

## Storm Sewer Plan Review Checklist

- ☐ **Title Sheet: Plan Presentation and Preparation Criteria.** Plat Name or Project Name (if platting is not required).
- ☐ Plat Number & Case Number or Project Number (if platting is not required).
- ☐ File Number (to be assigned on first review)
- ☐ City, County, State.
- ☐ Section, Township & Range
- ☐ Consultant name, address, phone number, and e-mail address
- ☐ Certification Block with Engineer's signature/seal
- ☐ Developer, address, phone number, and email address
- ☐ Developer's Bonding Statement with Developer's signature
- ☐ Index of sheets
- ☐ Legal Description
- ☐ Location Map.
- ☐ "For Construction" designation on the title sheet
- ☐ Summary of Quantities for public improvements. Compare to Engineer's estimate.
- ☐ Area for KC Water reviewer to apply approval stamp

### 2. General Layout

- ☐ General Notes
- ☐ Storm sewer layout (all structures & lines called out, easements, other utilities, streets & plan boundary information).

### 3. Storm Sewer Plan and Profile:

- ☐ General Notes
- ☐ FEMA floodplain (100 yr) and floodway shown, if pertinent.
- ☐ Street Right-of-Way, property lines, and easement lines shown.
- ☐ A minimum of 2ft contours and natural or man-made topographic features (trees, ponds, fences, utilities) on drainage map.
- ☐ Design storm for all enclosed systems based on street classification (Local = 10 Year, Collector = 25 Year, Arterial = 50 Year, per APWA 5601.8.B.2.)
- ☐ Storm water detention facilities shown, with contours to match. Proposed outlet structure matches facility outlined in Storm Drainage Study.
- ☐ All discharge points open to an existing open channel, or connect to enclosed system. Enclosed system shall be connected to an existing system within 100 feet per APWA 5604.7, Supplement dated 4/16/1993.
- ☐ Permanent land tie for all sewers outside Right-of-Way
- ☐ Drainage Plan with drainage boundaries, and structure labels
- ☐ Engineered swales have horizontal ties, and plan & profiles.
- ☐ Surface Drainage Easements provided for all open channels on the property.
- ☐ HGL shown in all profiles per APWA 5609.8.F. HGL a minimum of 0.5' below any structure opening per APWA 5604.4.
- ☐ All curb inlets set back 1 ft from back of curb (APWA 5604.1.B)
- ☐ Maximum gutter spread is 12ft or less (APWA 5604.2)

- ❑ All inlets in sump regions have been designed assuming 20% blockage (APWA 5604.1.C)
- ❑ Velocity within enclosed systems is between 3 – 20 fps (APWA 5606.5)
- ❑ Minimum depth of cover = 18" (APWA 5606.6.A)
- ❑ Minimum distance from top of storm structure to top of pipe = 24" behind curb, 30" under street (Public Works Standard Drawings CI-1 & CI-2).
- ❑ Minimum drop across structures (APWA 5604.5):
  - Crown of pipes entering > crowns of pipes exiting,
  - Min. 0.2' fall between inverts for bends < 22.5 degrees.
  - Min. 0.5' for bends > 22.5 degrees.
- ❑ Energy dissipation at all points of discharge for velocities exceeding 5 fps. Recommend rip rap blanket in areas where downstream erosion is expected or where outfalls occur near property lines, in ROW, or onto adjacent properties.
- ❑ 100-Year overflow conveyance clearly defined and adequate. Provide Surface Drainage Easements where open channels convey public water. (APWA 5601.3.3).

#### **4. Storm Water Best Management Practices Plan (BMP's) (Plan Presentation Criteria and City's MS4 Permit)**

- ❑ For projects that require construction of storm water best management practices (BMP's) an additional sheet should be provided.
  - BMP sheet should provide the type of BMP's, locations of BMP's, and size and dimensions for the BMP's.
  - This sheet will be used to document the BMP as built information for updating the KC Water Parcel Viewer for the City's MS4 requirements.