manholes shall be located at all changes in grade and in alignment, and the spacing between manholes shall not be more than 400 feet. _____

e. Where streets have a curvilinear alignment the sanitary sewer may be laid along the line of a curve. The minimum radius of curvature allowed shall be: _____

MINIMUM RADIUS OF CURVATURE

<u>Pipe Diameter</u>	<u>Minimum Radius of Curvature</u>
8"	200'
10"	250'
12"	300'

- f. Service line connections extended to the property line for each building site shall be installed during construction of the sewer main.

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- | | | <u>Does</u> | <u>Not</u> |
|---|-------|---------------|---------------|
| | | <u>Comply</u> | <u>Comply</u> |
| g. The depth of the sanitary sewer shall be sufficient to serve the basement of any structure unless specific permission for a lesser depth is granted by the Director of Public Works. | _____ | _____ | _____ |
| h. All sanitary sewers are separated from potable water lines by a minimum of ten (10) feet, outside to outside of pipe. | _____ | _____ | _____ |
| i. All sanitary sewers are located beneath the street pavement, in easements, or on property deeded to the City, in pre- approved locations. | _____ | _____ | _____ |

6. DRAINAGE SYSTEM

- | | | |
|---|-------|-------|
| a. The drainage system shown on the construction plans is in accordance with the approved Final Drainage Report for this subdivision. | _____ | _____ |
| b. All storm sewers are located beneath the street pavement or in drainage easements, in pre-approved locations. | _____ | _____ |
| c. All storm sewer and culvert pipes have minimum cover of three (3) foot, and the tops of any pipes are below the level of the base coarse of the street pavement. | _____ | _____ |
| d. All storm sewers are separated from potable water lines by a minimum of ten (10) feet, outside to outside of pipe. | _____ | _____ |
| e. Storm sewers placed on curvilinear alignment comply with the stricter of either City standards or manufacturer’s recommendations. | _____ | _____ |
| f. The maximum spacing between manholes of all storm sewer pipes, 15" to 36" diameter is 400 feet and 42" and larger is 500 feet. | _____ | _____ |
| g. Manholes are provided at every connection between inlet runs and mainline. | _____ | _____ |
| h. Manholes at all grade breaks and at all changes in pipe diameter are provided unless otherwise approved by Stormwater Department. | _____ | _____ |
| i. The minimum pipe size diameter for storm sewer main lines, culverts and detention pond outlets is 18" and for inlet runs is 15". | _____ | _____ |
| j. The maximum side slopes of all man made channels and detention ponds is 4:1. | _____ | _____ |
| k. All underground stormwater detention systems have approved access manholes at the outlet for inspection. | _____ | _____ |
| l. Inlet runs that are approved to lie beneath handicap ramps and behind the curb and gutter shall be backfilled with flowable fill per City Specifications. | _____ | _____ |
| m. Approved bank stabilization measures are specified on construction plans. | _____ | _____ |

7. STREET ILLUMINATION SYSTEM

- | | | |
|--|-------|-------|
| a. The construction plans show street light locations and pole details in accordance with the City of Pueblo Transportation policies and specifications. | _____ | _____ |
|--|-------|-------|

8. STATE HIGHWAY ACCESS PERMIT

- | | | |
|--|-------|-------|
| a. An approved CDOT access permit has been granted for highway access and a copy attached. | _____ | _____ |
|--|-------|-------|

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	<u>Does</u>	<u>Not</u>
	<u>Comply</u>	<u>Comply</u>
9. <u>ROADWAY STRIPING</u>		
a. The construction plans contain the roadway striping layout for arterials and collectors in accordance with the City of Pueblo Transportation policies and specifications.	_____	_____
10. <u>TRAFFIC SIGNALS</u>		
a. The construction plans contain traffic signal plans in accordance with the City of Pueblo Transportation policies and specifications.	_____	_____
11. <u>LANDSCAPE PLAN</u>		
a. The construction plans contain the landscaping plans for arterials and/or parkways in accordance with the City of Pueblo Transportation policies and specifications.	_____	_____
D. CONSTRUCTION PLANS AND PROFILES – DRAWING STANDARDS		
1. <u>GENERAL</u>		
a. A general note appears on the cover sheet of the construction plans specifying that all construction shall comply with the latest edition of the “Standard Construction Specifications and Standard Details”.	_____	_____
b. Five (5) sets of plan and profile construction plans (3 for Public Works, 1 for Transportation, 1 for Board of Water Works) drawn to not less than the following scales: Horizontal 1” = 50’ Vertical 1” = 5’	_____	_____
d. Plan and profile are oriented in the same direction on the construction plan.	_____	_____
e. Street names of all streets are labeled on both the plan and the profile.	_____	_____
f. A separate profile showing existing ground and proposed grade shall be shown for each gutter line of a street. Proposed grade line shall be for the flow line of gutter.	_____	_____
g. Each sheet shall reference a permanent benchmark and show elevation in North American Vertical Datum of 1988 (NAVD 88).	_____	_____
h. Cover sheet.	_____	_____
i. Design of water supply facilities (BOWW detail sheets are not required with submittal).	_____	_____
j. Key map when several plan and profile sheets are included in the submittal.	_____	_____
k. Plan and profile must show field location and elevation of existing improvements that are being extended including underground facilities. These are to be field verified by the Professional Land Surveyor and referenced on the plans to the centerline of the R.O.W.	_____	_____
l. All construction plans must have a revision block with space for description, initials of P.E. and date.	_____	_____
m. Final mylars will contain the Professional Engineer’s seal, signature and date on each sheet.	_____	_____
n. Phasing Plan shown on small scale map and identified on plan and profile sheets corresponding to phasing plan addendum and Exhibit “B” of the Subdivision Improvements Agreement.	_____	_____
o. P.E. stamp, signed, under statement: “This construction plan complies with all City of Pueblo Design Standards with the most current		

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2. THE FOLLOWING DATA SHALL BE SHOWN ON THE PLAN PORTION OF THE DRAWINGS:

	<u>Complete</u>	<u>N/A</u>
a. Proposed gutter lines.	_____	_____
b. Dips and square pan radii.	_____	_____
c. Station and grade elevation at P.C. and P.T. of all curb radii and at the P.I. of gutter lines extended.	_____	_____
d. Angle between street centerline of intersecting streets when such angle is other than 90°.	_____	_____
e. Centerline station of P.C. and P.T. of horizontal curves.	_____	_____
f. Curve data for horizontal curves including radius, delta, and length of curve.	_____	_____
g. Type of curb to be installed.	_____	_____
h. Field elevation of existing curb with existing curb shown with a dashed line. The type of curb which exists.	_____	_____
i. Pavement design for each street shown on the Title Sheet in accordance with the Pavement Design Criteria for City of Pueblo.	_____	_____
<p>If the pavement design is not available at the time the developer wishes to file the Plat, the engineer shall show the default pavement section on the Improvement Drawings. When the pavement designs become available, the Engineer of Record shall revise the Improvement Drawings and shall stamp & sign.</p>		
j. Location of soils test(s) used to determine “R” value.	_____	_____
k. Street pavement width and street right-of-way width.	_____	_____
l. Stationing on plan in such detail that field personnel may readily calculate lengths between control points to be set from such stationing.	_____	_____
m. Curb radius dimension at intersections. If all radii are 15 feet this may be covered by a note on the plans.	_____	_____
n. Benchmark based upon North American Vertical Datum of 1988 (NAVD 88), North arrow and scale.	_____	_____
o. Labeling of the storm and sanitary sewer on plans.	_____	_____
p. Distance from the storm, sanitary sewer and water mains to centerline of R.O.W. or street R.O.W. lines.	_____	_____
q. The correct location and stationing of all manholes and inlets.	_____	_____
r. Inlet runs to MH and the percent of grade. The type of inlet, size of manhole and flow line elevation of each inlet shown on the construction plans.	_____	_____
s. When a sanitary sewer is shown along a curve, (parallel to centerline) indicate radius and station of P.C. and P.T.	_____	_____
t. Lot lines, Lot No.’s and Block No.’s for sanitary sewer service lines.	_____	_____
u. All sanitary sewer service lines are shown with locations given by station, or by note and/or typical detail if service lines are a set distance from each line.	_____	_____
v. Existing utility lines.	_____	_____

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	<u>Complete</u>	<u>N/A</u>
w. Proposed utility lines including service lines.	_____	_____
x. Street light locations.	_____	_____
y. Width of sidewalks. (Sidewalks adjacent to parks, detention ponds, and along rear lot lines which abut a street must be shown on the plans).	_____	_____
z. Location of curbside centralized delivery boxes and the concrete pad it rests on must be shown for all new developments. A letter of approval from the Post Master must be submitted prior to the final approval of the mylars.	_____	_____
aa. Construction notes.	_____	_____
bb. General notes.	_____	_____
cc. Reference to City standards (City standards sheets are not required with submittal).	_____	_____
dd. Signature blocks with qualifying statement.	_____	_____
ee. Legend.	_____	_____
ff. Special details not addressed by City standard details.	_____	_____
gg. Phasing Lines corresponding to approved phasing plan and addendum to SIA.	_____	_____

3. THE FOLLOWING DATA SHALL BE SHOWN ON THE PROFILE PORTION OF THE DRAWINGS:

	<u>Complete</u>	<u>N/A</u>
a. Existing ground line as dashed line.	_____	_____
b. Proposed gutter line, sanitary sewer, water and storm sewer grade lines as solid lines. Design water surface profile on storm sewer profile.	_____	_____
c. Pipe size, pipe type and pipe length of sanitary and storm sewer measured from inside radius of structure to inside radius of structure; and grade along applicable grade line.	_____	_____
d. All manholes and invert elevation(s) of each (elev. in, out and drops).	_____	_____
e. Top elevation of all manholes shown to ±0.1 foot of finished grade.	_____	_____
f. PVC, PVT and PVI station and elevation, M.O. at P.V.I. of vertical curve, length of vertical curve.	_____	_____
g. When individual grade elevations are shown on profile, also indicate the station.	_____	_____
h. Underground utility lines that cross storm and sanitary sewer lines with pothole elevations and stationing of crossing locations.	_____	_____
i. Storm sewer, sanitary sewer and street profiles are on same set of drawings. Show the H.G.L. (100 year) for Storm Sewer	_____	_____

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- j. Grade elevation at grade breaks where there is no vertical curve. _____
- k. At the end of each street sub, sanitary sewer stub and storm sewer stub spot elevations shall be shown in NAVD 88. _____

4. THE FOLLOWING DATA PERTAINING TO DRAINAGE IMPROVEMENTS SHALL BE SHOWN ON CONSTRUCTION PLANS:

- | | <u>Complete</u> | <u>N/A</u> |
|--|-----------------|------------|
| a. Grading plan for stormwater detention facilities, existing topography in dashed lines, proposed topography in solid lines. 100-year storm ponding limits. | _____ | _____ |
| b. Details of outlet structure. | _____ | _____ |
| c. Details of emergency spillway structure. | _____ | _____ |
| d. Cross section(s) of berm at outlet structure, with invert elevations maximum side slopes 4:1. | _____ | _____ |
| e. Plan view of low flow drainage pan or Bioswale with sufficient stationing and flow line elevations for field layout. | _____ | _____ |
| f. Typical cross section of low flow pan or Bioswale. | _____ | _____ |
| g. Type of soil stabilization used on slopes. | _____ | _____ |
| h. Plan, profile and cross-sections of all proposed drainage channels and swales. Maximum side slopes 4:1. 100-year water surface elevation with 1 foot minimum freeboard. | _____ | _____ |
| i. Provide check-dam details. | _____ | _____ |
| j. Rip rap details. | _____ | _____ |
| k. Culvert and headwall details. 100 year storm ponding limits. | _____ | _____ |
| l. Notes and specifications pertaining to revegetation (including seed mix), erosion control, temporary irrigation and maintenance of detention ponds and drainage channels. | _____ | _____ |
| m. Grading and erosion control plan showing all proposed construction and post construction BMP's. | _____ | _____ |

Comments: _____

Date: _____

The construction plans submitted herewith have been prepared under my direct supervision and are in accordance with the approved subdivision plat and with the most current "Standard Construction Specifications and Standard Details" of the City of Pueblo and that this "Subdivision Review Checklist" accurately depicts the contents of this submittal.

_____	_____
Professional Engineer	Date

P.E. Number