November 2009

COUNTY OF KENOSHA
Department of Planning and Development

SUBDIVISION & CONSTRUCTION SITE STORMWATER FACILITY AS-BUILT REQUIREMENTS CHECKLIST

The following items are required upon stabilization of any development where storm water management facilities have been constructed. Only after approval of the as-builts will zoning permits be issued (unless financial assurance has been secured with the County) for individual lots of subdivisions and occupancy permits be issued for commercial/industrial structures.

As-built Stormwater Facilities Survey:

____ 1. Plan clearly labeled as "As-built Record Drawing" showing the location of the proposed BMP's in combination with the site map at a scale of one (1) inch equals no more than 100 feet.
____ 2. Signature and seal of a registered land surveyor or an engineer licensed in the State of Wisconsin certifying the accuracy of the survey.
____ 3. Final topographic contours overlayed on the proposed design contours with sufficient survey shots to adequately show constructed site drainage patterns.
____ 4. Spot elevations sufficient to verify overland flood routing.
____ 5. One set of cross-sectional survey points per 100 feet of conveyance system (emergency spillways, rock chutes, grass swales, etc.). Include enough points to verify the proposed design.
____ 6. One set of cross-sectional survey points at all crest and sag locations of a newly constructed roadway (road centerline, edge of pavement, gutter, top of curb, centerline of road swale, right-of-way, etc.).
____ 7. Retaining wall spot elevations (top and bottom) along the entire length of wall at every 100 feet.
____ 8. Spot elevations at all proposed building pads.
____ 9. Spot elevations at all property corners.
____ 10. Type of engineered fill material used, if any, and top and bottom elevations of fill.
____ 11. Description and elevation of all site benchmarks used.
____ 12. Specific survey points to verify the construction of all stormwater BMP's.
- ____ a. Sufficient spot elevations on the berm to outline the shape of basin (a minimum of one shot per 50 feet). The lowest points of the berm must be represented.
- ____ b. A minimum of two survey points documenting the elevation of any berm separating the basin forebay from the main pool.
- ____ c. Spot elevations outlining riprap aprons and emergency spillways.
- ____ d. Invert elevations of the basin outlet(s) (culvert inlet, culvert outlet, dewatering holes in risers, in-line weirs, etc.)
- ____ e. The top elevation of any outlet riser.
- ____ f. Measured internal diameters of risers, orifices, and other flow control devices.
- ____ g. The toe of the berm backslope.
- ____ h. The inside and outside edges of the top of the berm.
- ____ i. The edge of the water.
- ____ j. The inside and outside edges of the safety shelf.
- ____ k. The toe of the slope into the permanent pool as well as additional shots of the pond bottom.
- ____ l. For clay liners, either show bottom elevations before and after liner is installed, or document liner thickness through soil core sampling (resealing sample holes).
- ____ m. Synthetic liner material used, if any, with placement.

____ 13. A hydrologic re-model of the site using as-built volumes and elevations (only necessary if the as-built grades vary significantly from those of the design grades).

As-built Storm Sewer Survey:

____ 1. Plan and profile sheets to be clearly labeled as "As-built Record Drawing" at a scale equal to that of the approved final engineering drawings. A complete set of the approved final engineering plans are to be utilized as the base sheets for the as-built record drawings. As-built record drawings are to show actual elevations alongside planned elevations. Planned elevations shall be neatly crossed out so that they are legible to compare to the as-built record elevations.
____ 2. Signature and seal of a registered land surveyor or an engineer licensed in the State of Wisconsin certifying the accuracy of the survey.
____ 3. Rim elevations on inlets, catch basins, manholes, and other special structures.
____ 4. Invert elevation of all pipes within inlets, catch basins, manholes, end sections, headwalls, culverts and other special structures.
____ 5. Linear distance along sewer from structure to structure, pipe size, and material.
____ 6. Re-calculated pipe slopes based on invert to invert elevations along the linear distance between structures.
____ 7. The invert elevations and pipe diameter for all road culverts/channel crossings.
____ 8. Description and elevation of all site benchmarks used. All elevations should be referenced to the same bench mark datum as the original design plans.
____ 9. Calculations using as-built sizes, slopes, and pipe inverts to determine the actual capacity of the proposed storm sewer system.

I, the principal project surveyor/engineer, do hereby certify that to the best of my knowledge this checklist is complete and accurate:

PRINT NAME:_____DATE:_____

SIGNATURE: _____

All As-built Stormwater Facility Survey Submittals to the Kenosha County Department of Planning and Development shall include the following:

- A completed and signed Subdivision & Construction Site Stormwater Facility As-built Requirements Checklist
- A completed Stormwater Management Facility Compliance Report
- Two (2) paper copies of the As-built Stormwater Facilities Survey and all supporting documents
- Two (2) paper copies of the As-built Storm Sewer Survey and all supporting documents
- Digital files (AutoCAD .dwg format, v.2004 or later) georeferenced to the State Plane Coordinate System, Wisconsin South Zone, NAD 27, NGVD-29 of all as-built survey contours and site plan elements. Additionally, any computer models used to verify compliance with the Kenosha County Stormwater Ordinance shall be submitted as well.
- The appropriate application fee as determined from the Kenosha County Planning and Development Fee Schedule. A separate fee is required with each successive erosion Control submittal.

NOTE: If upon inspection, the P&D determines that any of the applicable requirements have not been met, the P&D shall notify the project engineer or responsible party what changes would be necessary to meet the requirements. The County may require additional topographic survey information. Final as-built approval will not be granted until site is 70% stabilized.

Zoning permits may be granted prior to as-built approval only if arrangements have been made with the County for a financial assurance in accordance with Section 17.08-3 of the Kenosha County Code of Ordinance.