

SECTION 9

9 RECORD DRAWINGS

9.0 General

The Village shall be provided with electronic files of all record drawings. These files must be compatible with AutoCad 2007 in DWG format.

All record drawings shall be in the Wisconsin State Plane Coordinate System, South Zone using the North American Datum of 1927 as a projection.

All record drawings shall be drawn to a scale of 60, 50, 40, 30, 20 or 10 feet to one inch.

All record drawings shall be based on Village of Germantown datum (USGS). All elevations given will be to the nearest 0.01 foot.

All record drawings shall be submitted on 4 mil double matte mylar film.

Minimum Record Drawing content shall include all of the following items:

1. Title block shall include:
 - a. Village of Germantown.
 - b. Name of project.
 - c. Scale of drawing.
 - d. Record drawing label, i.e. Type: Grading, Sanitary, Water, Storm.
 - e. Location of As-built, i.e. Street name or easement location, from, to.
 - f. Drawn By, Designed By, Checked By, Approved By.
 - g. Plan approval date.
 - h. Installed Date.
 - i. Sheet X of X.
 - j. Owner.
 - k. Engineers firm name
 - l. For rehabilitation record drawings, the designation “repair” or “relief” must be shown. For record drawings in grassed easements the designation “in turf” must be used.
2. North arrow.
3. Wet seal and contrasting color signature of professional engineer.
4. Village of Germantown record drawing file number.
5. Name of contractor, date construction was complete.
6. Present and future street rights-of-way, names of streets and highways, and easement boundaries. Cross streets and neighboring street names should also be shown.
7. Subdivision name (if applicable).
8. Lot numbers, lot lines and lengths, and lot addresses consistent with final plat (if applicable).
9. Stationing shall be provided along centerline of roadway.
10. C.S.M. numbers of adjacent lots and lots in question.
11. Easement location and widths should be shown.

12. ROW widths
13. Edge of pavement, gravel shoulder, curb and gutter, and sidewalk location of the roadway cross section should be shown.
14. At least one bench mark elevation per page, corresponding to that section on that plan sheet.
15. A sample AutoCad .dwg file of the sheet and title block can be obtained from the Engineering Department

9.1 Grading and Drainage Record Drawings

- 9.1.1 After finished grading is accomplished, a grading record drawing shall be completed to verify conformance with the approved grading plan.
- 9.1.2 Drawings are to be submitted shall be plotted on a 24"x 36" size.
- 9.1.3 The difference between proposed and final elevations at all locations must be from -0.4 feet and +0.2 feet before Village of Germantown approval will be given.
- 9.1.4 A note shall be prominently placed on each sheet of the Master Grading Plan Record Drawing indicating "The Village of Germantown shall not approve any yard grade change in excess of 0.25 feet."
- 9.1.5 Minimum Record Drawing content shall include all of the items in Section 9.0.6 of these Standards in addition to the following items:
 1. Proposed and final contour lines shall be shown at one (1') foot intervals.
 2. Lot pads shown for each lot, describing if there is an exposed or walk-out lower.
 3. A legend shall be provided to describe the elevation designations.
 4. Final contours shall be shown with a heavier line weight; existing with a lighter line weight.
 5. Final elevations at the lot corners to the nearest tenth of a foot inscribed in a rectangle.
 6. Final spot elevations minimum four per lot inscribed in a rectangle.
 - a. Required between all lot corners at the centerline of any drainage swales.
 - b. Required at the centerline of the roadway, both edges of the roadway, and at the centerline of any drainage swales inside the right-of-way (if applicable) by each lot corner.
 7. Final spot elevations in the center of all lot pads to the nearest tenth of a foot. If a walk-out or lower level is shown, the spot elevation should be given also.
 8. Final spot elevations for storm water ponds inscribed in a rectangle.
 - a. Required along top of berm at 25' intervals.
 - b. Required at the corners as well as at the center of the pond's lowest point.
 - c. Size of outlet structure must be shown.
 - d. Required at the outlet structure.
 - e. Required at the emergency spillway.
 9. Final storm sewer culvert invert elevations to the nearest hundredth of a foot.
 10. Proposed elevations at the lot corners inscribed in an oval.
 11. Proposed elevations at the building pads inscribed in an oval.
 12. Proposed spot elevations minimum four per lot inscribed in an oval. Spot elevations should be between all lot corners and at the center line of any drainage swales.

- 13 Typical ditch cross section at every even station (i.e. edge of pavement, flowline of ditch, and top of bank) to the nearest tenth of a foot.
- 14 Berm elevations, top of bank and toe of slope, to the nearest tenth of a foot.
- 15 Spot elevations at all high and low points to the nearest tenth of a foot.
- 16 Tick marks for all spot elevations.
- 17 All catch basins, inlets, and culverts.
- 18 Centerline of roadway line should be shown.
- 19 Typical urban pavement.
- 20 An elevation shall be shown on the plans at the top of curb, where the lot line would be extended and cross the curb and gutter.
- 21 If the name of the design firm is different than the firm doing the grading certification, cross out the name of the design firm.

9.2 Storm Sewer Record Drawings

9.2.1 Drawings shall be plotted on sheet sizes 12" x 36".

9.2.2 Minimum Record Drawing content shall include all of the items in Section 9.0.6 of these Standards in addition to the following items:

1. The plan shall consist of a system plan at a 1"=100' scale.
2. Storm sewer locations and all appurtenances relating to storm sewer.
3. Manhole, Catch Basin Data:
 - a. Station location.
 - b. Invert elevation of each sewer.
 - c. Rim elevations (Note whether elevation references binder grade or surface course elevation).
 - d. Type of construction.
4. Pipe diameters.
5. Center-to-center pipe lengths between lateral connections.
6. Center-to-center pipe lengths between structures, manholes and catch basins.
7. Mains and laterals must be drawn with a heavy line weight.
8. Pipe slopes to the nearest 0.0001 foot/foot or 0.01%.
9. Pipe material, class, and ASTM designation.
10. Pipe joint type and ASTM designation.
11. Sump line type, size, cleanouts and lateral locations.
12. Frame to chimney seal type referenced to each structure, manholes/catch basins.
13. Record drawing file number referenced for connecting sewers.
14. Lateral lengths.
15. Lateral size and type of material.
16. Lateral depth at the right-of-way.
17. A minimum of two ties locating lateral ends measured to a fixed object.
18. Flow arrows.

9.3 Sanitary Sewer Record Drawings

9.3.1 Sanitary sewer record drawings shall be done in accordance with current MMSD rules and regulations.

9.3.2 Drawings shall be plotted on sheet sizes 12" x 36".

9.3.3 Minimum Record Drawing content shall include all of the items in Section 9.0.6 of these Standards in addition to the following items:

1. Sanitary sewer locations including force main and all appurtenances.
2. Manhole Data:
 - a. Station location.
 - b. Invert elevation of each sewer.
 - c. Rim elevations (Note whether elevation references binder grade or surface course elevation).
 - d. Type of construction.
3. MMSD approval signature and date.
4. MMSD plan file number and approval date.
5. Sanitary sewer pipe diameters.
6. Center-to-center pipe lengths between lateral connections.
7. Center-to-center pipe lengths between manholes.
8. Mains and laterals must be drawn with a heavy line weight.
9. Pipe slopes to the nearest 0.0001 foot/foot or 0.01%.
10. Pipe material, class, and ASTM designation.
11. Pipe joint type and ASTM designation.
12. Manhole frame to chimney seal type referenced to each manhole.
13. Record drawing file number referenced for connecting sewers.
14. Lateral lengths.
15. Lateral size and type of material.
16. Lateral depth at the right-of-way.
17. A minimum of two ties locating lateral ends measured to a fixed object.
18. Lot line lengths.
19. Flow arrows.

9.4 Water Main Record Drawings

9.4.1 Drawings shall be plotted on sheet sizes 12" x 36".

9.4.2 Minimum Record Drawing content shall include all of the items in Section 9.0.6 of these Standards in addition to the following items:

1. Location of water main and all appurtenances, including hydrants and main line valves.
2. Pipe diameters.
3. Center-to-center pipe lengths between lateral connections.
4. Center-to-center pipe lengths between structures and fittings.
5. Type, size, and ASTM designation of all fittings.
6. Horizontal deflections should be labeled.
7. Mains and laterals must be drawn with a heavy line weight.
8. Depth of main from top of pipe to existing ground at all changes in depths.
9. Pipe material, class, and ASTM designation.
10. Pipe joint type and ASTM designation.
11. Hydrant type and size.
12. Record drawing file number referenced for connecting water.
13. Lateral lengths.
14. Lateral size and type of material.

15. Lateral depth at the right-of-way.
16. A minimum of two ties locating lateral ends measured to a fixed object.
17. Elevation of NW flange bolt on hydrants.
18. Label connections to existing water main.
19. Location of tracer wire and connecting terminals.
20. Other utilities shall be shown lighter.

DRAFT