ADDENDUM NO. 1

PROJECT MANUAL

2017 WATER PROJECTS–VALVE CUT-INS
PROJECT NO. 17102
OAK CREEK WATER AND SEWER UTILITY, WISCONSIN

Bids will be received until 9 A.M., local time, June 8, 2017.

This Addendum to the Project Manual is issued to modify, explain, or correct the original Project Manual and is hereby made part of the Contract Documents. Insert the number of this Addendum in the blank space provided in the Bid, page 00400-2.

A. DETAILED SPECIFICATIONS

1. Page 82

   a. WisDOT Permit

   ADD the attached permit immediately following Existing Water Main As-Built Drawings.

   b. Hydrostatic Test Water WPDES General Permit

   ADD the attached the permit immediately following the WisDOT Permit.

B. DRAWINGS

1. SHEET NO. 6–PROPOSED 8" CUT-IN VALVE

   REPLACE the existing Sheet 6 with **REVISED** Sheet 6, which indicates full width pavement replacement at this location.

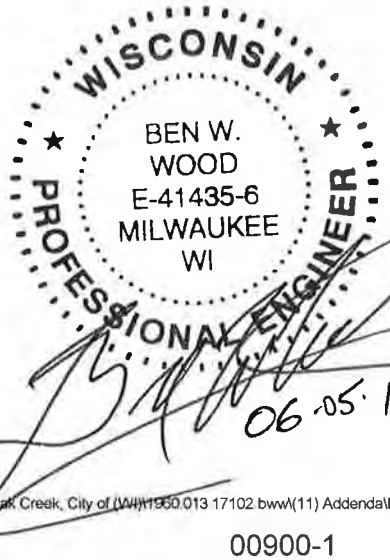
****

BIDDERS MUST ACKNOWLEDGE RECEIPT OF THIS ADDENDUM IN THE SPACE PROVIDED IN THE BID FORM

****

Dated at Milwaukee, Wisconsin
June 2, 2017

STRAND ASSOCIATES, INC.®
126 North Jefferson Street, Suite 350
Milwaukee, WI 53202



DT1553 12/2010

APPLICATION / PERMIT

Wisconsin Department of Transportation

TO CONSTRUCT, OPERATE and MAINTAIN UTILITY FACILITIES ON HIGHWAY RIGHT-OF-WAY

s.66.0831, 84.08, 85.15, 86.07(2), 86.16, 182.017 and such other applicable Wis. Stats.

1. Applicant (Utility facility owner) Name and Address

Oak Creek Water and Sewer Utility
170 W. Drexel Ave.
Oak Creek, WI 53154

2. Work Start Date: 6/19/2017

3. Work Finish Date*: 8/31/2017

4. Is the work due to a WisDOT highway project?

☐ Yes ☒ No

5. Applicant Work Order (If any)

6. Location Description (¼ section, section, town, range; provide plat map or location sketch)

NE1/4 OF S26, T5N, R22E

7. Work Location (Check/list all that apply)

☐ Town: _____
☐ Village: _____
☒ City: Oak Creek
☒ County: Milwaukee

8. Highway (Check all that apply)

☒ WIS 32
☐ US _____
☐ Interstate _____
☐ _____

9. Facility Type (Check all that apply):
Size (Diameter, kV, pressure, # fibers, etc.)

☐ Telecom: _____
☐ Electric: _____
☐ Gas/Oil: _____
☒ Water: 20" Ductile Iron
☐ San Sewer: _____
☐ _____: _____

☒ Transmission ☒ Service: Std
☒ Distribution ☐ Service: Exp

10. Facility Orientation (Check all that apply)

☐ Crossing R/W ☒ Parallel R/W
☒ Underground ☐ Overhead
☐ Structure attachment

11. Work Types (Check all that apply)

☐ New construction
☒ Improve/repair existing
☐ Removal
☐ Maintenance
☐ Discontinued, left in place
☐ Joint installation

12. Proposed Work Methods (Check all that apply)

☒ Trench ☐ Plow
☐ Casing ☐ Rock blasting
☒ Open cut pavement

Bore:
☐ Hydraulic (Auger/Jack)
☐ Pneumatic (Mole)
☐ Directional 1 (Manually tracked)
☐ Directional 2 (Computer tracked)
☐ Unknown (At this time)

Attach to poles/towers:
☐ New ☐ Existing ☐ Guys**

_____ _____
(Diameter) (Name of existing owner)
(** Provide details for all guy wires on plan sheets)

Subsurface utility excavation:
☐ Water jetting ☒ Vacuum

Tree/vegetation control:
☐ Cut and/or trim ☐ Mow
☐ Chemically treat

13. Work Zone Description (Check all that apply)

☐ Full road closure: detour
☐ Full road closure: temporary
☐ Lane closure: without flagging
☐ Lane closure: with flagging
☒ Lane encroachment (2 feet or less)
☒ Intersection/roundabout
☐ Shoulder/parking lane closure
☐ Off shoulder: within clear zone
☐ In R/W: outside clear zone
☐ Near R/W line: within clear zone
☐ Near R/W line: outside clear zone
☐ Not applicable

14. Is the proposed facility near a survey monument?
(See HMM 09-15-35)

☐ Yes (Call: 1-866-568-2852 or e-mail: geodetic@dot.wi.gov)
☒ No

15. Will any appurtenances be installed with the facility?
(If yes, provide a description and/or specification of each item with this application.)

☒ Yes ☐ No

16. Trans 401 project designation?
(For all Major projects, provide a formal erosion control plan with this application. See HMM 09-15-55)

☐ Minor ☒ Major

17. Are any environmental permits, certifications or approvals required from other regulatory agencies?
(If yes, provide a copy of each item or proof of agency coordination with this application.)

☒ Yes ☐ No

*** NOTE: If the work described is not completed by the "Work Finish Date" specified, this permit is null and void, and the work shall not be completed unless authorized through a subsequent permit or an approved time extension. *ANY PERMIT ISSUED IS REVOCABLE.***

18. Utility Person Responsible for Construction (Area Code) Telephone Number

Seth Ricker 414-570-8200

19. Utility or Project 24/7 Emergency Contact (Area Code) Telephone Number

Ron Pritzlaff 414-852-3910

20. Is the utility a member of Diggers Hotline?

☒ Yes ☐ No, provide line-locate number _____

21. Provide additional project work details, if needed (Continue on back or include separate page)

Two 20" cut-in valves will be installed at the intersection of S. Chicago Road and E. Garden Place on the existing 20" water main. Contractor will be required to keep both lanes of traffic open on S. Chicago Road as well as maintaining access to

It is understood and agreed that approval is subject to applicant's full compliance with the pertinent statutes, as well as any rules and regulations of other jurisdictional agencies, which may be more restrictive, and with the Wisconsin Department of Transportation's *Utility Accommodation Policy (UAP)*, current edition.
http://wisconsindot.gov/Pages/doing-bus/real-estate/permits/utility-uap.aspx

Ben W. Wood, P.E. 05/18/2017
(Signature of Authorized Representative – If filled via computer, Brush Script font) (Date)

22. If not employed by applicant, authorized representative's company name and address

Strand Associates, Inc.
126 N Jefferson St.
Suite 350
Milwaukee, WI 53202

Ben Wood, P.E.
(Title and/or print name)

414-271-0771 ben.wood@strand.com
(Authorized Representative Telephone Number) (Authorized Representative E-mail Address)

This permit does not transfer any land; nor give, grant or convey any land right, right in land, nor easement in WisDOT right-of-way. It is not assignable or transferrable. If ownership in a utility facility changes, WisDOT may void and supersede a permit and reissue it to the new owner upon request and with sufficient proof of ownership.

↓ For Wisconsin DOT Use Only ↓

☒ **THE UTILITY SHALL NOTIFY WisDOT 3 DAYS BEFORE STARTING WORK AT:**

Region contact, title, office address, telephone number, and e-mail address

Todd Deloria, UPE
WisDOT SE Region
141 NW Barstow Street
Waukesha, WI 53187
262-521-4461
dotdtsdseutilitypermits@dot.wi.gov

☒ **REVIEW ALL SUPPLEMENTAL PERMIT PROVISIONS**
☒ **REVISIONS MADE to DRAWINGS or OTHER PAGES**
☒ Lane Closure System notification required: HMM 09-15-60
☐ Insurance or performance bond required
☐ Joint installation: See permit(s) #_____
☐ Private utility (Non-public ownership and/or use)
☐ Expedited Service Connection Permit
☐ This permit voids & supersedes #_____ issued: _____
☐

Date Application Received	5/18/2017
Date Application Completed	5/30/2017
Date Application Denied	
Permit Issuance Date	6/2/2017
Permit Extension Date	
Permit Number	40U-71-17

WisDOT Improvement Project ID Numbers (if applicable)

Todd Deloria
(WisDOT Authorized Representative Signature – If filled via computer, Brush Script font)

Use this section to provide information that does not fit on front page

E. Garden Place. As part of the project, there are 4 other proposed valves locations throughout the City of Oak Creek, not in the WisDOT ROW. The specfications state that the contractor can begin at any of the 5 proposed locations in between the work start date and work finish date. However, once the contractor begins work at one of the locations, all 5 locations must be completed within 45 days and before August 31, 2017. See attached plan set for cut in valve locations.

WISDOT NOTES:
-WISDOT PERMIT IS ONLY VALID WITHIN WISDOT R/W FOR THE PROJECT AREA SPECIFIED UNDER PERMIT 40U-71-17
-CONTACT DIGGERS HOTLINE A MINIMUM OF 3 DAYS PRIOR TO WORK STARTING
-MAKE REQUEST TO LANE CLOSURE SYSTEM A MINIMUM OF 7 DAYS PRIOR TO WORK STARTING AS STH 32 IS AN OSOW ROUTE
-A FLAGGER WILL BE REQUIRED IF ACCESS TO E GARDEN PLACE WILL BE RESTRICTED TO A SINGLE LANE
-PAVEMENT WILL BE REPLACED IN-KIND PER THE SPECIFICATIONS PROVIDED IN THE PROVISIONS
-ANY EXCAVATION UNDER UNDER THE PAVEMENT MUST BE SLURRY BACKFILLED, SEE ATTACHED BACKFILL DOCUMENT FOR DETAILS
-NOTE AMMENDED TRAFFIC CONTROL

INDEMNIFICATION

This Applicant shall save and hold the State, its officers, employees, agents, and all private and governmental contractors and subcontractors with the State under Chapter 84 Wisconsin Statutes, harmless from actions of any nature whatsoever (including any by Applicant itself) which arise out of, or are connected with, or are claimed to arise out of or be connected with any of the work done by the Applicant, or the construction or maintenance of facilities by the Applicant, pursuant to this permit or any other permit issued by the State for location of property, lines or facilities on highway right-of-way, (1) while the Applicant is performing its work, or (2) while any of the Applicant's property, equipment, or personnel, are in or about such place or the vicinity thereof, or (3) while any property constructed, placed or operated by or on behalf of Applicant remains on the State's property or right-of-way pursuant to this permit or any other permit issued by the State for location of property, lines or facilities on highway right-of-way; including without limiting the generality of the foregoing, all liability, damages, loss expense, claims, demands and actions on account of personal injury, death or property loss to the State, its officers, employees, agents, contractors, subcontractors or frequenters; to the Applicant, its employees, agents, contractors, subcontractors, or frequenters; or to any other persons, whether based upon, or claimed to be based upon, statutory (including, without limiting the generality of the foregoing, worker's compensation), contractual, tort, or whether or not caused or claimed to have been caused by active or inactive negligence or other breach of duty by the State, its officers, employees, agents, contractors, subcontractors or frequenters; Applicant, its employees, agents, contractors, subcontractors or frequenters; or any other person. Without limiting the generality of the foregoing, the liability, damage, loss, expense, claims, demands and actions indemnified against shall include all liability, damage, loss, expense, claims, demands and actions for damage to any property, lines or facilities placed by or on behalf of the Applicant pursuant to this permit or any other permit issued by the State for location of property, lines or facilities on highway right-of-way in the past or present, or that are located on any highway or State property or right-of-way with or without a permit issued by the State, for any loss of data, information, or material; for trademark, copyright or patent infringement; for unfair competition or infringement of personal or property rights of any kind whatever. The Applicant shall at its own expense investigate all such claims and demands, attend to their settlement or other disposition, defend all actions based thereon and pay all charges of attorneys and all other costs and expenses of any kind arising from any such liability, damage, loss, claims, demands and actions.

Any transfer, whether voluntary or involuntary, of ownership or control of any property constructed, placed or operated by or on behalf of the Applicant that remains on the State's property or right-of-way pursuant to this permit shall not release Applicant from any of the indemnification requirements of this permit, unless the State is notified of such transfer in writing. Any acceptance by any other person or entity, whether voluntary or involuntary, of ownership or control of any property constructed, placed or operated by or on behalf of the Applicant that remains on the State's property or right-of-way pursuant to this permit, shall include acceptance of all of the indemnification requirements of this permit by the other person or entity receiving ownership or control.

Notwithstanding the foregoing, a private contractor or subcontractor with the State under Chapter 84 Wisconsin Statutes, that fails to comply with sections 66.0831 and 182.0175 Wisconsin Statutes (2007-2008), remains subject to the payment to the Applicant of the actual cost of repair of intentional or negligent damage by the contractor or subcontractor to any property, lines or facilities placed by or on behalf of the Applicant pursuant to this permit or any other permit issued by the State for location of property, lines or facilities on highway right-of-way, and remains subject to payment to the Applicant for losses due to personal injury or death resulting from negligence by the contractor or subcontractor.

Notwithstanding the foregoing, if the State, or its officers, employees and agents, fail to comply with sections 66.0831 and 182.0175 Wisconsin Statutes (2007-2008), the State or its officers, employees and agents, remain subject to the payment to the Applicant of the actual cost of repair of willful and intentional damage by the State, or its officers, employees and agents, to any property, lines or facilities placed by or on behalf of the Applicant pursuant to this permit or any other permit issued by the State for location of property, lines or facilities on highway right-of-way, and remain subject to payment to the Applicant for losses due to personal injury or death resulting from negligence by the State, its officers, employees and agents.

No indemnification of private contractors or subcontractors with the State under Chapter 84 Wisconsin Statutes, shall apply in the event of willful and intentional damage by such private contractors or subcontractors to the property, lines and facilities of the Applicant located on the highway right-of-way pursuant to this permit or any other permit issued by the State for the location of property, lines or facilities on highway right-of-way.

☒ **Start Work Notice:**

1) Prior to the start of utility construction, the utility operator **MUST** forward a copy of the attached utility start work notice to the Wisconsin Department of Transportation (WisDOT) regional utility permit coordinator. Failure to do so will result in revocation of this permit.

☒ **Permit Requirements:**

2) There shall be no deviations from the approved construction plans covered under this permit without additional written authorization from the WisDOT utility permit coordinator.

3) A complete copy of the permit WisDOT issues a utility for its proposed work shall be in the possession of the utility's work force, consultant, contractor or subcontractor at all times when work is being performed within the right-of-way (R/W). This includes a copy of WisDOT's approval for a service connection under an Expedited Service Connection Permit (ESCP). Electronic copies are acceptable.

4) Failure to maintain a permit on the work site shall cause this permit to become null and void. A subsequent permit will be required to complete the previously permitted work.

5) This permit is valid only for utility construction on WisDOT controlled highway right-of-way. Permits from other federal, state, county and local agencies may be required.

6) Utility construction shall not interfere with any WisDOT construction project or maintenance operation.

7) Underground facility locates shall be done prior to construction.

☐ **Work Time Restrictions:**

8) See Permit.

☒ **Work Zone Traffic Control:**

9) Work Zone Traffic Control (WZTC) shall be in accordance with the Wisconsin Manual of Uniform Traffic Control Devices (WMUTCD) chapter VI.

10) Traffic control shall be maintained throughout construction and shall be altered at anytime upon the request of WisDOT, the county or local highway department or any law enforcement agency.

11) Flaggers shall be used whenever conditions warrant.

12) At the end of each work day, construction signage shall be knocked down or removed. Turning sign faces away from traffic is no longer allowed.

13) Signage in place longer than 7 continuous calendar days shall be post mounted per the attached detail.

☒ **Wisconsin Lane Closure System (LCS) Notification:**

14) Lane, shoulder, ramp closures or encroachments require lane closure notification to the southeast region traffic engineer. The LCS request shall be sent to WisDOT for review and approval **14 calendar days** prior to the need for a freeway closure, **3 business days** prior to the need for a non-freeway closure, and **7 calendar days** prior to the need for an OSOW closure.
15) The utility or their contractor shall set up an account and request lane closures at the following link: http://transportal.cee.wisc.edu/closures/

☐ **I-94 North/South Freeway and ZOO Interchange Projects Lane Closures and Restrictions:**

16) Prior to the start of construction all lane closures and restrictions shall also be coordinated with WisDOT Traffic Coordinator Stephanie Leranth at 414-750-1397 or Stephanie.Leranth@dot.wi.gov

☒ **WisDOT Holiday Shutdowns:**

17) No utility work with the exception of emergency work shall be performed during the following holidays. All work shall stop prior to and resume after the holidays on the following dates and times. All unnecessary traffic control shall be knocked down or moved outside the clear zone:

Memorial Day: From noon Friday, May 26, 2017 to 6:00 AM Tuesday, May 30, 2017;
US Open: From noon Friday, June 9th 2017 to 6:00 AM Tuesday, June 20th 2017(Select highways);
Independence Day: From noon Friday, June 30, 2017 to 6:00 AM Wednesday, July 5, 2017;
Labor Day: From noon Friday, September 1, 2017 to 6:00 AM Tuesday, September 5, 2017;
Thanksgiving: From noon Wednesday, November 22, 2017 to 6:00 AM Monday, November 27, 2017;
Christmas: From noon Friday, December 22, 2017 to 6:00 AM Friday, December 29, 2017;
New Years: From noon Friday, December 29, 2017 to 6:00 AM Wednesday, January 3, 2018
Memorial Day: From noon Friday, May 25, 2018 to 6:00 AM Tuesday, May 29, 2018;
Independence Day: From noon Tuesday, July 3, 2018 to 6:00 AM Thursday, July 5, 2018;
Labor Day: From noon Friday, August 31, 2018 to 6:00 AM Tuesday, September 4, 2018;
Thanksgiving: From noon Wednesday, November 21, 2018 to 6:00 AM Monday, November 26, 2018;
Christmas: From noon Friday, December 21, 2018 to 6:00 AM Friday, December 28, 2018;

☐ **Wisconsin State Fair:**

18) No utility work shall take place on XXXX during Wisconsin State Fair from August 3, 2017 through August 13, 2017.

☐ **Survey Monuments:**

19) **NOTE:** The proposed utility work is at or near a WisDOT survey monument. Prior to any construction activity the utility operator shall contact WisDOT at 1-866-568-2852 or geodetic@dot.wi.gov

☐ **Freeway System Entry Restrictions:**

20) There shall be no entry to the freeway system right-of-way inside the security fences towards the surface of the traveled way for any reason.

☐ **Utility Installation at Risk:**

21) The proposed facility is being installed at the risk & expense of the facility owner/operator. The work authorized in this permit is within the limits of a future WisDOT improvement project. If the proposed facility will require future relocation and/or adjustment, it will be at the facility owners' expense.

☒ **Erosion Control:**

22) Prior to the start of construction, all applicable erosion control devices including inlet protection shall be placed, inspected, monitored and maintained on a daily basis by the utility operator or their contractor.

23) Spoil removed from excavations shall be placed in an upland area. The perimeter of each spoil pile shall be wrapped with silt fence or other devices to prevent soil loss or soil run off.

24) Whenever construction operations require dewatering, the displaced water shall be pumped through filter fabric bags or temporary settling basins constructed prior to discharge from the work site.

25) Inlet protection shall be removed once construction operations are complete and the work area is stabilized.

26) Silt fence or other erosion control devices shall be removed after substantial vegetative growth has occurred.

☐ **Tree Trimming & Removal Operations Ash Species:**

27) Prior to the cutting, pruning or trimming of any ash trees, the utility shall consult the State of Wisconsin's Emerald Ash Borer (EAB) website: http://www.emeraldashborer.wi.gov/

28) The utility and their contractor shall follow the rules and regulations as established by the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP).

29) The utility shall contact DATCP directly with any specific questions regarding their work and disposition of ash species while working on WISDOT right of ways.

☐ **Tree Trimming & Removal Operations Non- Ash Species:**

30) Brush, logs & debris from tree trimming & removal from non-ash species shall be hauled off the work site during and at the end of each work day or chipped.

31) Wood chips from non-ash species shall not be stockpiled. Any non-ash wood chips shall be spread out and dispersed accordingly to match the existing grade.

32) Stumps from non-ash species shall be cut flush to the existing grade.

☒ **Existing Pavements & Right-of-Way:**

33) Existing inlets, drainage structures, drain tiles or other drainage facilities damaged during construction shall be repaired or replaced in kind. The contractor shall notify WisDOT of any damaged facilities.

34) Equipment and material shall be moved outside the clear zone at the end of each work day.

35) Open excavations shall be plated or protected by other means during and at the end of each work day to ensure public safety. Energy absorbing terminals (EATS) or other crash protection devices shall be used with concrete barrier walls.

36) Existing highway pavements shall be kept and swept clean of mud and debris from construction and trucking operations during and at the end of each work day.

☒ **Directional Drill, Bore & Jack, Plow & Trenching Operations:**

37) All road crossings shall be bored or directionally drilled. Open cutting of any pavements is strictly prohibited **unless specifically authorized** under this permit.

38) Manual tracking or guiding of directional drill heads from the pavement surface of the highway for utility crossings is strictly prohibited.

☒ **Subsurface Utility Exploration (S.U.E.) Operations:**

39) If water jetting is permitted, the utility or their contractor shall furnish to WisDOT digital pictures taken before and after the S.U.E. excavating from the same camera angle of the roadway section. Vacuum excavations need not pictures.

40) The pavement area for removal shall be cored. Saw cutting is prohibited. The core hole over the existing utility in pavement areas shall be no larger than 12" diameter inside the wheel paths and no larger than 16" outside the wheel paths. .

41) The areas specified on the construction plan where potential conflicts exists with other existing utilities, shall be the only areas where S.U.E. excavating will be allowed to be completed.

42) Flowable fill or slurry backfill per the attached detail shall be used in zones 1 & 2 to restore the voids left behind from the S.U.E. excavating.

43) The pavement core shall be fastened back in place with utilibond or an equivalent epoxy type adhesive. The pavement core shall be placed flush with the existing pavements.

44) The utility operator shall inspect and monitor the areas were S.U.E was performed on a routine basis.

45) WisDOT will require pavement removal and replacement at the utility operator's expense in areas where S.U.E. was performed and subsequent pavement failure occurs. WisDOT will determine final limits of pavement removal and replacement.

☐ **Aerial Construction Operations:**

46) A minimum of three work days in advance, the contractor shall coordinate rolling closures for aerial crossings with the respective county sheriff's office and local law enforcement agencies.

47) The rolling closures for the purpose of detaching or attaching an overhead cable crossing the highway shall be completed during the off peak traffic hours of 2am – 4am. The rolling closure shall be completed under dry pavement conditions.

48) The utility or their contractor shall be responsible for all costs associated with the protection of traffic.

49) Anchors and guy cables shall be installed in accordance with clear zone requirements outlined in the WisDOT facilities development manual (FDM) chapter 11-15-1

50) Anchors and guy cables shall be installed in accordance with clear zone requirements outlined in the WisDOT facilities development manual (FDM) chapter 11-45-10 bicycle facilities.

☐ **WisDOT Improvement Projects Coordination:**

51) The utility work is within the limits of a WisDOT construction project. Coordination must be done with WisDOT project manager XXXXX to ensure closure conflicts do not arise. Contact XXXX at XXXX

52) The utility work is within the limits of a WisDOT construction project. The utility shall attend the WisDOT weekly construction meeting. Contact XXXX for time and location.

☒ **Soft Surface Restoration:**

53) Temporary soft restoration to stabilize the work site shall be completed in a timely manner during and immediately following utility construction. Excess spoil shall be hauled off the work site.

54) Final soft restoration shall consist of placing a minimum 4 " of topsoil, WisDOT spec seed, and fertilizer and erosion mat.

55) The contractor shall notify WisDOT as soon as final restoration has been completed and the work site is ready for inspection.

56) The utility operator or their contractor shall coordinate temporary and final soft restoration and restoration limits with the WisDOT project manager or the WisDOT project leader on the work site.

☒ **Soft Surface Restoration- Late Season :**

57) For late season seeding and restoration after October 1st. See the attached document.

☐ **Sidewalk Removal/ Replacement:**

58) Sidewalk removal, backfill requirements and sidewalk replacement shall be coordinated in advance with the respective local municipality (owner).

☒ **Open Cut Pavement:**

59) Existing pavements specifically authorized for removal to accommodate placement of utility facilities shall be **SAW CUT** full depth prior to the use of pavement breaking equipment.

~~60) Pavement cuts shall not be completed from November 1st through April 1st. Pavement restoration shall occur before November 1st or before materials become unavailable, whichever occurs 1st.~~

61) Pavement removed, shall be hauled off the work site during and at the end of each work day.

62) Temporary sheeting and shoring shall be used as necessary to prevent cave-ins.

☒ **Slurry Backfill:**

63) Slurry backfill per the attached detail shall be the required backfill for excavations in zones 1 & 2.

☐ **Granular Backfill:**

64) The use of granular backfill in lieu of slurry backfill for excavations within highway pavement areas and shoulder shall be pre-approved or authorized in advance by the WisDOT regional utility permit coordinator.

65) Granular material, shall be placed in lifts or layers 12" or less each in depth, and mechanically compacted to the density of the adjacent and undisturbed material.

66) Water jetting and use of excess water to facilitate mechanical compaction is strictly prohibited.

☐ **Concrete Pavement Restoration:**

67) Concrete pavement restoration shall consist of replacing in kind the concrete removed with high early strength concrete mix reinforced per the attached details.

~~68) Pavement restoration shall occur before November 1st or before materials become unavailable, whichever occurs 1st.~~

69) Concrete pavement shall be replaced from joint to joint. The minimum longitudinal length is 6 feet.

70) Concrete pavement without a bituminous asphalt overlay shall have a tine or heavily broomed finish.

71) Curb and gutter damaged or removed during construction operations shall be replaced in kind per the attached detail.

☒ **Bituminous Asphalt Pavement Restoration:**

72) Bituminous asphalt pavement restoration shall consist of replacing in kind the bituminous asphalt overlay removed to match the existing bituminous asphalt thickness.

~~73) Pavement restoration shall occur before November 1st or before materials become unavailable, whichever occurs 1st.~~

74) Bituminous asphalt shall be replaced from seam to seam and overlay the longitudinal length of the concrete patch. The minimum longitudinal length is 6 feet.

☒ **Gravel Shoulders:**

75) Gravel shoulder material removed or disturbed due to construction operations shall be replaced in kind, graded and shaped to match the existing gravel shoulders.

☐ **Epoxy Pavement Markings:**

76) Epoxy pavement markings removed shall be replaced in kind with an epoxy based pavement marking paint along with reflective bead materials.

☐ **Temporary Pavement Markings:**

77) Temporary pavement markings when authorized by the WisDOT regional utility permit coordinator in lieu of epoxy pavement markings that are removed shall be replaced in kind with a latex based or equivalent pavement marking paint along with reflective beads.

78) Temporary pavement markings shall have a 2 year minimum service life.

☐ **Signal Equipment or Operation to be Impacted:**

79) Coordination with WisDOT Electrical Field Unit (EFU) is required due to traffic signal impacts. Contact EFU at 414-266-1170 a minimum of 5 working days prior to beginning work.

80) WisDOT Signal Operations staff can be reached at 414-750-2605. For emergencies, WisDOT State Traffic Operations Center can be reached at 1-800-375-7302.

81) Any unplanned disruption of State-owned facilities shall be repaired or relocated, as needed under the direction and approval of EFU, at the applicant's expense.

1

Attachment 1: Sample Start and Work Completion Notice

Utility Permit Start Work Notice

Provide all information and e-mail or fax to the utility permit coordinator or other region contact listed on the approved permit form a minimum three working days prior to the start of the work. When restoration is complete and ready for inspection, e-mail or fax to the same contact.

WisDOT Utility Permit Number:

Utility Job Number:

Utility Company:

Utility Contractor Contact Name and 24-Hour Number:

Traffic Control Provider and 24-Hour Number:

Construction Start Date:

Construction Completion Date:

SOUTHWEST REGION

Mark Goggin
mark.goggin@dot.wi.gov
Fax: 608-243-3380 Madison office
608-789-7896 La Crosse office

SOUTHEAST REGION

Todd Deloria
todd.deloria@dot.wi.gov
Fax: 262-521-4425
SE Utility Permit Unit General Email:
dotdtsdseutilitypermits@dot.wi.gov

NORTHEAST REGION

Andy Devos – Brown, Door, Kewaunee, Marinette, Oconto, Outagamie

Joseph Coughlin – Calumet, Fond du Lac, Manitowoc, Sheboygan, Winnebago

Fax: 920-492-0144
NE Utility Unit General Email:
dotdtsdneutilitycoordination@dot.wi.gov

NORTH CENTRAL REGION

Keith Rutkowski – Wis Rapids office
keith.rutkowski@dot.wi.gov
Fax: 715-423-0334

Terry Catlin – Rhinelander office
terry.catlin@dot.wi.gov
Fax: 715-365-5780

NORTHWEST REGION

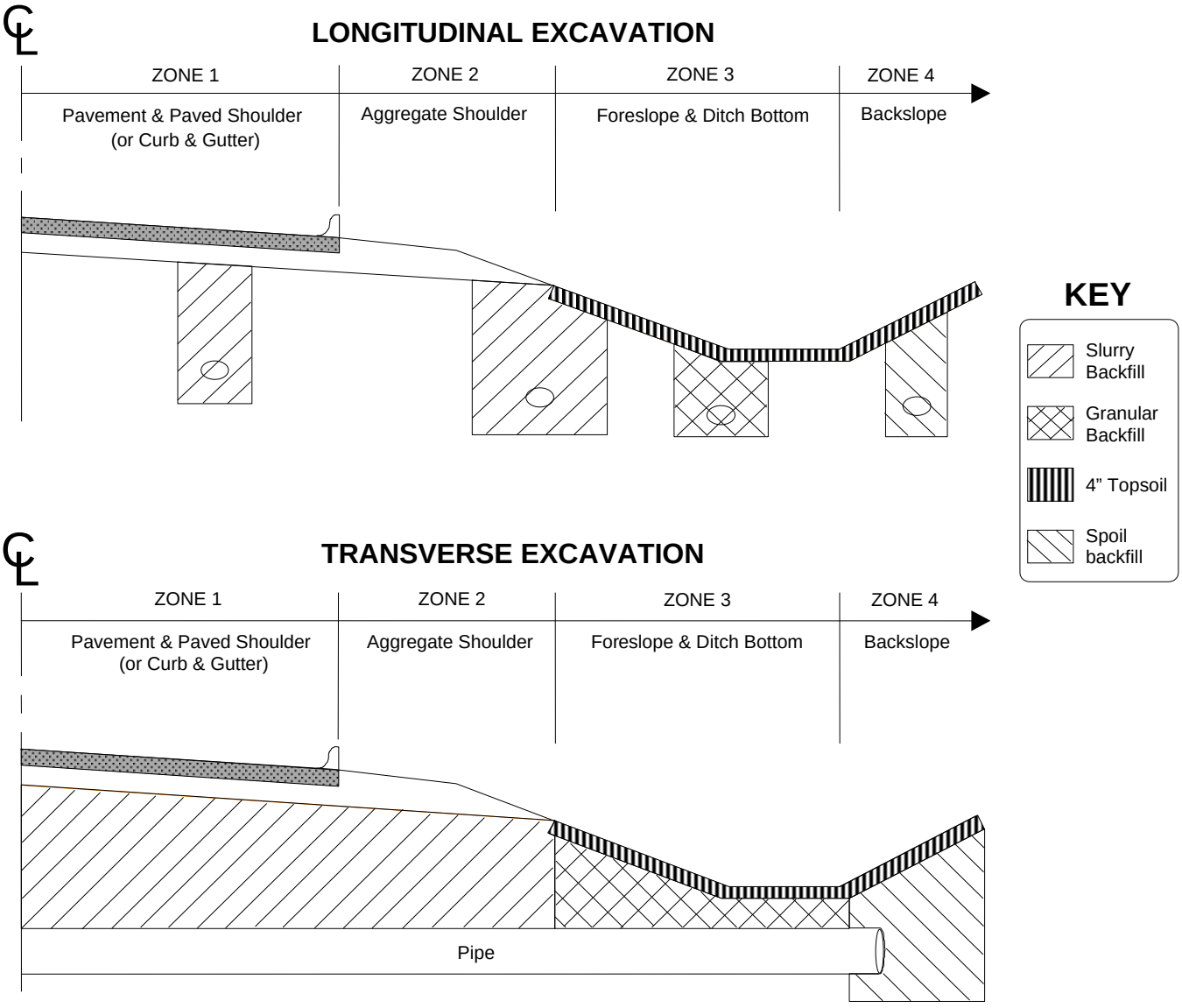
Vicki Riepl vicki.riepl@dot.wi.gov
Fax: 715-635-2309
NW Utility Permit Unit General Email:
dotdtsdnwecpermitcoordination@dot.wi.gov

Completion Notice

Restoration is complete and ready for inspection. File notices within 10 calendar days of restoration completion. Restore within two weeks from completion of utility construction.

Restoration Completion Date:

Attachment 2: Backfilling Excavation Detail Drawings



NOTES

1) Use slurry backfill to replace the excavated material in ZONES 1 and 2.

2) If the work area covers BOTH ZONES 2 & 3, use slurry backfill to replace the excavated material.

3) Use granular backfill to replace the excavated material in ZONE 3. Granular backfill placement and gradation shall conform to WisDOT's Standard Specifications for Road and Bridge Construction, current edition.

4) Place backfill in ZONES 3 & 4 to within 4" of the finished grade to allow for topsoil placement.

5) Suitable spoil backfill may be used in ZONE 4 at the discretion of WisDOT.

SLURRY BACKFILL

The materials shall be placed in a clean concrete mixer truck and thoroughly mixed in the following quantities FOR EACH CUBIC YARD REQUIRED:

- SAND 1,350 lbs
- #1 STONE 750 lbs
- #2 STONE 1,150 lbs
- WATER 25 gals (0 to -0.5 gal variance)

No additional water will be allowed. The above weights are damp weights. Just prior to placing the slurry backfill, the mixer shall be run at mixing speed for one full minute to assure an even mixture.

LATE SEASON SEEDING & RESTORATION

1. Place finish topsoil and seeding or sod as much of the project as possible. Pay particular attention near sensitive areas (streams, farms, wetlands, etc.). Protect now for next year's spring thaw and rains.
2. Seeding to get germination in northern* Wisconsin should be completed by September 1, in southeastern** Wisconsin by October 1, the remainder of the state by September 15. Seed placed after this time will not germinate on the average because soil temperatures below 53 degrees will not break the seed coat. Seeding after this time should follow a dormant seeding approach.
3. The dormant seeding method prepares the seed for germination in the spring. The seed must be kept in contact with the soil until that time.
    a. Soil must not be frozen to allow the seed to work into the soil. If the soil temperature is too warm the seeds may start to germinate then get killed off by frost.
    b. Dormant seeding should occur between first frost and snowfall. No erosion control cover is gained in this approach. Include other erosion control methods even if they are not included in the ECIP.
    c. Properly entrenched erosion mat is recommended although there are other BMPs that may be effective. Ditches should not be dormant seeded.
    d. Review your ECIP for the project. Additional erosion control items may be necessary to protect your projects from spring rains (especially true for carry over projects). If this is the case request an amendment to the ECIP with plans for inspection over winter and as the snow begins to melt and the soils thaw.
    e. Contact your regional Storm water Erosion Control Engineer or Central Office Erosion and Sediment Control Specialist if you have any questions.

*Northern counties:
Ashland, Bayfield, Burnett, Douglas, Florence, Forest, Iron, Langlade, Marinette, Oneida, Sawyer, Vilas, Washburn

**Southeastern counties:
Kenosha, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Walworth

Reference shall also be made to the Instructions to Bidders of the bid and contract documents.

C. CONTROL OF CONSTRUCTION OPERATIONS

1. Scheduling Work

The Contractor will not be permitted to start new locations of the project until previously started locations are fully completed or continuous work, in the opinion of the Utility Engineer, is being done to fully complete the previously started phases. However, the Contractor may with the approval of the Utility Engineer, start a second crew with a second foreman on other portions of the project. (Refer also to Sections 1.2.2 and 1.3.21 (Pages 1-10 and 1-21, respectively) of the Standard Specifications).

At any time during the execution of the contract that the Contractor either suspends or returns to work, he must notify the Utility Engineer of his intentions at least three working days in advance of said suspension or return to work.

2. Maintenance of Public Safety and Convenience

The Contractor shall provide for the placing of necessary detour signs, barricades, warning lights, and warning and informational signs to provide for the safety and convenience of the public prior to starting of any of the work per the State Manual on Uniform Traffic Control Devices. Adjustment to the traffic control devices shall be included and performed by the contractor as called for by the progression of work. Necessary traffic control adjustments shall be in place prior to proceeding with work that could impact the safety of the general public as determined by the Utility Engineer. The Utility will obtain a WisDOT Utility Permit, for this project applicable to the work planned at the intersection of STH 32 (S. Chicago Road) and E. Garden Place. The Contractor will be responsible for meeting all permit conditions.

All such devices shall comply with the Federal Manual on Uniform Traffic Control Devices.

3. Access to Properties

The Contractor shall provide for access to the properties abutting the work site area in accordance with Section 1.7.7 (Page 1-33) of the Standard Specifications. In addition, the operations shall be conducted in such a manner that 1) all streets at all times shall be maintained with at least one lane of roadway open for vehicular access with a flagger, 2) two lanes of traffic shall be restored at the end of each working day, and 3) all abutting properties shall be provided with vehicular access overnight, on weekends and on holidays.

K. MULCHING

Mulching for construction sites shall conform to Conservation Practice Standard 1058-Mulching for Construction Sites

L. SEEDING

Refer to Section X paragraph E of this Detailed Specification.

M. CULVERT PIPE CHECKS

Culvert pipe checks shall be installed as needed.

IX. CONSTRUCTION DETAILS

A. COMPLYING WITH SPECIFICATIONS

The Contractor shall comply with the specifications and ably perform all operations to the extent that the first-class work will be obtained. A representative of the Oak Creek Water & Sewer Utility will inspect the work as it progresses to determine full compliance with the specifications. The Resident Project Representative shall notify the Utility Engineer of any noncompliance and have authority to stop any work not being performed in accordance with the specifications, in order that the Utility Engineer may investigate such noncompliance.

Any work performed after the work has been ordered stopped by the Resident Project Representative shall not be considered as work performed under the contract, and consequently will not be accepted by the Utility nor allowed in any monthly or final payment until corrected to the satisfaction of the Utility Engineer.

The "Standard Specifications for Sewer and Water Construction in Wisconsin," (herein referred to as The Standard Specifications), shall apply for all sewer and water main construction unless otherwise noted in these Detail Specifications or on the construction plans. The Highway and Structure Construction–Standard Specifications Department of Transportation, Division of Highways, State of Wisconsin and Supplemental Specifications (herein referred to as the State Specifications), shall apply for pavement restoration. The MUTCD and State Specifications shall apply to all traffic control.

B. LOCATION - STAKING

Location of cut-in valves will not be staked. Measurements given on the Drawings will serve as the location for the cut in valves. If any deviation from the plan is necessary, valve location shall be discussed and approved by the Resident Project Representative.

appurtenances
- Provide and install tracer wire in the center of installed appurtenances with tape
- Placement and compaction of torpedo sand cover aggregate
- Placement and compaction of base aggregate dense 1 1/4-inch to bottom of pavement grade
- Assist Utility staff with GPS point collection
- 4" HMA Pavement restoration
    - Preparation of base to bottom of pavement grade.
        - Placement and removal of aggregate ramps for access at driveways and intersections
        - Water dispersion
        - Finish grading for pavement
        - Compaction
    - Valve box adjustment
    - Furnishing, hauling, placement and compaction of asphalt pavement
- Restoration of disturbed turf areas
- Restoration of gravel shoulder

The water main shall be placed in the manner indicated in these Detail Specifications and shall conform to the Detail Drawings included with these specifications. Type of backfill shall be as specified. Contractor is responsible for the actual extent of pavement removal and restoration. Restoration of pavement shall be against clean sawcut edges and Contractor shall be responsible for all edges damaged during work.

This item shall be paid based on the contract unit price per completed lump sum of work described for this item as documented by the Resident Project Representative.

Item 2 - S. Chicago Road and E. Garden Place 20" Cut-In Valves

The unit bid and contract price for this item shall include all equipment, materials, and labor necessary to complete the two 20" cut in valve installations at S. Chicago Road and E. Garden Place. This item shall include but not be limited to:

- Erosion Control
    - Furnishing, hauling, and placement of silt fence, erosion bales, and other Applicable materials.
    - All incidental work related to erosion control required by local, state, and federal ordinances, statutes, permits, and regulations
    - maintaining and removal of all temporary erosion control devices
- Traffic Control per WisDOT permit
- Sawcut existing pavement full depth per WisDOT permit
- Remove existing pavement
    - For pavement removal outside of the trench width, the contractor shall remove all pavement taking care to preserve the existing pavement base
- Trench excavation
- Expose existing water main to verify location and depth prior to scheduling connections
- Expose 5' of existing main on either side of proposed valve and coupling to ensure no

bell, water service, or existing valve is within 5' of the proposed valve and coupling before sawcutting the pipe. If a bell, water service, or existing valve is found within 5', move the proposed valve cut-in location to provide 5' after approved by Resident Project Representative.

- Dewater the isolated portion of pipe before cutting the existing water main.
- Dewater the trench
- Remove existing pipe and appurtenances as necessary
- Collect sample section of pipe as part of the Pipe Harvesting research
- Placement of torpedo sand bedding aggregate
- Provide and install 20" ductile iron pipe and fittings at locations indicated on Drawings
- Provide and install two 20" butterfly valves complete, in place, and ready to use in accordance with the Standard Specifications. Valves shall be installed on 4" solid concrete masonry block.
- Provide and install mechanical restraints at required locations
- Disinfect installed water main, fittings, and valves
- Observe a leak detection test after water main is subject to line pressure
- Provide and install a triple layer of 6-mil plastic wrapping for all ductile iron appurtenances
- Provide and install tracer wire in the center of installed appurtenances with tape
- Provide and install two 32 lb. magnesium galvanic anode protection on existing ductile iron pipe in accordance with the detail at the end of these Detailed Specifications
- Placement and compaction of torpedo sand cover aggregate
- Placement and compaction of aggregate slurry backfill to bottom of subgrade in conformance with WisDOT permit.
- Placement and compaction of base aggregate in conformance with WisDOT permit.
- Assist Utility staff with GPS point collection
- 6 1/4" HMA Pavement restoration in conformance with WisDOT permit.
    - preparation of base to bottom of pavement grade.
        - placement and removal of aggregate ramps for access at driveways and intersections
        - water dispersion
        - finish grading for pavement
        - compaction
        - proof-rolling
    - existing valve box adjustment
    - furnishing, hauling, placement and compaction of pavement in conformance with WisDOT permit.
- Restoration of disturbed areas

The water main shall be placed in the manner indicated in these Detail Specifications and shall conform to the Detail Drawings included with these specifications. Type of backfill shall be in conformance with WisDOT permit. Contractor is responsible for the actual extent of pavement removal and restoration. Restoration of pavement shall be against clean sawcut edges and Contractor shall be responsible for all edges damaged during work.

This item shall be paid based on the contract unit price per completed lump sum of work described for this item as documented by the Resident Project Representative.

INFORMATION ONLY

Notes for Figure 6H-6—Typical Application 6 Shoulder Work with Minor Encroachment

Guidance:

1. *All lanes should be a minimum of 10 feet in width as measured to the near face of the channelizing devices.*
2. *The treatment shown should be used on a minor road having low speeds. For higher-speed traffic conditions, a lane closure should be used.*

Option:

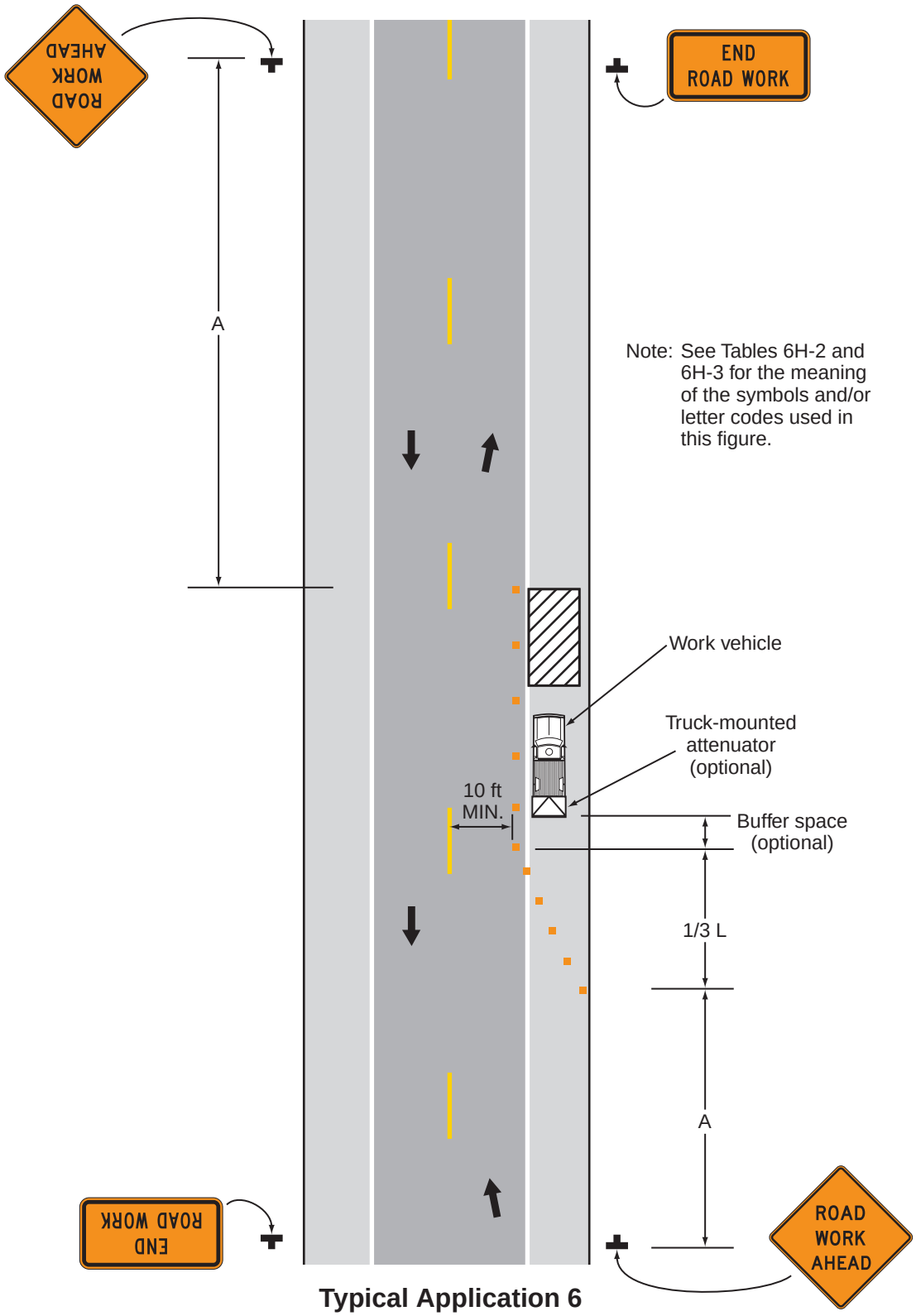
3. For short-term use on low-volume, low-speed roadways with vehicular traffic that does not include longer and wider heavy commercial vehicles, a minimum lane width of 9 feet may be used.
4. Where the opposite shoulder is suitable for carrying vehicular traffic and of adequate width, lanes may be shifted by use of closely-spaced channelizing devices, provided that the minimum lane width of 10 feet is maintained.
5. Additional advance warning may be appropriate, such as a ROAD NARROWS sign.
6. Temporary traffic barriers may be used along the work space.
7. The shadow vehicle may be omitted if a taper and channelizing devices are used.
8. A truck-mounted attenuator may be used on the shadow vehicle.
9. For short-duration work, the taper and channelizing devices may be omitted if a shadow vehicle with activated high-intensity rotating, flashing, oscillating, or strobe lights is used.
10. Vehicle hazard warning signals may be used to supplement high-intensity rotating, flashing, oscillating, or strobe lights.

Standard:

11. **Vehicle-mounted signs shall be mounted in a manner such that they are not obscured by equipment or supplies. Sign legends on vehicle-mounted signs shall be covered or turned from view when work is not in progress.**
12. **Shadow and work vehicles shall display high-intensity rotating, flashing, oscillating, or strobe lights.**
13. **Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights.**

INFORMATION ONLY

Figure 6H-6. Shoulder Work with Minor Encroachment (TA-6)



Typical Application 6

15C12: Traffic Control for Lane Closure with Flagging Operation

LEGEND

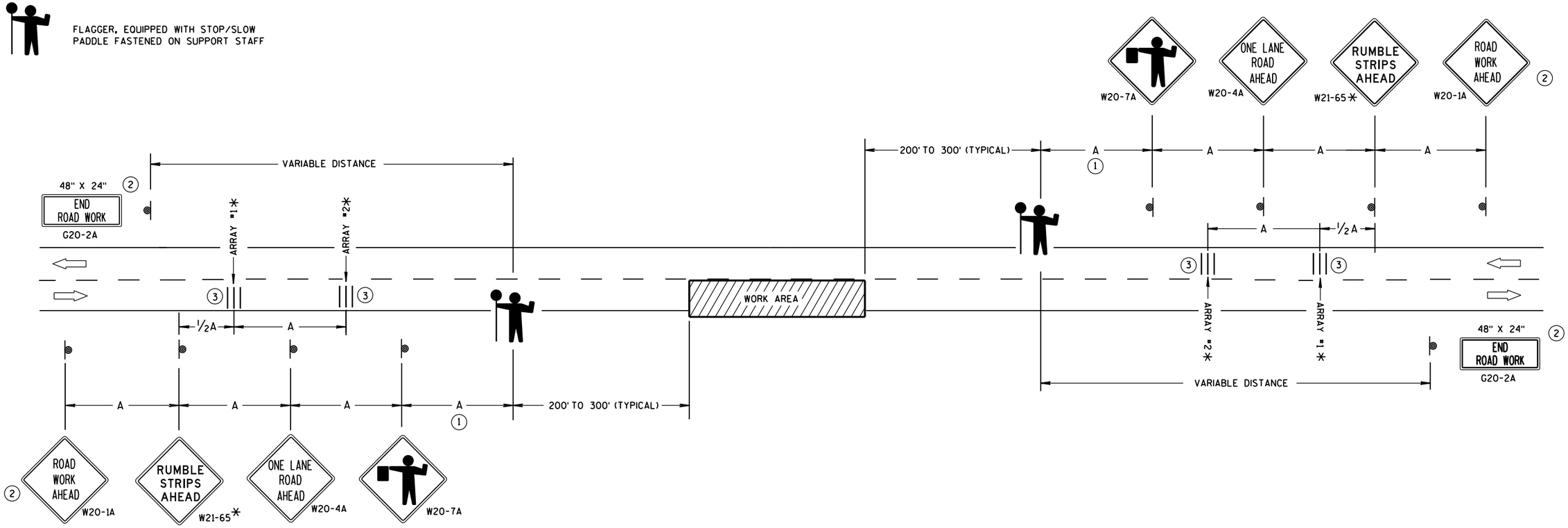
- SIGN ON PORTABLE OR PERMANENT SUPPORT
- DIRECTION OF TRAFFIC
- WORK AREA
- FLAGGER, EQUIPPED WITH STOP/SLOW PADDLE FASTENED ON SUPPORT STAFF

SIGN AND TEMPORARY RUMBLE STRIP ARRAY SPACING TABLE

SPEED LIMIT	SPACING A
25-35 MPH	200'
35-40 MPH	350'
45-55 MPH	500'

BE PREPARED TO STOP
W03-4

USE OF THE "BE PREPARED TO STOP" SIGN IS OPTIONAL. WHEN USED, THIS SIGN SHALL BE LOCATED BETWEEN THE W20-7A AND W20-4A SIGNS, USING SPACING A.



TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

GENERAL NOTES

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES (AND THE LOCATION OF ALL FLAGGERS) SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

PLACE ADVANCE SIGNING PRIOR TO INSTALLING TEMPORARY RUMBLE STRIPS.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, REMOVE TEMPORARY RUMBLE STRIPS PRIOR TO COVERING OR REMOVING ALL ADVANCE SIGNING.

* UTILIZE TEMPORARY RUMBLE STRIPS WHEN FLAGGING OPERATION IS ANTICIPATED TO BE STATIONARY IN EXCESS OF TWO HOURS.

(1) FOR A MOVING WORK OPERATION, SIGNING AND TEMPORARY RUMBLE STRIPS (IF USED) SHALL BE REESTABLISHED (AS SIMULTANEOUSLY AS PRACTICAL) AT APPROXIMATELY 3,500 FOOT INTERVALS IN THE MOVING WORK OPERATION OR AS APPROVED BY THE ENGINEER.

(2) SIGN NOT REQUIRED IF FLAGGING OPERATION OCCURS WITHIN A SIGNED ROAD WORK ZONE AREA.

(3) EACH TEMPORARY RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED ACCORDING TO MANUFACTURER'S RECOMMENDATION, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

TRAFFIC CONTROL FOR LANE CLOSURE WITH FLAGGING OPERATION

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
December, 2016 — /S/ Andrew Heldtke
DATE — WORK ZONE ENGINEER
FHWA

Version 5 **Standard Detail Drawing 15c12** *January 13, 2017*

Traffic Control for Lane Closure with Flagging Operation

References:

FDM 11-50-20
Manual on Uniform Traffic Control Devices

Bid items associated with this drawing:

ITEM NUMBER	DESCRIPTION	UNIT
643.0310.S	Temporary Portable Rumble Strips	LUMP SUM

Standardized Special Provisions associated with this drawing:

STSP NUMBER	TITLE
643.020	Temporary Portable Rumble Strips

Other SDDs associated with this drawing:

NONE

Design Notes:

Costs for flagging and associated signs are incidental to the contract as per Standard Spec 104.6.1 (4). Include Temporary Portable Rumble Strips STSP when flagging operations are anticipated to be stationary in excess of two hours.

Provide appropriate details and/or special provisions to delineate drop-offs or open trenches adjacent to one lane traffic operations.

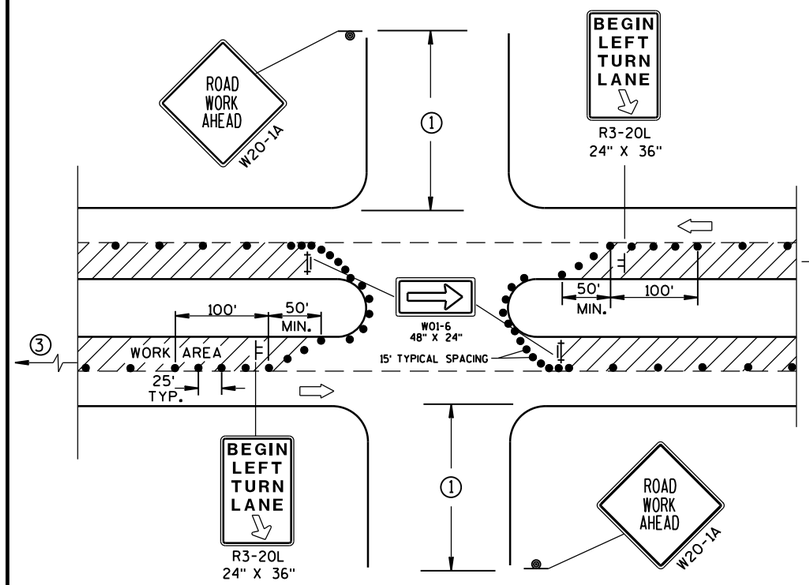
A typical flagging operation uses 4 arrays, two in each direction. Temporary portable rumble strips (TPRS) have the potential to shift a couple inches throughout the day, therefore they require daily placement, removal, and regular monitoring.

Contact Person:

Andrew Heidtke (414) 220-6802

Andrew Heidtke (414) 220-6802

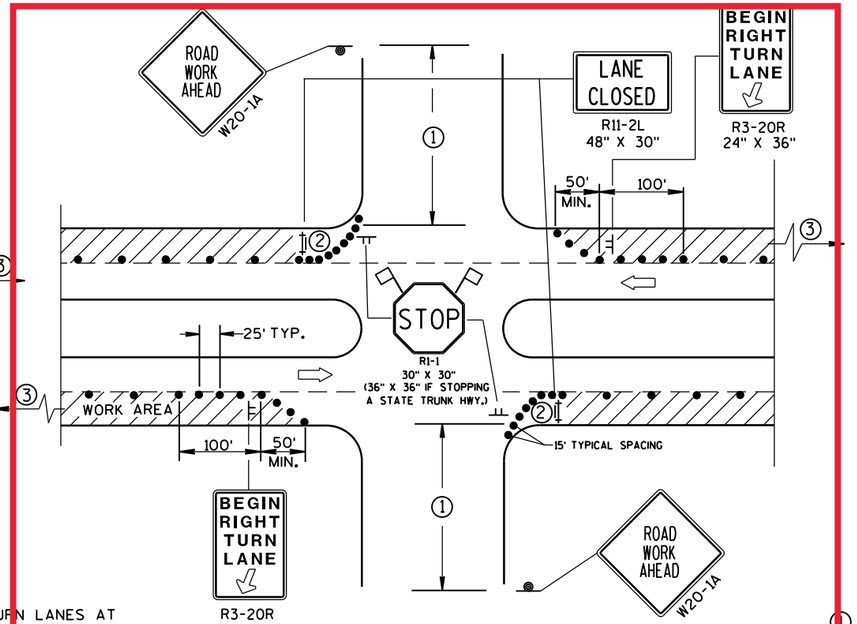
15D21: Traffic Control, Intersection within Single Lane Closure



DETAIL A

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING

PROVIDE TURN LANES AT INTERSECTIONS WHENEVER STAGING OF WORK ALLOWS. TAPER AND TURN LANE LENGTHS BASED ON FIELD CONDITIONS AS APPROVED BY THE ENGINEER.



DETAIL B

FOR RIGHT TURN LANE CLOSURE AT INTERSECTION

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGN LAYOUTS SHALL BE IN ACCORDANCE WITH THE FHWA'S MANUAL OF STANDARD HIGHWAY SIGNS OR THE WISCONSIN STANDARD SIGN PLATES.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

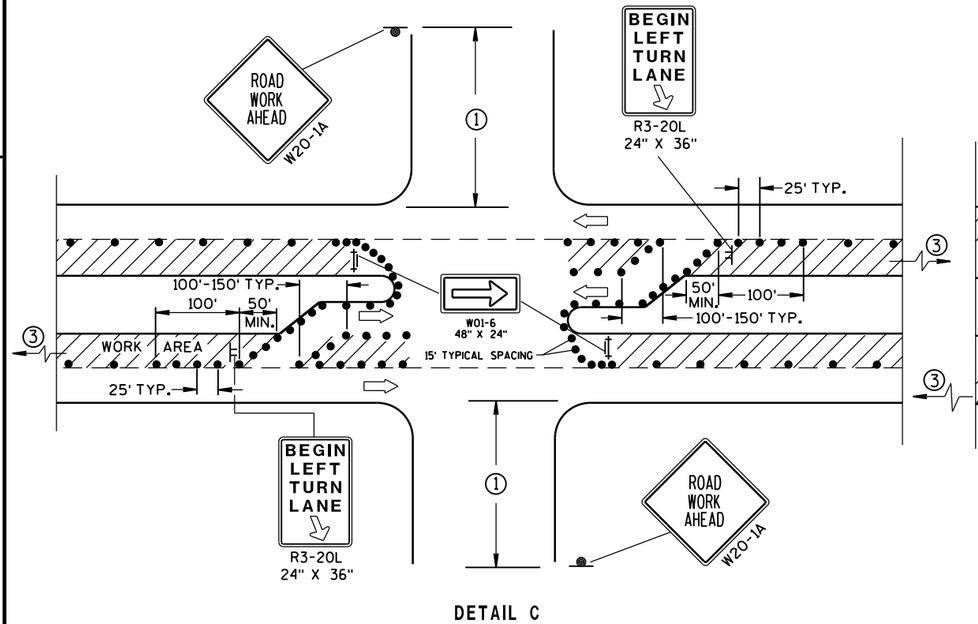
CHANNELIZING DEVICES PLACED ADJACENT TO WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

① 500' TYPICAL OR AT LAST INTERSECTION, WHICHEVER IS CLOSER.
350' IF 35-40 MPH.
200' IF 25-30 MPH.

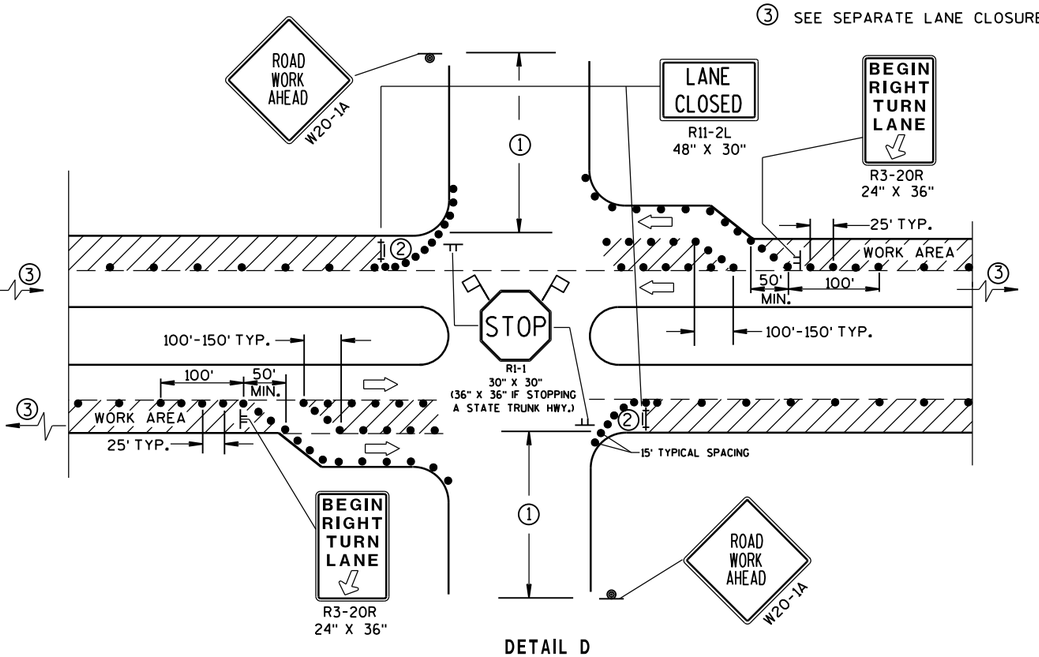
② ALSO USE BARRICADE AND 15-FOOT TYPICAL DRUM SPACING AT COMMERCIAL DRIVEWAYS.

③ SEE SEPARATE LANE CLOSURE DETAIL FOR ADDITIONAL TRAFFIC CONTROL.



DETAIL C

FOR LEFT LANE CLOSURE AT INTERSECTION OR MEDIAN OPENING (WITH LEFT TURN BAY OPEN)



DETAIL D

FOR RIGHT LANE CLOSURE AT INTERSECTION (WITH RIGHT TURN BAY OPEN)

LEGEND

- TRAFFIC CONTROL DRUM
- SIGN ON PERMANENT SUPPORT
- SIGN ON TEMPORARY SUPPORT (5' MIN. MOUNTING HEIGHT)
- TYPE III BARRICADE WITH ATTACHED SIGN AND TYPE "A" WARNING LIGHT (FLASHING)
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., (ORANGE)
- WORK AREA

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2016 — DATE
/S/ Peter Anakobe Atepe — STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA

6

S.D.D. 15 D 21-4

6

S.D.D. 15 D 21-4

Version 4 **Standard Detail Drawing 15d21** *June 24, 2016*

Traffic Control, Intersection within Single Lane Closure

References:

Part VI, Manual on Uniform Traffic Control Devices (MUTCD)
FDM 11-50-20

Bid items associated with this drawing:

ITEM NUMBER	DESCRIPTION	UNIT
643.0100	Traffic Control (project)	EACH
643.0300	Traffic Control Drums	DAY
643.0420	Traffic Control Barricades Type III	DAY
643.0705	Traffic Control Warning Lights Type A	DAY
643.0900	Traffic Control Signs	DAY

Standardized Special Provisions associated with this drawing:

STSP NUMBER	TITLE
NONE	

Other SDDs associated with this drawing:

SDD 15d3	Traffic Control, Lane Closure, Speeds Greater than 40 M.P.H. with Barrier
SDD 15d12	Traffic Control, Lane Closure, Speeds Greater than 40 M.P.H.
SDD 15d20	Traffic Control, Single Lane Closure, Non-Freeway/Expressway

Design Notes:

Use a separate detail sheet to show the lane closure signing, tapers and other traffic control. Standard Detail Drawings listed above may be appropriate.

A traffic control overview sheet or language in the Special Provisions is desirable to indicate whether to use Detail A, B, C, or D at intersections within the project. At signalized intersections, maintaining traffic in the slotted turn bays (Details C and D) may allow existing detectors of turning vehicles to continue functioning for most of the project. Use of the slotted turn bay will also typically allow the best visibility for left-turning vehicles.

If staging on the side roads is necessary, additional traffic control needs to be indicated on separate detail sheets or in the Special Provisions. Some regions may have typical detail sheets available.

Temporary stop lines may be desirable if high volumes of traffic are required to stop, or to clarify the stopping point at complex locations. If temporary stop lines are needed, the locations, dimensions, and material should be specified in the Misc. Quantities (using one or more of Items 649.0900-649.1400). Removable tape is typically only needed if the temporary stop line is being placed on permanent pavement.

Contact Person:

Andrew Heidtke (414) 220-6802

Andrew Heidtke (414) 220-6802

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

Public Water System Approval Request

Form 3300-260 (R 12/16)

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

A. System Information

Water System Name

Oak Creek Water and Sewer Utility

Water System Infrastructure Owned By: (select one)

- ○ Government Entity (City, Village)
- ◉ Sanitary or Utility District
- ○ Utility Commission
- ○ Privately Owned (Company or Individual)

Name of Water System Owner (if different than Water System Name)

B. Water System Owner (examples: municipal clerk, sanitary district president, utility commission clerk, OTM owner)

Name: Ron Pretzlaff, P.E., Utility Engineer

Street Address: 170 W. Drexel Ave.

City	State	ZIP Code
Oak Creek	WI	53154

Phone Number	Fax Number	Cell Number (optional)
(414) 570-8200		

Email Address: rpritzlaff@water.oak-creek.wi.us

Water System Representative or Contact (if not Owner) (examples: water superintendent, director of public works, operator)

Name

Street Address

City	State	ZIP Code

Phone Number	Fax Number	Cell Number (optional)

Email Address

C. Designer/Constructor Information

Name: Ben W. Wood, P.E.

Firm Name: Strand Associates, Inc.

Street Address: 126 N. Jefferson St., Suite 350

City	State	ZIP Code
Milwaukee	WI	53202

Phone Number	Fax Number	Cell Number (optional)
(414) 271-0771		(414) 940-9663

Email Address: ben.wood@strand.com

D. Project Location (As applicable)

◉ City ○ Town ○ Village

of Oak Creek, WI

County: Milwaukee

Will Safe Drinking Water Loan Program (SDWLP) funds be requested for this project? ○ Yes ◉ No

Brief Project Description (DO NOT LEAVE BLANK)

The Oak Creek Water and Sewer Utility consists of multiple transmission mains, many that were installed in the 1970s or sooner when the land they traversed was agriculture. To date, may subdivisions have developed along the transmission routes and the Utility recognizes that valves need to be cut into transmission mains in key areas in order to improve operability of the system. The improved operations include the ability to isolate smaller sections of the transmission main for maintenance or repair with fewer customers out of service. Five total areas will be worked on. Of these 5, one requires two valves to be cut in, and one requires a connection to perpendicular mains. The bid documents are attached for your review.

Based on indication from DNR Public Water Engineer Cathy Wunderlich, P.E. on 05-30-17, this is a reviewable project and does require plan submittal to DNR, but DNR will not be requiring a formal approval to proceed with the project. Rather, this gives the opportunity for the DNR to provide comment. Please advise the Designer, Ben Wood, if additional requirements apply. Thank you.

Applicability: This form applies to projects being submitted for municipal and other-than-municipal community, public water systems.

Number of Copies: Submit three copies of all the plans, specifications, forms and attachments. Only one copy needs to be submitted for water main only projects.

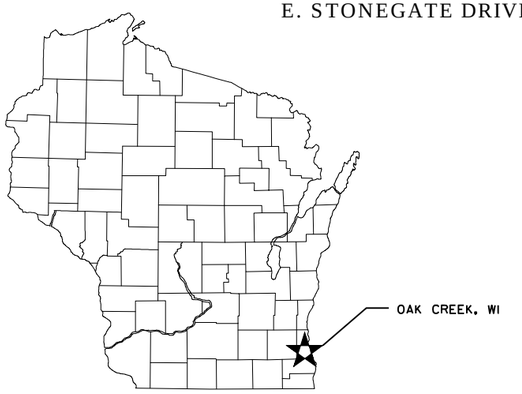
2017 WATER PROJECTS - VALVE CUT-INS

FOR THE

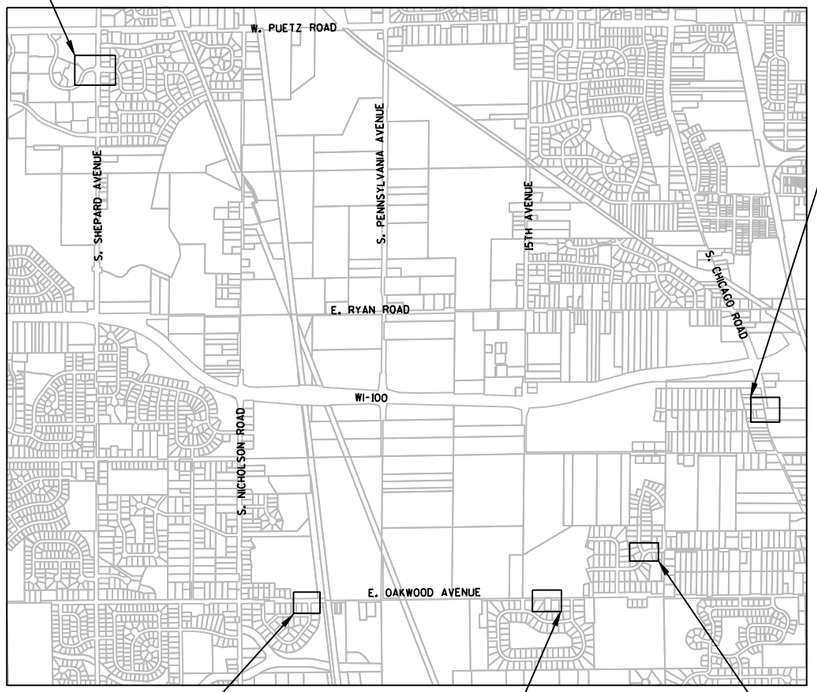
OAK CREEK WATER AND SEWER UTILITY

MILWAUKEE COUNTY, WISCONSIN

MAY, 2017



PROJECT LOCATION MAP
NO SCALE



S. SHEPARD AVENUE AND E. STONEGATE DRIVE

S. CHICAGO ROAD AND E. GARDEN PLACE

E. OAKWOOD ROAD AND E. REDWOOD LANE

E. OAKWOOD ROAD AND JOHN ARON DRIVE

E. OBRIEN ROAD AND S. 11TH AVENUE

DRAWING TITLE	SHEET NO.
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Strand Associates, Inc.
126 N Jefferson Sreet
Suite 350
Milwaukee, WI 53202
414-271-0771
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www.strand.com

PROJECT No. 17102

PROJECT LOCATION MAP

NO SCALE

This is to certify that this plan was approved by the Water Works and Sewer Utility Commission of Oak Creek at a regular meeting.

Utility Engineer Date

SA.	
ST.	
W.	
G.	
E.	
T.	
I.	
TS.	
PP.	

REVISION BY | DATE

CITY OF OAK CREEK, WISCONSIN

DESIGNED BY	DATE	DRAWN BY	DATE	CHECKED BY	DATE
B.W.	05/25/17	E.Y.	05/25/17	M.F.	05/25/17

COVER SHEET

APPROVED BY
UTILITY ENGINEER DATE

APPROVED BY
CITY ENGINEER DATE

SCALE	SHEET
PLAN HOR. N/A	1
PROFILE HOR. N/A VER. N/A	OF 8

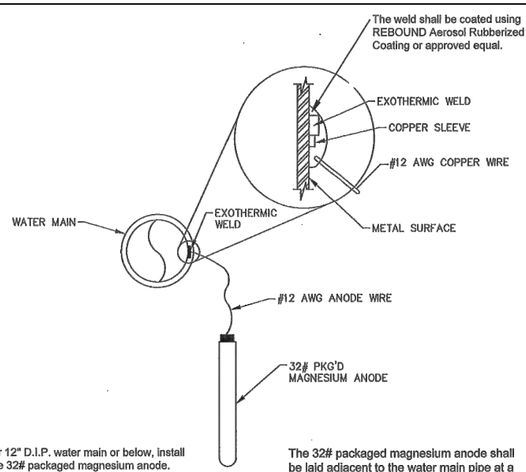
APPROVED BY COUNCIL RESOLUTION NO.

FILE NO: 17102-1C-2334

FILE NAME : S:\MIL\1900--1999\1960\013\ACAD\SHEETSPLAN\1 TITLE SHEET.DWG PLOT DATE : 5/24/2017 1:10 PM PLOT BY : YOSS, EMILY

STANDARD SYMBOLS

TEMPORARY EASEMENT	
PROPERTY LINE AND/OR RIGHT OF WAY	PAVED ROAD
SOIL BORING	EXISTING CULVERT
BENCH MARK	UNDERGROUND CONFLICT
PROPERTY STAKE	HIGH VOLTAGE UTILITY
IRON PIPE	FORCE MAIN
INLET	WATER MAIN
CURB WATER BOX	STORM SEWER
ROAD SIGN	SANITARY SEWER
PRIVATE WELL	ABANDON STORM SEWER
EXISTING UTILITY POLE	ABANDON SANITARY SEWER
BURIED TELEPHONE CABLE PEDESTAL	EXISTING SANITARY SEWER AND MANHOLE
SIGN	TELEPHONE OR TV CABLE
LIGHT POLE	FIBER OPTIC CABLE
MAIL BOX	GAS MAIN
OBJECTS TO BE REMOVED	UNDERGROUND ELECTRIC CABLE
EXISTING DECIDUOUS TREE	ORIGINAL GROUND IN PROFILE
EXISTING CONIFEROUS TREE	FENCE
WETLAND AREA	GUARD RAIL
CULVERT PIPE CHECK	SILT FENCE
STRAW BALE DITCH CHECK	CONTROL POINT
GUY	GUY WIRE & ANCHOR



For 12" D.I.P. water main or below, install one 32# packaged magnesium anode. For 16" D.I.P. water main or above, install two 32# packaged magnesium anodes.

The 32# packaged magnesium anode shall be laid adjacent to the water main pipe at a point that allows for the greatest separation between anode and water main.

GALVANIC ANODE INSTALLATION
N.T.S.

OAK CREEK WATER & SEWER UTILITY
DATE: 2/11/2014
SCALE: N.T.S.

GENERAL NOTES

1. EASEMENT, EXISTING UTILITIES, PROPERTY LINES,AND R.O.W. LINES SHOWN ARE APPROXIMATE. NOT ALL UTILITY MAINS AND SERVICES ARE SHOWN ON THE DRAWINGS. CONTRACTOR SHALL CONTACT DIGGERS HOTLINE FOR UTILITY LOCATES AND SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATIONS OF THE UTILITY MAINS AND SERVICES DURING CONSTRUCTION.

2. THE LOCATION OF AND TYPE OF FITTINGS SHOWN ON THE DRAWINGS ARE APPROXIMATE. CONTRACTOR SHALL PROVIDE ALL NECESSARY FITTINGS TO COMPLETE THE INSTALLATION OF THE WATER MAIN. THE COST FOR ALL FITTINGS AND RESTRAINED JOINTS SHALL BE CONSIDERED INCIDENTAL TO THE UNIT PRICE BID FOR THE WATER MAIN.

3. ALL INLETS SHALL HAVE TYPE "D" INLET PROTECTION. INLET PROTECTION SHALL BE INSTALLED PRIOR TO CONSTRUCTION AND MAINTAINED AT ALL TIMES. CONTRACTOR IS RESPONSIBLE FOR MEETING THE REQUIREMENTS OF CONSTRUCTION STORM WATER DISCHARGE PERMIT.

4. CONTRACTOR SHALL RESTRAIN ALL FITTINGS. SEE SPECIFICATIONS.

5. IF ABANDONED WATER MAIN IS IN CONFLICT WITH UTILITIES IT SHALL BE REMOVED.

6. REPLACE ASPHALT PAVEMENT IN KIND ON E. OAKWOOD ROAD, S. SHEPARD AVENUE, E. STONEGATE DRIVE S. 11TH AVENUE AND E OBRIEN ROAD. MINIMUM PAVEMENT STRUCTURE IS 2-1/4-INCHES OF 3LT 58-28 S, 19MM BINDER COURSE AND 1 3/4-INCHES OF 5LT 58-28 S, 9.5MM SURFACE COURSE. ASPHALT SHALL BE PLACED OVER 8-INCHES OF BASE AGGREGATE DENSE 1 1/4-INCH. IF THE EXISTING PAVEMENT STRUCTURE IS LESS THAN THE MINIMUM, THE AREA WILL BE PREPPED AND RESTORED TO THE MINIMUM LISTED. REPLACE FULL LANE OF ASPHALT PAVEMENT UNLESS DIRECTED OTHERWISE.

7. REPLACE ASPHALT PAVEMENT ON E. GARDEN PLACE AND S. CHICAGO ROAD ACCORDING TO THE WISDOT PERMIT.THE MINIMUM DIMENSION FOR AN ASPHALTIC CONCRETE PATCH IS 6' BY THE DISTANCE TO THE NEAREST JOINT OR SEAM. USE HOT MIX ASPHALT WHENEVER POSSIBLE. IF COLD PATCH IS NEEDED IN AN EMERGENCY, REPLACE WITH HOT MIX AS SOON AS POSSIBLE PER WISDOT HMM 09-15-45 SECTION 5.2.

8. DISTURBED AREAS WITHIN THE RIGHT-OF WAY SHALL BE RESTORED WITH AT LEAST 3-INCHES OF TOPSOIL, SALT-TOLERANT GRASS SEED MIX, AND MULCH. EROSION CONTROL MAY SHALL BE PLACED AT SWALES AND WHEN MINIMUM SLOPE IS EXCEEDED.

9. TWO-WAY TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. CONTRACTOR SHALL PROVIDE FLAGGERS WITH RADIOS AS NECESSARY TO MAINTAIN TWO-WAY TRAFFIC. AT THE END OF EACH WORK DAY, TWO LANES FOR TRAFFIC SHALL BE RESTORED UNTIL THE START OF THE NEXT WORK DAY.

10. THE OAK CREEK WATER AND SEWER UTILITY MAINTAINS THE FIRST RIGHT TO SALVAGED MATERIALS AS SPECIFIED.

11. PAVEMENT MARKINGS REMOVED TO DAMAGED DUE TO UTILITY WORK SHALL BE REPLACED IN KIND.

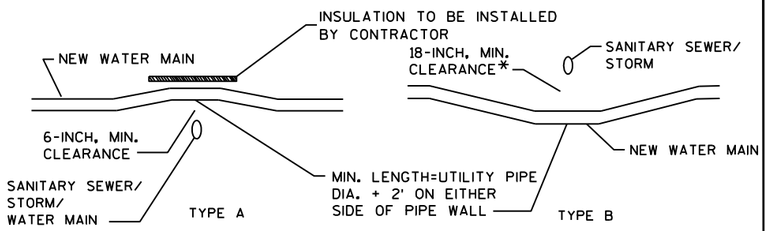
12. SAWCUT ALL PAVEMENT FULL-DEPTH WHEN OPEN CUTTING.

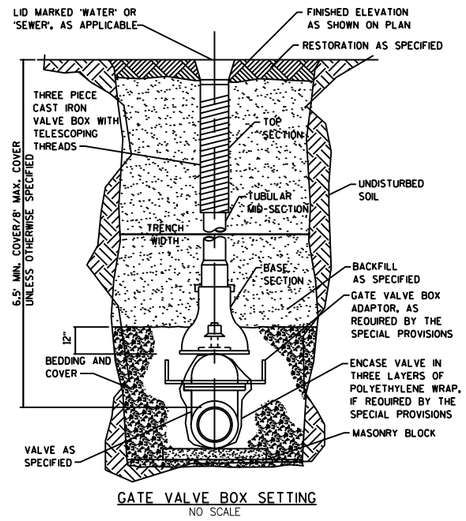
13. VALVES SHALL BE PUSH JOINT WITH TIE RODS FOR RESTRAINTS.

14. WHERE EXISTING WATER MAIN IS FOUND TO HAVE TRACER WIRE, RECONNECT TRACER WIRE. WHERE EXISTING WATER MAIN IS FOUND TO NOT HAVE TRACER WIRE, NEW TRACER WIRE SHALL BE BONDED TO ⅝" DIAMETER, 3' COPPER GROUND-ROD DRIVEN NEXT TO THE PIPE UTILIZING A GROUND ROD CLAMP WITH UL LISTED CAST COPPER ALLOY HEX-HEAD BOLT..

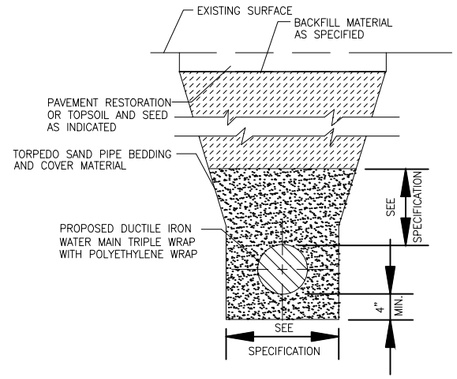
15. E. OBRIEN ROAD 8" WATER MAIN TO BE REMOVED SHALL BE PREPARED AND EXTRACTED ACCORDING TO PIPE HARVESTING PROTOCOL IN THE SPECIFICATIONS.

EXISTING UTILITIES/WATER MAIN CONFLICTS





GATE VALVE BOX SETTING
NO SCALE



TYPICAL TRENCH DETAIL
NO SCALE

This is to certify that this plan was approved by the Water Works and Sewer Utility Commission of Oak Creek at a regular meeting.

Utility Engineer Date

UTILITY CONTACTS

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SA.	
ST.	
W.	
G.	
E.	
T.	
I.	
TS.	
PP.	

REVISION BY DATE

CITY OF OAK CREEK, WISCONSIN

DESIGNED BY	DATE	DRAWN BY	DATE	CHECKED BY	DATE
B.W.	05/25/17	E.Y.	05/25/17	M.F.	05/25/17

STANDARD SYMBOLS, GENERAL NOTES, AND DETAIL DRAWINGS

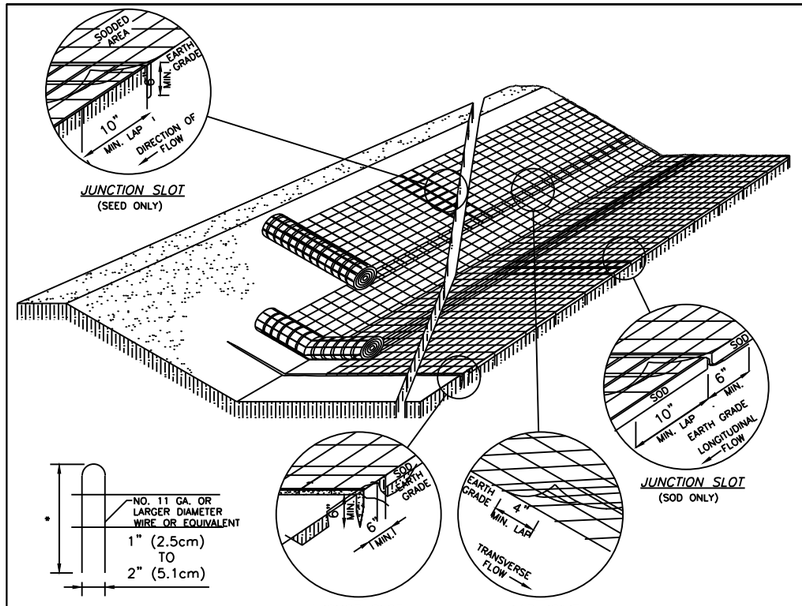
APPROVED BY
UTILITY ENGINEER DATE

APPROVED BY
CITY ENGINEER DATE

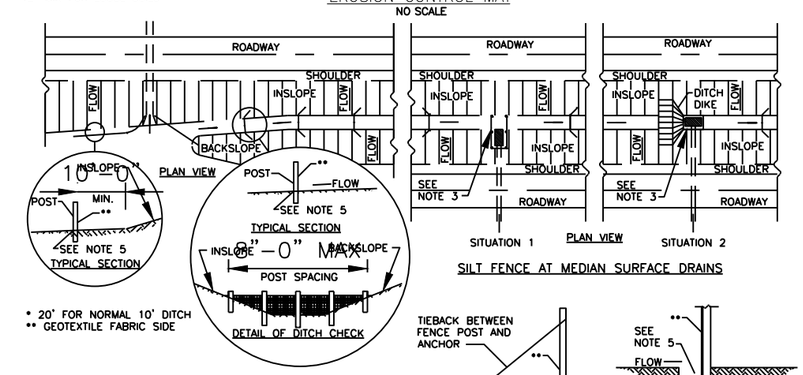
SCALE	SHEET
PLAN HOR. N/A	2
PROFILE HOR. N/A VER. N/A	OF 8

APPROVED BY COUNCIL RESOLUTION NO.

FILE NO: 17102-2C-2335

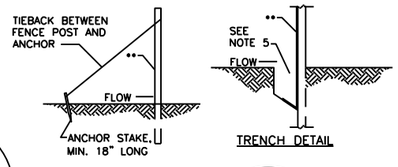


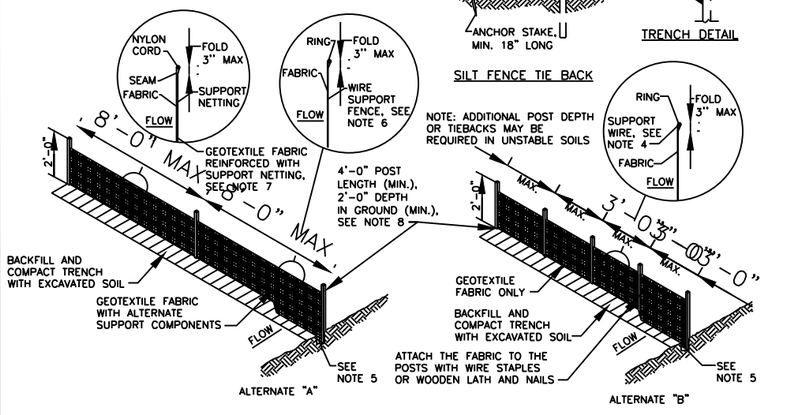
EROSION CONTROL MAT
NO SCALE



SILT FENCE AT MEDIAN SURFACE DRAINS

TYPICAL APPLICATIONS OF SILT FENCE





SILT FENCE
NO SCALE

NOTES:
1. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

2. VARIATIONS IN THE DIMENSIONS OR MATERIALS SHOWN HEREON SHALL BE PERMITTED IF THEY PROVIDE EQUIVALENT PROTECTION AND MATERIAL STRENGTH.

3. LAP JOINTS SHALL NOT BE PLACED IN THE BOTTOM OF V-SHAPED DITCHES.

4. JUNCTION SLOTS ON ADJACENT STRIPS OF MATTING SHALL BE STAGGERED A MINIMUM OF 4 FEET APART.

5. EDGES OF THE EROSION MAT SHALL BE IMPRESSED IN THE SOIL.

6. EROSION MAT SHALL BE MEASURED AND PAID FOR IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

EROSION MAT OVER SOD

– ONLY JUTE FABRIC WILL BE PERMITTED OVER SOD.

– FLOOD STAKES FOR SOD MAY BE OMITTED IF THE EXISTING SLOPE AND SOIL CONDITIONS SO PERMIT.

– THE WIDTH OF EROSION MAT SHALL ALWAYS EQUAL THE SOD WIDTH.

– SOD STRIPS MAY BE PLACED EITHER LONGITUDINALLY OR TRANSVERSELY TO THE FLOW LINE OF THE DITCH.

EROSION MAT OVER SEEDING

– JUNCTION OR ANCHOR SLOTS WILL BE AT MINIMUM INTERVALS OF 100 FEET ON GRADES UP TO AND INCLUDING 3 PERCENT, AND 50 FEET ON GRADES EXCEEDING 3 PERCENT.

NOTES:
1. DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

2. WHEN POSSIBLE THE SILT FENCE SHALL BE CONSTRUCTED IN AN ARC OR HORSESHOE SHAPE, WITH THE ENDS POINTING UPSLOPE TO MAXIMIZE BOTH STRENGTH AND EFFECTIVENESS.

3. CROSS BRACE WITH 2"x4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.

4. MINIMUM 14 GAGE WIRE REQUIRED, FOLD FABRIC 3" OVER THE WIRE AND STAPLE OR PLACE WIRE RINGS ON 12" C–C.

5. EXCAVATE TRENCH A MINIMUM OF 4" WIDE AND 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC, FOLD MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL.

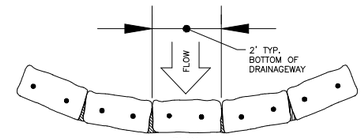
6. WIRE SUPPORT FENCE SHALL BE 14 GAGE MINIMUM WOVEN WIRE WITH A MAXIMUM MESH SPACING OF 6". SECURE TOP OF GEOTEXTILE FABRIC TO TOP OF FENCE WITH STAPLES OR WIRE RINGS AT 12" C TO C.

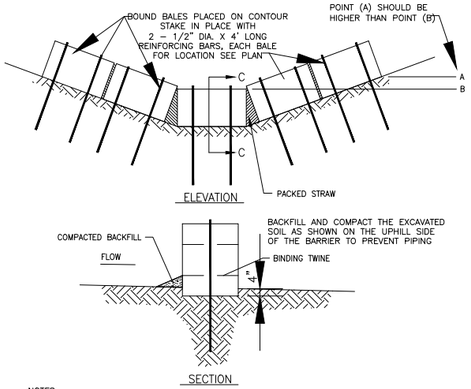
7. GEOTEXTILE FABRIC SHALL BE REINFORCED WITH AN INDUSTRIAL POLYPROPYLENE NETTING WITH A MAXIMUM MESH SPACING OF 1/4" OR EQUAL. A HEAVY DUTY NYLON TOP SUPPORT CORD OR EQUIVALENT IS REQUIRED.

8. STEEL POSTS SHALL BE STUDDED "TEE" OR "U" TYPE WITH A MINIMUM WEIGHT OF 1.2 LBS/LINEAR FOOT WITHOUT ANCHORS, OR ANCHORS SUFFICIENT TO RESIST POST MOVEMENT ARE REQUIRED. WOOD POSTS SHALL BE A MINIMUM SIZE OF 4" DIAMETER, OR 2 1/2"x3 1/2", EXCEPT WOOD POSTS FOR GEOTEXTILE FABRIC REINFORCED WITH NETTING SHALL BE A MINIMUM SIZE OF 1 1/8"x1 1/8" OAK OR HICKORY.

9. ALTERNATES "A" AND "B" ARE EQUAL AND EITHER MAY BE USED.

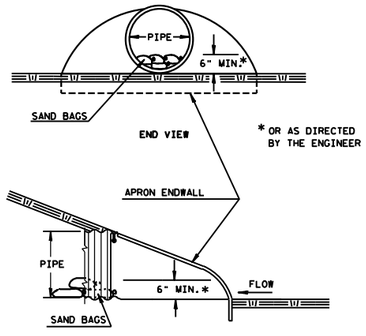
10. SILT FENCE TO BE INSTALLED IN ACCORDANCE WITH WNDR TECHNICAL STANDARD 1056.





NOTES:
1. STAGGER BALES TO COVER JOINTS IF MORE THAN 1 ROW IS USED.
2. WHEN ROLLED EXCELSIOR IS USED, ANGLE STAKES IN THE DIRECTION OF FLOW, DRIVE THEM 2' ON CENTER, AND ENTWINE THE ENDS OF THE STAKES IN THE MESH ROLL COVERING.

DITCH CHECK STRAW BALE OR EXCELSIOR BARRIER
NO SCALE



CULVERT PIPE DITCH CHECK
NO SCALE

EROSION CONTROL NOTES

1. ALL PERMIT CONDITIONS SHALL BE MET DURING CONSTRUCTION OF THE PROJECT.
2. CONSTRUCTION SITE EROSION CONTROL AND SEDIMENTATION CONTROL SHALL COMPLY WITH THE REQUIREMENTS OF THE CITY OF OAK CREEK, AND SHALL MEET OR EXCEED EROSION CONTROL METHODS AS SHOWN AND SPECIFIED IN THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR) "CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL TECHNICAL STANDARDS".
3. ALL EROSION CONTROL MEASURES SHALL BE ADJUSTED TO MEET FIELD CONDITIONS AT THE TIME OF CONSTRUCTION AND SHALL BE INSTALLED PRIOR TO ANY GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL ON THE SITE.
4. ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED FOR STABILITY AND OPERATION AFTER A RAINFALL OF 0.5 INCHES OR MORE, BUT NO LESS THAN ONCE EVERY WEEK. MAINTENANCE OF ALL EROSION CONTROL STRUCTURES SHALL BE PROVIDED TO INSURE INTENDED PURPOSE IS ACCOMPLISHED. REPAIRS AND MAINTENANCE SHALL BE COMPLETED WITHIN 24 HOURS OF INSPECTION. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANUP AND REMOVAL OF ALL SEDIMENT WHEN LEAVING PROPERTY. EROSION CONTROL MEASURES MUST BE IN WORKING CONDITION AT END OF EACH WORK DAY.
5. EROSION CONTROL MEASURES SHALL BE MAINTAINED ON A CONTINUING BASIS UNTIL SITE IS FULLY STABILIZED.
6. FILTER FABRIC SHALL BE INSTALLED BENEATH INLET COVERS TO TRAP SEDIMENT AS PER INLET PROTECTION DETAIL IN THE LOCATIONS SHOWN ON THE CONSTRUCTION PLANS.
7. PERIODIC STREET SWEEPING SHALL BE COMPLETED TO MAINTAIN THE PUBLIC STREET FREE OF DUST AND DIRT.
8. SILT FENCE SHALL BE INSTALLED IN HORSESHOE FASHION AROUND ALL TOPSOIL AND FILL STOCKPILES. NOTIFY THE CITY OF OAK CREEK OF ANY NEW STOCKPILE LOCATIONS.
9. WASTE AND MATERIAL DISPOSAL. ALL WASTE AND UNUSED BUILDING MATERIALS (INCLUDING GARBAGE, DEBRIS, CLEANING WASTES, WASTEWATER, TOXIC MATERIALS, OR HAZARDOUS MATERIALS) SHALL BE PROPERLY DISPOSED AND NOT ALLOWED TO BE CARRIED OFF-SITE BY RUNOFF OR WIND.
10. ANY SOIL DISTURBANCE AND/OR SOIL OR DIRT STORAGE PILES SHALL BE LOCATED A MINIMUM OF TWENTY-FIVE FEET FROM ANY DOWNSLOPE ROAD, LAKE, STREAM, WETLAND, OR DRAINAGE CHANNEL. STRAW BALE OR FILTER FABRIC FENCES SHALL BE PLACED ON THE DOWN SLOPE SIDE OF THE PILE, IF REMAINING FOR MORE THAN THIRTY DAYS. PILES SHALL BE STABILIZED BY MULCHING, VEGETATIVE COVER, TARPS, OR OTHER MEANS.
11. ALL DISTURBED GROUND LEFT INACTIVE FOR SEVEN OR MORE DAYS SHALL BE STABILIZED BY TEMPORARY OR PERMANENT SEEDING, AND MULCHING SODDING, COVERING WITH TARPS, OR EQUIVALENT BEST MANAGEMENT PRACTICES. IF TEMPORARY SEEDING IS USED, A PERMANENT COVER SHALL ALSO BE REQUIRED AS PART OF THE FINAL SITE STABILIZATION. SEEDING OR SODDING SHALL BE REQUIRED AS PART OF THE FINAL SITE STABILIZATION.
12. TRACKING. EACH SITE SHALL HAVE GRAVELED ROADS, ACCESS DRIVES AND PARKING AREAS OF SUFFICIENT WIDTH AND LENGTH TO PREVENT SEDIMENT FROM BEING TRACKED ONTO PUBLIC OR PRIVATE ROADWAYS. ANY SEDIMENT REACHING A PUBLIC OR PRIVATE ROAD SHALL BE REMOVED BY STREET CLEANING, TO THE SATISFACTION OF THE CITY, BEFORE THE END OF EACH WORKDAY. FLUSHING MAY NOT BE USED UNLESS SEDIMENT WILL BE CONTROLLED BY A SEDIMENT BASIN OR OTHER APPROPRIATE BEST MANAGEMENT PRACTICE SPECIFIED IN THE WDNR "CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL TECHNICAL STANDARDS". NOTIFY THE CITY OF OAK CREEK FOR CHANGES IN STABILIZED CONSTRUCTION ENTRANCE LOCATION.
13. SEDIMENT CLEANUP. ALL OFF-SITE SEDIMENT DEPOSITS OCCURRING AS A RESULT OF A STORM EVENT SHALL BE CLEANED UP BY THE END OF THE NEXT WORK DAY. ALL OTHER OFF-SITE SEDIMENT DEPOSITS OCCURRING AS A RESULT OF CONSTRUCTION ACTIVITIES SHALL BE CLEANED UP BY THE END OF THE WORK DAY.
14. NOTIFY THE CITY WITHIN TWO WORKING DAYS OF COMMENCING ANY LAND DEVELOPMENT OR LAND DISTURBING ACTIVITY.
15. NOTIFY THE CITY OF COMPLETION OF ANY BEST MANAGEMENT PRACTICES WITHIN THE NEXT WORKING DAY AFTER THEIR INSTALLATION.
16. OBTAIN PERMISSION IN WRITING FROM THE CITY OF OAK CREEK WATER & SEWER UTILITY DEPARTMENT PRIOR TO MODIFYING THE EROSION CONTROL PLAN. NOTIFY WDNR AT LEAST FIVE WORKING DAYS PRIOR TO IMPLEMENTING CHANGES TO THE EROSION CONTROL PLAN.
17. REPAIR ANY SILTATION OR EROSION DAMAGE TO ADJOINING SURFACES AND DRAINAGE WAYS RESULTING FROM LAND DEVELOPMENT OR LAND DISTURBING ACTIVITIES.
18. KEEP A COPY OF THE EROSION CONTROL PLAN ON SITE.
19. WHENEVER SOIL EXHIBITING OBVIOUS SIGNS OF CONTAMINATION IS ENCOUNTERED DURING EXCAVATION OR INSTALLATION, CEASE WORK IMMEDIATELY, TAKE APPROPRIATE IMMEDIATE PRECAUTIONS TO ENSURE WORKER HEALTH AND SAFETY, AND CONTACT OPERATIONS SUPERVISOR OR INSPECTOR.
20. WATER PUMPED FROM THE SITE, INCLUDING BUT NOT LIMITED TO, PITS OR TRENCHES SHALL BE TREATED BY SEDIMENT BASINS, AN APPROVED SEDIMENT BAG, A STRAW BALE DEWATER BASIN, A COMBINATION OF BOTH, OR OTHER APPROPRIATE BEST MANAGEMENT PRACTICES SPECIFIED IN THE WDNR "CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL TECHNICAL STANDARDS". WATER SHALL NOT BE DISCHARGED IN A MANNER THAT CAUSES EROSION OF THE SITE, ADJACENT SITES, OR RECEIVING CHANNELS.
21. PRIOR TO INITIATING ANY LAND DISTURBANCE IN WETLANDS, CONFIRM THAT NECESSARY FEDERAL, STATE, AND LOCAL PERMITS HAVE BEEN OBTAINED.
22. AS MUCH AS PRACTICABLE, THE MAJORITY OF WORK SHALL BE STAGED FROM THE PUBLIC ROADWAYS AND ROAD SHOULDERS, AND EQUIPMENT SHALL BE KEPT OUT OF WETLANDS. ALL WORK SHALL BE CONDUCTED TO MINIMIZE SOIL DISTURBANCE. NO RUTTING WILL BE ALLOWED IN WETLANDS.
23. IF SOILS ARE NOT FROZEN OR STABLE TO A POINT THAT AVOIDS RUTTING, TIMBER MATS, MUD TRACKS, OR EQUIVALENT SHALL BE UTILIZED FOR ACCESS IN WETLANDS
24. EXCAVATED SPOILS SHALL NOT BE STOCKPILED IN WETLANDS AND ALL EXCESS SPOILS SHALL BE REMOVED FROM WETLANDS AND PLACED IN A SUITABLE UPLAND LOCATION.
25. TRENCHING AND PIT EXCAVATIONS WITHIN WETLANDS WILL INCLUDE SOIL SEGREGATION TO FACILITATE RESTORATION OF PRE-CONSTRUCTION SOIL STRATIFICATION, AND RESTORATION TO PRE-CONSTRUCTION ELEVATIONS.
26. NO WORK SHALL BE PERFORMED WITHIN THE BANKS OR BELOW THE ORDINARY HIGH WATERMARK OF ANY NAVIGABLE WATERWAY OR STREAM AND NO CROSSING OF NAVIGABLE WATERWAYS WITH EQUIPMENT CAN OCCUR.
27. ANY SOIL BEING DISTURBED WITHIN 75 FEET OF AN ORDINARY HIGHWATER MARK OF ANY NAVIGABLE WATERWAY OR STREAM SHALL BE STABILIZED WITHIN 24 HOURS OF CONSTRUCTION COMPLETION.
28. REMOVE ALL EROSION CONTROL PRACTICES ONCE SITE HAS BEEN STABILIZED.

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This is to certify that this plan was approved by the Water Works and Sewer Utility Commission of Oak Creek at a regular meeting.

Utility Engineer Date

REVISION BY DATE

CITY OF OAK CREEK, WISCONSIN

DESIGNED BY	DATE	DRAWN BY	DATE	CHECKED BY	DATE
B.W.	05/25/17	E.Y.	05/25/17	M.F.	05/25/17

EROSION CONTROL NOTES AND DETAILS

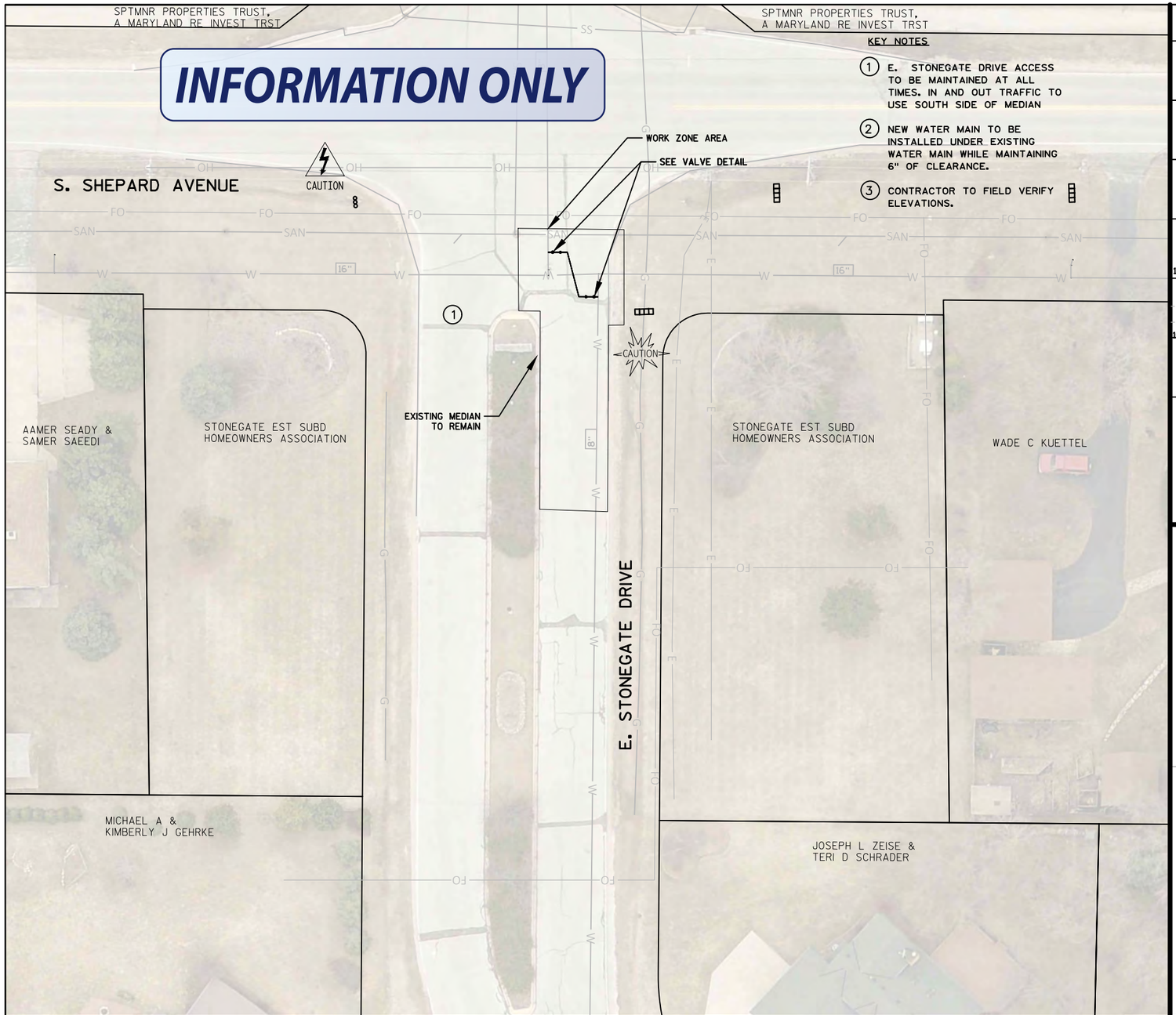
APPROVED BY
UTILITY ENGINEER DATE
APPROVED BY
CITY ENGINEER DATE

SCALE	SHEET
PLAN HOR. N/A	3
PROFILE HOR. N/A	OF
VER. N/A	8

APPROVED BY COUNCIL RESOLUTION NO.

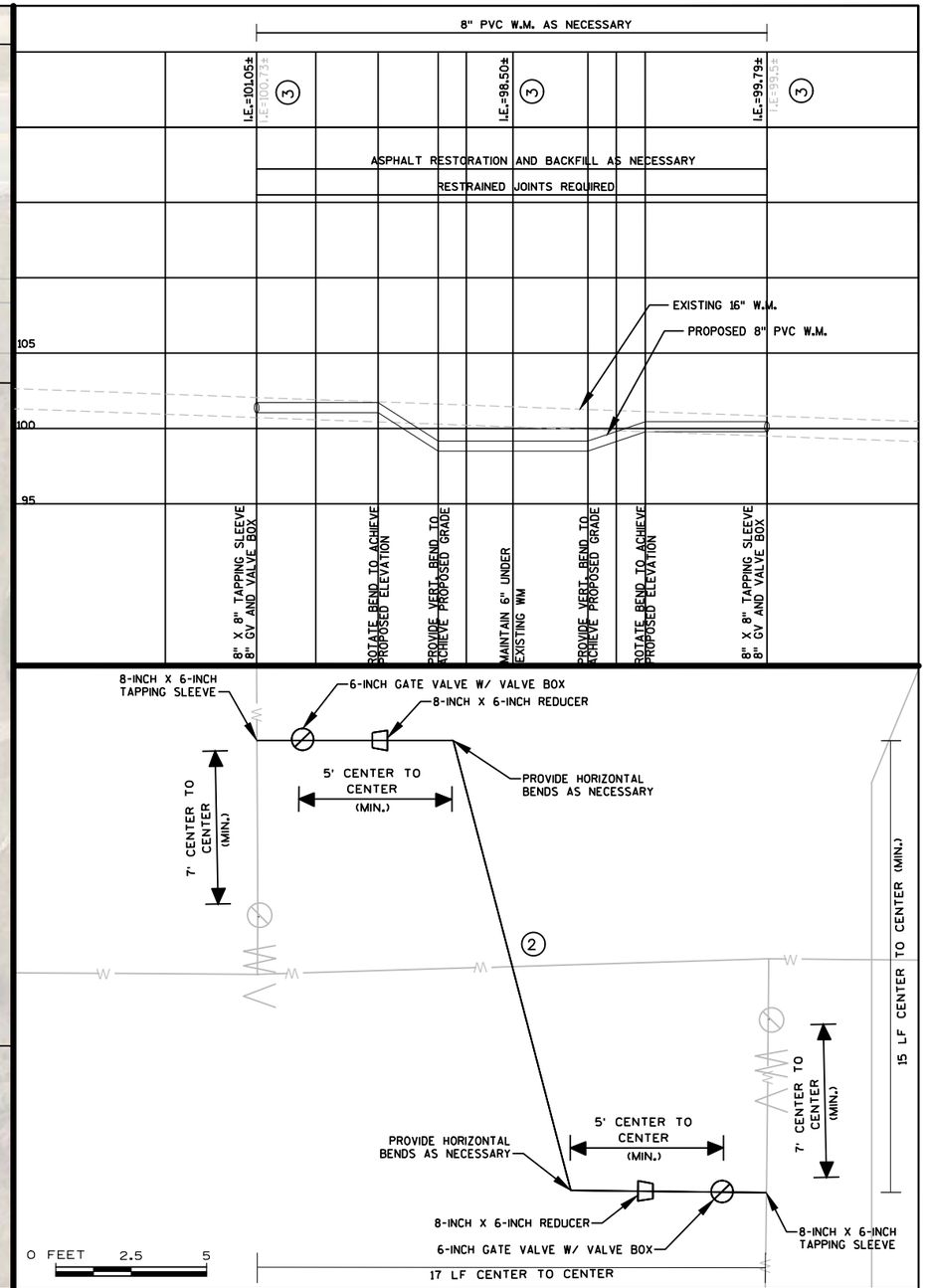
FILE NO: 17102–3C–2336

FILE NAME : S:\MIL\1900--1999\1960\013\ACAD\SHEETSPLAN\3 EROSION CONTROL NOTES.DWG PLOT DATE : 5/23/2017 7:56 AM PLOT BY : YOSS, EMILY



KEY NOTES

1. E. STONEGATE DRIVE ACCESS TO BE MAINTAINED AT ALL TIMES. IN AND OUT TRAFFIC TO USE SOUTH SIDE OF MEDIAN
2. NEW WATER MAIN TO BE INSTALLED UNDER EXISTING WATER MAIN WHILE MAINTAINING 6" OF CLEARANCE.
3. CONTRACTOR TO FIELD VERIFY ELEVATIONS.



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Milwaukee Area (414) 259-1181
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

N

BID ITEM NOS.	ESTIMATE OF QUANTITIES
1	S. SHEPARD AVENUE AND E. STONEGATE DRIVE 8" PVC CONNECTION....1 LS

This is to certify that this plan was approved by the Water Works and Sewer Utility Commission of Oak Creek at a regular meeting.

Utility Engineer Date

SA.	
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W.	
G.	
E.	
T.	
I.	
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BEN W. WOOD E-14439-6 MILWAUKEE WI PROFESSIONAL ENGINEER 5-24-17

CITY OF OAK CREEK, WISCONSIN

APPROVED BY
UTILITY ENGINEER DATE

DESIGNED BY	DATE	DRAWN BY	DATE	CHECKED BY	DATE
B.W.	05/25/17	E.Y.	05/25/17	M.F.	05/25/17

APPROVED BY
CITY ENGINEER DATE

PROPOSED 8" PVC CONNECTION
IN: SOUTH SHEPARD AVENUE
AT: EAST STONEGATE DRIVE

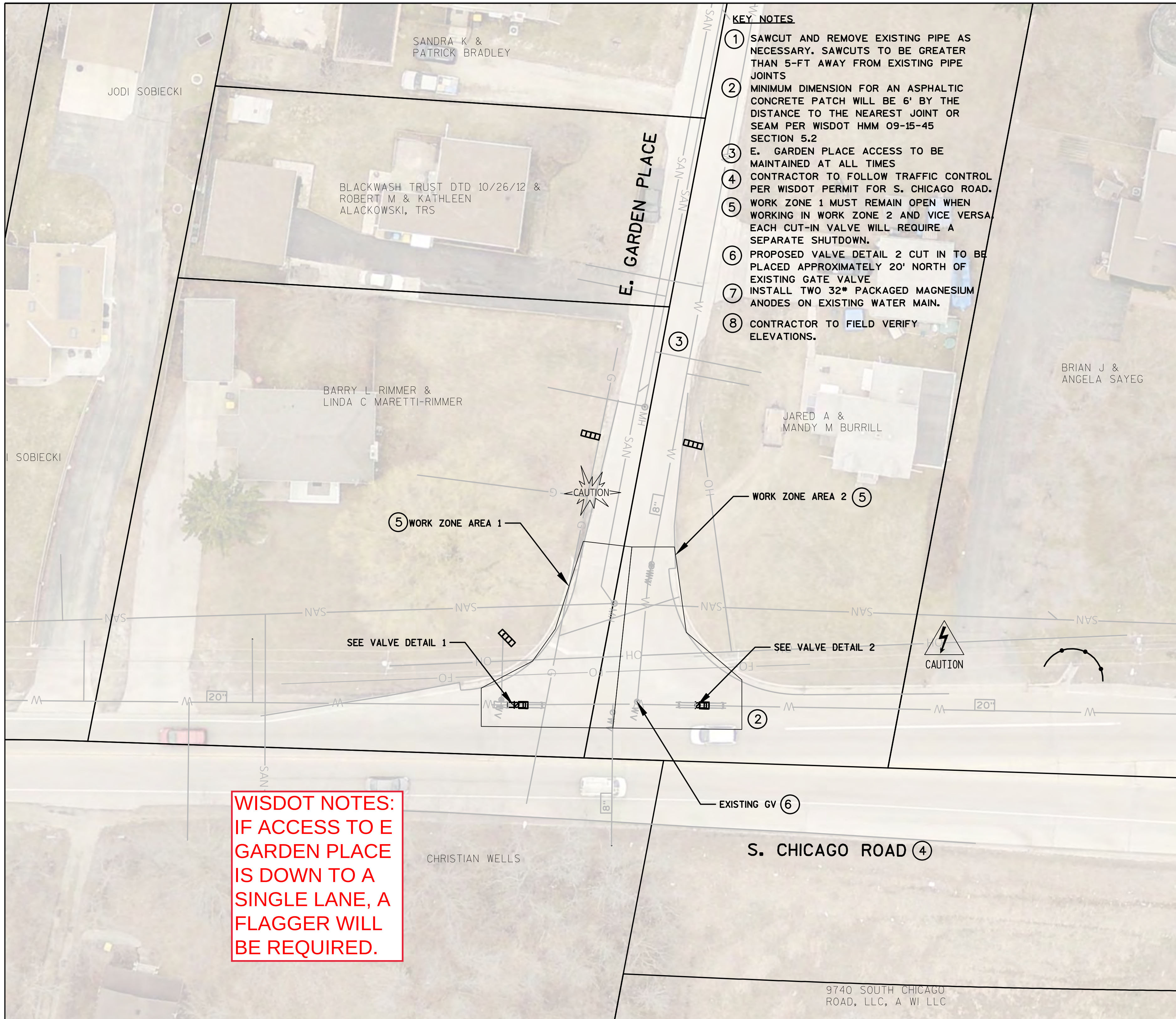
SCALE	SHEET
PLAN HOR. 1"=40'	4
PROFILE HOR. 1"=5' VER. 1"=10'	OF 8

REVISION BY DATE

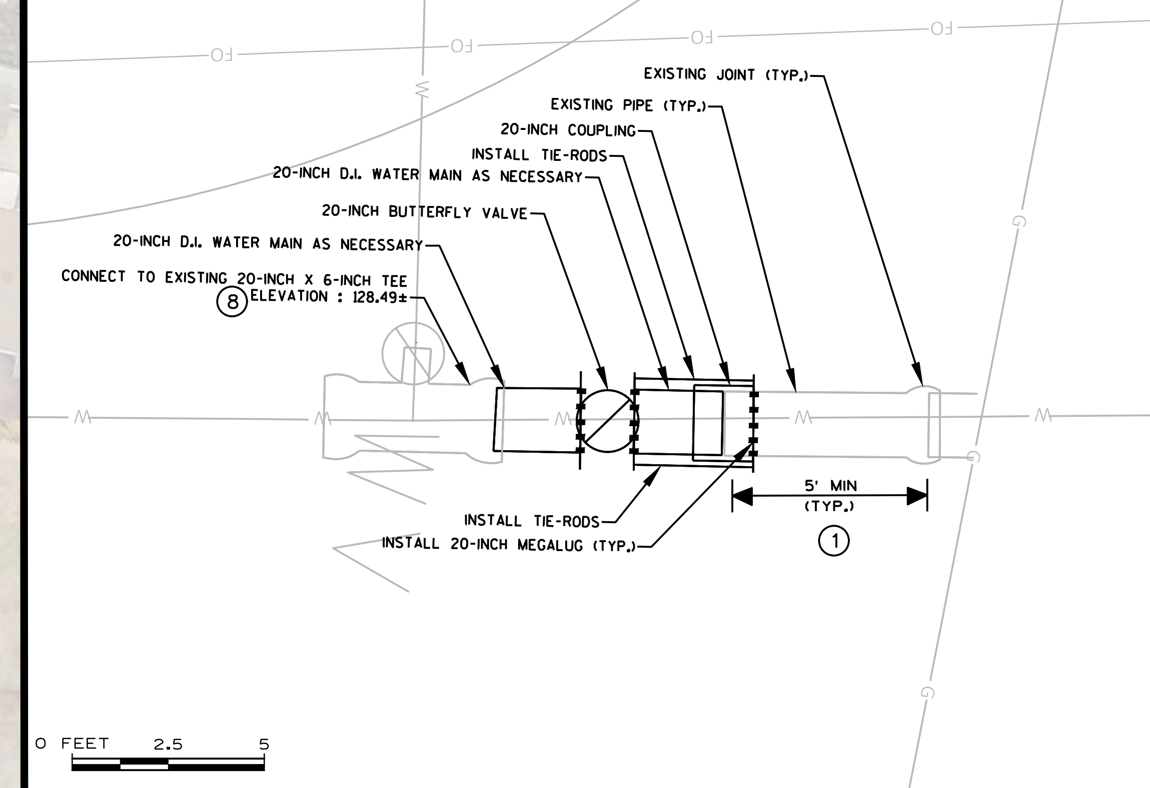
APPROVED BY COUNCIL RESOLUTION NO.

FILE NO: 17102-4C-2337

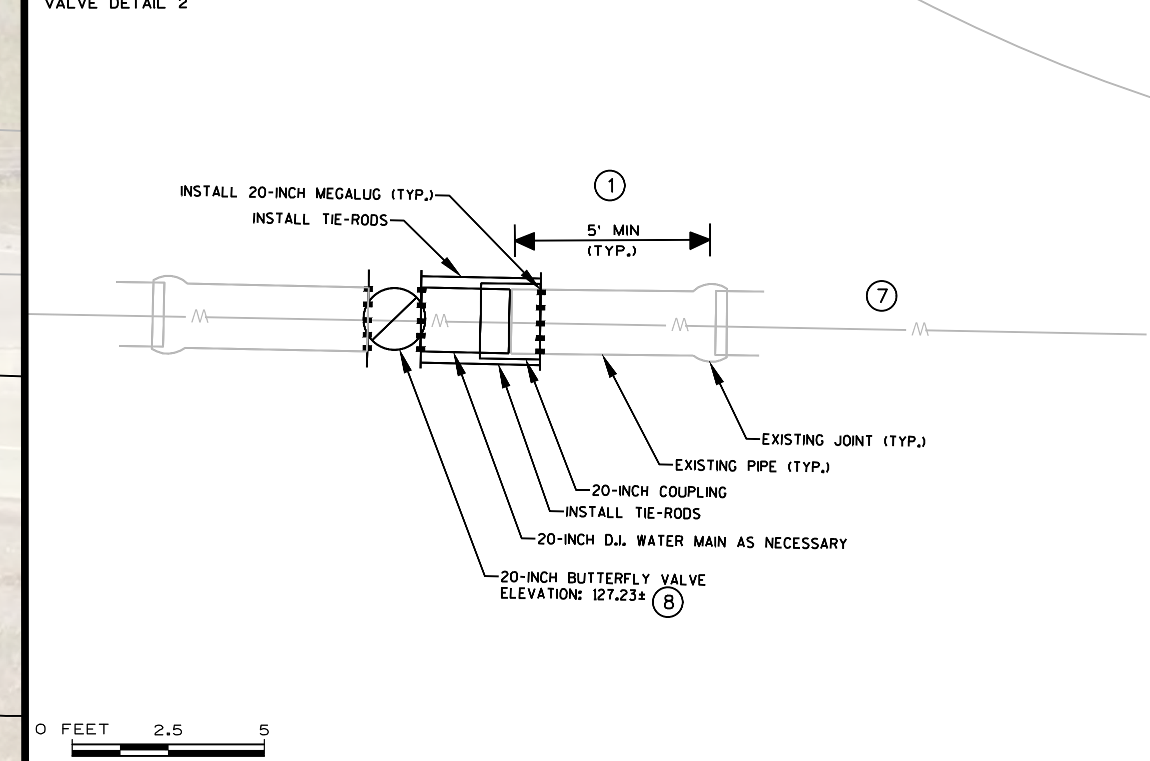
FILE NAME : S:\MIL\1900--1999\1960\013\ACAD\SHEETSPLAN\PP.DWG PLOT DATE : 5/24/2017 12:46 PM PLOT BY : SUNDERLAND, ANNA



VALVE DETAIL 1



VALVE DETAIL 2



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Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

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ESTIMATE OF QUANTITIES

BID ITEM NOS.	
2	S. CHICAGO ROAD AND E. GARDEN PLACE 20" CUT-IN VALVES.....1 LS

SA.
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This is to certify that this plan was approved by the Water Works and Sewer Utility Commission of Oak Creek at a regular meeting.

Utility Engineer Date

CITY OF OAK CREEK, WISCONSIN

DESIGNED BY	DATE	DRAWN BY	DATE	CHECKED BY	DATE
B.W.	05/25/17	E.Y.	05/25/17	M.F.	05/25/17

APPROVED BY
UTILITY ENGINEER DATE
APPROVED BY
CITY ENGINEER DATE

PROPOSED 20" CUT-IN VALVES
IN: SOUTH CHICAGO ROAD
AT: EAST GARDEN PLACE

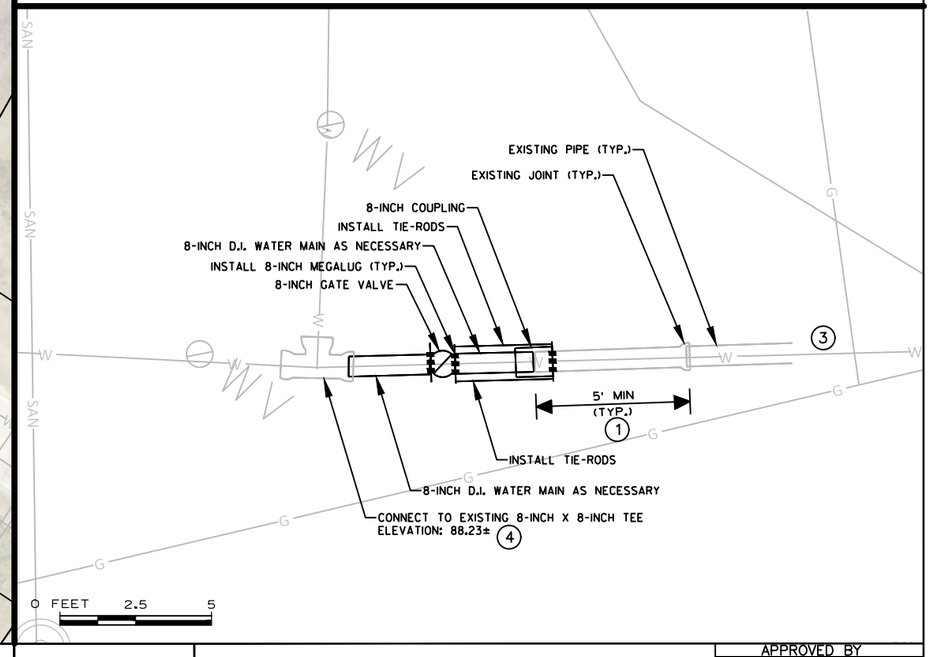
SCALE	SHEET
PLAN HOR. 1"=40'	5
PROFILE HOR. 1"=5' VER. 1"=10'	OF 8

REVISION BY DATE APPROVED BY COUNCIL RESOLUTION NO. FILE NO: 17102-5C-2338

FILE NAME : S:\MIL\1900--1999\1960\013\ACAD\SHEETSPLAN\PP.DWG PLOT DATE : 5/23/2017 12:41 PM PLOT BY : YOSS, EMILY

KEY NOTES

1. SAWCUT AND REMOVE EXISTING PIPE AS NECESSARY. SAWCUTS TO BE GREATER THAN 5-FT AWAY FROM EXISTING PIPE JOINTS
2. S. 11TH AVENUE ACCESS TO BE MAINTAINED AT ALL TIMES
3. INSTALL ONE 32# PACKAGED MAGNESIUM ANODE ON EXISTING WATER MAIN
4. CONTRACTOR TO FIELD VERIFY ELEVATIONS.



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Milwaukee Area (414) 259-1181
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

BID ITEM NOS.	ESTIMATE OF QUANTITIES
1	E. OBRIEN ROAD AND S. 11TH AVENUE 8" CUT-IN VALVE.....1 LS

This is to certify that this plan was approved by the Water Works and Sewer Utility Commission of Oak Creek at a regular meeting.

Utility Engineer Date

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CITY OF OAK CREEK, WISCONSIN

APPROVED BY
UTILITY ENGINEER DATE

DESIGNED BY DATE	DRAWN BY DATE	CHECKED BY DATE
B.W. 05/25/17	E.Y. 05/25/17	M.F. 05/25/17

APPROVED BY
CITY ENGINEER DATE

PROPOSED 8" CUT-IN VALVE
IN: EAST OBRIEN ROAD
AT: SOUTH 11TH AVENUE

SCALE	SHEET
PLAN HOR. 1"=40'	6
PROFILE HOR. 1"=5' VER. 1"=10'	OF 8

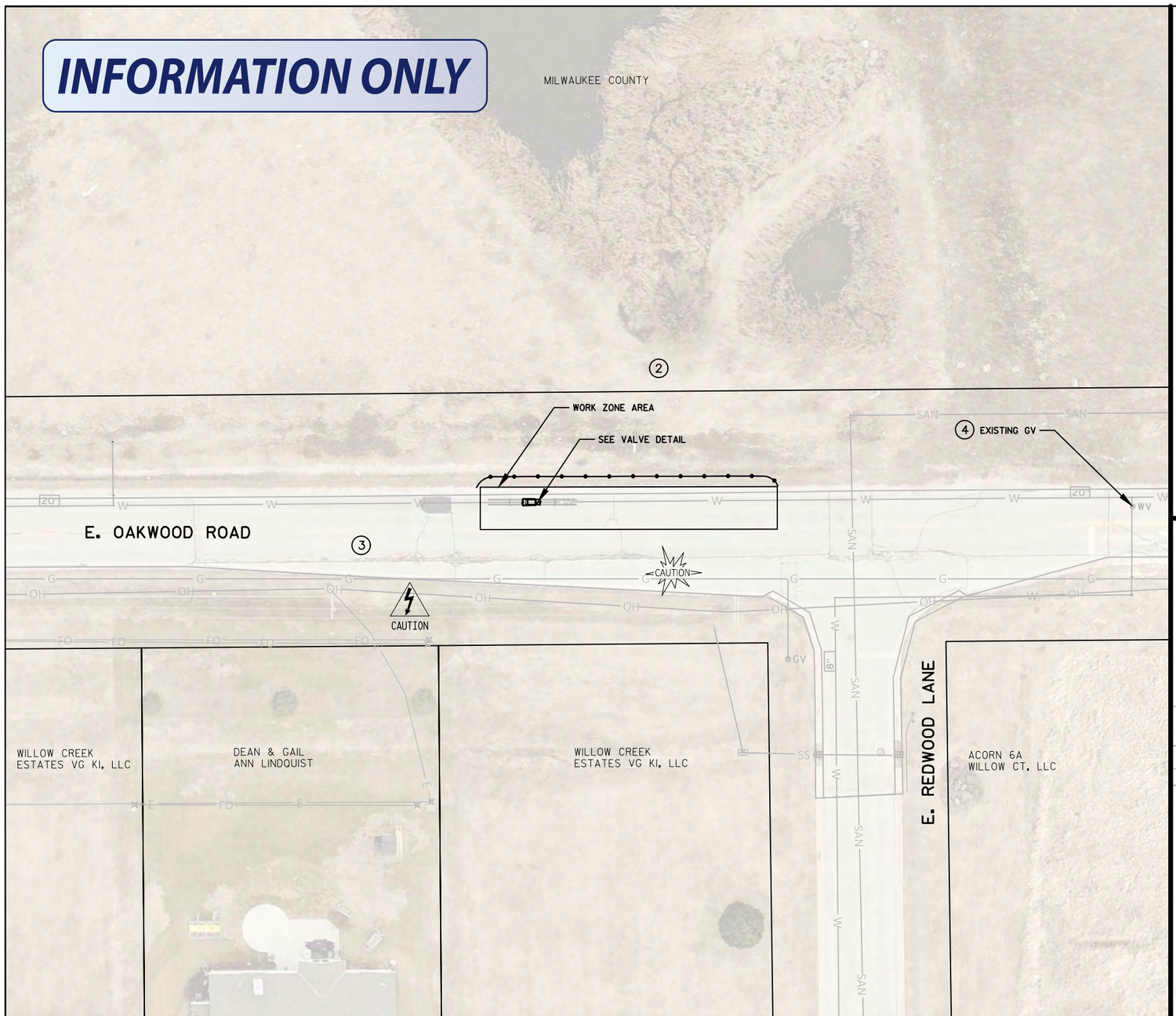
REVISION BY DATE

APPROVED BY COUNCIL RESOLUTION NO.

FILE NO: 17102-6C-2339

FILE NAME : S:\MIL\1900--1999\1960\013\ACAD\SHEETSPLAN\PP.DWG PLOT DATE : 5/23/2017 12:33 PM PLOT BY : YOSS, EMILY

INFORMATION ONLY



KEY NOTES

1. SAWCUT AND REMOVE EXISTING PIPE AS NECESSARY. SAWCUTS TO BE GREATER THAN 5-FT AWAY FROM EXISTING PIPE JOINTS
2. CONTRACTOR SHALL NOT STORE MATERIALS OR EQUIPMENT OR TRACK EQUIPMENT OUTSIDE OF ASPHALT PAVEMENT OR GRAVEL SHOULDER. WETLAND INDICATORS PRESENT.
3. E. OAKWOOD ROAD SHALL REMAIN OPEN TO TWO-WAY TRAFFIC AT ALL TIMES.
4. PROPOSED CUT-IN VALVE TO BE PLACED APPROXIMATELY 200" WEST OF EXISTING GATE VALVE
5. INSTALL TWO 32# PACKAGED MAGNESIUM ANODES ON EXISTING WATER MAIN
6. CONTRACTOR TO FIELD VERIFY ELEVATIONS.

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Milwaukee Area (414) 259-1181
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BID ITEM NOS.	ESTIMATE OF QUANTITIES
1	E. OAKWOOD ROAD AND E. REDWOOD LANE 20" CUT-IN VALVE....1 LS

This is to certify that this plan was approved by the Water Works and Sewer Utility Commission of Oak Creek at a regular meeting.

Utility Engineer Date

SA.	
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E.	
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WISCONSIN BRIAN W. WOOD E-41435-6 MILWAUKEE, WI PROFESSIONAL ENGINEER 5-24-17

CITY OF OAK CREEK, WISCONSIN

DESIGNED BY	DATE	DRAWN BY	DATE	CHECKED BY	DATE
B.W.	05/25/17	E.Y.	05/25/17	M.F.	05/25/17

PROPOSED 20" CUT-IN VALVE

IN: EAST OAKWOOD ROAD
FR: 755' EAST OF WILLOW CREEK DRIVE
TO: 110' WEST OF EAST REDWOOD LANE

APPROVED BY
UTILITY ENGINEER DATE
APPROVED BY
CITY ENGINEER DATE

SCALE	SHEET
PLAN HOR. 1"=40'	7
PROFILE HOR. 1"=5' VER. 1"=10'	OF 8

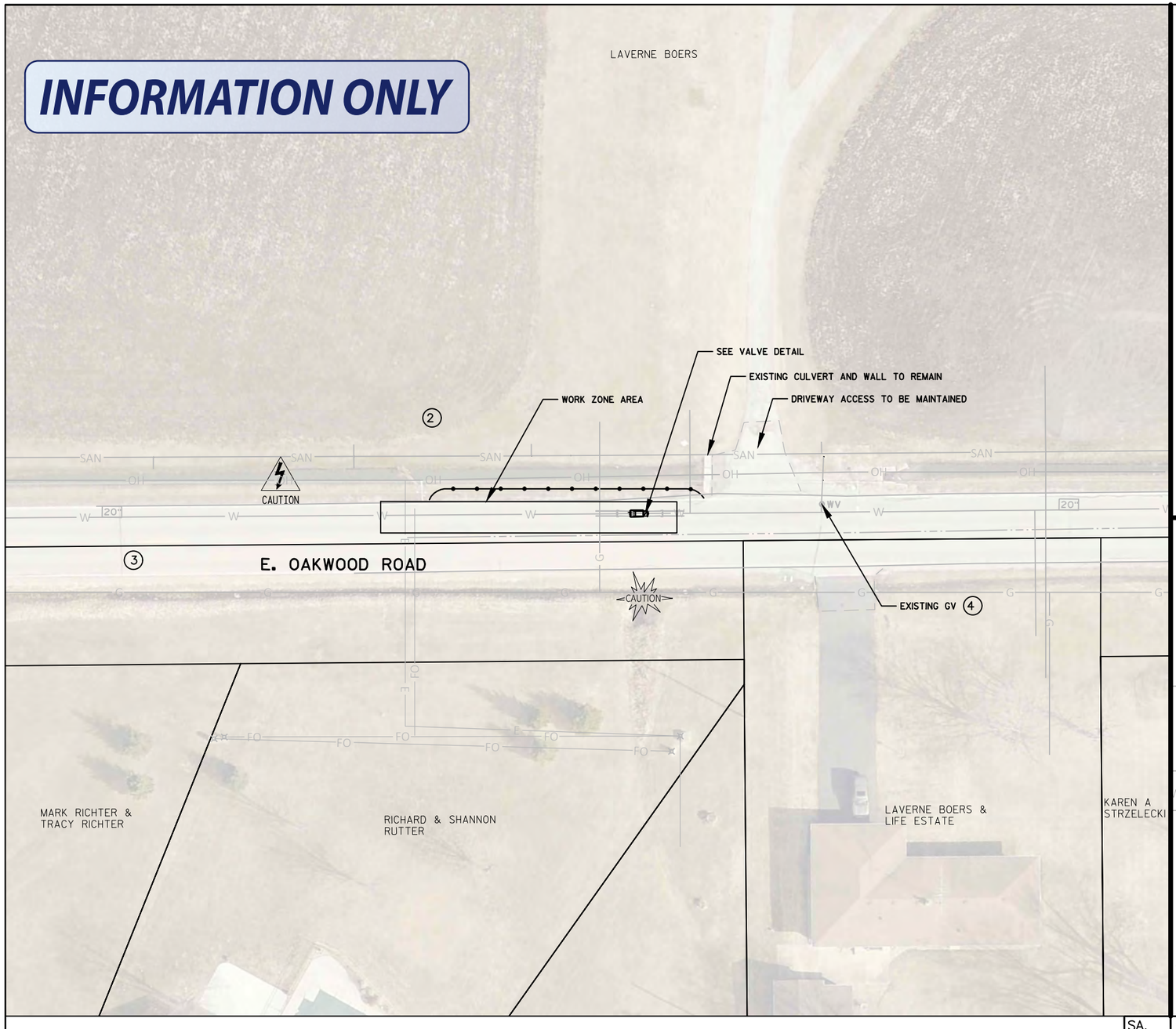
REVISION BY	DATE

APPROVED BY COUNCIL RESOLUTION NO.

FILE NO: 17102-7C-2340

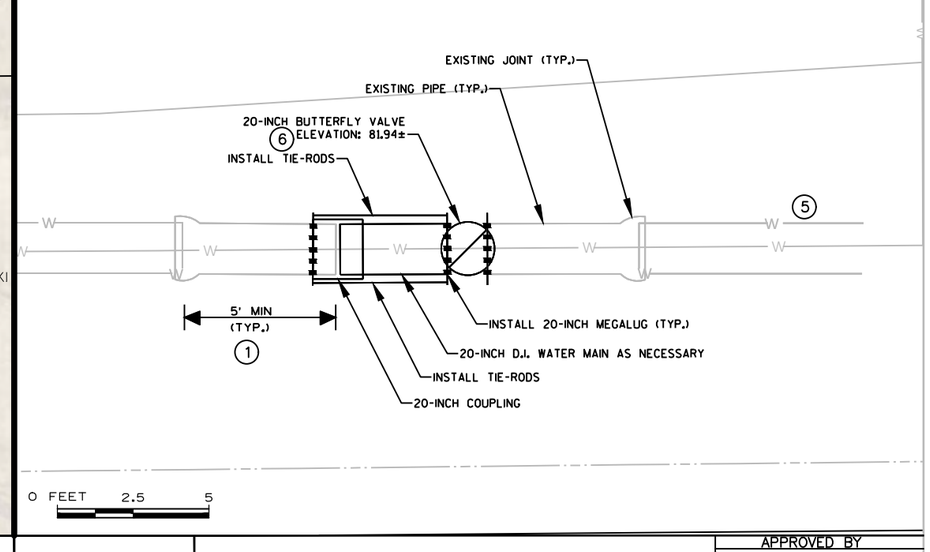
FILE NAME : S:\MIL\1900--1999\1960\013\ACAD\SHEETSPLAN\PP.DWG PLOT DATE : 5/23/2017 12:33 PM PLOT BY : YOSS, EMILY

INFORMATION ONLY



KEY NOTES

1. SAWCUT AND REMOVE EXISTING PIPE AS NECESSARY. SAWCUTS TO BE GREATER THAN 5-FT AWAY FROM EXISTING PIPE JOINTS
2. CONTRACTOR SHALL NOT STORE MATERIALS OR EQUIPMENT OR TRACK EQUIPMENT OUTSIDE OF ASPHALT PAVEMENT OR GRAVEL SHOULDER. WETLAND INDICATORS PRESENT.
3. E. OAKWOOD ROAD SHALL REMAIN OPEN TO TWO-WAY TRAFFIC AT ALL TIMES.
4. PROPOSED CUT-IN VALVE TO BE PLACED APPROXIMATELY 60' WEST OF EXISTING GATE VALVE
5. INSTALL TWO 32# PACKAGED MAGNESIUM ANODES ON EXISTING WATER MAIN
6. CONTRACTOR TO FIELD VERIFY ELEVATIONS.



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Milwaukee Area (414) 259-1181
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

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BID ITEM NOS.	ESTIMATE OF QUANTITIES
1	E. OAKWOOD ROAD AND JOHN ARON DRIVE 20" CUT-IN VALVE....1 LS

This is to certify that this plan was approved by the Water Works and Sewer Utility Commission of Oak Creek at a regular meeting.

Utility Engineer Date

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W.	
G.	
E.	
T.	
I.	
TS.	
PP.	

REVISION BY DATE

CITY OF OAK CREEK, WISCONSIN

DESIGNED BY	DATE	DRAWN BY	DATE	CHECKED BY	DATE
B.W.	05/25/17	E.Y.	05/25/17	M.F.	05/25/17

PROPOSED 20" CUT-IN VALVE
IN: EAST OAKWOOD ROAD
FR: 370' EAST OF JOHN ARON DRIVE
TO: 535' WEST OF SOUTH GEORGE DRIVE

APPROVED BY
UTILITY ENGINEER DATE
APPROVED BY
CITY ENGINEER DATE

SCALE	SHEET
PLAN HOR. 1"=40'	8
PROFILE HOR. 1"=5' VER. 1"=10'	OF 8

APPROVED BY COUNCIL RESOLUTION NO.

FILE NO: 17102-8C-2341

FILE NAME : S:\MIL\1900--1999\1960\013\ACAD\SHEETSPLAN\PP.DWG PLOT DATE : 5/23/2017 12:32 PM PLOT BY : YOSS, EMILY

GENERAL PERMIT REQUEST FOR COVERAGE
Hydrostatic Test Water or Water Supply System Water
WPDES Permit No. WI-0057681-4

State of Wisconsin
Department of Natural Resources

Rev. 1/8/13

For Department Use Only
Stamp Date Rec'd

FID #:

SECTION I: **FACILITY LOCATION INFORMATION**

Facility Name: Oak Creek Water & Sewer Utility		Contact: Ron Pritzlaff	Title: Utility Engineer
Facility Address – Street: 170 W Drexel Ave.		Phone #: 414-570-8200 Ext. 24	ax #:
City, State, Zip Code: Oak Creek, WI 53154		County: Milwaukee	Internet Address: rpritzlaff@water.oak-creek.wi.us

Site Map: Attach a site map, such as a USGS topographic map, showing the location of the facility, the discharge site for groundwater discharges, and/or receiving water for surface water discharges.

SECTION II: **MAILING ADDRESS INFORMATION (Parent Company/Owner - if different from above)**

Parent Company/Owner	Company Contact	Phone #
Mailing Address - P.O. Box, Street, or Route	Title	
City, State, Zip Code	Fax #	Internet Address

Complete SECTION III only for those outfalls that are identified as surface or groundwater discharges in SECTION IV, question 1, of the ELIGIBILITY CHECKLIST.

SECTION III: **DISCHARGE CHARACTERIZATION**

Type of Wastewater (check all that apply):	**Outfall #** (#1, #2, etc.)	**Average Daily Flow** (gallons of water discharged per day)	**Type of Wastewater** (check all that apply):	**Outfall #** (#1, #2, etc.)	**Average Daily Flow** (gallons of water discharged per day)
~~☐ Hydrostatic Test Water~~	# 1A		☐ Well Disinfection	#	
	# 2A			#	
	# 3A	39,655		#	
☒ Water Supply Flushing All outfalls are water supply flushing	# 4A		☐ Distribution Pipe Disinfection	#	
	# 5A			#	
	# 1B	1,010		#	
~~☐ Water Tower Cleaning~~	# 1C		☐ Other (describe type)	#	
	# 2C			#	
	# 3C	43,380		#	
~~☐ Well Testing~~	# 4C		☐ Other (describe type)	#	
	# 1D	16,045		#	
	#			#	

(Continued on next page)

SECTION IV: **ELIGIBILITY CHECKLIST**

1. What is the receiving water for your discharge, not including discharges of domestic wastes? If your facility has more than one outfall (an outfall is an individual discharge point, like a pipe, channel, or seepage pond, that wastewater enters prior to discharging to a receiving water), indicate in the space provided which outfalls go to groundwater and which go to surface waters. *(check all that apply)*

For Department Use Only:

☐ Eligible

☐ Ineligible

☐ ERW
☐ ORW

☒ Groundwater (this includes infiltration of wastewater through the soil via irrigation, **septic systems and associated drain fields**, ditches, absorption ponds, etc.).

Outfall #(s): 1A-1D

☐ Surface Water (this includes creeks, streams, rivers, and lakes and any ditches, stormsewers, and pipes that convey wastewater to a creek, stream, river, and lake).

Outfall #(s):_____

What is the name of the surface water your discharge enters?

_____

How far is it from the point where it leaves your plant until it reaches the surface water (how far does it travel through storm sewers or drainage ditches)? (Check one):

☐ Less than 1000 feet
☐ Between 1000 and 5000 feet
☐ Greater than 5000 feet

☐ Sanitary Sewer (discharge to a Publically Owned Treatment Works). A septic system is not considered a sanitary sewer. *If all discharges from your facility go to a sanitary sewer, you do not require regulation under a WPDES discharge permit. Therefore, skip the rest of the checklist and sign page 3. We will remove you from our tracking system. If at some point in the future operations at your facility result in a discharge, you will need to inform the Department.*

For facilities with discharges to groundwater or surface waters, continue on to question #2.

2. Are any process wastewaters (wastewaters that come in contact with or the result of production operations at a facility such as contact cooling water or softener regeneration water), other than those wastewaters (or similar wastewaters) listed on page 1, Section III, discharged from your facility to surface waters or groundwater that are not covered under a separate WPDES permit?

☐ Yes *Your discharge is not eligible for this General Permit. Skip the rest of the checklist and complete the signatory requirements on page 3. Contact the Department to obtain an application for an individual WPDES discharge permit.*

☒ No *If process wastewater discharges are covered under a separate WPDES permit, list the permit number below. WPDES Permit No.WI-_____. Continue on to question #3.*

3. Does your discharge flow to a wetland?

☐ No. *Continue on to question #4.*

☒ Yes. *Continue on to question #4.*

For Department Use Only
☐ NR 103 Completed:_____
☐ N/A

Question #4 and associated information submittal requirements do not apply to additives that are used on a regular basis by municipalities in municipal water supplies.

For Department Use Only:

Water Treatment Additives
☐ Completed:_____
☐ Re-sent:_____

4. Are Water Treatment Additives used in wastestreams that are discharged to surface waters or groundwater (scale and rust inhibitors, biocides such as chlorine, etc.)?

☐ No. *Complete the signatory requirements in Section V, below. Read the attached permit and comply with its requirements, submitting annual summaries as required by the permit.*

☒ Yes. Is the additive considered a biocide (biocides are designed to control biological growth, such as algae, in tanks, cooling towers, and other equipment)?
☐ No ☒ Yes

Additive follow-up necessary:
☐ Yes ☐ No

For each outfall at which additives are used, you must submit the following information for each additive on Appendix A (at the back of this form):

a. Material Safety Data Sheets (MSDS's) for each additive.
b. Commercial name of the additive to be used.

SECTION IV: **ELIGIBILITY CHECKLIST**	
c. Amount or concentration of additive to be used. *d. Anticipated discharge concentration of additive.* *e. Proposed frequency of usage.* *If your discharge enters a surface water, you must also submit the following information:* *f. At least one 48-hour LC_{50} or EC_{50} value for Daphnia magna and at least one 96-hour LC_{50} or EC_{50} value for either fathead minnow, rainbow trout, or bluegill.* ***NOTE: The above information should be provided to you by your additive supplier.*** *Complete the signatory requirements in Section V, below. Read the attached permit and comply with its requirements, submitting annual discharge summaries as required by the permit or more frequently if notified to do so by the Department.*	

End of Checklist - Complete Signatory Requirements Below

SECTION V: **SIGNATORY REQUIREMENTS**	
Signature of person completing the form, attesting to the accuracy and completeness of the statements made	Date Signed 6-5-17
Typed or Printed Name and Title Ben Wood, P.E.	Phone # 414-271-0771
This form must be signed by the official representative of the permitted facility who is: the owner, the sole proprietor for a sole proprietorship, a general partner for a partnership, a ranking elected official or other duly authorized representative for a unit of government, a manager for a limited liability company, or an responsible corporate officer of at least the level of manager having overall responsibility for the operation of the facility for a corporation. If this form is not signed, or is found to be incomplete, it will be returned.	
Signature	Date Signed 6-2-2017
Typed or Printed Name and Title Ron Pritzlaff	Phone # 414-570-8200 Ext. 24
Fax #	Internet Address Rpritzlaff@water.oak-creek.wi.us

Mail to: Wisconsin Department of Natural Resources,
Water Permits Central Intake - WT/3
P.O. Box 7185
Madison, WI 53707-7185

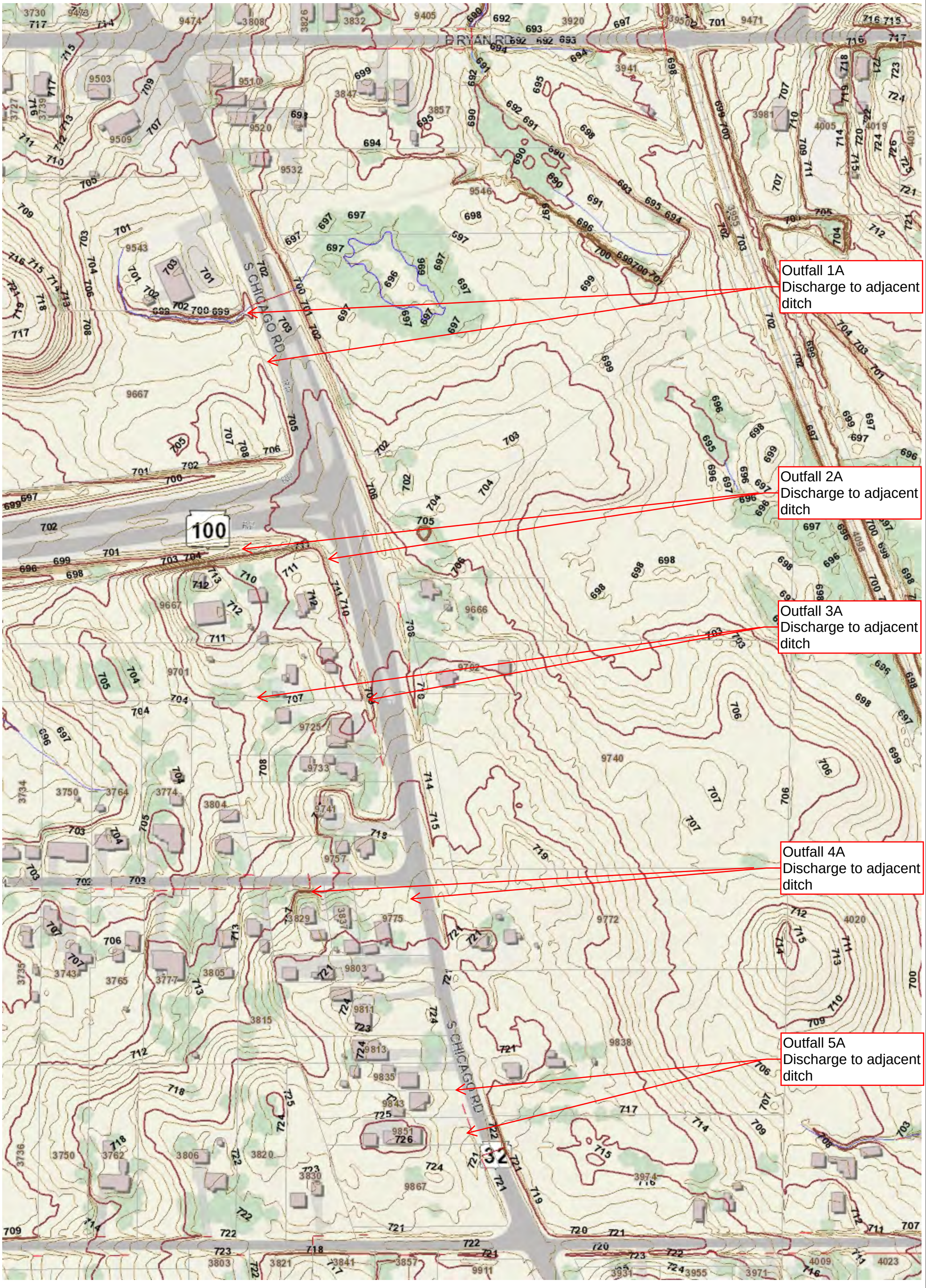
APPENDIX A - WATER TREATMENT ADDITIVE INFORMATION

Outfall #	Additive Name and Manufacturer	Additive Type*	Amount or Concentration Used (mg/l or lbs/day)	Anticipated Discharge Concentration (mg/l)	Frequency of use (Continuous, 1x/week, etc.)	Daphnia Magna 48-HR LC_{50} or EC_{50} (mg/l)	Fathead Minnow 96-HR LC_{50} or EC_{50} (mg/l)	Rainbow Trout 96-HR LC_{50} or EC_{50} (mg/l)	Blue Gill 96-HR LC_{50} or EC_{50} (mg/l)
ALL	Hydrofluosilicic Acid Alexander Chemical Corporation	biocide	0.7-0.8 ppm	0.7 ppm	Continuous	N/A	N/A	N/A	N/A
ALL	Sodium Hypochlorite Carus Corporation	biocide	1.50 ppm	0.5-1.0 ppm	Continuous	N/A	N/A	N/A	N/A

* Additive type refers to the use of the additive as a biocide, pH adjuster, scale inhibitor, rust inhibitor, etc.

ATTACH MATERIAL SAFETY DATA SHEETS (MSDS's) TO BACK OF THIS APPENDIX

MILWAUKEE COUNTY INTERACTIVE MAPPING SERVICE



Projection
NAD_1927_StatePlane_Wisconsin_South_FIPS_4803

1: 2,257

376 0 188 376 Feet

Notes

DISCLAIMER: This map is a user generated static output from the Milwaukee County Land Information Office Interactive Mapping Service website.The contents herein are for reference purposes only and may or may not be accurate, current or otherwise reliable. No liability is assumed for the data delineated herein either expressed or implied by Milwaukee County or its employees.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

MILWAUKEE COUNTY INTERACTIVE MAPPING SERVICE

200 0 100 200 Feet

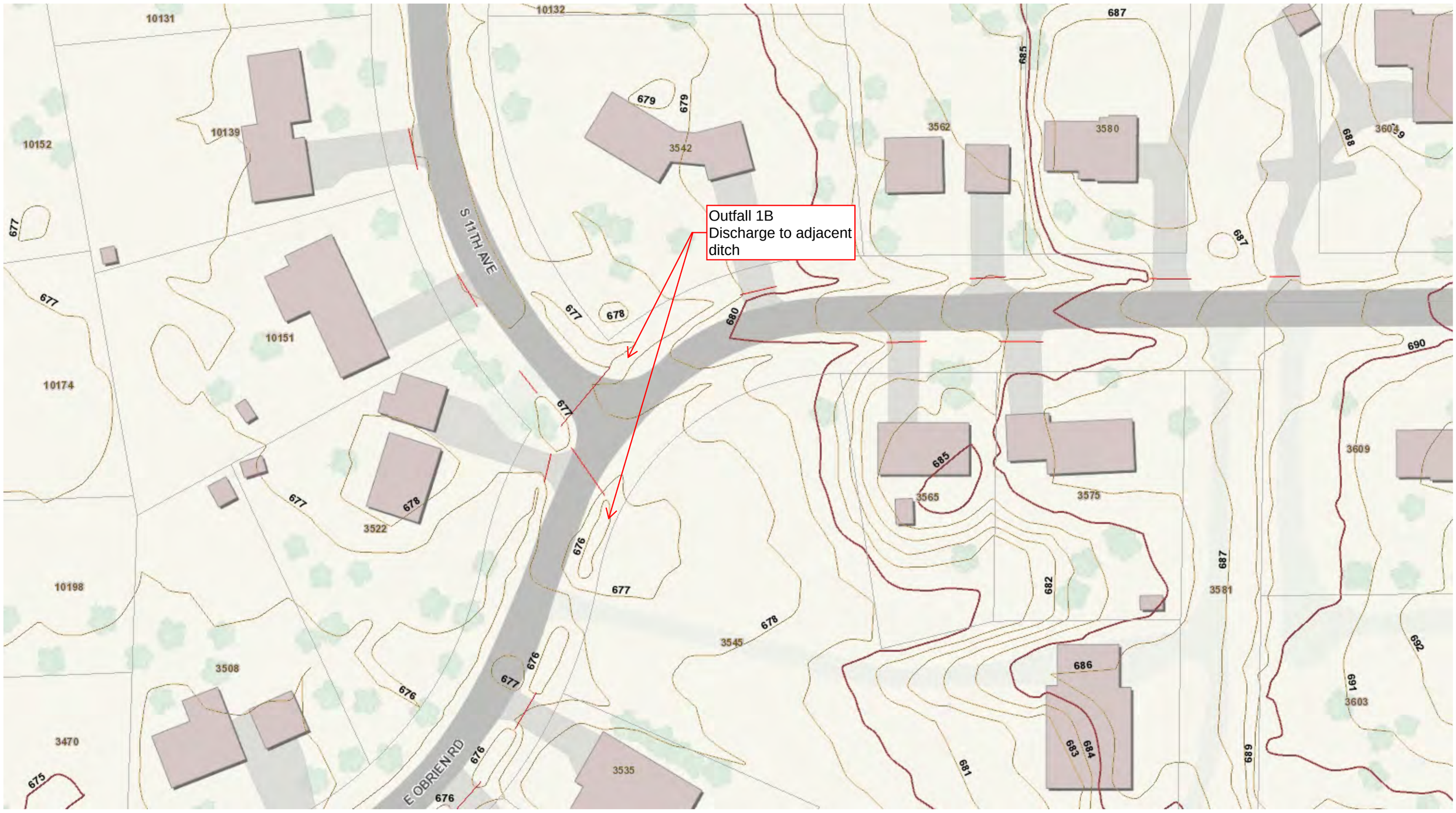
1: 1,200

NAD_1927_StatePlane_Wisconsin_South_FIPS_4803

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Notes

MILWAUKEE COUNTY INTERACTIVE MAPPING SERVICE



100 0 50 100 Feet

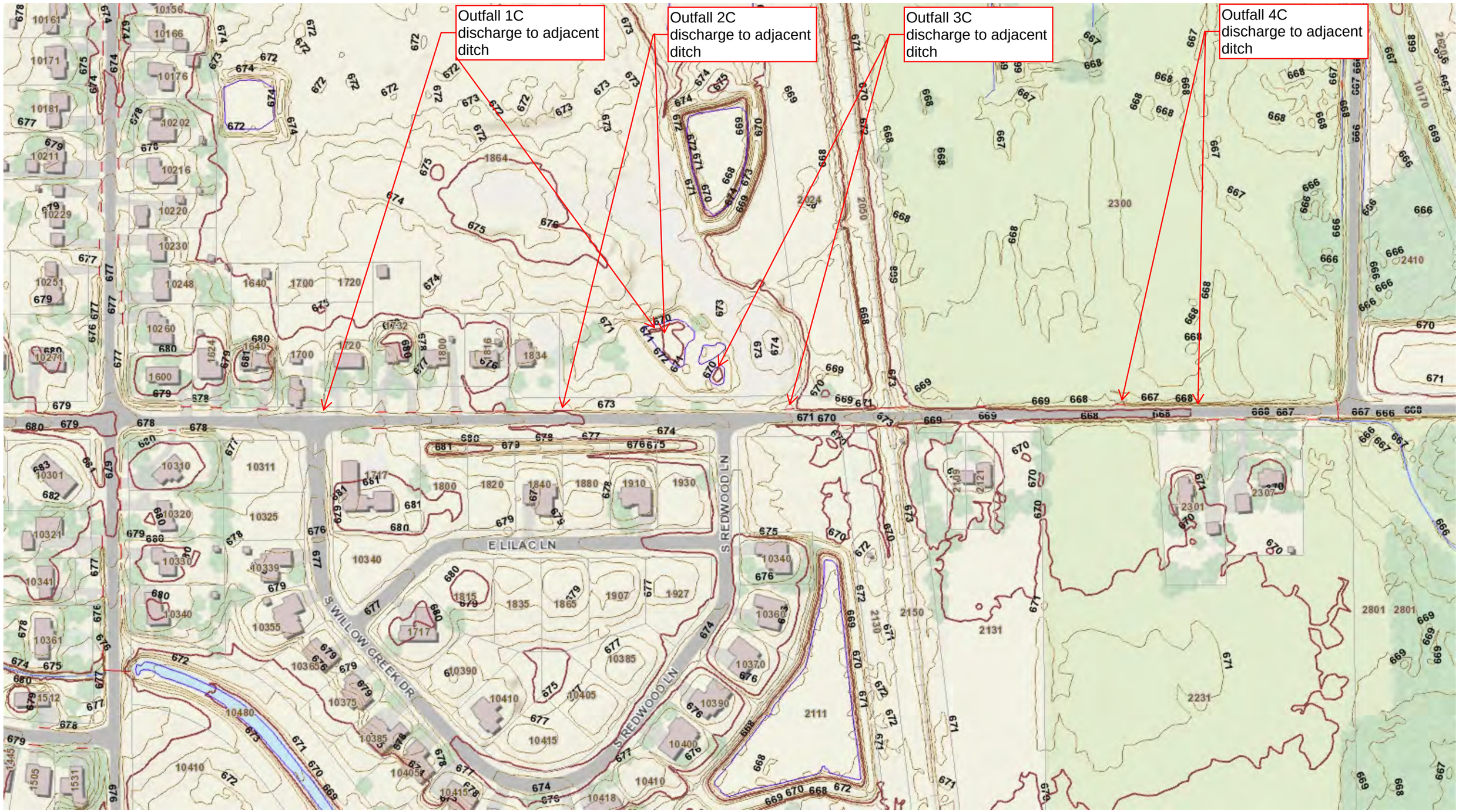
1: 600

NAD_1927_StatePlane_Wisconsin_South_FIPS_4803

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Notes

MILWAUKEE COUNTY INTERACTIVE MAPPING SERVICE



376 0 188 376 Feet

1: 2,257

NAD_1927_StatePlane_Wisconsin_South_FIPS_4803

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Notes

SAFETY DATA SHEET

1. Identification

Product identifier	**Sodium hypochlorite solution - sodium hypochlorite 12.5%**
Other means of identification	Not available.
Recommended use	Primarily used as a water treatment chemical as a disinfectant. Also used as a bleaching agent.
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Company name	Carus Corporation
Address	315 5th Street Peru, Illinois 61354, USA
Telephone	(815) 223-1500
Toll Free	(800) 435-6856
Fax	(815) 224-6816
E-mail	salesmkt@caruscorporation.com
Website	www.caruscorporation.com
Company name	Alexander Chemical Corporation, a Carus Group Inc. Company
Address	7593 S. First Road, Kingsbury Industrial Park, Kingsbury, Indiana 46345, USA
Website	www.alexanderchemical.com
Company name	Sierra Chemical Co, a Carus Group Inc. Company
Address	2302 Larkin Circle Sparks, Nevada 89431, USA
Website	www.sierrachemsales.com
Contact person	Dr. Chithambarathanu Pillai
Telephone	(800) 348-8827 - All other non-emergency inquiries about the product should be directed to the company
Emergency telephone number	For Hazardous Materials [or Dangerous Goods] Incidents ONLY (spill, leak, fire, exposure or accident), call CHEMTREC at CHEMTREC®, USA: 001 (800) 424-9300 CHEMTREC®, Mexico (Toll-Free - must be dialed from within country): 001-800-13-203-9987 CHEMTREC®, Other countries: 001 (703) 527-3887

2. Hazard(s) identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
OSHA defined hazards	Not classified.	
Label elements		

Signal word	Danger
Hazard statement	May be corrosive to metals. Causes severe skin burns and eye damage. Toxic to aquatic life.
Precautionary statement	
Prevention	Keep only in original container. Do not breathe mist or vapor. Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response	If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse. Absorb spillage to prevent material damage.
Storage	Store locked up. Store in corrosive resistant container with a resistant inner liner.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Sodium chloride	7647-14-5	5-20
Sodium hypochlorite	7681-52-9	5-20
Sodium hydroxide	1310-73-2	1-5

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
General information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO_2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up	This product is miscible in water. Large Spills: Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor cloud drift. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling	Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in corrosive resistant container with a resistant inner liner. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	PEL	2 mg/m3

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m3

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
Sodium hypochlorite (CAS 7681-52-9)	STEL	2 mg/m3

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	
Hand protection	Wear appropriate chemical resistant gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Nitrile or neoprene gloves are recommended.
Other	Wear appropriate chemical resistant clothing.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance	
Physical state	Liquid.
Form	Greenish yellow liquid.
Color	Light greenish yellow.
Odor	Chlorine.
Odor threshold	Not available.
pH	11.5 ±0.3
Melting point/freezing point	-150 °F (-101.11 °C)
Initial boiling point and boiling range	> 212 °F (> 100 °C)
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	1.09 -1.21
Solubility(ies)	
Solubility (water)	Completely soluble in water.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and reactivity

Reactivity	May be corrosive to metals.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Acids. Metals. Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known. Contact with acids liberates toxic gas.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Causes digestive tract burns.
Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Symptoms related to the physical, chemical and toxicological characteristics	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
Sodium chloride (CAS 7647-14-5)		
Acute		
Oral		
LD50	Rat	3000 mg/kg
Sodium hydroxide (CAS 1310-73-2)		
Acute		
Dermal		
LC50	Rabbit	1350 mg/kg, (Calculated)
Oral		
LDLo	Rabbit	500 mg/kg, (Calculated)
Sodium hypochlorite (CAS 7681-52-9)		
Acute		
Oral		
LD50	Rat	8.91 g/kg

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization Not classified.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

IARC Monographs. Overall Evaluation of Carcinogenicity

Sodium hypochlorite (CAS 7681-52-9) 3 Not classifiable as to carcinogenicity to humans

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not classified.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological Information

Ecotoxicity

Components		Species	Test Results
Sodium chloride (CAS 7647-14-5)			
Aquatic			
Crustacea	LC50	Daphnia magna	874 mg/l, 48 hours
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4747 - 7824 mg/l, 96 hours
Sodium hydroxide (CAS 1310-73-2)			
Aquatic			
Crustacea	EC50	Water flea (Ceriodephnia dubia)	34.59 - 47.13 mg/l, 48 hours
Fish	LC50	Western mosquitofish (Gambusia affinis)	125 mg/l, 96 hours

Components		Species	Test Results
Sodium hypochlorite (CAS 7681-52-9)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	0.03 - 0.07 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code D002: Waste Corrosive material (pH <=2 or =>12.5, or corrosive to steel)
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations.

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

UN number	UN1791
UN proper shipping name	Hypochlorite solutions
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	II
Environmental hazards	
Marine pollutant	Yes
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	A7, B2, B15, IB2, IP5, N34, T7, TP2, TP24
Packaging exceptions	154
Packaging non bulk	202
Packaging bulk	242

IATA

UN number	UN1791
UN proper shipping name	Hypochlorite solution
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Packing group	II
Environmental hazards	Yes
ERG Code	8L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1791
UN proper shipping name	HYPOCHLORITE SOLUTION

Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	II
Environmental hazards	
Marine pollutant	Yes
EmS	F-A, S-B
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	This product is a liquid and when transported in bulk is covered under MARPOL 73/78 Annex II. This product is listed in the IBC Code. Ship type: 2 Pollution category: Y

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Sodium hydroxide (CAS 1310-73-2)	LISTED
Sodium hypochlorite (CAS 7681-52-9)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

DANGER
Keep out of reach of children. Hazardous to Humans and domestic animals.
Corrosive, causes severe skin and eye irritation or chemical burns to broken skin.
Causes eye damage.
This pesticide is toxic to fish and aquatic organisms.
Strong oxidizing agent.

US. Massachusetts RTK - Substance List

Sodium hydroxide (CAS 1310-73-2)

Sodium hypochlorite (CAS 7681-52-9)

US. New Jersey Worker and Community Right-to-Know Act

Sodium hydroxide (CAS 1310-73-2)
Sodium hypochlorite (CAS 7681-52-9)

US. Pennsylvania Worker and Community Right-to-Know Law

Sodium hydroxide (CAS 1310-73-2)
Sodium hypochlorite (CAS 7681-52-9)

US. Rhode Island RTK

Sodium hydroxide (CAS 1310-73-2)
Sodium hypochlorite (CAS 7681-52-9)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Not listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 30-July-2014

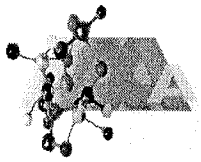
Revision date -

Version # 01

NFPA ratings

Disclaimer

The information contained herein is accurate to the best of our knowledge. However, data, safety standards and government regulations are subject to change and, therefore, holders and users should satisfy themselves that they are aware of all current data and regulations relevant to their particular use of product. CARUS CORPORATION DISCLAIMS ALL LIABILITY FOR RELIANCE ON THE COMPLETENESS OR ACCURACY OR THE INFORMATION INCLUDED HEREIN. CARUS CORPORATION MAKES NO WARRANTY, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTIABILITY OR FITNESS FOR PARTICULAR USE OR PURPOSE OF THE PRODUCT DESCRIBED HEREIN. All conditions relating to storage, handling, and use of the product are beyond the control of Carus Corporation, and shall be the sole responsibility of the holder or user of the product.



Alexander
Chemical
Corporation

MATERIAL SAFETY DATA SHEET
HYDROFLUOSILICIC ACID
Effective 11/7/2003: Updated 8/22/08

SECTION 1 - EMERGENCY TELEPHONE

Alexander Chemical Corporation (business hours):800/348-8827
Alexander Chemical Corporation (after business hours): 800/445-9458
CHEMTREC: 800/424-9300

SECTION 2 - DISTRIBUTOR INFORMATION

Alexander Chemical Corporation
Kingsbury Industrial Park
Kingsbury, Indiana 46345

Alexander Chemical Corporation
6300 Trillium Trail
Mason, Michigan 48854800/348-8827

SECTION 3 - PRODUCT IDENTITY

Product name: Fluorosilicic acid, fluosilicic acid, hydrofluorosilicic acid, hydrofluosiliic acid, HFSA.
Chemical name: Hydrofluosilicic acid.
Chemical formula: H_2SiF_6.
CAS number: 016961-83-4.
Hazardous ingredients: Hydrofluosilicic acid, 23 - 25 % by weight.
OSHA 29 CFR 1910.1200 evaluation: Hazardous.

SECTION 4 - PHYSICAL/CHEMICAL CHARACTERISTICS

Appearance and odor: White to straw yellow with a pungent, sour penetrating odor.
Boiling point: 225 ^{0}F.
Freezing point: - 4.0 ^{0}F.
Specific gravity: 1.223 @ 25 %.
pH: 1.2.
Solubility in water: : Complete.
Vapor pressure: 218 mm Hg @ 167 ^{0}F.
Molecular weight: 144.06.

SECTION 5 - FIRE AND EXPLOSION HAZARD DATA

Flash point: None.
Flammable limits in air: Lower: Not applicable. Upper: Not applicable.
Autoignition temperature: Not applicable.
Extinguishing media: Use agent which is appropriate for surrounding fire.
Special fire fighting procedures and precautions: Cool containers with water spray. Dry chemicals and carbon dioxide may be used safely. Wear acid-proof personal protective gear and use self-contained breathing protection.
Unusual fire and explosion hazards: Reacts with many metals giving off highly flammable hydrogen gas which may form explosive mixtures with air. Dangerous; when heated to decomposition, highly toxic and corrosive fumes of fluorides are emitted; will react with water or steam to produce toxic and corrosive fumes.

SECTION 6 - REACTIVITY DATA

Stability: Stable under normal conditions.
Hazardous polymerization: Will not occur.
Incompatibility: Combustible solids, organic peroxides, metals, glass, stoneware, alkali, strong concentrated acids such as sulfuric and perchloric acids.
Conditions to avoid: Temperatures above 227 ^{0}F.
Hazardous decomposition products: Hydrogen fluoride and sodium tetrafluoride on heating. Hydrogen on contact with metals which may form explosive mixtures in air.

SECTION 7 - HEALTH HAZARD DATA

Eye contact: Severe irritation, burns and keratonconjunctivitis can occur.
Skin contact: Severe irritation, dermatitis and burns can occur.
Ingestion: Vomiting, diarrhea, thirst, cyanosis and those symptoms reported for inhalation can occur.
Inhalation: Exposures may lead to severe irritation, corrosion and congestion of the respiratory tract. Bronchospasm, pulmonary edema, anorexia, nausea, vomiting, constipation, weight loss, weakness, shortness of breath and stiffness of joints may occur.
Aggravated medical conditions: Any skin condition and / or preexisting respiratory disease, including asthma and emphysema.
Carcinogenicity: This material is not listed by IARC, NTP or OSHA.

SECTION 8 - FIRST AID

Eyes: Flush with flowing water for at least 15 minutes. Eyelids should be held apart during the flushing to insure contact of water with all tissue of the eyes and lids. Seek medical aid promptly.
Skin: Flush with large quantities of water for at least 15 minutes while removing contaminated clothing. Seek medical aid promptly.
Ingestion: If conscious, give 1 - 2 large glasses of water. Do not induce vomiting. If vomiting occurs, repeat treatment. Seek medical aid immediately.
Inhalation: Remove victim to fresh air. If not breathing, perform artificial respiration. Administer oxygen until victim breathes easily. Seek medical aid promptly.
Note to physician: Pulmonary edema may be delayed for up to 48 hours.

SECTION 9 - STORAGE, HANDLING AND USE

Special precautions to be taken in handling and storage: Store in closed containers in cool, dry well ventilated area away from sources of heat or ignition. Do not store in metal, glass or stoneware. Use non-sparking tools. Keep separate from alkali metals, oxidizing agents, combustible solids and organic peroxides.

Steps to be taken in case material is released or spilled: Dike area and dilute the acid to reduce fumes. Neutralize with hydrated lime. Do not allow solution to enter sewers or surface water. Personnel should protect against inhalation and contact. Provide ventilation and be wary of hydrogen generation upon reaction with some metals.
Waste disposal methods: If uncontaminated, recover and reuse as product. After neutralizing, dispose of spilled material through an approved industrial treatment facility, in accordance with all local, state and federal regulations.

SECTION 10 - EXPOSURE CONTROL INFORMATION

Exposure guidelines:
ACGIH TLV and OSHA (PEL): 2.5 mg / m^3 as F.
Ventilation: Control airborne concentrations below the exposure guidelines with general or local exhaust.
Respiratory protection: When airborne exposure guidelines and/or comfort levels may be exceeded, use a NIOSH approved air purifying respirator in accordance with 29 CFR 1910.132 and 1910.134. For emergency and other conditions where the exposure guideline may be greatly exceeded, use an approved self-contained breathing apparatus.
Skin protection: Prevent contact with skin by use of acid-proof clothing, gloves and shoes. Safety shower should be located in immediate work area.
Eye protection: Carefully fitted gas-tight chemical goggles, with approved impact resistant lenses, should always be worn in areas where hydrofluosilicic acid is present. Plastic face shield and chemical goggles or full-face respirator should be used for tasks with greater probability of exposure. Eyewash fountains recommended in all storage and handling areas. Do not wear contact lenses.

SECTION 11 – WASTE DISPOSAL PROCEDURES

Dispose of in accordance with federal, state and local regulations.

SECTION 12 - REGULATORY INFORMATION

Hydrofluosilicic acid is listed on the TSCA inventory.
S.A.R.A. hazard category: This product has been reviewed according to the EPA "hazard categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 and is considered an immediate health hazard.
N.F.P.A. ratings: Health = 2, Flammability = 0, Reactivity = 1.
D.O.T.:
Proper shipping name: Fluorosilicic acid.
Hazard class: 8.
Identification number: UN 1778.
Packing group: II.
Label(s) required: Corrosive.
Other information:
C.E.R.C.L.A. reportable quantity: 100 pounds as D002 waste.

Alexander
Chemical
Corporation

PRODUCT SPECIFICATION SHEET
HYDROFLUOSILICIC ACID
Effective 11/7/2003
Updated: 8/22/08

Chemical Properties:

Chemical formula:	H_2SiF_6
Molecular weight:	144.06
Hydrofluosilicic acid, %:	23.00 - 25.00
Phosphoric acid, %:	0.01 - 0.11
Heavy metals as lead, ppm:	200.00 maximum

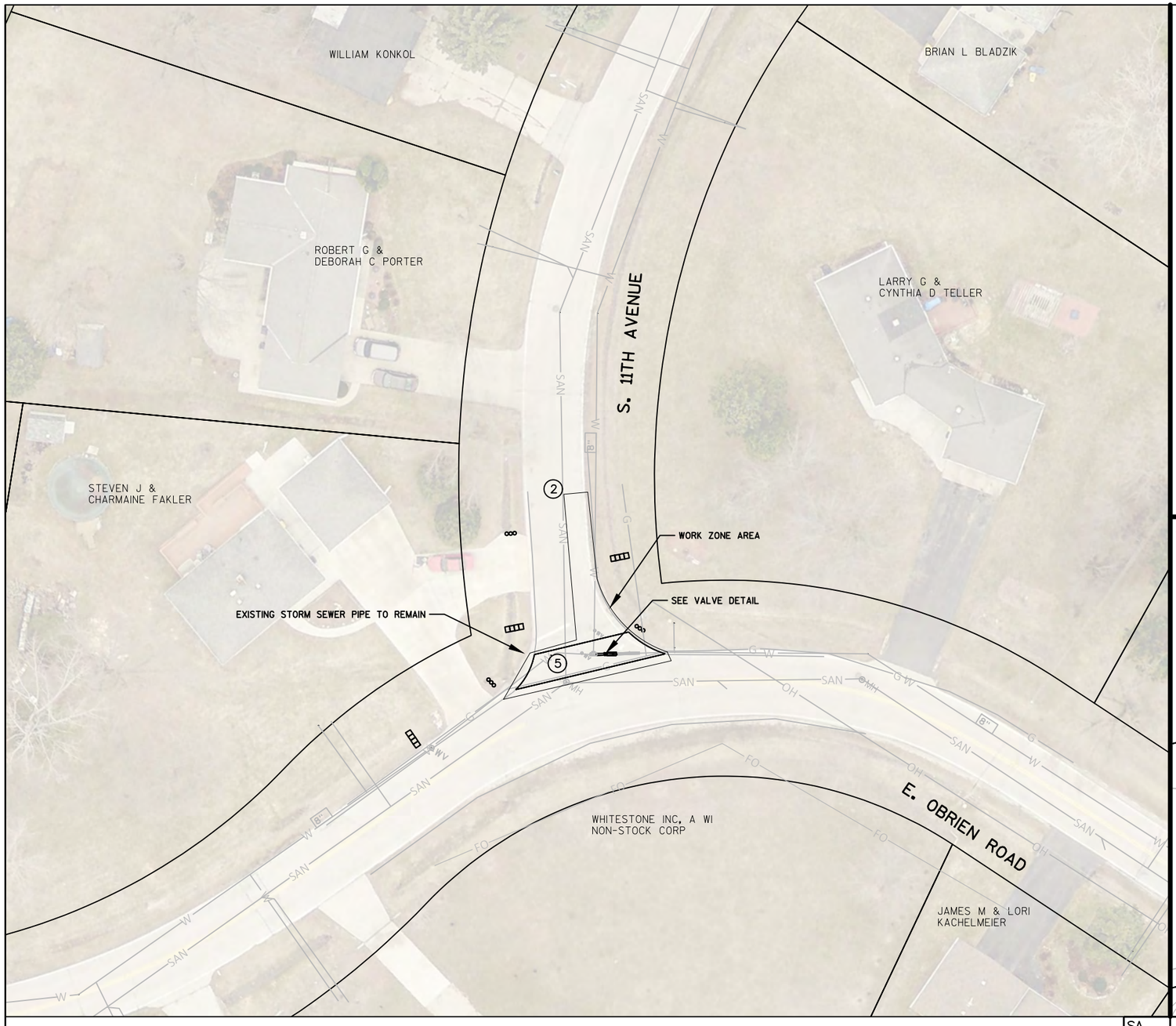
Physical Properties:

Boiling point, ^{0}F:	225.00
Freezing point, ^{0}F:	- 4.00
Specific gravity @ 60 ^{0}F:	1.223 @ 25.00 %
Vapor pressure, mm Hg @ 167 ^{0}F:	218
pH:	1.2
Appearance:	White to Straw Yello
Color:	200 APHA maximum
Odor:	Sour, pungent
Solubility in water:	Complete
NSF International maximum use:	6.00 milligrams per liter

Meets ANSI / AWWA specification B703-06

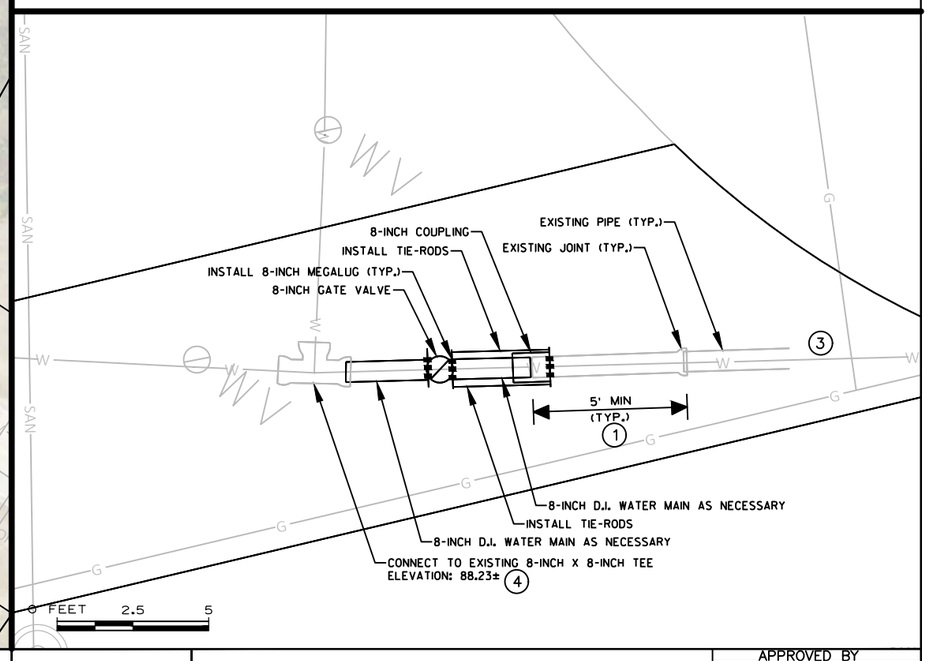
Packaged by:

Alexander Chemical Corporation
Kingsbury Industrial Park
Kingsbury, Indiana 46345
800-348-8827



KEY NOTES

1. SAWCUT AND REMOVE EXISTING PIPE AS NECESSARY. SAWCUTS TO BE GREATER THAN 5-FT AWAY FROM EXISTING PIPE JOINTS
2. S. 11TH AVENUE ACCESS TO BE MAINTAINED AT ALL TIMES
3. INSTALL ONE 32# PACKAGED MAGNESIUM ANODE ON EXISTING WATER MAIN
4. CONTRACTOR TO FIELD VERIFY ELEVATIONS.
5. SAWCUT, REMOVE, AND REPLACE ASPHALT WITHIN THESE EXTENTS. MARK SAWCUT FOR REVIEW BY UTILITY PRIOR TO CUTTING PAVEMENT.



DIGGERS HOTLINE
Toll Free (800) 242-8511
Milwaukee Area (414) 259-1181
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

BID ITEM NOS.	ESTIMATE OF QUANTITIES
1	E. OBRIEN ROAD AND S. 11TH AVENUE 8" CUT-IN VALVE.....1 LS

This is to certify that this plan was approved by the Water Works and Sewer Utility Commission of Oak Creek at a regular meeting.

Utility Engineer Date

SA.	
ST.	
W.	
G.	
E.	
T.	
I.	
TS.	
PP.	

WISCONSIN BEN W. WOOD E-41439-6 MILWAUKEE WI PROFESSIONAL ENGINEER 6-5-17

CITY OF OAK CREEK, WISCONSIN

DESIGNED BY	DATE	DRAWN BY	DATE	CHECKED BY	DATE
B.W.	05/25/17	E.Y.	05/25/17	M.F.	05/25/17

PROPOSED 8" CUT-IN VALVE
IN: EAST OBRIEN ROAD
AT: SOUTH 11TH AVENUE

APPROVED BY
UTILITY ENGINEER DATE
APPROVED BY
CITY ENGINEER DATE

SCALE	SHEET
PLAN HOR. 1"=40'	6
PROFILE HOR. 1"=5' VER. 1"=10'	OF 8

REVISION BY	DATE

APPROVED BY COUNCIL RESOLUTION NO.

FILE NO: 17102-6C-2339

FILE NAME : S:\MIL\1900--1999\1960\013\ACAD\SHEETSPLAN\PP.DWG PLOT DATE : 6/2/2017 1:58 PM PLOT BY : YOSS, EMILY