State of Wisconsin
Department of Natural Resources
Bureau of Drinking Water and Groundwater, DG/5
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

Water Main Submittal Checklist

Form 3300-066 (R 01/19)

Notice: This form is authorized by ss. 280.11, 281.11, 281.19 (1) and (2), and 281.41, Wis. Stats., and ss. NR 108.04 (2)(a) and 811.08 (1), Wis. Adm. Code. Completion of this form or a similar form approved by the Department of Natural Resources (DNR) is mandatory. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records Law [ss. 19.31-19.39, Wis. Stats.]. Unless otherwise noted all citations refer to Wis. Adm. Code.

WATER MAIN SUBMITTAL INSTRUCTIONS:

The following is a listing of information that must be submitted when requesting an approval of a water main project:

1. A completed Water System Approval Request (DNR Form No. 3300-260) has been included? ◉ Yes ○ No
2. One set of plans sealed by a Professional Engineer has been included in conjunction with a water main only submittal? ◉ Yes ○ No ○ N/A
3. Three sets of plans sealed by a Professional Engineer have been included in conjunction with a facilities submittal? ○ Yes ○ No ◉ N/A
4. One set of specifications sealed by a Professional Engineer has been included in conjunction with a water main only submittal? ○ Yes ○ No ◉ N/A

   The Specifications Section of the checklist must be completed if specifications are submitted. The submittal of specifications is not necessary if the community already has specifications on file with the Department of Natural Resources (that are not older than five years) or is using the latest edition of the Standard Specifications for Sewer and Water Construction in Wisconsin.
5. Three sets of specifications sealed by a Professional Engineer have been included in conjunction with a facilities submittal? ○ Yes ○ No ◉ N/A
6. A plan or plans has been included that shows the location of the proposed project in relation to the rest of the distribution system? ◉ Yes ○ No ○ N/A
7. An approval letter from the owner of the distribution system has been included, unless the applicant is employed or retained by the waterworks owner? ◉ Yes ○ No ○ N/A

All sections of this checklist must be completed for every submittal; excepting, that if specifications are on file for the municipality or standard specifications are to be used, the section under specifications may be omitted. If it is felt that a question on the checklist does not apply to a particular project, indicate this with N/A and explain the reason.

A. General Information

Name of Municipality/Sanitary District/Other	Name/Number of Project
Town of Brookfield Sanitary District No. 4	Brookhill Condominium 20-3376

B. Specifications

Water mains will be constructed in accordance with: (select one of the following three options)

◉ 1. Standard Specifications for Sewer and Water Construction in Wisconsin (latest Edition)

○ 2. Standard specifications for municipality already on file with DNR: Approval number for specifications _____

Date of Approval _____ Are specifications on file with DNR less than 5 years old? ○ Yes ○ No

○ 3. Specifications submitted with the plans (fill out the following section)

C. Design Specifics

1. Minimum horizontal (center to center) separation distance between water main and existing or future sanitary sewer 10 ft., storm sewer 23 ft. [NR811.74(2)] Minimum horizontal separation distance between fire hydrant drains and sanitary sewers, storm sewers, or storm sewer inlets 16 ft. [NR811.71(4)]
2. Where water mains cross over sewers, the minimum vertical separation distance (edge to edge) is 6 inches. Where water mains cross under sewers, the minimum vertical separation distance (edge to edge) is 18 inches. [NR811.74(3)]
3. Will a common trench be used in any portion of the project? [NR811.74(2)(b)] ○ Yes ◉ No
4. Will the following minimum horizontal separation distances be maintained between the water main and the contamination sources listed?[NR811.75]
   (A) Eight feet to a POWTS holding, treatment or dispersal component, lift station, or grave site? ○ Yes ○ No ◉ N/A
   (B) Twenty-five feet to a buried fuel tank or main? ○ Yes ○ No ◉ N/A
   (C) Fifty feet to a sanitary landfill? ○ Yes ○ No ◉ N/A

C. Design Specifics (cont'd)

5. Does the municipality have an erosion control ordinance? [NR811.09(2)] — (●) Yes ( ) No
   (A) If yes, will compliance with the ordinance be required for this project? — (●) Yes ( ) No ( ) N/A
   (B) Do the plan sheets show the erosion control provisions? — (●) Yes ( ) No
   (C) Do the specifications require that the erosion control measures be in place before construction begins and be maintained during construction? — (●) Yes ( ) No
   (D) Do the required erosion control provisions comply with the technical standards of ch. NR151? — (●) Yes ( ) No
6. Are valves provided at each intersection and at intermediate points so spacing does not exceed 800 feet? [NR811.70(9)] — (●) Yes ( ) No
7. Are hydrants provided at each intersection and at intermediate points so spacing does not exceed 600 feet? [NR811.71(1)] — (●) Yes ( ) No
8. Are hydrants or other flushing devices capable of flow velocities of at least 2.5 feet per second in the water main installed downstream of the last service at all dead-ends? [NR811.71(7)] — (●) Yes ( ) No
9. Will any watermain stubs 20 feet or greater in length be installed? [NR811.70(8)] — ( ) Yes (●) No
10. If groundwater may rise above hydrant drain ports, will the drain ports be plugged and operational procedures established for pumping the hydrant barrels dry during freezing weather? [NR811.71(4)] — ( ) Yes ( ) No (●) N/A
    If no, explain:
11. Is there a history of external corrosion problems with buried pipe in the project area? [NR811.69(4)] — ( ) Yes (●) No
12. Do the proposed water mains pass through or adjacent to a landfill or chemical spill area that may adversely impact the piping material or gaskets? [NR811.69(5)] — ( ) Yes (●) No
13. Do the proposed water mains pass through a wetland area? [NR811.70(3)] — ( ) Yes (●) No
14. Do the proposed water mains pass through a floodway or floodplain? [NR811.70(2)]? — ( ) Yes (●) No
15. Does installation of the proposed water mains involve construction within 500 feet of the ordinary high water mark or over or under or in waters of the state? — ( ) Yes (●) No
16. If plans are submitted by someone other than the waterworks owner or authorized representative, is written acceptance of the waterworks owner included? [NR811.10] — ( ) Yes ( ) No (●) N/A
    If no, explain:
17. Do the proposed water mains involve construction of manholes, vaults, or other below grade structures containing shutoff valves, air relief valves, pressure reducing valves, or water meters? [NR 811.72] — ( ) Yes (●) No
18. Do the proposed water mains involve any surface water crossings over 15 feet? [NR811.76] — ( ) **Yes** (●) **No**
19. Do the proposed water mains involve any common casing crossings? [NR811.77] — ( ) Yes (●) No
20. Will private mains or services be connected at more than one location, creating a loop back into the public system [NR811.68(3)]? — ( ) Yes (●) No
21. Water main pipe material(s) to be used: PVC
    Type of joint(s): Elastomeric gasket / Mechanical at fittings
    Class and/or DR: Class 235 C-900 DR-18 [NR811.69]
22. If ductile iron pipe will be used, will it be enclosed in polyethylene wrap? — ( ) Yes ( ) No (●) N/A
23. Will proposed water mains serve existing structures having private wells? [NR810.15, NR810.16] — ( ) Yes (●) No
24. Will installation of the water main(s) include dewatering well construction having a total capacity exceeding 70 gallons per minute? [NR812.09(4)(a)] — ( ) Yes (●) No
25. On-site inspection of the proposed water main construction will be provided by (check all that apply): [NR811.11]
    ☐ Engineering firm ☒ Owner ☐ Other (specify) _____
26. Normal static pressures throughout the area to be served will range from
    55 to 70 PSI [NR 811.66(1)(b) & NR 811.70(4)]
27. The area to be served is (check all that apply): ☒ Residential ☐ Commercial ☐ Industrial [NR 811.70(9) & NR 811.71(5)]

C. Design Specifics (cont'd)

28. Calculate the minimum fire flow at any proposed hydrant. [NR811.70(5)&(6), NR811.71(3)]

Fire Flow Test

Location of residual hydrant: hydrant in the NE corner of 18900 W Bluemound Road 144' west of Brookfield Road

Location of flowing hydrant(s): hydrant in the N middle of 18900 W Bluemound Road 493' west of Brookfield Road

Distance between residual and flowing hydrant(s): 349 ft.

Static pressure at residual hydrant: 71 PSI Elevation of residual hydrant: 857.50 ft.

Flow test results: 1300 GPM at a residual pressure of 69 PSI

Conversion of flow test to 500 GPM equivalent yields 500 GPM @ 70.7 PSI

Calculations

Location of critical hydrant: end of line on easement in project

Distance between critical and residual hydrants: 1,448 ft.

Roughness coefficient ("C" factor): 150 Elevation of critical hydrant: 895.25 ft.

Head loss due to friction: 1.56 PSI Head loss/gain due to elevation: 16.34 PSI Total head loss: 17.9 PSI

Calculated available fire flow at critical hydrant is 500 GPM at 52.8 PSI

(Attach additional sheets if necessary.)

For computer generated models, output must include all losses, assumed flows, roughness coefficient, pipe lengths, pipe diameters, and a node map.

29. Water mains proposed:

Diameter[1] (inches)	Length[1] (feet)	Street name and/or easement description [NR811.67]
8	580	easement on site
6	25	easement on site

[1]**Note:** Rule requirements of other state agencies pertinent to water mains, such as Wis. Adm. Code ch. PSC 184, should be reviewed to obtain all necessary approvals.

D. Additional Comments

Further comments on any previous items (use additional sheets if necessary):

E. Certification

I certify that I have examined the above information and found it to be correct, true and complete.

Signature of Professional Engineer		Date Signed
		3-7-22
Printed Name of Professional Engineer		**Wis. P.E. Number**
Robert Davy		31946
Email address	**Phone Number (incl. area**	**Fax Number (inc. area code)**
robd@lce.biz	(262) 569-9331	