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September 24, 2021

JOE TRUEBLOOD SUPERINTENDENT
SHEBOYGAN WATER UTILITY
828 CENTER AVENUE SECOND FLOOR
SHEBOYGAN WI 53081

Project Number: W-2021-0679
PWSID#: 46003540
DNR Region: SER
County: SHEBOYGAN

SUBJECT: WATER SYSTEM FACILITIES PLAN AND SPECIFICATION APPROVAL

Dear Mr. Trueblood:

The Wisconsin Department of Natural Resources, Division of Environmental Management, Bureau of Drinking Water and Groundwater, is conditionally approving plans and specifications for the following project. An engineering report or information of sufficient detail to meet the requirements of s. NR 811.09(3), Wis. Adm. Code, was submitted along with the plans and specifications.

Water system name: Sheboygan Water Utility
Date received: 06/30/2021
Length of Time Extension: 30 days
Engineering firm: CDM Smith
Professional Engineer: Meghan Drew
Regional DNR Contact: Petwara Toyingtrakoon, 1155 Pilgrim Road, Plymouth, WI 53073, (920) 400-0539, petwara.toyingtrakoon@wisconsin.gov
DNR Plan Reviewer: Bradley Siefker, 101 South Webster Street, Madison, WI 53703, (414) 651-1651, bradley.siefker@wisconsin.gov

Project description: On behalf of the Sheboygan Water Utility (Utility), CDM Smith has submitted plans and specifications for the installation of a new raw water intake, a piping stub for a future raw water intake , a new raw water pump station, shorewell, and yard piping. The department is hereby approving the plans and specifications subject to the conditions below.

Background: The Utility owns and operates a conventional surface water treatment plant along the west shore of Lake Michigan. The water supply system consists of: two active raw water intakes, a suction intake well, four low lift pumps, a conventional filtration plant including rapid mix, flocculation, sedimentation, and filtration, chemical treatment and enhanced UV disinfection downstream of the filtered water chlorine contact clearwells, five high lift pumps, four booster stations, two elevated storage tanks, three standpipes, and the distribution system. Chemical treatment consists of potassium permanganate and powdered activated carbon for taste and odor control, aluminum sulfate and cationic polymer for coagulation, sodium hypochlorite for disinfection, fluosilicic acid for community dental benefits, and blended phosphate for distribution system corrosion control. The treatment plant's current capacity is rated at 34 million gallons per day (MGD). Sheboygan is currently approved for a maximum withdrawal amount of 36 MGD.

The existing shorewell was built in 1887. Water flows into the shorewell through one of two active intakes. A 30-inch diameter intake was installed in 1909 and extends approximately 5,000 feet into Lake Michigan and is capable of supplying a peak flow of 10 MGD. A second 36-inch diameter intake was installed in 1959 and extends 2,100 feet into the lake. The 36-inch diameter intake is capable of supplying approximately 19 MGD. The Utility has indicated that the existing shorewell and 1909 intake have reached the ends of their typical service life. The existing set up also has several operational restrictions and non-conforming features. The 1959 intake cannot meet the maximum day demand alone and is prone to icing due to its shallow depth. The 1909 intake is also unable to satisfy an average day demand alone. Additionally, the shorewell pump motors are below the historical high levels for Lake Michigan and are at a risk of flooding.

Raw water pump station: A new raw water pump station will be constructed north of the existing treatment plant and raw water pump station along the shoreline of the lake. The raw water pump station will have approximate dimensions of 80 feet (east-west) by 55 feet (north-south) with a wall height of 21 feet above grade (USGS datum 602 feet). The shorewell and raw water pump wet well will be located beneath a portion of the new building extending to an approximate elevation of 23.00 feet below grade. The finished floor of the pump station will be at an elevation of 12 feet above grade. The finished floor elevation will be greater than 6 inches above the surrounding grade. The building will be constructed of insulated masonry walls and a pitched standing seam metal roof. Interior walls of the pump station will be concrete masonry units. The foundation of the station and the below grade shorewell and wet well construction will be reinforced poured-in-place concrete. The walls and floor of the below grade concrete structures will be approximately 4 feet thick. The main operating level floor will be 1-foot thick reinforced concrete. The grading and landscaping plans indicate drainage will be directed away from the building. Roof gutters with downspouts will discharge to the exterior surface and direct water away from the building.

The raw water pump station will be comprised of four rooms on the main operating level including the main pump room, the permanganate chemical feed room, the natural gas generator room, and a mechanical room. The mechanical room will be located in the northwest corner of the building. The generator room will be located in the northeast corner of the building. The electrical and generator rooms will occupy approximately one third of the pump station footprint. The chemical feed room will be located in the southeast corner of the building and have approximate dimensions of 11 feet by 12 feet. The remainder of the pump station will be the main pumping room. A bridge crane will be installed in the main pump room to allow for low lift pump and motor servicing and removal.

Two glass block windows will be provided on the east and west sides of the building in the pump station room. Security fencing will be provided around the pump station. Security lighting and security measures will be connected to SCADA. Overhead lighting will be provided throughout the station. The building will include three sets of lockable, outward opening doors. Outward opening double doors will be installed for entry into the permanganate chemical feed room and the electrical room. An outward opening single door will be installed for entry into the main pump room. An overhead coiling door will be installed along the south wall of the pump room to the building exterior. Electric heaters will be provided in the chemical room and the electrical room. Three gas unit heaters will be installed in the pump room and one gas unit heater will be installed in the generator room. A dehumidification system will be provided for the building. All rooms will have motorized fresh air intake and exhaust louver/damper assemblies.

A hub drain will be located outside of the chemical containment curb in the chemical room. A hub drain will also be located in the generator room. The tops of the hub drains will be at an approximate elevation of 12.5 feet. A trench drain will be located in the main pump room. The lowest elevation of the trench drain will be at an elevation of 11.67 feet. The floor drains will discharge to a sanitary lift station located north of the pump station. The rim elevation of the lift station manhole will be at an elevation of 10.00 feet which is greater than 1 foot below the elevation of the floor drain and trench drains.

Primary intake pipe: A new 60-inch diameter intake pipe (Source ID 4) is proposed to be located approximately 180 feet northwest of the existing 30-inch intake. The new 60-inch diameter intake pipe will extend out into the lake from the new raw water intake and shorewell building. The intake piping will extend northeast from the new building and will be roughly parallel the existing 30-inch intake pipe. The intake is anticipated to have a total length of 6,500 feet. Alternatively, the intake may be reduced to 5,500 feet. If the intake pipe is to be reduced, the department must be contacted to issue a revised approval. The water depth at the proposed inlet location is 44.5 feet. The location was chosen to provide the best water quality based on historical observations. The intake is sized for a maximum capacity of 36 MGD.

The intake pipe will be constructed of 60-inch diameter pre-stressed concentrate cylindrical pipe (PCCP) trenched 3 feet into the lakebed and sloping upwards from the intake location to the shorewell inlet. Alternatively, the intake will be constructed of steel pipe or with a smaller diameter. If the intake pipe is to be constructed of steel or the diameter reduced, the department must be contacted to issue a revised approval. The PCCP pipe will include steel bell rings and steel spigot rings for the purpose of joining the pipe and fittings. Two solid rubber O-rings will be used to seal the joints. Pipe tees with emergency manholes extending a minimum of 4 feet above the lakebed will be provided every 1,000 feet to allow for an emergency intake or access locations.

On the interior circumference of the intake pipe, 3-inch thick by 6-inch wide rolled stainless steel bands will be installed. The bands will include two 2-inch diameter anchor guides used to secure the chemical feed lines to the bottom of the intake pipe. Only one chemical feed line will be installed at this time. The chemical feed line will be steel reinforced polyethylene tubing. The line will be used for the addition of sodium permanganate for zebra mussel control. Space for a second solution line will be provided for future chemical installation as necessary. At the intake, steel reinforced tubing will transition to 2-inch diameter stainless steel pipe. The piping will be conveyed to each side of the intake pipe and to a 1-inch by 2-inch by 1-inch pipe tee to allow for injection of permanganate at each intake bell. Each 1-inch side of the pipe tee will be used to convey sodium permanganate to the stainless-steel chemical diffusion system in each intake cone.

Primary intake structure: At the end of the intake structure the PCCP pipe will transition to a short section of 60-inch diameter steel piping prior to connecting to the intake structure pipe cross. The side of the pipe cross opposite of the intake pipe will extend upward with a 90-degree pipe elbow. The elbow will extend above the rock cover and be covered by a blind flange. The flange will serve as an emergency access point for the intake. The remaining two sides of the pipe cross will connect to pipe tees. Each side of the pipe tee will extend upward with a 90-degree pipe elbow and connect to one of four inlet cones. The inlet cones will extend approximately two feet above the surrounding rock cover with a water depth of 45 feet. Each of the intake cones will have a 7-foot internal diameter.

The intake cones will be covered by stainless steel bar screening to prevent infiltration of larger debris into the intake pipe. The bar screens will include support bars spaced 14 inches on center with cross bars spaced 8 inches on center. The steel reinforced polyethylene sodium permanganate chemical feed line will connect to the permanganate diffuser pipe with a 1-inch diameter stainless-steel union on one side of the intake cone. The diffuser will span the diameter of the intake cone with two rows of 1/8-inch diameter diffuser holes spaced every 9 inches. The diffuser design and dosing are intended to prevent dispersal of chemicals into the water environment outside the intake.

Redundant secondary intake pipe: A new secondary 60-inch diameter intake pipe (Source ID 5) is proposed to be located approximately 11.5 feet southeast of the new 60-inch primary intake. The secondary 54-inch intake pipe will extend from the new raw water intake and shorewell building. The intake piping will initially extend northeast from the new building and will be roughly parallel with the new 54-inch intake primary intake for approximately 150 feet. The intake pipe will be directed east northeast for an additional 250 feet. The secondary intake pipe will have a total stub length of 400 feet. The Utility has indicated that they intend to extend this intake stub in the future to provide a redundant intake of comparable water quality to the new raw water intake. If the

intake pipe will be extended, the department must be contacted to issue a revised approval. The water depth at the proposed stub location is 8-10 feet.

The intake pipe will be constructed of 60-inch diameter pre-stressed concentrate cylindrical pipe (PCCP) trenched 3 feet into the lakebed and sloping upwards from the intake location to the shorewell inlet. Alternatively, the intake will be constructed of steel pipe or a smaller diameter. If the intake pipe is to be constructed of steel or the diameter reduced, the department must be contacted to issue a revised approval. The PCCP pipe will include steel bell rings and steel spigot rings for the purpose of joining the pipe and fittings. Two solid rubber O-rings will be used to seal the joints. The pipe will be buried below the lakebed until it is extended in the future. The intake is sized for a maximum capacity of 36 MGD.

Shorewell: The two new raw water intakes will extend from Lake Michigan to the new shorewell located below the proposed new raw water pump station building north of the existing treatment plant and shorewell. The intakes will discharge into a new rectangular shorewell. Water will enter the shorewell in the east corner. An additional 36-inch diameter pipe will terminate though the shorewell and be stubbed off. This pipe will eventually be connected to the existing 36-inch diameter intake to allow the Utility to continue to utilize the 1959 intake in emergency situations. The anticipated time for connection is 5 to 10 years. Stainless steel slide gates will be installed on the concrete walls in front of each intake pipe to allow the Utility to isolate the feed from each intake. Two additional 16-inch diameter steel pipes will also penetrate through the walls of the shorewell. These 16-inch pipes will serve as a conduit for the chemical solution lines. These conduits will allow for the chemical lines to be inserted into the raw water intake pipes beyond the slide gates to ensure the slide gate operations will not be impeded by chemical solution lines. The 16-inch pipes will connect to the raw water intake pipes through a 54-inch by 16-inch by 54-inch wye piece.

The shorewell will be located beneath the east end of the new raw water pump station. The shorewell will be approximately 9 feet wide by 31 feet long. The shorewell will have an approximate height of 33.17 feet, measuring from the shorewell floor to the bottom of the main level pump station floor above. The maximum water depth of the shore well will be 3 feet based on the historic maximum Lake Michigan water levels of 2 feet plus a 1-foot factor of safety. Two approximately 4-foot-wide openings will be located on the west wall of the shorewell to allow water from the shorewell to pass through a traveling screen located in a channel installed in each of the openings prior to entering the raw water pump station wet well.

Traveling screen: All raw water discharging into the shorewell will discharge into one of two identical traveling screen channels. The channels will have approximate dimensions of 14 feet long by 4 feet wide by approximately 33 feet tall. Entry and exit through the channel will be through 4-foot-wide by 8-foot-tall openings located at the bottom of the channel. The traveling screen will be located approximately 7.5 feet from the shorewell wall and 6.5 feet from the raw water pump station wet well wall.

The traveling screens in each channel will either be manufactured by Evoqua Water Technologies, Inc. or WesTech Engineering, Inc. The screens will be capable of traveling at a speed of 10 feet per minute. The screens will be constructed of Type 316 stainless steel with openings of 3/8-inch. The screens are designed to withstand a maximum head loss of 8-inches. Debris from each screen will be discharged via a fiberglass trough embedded in the main pump room floor into a collection sump for each screen. The collection sumps will be 3-foot by 3-foot by 3-foot deep. The debris will be manually removed from the sump by the Utility. Water from the collection sump will be discharged back into the shorewell ahead of the traveling screens. The screens will be equipped with a spray system intended for debris removal. The system will be used to flush debris from the screen at a flow of 70-100 gpm of water at a pressure of 60 to 80 psi.

Wash water for the screens will be supplied by an 8-inch diameter water service that supplies finished potable water to the raw water pump station. The wash water supply line for the screens will be provided with a backflow preventor to protect the potable water supply. After passing through the traveling screens, water will discharge

through the 4-foot wide by 8-foot tall traveling screen channel outlet opening located near the bottom of the channel and into the raw water pump station wet well.

A new NSF/ANSI 61 certified slide gate and frame with vertical guides will be installed in the inlet and outlet openings of the traveling screen channels. The frames, slide gates, lifting stems, and guides will be constructed of Type 316 stainless-steel. The frames will be sealed to the pipe with ultra-high molecular weight polyethylene and a flush bottom nitrile seal. The gates will be connected to a hand operated lifting actuator via the lifting stem to raise or lower the slide gates when isolating a traveling screen channel. The actuator will be installed on the operating level of the raw water pump station. The slide gate installations will be leak tested according to A.W.W.A. C561 standards.

Raw water pump station wet well: The raw water pump station wet well will be a 23-foot-long by 31-foot-wide by 33-foot-tall concrete structure located beneath the floor of the raw water pump station. The wet well will be provided with a 2-foot-thick concrete wall spanning the length of the wet well to create two parallel basins. An opening in the wall will be located 6 inches west of the traveling screen channel walls. The opening will be approximately 4 feet wide by 10 feet tall located at the bottom of the wall.

A new NSF/ANSI 61 certified slide gate and frame with vertical guides will be installed in the opening between the two chambers of the wet well. The frame, slide gate, lifting stem, and guides will be constructed of Type 316 stainless-steel. The frame will be sealed to the pipe with ultra-high molecular weight polyethylene and a flush bottom nitrile seal. The gate will be connected to a hand operated lifting actuator via the lifting stem to raise or lower the slide gate when isolation of a specific wet well is required. The actuator will be installed on the operating level of the raw water pump station. The slide gate installation will be leak tested according to A.W.W.A. C561 standards.

Along the west wall in the center of each chamber a 5.5-foot-tall by 16-foot-long concrete baffle wall be installed along the floor. An additional 4.5-foot-tall baffle wall will be installed across the width of each chamber. The 4.5-foot-tall baffle wall will be located 8 feet off the bottom of the pump wet well. The baffle walls will be used to allow the four raw water pump suction pipes to be more isolated and reduce the interference between pumps. The pump suction pipes will be 24-inch diameter pipes extending from the main operating level of the raw water pump station and be provided with a screened flow conditioning basket. The suction pipes will be installed approximately 2.5 feet from the west wall of the station with the inlet being 6 inches from the bottom of the wet well.

Raw water pumps and variable frequency drives: Four new raw water pumps will be installed in the main pump room on the main operating level of the raw water pump station. The pumps will draw water from the raw water wet well and will discharge to the treatment plant. The raw water pump station is designed to have a firm capacity of 34 MGD with the largest pump out of service to match the treatment plant rated capacity. All four pumps will be Flowway, Peerless, or Sulzer pumps equivalent to the design parameters of Sulzer JTS-28NMC or JTS-27CC short-set vertical turbine pumps.

The northernmost pumps in each chamber will be JTS-28NMC pumps powered by 250-horsepower electric motors. Each pump will have a design capacity of 10,500 gpm against 70 feet of total dynamic head. The pumps will be controlled by Yaskawa P1000 variable frequency drive (VFD) units, which will provide a soft start/stop function and will control the pumping rate. Backspin protection for the pumps will be provided by non-reversing ratchet. The pumps will be provided with a 56-inch square by 12-inch tall concrete pump base. The pumps will be provided an air vent terminating 24 inches above the finished floor downward facing with a 24-mesh corrosion resistant screen.

The southernmost pumps in each chamber will be JTS-27CC pumps powered by 150-horsepower electric motors. Each pump will have a design capacity of 6,600 gpm against 70 feet of total dynamic head. The pumps will be

controlled by Yaskawa P1000 VFD units, which will provide a soft start/stop function and will control the pumping rate. These pumps will be used for providing water during low flow conditions and have a secondary operational point of 3,500 gpm against 53 feet of head. Backspin protection for the pumps will be provided by non-reversing ratchet. The pumps will be provided with a 56-inch square by 12-inch tall concrete pump base. The pumps will be provided an air vent terminating 24 inches above the finished floor downward facing with a 24-mesh corrosion resistant screen.

Raw water pump discharge piping: From the individual raw water vertical turbine pumps, the 24-inch diameter individual pump discharge piping will contain in order: a 4-inch diameter air vacuum relief valve, a check valve, a 1-inch diameter air vacuum relief valve, a butterfly valve, and a 30-inch by 24-inch reducer prior to connecting to the 30-inch diameter raw water pump discharge header.

The individual discharge header piping will be directed vertically upward on each end. The south end of the headers will contain a butterfly valve connected to a 30-inch pipe tee. The butterfly valve nearest to the southernmost pump will be normally closed but will allow for a raw water meter bypass in the event the meter is removed for maintenance. Normal flow will include all raw water being directed to the north end of the header piping with a normally open butterfly valve connected to a pipe tee. One side of the pipe tee will be flanged and contain an air vacuum relief valve. The remaining side will be directed south and contain a raw water flow meter, and a butterfly valve prior to connecting to the bypass pipe tee. From the pipe tee, the discharge header will be directed downwards and horizontally. The horizontal section of piping will contain an injection tap for future chemical use. Downstream of the injection tap, the discharge piping will contain two pipe tees connected in series with a blind flange on the end of the second tee. The remaining side of each tee will be directed downward toward the floor and contain a 30-inch butterfly valve prior to discharging through the pump station and floor and being directed south toward the treatment plant. The 30-inch diameter sections of pipe will serve as raw water supply piping for the treatment plant.

Treatment plant supply piping: South of the raw water pump station, the two treatment plant supply pipes will each be provided with a 36-inch by 30-inch reducer to provide for 36-inch diameter raw water transmission piping to the treatment plant. Jack and bore and casing pipe installation will be used for portions of the raw water transmission piping that cross other existing utilities. The piping will be class 52 ductile iron pipe. Casing pipe used in jack and bore installation will be 48-inch diameter steel piping. The 36-inch diameter mains will connect to the existing treatment plant header piping upstream of the rapid mix supply piping.

Finished water supply piping: The new raw water pump station will be installed in a location which would conflict with an existing 20-inch diameter ductile iron finished water main. The 20-inch diameter ductile iron water main will be routed around the east and north sides of the raw water pump station and reconnected to the existing connection to the water system. An 8-inch diameter service off the 20-inch diameter finished water main will be used to supply the raw water pump station.

The 8-inch diameter line can be used for backflushing of the intake pipe with finished water in case of frazil ice or other emergencies. The 8-inch diameter service line will be provided with a backflow preventor and a temporary piping connection. The temporary piping can be connected to the service line and a normally closed valve opened to allow for back flushing of the intake.

Sodium permanganate chemical feed system: Two new Blue White model No. M324 SNEE, maximum 24 gallons per day peristaltic feed pumps will be used to feed an undiluted solution of 20% active sodium permanganate into a 2-inch carrier water line used to convey the sodium permanganate to the intake cones through the diffuser system for zebra mussel control. The normal plant flow is anticipated to be 12 MGD. At a normal 0.069 mg/L dose, the anticipated chemical feed pump setting will be 23 revolutions per minute, which will be 18.1% of the overall capacity of the pump. The average permanganate chemical feed rate will be 0.18 gallons per hour (gph) and the estimated daily use will be 4.36 gallons based on 24 hours of operation. The permanganate

feed pumps will operate continuously when in operation and flow paced by the water meter on the low lift pump discharge. The chemical feed pump discharge lines will be provided with a pressure relief valve, a pressure gauge, and an adjustable back pressure valve located at the injection point into the carrier water line in the chemical feed room.

The chemical feed pumps will take suction from a new 10-gallon polyethylene chemical storage day tank. The day tank will be filled utilizing an Iwaki America, March, or approved equal 2 gpm transfer pump which will take suction from a new 400-gallon bulk tank. The day tank will rest on a scale capable of measuring in 0.1-pound increments to determine the daily chemical usage. The bulk tank level will be measured using a level switch and ultrasonic level transmitter. The chemical solution bulk and day tank will be located within an 11 foot by 8.5 foot by 2 foot tall (1,300 gallons) concrete containment curb to provide the required chemical leakage containment.

Raw water pump station standby power: Two new 360 kW Kohler natural gas-fueled engine generator sets will be installed in the generator room in the northeast corner of the raw water pump station. The generators will be able to provide power for the entire electrical demand of the raw water pump station except for one of the 150 horsepower pumps and any future electrical loads. An automatic transfer switch will be installed at the raw water pump station. An alarm will be connected to the Utility's existing SCADA system to alert the operators if the generator fails to start.

SCADA system upgrades: A new SCADA system will be installed as part of this project. New PLC equipment will be installed at the raw water pump station. New equipment will allow for communication via ethernet and for control of the water system operations. The system will be used to operate and monitor the chemical feed system and raw water pumps. Security measures for the raw water pump station will be connected to the SCADA system.

Recommendations: The following recommendations are based on staff review of the project. The owner is not required to implement the recommendations in order to comply with the approval.

1. A high pressure cut-out switch is recommended to be installed on the well pump discharge piping to stop the pump motor when a preset maximum discharge pressure is detected if the pump shut-off head at the maximum possible speed will exceed the safe working pressures of the piping and appurtenances. (s. NR811.34(2), Wis. Adm. Code)
2. A pressure relief valve is recommended to be installed on the well pump discharge piping sized to allow adequate pressure to be relieved if a malfunction that would cause the pump to discharge at the maximum possible rate would result in pressures exceeding the safe working pressures of the piping and appurtenances. (s. NR811.34(3), Wis. Adm. Code)

Approval conditions related to Chapters NR 810 and NR 811, Wis. Adm. Code:

1. A resident project representative shall be designated by the water supply owner or by the agent retained by the owner. The resident project representative shall be knowledgeable regarding the proposed construction and be able to ensure the improvements are being constructed in accordance with the department approved plans, specifications, and conditions of the approval. The project representative shall be present on the work site as need to assure proper construction and installation of the improvements (s. NR 811.11, Wis. Adm. Code).
2. After construction, maintenance, repair or modification, waterworks facilities shall be disinfected by procedure outlined in the applicable A.W.W.A. standards for wells, water mains, storage facilities or treatment facilities. Waterworks may not be placed in service until bacteriological samples have established that the water is bacteriologically safe (s. NR 810.09(4), Wis. Adm. Code).
3. The finished floor of the building shall be a minimum of 0.5 feet above the surrounding grade (s. NR 811.25(1)(d), Wis. Adm. Code).

4. All doors and windows to the treatment plant must be locked (s. NR 811.25(1)(c), Wis. Adm. Code)
5. Per ch. NR 151, Wis. Adm. Code, erosion prevention and sediment control methods shall be used to prevent siltation to lands and waterways adjoining the construction area. These methods shall include but not be limited to the following:

    1. Siltation fences,
    2. Rock check dams,
    3. Silt dikes, and
    4. Wattles.

6. The electrical outlet for any chemical feed pump shall be clearly marked. (s. NR 811.39 (4)(b)). The outlet shall be located to allow the chemical pump feed line to be as short as possible in length of run. (s. NR 811.39(7)(a), Wis. Adm. Code)
7. A permanent sign identifying the chemical tank contents shall be posted adjacent to or on chemical storage tanks. (s. NR 811.40(1)(o), Wis. Adm. Code)
8. All sampling faucets shall be metal, downward facing, and installed to terminate a minimum of 12 inches above the floor with a minimum spout diameter of 0.25 inches. (s. NR 811.37(5)(b)3., Wis. Adm. Code)
9. The exterior of the building shall be landscaped to conduct surface drainage away from the building and have a floor elevation at least 6 inches above the finished grade. (s. NR 811.25(1)(d), Wis. Adm. Code)
10. The department's Office of Energy shall be contacted, and the necessary Chapter 30 permit shall be obtained prior to construction. (ch. 30, Wis. Stats.) County designation, contact information, and additional guidance can be found by going to http://dnr.wi.gov/topic/Waterways/contacts.html or calling the waterway and wetland information line at (920) 662-5452.
11. Plans and specifications for any modifications to the intake pipe diameter, material, or length must be submitted to the department for review and subsequent written approval obtained, prior to starting construction of any improvements. (s. NR 811.08, Wis. Adm. Code)
12. The owner or owner's agent shall provide notification to Petwara Toyingtrakoon from the department's Plymouth office upon completion of the improvements so that she can inspect the completed improvements and issue written authorization prior to placing the improvements in service, if she deems necessary. (s. NR 810.26(1), Wis. Adm. Code)

Approval constraints: The project was reviewed in accordance with ss. 281.34 and 281.41, Wis. Stats. for compliance with Chapters NR 108, NR 810, NR 811 and NR 820, Wis. Adm. Code and is hereby approved in accordance with ss. 281.34 and 281.41, Wis. Stats. subject to the conditions listed above. This approval is valid for two years from the date of approval. If construction or installation of the improvements has not commenced within two years the approval shall become void and a new application must be made and approval obtained prior to commencing construction or installation.

This approval is based upon the representation that the plans submitted to the Department are complete and accurately represent the project being approved. Any approval of plans that do not fairly represent the project because they are incomplete, inaccurate, or of insufficient scope and detail is voidable at the option of the Department.

Be advised that this project may require permits or approvals from other federal, state or local authorities. For example, a certificate of authority from the Public Service Commission of Wisconsin may be required per s. 196.49, Wis. Stats. and ch. PSC 184, Wis. Adm. Code.

Appeal rights: If you believe that you have a right to challenge this decision, you should know that the Wisconsin Statutes and administrative rules establish time periods within which requests to review Department decisions must be filed. To request a contested case hearing pursuant to s. 227.42, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to serve a petition for hearing on the Secretary of the Department of Natural Resources. Requests for contested case hearings must be made in accordance with ch. NR 2, Wis. Adm. Code. Filing a request for a contested case hearing does not extend the 30 day period for filing a petition for judicial review. For judicial review of a decision pursuant to ss. 227.52 and 227.53, Wis. Stats., you must file your petition with the appropriate circuit court and serve the petition on the Department within 30 days after the decision is mailed. A petition for judicial review must name the Department of Natural Resources as the respondent.

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

Project Plan Reviewer

Bradley Siefker
Public Water Engineering Section
Bureau of Drinking Water and Groundwater

For the Secretary

Ken W. Scherer, P.E.
Public Water Engineering Section
Bureau of Drinking Water and Groundwater

cc: Joe Trueblood – Sheboygan Water Utility (by email)
Bill Swearingen – Sheboygan Water Utility (by email)
Jared Wendorf – CDM Smith (by email)
Amrou Atassi – CDM Smith (by email)
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