



Board of Public Works

Regular Meeting

335 South Broadway
De Pere, WI 54115
<https://www.deperewi.gov/>

Agenda

Monday, January 10, 2022

7:30 PM

GoToMeeting

Pursuant to Wisconsin Statutes 19.84, Notice is hereby given to the public that a meeting of the **Board of Public Works** of the City of De Pere will be held on **January 10, 2022** at **7:30 PM**.

This meeting will be held electronically and the public may attend this meeting electronically or telephonically by accessing either:

Please join my meeting from your computer, tablet or smartphone.

<https://www.gotomeet.me/DePere>

You can also dial in using your phone.

United States (Toll Free): [1 866 899 4679](tel:18668994679)

United States: [+1 \(312\) 757-3117](tel:+13127573117)

Access Code: 154-883-285

*****THIS MEETING WILL NOT BE HELD IN PERSON.*****

This meeting may also be rebroadcast on Spectrum Cable Channel 4 and AT&T U-verse Channel 99 throughout the week and available on demand at <http://deperecitywi.igmp2.com/>.

I. Call to Order

1. Roll Call

II. Public Comment Period

III. Items

1. Approval of the December 13, 2021 Board of Public Works Meeting Minutes
2. Consideration and possible action on signal modification to incorporate leading left turn arrow on Main Avenue at Ninth Street
3. Consideration and possible action on updates to 2022 General Conditions and Standard Specifications

IV. Future Agenda Items

V. Adjournment

***Items with an asterisk require City Council approval.**

Any person wishing to attend this meeting who, because of disability, requires special accommodations should contact the Clerk-Treasurer's office at 339-4050 by Noon, Monday, January 10, 2022 so that arrangements can be made.

Agenda Sent To:
MAYOR
ALDERPERSONS

DE PERE CHAMBER OF COMMERCE
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DEPARTMENT HEADS
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City of De Pere, Wisconsin

Request For Board of Public Works Action

MEETING DATE: January 10, 2022

DEPARTMENT: Board of Public Works

FROM: Betty Sellenheim

SUBJECT: Approval of the December 13, 2021 Board of Public Works Meeting Minutes

ATTACHMENTS:

- 2021 1213 BOPW Draft Minutes (PDF)



Board of Public Works

Regular Meeting

335 South Broadway
De Pere, WI 54115
<https://www.deperewi.gov/>

Draft Minutes

Monday, December 13, 2021

7:30 PM

Council Chambers and Virtual

I. Call to Order

The meeting was called to order at 7:30 PM by Mayor James Boyd

Attendee Name	Title	Status	Arrived
James Boyd	Mayor	Present	
Dan Carpenter	Aldersperson	Present	
Jonathon Hansen	Aldersperson	Present	
Shana Defnet Ledvina	Aldersperson	Present	
Dean Raasch	Aldersperson	Present	

Others present:

Scott Thoresen, Public Works Director

Eric Rakers, City Engineer

Tony Fietzer, Street Superintendent

Betty Sellenheim, Recording Secretary

II. Public Comment Period

None

III. Items

None

1. Approval of the November 8, 2021 Board of Public Works Meeting Minutes

Aldersperson Carpenter moved to approve the November 8, 2021 Board of Public Works Meeting Minutes, seconded by Aldersperson Hansen. Upon vote, the motion passed unanimously.

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Dan Carpenter, Aldersperson
SECONDER:	Jonathon Hansen, Aldersperson
AYES:	Boyd, Carpenter, Hansen, Defnet Ledvina, Raasch

2. Consideration and possible action on City Engineer Parking and Traffic Recommendations*

Eric Rakers, City Engineer, explained the recommendations for parking and traffic. The first recommendation was painting directional arrows in the parking lot by the Lee Building. Mayor Boyd and Aldersperson Ledvina supported this recommendation. Mayor Boyd asked about routing vehicles to exit at George Street. Mr. Rakers explained it was an option to exit at George or Wisconsin from the parking lot. Aldersperson Raasch asked if the exit at George Street was one way. Mr. Rakers stated it was for southbound exit onto George Street. The second recommendation was installation of speed limit signs on Rockland Road. Aldersperson Hansen supported this recommendation.

Aldersperson Carpenter moved to approve City Engineer Parking and Traffic Recommendations to paint directional arrows in the parking lot by the Lee Building and

install speed limit signs on Rockland Road, seconded by Alderperson Raasch. Upon vote, the motion passed unanimously.

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Dan Carpenter, Alderperson
SECONDER:	Dean Raasch, Alderperson
AYES:	Boyd, Carpenter, Hansen, Defnet Ledvina, Raasch

3. Discuss City Engineer Recommendations for No-Action Parking & Traffic Discussion Items

Eric Rakers, City Engineer, outlined request to add parking stall lines on east side of Third Street between Marsh and Michels Commons and the south side of Marsh Street from Fourth to Third Streets. Mr. Rakers explained the typical areas where parking stall lines are painted and stated the need for a policy for painting outside of those areas. Alderperson Raasch asked the purpose of adding the stall lines. Mr. Rakers stated they could help fit more cars in the area more efficiently, but vehicles that park over stall lines cannot be ticketed or prevented.

Discussion only. No action necessary.

RESULT:	DISCUSSED
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4. Discuss Alderperson Hansen's request for changes on S. Broadway at Cook Street

Alderperson Hansen outlined the concerns and suggestions provided to him from concerned resident.

Mayor Boyd commended the suggestions and stated it would need to be discussed by parking and traffic for any changes to be made. Alderperson Raasch reviewed previous discussions and attempts to modify the speed limit in this area and the availability of the median for pedestrian crossing. Eric Rakers, City Engineer, agreed with the review of the speed limit in the area and stated staff could check the signal timing though it was reviewed recently by a consultant and there were no concerns. Mr. Rakers suggested obtaining the accident history for the intersection before making any changes.

Alderperson Carpenter suggested installing a reduced speed sign before the change to 35 mph or change the speed to 25 sooner, if controlled by the City. Mr. Rakers supported the installation of a reduced speed limit sign and was unsure which entity controls the speed between Cook Street and Bomier Street. Alderperson Ledvina asked for clarification of the term "artificial speed limit". Mr. Rakers explained the artificial speed limit and how it can impact traffic situations. Alderperson Hansen asked if the speed limit sign for 45 mph could be removed, with no changes to the speed limit except it would not be posted. Mr. Rakers stated that staff has asked that question to the County and State and was denied that option. Mr. Rakers suggested discussing the installation of the reduced speed limit sign at Parking and Traffic. Alderperson Carpenter supported obtaining accident data for the intersection. Mr. Rakers stated staff would investigate accidents at the intersection and explained the necessity of a large intersection to accommodate truck movement. Mayor Boyd asked what the next steps would be. Mr. Rakers stated first they should obtain the accident reports, then the reduced speed sign, and timing of the lights. Mayor Boyd mentioned requesting additional police presence at the intersection. Mr. Rakers mentioned speed checks being warranted at interections of Broadway at Bomier and Cook Streets. Alderperson Hansen added the suggestion of upgrading the street lights to LED at the location.

Mayor Boyd moved to open the meeting for public comment at 7:53 PM, seconded by Alderperson Raasch. Motion passed unanimously.

Mike Moore, 440 Cook St, further explained his concerns regarding traffic and pedestrian safety at the intersection of Broadway and Cook Street, including timing for pedestrian crossing, vehicles traveling through the red signal, lack of speed limit signs southbound off the bridge, and speeding.

Mayor Boyd moved to return to regular session at 7:57 PM, seconded by Alderperson Carpenter. Motion passed unanimously.

Mr. Rakers explained which entities dictate the speed limit on which sections and how the speeds are set. Mayor Boyd outlined a few changes that have been made to Broadway in response to concerns from residents. Mr. Rakers emphasized that you cannot make things 100% safe and the onus of safety falls on the pedestrian and drivers.

Mayor Boyd moved to refer the suggestions to Parking & Traffic Committee, seconded by Alderperson Hansen. Upon vote, the motion passed unanimously. Board discussed whether a motion was required or acceptable on a discussion only item.

RESULT:	DISCUSSED
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5. Discuss Alderperson Ledvina's request for acquiring event barricades that would prevent vehicles from entering pedestrian areas

Alderperson Ledvina explained her request stemmed from the events in Waukesha and wanted to start a discussion about safety measures for events in De Pere.

Tony Fietzer, Street Superintendent, summarized the options he provided in a memo for the meeting. Mr. Fietzer stated that there is likely no option that will 100% protect participants of an event from someone who has chosen to cause harm or suffers from a medical situation.

Alderperson Ledvina asked staff how many events are held in De Pere that would be impacted. Sidewalk sales, holiday horse carriage, downtown farmer's market, downtown concerts, and parades were listed. Alderperson Carpenter agreed that it would be impossible to protect against someone choosing to do harm. Mayor Boyd spoke in support of parking city vehicles to block entrances to events. Alderperson Ledvina suggested having the food trucks park at the ends of George Street for Farmer's Market. Mayor Boyd supported working with Tony and Tina Quigley from Definitely De Pere for Alderperson Ledvina's suggestion. Alderperson Carpenter spoke in favor of the option of parking city vehicles at the entrances. Mayor Boyd offered to work with Scott Thoresen (Public Works Director), Tony Fietzer (Street Superintendent) and Tina Quigley (Definitely De Pere) on the suggestions from the Board of upcoming events. Alderperson Carpenter asked if there would be changes needed to the Special Event Permit to include language pertaining to the stationing of city vehicles and associated costs. Mayor offered to discuss with the City Administrator and City Attorney if changes would be needed on the special event permit. Mr. Fietzer added that there will be a cost associated with the placement and removal of vehicles if the city moves in that direction. Alderperson Ledvina stated those fees could be incorporated into the special event permit fees. Mr. Thoresen mentioned that Definitely De Pere requests from Council that Public Works fees be waived for their special events. Discussion only. No action necessary.

RESULT: DISCUSSED

6. Consideration and possible action on Amendment to 2021 Agreement for 2022 Consulting Services*

Eric Rakers, City Engineer, outlined amendment to extend the 2021 agreement with Robert E. Lee and Associates for 2022 consulting services. Mr. Rakers explained in the future when staff sends out requests for proposals, they will be for multiple year agreements.

Alderson Ledvina asked about the one-year agreement. Mr. Rakers explained the agreements had always been set up on a one year basis and that was sufficient for the normal workload. Alderson Raasch verified the consulting services being used on an as-needed basis. Mr. Rakers confirmed that there are no guaranteed hours or jobs but they are on board when staff needs the help or expertise on a project. Alderson Carpenter supported having multiple year agreements.

Alderson Raasch moved to approve an amendment to extend the 2021 agreement for 2022 Consulting Services with Robert E. Lee and Associates, seconded by Alderson Ledvina. Upon vote, the motion passed unanimously.

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	Dean Raasch, Alderson
SECONDER:	Shana Defnet Ledvina, Alderson
AYES:	Boyd, Carpenter, Hansen, Defnet Ledvina, Raasch

7. Consideration and possible action on award of Contract 21-11 American Blvd Utility and Street Extension*

Eric Rakers, City Engineer, outlined project limits and components including utility and pond work.

Mayor Boyd verified the funding from TID 12. Mr. Rakers stated it will be funded by TID 12 and Green Bay Metropolitan Sewerage District.

Mayor Boyd moved to approve award of Contract 21-11 American Boulevard Utility and Street Extension to Jossart Brothers in the amount of \$1,885,359.50, seconded by Alderson Raasch. Upon vote, the motion passed unanimously.

RESULT:	ADOPTED [UNANIMOUS]
MOVER:	James Boyd, Mayor
SECONDER:	Dean Raasch, Alderson
AYES:	Boyd, Carpenter, Hansen, Defnet Ledvina, Raasch

IV. Future Agenda Items

Alderson Hansen requested discussion of a left turn arrow for westbound traffic on Main Avenue at Ninth Street

V. Adjournment

Mayor Boyd moved to adjourn the meeting at 8:24 PM, seconded by Alderson Ledvina. Upon vote, motion passed unanimously.

***Items with an asterisk require City Council approval.**

Any person wishing to attend this meeting who, because of disability, requires special accommodations should contact the Clerk-Treasurer's office at 339-4050 by Noon, Monday, December 13, 2021 so that arrangements can be made.

Agenda Sent To:

MAYOR

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JOSSART BROTHERS, INC

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ROBERT E. LEE & ASSOCIATES

Respectfully submitted,
Betty Sellenheim



City of De Pere, Wisconsin

Request For Board of Public Works Action

MEETING DATE: January 10, 2022

DEPARTMENT: Engineering

FROM: Eric Rakers

SUBJECT: Consideration and possible action on signal modification to incorporate leading left turn arrow on Main Avenue at Ninth Street

ATTACHMENTS:

- 2022 0110 CI_BOPW_Main and Ninth Signal (PDF)

City of De Pere

Public Works Department

Memo

To: Honorable Mayor Boyd
Members of the Board of Public Works

From: Eric Rakers, P.E., City Engineer

Date: January 10, 2022

Subject: Consideration and possible action on signal modification to incorporate leading left turn arrow on Main Avenue at Ninth Street

At the last Board meeting, Alderperson Hansen requested that the traffic signal at Main Avenue and Ninth Street be modified for a lead left turn arrow for traffic on Main Avenue. A lead left turn arrow at a signal is when the left turning vehicles are given an arrow prior to the green signal for through traffic in the opposite direction.

Background

The City has two signals that function with a lead left turn arrow at the intersections of Broadway Street and Merrill Street and at Main Avenue and Eighth Street. At Broadway and Merrill intersection, southbound traffic has an advanced left turn arrow along with a green for southbound through traffic. Similarly, eastbound traffic on Main Avenue at Eighth Street has an advanced left turn arrow along with a green for eastbound through traffic. The left turn arrow was just recently added at the Main and Eighth intersection when the entire signal was replaced.

There are a large number of left turning vehicles from southbound Broadway to Merrill and eastbound Main to Eighth. Neither of these intersections have a left turn lane to allow left turning vehicles to get out of the through traffic lanes. In the case of the recently completed Main and Eighth signal improvements, there were a large number of sideswipe accidents for motorists trying to get around a vehicle turning left. The purpose for the left turn arrows at both of these locations is to get left turning vehicles that are queued during a red light out of the through lane at the beginning of a green light before traffic from the opposite direction is given green.

The Main Avenue and Ninth Street intersection is different from the above two intersections in two aspects. First, there are left turn lanes to get the left turn vehicles out of the through travel lanes. Second, this signal has video detection for left turning vehicles. If a vehicle is queued in the left turn lane during the red cycle, the motorist will get a green arrow at the beginning of the cycle.

Recommendation

Staff recommends no changes to the Main Avenue and Ninth Street signals as this intersection has left turn bays and video detection with a left turn arrow.



City of De Pere, Wisconsin

Request For Board of Public Works Action

MEETING DATE: January 10, 2022

DEPARTMENT: Engineering

FROM: Eric Rakers

SUBJECT: Consideration and possible action on updates to 2022 General Conditions and Standard Specifications

ATTACHMENTS:

- 2022 0110 CE_BOPW_2022_Specification_Updates (PDF)
- 2022 Standard Specifications Updates (PDF)

CITY OF DE PERE MEMO



To: Honorable Mayor Boyd
Members of the Board of Public Works
From: Eric Rakers, P.E., City Engineer
Date: January 10, 2022

RE: **Consideration and possible action on updates to 2022 General Conditions and Standard Specifications**

Listed in this memo are proposed updates to the City of De Pere's 2022 General Conditions and Standard Specifications. Specifications need to be updated on a regular basis to accommodate changes in the industry, as well as improving the clarity of the documents. The last update was completed in December 2019. There are several changes to the document. Listed below is a summary of the major changes to the specifications.

Section 00 70 00 – General Conditions

- 1) Under SUBMISSION OF BIDS
 - a. Update language for online bid and bid guarantee submissions

Section 01 45 23-10 – Testing & Inspection of Pipeline & Appurtenances

- 1) Under Section 3.6, Pressure and Leakage Test for Pressurized Pipelines
 - a. Under Section B, item 5b, specify 2" corporation stops/valves with galvanized piping and threaded ends

Section 02 41 13 – Selective Site Demolition and Abandonment

- 1) Under Section 3.4, Backfilling
 - a. Specify the use of granular or native backfill per Section 31 23 33, Trenching, Backfilling, and Compacting

Section 32 13 13 – Portland Cement Concrete Pavement

- 1) Under section 2.1, Materials
 - a. Under Section D, specify concrete pavement joint material shall conform to Section 32 01 17, Crack and Joint Sealing
 - b. Under Section E, specify the use and application of linseed oil for concrete curing
- 2) Under section 3.3, Placing and Finishing Concrete
 - a. Add section C to include "All concrete joints shall be sealed"

Section 32 16 13 – Concrete Curb and Gutter

- 1) Under Section 2.1, Concrete
 - a. Under Section A, update the air entrainment percentages for slip-formed concrete
- 2) Under Section 2.6, Curing Materials
 - a. Under Section A, update the use of linseed oil for concrete curing to include the product details versus referencing the Wisconsin Department of Transportation.

Section 32 16 20 – Concrete Sidewalks and Driveways

- 1) Under Section 2.1, Concrete
 - a. Under Section A, update the air entrainment percentages for slip-formed concrete
- 2) Under Section 2.4, Curing Materials
 - a. Under Section A, update the use of linseed oil for concrete curing to include the product details versus referencing the Wisconsin Department of Transportation

Section 33 11 00 – Water Distribution Systems

- 1) Under Section 2.3, Valves
 - a. Under Section C, specify valves will be fitted with a three foot long extension stem “with bottom bolts for tightening to the valve at 90 degrees to each other” and list the approved extension stem manufacturer
- 2) Under Section 2.6, Water Services
 - a. Under Section E, update the curb box height to be “Length shall be 7 ½ foot bury with a 6 ½ to 7 ½ foot adjustment range”
- 3) Under Section 3.7, Polyethylene Encasement
 - a. Add Section E, to clarify the requirement to “Wrap curb stop and box below grade”

Section 33 31 00 – Sanitary Sewer Systems

- 1) Under Section 2.3, Manholes
 - a. Under Section A4 Adjusting rings, add c. HDPE: Tadtech or approved equal

Section 33 41 00 – Storm Sewer Systems

- 1) Under Section 2.1, Pipe
 - a. Under Section B, allow for ADS Inserta Tee Onefit
- 2) Under Section 2.3, Manholes and Inlets
 - a. Under Section A4 Adjusting rings, add c. HDPE: Tadtech or approved equal

Standard Detail Updates

- 1) Update C-5 – Concrete Curb, Curb and Gutter, and Gutter Transverse Joints to include flange slope and dimensions.
- 2) Create C-10 –Cracked Concrete Sidewalk Repair Detail drawing to show the minimum depth of patching at the crack.
- 3) Update W-1 – Hydrant to show the hydrant bury dimension/measurement location.

CITY OF DE PERE



DEPARTMENT OF PUBLIC WORKS

2022 STANDARD SPECIFICATIONS

JANUARY 10, 2022

2022 Specifications**City of De Pere**

REJECTION OF BIDS. Bids may be rejected if they show any alterations of form, additions or amendments not called for, conditional bids, incomplete bids, erasures, or irregularities of any kind. Bids in which the unit prices for some items are out of proportion to the prices for other items, or bids in which unit prices are not submitted for each item of work listed may be rejected.

BID GUARANTEE. No bid will be considered unless accompanied by a certified check, bank's draft, bank's check, or a surety bond payable to the City of De Pere as designated in the Advertisement for Bids.

SUBMISSION OF BIDS. The bid and Bid Guarantee shall be submitted electronically and/or hard copy as required in the bidding documents. For hard copy submittals. Each bid shall be placed, together with the Bid Guarantee, in a sealed envelope, so marked as to indicate the project number and the name and address of the bidder.

Bids will be received at the office of the Director of Public Works until the hour of the date designated in the Advertisement for Bids.

WITHDRAWAL OF BIDS. All bids filed with the Director of Public Works will be kept secure and unopened and may not be withdrawn, except on written request of the bidder or authorized representative made prior to expiration of the time set for receiving bids. If such withdrawal is made, the prospective bidder shall not be entitled to bid on the contract at hand unless the same is re-advertised and the bid will be returned unopened to such bidder after the public opening of bids.

OPENING OF BIDS. Bids will be opened and read publicly at the time and place indicated in the Advertisement for Bids.

The City of De Pere reserves the right to postpone the date and time for opening of bids at any time prior to the date and time announced in the advertisement.

PREQUALIFICATION OF BIDDERS. Each bidder shall pre-qualify by submitting Proof of Responsibility on forms furnished by the Director of Public Works. Such forms shall be filed with the Director of Public Works not later than the time and date indicated in the Advertisement for Bids. Bidders are required to complete 30% of the Work with their own forces.

COMPETENCY OF BIDDERS. Any one or more of the following may be considered as sufficient for the rejection of the bid or bids and disqualification of the bidder: Developments subsequent to establishment of bidder's competency and qualifications which would reasonably be construed as affecting the responsibility of the bidder. Conviction of a violation of a State or Federal law or regulation relating to or reflecting on the competency of the bidder.

- (a) More than one bid for the same work from an individual, partnership, or corporation under the same or different names.
- (b) Evidence of collusion among bidders.
- (c) Lack of responsibility as shown by past work for the City.
- (d) Noncompliance with terms of previous or existing contracts.

2022 Specifications

City of De Pere

3.6 PRESSURE AND LEAKAGE TEST FOR PRESSURIZED PIPELINES

- A. Provide pressure and leakage tests for pressurized pipelines including but not limited to water main and sewage force main.
 - 1. Testing shall be in accordance with AWWA C605 for PVC pipe, as modified herein.
 - 2. Testing shall be in accordance with AWWA C600 for ductile iron pipe, as modified herein.
- B. Preparations
 - 1. Install temporary plugs or caps, as required, prior to testing.
 - 2. Install thrust restraints before testing including temporary plugs or caps.
 - a. If high-early cement concrete thrust restraints are used, then test after 36 hours of thrust restraint replacement.
 - b. If standard cement concrete thrust restraints are used, then test after 7 days of thrust restraint replacement.
 - 3. At a minimum provide bedding, cover material and partial back fill for buried pipe, except joints maybe left uncovered until testing is completed.
 - 4. Install appurtenances including, but not limited to, hydrants, valves, services and air release valves prior to testing to ensure the entire system is being tested.
 - 5. Filling and flushing with water.
 - a. The Water Department will fill each valved section with maximum velocity of 1 ft. /sec. venting air completely from the pipeline and appurtenances.
 - b. Where permanent air vents are not located at high points or dead ends, install 2" corporation stops/valves with galvanized piping and threaded ends to vent air as the line is filled with water.
 - 1) Close all these corporation stops/valves before applying pressure or leakage tests.
 - 2) At the conclusion of the leakage and pressure test, remove and plug corporation stops/valves, or at the discretion of the Owner left in place.
 - c. Fill the main with water from the Municipal Service Center or from flushing the main to pressure the system to the testing pressure.
 - d. Discharge water without causing erosion, nuisance, or interruption of traffic.
 - 6. Provide test connections and pressurize the pipe to normal working pressure.
 - a. Inspect pipeline and repair visible leaks.
 - b. Re-pressurize pipeline to normal working pressure as many times as necessary until there are no visible leaks.
 - 7. Provide backflow protection acceptable to the owner of the water system when existing water mains are used to supply test water.
- C. Pressure Test
 - 1. At the option of the Contractor, the pressure and leakage tests may be performed at the same time.
 - 2. Test pressure at the lowest point of elevation of the segment being tested shall be not less than 150 (calculate 1.5 times the working pressure or 150 lbs. per sq. inch whichever is more) or at 10 lbs. per sq. inch less than the pressure rating of the pipe, if less than 150 lbs. per sq. inch.
 - 3. Pressurize the system being tested to pressure required above by adding water with high pressure test pump.
 - 4. Repair any visible leaks occurring due to test pressure application.

2022 Specifications

City of De Pere

3.4 BACKFILLING

~~A.~~ Fill all trenches, holes and pits resulting from the breaking down or removal of miscellaneous structures with granular or native backfill per Section 31 23 33, Trenching, Backfilling, and Compacting satisfactory soil, or with broken masonry and satisfactory soil, or with granular backfill.

~~1.~~ Place materials in layers not more than 12 inches in thickness.

~~2.~~ Thoroughly compact each layer by means of tampers, rollers, or vibrators.

~~a.~~ Do not use water to expedite settlement of backfill except with the approval of the Engineer.

~~3.~~ Exclude broken masonry from the top 12 inches of the finished earth grades.

~~4.~~ Unless otherwise provided, backfill earth subgrade, or finished slopes, as may be necessary due to the location of the removed structure.

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END OF SECTION

2022 Specifications

City of De Pere

PART 2 – PRODUCTS

2.1 MATERIALS

A. Concrete

1. Conform to the WisDOT Standard Specifications for Highway and Structure Construction, Latest Edition.
 - a. Class I concrete
 - b. Twenty-eight day compressive strength: 4,000 psi
 - c. Air entrainment:
 - 1) Slip-formed concrete – 7.0 percent, +/- 1.5% percent
 - 2) Other concrete – 6.0% percent, +/- 1.5% percent
 - d. Slump:
 - 1). 2.5 inch or less – Slip-formed
 - 2). 4.0 inch or less – Non-Slip-~~F~~formed

B. Aggregates

1. Conform to WisDOT State Specifications
 - a. Slip formed concrete aggregate shall conform to Soil Class A-6 (1 1/2-Inch Crushed Rock) (WisDOT Size No. 2 Aggregate per 501.2.5.4.5)
 - b. Hand formed concrete aggregate shall conform to either:
 - i. Soil Class A-7 (3/4-Inch Crushed Rock) (WisDOT Size No. 1 Aggregate per 501.2.5.4.5)
 - ii. Soil Class A-6 (1 1/2-Inch Crushed Rock) (WisDOT Size No. 2 Aggregate per 501.2.5.4.5)
2. Conform to ASTM C33.
3. Aggregate Wear: Loss of abrasion and impact shall not exceed 50 percent by mass (AASHTO T96)
4. Aggregate Soundness: The weighted average sodium sulfate loss shall not exceed 12 percent by mass (AASHTO T104)
5. Freeze-Thaw: The weighted average loss shall not exceed 18 percent by mass (AASHTO T103)

C. Reinforcement

1. Conform to the WisDOT Standard Specifications for Highway and Structure Construction, Latest Edition.

D. Joint Sealing

1. ~~All~~ Concrete pavement joints material shall ~~be sealed~~ conform to Section 32 01 17, Crack and Joint Sealing.

2022 Specifications

City of De Pere

E. Curing Material

~~A. Use linseed oil based material conforming to the WisDOT Standard Specifications for Highway and Structure Construction, Latest Edition.~~ Furnish linseed oil based curing compound conforming to ASTM C309.

a. Linseed oil emulsion shall consist of, by volume exclusive of the pigment, 50 +/- 4 percent linseed oil and 50 +/- 4 percent water. Ensure that the oil phase is, by weight, 80 percent boiled linseed oil and 20 percent viscosity (Z-8) linseed oil.

~~A.b.~~ ASTM C309 shall be modified to waive the drying time.

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2.2 EQUIPMENT

A. Concrete Spreader

1. Shall be capable of striking off the surface of the concrete in a longitudinal direction of the slab at any required elevation.

B. Slip-Form Paver

1. Shall be designed to consolidate, screed, and float-finish freshly placed concrete in one complete pass.
2. Shall be equipped to vibrate the concrete for the full width and depth of course.
3. Machine design shall prevent the spreading or slumping of the concrete.

C. Finishing Machine (for Formed Pavement)

1. Shall be of the screeding and troweling type, equipped with at least two oscillating transverse screeds, adjustable tilt, and crown.
2. Machine shall be capable of striking off and consolidating concrete.

D. Vibrators

1. May be pan type or the internal type with immersed tube or multiple spuds.
2. Frequency Requirements:
 - a. Pan Type: 4,000 impulses per minute minimum.
 - b. Internal Type:
 - 1) Tube Vibrators: 5,000 impulses per minute minimum.
 - 2) Spud Vibrators: 7,000 impulses per minute minimum.

2.3 SOURCE QUALITY CONTROL

A. Material Acceptance Testing

1. Design mix.

2022 Specifications

City of De Pere

- B. Perform additional testing under the following circumstances:
 1. Material failure.
 2. Change in ready-mix source.
 3. Design mix changes requested by Contractor.

PART 3 – EXECUTION

3.1 PRE-POUR MEETING

- A. Attend a pre-pour meeting prior to construction with a slip form paver for each paving event, as determined by the Engineer.

3.2 BASE PREPARATION

- A. Prepare in accordance with the WisDOT Standard Specifications for Highway and Structure Construction, Latest Edition.
- B. Before placing concrete:
 1. Remove loose material from compacted base.
 2. Proof-roll prepared base surface to check for unstable areas and the need for additional compaction.
 3. Correct any deficiencies prior to paving.
 4. Adjust all fixtures (i.e., castings, frames, inlets, and valve boxes) per City standards
 5. Moisten the compacted base as required to prevent the base from removing water from the placed concrete.

3.3 PLACING AND FINISHING CONCRETE

- A. Place and finish in accordance with the WisDOT Standard Specifications for Highway and Structure Construction, Latest Edition.

B. Provide a concrete stamp per the detail.

B.C. All concrete joints shall be sealed.

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3.4 CONCRETE CORES

- A. Concrete cores completed by the Contractor shall be repaired with like material as approved by the Engineer.

2022 Specifications

City of De Pere

- D. Compressive strength test shall consist of four standard test cylinders made from a single batch of concrete:
1. Tests to be taken for each 200 cubic yards of concrete placed or at least once each day.
 2. Test one cylinder at 7 days.
 3. Test two cylinders at 28 days.
 4. Remaining cylinder shall be tested in the event prior tests fail.
 5. 28 Day Test Requirements:
 - a. Compressive strength is 4,000 psi.
 - b. No individual test falls more than 500 psi below specified compressive strength.
 - c. If differential strengths of the two specimens is 350 psi or greater, the low strength specimen shall be discarded and the strength of the remaining cylinder shall then be the test result.
 - d. If the test result is below 3500 psi, the test is considered a failure. Also, if either of the two 28 day specimens falls below 3000 psi, the test result is considered a failure.
 6. Failure of compressive strength tests shall result in following additional testing:
 - a. Provide two core samples of each portion of work affected and perform compressive strength tests.
 - b. Replace work if core samples do not equal or exceed specified compressive strength.
 - c. Additional testing shall be completed at the Contractor's expense.

PART 2 – PRODUCTS

2.1 CONCRETE

- A. Conform to ASTM C94, WisDOT State Specifications, and the following:
1. Class II concrete
 2. Twenty-eight Day Compression Strength: 4000 psi.
 3. Aggregate shall conform to either of the following:
 - a. Soil Class A-7 (3/4-Inch Crushed Rock) (WisDOT Size No. 1 Aggregate per 501.2.5.4.5)
 - b. Soil Class A-6 (1 1/2-Inch Crushed Rock) (WisDOT Size No. 2 Aggregate per 501.2.5.4.5)
 4. Minimum Cement Content: 6 bags/c.y.
 5. Air entrainment:
 - a. Slip-formed concrete – 7.0 percent, +/- 1.5 percent
 - b. Other concrete – 6.0 percent, +/- 1.5 percent
 - ~~5. Air Content: 6 percent ± 1.5 percent.~~
 6. Maximum Water-Cement Ratio: .44

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2022 Specifications

City of De Pere

~~A. Use linseed oil based material conforming to the WisDOT Standard Specifications for Highway and Structure Construction, Latest Edition.~~ Furnish linseed oil based curing compound conforming to ASTM C309.

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a. Linseed oil emulsion shall consist of, by volume exclusive of the pigment, 50 +/- 4 percent linseed oil and 50 +/- 4 percent water. Ensure that the oil phase is, by weight, 80 percent boiled linseed oil and 20 percent viscosity (Z-8) linseed oil.

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1.25"

b. ASTM C309 shall be modified to waive the drying time.

~~A. —~~

2.7 CRUSHED AGGREGATE BASE MATERIAL

- A. Aggregates shall consist of hard, durable particles of crushed stone or crushed gravel and a filler of natural sand, stone sand or other finely divided mineral matter.
 - 1. Remove oversize material by screening or by crushing to required sizes.
 - 2. Composite material shall be free from organic matter, shale, and lumps or balls of clay and shall conform to the gradation requirements below.
- B. Liquid Limit and Plasticity Index
 - 1. Aggregate, including any blended filler, shall have a liquid limit of not more than 25 and a plasticity index of not more than 6.
- C. Fracture Count
 - 1. At least 45 percent of particles retained on the No. 4 sieve shall have at least one fractured face.
- D. Soundness
 - 1. When the fraction of aggregate retained on the No. 4 sieve is subjected to five cycles of the sodium sulfate soundness test, weighted loss shall not exceed 18 percent by weight.
- E. Filler for Blending
 - 1. Additional mineral filler required to meet gradation requirements or for satisfactory binding of material shall be uniformly blended with base course material at the screening plant.
- F. Moisture content shall not exceed 7 percent.
 - 1. Additional mineral filler required to meet gradation requirements or for satisfactory binding of material shall be uniformly blended with base course material at the screening plant.

2022 Specifications

City of De Pere

PART 2 – PRODUCTS

2.1 CONCRETE

- A. Concrete shall conform to ASTM C94, the WisDOT State Specification, and the following:
1. Class II concrete
 2. Twenty-eight Day Compressive Strength: 4,000 psi.
 3. Aggregate shall conform to either of the following:
 - a. Soil Class A-7 (3/4-Inch Crushed Rock) (WisDOT Size No. 1 Aggregate per 501.2.5.4.5)
 - b. Soil Class A-6 (1 1/2-Inch Crushed Rock) (WisDOT Size No. 2 Aggregate per 501.2.5.4.5)
 4. Minimum Cement Content: 6 bags/c.y.
 5. Air entrainment:
 - a. Slip-formed concrete – 7.0 percent, +/- 1.5 percent
 - b. Other concrete – 6.0 percent, +/- 1.5 percent
 - ~~5.6. Air Content: 6 percent ± 1.5 percent.~~
 - ~~6.7. Maximum Water-Cement Ratio: .44~~
 - ~~7.8. Slump:~~
 - a. 2.5 inch or less – Slipformed
 - b. 4.0 inch or less – Non-Slipformed

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2.2 CEMENT

- A. Conform to ASTM C150, Type 1.

2.3 AGGREGATES

- A. Conform to WisDOT State Specifications
- B. Conform to ASTM C33.
- C. Aggregate Wear: Loss of abrasion and impact shall not exceed 50 percent by mass (AASHTO T96)
- D. Aggregate Soundness: The weighted average sodium sulfate loss shall not exceed 12 percent by mass (AASHTO T104)
- E. Freeze-Thaw: The weighted average loss shall not exceed 18 percent by mass (AASHTO T103)

2022 Specifications

City of De Pere

2.4 CURING MATERIALS

A. Use linseed oil based material conforming to the WisDOT Standard Specifications for Highway and Structure Construction, Latest Edition. Furnish linseed oil based curing compound conforming to ASTM C309.

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a. Linseed oil emulsion shall consist of, by volume exclusive of the pigment, 50 +/- 4 percent linseed oil and 50 +/- 4 percent water. Ensure that the oil phase is, by weight, 80 percent boiled linseed oil and 20 percent viscosity (Z-8) linseed oil.

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b. ASTM C309 shall be modified to waive the drying time.

~~A.~~

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2.5 EXPANSION JOINT

A. Conform to ASTM D1751.

B. Thickness: ½ inch.

2.6 REINFORCEMENT BAR

A. Conform with WisDOT Standard Specifications for Highway Construction, Latest Edition, Section 505.

B. Grade 60.

C. Minimum Bar Size: #4., Epoxy Coated

2.7 CURB RAMP DETECTABLE WARNING FIELD

A. Provide detectable warning fields in curb ramps in accordance with the requirements of the current edition of the Standard Specification for the State Department of Transportation.

B. Fields to be unpainted cast iron.

C. Acceptable products are:

1. Neenah Foundry

2022 Specifications

City of De Pere

7. Test Plugs:
 - a. The valve bonnet shall be provided with a ½ or 3/8 inch diameter threaded, solid, malleable or cast iron test plug.
8. Stem Seal:
 - a. The valve stem seal shall be O-rings. The compound shall be of Buna N or NBR rubber and have a durometer hardness of 70 +/- 5 when tested in accordance with ASTM Designation D-2240.
9. Operating Nut:
 - a. The valve shall be equipped with a standard 2 inch square operating nut with cast-on directional arrow.
 - b. Valve to open counter clockwise.
10. Valves will be fitted with a three (3) foot long ~~diversified fabricators~~ extension stem with bottom bolts for tightening to the valve at 90 degrees to each other.
 - ~~10-a.~~ Extension stem manufacturer shall be Ess Brothers and Sons Inc. or approved equal.
11. Acceptable Manufacturers:
 - a. Mueller
 - b. Kennedy
 - c. American Flow Control/Waterous
 - d. Clow

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D. Valve Boxes

1. Cast iron, three-piece screw type, 5 ¼ inch shaft, round or oval base sized for valve.
2. Threads shall be cast into top and bottom sections.
3. Cover shall be anti-rattle type mark with the word "water" on top.
4. Acceptable Manufacturers:
 - a. Tyler 6860DD
 - b. Bingham Taylor

2.4 POLYETHYLENE ENCASEMENT FOR DUCTILE IRON PIPE AND FITTINGS

- A. Conform to requirements of AWWA C105.
- B. Type: I
- C. Class: "A" (natural color) or "C" (black).
- D. Grade: "E-1"
- E. Thickness: 8 mils

2.5 WATER MAIN

- A. Pipe material and size shall be stated in the Proposal and shown in the Drawings.
- B. If the material is not stated, water main is to be Polyvinyl Chloride Pipe (PVC).

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D. Tapping or Service Saddles

1. Stainless steel double strap designed for ductile iron pipe.
2. Full circumference wide band stainless steel double bolt designed for PVC pipe.
3. Required for PVC service taps and taps over 1" in diameter for ductile iron pipe.
4. All taps shall be made with a Rockwell 372, Romac, or equal service saddle.

E. Curb Boxes

1. Minneapolis pattern.
2. Cast iron lid with a 1 ¼" threaded brass pentagon plug and the work "Water" on top in raised letters with nut for trace wire.
3. Upper section shall be a minimum 1 ¼" I.D. steel pipe.
4. Base section shall be a minimum 1 ¼" I.D. cast iron.
5. The casting shall be thoroughly coated with bituminous pitch varnish or pipe dip.
6. Provide a McDonald 5660SS 48 inch stationary Type 304 Stainless Steel curb box rod.
7. ~~Length shall be 7 foot bury with a 6 to 8 foot adjustment range.~~ Length shall be 7 ½ foot bury with a 6 ½ to 7 ½ foot adjustment range.
8. Acceptable Manufacturers:
 - a. Mueller H-10300
 - b. Ford EM2-60-57
 - c. McDonald 5614

2.7 TRACER WIRE

A. Wire for Water Main Construction.

1. #10 AWG solid, 21% conductivity annealed copper-clad high carbon steel extra high strength wire.
2. 1150 lbs. average tensile break load.
3. 30 mil high molecular weight high density blue polyethylene jacket, 30 volt rating.

2.8 TRACER WIRE ACCESS BOX

A. Provide access box device in accordance with the following:

1. The covered access device (tracer wire access box) shall have:
 - a. Two pieces to allow for telescoping action adjustment and for frost control.
 - b. Top piece to extend below ground a minimum of 12 inches.
 - c. 2 ½ inch minimum diameter extension from the top piece of the access box to the top of the sewer pipe.
 - d. Lid to be heavy cast iron manufactured in accordance with ASTM A48 Class 25. The top of the lid to be permanently engraved with "WATER" by the manufacturer. The lid is to be furnished with a means of locking the lid such as a standard lockable pentagonal bolt head. Lid to be furnished with connection holes where the tracer wire is to be connected with stainless steel terminal bolts.
2. Acceptable access devices are:
 - a. The Valvco Water Tracer Wire Access Box manufactured by C. P. Test Services-Valvco, Inc, reference:

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- C. The top width of the insulation board frost shield shall be the same as the trench width centered over the pipe.
- D. The sides of the U shall be 2' high with the bottom of the legs at least to the springline of the pipe.
- E. Install the insulation board in layers to provide a minimum thickness of 4" or the thickness stated on the Drawings.
- F. Install such that there are no voids under the insulation.

3.7 POLYETHYLENE ENCASEMENT

- A. Wrap underground ductile iron pipe.
- B. Wrap underground fittings, valves and valve boxes.
- C. Wrap mechanical restraints and accessories.
- D. Wrap all portions of hydrants below grade.

E. Wrap curb stop and box below grade.

F. Install in accordance with AWWA C105.

F.G. Provide Class "C" polyethylene when exposure to sunlight will exceed two weeks.

G.H. The polyethylene wrap shall be cut approximately five (5) feet longer than that of the pipe section and fittings. After assembling the pipe joint, the polyethylene shall be overlapped approximately one (1) foot and at all joints sealed with approved adhesive tape. Additional taping shall be used a three (3) foot intervals along the pipe. Any rips, punctures or other damage to the polyethylene shall be wrapped immediately with adhesive tape. Before installing the polyethylene wrap the exterior of the pipe shall be free of foreign material.

H.I. When valves, tees, crosses, etc., cannot be wrapped practically in a tube, flat sheet or split tube shall be used. All seams shall be taped securely.

I.J. The bedding and cover material shall be placed with care so as to prevent damage to the polyethylene wrap. Any rips or punctures in the wrap shall be repaired immediately.

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3.8 TRACER WIRE

- A. Provide for water main.
- B. Tape wire directly to pipe at a minimum of three points per 20 foot length of pipe.

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City of De Pere

4. Adjusting rings
 - a. Precast concrete minimum of 2 inches thick.
 - b. Rubber: Infra-Riser, Pro-Ring, or approved equal.
 - c. HDPE: Tadtech or approved equal.
5. Eccentric cones, flat slab tops and adjusting rings.
 - a. Shall have a 24 inch diameter opening.
 - b. Shall support AASHTO H-20 loadings.
6. Joints between components.
 - a. Joint design shall be in accordance with ASTM C990.
 - b. Gasket shall be the 1 ¼ inch thick butyl rubber material meeting requirements of AASHTO M-198 Type B flexible plastic gasket and ASTM C990 butyl rubber sealant.
7. Connector between Precast Reinforced Manhole Structures
 - a. Resilient flexible connector shall meet ASTM C923.
 - b. The seal between the flexible connector and the manhole shall be by casting the connector integrally with the manhole wall.
 - c. The seal between the connector and the pipe shall be by compression of the resilient material against the outside of the pipe.
 - d. Factory made manholes shall use A-Lok, Z-Lok, or equal.
 - e. Where an existing manhole is core drilled in the field, the flexible connector shall be NPC Inc., Kor-N-Seal or Press-Seal Gasket Corporation PSX:Positive Seal.

B. Bituminous plastic cement shall meet Federal Specification SS-C-153C, Type I.

C. Manhole Steps

1. Steel reinforced copolymer polypropylene meeting ASTM C478.
2. Copolymer polypropylene shall meet ASTM D4101.
3. Steel reinforcement shall be ASTM A615, Grade 60, ½ inch minimum steel reinforcing rod.
4. Step shall be 12 inches wide and project from the wall between 5 inches and 7 inches.
5. Minimum design live load shall be a single concentrated load of 300 lbs. when in place.

D. Castings

1. Shall be ASTM A48, Class 35B, gray iron.
2. Manhole frame and covers shall be non-rocking.
3. Manhole covers for sanitary sewer shall be self-sealing with concealed pick hole.
4. Shall be of uniform quality free from blowholes, shrinkage, discoloration and other defects.
5. Shall be heavy duty designed for AASHTO H-20 loads.
6. Type 1 Frame and Cover: Neenah Foundry No. R1500 unless stated elsewhere in the proposal or as shown on the drawings.

2.4 PIPE EMBEDMENT MATERIAL

- A. Soil Class A-7 or A-8 crushed rock per section "Soils and Aggregates".

2022 Specifications**City of De Pere**

2. AASHTO M198 Joints for Circular Concrete Sewer and Culvert Pipe Using Flexible Watertight Gaskets.

C. Federal Specifications (FS):

1. FS SS-C-153C Cement, Bituminous, Plastic.

1.3 SUBMITTALS

- A. A manufacturer's certification for each product stating that the products were manufactured in accordance with the designated reference standards with test results and date of tests.

PART 2 – PRODUCTS

2.1 PIPE

A. Sewer Pipe

1. Concrete sewer pipe shall be in accordance with 33 00 01 Concrete Pipe-Reinforced.
2. PVC Sewer Pipe shall be in accordance with Section 33 00 02 Polyvinyl Chloride (PVC) Pipe and Fittings.
3. CMCP shall be in accordance with Section 33 00 04 Corrugated Metal Culvert Pipe and Fittings.
4. Pipeline material shall be as stated in the proposal schedule or as shown on drawings
5. Pipe diameters shall be as shown on drawings.

B. Wyes, Tees, Risers and Fittings

1. Wyes, tees and fittings shall be the same type of material and class as the mainline pipe.
2. Risers and fittings shall be the same material and class as the service connections.
3. Allowable lateral connections for mainline pipe greater than 12" diameter is as follows below. Installation shall conform to manufacturer's recommendation based on pipe type.
 - a. RCP Pipe - NPC Kor-N-Tee, Multi-Tite Gasket, ~~ProFlow Gasket~~, ADS Inserta Tee Onefit or Engineer approved equal.
 - b. PVC/PP – Kor-N-Tee Saddle, Multi-Tite Pipe Saddle, ADS Inserta Tee Onefit or Engineer approved equal.
 - c. Lateral, Fernco Multi-Tite Pipe Gaskets or Saddle Connector as recommended by the manufacturer may be used where mainline pipe is greater than 12" diameter.

2.2 TRANSITION COUPLINGS

A. Couplings for transition between dissimilar pipe diameters or dissimilar pipe materials

1. Fernco Inc. or Mission Rubber Company are acceptable manufacturers.
2. Conform to ASTM C1173.
3. Provide stainless steel shear rings, bands, nuts and housings of marine grade stainless steel conforming to ASTM A240.

2022 Specifications

City of De Pere

2.3 MANHOLES AND INLETS

A. Precast Reinforced Concrete Manholes and Inlets

1. Components including base sections, riser sections, grade rings (adjustment rings), eccentric cone, flat slab top and manhole reducing bench shall meet ASTM C478 and rectangular, inlets and catch basins shall meet ASTM C913.
2. Base section shall include base riser section with integral monolithic bottom extending minimum of 6 inches beyond riser section.
3. Tops for manholes shall be eccentric cone or, if required elsewhere, flat slab top.
4. Adjusting rings
 - a. Precast concrete: minimum of 2 inches thick.
 - b. Rubber: Infra-Riser, Pro-Ring, or approved equal.
 - c. HDPE: Tadtech or approved equal.
 - d. Inlet rings shall be tapered longitudinally when the inlet is not at the low point.
5. Eccentric cones, flat slab tops and adjusting rings.
 - a. Shall have a 24 inch diameter opening.
 - b. Shall support AASHTO H-20 loadings.
6. Joints between components.
 - c. Joint design shall be in accordance with ASTM C990.
 - d. Gasket shall be the 1 ¼ inch thick butyl rubber material meeting requirements of AASHTO M-198 Type B flexible plastic gasket and ASTM C990 butyl rubber sealant.
7. Connection between Manhole Structures and Storm Sewer Pipe.
 - a. Provide a non-shrink grout.

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B. Bituminous plastic cement shall meet Federal Specification SS-C-153C, Type I.

C. Manhole Steps

1. Steel reinforced copolymer polypropylene meeting ASTM C478.
2. Copolymer polypropylene shall meet ASTM D4101.
3. Steel reinforcement shall be ASTM A615, Grade 60, ½ inch minimum steel reinforcing rod.
4. Step shall be 12 inches wide and project from the wall between 5 inches and 7 inches.
5. Minimum design live load shall be a single concentrated load of 300 lbs. when in place.

D. Castings

1. Shall be ASTM A48, Class 35B, gray iron.
2. Manhole frame and covers shall be non-rocking.
3. Shall be of uniform quality free from blowholes, shrinkage, discoloration and other defects.
4. Shall be heavy duty designed for AASHTO H-20 loads.
5. Manhole Castings: Neenah Foundry No. R1500, unless stated elsewhere in the proposal or as shown on the drawings.
6. Type A Field Inlet Casting: Neenah Foundry No. 1500 with R2100 Grate Type "A".
7. Type B Inlet Casting: Neenah Foundry No. 3067-L, 7007B curb box with language for dump no waste drains to freshwater.
8. Beehive Grate and Casting: Neenah Foundry No. R-2560-D3.



DEPARTMENT OF PUBLIC WORKS

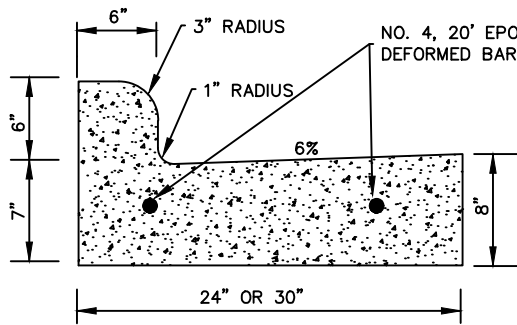
STANDARD DETAILS

JANUARY 10, 2022

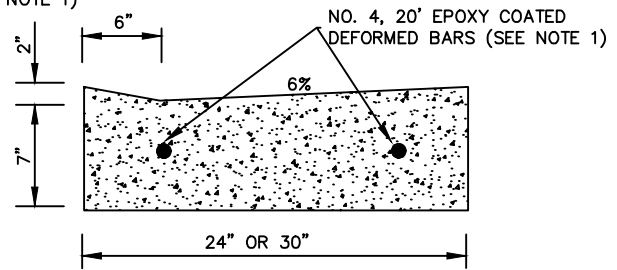
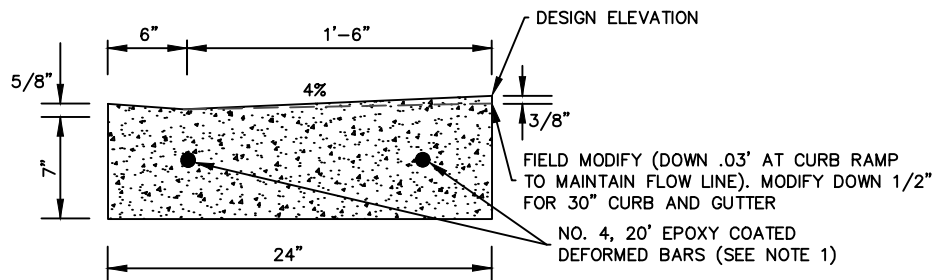
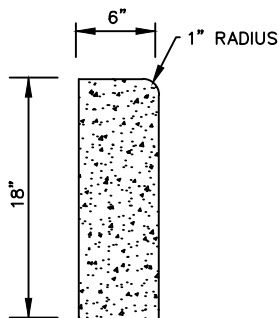
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STANDARD DETAIL DRAWINGS

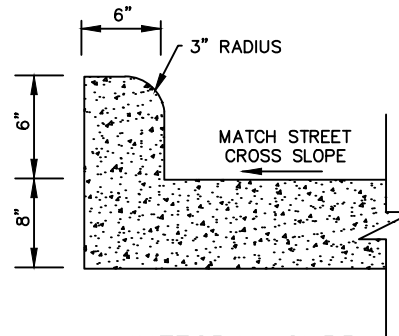
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DIVISION 31	
TB-1	TRENCHING AND BACKFILLING
DIVISION 32	
C-1	RESIDENTIAL CONCRETE DRIVEWAYS
C-2	DUPLEX DRIVEWAYS
C-3	CONCRETE SIDEWALKS AND DRIVEWAYS
C-4	CONCRETE SIDEWALK REINFORCEMENTS
C-5	CONCRETE CURB, CURB AND GUTTER, AND GUTTER
C-6	TRANSVERSE JOINTS
C-7	LONGITUDINAL JOINTS
C-8	CONCRETE STAMP
C-9	CONCRETE SIDEWALKS GRINDING DETAIL
<u>C-10</u>	<u>CRACKED CONCRETE SIDEWALK REPAIR DETAIL</u>
P-1	EXCAVATION IN ASPHALT PAVEMENT
P-2	PATCH WORK IN ASPHALT PAVEMENT
P-3	EXCAVATION IN CONCRETE PAVEMENT
P-4	PATCH WORK IN CONCRETE PAVEMENT
P-5	CORE OR BORE HOLE REPLACEMENT DETAIL IN CONCRETE OR ASPHALT
DIVISION 33	
S-1	PRECAST CONCRETE MANHOLE
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S-3	PRECAST CONCRETE CONES AND COVERS ASTM C478
S-4	CHANNELIZATION
S-5	CHANNELIZATION
S-6	TYPE B INLET
S-7	SANITARY, STORM, AND WATER SERVICES
S-8	RISER FOR SERVICE CONNECTIONS
FI-1	TYPE A FIELD INLET
TW-1	SEWER TRACER WIRE
TW-2	WATER TRACER WIRE
W-1	HYDRANT
W-2	RESILIENT SEATED GATE VALVE
W-3	BUTTRESS FOR TEES, PLUGS, AND BENDS
W-4	WATERMAIN OFFSET



CURB AND GUTTER

DRIVEWAY
GUTTERPEDESTRIAN CURB RAMP
GUTTER

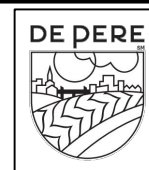
CURB



INTEGRAL CURB

NOTES:

1. 2--NO. 4, 20' EPOXY COATED DEFORMED BARS SHALL BE INSTALLED CENTERED OVER EACH SERVICE AND UTILITY TRENCH OR AS DIRECTED BY THE ENGINEER. FOR TRENCHES LYING UNDER THE CURB AND RUNNING PARALLEL TO THE CURB THE BARS SHALL BE INSTALLED FULL LENGTH OF THE TRENCH.
2. ALL EXPOSED EDGES OF THE CONCRETE SHALL BE FINISHED WITH AN EDGING TOOL HAVING A RADIUS OF 1/4 INCH UNLESS OTHERWISE NOTED.

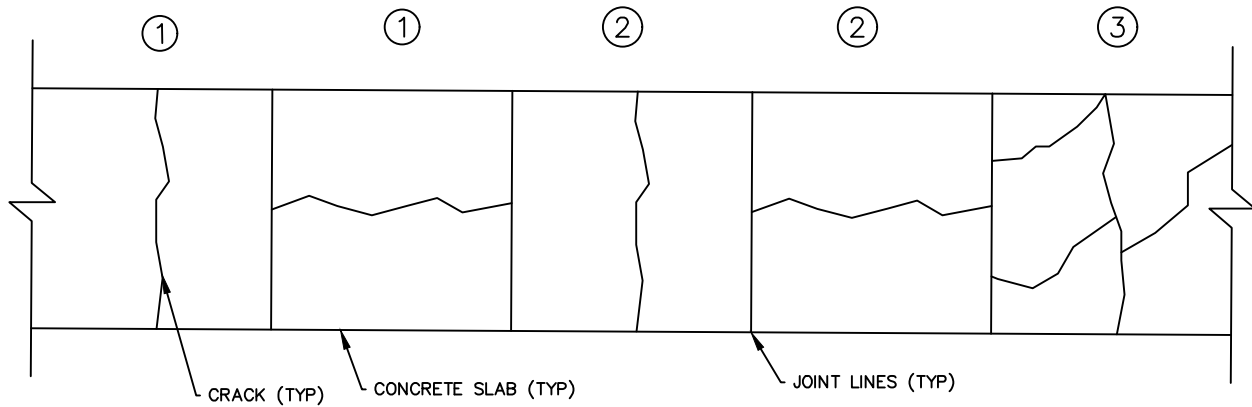


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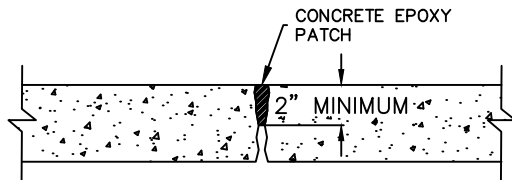
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DE PERE, WI 54115OFFICE 920-339-4061
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CURB AND GUTTER
AND GUTTER

DIVISION: 32

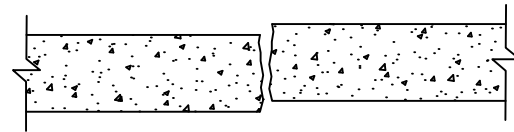
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PLAN VIEW—CRACK LOCATION



① TYPICAL SECTION

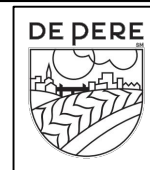


② TYPICAL SECTION

NOTES:

- ① IF THE SIDEWALK PANEL IS CRACKED WITH NO HEIGHT VARIATION ACROSS THE CRACK, THE SIDEWALK PANEL MAY BE REPAIRED USING CONCRETE EPOXY. IF REPAIRED WITH ANY MATERIAL OTHER THAN CONCRETE EPOXY, THE SIDEWALK PANEL WILL BE REMOVED AND REPLACED.
- ② IF SIDEWALK PANEL IS CRACKED WITH A HEIGHT VARIATION ACROSS THE CRACK, THE SIDEWALK PANEL MUST BE REMOVED AND REPLACED.
- ③ IF SIDEWALK PANEL HAS MORE THAN 10 FEET OF HORIZONTAL CRACKS, THE SIDEWALK PANEL MUST BE REMOVED AND REPLACED.

REQUIRED REPAIR (PER NOTE 1 ABOVE)—
CRACKS THAT CAN BE REPAIRED WITH CONCRETE EPOXY SHALL BE REPAIRED BY ROUTING THE CRACK AND REMOVING LOOSE MATERIAL TO A DEPTH OF AT LEAST 2 INCHES. THE CRACK SHALL BE FILLED TO BE FLUSH WITH THE SURROUNDING CONCRETE.



ENGINEERING DIVISION

925 S. SIXTH ST
DE PERE, WI 54115

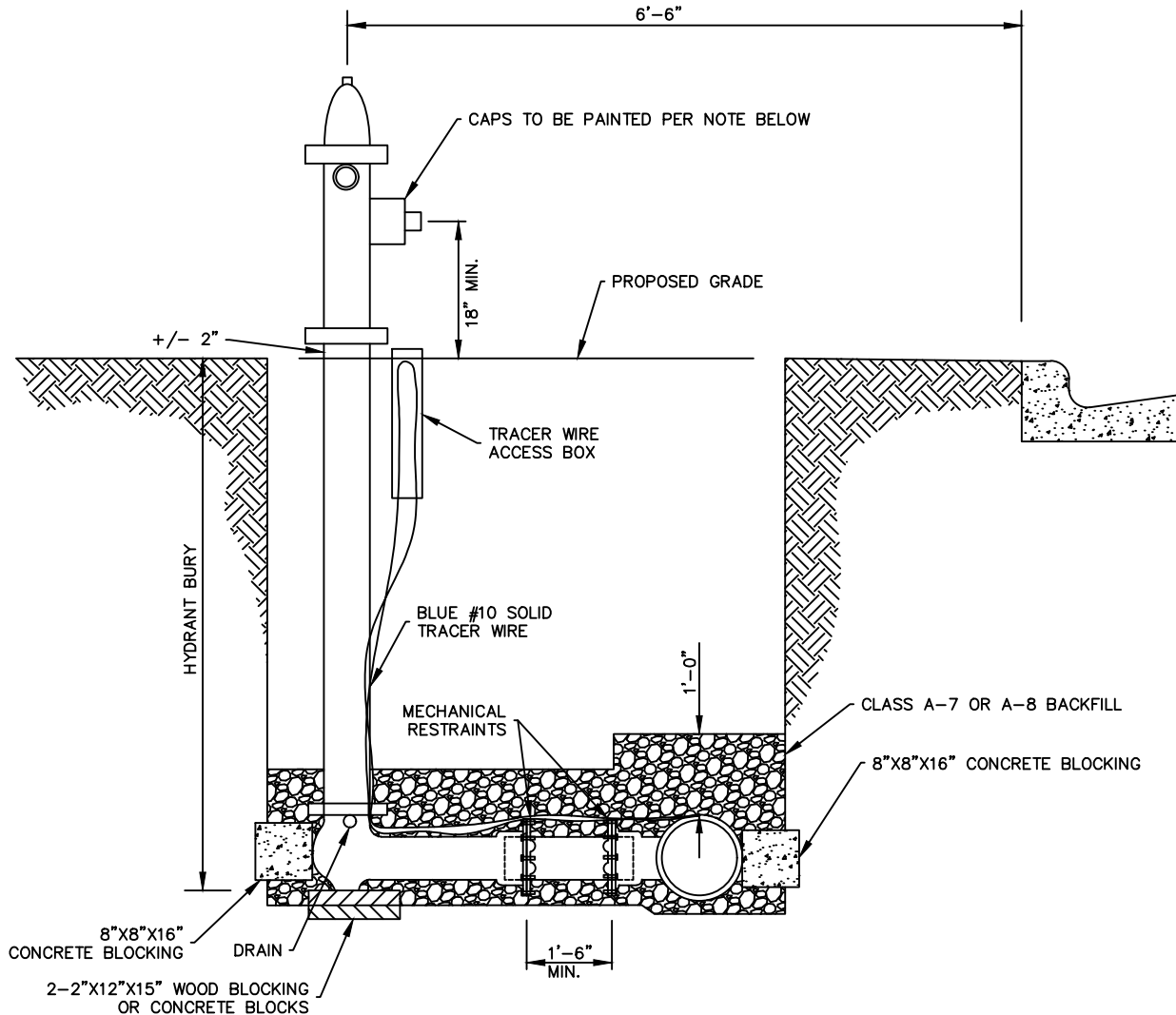
OFFICE 920-339-4061
FAX 920-339-4071

TITLE:
CRACKED CONCRETE
SIDEWALK REPAIR
DETAIL

DIVISION: 32

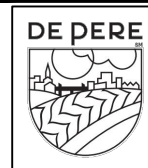
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C-10

DATE: 01/2022
BY: KAD
CHECKED: FDP



NOTES:

- HYDRANTS SHALL BE SET VERTICAL.
- CONCRETE BLOCKING AND WOOD BLOCKING SHALL BE INSTALLED AGAINST FIRM NATURAL GROUND AS REACTION BACKING FOR TEE AND HYDRANT SHOE.
- REGARDLESS OF DEPTH OF MAIN, THE BREAKAWAY FLANGE MUST BE +/- 2 INCHES ABOVE THE PROPOSED GRADE.
- ALL HYDRANTS SHALL BE CLEANED AND REPAINTED TO ELIMINATE ANY SCRATCHED AND SURFACE IMPERFECTIONS. THIS SHALL BE ACCOMPLISHED AFTER THE HYDRANT HAS BEEN INSTALLED, BACKFILLED AND TESTED.
- ENCASE ENTIRE HYDRANT IN POLYETHYLENE ENCASEMENT.
- TRACER WIRE SHALL BE RUN UP HYDRANT.
- BLOCKING AND MEGA LUGS REQUIRED.
- HYDRANT CAPS TO BE PAINTED PER THE NFPA STANDARD 291, BASED ON FLOWS AS DETERMINED BY THE ENGINEER:
 - CLASS AA- LIGHT BLUE - RATED CAPACITY OF 1500 GPM
 - CLASS A - GREEN - RATED CAPACITY OF 1000-1499 GPM
 - CLASS B - ORANGE - RATED CAPACITY OF 500-999 GPM
 - CLASS C - RED - RATED CAPACITY OF LESS THAN 500 GPM



ENGINEERING DIVISION
925 S. SIXTH ST
DE PERE, WI 54115

OFFICE 920-339-4061
FAX 920-339-4071

TITLE:
HYDRANT

DIVISION: 33

DRAWING NO:
W-1

DATE: 12/2021
BY: KAD
CHECKED: FDP