



APPLICATION/PERMIT TO CONSTRUCT, OPERATE AND MAINTAIN UTILITY FACILITIES ON HIGHWAY RIGHT-OF-WAY

Wisconsin Department of Transportation
DT1553 8/2023 Wis. Stat. §§ 66.0831, 84.01(31), 84.08, 85.15, 86.07(2)(a), 86.16, and 182.017

1. Applicant (Utility facility owner) Name and Address Midwest Fiber Networks 6070 N Flint Rd Glendale, WI 53209		2. Work Start Date 04/30/2026	3. Work Finish Date* 07/14/2026	6. Public Land Survey System Location (¼ section, section, town, range; provide plat map) NW1/4, S8, T7N, R21E	
9. Facility Type (Check all that apply) and Description (Size, material, voltage, pressure, # fibers, etc.) <input checked="" type="checkbox"/> Comm: 432CT <input type="checkbox"/> Electric: _____ <input type="checkbox"/> Gas/Oil: _____ <input type="checkbox"/> Water: _____ <input type="checkbox"/> Sewer: _____ <input type="checkbox"/> Casing: _____ <input checked="" type="checkbox"/> Conduit: (1) 1.25" HDPE duct <input type="checkbox"/> _____ <input type="checkbox"/> Transmission <input checked="" type="checkbox"/> Service <input checked="" type="checkbox"/> Distribution <input type="checkbox"/> Service (ESCP)		4. Is the work due to a WisDOT highway project? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		7. Municipal/County Location (List all that apply) Town: _____ Village: _____ City: <u>Wauwatosa</u> County: <u>Milwaukee</u>	
10. Facility Orientation (Check all that apply) <input checked="" type="checkbox"/> Underground <input type="checkbox"/> Overhead <input type="checkbox"/> Crossing <input checked="" type="checkbox"/> Parallel <input type="checkbox"/> OSOW high clearance route <input type="checkbox"/> Bridge attachment <input type="checkbox"/> Scenic easement (Off right-of-way)		12. Proposed Work Methods (Check all that apply) <input type="checkbox"/> Trench <input type="checkbox"/> Plow <input type="checkbox"/> Place fill <input type="checkbox"/> Rock blasting <input type="checkbox"/> Place cable <input type="checkbox"/> Open cut in conduit pavement <input checked="" type="checkbox"/> Hand/mechanical excavation Bore: <input type="checkbox"/> Hydraulic (Auger/Jack/Tunnel) <input type="checkbox"/> Pneumatic (Mole) <input type="checkbox"/> Directional 1 (Manually tracked) <input checked="" type="checkbox"/> Directional 2 (Computer tracked) <input type="checkbox"/> Unknown (At this time)		8. Highway (List all that apply) WIS: <u>100</u> US: _____ Interstate: _____	
11. Work Types (Check all that apply) <input checked="" type="checkbox"/> New facility <input checked="" type="checkbox"/> Remove <input type="checkbox"/> Joint install <input type="checkbox"/> Maintenance <input type="checkbox"/> Improve or repair existing <input checked="" type="checkbox"/> Discontinue, left in place <input type="checkbox"/> Cut (Remove) <input type="checkbox"/> Plant <input type="checkbox"/> Trim (Prune) <input type="checkbox"/> Mow <input type="checkbox"/> Chemically treat		Install or attach to poles/towers: <input type="checkbox"/> New <input type="checkbox"/> Existing <input type="checkbox"/> Guys (~Diameter) (Name of existing owner) (Provide details for all guy wires on plan sheets) Pothole (Subsurface excavation): <input type="checkbox"/> Air <input type="checkbox"/> Water Tree/vegetation control: <input type="checkbox"/> Cut (Remove) <input type="checkbox"/> Plant <input type="checkbox"/> Trim (Prune) <input type="checkbox"/> Mow <input type="checkbox"/> Chemically treat		13. Work Zone Description (Check all that apply). (Provide relevant diagram(s) with application.) <input type="checkbox"/> Not applicable <input type="checkbox"/> Full road closure: detour <input type="checkbox"/> Full road closure: temporary <input checked="" type="checkbox"/> Lane closure without flagging <input type="checkbox"/> Lane closure with flagging <input checked="" type="checkbox"/> Lane encroachment (2' or less) <input type="checkbox"/> Shoulder/parking lane closure <input checked="" type="checkbox"/> Turn lane closure <input type="checkbox"/> Sidewalk or trail closure <input type="checkbox"/> Terrace (Area from curb to sidewalk) <input type="checkbox"/> Off shoulder/parking lane <input type="checkbox"/> Near right-of-way line or fence <input type="checkbox"/> Freeway/expressway <input checked="" type="checkbox"/> Intersection/roundabout <input type="checkbox"/> Railroad crossing <input type="checkbox"/> Mobile operation	
Provide a separate location map if the plat map is not adequate.					
14. Is the facility near a survey monument? HMM 09-15-35 If yes, call (866) 568-2852 or email geodetic@dot.wi.gov . <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No					
15. Will appurtenances be installed with the facility? If yes, provide a description and/or specification for each item. <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No					
16. Trans 401 category? If non-minor, provide a formal erosion control plan. HMM 09-15-55 <input checked="" type="checkbox"/> Minor <input type="checkbox"/> Non-Minor					
17. Complete the Environmental Checklist. See HMM 09-15-16 Attachment 1. WisDOT will not review a permit application until a completed Checklist is submitted. <input checked="" type="checkbox"/> Checklist included					

* Includes permanent restoration. If the permitted work has not started by the "Work Finish Date," this permit is null and void. If the permitted work has started but has not been completed by the "Work Finish Date," the work shall not be completed unless authorized through an approved written time extension or a subsequent permit. **ANY PERMIT ISSUED IS REVOCABLE.**

18. Utility Person Responsible for Construction Tom Pietila - CableCom LLC	Telephone Number 414-381-8119	It is understood and agreed that WisDOT approval is subject to the applicant's full compliance with all pertinent statutes, as well as any regulations and rules of other jurisdictional agencies (which may be more restrictive), any supplemental permit provisions, and WisDOT's Utility Accommodation Policy, current edition.
19. Utility or Project 24/7 Emergency Contact MWFN NOC	Telephone Number 866-831-1661	
20. Provide company name and address of utility authorized representative if not employed by the applicant. CableCom LLC 6070 N Flint Rd Glendale, WI 53209	<i>Sandy Falatyk</i> 04/02/2026 (Utility Authorized Representative Signature – If electronic, use brush script font or e-signature software) (Date) Director of Engineering 414-459-3565 sfalatyk@midwestfibernetworks.com (Title) (Telephone Number) (Email Address)	
21. Provide additional work details, if needed (use back page or include separate pages) 2-phase project to remove existing fiber optic cable, reroute fiber & install new handholes to accommodate bridge reconstruction project# 2030-10-71, as shown on accompanying plans	<i>This permit does not transfer any land, or give, grant or convey any land right, right in land, or easement in WisDOT right-of-way. It is not assignable or transferrable. If the utility facility changes ownership, this permit terminates. The new owner must then obtain a permit to occupy, operate and maintain the facility in WisDOT right-of-way.</i>	

↓ Completed by Wisconsin Department of Transportation – REVIEW AFTER PERMIT ISSUANCE ↓

<input checked="" type="checkbox"/> UTILITY SHALL NOTIFY WisDOT REPRESENTATIVE LISTED BELOW 3 DAYS BEFORE STARTING ANY WORK: Region contact, office address, telephone number and email address Wisconsin DOT Southeast Region 141 NW Barstow St Waukesha, WI 53187 seutilitypermits@dot.wi.gov	<input checked="" type="checkbox"/> Review All Supplemental Permit Provisions <input checked="" type="checkbox"/> Revisions Made to Drawings or Other Pages <input checked="" type="checkbox"/> Lane Closure System notification required <input type="checkbox"/> Insurance or performance bond required <input type="checkbox"/> Joint installation: See permit(s) # _____ <input type="checkbox"/> Private utility (Non-public ownership and/or use) <input type="checkbox"/> Expedited Service Connection Permit <input type="checkbox"/> This permit voids & supersedes # _____ issued: _____ <input type="checkbox"/>	Application Received 04/02/2026 Application Completed 04/29/2026 Permit Issued 04/30/2026 Permit Extended Permit Amended Permit Number 40U-328-26	
	2030-10-71	<i>Dylan Gates</i>	
	(WisDOT Improvement Project ID Numbers, if applicable) (WisDOT Authorized Representative Signature – If electronic, use brush script font or e-signature software)		

APPLICATION/PERMIT TO CONSTRUCT, OPERATE AND MAINTAIN UTILITY FACILITIES ON HIGHWAY RIGHT-OF-WAY (continued)

Wisconsin Department of Transportation DT1553

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

-Place an LCS request and have it accepted prior to commencing work - DPG, 4/30/2026.

-Only utilize lane closures on WIS 100 between the hours of 7 PM to 6 AM - DPG, 4/30/2026.

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, as allowed by Wisconsin law, 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.



Start Work Notice:

1) Prior to the start of utility construction, 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) Deviations from the approved construction plans covered under this permit **ARE NOT** authorized without additional written documentation from the WisDOT utility permit coordinator.

3) A complete copy of the permit WisDOT issues a utility for its proposed work is in the possession of the utility's work force, consultant, contractor, or subcontractor always 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). Accessible electronic copies are sufficient for meeting this requirement.

4) Failure to maintain a permit on the work site results in this permit becoming null and void. A subsequent permit is 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 is not permitted to interfere with any WisDOT construction project or maintenance operation.

7) Locate underground facilities prior to construction per Digger's Hotline statute(s). Call 811.

Work Zone Traffic Control:

8) Set-up work zone traffic control in accordance with current editions of [WisDOT Standard Detail Drawings \(SDD\)](#) and the [WisDOT work zone field manual \(wzfm\)](#). Traffic control requirements/language not already covered under the previously mentioned WisDOT documents will comply with the Wisconsin Manual of Uniform Traffic Control Devices (WMUTCD) chapter VI. DO NOT USE green warning lamps on utility vehicles unless using WisDOT, county, or municipal vehicles. Use flashing/strobe white or amber lights.

9) Maintain traffic control throughout construction and alter at any time upon the request of WisDOT, the county or local highway department or any law enforcement agency.

10) Use flaggers whenever conditions warrant. All flaggers are certified and in compliance of [WisDOT standard specification 104.6.1.2.2](#). Follow requirements under [WisDOT flagging handbook](#).

11) Remove or knock down construction signage not in use at the end of each workday. Leaving up advanced warning signs or turning sign faces away from traffic is not permitted.

12) Post mount signs in-place if signage will be up for longer than 7 continuous calendar days per WisDOT SDDs.

13) During winter plowing season, plow and treat pavement prior to opening lanes/shoulder back to traffic.

Wisconsin Lane Closure System (LCS) Notification:

14) Lane, shoulder, ramp closures and/or lane encroachments require lane closure notification to the southeast region traffic engineer. Input LCS request to WisDOT for review and approval **7 calendar days** prior to the need for a closure resulting in an available roadway width of less than 16 feet for single direction traffic, and **3 business days** prior to the need for a closure resulting in an available roadway width of greater than 16 feet for single direction traffic. Refer to attached detail.

15) Set up an account and request lane closures at the following link:
<http://transportal.cee.wisc.edu/closures/>.



I-94, I-43 Freeway and I-41 Projects Lane Closures and Restrictions:

16) Prior to the start of construction, coordinate all lane closures and restrictions with WisDOT Traffic Coordinator Stephanie Leranath at 414-750-1397 or Stephanie.Leranath@dot.wi.gov.

WisDOT Holiday Shutdowns:

17) No utility work (except for emergency work) will be performed during the following holidays. All work will stop prior to and resume after the holidays on the following dates and times. All unnecessary traffic control are knocked down or moved outside the clear zone:

Memorial Day 2026: From 12 PM on the Fri. of Memorial Day Weekend to 6 AM on the Tues. that follows.

Independence Day 2026: From 12 PM on Fri., July 3rd, to 6 AM on Mon., July 6th.

Labor Day 2026: From 12 PM on the Fri. of Labor Day Weekend to 6 AM on the Tues. that follows.

Thanksgiving 2026: From 12 PM on Wed. (the day before Thanksgiving) to 6 AM on the Mon. that follows.

Christmas 2026: From 12 PM on Wed., December 23rd, to 6 AM on Sat., December 26th.

New Year's: From 12 PM on Tues., December 29th, 2026, to 6 AM on Sat., January 2nd, 2027.

Memorial Day 2027: From 12 PM on the Fri. of Memorial Day Weekend to 6 AM on the Tues. that follows.

Independence Day 2027: From 12 PM on Fri., July 2nd, to 6 AM on Mon., July 5th.

Labor Day 2027: From 12 PM on the Fri. of Labor Day Weekend to 6 AM on the Tues. that follows.

Thanksgiving 2027: From 12 PM on Wed. (the day before Thanksgiving) to 6 AM on the Mon. that follows.

Christmas 2027: From 12 PM on Thurs., December 23rd, to 6 AM on Mon., December 27th.

New Year's: From 12 PM on Thurs., December 30th, 2027, to 6 AM on Mon., January 3rd, 2028.

Wisconsin State Fair:

18) No utility work occurs on STH 181 during the Wisconsin State Fair; check <https://wistatefair.com/fair/> for the most current pertinent State Fair schedule.

Survey Monuments:

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

Freeway System Entry Restrictions:

20) No entry to the freeway system right-of-way inside the security fences towards the surface of the traveled way will occur 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 requires future relocation and/or adjustment, it will be at the facility owners' expense.

Erosion Control:

22) Prior to the start of construction, place all applicable erosion control devices including inlet protection. Inspect, monitor, and maintain all devices daily.

23) Place spoil removed from excavations in an upland area. Wrap the perimeter of each spoil pile with silt fence and/or other devices to prevent soil loss and soil run off.

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

25) Remove inlet protection once construction is complete and the work area is stabilized.

26) Remove silt fence or other erosion control devices after substantial vegetative growth has occurred.



Tree Trimming & Removal Operations:

- 27) Prior to the cutting, pruning, or trimming of any ash trees, consult the State of Wisconsin's Emerald Ash Borer (EAB) website: <http://www.emeraldashborer.wi.gov/>.
- 28) Follow the rules and regulations as established by the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP).
- 29) Contact DATCP directly with any specific questions regarding their work and disposition of ash species while working on WISDOT right of ways.
- 30) Haul brush, logs & debris from tree trimming & removal off the work site during and at the end of each workday or chipped.
- 31) Do not stockpile wood chips. Spread out wood chips and disperse to match the existing grade.
- 32) Cut stumps flush to the existing grade.

Existing Pavements & Right-of-Way:

- 33) Storm sewer may not get marked/located during construction. Verify depths/locations of storm sewer to ensure the proposed work does not conflict with existing storm sewer/culverts. Repair or replace in-kind any/all existing inlets, drainage structures, drain tiles or other drainage facilities damaged during construction. Notify WisDOT of any damaged facilities prior to resuming construction.
- 34) Existing highway sign removal/disturbance are prohibited unless specifically called for in the permit.
- 35) Protect/plate open excavations at the end of each workday to ensure public safety. Coordinate plate locations with WisDOT representative prior to utilizing. Install energy absorbing terminals (EATS) or other crash protection devices when utilizing temporary concrete barrier walls (or when blunt ends are created).
- 36) Sweep and keep existing highway pavements clean of mud and debris resulting from construction and trucking operations during and at the end of each workday. Move equipment and material outside the clear zone at the end of each workday.

Potholing Operations:

- 37) Water jetting is prohibited in the pavement structure (use air only). If water jetting is permitted, furnish to WisDOT digital pictures taken before and after the potholing (from the same camera angle of the roadway section). Picture documentation is not required for vacuum excavations (air only).
- 38) Core the pavement area. Straight edge saw cutting is prohibited. Do not exceed pavement core diameter of 12" when the core is inside the wheel path and no larger than 16" when outside the wheel path.
- 39) The areas specified on the construction plan where potential conflicts exists with other existing utilities, are the only areas where potholing is permitted.
- 40) Use flowable fill or slurry backfill per the attached detail in zones R1, R2, U1, U2, U3, and U4 to restore the voids left behind from the potholing. Follow attached backfill detail.
- 41) Fasten the pavement core back in place with utilibond or an equivalent epoxy type adhesive. Place the pavement core flush with the existing pavements.
- 42) Inspect and monitor areas where potholing was performed on a routine basis.
- 43) Under the direction of WisDOT, remove and replace pavement at the utility operator's expense in areas where potholing was performed, and subsequent pavement failure occurs. WisDOT will determine final limits of pavement removal to be replaced in a subsequent permit.



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

44) Bore/directional drill all road crossings. Open cutting of pavements is strictly prohibited unless specifically authorized under this permit.

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

Aerial Construction Operations:

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

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

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

49) When permitted, install anchors and guy cables in accordance with clear zone requirements outlined in the [WisDOT facilities development manual \(FDM\) chapter 11-15-1](#).

50) When permitted, install anchors and guy cables in accordance with clear zone requirements outlined in the [WisDOT facilities development manual \(FDM\) chapter 11-45-10](#) bicycle facilities.

Soft Surface Restoration:

51) Complete temporary soft restoration to stabilize the work site in a timely manner during and immediately following utility construction. Haul excess spoil off the work site. Restoration to be done under WisDOT approved traffic control plan.

52) Place a minimum of 4" of topsoil for final soft restoration and in accordance with WisDOT spec seed, fertilizer, and erosion mat.

53) Notify WisDOT when final restoration is complete and ready for inspection. File notices within 10 calendar days of restoration completion. Restore within 2 weeks from completion of utility construction.

54) 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:

55) For late season seeding (between September 15th-Spring thaw), refer to the attached document.

Sidewalk Removal/ Replacement:

56) Coordinate sidewalk removal, backfill requirements and sidewalk replacement prior to commencing utility work with the respective local municipality (owner).

Open Cut Pavement:

57) **SAWCUT** existing pavements **ONLY WHEN** pavement is specifically authorized by WisDOT for removal. Sawcut full depth prior to the use of pavement breaking equipment following [SDD 13c09](#).

58) Haul pavement removed off the work site during and at the end of each workday.

59) Use temporary sheeting and shoring as necessary to prevent cave-ins.



Slurry Backfill:

60) Use slurry backfill per the attached detail for excavations in zones R1, R2, U1, U2, U3, and U4.

Granular Backfill:

61) Obtain written authorization in advance by the WisDOT utility permit coordinator if proposing the use of granular backfill in lieu of slurry backfill for excavations within highway pavement areas and shoulder.

62) Place granular material, in lifts or layers 12" or less each in depth, and mechanically compacted to the density of the adjacent and undisturbed material.

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

Concrete Pavement Restoration:

64) Replace in-kind the concrete removed with high early strength concrete mix reinforced per the attached details (including [SDD 13c09](#)).

65) Replace concrete pavement from joint to joint. The minimum longitudinal length is 6 feet (section replaced/remaining).

66) Provide a tine or heavily broomed finish for concrete pavement without a bituminous asphalt overlay.

67) Replace in-kind all curb and gutter damaged or removed during construction operations per the attached detail ([SDD 08d01](#)). The minimum linear feet (LF) of curb replaced/remaining are 6 feet.

Bituminous Asphalt Pavement Restoration:

68) For full depth bituminous asphalt pavement restoration, replace in-kind the bituminous asphalt removed to match the existing bituminous asphalt full depth and lift thickness.

69) Replace existing concrete with bituminous asphalt overlay pavement with full depth concrete in lieu of asphalt overlay (to match existing total depth/thickness) if open cut pavement occurs, unless noted otherwise by WisDOT. Follow concrete pavement restoration provisions and ensure tie/dowel bars are placed correctly.

70) Replace bituminous asphalt from seam to seam and overlay the longitudinal length of the concrete patch. The minimum longitudinal length is 6 feet (section replaced/remaining). Refer to [SDD 13c09](#).

Gravel Shoulders:

71) Replace gravel shoulder material removed or disturbed due to construction operations in-kind, graded and shaped to match the existing gravel shoulders.

Epoxy Pavement Markings:

72) Replace epoxy pavement markings in-kind with an epoxy-based pavement marking paint along with reflective bead materials.



Signal Equipment or Operation to be Impacted (or unplanned signal impacts):

73) Coordinate with WisDOT Electrical Field Unit (EFU) when excavating near existing traffic signal facilities (when WisDOT signal facilities are present on Digger's Hotline ticket). Contact EFU at 414-380-1827 (alternative line: 414-266-1170) a minimum of 5 working days prior to beginning work.

74) Call and coordinate with WisDOT Signal Operations staff at 414-750-2605 when work zone is near signalized intersections. For emergencies, call WisDOT State Traffic Operations Center at 1-800-375-7302.

75) Do not install conduit under any WisDOT pull box, traffic signal concrete base, or traffic signal cabinet concrete base without prior written approval from WisDOT EFU and WisDOT Signal Operations staff.

76)) Achieve a minimum depth of 48" when boring under any traffic signal conduit run.

77) If hand digging or hydrovac excavation is taking place (e.g., if utility facility installation is within 18" of WisDOT traffic signal conduit), coordinate a spotter from the EFU or a WisDOT-approved oversight engineer to be present during excavation.

78) Relocate any utility facility not installed per WisDOT-approved plan and/or utility permit that is determined to impact the integrity and/or maintenance capability of traffic signal infrastructure, as needed under the direction and approval of WisDOT EFU and WisDOT Utility Unit staff, at the applicant's expense.

79) Repair and relocate any unplanned disruption of State-owned facilities, as needed under the direction and approval of WisDOT EFU and WisDOT Utility Unit staff, at the applicant's expense.

WisDOT Improvement Projects Coordination:

80) The utility work is within the limits of a WisDOT construction project. Coordinate with WisDOT Project Manager XXX to ensure closure conflicts do not arise. Contact XXX at (XXX) XXX-XXXX, XXX@dot.wi.gov.

81) If the utility work is within the limits of a WisDOT construction project, attend the WisDOT weekly construction meeting. Contact the project manager listed above for time and location.

4.0 Lane Closure System (LCS) Requirements

Use WisDOT’s Lane Closure System (LCS) when utility work involves the closures listed in Table 1. The LCS is used to populate WisDOT’s 511 system, which provides motorists with current road/ramp closure, lane/shoulder closure, or lane width restriction information on WisDOT improvement projects, highway incidents, maintenance work, permits, and other planned events. <https://www.511wi.gov/>

TABLE 1: Closure Type and Required Minimum Advance Notification to WisDOT	
Closure type with height, weight, or width restrictions (available width, all lanes in one direction < 16')	MINIMUM NOTIFICATION
Lane and shoulder closures	7 calendar days
Full roadway closures	7 calendar days
Ramp closures	7 calendar days
Detours	7 calendar days
Closure type without height, weight, or width restrictions (available width, all lanes in one direction ≥ 16')	MINIMUM NOTIFICATION
Shoulder closures	3 calendar days
Lane closures	3 business days
Ramp closures	3 business days
Modifying all closure types	3 business days

Contact WisDOT’s Traffic Management Center at (414) 227-2142 as soon as possible if a utility has an emergency closure or restriction. See Table 2 for additional LCS notification requirements.

Situation	LCS Notification	
	Required	Not Required
Any temporary stop of any duration on a freeway	✓	
Shoulder closure on any highway of 30 minutes or less		✓
Multiple shoulder closures of 30 minutes or less in one day on any highway	✓	
Temporary stop of all traffic (full road closure) for stringing overhead lines if: the closure last no more than 15 minutes, occurs no more than three times in a day, and does not take place on any Interstate or freeway		✓

4.1 Required LCS Information/Timing of Submittals

Use the worksheet in [Attachment 3](#) to collect information required for LCS notifications. Allow sufficient time for WisDOT to approve LCS notifications prior to needing the closure. Do not plan for LCS approval the same day as permit approval. If a closure is needed soon after permit approval, submit the application well in advance of the work start date.

4.2 Utility Access to LCS

The LCS is a web-based system in which a utility or utility representative must become a requestor. This involves establishing a username and password from the [UW Traffic Operations and Safety \(TOPS\) Laboratory](#), who maintains LCS for WisDOT. A requestor status means that a utility may enter the necessary information directly into the LCS.

WisDOT may assist a utility if it does not have requestor status. However, a utility may experience work delays if WisDOT staff are not readily available when LCS information needs to be entered into the system.

4.3 LCS Compliance

If a utility fails to perform LCS notifications, then WisDOT may suspend a utility’s work operations, revoke its permit, and/or withhold future approvals of other permits until the problem has been corrected to WisDOT’s satisfaction.

Attachment 3

Lane Closure System (LCS) Notification Worksheet



Permittee will enter the data into the LCS

General Section:

- 1. Permit Number
- 2. General Description (brief description of the type of work)
- 3. County (Begin/End if different)
- 4. Highway/Direction
- 5. Primary Contact (WisDOT Regional Utility Permit Coordinator) – *Required*
- 6. Emergency Traffic Control Contractor Contact (name/number - 24 hour contact) – *Required*
- 7. Contractor Contact (such as contractor or utility name/number) – *Required*
- 8. Law Enforcement Contact (if applicable)
- 9. Other Contact (other WisDOT contact names if applicable)

Each Facility:

- 1. Facility Type (mainline, ramp, system interchange)
- 2. Closure/Roadway Status (Full closure, Lane/shoulder closure, Flagging operations, One lane road, One lane road temporary signal, Moving lane closure, Rolling full closure)
- 3. Duration (daily/nightly, weekly, continuous)
- 4. Begin/End Date
- 5. Begin/End Time
- 6. Begin/End Location
- 7. Oversize/Overweight Restrictions (height, width, weight restrictions if applicable)
- 8. Detour Route (if applicable)

Attachment 1: Start/Completion Work Notice



Utility Permit Start/Completion Work Notice

Provide all information below and email this form to the applicable region utility permit office **at least three working days prior to starting work**. When restoration is complete and ready for inspection, email the same contact. For all date boxes, click in the middle of the box to highlight a drop-down calendar.

Select Region Office (Click for map if needed)		Region Email Address (Auto-populates once Region Office is selected)	
WisDOT Utility Permit Number (Enter number)		Utility Work Order or Project ID Number (if any) (Enter number from question 5 on WisDOT DT1553 permit form)	
Utility Company Name (Enter name from question 1 on WisDOT permit form)		County	Highway(s)
Utility or Utility Contractor Contact Name & 24-Hour # (Provide information if utility hires a separate contractor to perform the work. If not, provide utility company contact information.)		Traffic Control Contractor and 24-Hour # (Provide information if utility hires a separate work zone traffic control contractor for the work.)	
Utility Subcontractor #1 Contact Name & 24-Hour # (Provide information if contractor hires a separate subcontractor to perform the work.)		Lane Closure System (LCS) Notification (Enter date if LCS notification is required otherwise leave blank. Utility is required to submit all LCS information prior to starting work.) Date Submitted: _____ LCS Number: _____	
Utility Subcontractor #2 Contact Name & 24-Hour # (Provide information if contractor hires a separate subcontractor to perform the work.)		Proposed Work Start Date (Enter proposed work start date. Failure to provide the work start notice may result in permit suspension or revocation.)	
Work Suspension Date (Enter date that utility decides to suspend work due to material shortages, other priority work, etc.)		Work Resumption Date (Enter date that utility decides to resume work.)	
Work Completion Date (All work is finished including restoration and site is ready for inspection. Enter date and resubmit form to the region office using same email address above within 15 calendar days of completion.		3D (X-Y-Z) As-Built Utility Data (Follow section 7 in HMM 09-15-45. Click yes if required to submit 3D as-built utility data and provide it within 30 calendar days of the completion date.) <input type="checkbox"/> Yes <input type="checkbox"/> Not Required	

5.2 Poles and Anchor Rods

Completely remove replaced poles from the highway. No replaced pole shall be allowed to remain, in whole or in part, nor shall it be sawed off. The pole's hole shall be properly backfilled and compacted. All anchor rods shall be removed or cut off **one foot** below ground level.

6.0 Temporary Driveways for Utility Construction

Do not build temporary driveways for utility construction unless WisDOT has granted prior approval. If a temporary driveway is needed, submit a separate STH connection permit application [dt1504](#) for WisDOT review along with the utility permit application. Include the reason(s) for needing the temporary driveway on both applications. A temporary driveway may not be approved, so the utility is advised to have a back-up access plan. Do not locate a temporary driveway within the functional area of an intersection. See Figure 6.

Existing driveways may be used for utility construction as long as permission is obtained from the property owner. A STH connection permit is not required unless there will be a significant change in use, e.g., an agricultural driveway will experience heavy truck traffic or a major increase in the number of vehicle trips per day. In this situation, submit a STH connection permit to make temporary modifications to the driveway.

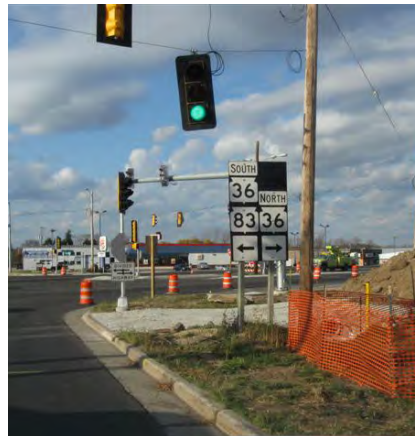


Figure 6: Temporary driveway within the functional area of an intersection

7.0 As-Built Location Data

Provide X (easting), Y (northing), and Z (elevation) as-built coordinate data for all open cut, trenched and other utility projects in which a facility is exposed to facilitate a survey. This includes buried handholes, valves, etc. Provide boring logs if such equipment can produce X, Y and Z data. The purpose for this data is to minimize future utility conflicts with WisDOT improvement/maintenance projects and utility project permits.

7.1 Data Collection

Collect data every 50 feet and at all angle points/changes of direction along the facility centerline. Survey the top-center of each utility facility. For multiple facilities (e.g., multiple conduit packages or pipelines), measure the total width (outside-to-outside) of the facilities. Facility depths may be determined using permit information.

7.2 Data Accuracy

Use [FDM 9-30-15](#) Real Time Kinematic (RTK) Surveys to obtain the most accurate data possible. The appropriate RTK application is General (Topo) Positioning, which requires using a RTK survey instrument. Mapping/GIS grade equipment does not provide as accurate positional data.

Improve accuracy when surveying in less-than-ideal situations such as urban canyons or heavily wooded areas where satellite signals may be blocked or impeded. For example, use longer observation times, survey more data points along a line, perform multiple/redundant measurements and average the results, etc. When needed, use established benchmarks that have published X, Y and Z data as part of the survey, which provides greater confidence in the data accuracy.

7.3 Format, Storage and Submittal of Data

Submit data on as-built plans to WisDOT using the Wisconsin Coordinate Reference System (WISCRS) a/k/a "County Coordinates." In WISCRS, grid and ground coordinates are the same value, so there is no need to convert from grid to ground values using a combination factor.¹ Data post-processing is generally not required for a RTK survey procedure, but processing methods and strategies vary with equipment manufacturer/model.

7.4 Data Retrieval

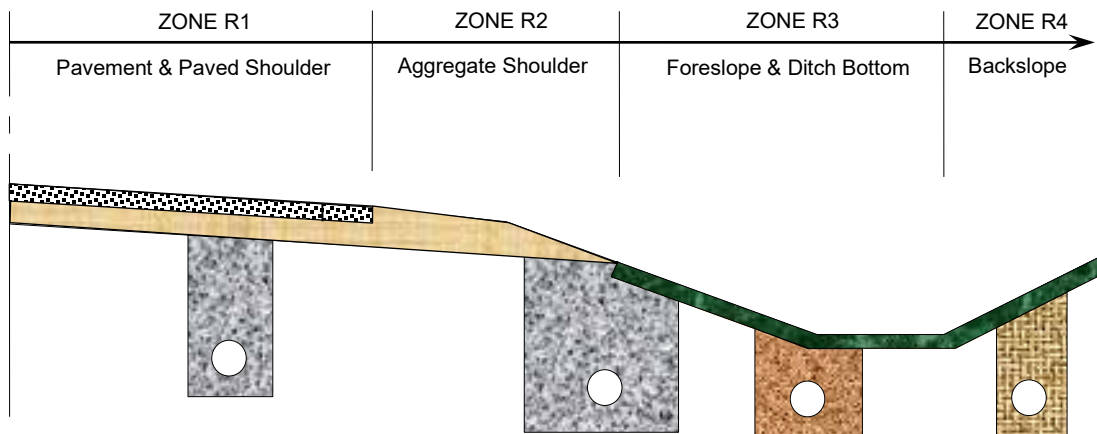
To be determined

¹ Combination factors were needed when WisDOT mapped projects in State Plane Coordinates.

Attachment 2: Excavation Backfilling Detail Drawings, Page 1 of 2



LONGITUDINAL EXCAVATION: RURAL CROSS-SECTION

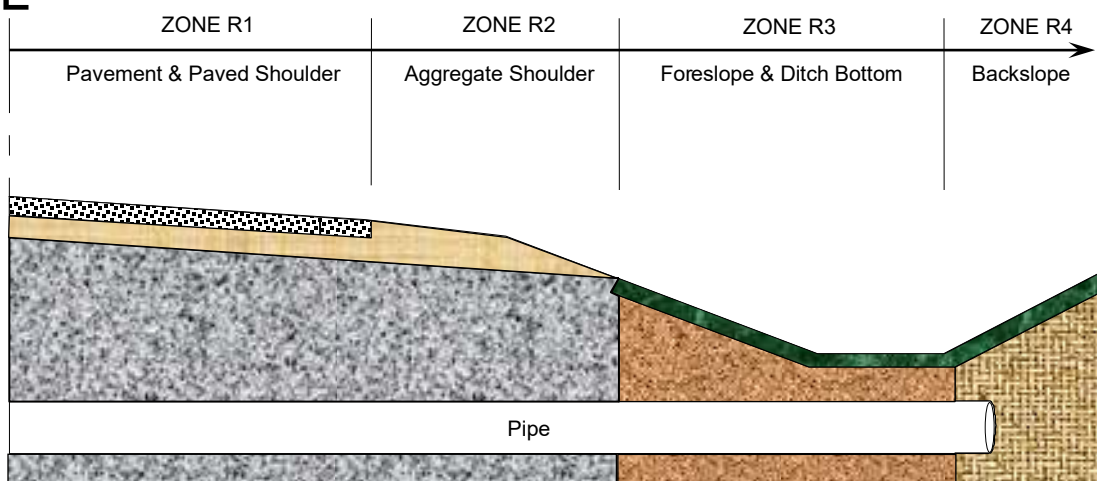


KEY

	Slurry Backfill
	Granular Backfill
	4" Topsoil
	Spoil backfill



TRANSVERSE EXCAVATION: RURAL CROSS-SECTION



NOTES

- 1) Use slurry backfill to replace the excavated material in ZONES R1 and R2. Drain slurry water either naturally (e.g., through soil) or mechanically (e.g., using temporary standpipe and pump) at lowest excavation elevation.
- 2) If the work area covers BOTH ZONES R2 & R3, use slurry backfill to replace the excavated material.
- 3) Use granular backfill to replace the excavated material in ZONE R3..
- 4) Place backfill in ZONES R3 & R4 to within 4" of the finished grade to allow for topsoil placement.
- 5) Suitable spoil backfill may be used in ZONE R4 at WisDOT's discretion.
- 6) Conform to the current edition of WisDOT's [Standard Specifications for Road and Bridge Construction](#) for granular backfill placement and gradation, and for slurry fine and coarse aggregate gradation requirements (use concrete aggregate 501 standard specification).

WisDOT BACKFILL SLURRY FORMULA

Place the materials in a clean concrete mixer truck and thoroughly mixed in the following quantities FOR EACH CUBIC YARD REQUIRED:

More Flowable

- SAND 1,600 lbs
- #1 STONE 1,400 lbs
- #2 STONE 1,000 lbs
- WATER 25 gals

More Rigid

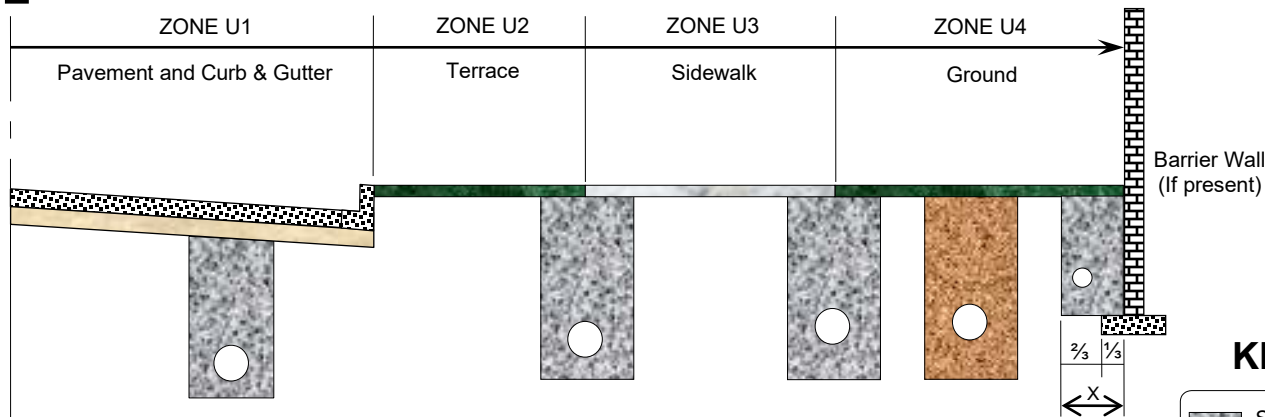
- SAND 1,600 lbs
- #1 STONE 1,000 lbs
- #2 STONE 1,400 lbs
- WATER 25 gals

No additional water is allowed. The above weights are **damp** weights. Just prior to placing the slurry backfill, run the truck at mixing speed for one full minute to ensure an even mixture. The coarse aggregate (#1/#2 STONE) combined weight is 2,400 lbs with #1 STONE between 35-65% and remaining #2 STONE for workability. No other formulas are allowed.

Attachment 2: Excavation Backfilling Detail Drawings, Page 2 of 2



LONGITUDINAL EXCAVATION: URBAN CROSS-SECTION

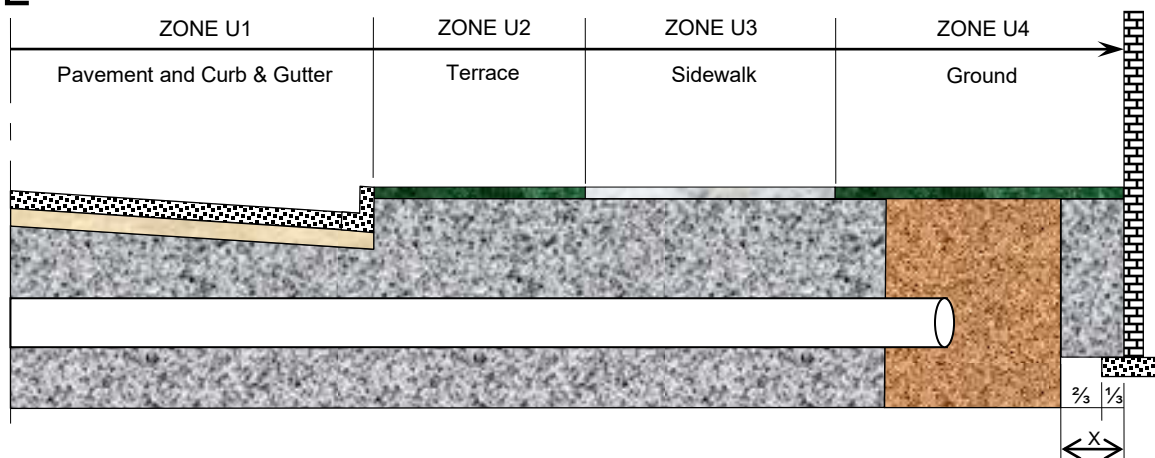


KEY

- Slurry Backfill
- Granular Backfill
- 4" Topsoil
- Spoil backfill



TRANSVERSE EXCAVATION: URBAN CROSS-SECTION



NOTES

- 1) Use slurry backfill to replace the excavated material in ZONES U1, U2 and U3. Drain slurry water either naturally (e.g., through soil) or mechanically (e.g., using temporary standpipe and pump) at lowest excavation elevation.
- 2) If the work area covers BOTH ZONES U3 & U4, use slurry backfill to replace the excavated material.
- 3) Use slurry backfill to replace the excavated material in ZONE U4 if it is adjacent to a barrier wall.
- 4) Place backfill in ZONES U2 & U4 to within 4" of the finished grade to allow for topsoil placement.
- 5) Use granular backfill in ZONE U4. Suitable spoil backfill may be used at WisDOT's discretion.
- 6) Conform to the current edition of WisDOT's [Standard Specifications for Road and Bridge Construction](#) for granular backfill placement and gradation, and for slurry fine and coarse aggregate gradation (use concrete aggregate 501 standard specification).

WisDOT BACKFILL SLURRY FORMULA

Place the materials in a clean concrete mixer truck and thoroughly mixed in the following quantities FOR EACH CUBIC YARD REQUIRED:

More Flowable	More Rigid
• SAND 1,600 lbs	• SAND 1,600 lbs
• #1 STONE 1,400 lbs	• #1 STONE 1,000 lbs
• #2 STONE 1,000 lbs	• #2 STONE 1,400 lbs
• WATER 25 gals	• WATER 25 gals

No additional water is allowed. The above weights are **damp** weights. Just prior to placing the slurry backfill, run the truck at mixing speed for one full minute to ensure an even mixture. The coarse aggregate (#1/#2 STONE) combined weight is 2,400 lbs with #1 STONE between 35-65% and remaining #2 STONE for workability. No other formulas are allowed.



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 erosion control plan/notes.
 - 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 erosion control plan/notes 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 additional erosion control matting and plan to inspect over winter and as the snow begins to melt and the soils thaw.
 - e. Contact your environmental department or the WisDOT Utility Permit Coordinator 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

Attachment 1 - Environmental Checklist

Include this Checklist and any supplemental documentation with form dt1553, *Application/Permit to Construct, Operate and Maintain Utility Facilities on Highway Right-of-Way*. The application will be returned if the Checklist is not included or is incomplete.

Answer the following questions related to the proposed utility project to show environmental compliance or coordination with various agencies/Tribes. WisDOT's permit approval does not relieve a utility from compliance with all applicable federal, state, local and tribal laws, codes, regulations, and ordinances and shall not be construed as superseding any other governmental agency's more restrictive requirements. Keep all supporting documents on file with WisDOT's permit for its duration and provide upon request.

Remember: Supporting documentation may be required to prove environmental coordination with a regulatory agency on the Checklist. If an agency does not require documentation, a utility is not required to submit it to WisDOT. However, supply documentation if it may be helpful in WisDOT's review of the Checklist, e.g., permits, approvals, certifications, checklists, correspondence, website screenshots/PDFs, mapping, etc.

1. **Aquatic Resource Impacts**

Use the Wisconsin Wetland Inventory maps and the [DNR Surface Water Data Viewer](#) (SWDV) to identify waterways, surface waters and potential wetlands. These tools are not comprehensive, and field surveys may be required to identify aquatic resources within the footprint of a proposed project. Consult with Department of Natural Resources and U.S. Army Corps of Engineers as needed.

Does the proposed project have the potential to impact any aquatic resources (wetlands, waterways, etc.)?

No – Skip to question 2. Yes – Continue below.

State Wetland/Waterway Permit

Does the proposed project meet all necessary terms, conditions, and eligibility criteria to receive non-reporting coverage under the DNR utility general permit ([DNR-GP3-2023](#)) for wetland/waterway impacts?

Yes – Project meets all requirements for DNR *non-reporting* utility general permit coverage.

No – Project received *reporting* utility general permit coverage or individual wetland/waterway permit.
<https://dnr.wisconsin.gov/topic/Sectors/UtilityPermitting.html>

Not applicable – Project is exempt from all wetland/waterway permitting requirements.

Wetlands: <https://dnr.wisconsin.gov/topic/Waterways/Permits/Exemptions.html>

Waterways: <https://dnr.wisconsin.gov/topic/Wetlands/permits/exemptions.html>

Not applicable – Project occurs wholly within boundaries of a Native American Nation or Tribal reservation and DNR does not have jurisdiction. See question 6.

Federal Wetland/Waterway Permit

Does the proposed project meet all necessary terms, conditions, and eligibility criteria to receive no-preconstruction notification (PCN) coverage under the USACE utility or other regional general permit (RGP) or a nationwide permit (NWP) for wetland/waterway impacts? <https://www.mvp.usace.army.mil/Missions/Regulatory/Permitting-Process-Procedures/>

Yes – Project meets all requirements for no-PCN coverage under a USACE RGP or NWP.

No – Project covered under USACE's RGP or NWP coverage obtained through submittal of a preconstruction notification or other Section 404 permit coverage.

Not applicable – Project does not impact waters of the United States.

2. Protected Species

Projects with the potential to affect protected species must be covered under the [DNR Broad Incidental Take Permit/Authorization for No/Low Impact Activities](#), [DNR Natural Heritage Inventory Public Portal Preliminary Assessment](#) or a [DNR Endangered Resources Review](#).

Select the appropriate response below:

Preparer **self-certifies** that all components of the proposed project are covered under [Table 1](#) of the [DNR Broad Incidental Take Permit/Authorization for No/Low Impact Activities](#). Any additional conditions from Table 1 are incorporated into the project as necessary.

Preparer completed the [NHI Public Portal Preliminary Assessment](#) and received one of the following results:

- No further actions are needed.
- Further actions are recommended.
- Further actions are strongly recommended.

Note: WisDOT encourages applicants to implement DNR recommended actions.

An [Endangered Resources Review](#) was conducted for the project by DNR or a certified reviewer and one of the following applies:

- The project is implementing all **required actions** from the [DNR Endangered Resources Review](#).
- The project is covered under **Table 2** of the [DNR Broad Incidental Take Permit/Authorization for No/Low Activities](#) and additional conditions/avoidance measures are incorporated as required.

Note: WisDOT encourages applicants to implement DNR recommended actions.

The project is covered by a [DNR Individual Incidental Take Permit](#) and/or USFWS coordination under the Endangered Species Act.

3. Construction Site Stormwater Permits

Projects that involve one acre or more of land disturbance require a utility to submit a Notice of Intent (NOI) erosion control permit under Wis. Adm. Code [NR 216](#).

Does the proposed project affect one acre or more of land disturbance?

No – Meets criterion. Yes – Coordination completed.

4. Erosion Control Plan & Stormwater Management Plans

Does the proposed project meet the [Trans 401](#) “Minor” category?

Yes – Meets criterion for minor project. No – Attach formal erosion control plan.

For minor projects, immediately replace disturbed soil and topsoil and/or temporary seed and mulch the soil, which includes repairing equipment and vehicle tracks. Have erosion control devices (hay or straw bales, wattles, silt fence, erosion mat, etc.) at the site or immediately accessible in case weather conditions cause immediate action to protect bare or loose soil. Cover soil piles left overnight with plastic or protect with silt fence or other approved perimeter control devices on the downslope side to prevent possible runoff.

Does the proposed project require a Stormwater Management Plan?

No – Meets criterion. Yes – Coordination completed.

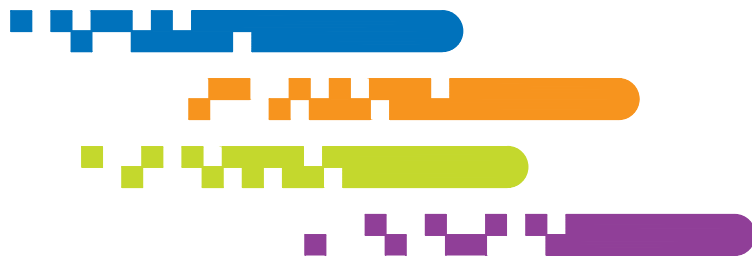
For more information: [DNR Erosion Control and Stormwater Management Plans](#)

5. Wisconsin Historic Preservation Database

Are any historic resources located within the proposed project limits?

No – Meets criterion. Yes – Coordination completed.

Contact: [State Historic Preservation Office](#) or go to: [Wisconsin Historic Preservation Database](#)



MIDWEST FIBER NETWORKS

2207049

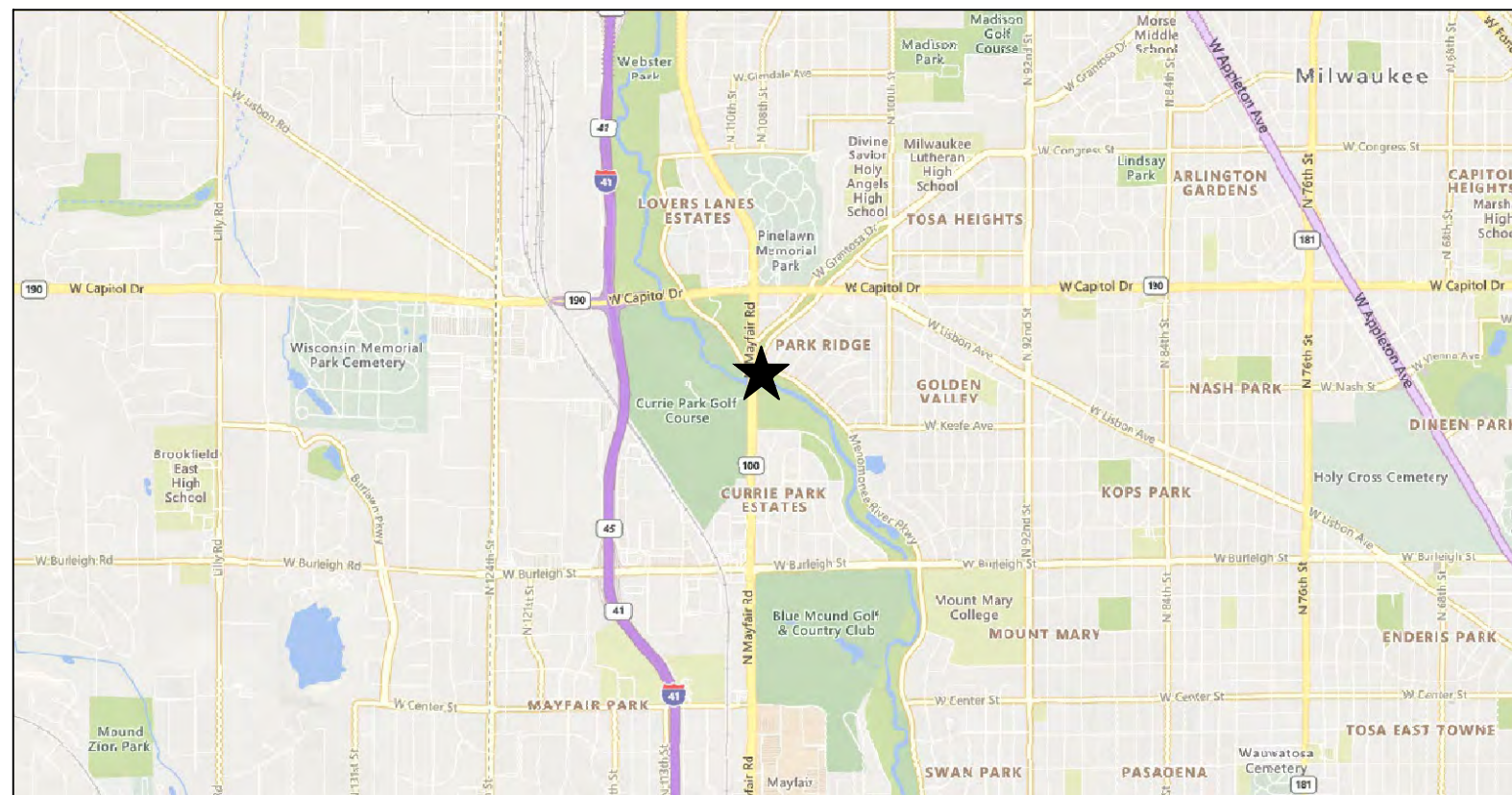
RELO - HWY 100 BRIDGE & ROAD WORK

HWY 100 & KEEFE AVE

C/ WAUWATOSA

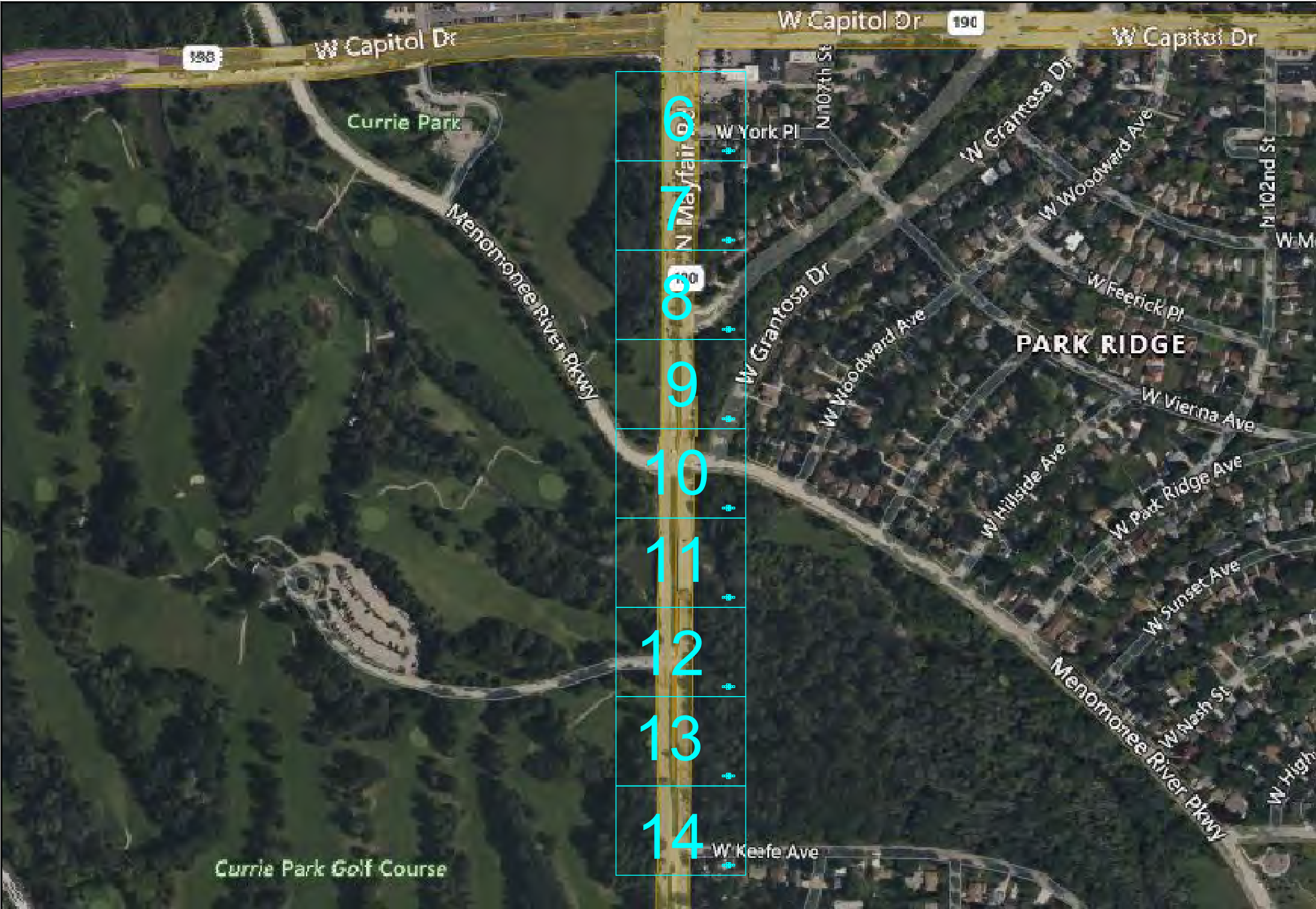
MILWAUKEE COUNTY, WI

APRIL 29, 2026



LOCATION MAP
NOT TO SCALE

PAGE NAME	PAGE #
COVER	COVER
OVERVIEW	1
BILL OF MATERIALS	2
LEGEND	3
DETAILS	4-5
OSP PLANS	6-14
BRIDGE CONDUIT EXHIBIT	15
TRAFFIC CONTROL	16-24



1. PERMITS ARE REQUIRED FOR ALL WORK IN ROWS AND EASEMENTS, UNLESS OTHERWISE SPECIFIED. COPIES OF PERMITS ARE REQUIRED TO BE ON-SITE AND AVAILABLE FOR INSPECTION IMMEDIATELY UPON REQUEST BY THE PERMITTING AUTHORITY OR ITS REPRESENTATIVE.
2. RESTORE ALL DISTURBED LAWN AREAS WITH TOPSOIL AND SEED AND COMPLY WITH ANY PROVISIONS SET FORTH BY THE MUNICIPALITY OR PERMIT AUTHORITY.
3. ANY SIDEWALKS, STREETS, AND ALLEYS THAT WILL NEED TO BE CUT OR REMOVED WILL BE PATCHED OR REPLACED IN ACCORDANCE WITH MUNICIPALITY OR PERMIT AUTHORITY'S SPECIFICATIONS.
4. CONTRACTOR MUST COMPLY WITH CONSTRUCTION SITE EROSION AND SEDIMENT CONTROL PER LOCAL OR STATE STATUTES.
5. CONTRACTOR MUST COMPLY WITH LOCAL OR STATE NATURAL RESOURCES DEWATERING CODES FOR ALL DIRECTIONAL BORING APPLICATIONS.
6. CONSTRUCTION CONTRACTOR SHALL COMPLY WITH ALL CURRENT AND APPLICABLE OSHA, FEDERAL, STATE, AND LOCAL RULES AND REGULATIONS GOVERNING THE SAFETY OF EMPLOYEES AND MATERIALS DURING EXCAVATION, TRENCHING, DITCHING, INSTALLATION, BACKFILLING AND AERIAL OPERATIONS ON THIS PROJECT.
7. CONTRACTOR MUST COMPLY AT A MINIMUM WITH DOT WORK ZONE SAFETY PROCEDURES FOR PROPER TEMPORARY TRAFFIC CONTROL. ADDITIONAL REQUIREMENTS MAY BE FURTHER SPECIFIED IN PERMIT MATERIALS FOR EACH MUNICIPALITY OR PERMIT AUTHORITY.
8. CONTRACTOR TO FOLLOW INCLUDED AS-BUILT GUIDELINES, UNLESS OTHERWISE SPECIFIED IN WRITING.

LOCATIONS OF UNDERGROUND STRUCTURES OR FACILITIES SHOWN ON THESE PLANS ARE BASED ON AVAILABLE RECORDS AT THE TIME OF PREPARATION AND ARE NOT GUARANTEED TO BE COMPLETE OR CORRECT. THE CONTRACTOR MUST CONTACT ALL UTILITIES AT LEAST 72 HOURS PRIOR TO CONSTRUCTION TO DETERMINE EXACT LOCATION OF ALL FACILITIES.

FOR ALL LOCAL UTILITY ONE CALL CENTERS CONTACT:



PRIVATE UTILITIES MAY BE PRESENT. CONSTRUCTION CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING PRIVATE UTILITIES PRIOR TO EXCAVATION.

CONSTRUCTION CONTRACTOR IS RESPONSIBLE FOR DETERMINING AND VERIFYING THE EXACT LOCATION OF ALL UTILITIES WITHIN THE SCOPE OF WORK. COMPLETE REPAIR AND RESTORATION OF ANY AND ALL DAMAGES INCURRED SHALL BE AT THE EXPENSE OF THE CONSTRUCTION CONTRACTOR.



MIDWEST FIBER NETWORKS

414.672.5612
 6070 N FLINT RD
 GLENDALE, WI 53209

OSP ENGINEER: CORY SCHMUKI
 EMERGENCY NOTIFICATION NUMBER: 1-866-831-1661

PRELIMINARY

2207049
 RELO - HWY 100 BRIDGE & ROAD WORK
 WAUWATOSA, WI

MUNICIPALITY: C/ WAUWATOSA
COUNTY: MILWAUKEE STATE: WI
TOWN RANGE SEC: T7N R21E SEC8
DATE: 4/29/26
DRAWN BY: TFG-MWFN
DRAWING SCALE: NTS

REVISIONS			
REV. NO.	DESCRIPTION	BY	DATE

Bill of Materials

Fiber

TOTAL 432CT FIBER - 2574'
 TOTAL 12CT FIBER - 878'
 REMOVE EXISTING 432 FROM WISDOT FTMS DUCT - 2442'

UG

BORE (2) 1.25" HDPE DUCTS - 639'
 30x48x36 HANDHOLE - 2
 #8 SOLID TRACER WIRE - 503'
 LOCATE BRACKET - 2
 PULL THROUGH EXISTING DUCT - 2424'

Muni footages

CITY OF WAUWATOSA UNDERGROUND FOOTAGE - 2927'

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 RELO - HWY 100 BRIDGE & ROAD WORK
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MUNICIPALITY: C/ WAUWATOSA
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 DATE: 4/29/26
 DRAWN BY: TFG-MWFN
 DRAWING SCALE: NTS

REVISIONS			
REV. NO.	DESCRIPTION	BY	DATE

PAGE NUMBER: 2 - BOM

PERMITS FOR THE JOB

PERMIT AUTHORITY	PERMIT #	START DATE	EXPIRATION DATE
CITY OF WAUWATOSA	SOP2026-0046	4/16/2026	6/16/2026
WISDOT			

LEGEND

LINETYPES

ATC	
ATT FIBER	
BUREAU OF ELECTRIC SERVICES (BES)	
CATV	
CENTERLINE	
CHILLED WATER	
COMBINED SEWER	
COMM LINE	
CROWN CASTLE	
CUC	
CULVERT	
ELECTRIC	
EVERSTREAM	
FENCE	
FIBER OPTIC (GENERIC OR UNKNOWN OWNER)	
FRONTIER	
GAS	
GRAVEL	
GUARDRAIL	
IRRIGATION	
LUMEN	
MCI	
MND	
MUNICIPAL FIBER	
MWFN AERIAL FIBER / STRAND - EXISTING	
MWFN UNDERGROUND FIBER / CONDUIT - EXISTING	
PARCEL	
PIPELINE - TRANSMISSION	
RAILROAD	
RETAINING WALL	
RIGHT OF WAY	
ROGERS	
SANITARY FORCE MAIN	
SANITARY SEWER	
SCHOOL FIBER	
SPRINT	
STEAM	
STORM SEWER	
TDS	
TELEPHONE	
US SIGNAL	
VEGETATION	
VERIZON	
WATER LINE	
WATERWAY / WATER FEATURE	
WETLAND	
WIN	
WINDSTREAM	
MWFN UNDERGROUND FIBER / CONDUIT - PROPOSED	
MWFN AERIAL FIBER / STRAND - PROPOSED	

SYMBOLS

ANCHOR	
CATV PEDESTAL	
ELECTRIC PEDESTAL / TRANSFORMER	
EXISTING HANDHOLE	
PROPOSED HANDHOLE	
HYDRANT	
INLET - SQUARE or ROUND	
LIGHT / SIGNAL POLE	
MAILBOX	
EXISTING MANHOLE - ROUND or SQUARE	
PROPOSED MANHOLE	
MARKER POST / LOCATE POST	
ELECTRIC METER	
GAS METER	
UTILITY POLE	
RISER	
SIGN	
SIGNAL CABINET	
SPLICE	
TELEPHONE PEDESTAL / CABINET	
TREE - DECIDUOUS	
TREE - EVERGREEN	
WATER VALVE	
GAS VALVE	
FIBER PEDESTAL / CABINET	
SMALL ROUND HANDHOLE / FLOWER POT	
TAP - w/ NUMBER OF PORTS	

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414.672.5612
 6070 N FLINT RD
 GLENDALE, WI 53209

OSP ENGINEER: CORY SCHMUKI
 EMERGENCY NOTIFICATION NUMBER: 1-866-831-1661

PRELIMINARY

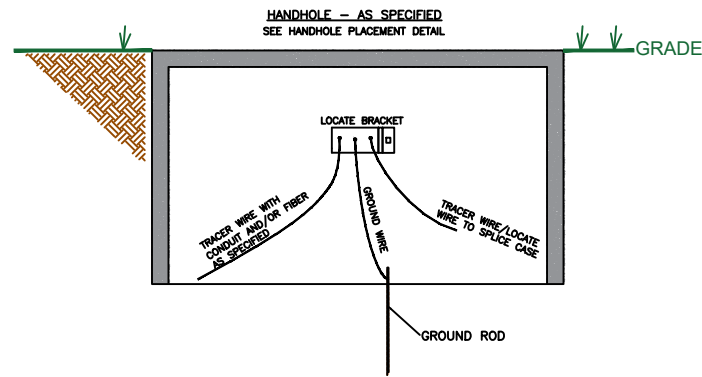
2207049
 RELO - HWY 100 BRIDGE & ROAD WORK
 WAUWATOSA, WI

MUNICIPALITY: C/ WAUWATOSA
COUNTY: MILWAUKEE STATE: WI
TOWN RANGE SEC: T7N R21E SEC8
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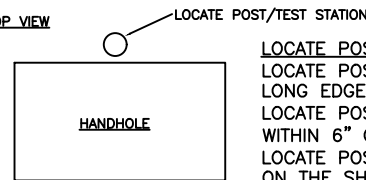
LOCATE BRACKET DETAIL

LOCATE BRACKET TO BE PLACED ALONG LONG EDGE OF HANDHOLE, AT MIDDLE OF HANDHOLE. LOCATE BRACKET PLACEMENT MUST BE WITHIN 6" OF THE TOP OF THE HANDHOLE.
LOCATE BRACKETS ARE NOT TO BE PLACED ON THE SHORT ENDS OF THE HANDHOLE.



FLUSH MOUNT TEST STATION - FINK & LOCATE POST PLACEMENT DETAIL

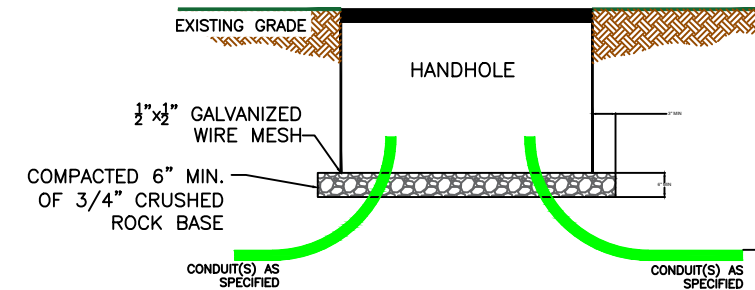
TOP VIEW



LOCATE POST & TEST STATION PLACEMENT
LOCATE POST/TEST STATION TO BE PLACED ALONG LONG EDGE OF HANDHOLE, AT MIDDLE OF HANDHOLE. LOCATE POST/TEST STATION PLACEMENT MUST BE WITHIN 6" OF THE SIDE OF THE HANDHOLE. LOCATE POSTS/TEST STATIONS ARE NOT TO BE PLACED ON THE SHORT ENDS OF THE HANDHOLE. WHEN INSTALLING LOCATE POST, POSITION POST AS SUCH THAT LOCATE WIRES CONNECTIONS (BOLTS) ARE PERPENDICULAR TO LONG EDGE OF HANDHOLE.

HANDHOLE INSTALLATION

NOT TO SCALE - HANDHOLE SIZE SPECIFIED ON PRINT



EXCAVATE THE EARTH A MINIMUM OF "6 DEEPER THAN THE DEPTH OF THE FULL HANDHOLE. INSTALL MINIMUM OF 6" OF 3/4" CRUSHED ROCK BASE MATERIAL THAT EXTENDS A MIN. OF 3" BEYOND THE OUTSIDE OF THE HANDHOLE BASE AND COMPACT. FIT AND PLACE WIRE MESH EXTENDING MIN. 3" OUTSIDE OF HANDHOLE BASE. CONDUIT THAT SWEEPS INTO THE HANDHOLE MUST ENTER THE HANDHOLE FLUSH & LEVEL WITH BOTTOM OF HANDHOLE TO AVOID FIBER MICRO BENDING. WHEN ENTERING A SHALLOW HANDHOLE, THE CHANGE IN ELEVATION OF THE CONDUIT RUN OUTSIDE OF THE HANDHOLE SHOULD BE KEPT AS SHORT AS POSSIBLE IN ORDER TO MAINTAIN REQUIRED DEPTH OF COVER. CONDUITS ENDS ENTERING HANDHOLE MUST HAVE MIN. 4" & MAX. 6" EXPOSED AND ACCESSIBLE FOR PLACING PLUGS, COUPLING, & BLOWING. INSTALL 6' GROUND ROD WITH 8" MAX. REMAINING ABOVE BOTTOM GRAVEL OF HANDHOLE. INSTALL GROUND ROD WITHIN 4" OF HANDHOLE CORNER. PLACE COVER ON HANDHOLE, BACKFILL AND COMPACT. RESTORE UPON COMPLETION.

TRACER/LOCATE WIRE PLACEMENT REQUIREMENTS - UNLESS OTHERWISE SPECIFIED ON THE PRINTS

FOR ALL HANDHOLES INSTALLED WITH A LOCATE STATION (LOCATE POST, LOCATE BRACKET, FLUSH MOUNT TEST STATION(FINK)), THE FOLLOWING IS REQUIRED:

- (1) TRACER/LOCATE WIRE PER EACH FIBER AND/OR CONDUIT PATH LEAVING HANDHOLE. MULTIPLE FIBERS IN ONE SINGLE CONDUIT ONLY REQUIRE ONE MEANS OF LOCATING. MULTIPLE CONDUITS INSTALLED TOGETHER ALONG THE SAME PATH ONLY REQUIRE ONE MEANS OF LOCATING.
- (1) ONE GROUND WIRE AND 6' COPPER GROUND ROD

TRACER/LOCATE WIRE SPECIFICATIONS REQUIREMENTS - UNLESS OTHERWISE SPECIFIED ON THE PRINTS

GROUND WIRE

- (1) #6 AWG INSULATED WIRE, LABELED WITH BLACK ELECTRIC TAPE ON EACH END. USE APPROPRIATE RING TERMINAL CONNECTOR FOR #6 AWG WIRE AND CONNECT TO CENTER TERMINAL OF LOCATE STATION. STRIP AND CONNECT OPPOSITE END IN HANDHOLE TO 6' COPPER GROUND ROD.

ARMORED FIBER LOCATE WIRE (SPLICE LOCATIONS)

#6 AWG INSULATED WIRE FOR EACH ARMORED FIBER PRESENT OR TO BE INSTALLED IN THE SPLICE CASE. USE APPROPRIATE RING TERMINAL CONNECTOR FOR #6 AWG WIRE AND CONNECT WIRE IN/ON LOCATE STATION TO OUTER TERMINALS IN/ON LOCATE STATION. INSIDE HANDHOLE, USE APPROPRIATE RING TERMINAL CONNECTOR FOR #6 AWG WIRE AND CONNECT TO SPLICE CASE TERMINAL.

-IN THE EVENT THE SPLICE CASE IS NOT PRESENT AT THE TIME OF LOCATE WIRE & LOCATE STATION INSTALLATION, LEAVE (1) 10' COIL OF #6 AWG WIRE (PER EACH ARMORED FIBER), CONNECTED TO THE LOCATE STATION WITH REMAINDER IN HANDHOLE FOR CONNECTION TO THE SPLICE ONCE INSTALLED.

#8-12 AWG SOLID CORE TRACER WIRE (AS SPECIFIED ON PRINTS)

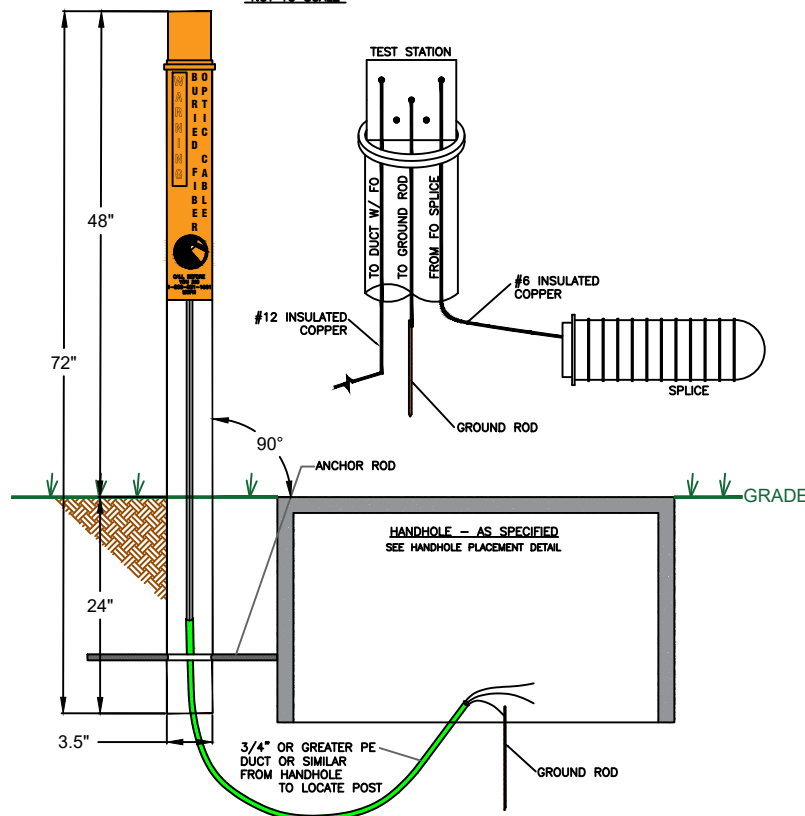
FOR EACH CONDUIT PATH THAT IS PRESENT IN A HANDHOLE AND WAS INSTALLED WITH #8-12 AWG SOLID CORE TRACER WIRE OUTSIDE OF THE CONDUITS, A MINIMUM OF 5' OF #8-12 AWG SOLID CORE TRACER IS TO BE LEFT AT THE HANDHOLE LOCATION. #8 AWG SOLID CORE TRACER WIRES CAN BE CONNECTED WITH WATERPROOF CONNECTORS TO #6-#12 AWG STRANDED WIRE FOR INSTALLATION INTO LOCATE STATION. UPON INSTALLATION OF THE LOCATE STATION, ALL WIRES ARE TO BE CONNECTED TO TERMINALS IN/ON THE LOCATE STATION WITH APPROPRIATE RING TERMINAL CONNECTORS.

#12 AWG STRANDED TRACER WIRE (AS SPECIFIED ON PRINTS)

FOR EACH FIBER OR EMPTY CONDUIT PATH THAT IS PRESENT IN A HANDHOLE AND WAS INSTALLED WITH #12 AWG STRANDED TRACER WIRE INSIDE OF THE CONDUIT, A MINIMUM OF 10' COIL OF #12 AWG STRANDED TRACER WIRE IS TO BE LEFT AT THE HANDHOLE LOCATION. UPON INSTALLATION OF THE LOCATE STATION, ALL #12 AWG STRANDED TRACER WIRES ARE TO BE CONNECTED TO TERMINALS IN/ON THE LOCATE STATION WITH APPROPRIATE RING TERMINAL CONNECTORS.

LOCATE POST DETAIL

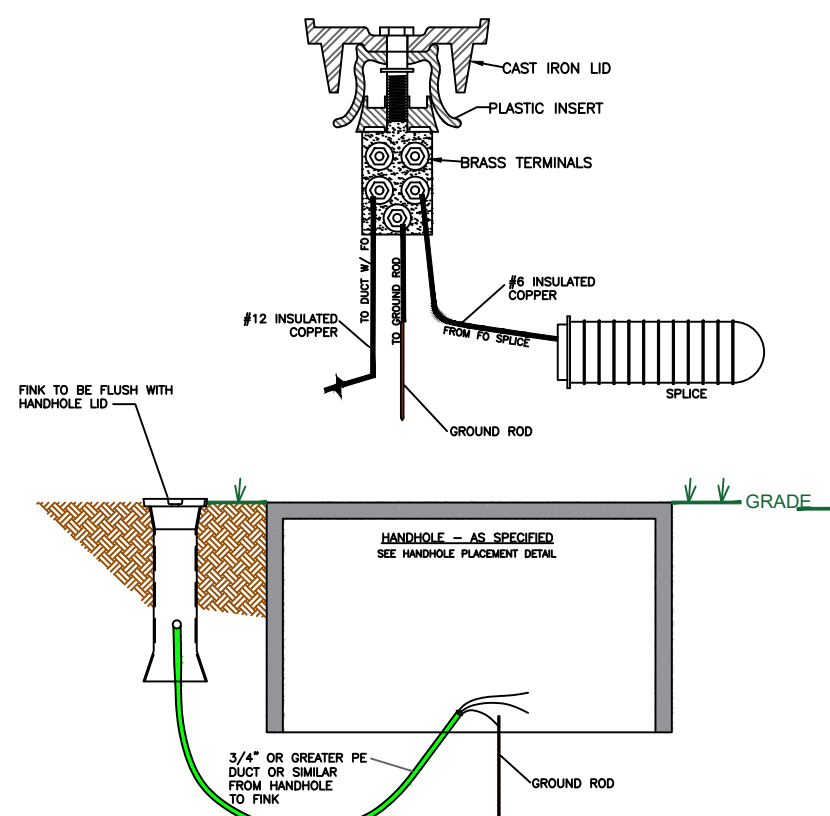
NOT TO SCALE



FLUSH MOUNT TEST STATION - FINK- DETAIL

FLUSH-MOUNT TEST BOX LID

NOT TO SCALE



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PRELIMINARY

2207049
RELO - HWY 100 BRIDGE & ROAD WORK
WAUWATOSA, WI

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TOWN RANGE SEC: T7N R21E SEC8
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Erosion Control Plan

GENERAL NOTES

- All of the conditions under this document will be met during construction of the project.
- No stockpiling spoils on roadways or on shoulder.
- If any spills (like gas, oil, hydraulic fluid) occur on site, stop work and contact supervisor immediately.

CONTAMINATED SOILS

- Whenever soil exhibiting obvious signs of contamination is encountered during excavation or installation, cease work immediately, take appropriate precautions to ensure worker health and safety, and contact operations supervisor or inspector.

EROSION CONTROL

- Erosion control measures will meet or exceed the approved WDNR Storm Water Management Technical Standards as outlined in <http://dnr.wi.gov/runoff/stormwater/techstds.htm>
- During winter, there will be no stockpiling spoils on ground.

DEWATERING

- Dewatering of pits or trenches shall be done in accordance with state standards. Use an approved sediment bag, a straw bale dewatering basin, a combination of both, or equivalent.

WETLANDS

- No work will be performed within the banks or below the ordinary high watermark of the unnamed waterway or tributaries.
- As much as practicable, the majority of work will be staged from the public roadways and road shoulders, keeping equipment out of adjacent wetlands.
- All work will be conducted to minimize soil disturbance. No rutting will be allowed within the wetlands.
- If soils are not frozen or stable to a point that avoids rutting, timber mats, mud tracks, or equivalent will be utilized to access pole locations.
- Excavated spoils will not be stockpiled in wetlands. All excess spoils will be removed from wetlands and placed in a suitable upland location.
- Trenching and pit excavations within wetlands will include soil segregation to facilitate restoration of pre-construction soil stratification, and restoration to pre-construction elevations.
- Any poles scheduled to be removed, and that occur within wetland will be cut at ground surface.
- If soil disturbance occurs on slopes leading to wetlands, or within wetland, the disturbed areas will be stabilized and appropriate erosion control best management practices will be implemented.

WATERWAYS

- No work can be performed within the banks or below the ordinary high watermark of any navigable waterway or stream. No crossing of navigable waterways with equipment can occur.
- Any soil being disturbed within 75 feet of an ordinary high water mark of any navigable waterway or stream to be stabilized within 24 hours of construction completion.

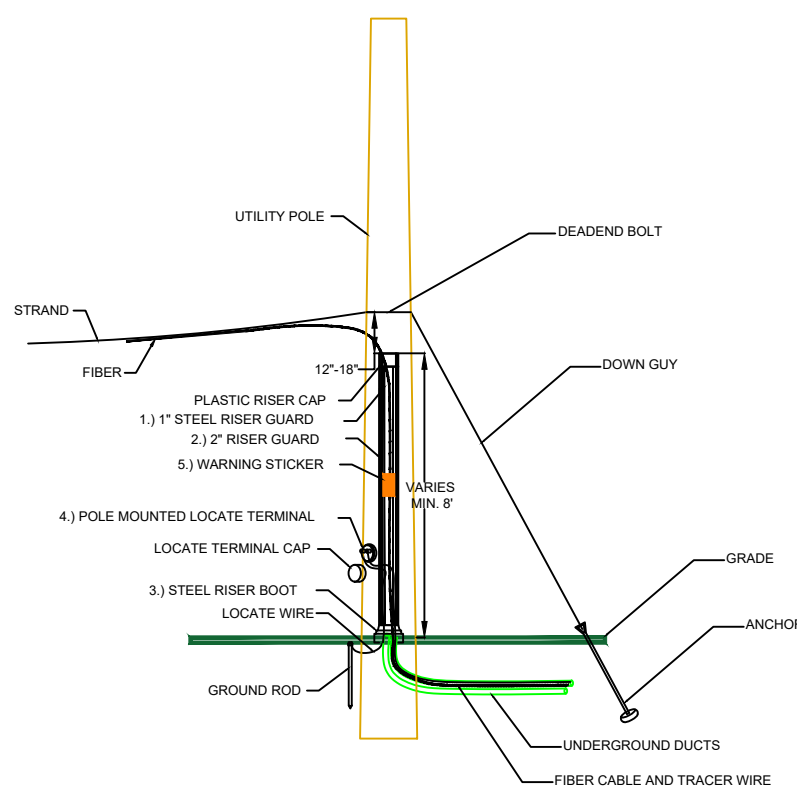
SURFACE RESTORATION

- Temporary soft restoration to stabilize the work site shall be completed in a timely manner during and immediately following utility construction.
- The contractor performing the work shall notify WisDOT as soon as final restoration has been completed and the work site is ready for inspection.

FRAC-OUT

- Refer to the frac-out contingency plan for any boring work being performed.

RISER POLE DETAIL NOT TO SCALE



- INSTALL 1" STEEL RISER GUARD OVER CABLE FROM INSIDE HDPE TO 12"-18" FROM STRAND AND FOAM SEAL THE REMAINING GAP BETWEEN RISER AND THE LIP OF THE HDPE
- PLACE 2" RISER U-GUARD ON POLE, MINIMUM AT GRADE OR BELOW TO 12"-18" BELOW STRAND, BOTTOM SECTION STEEL AND UPPER SECTION PLASTIC
- PLACE STEEL RISER BOOT
- PLACE LOCATE TERMINAL ON POLE BETWEEN 3' AND 5' ABOVE GRADE
- WARNING BURIED FIBER OPTIC CABLE STICKER PLACED AT 4'-6" FROM GRADE

MWFN/MND Redlines/Field Asbuilt Guidelines

RETAINAGE PAYMENT WILL NOT BE MADE UNTIL ACCURATE AND COMPLETE REDLINES/FIELD ASBUILTS HAVE BEEN TURNED IN AND REVIEWED BY MWFN/MND. REDLINES/FIELD ASBUILTS WILL NOT BE ACCEPTED IF IN PENCIL.

Only one (1) as-built print shall be submitted per construction print with the below requirements. The print set issued to the contractor is the print set that is required to be returned to MWFN, all pages issued, in the order in which the original print set was issued.

For Aerial Construction:

New aerial attachment heights (from ground) at each pole must be provided if different from construction plan set.

Any extension arms added or deleted need to be noted if different from construction plan set.

Pole numbers/tags must be verified with information provided on prints. For all new attachments, numbers/tags are to be provided by the contractor. If existing attachment pole numbers/tags are incorrect on print, provide updated numbers/tags.

Indicate the mid span height for all railroad, roadway and freeway crossings. Mid span height to be indicated at its lowest point for the aerial crossing, cable, or overhead guy from existing roadway surface or railbed and the current temperature.

Note locations of locates pucks, riser quadrant locations, down guy sizes, and anchor sizes & locations if different than prints.

Cable footages (sequential) are required at the following locations; top of risers, all pole attachment locations, splice enclosures as the cable enter/exits and in and out of all storage loops.

For Underground Construction:

Running lines need to indicate the offset distance to the nearest foot from a permanent hard surface area every 50' for bore installations and every 250' for plow installations. Only the following permanent hard surface areas will be accepted: EOP - edge of pavement, BOC - back of curb, CL - road center line, or BOW - back of walk. Additional distances off other physical features on the prints can be used to supplement hard surface measurements. All prints for redlines/as-builts will clearly show any deviation from proposed running line and state the reason for the deviation.

Depth of installations must be provided at each noted permanent structure offset to the nearest inch and at every location that breaches minimum depth requirement. Example - 12' EOP 38" D.

All conduit coupler locations must be identified along with depth, offset (as described above) and linear offset. Linear offset location to be measured along the route from nearest physical feature ex: sign post, driveway, power pole.

Size, number and type of conduit must be identified if different than proposed on the construction prints.

All hand hole and manhole locations must have GPS coordinates provided. Size of HH or MH's must be identified if different than proposed on prints.

All locate posts (above grade or flush mount) and marker posts must be identified and called out if different than proposed on prints.

All fiber splice locations must be identified if different than what is on the proposed prints.

Cable footages (sequential) are required at the following locations; in & out of manholes and/or hand holes, splice enclosures as the cable enter/exits and in and out of all storage loops.

Note the size and location of all hard surface excavation. Ex. sidewalks, cores, and open cuts. Provide date/time stamped photos of all restored hard surface locations.

For Inside (ISP) Construction

Note size and location of all wall cores and provide photo asbuilt of both sides.

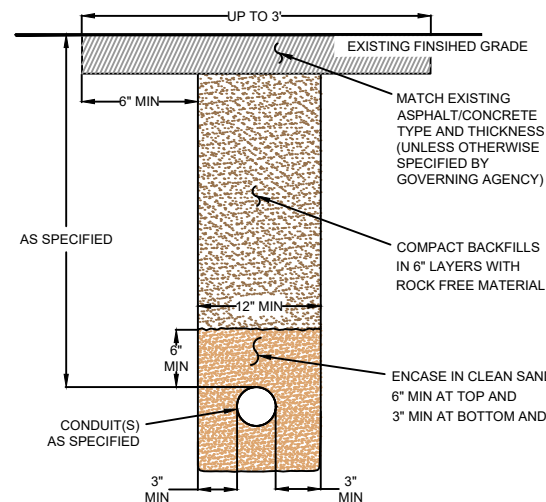
Photo documentation of asbuilt ISP route to be provided.

All prints for redlines/asbUILTS will clearly show any deviation from proposed ISP route and state the reason for deviation and approvals received

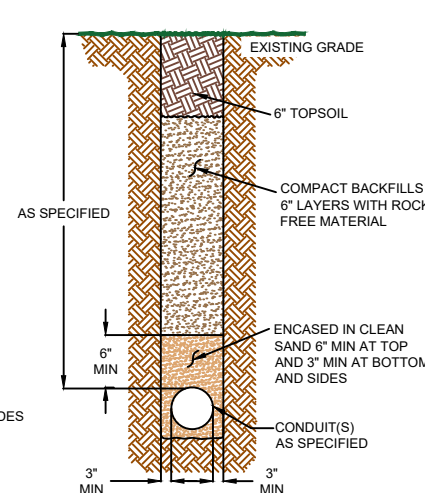
Cable footages (sequential) are required at the following locations; building entrance, pull boxes, floor(level) changes, storage loops, and at the equipment.

Any changes requested from MWFN, must be noted on the asbuilt prints. Include date, time, and name of MWFN representative that approved the change. Provide email documentation of all changes along with notes.

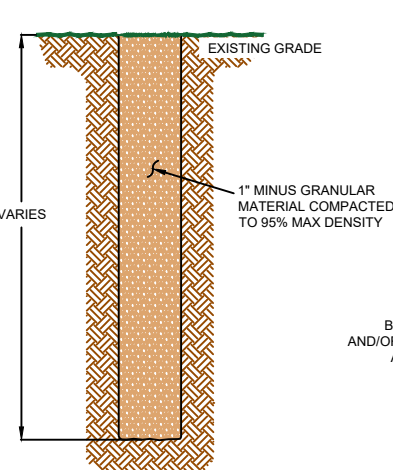
REMOVE AND RESTORE CONCRETE OR ASPHALT PAVEMENT (UNLESS OTHERWISE SPECIFIED BY GOVERNING AGENCY) NOT TO SCALE



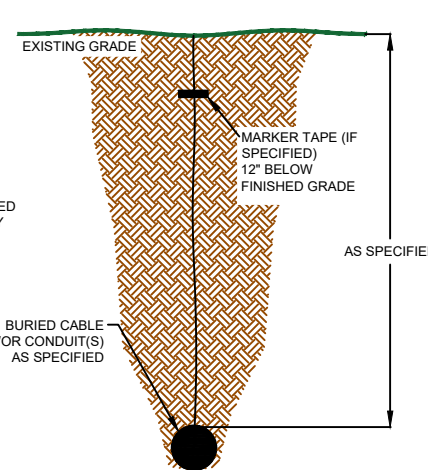
TRENCH & PLACE CONDUIT NOT TO SCALE



POTHOLE FILL NOT TO SCALE



TYPICAL PLOW DETAIL NOT TO SCALE



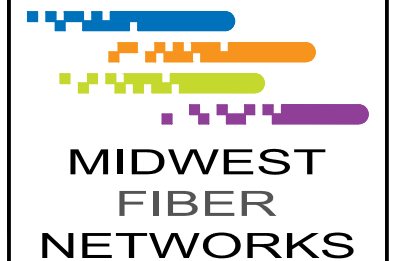
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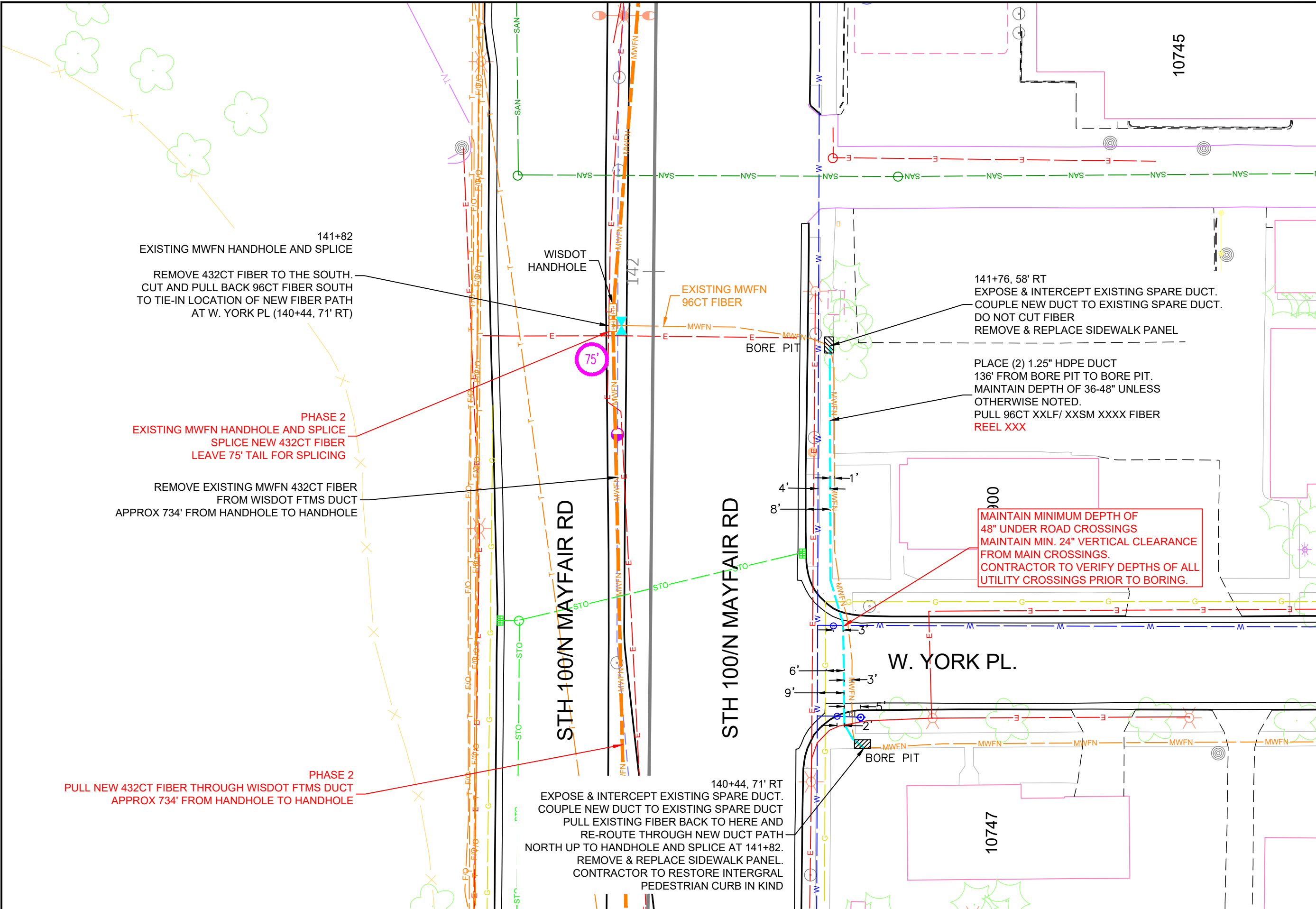
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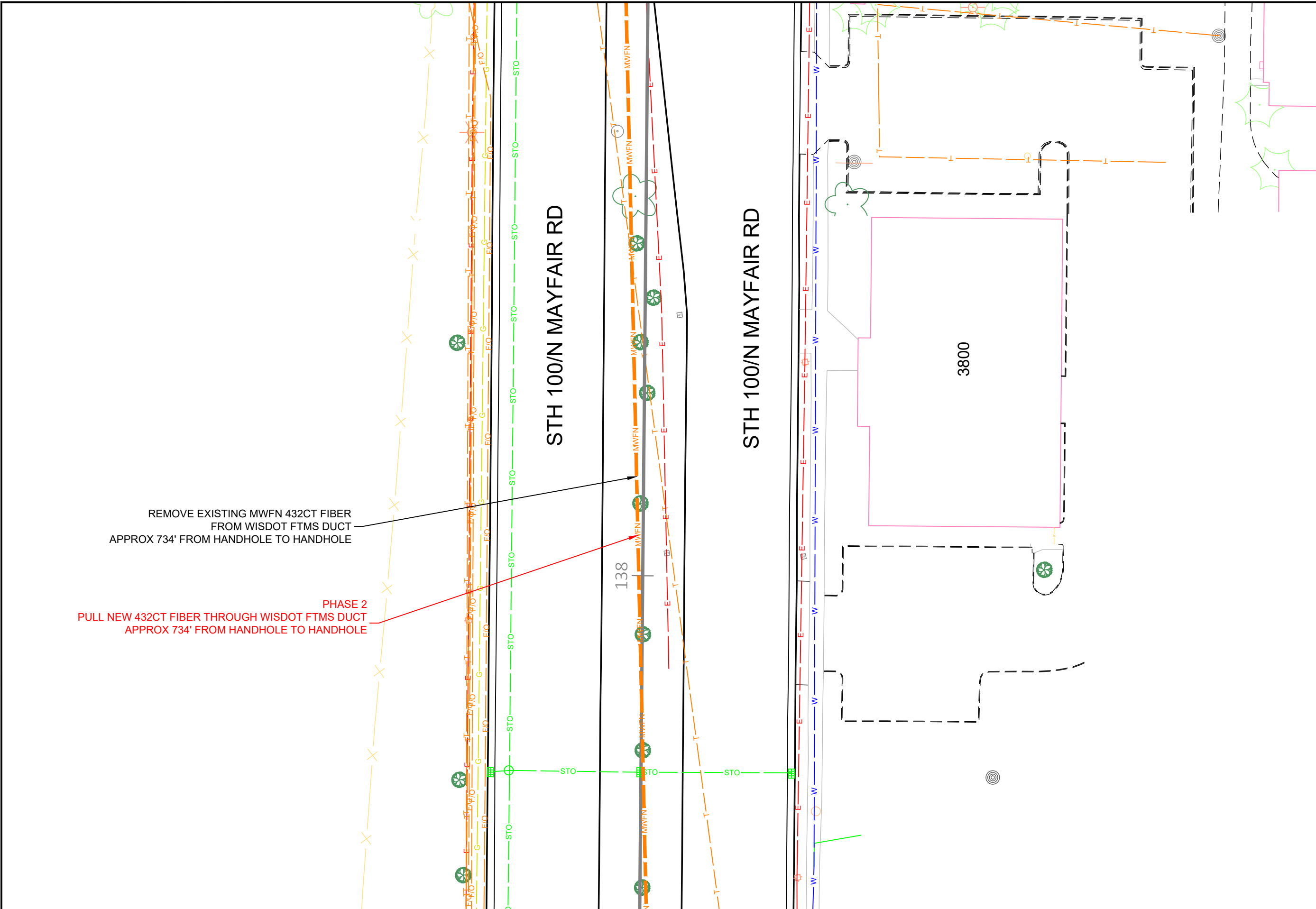
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MIDWEST FIBER NETWORKS

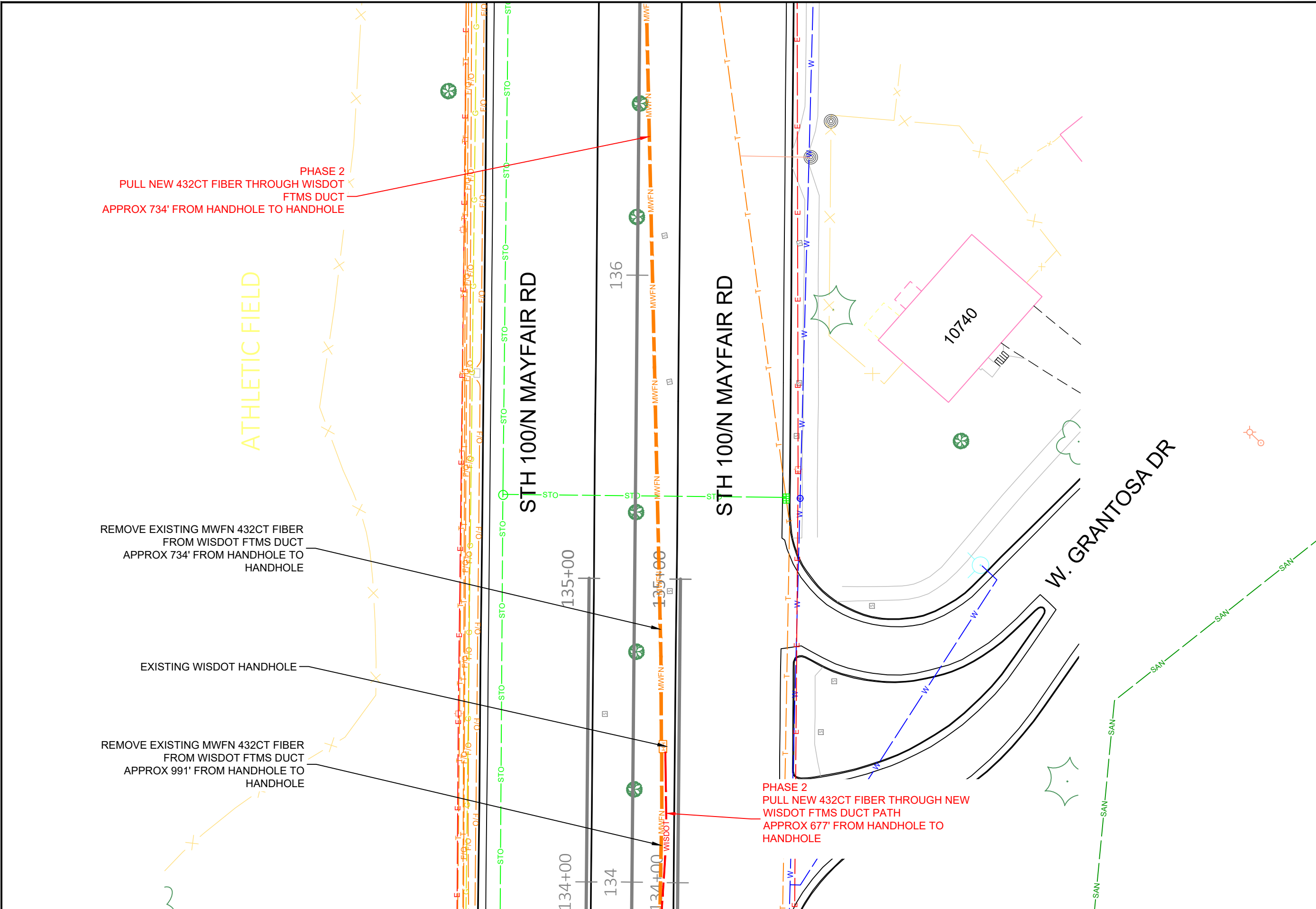
414.672.5612
 6070 N FLINT RD
 GLENDALE, WI 53209

OSP ENGINEER: CORY SCHMUKI
 EMERGENCY NOTIFICATION NUMBER: 1-866-831-1661

PRELIMINARY
2207049
 RELO - HWY 100 BRIDGE & ROAD WORK
 WAUWATOSA, WI

MUNICIPALITY: C/ WAUWATOSA
 COUNTY: MILWAUKEE STATE: WI
 TOWN RANGE SEC: T7N R21E SEC8
 DATE: 4/29/26
 DRAWN BY: TFG-MWFN
 DRAWING SCALE: 1" = 30'

REVISIONS			
REV. NO.	DESCRIPTION	BY	DATE



PHASE 2
PULL NEW 432CT FIBER THROUGH WISDOT
FTMS DUCT
APPROX 734' FROM HANDHOLE TO HANDHOLE

REMOVE EXISTING MWFN 432CT FIBER
FROM WISDOT FTMS DUCT
APPROX 734' FROM HANDHOLE TO
HANDHOLE

EXISTING WISDOT HANDHOLE

REMOVE EXISTING MWFN 432CT FIBER
FROM WISDOT FTMS DUCT
APPROX 991' FROM HANDHOLE TO
HANDHOLE

PHASE 2
PULL NEW 432CT FIBER THROUGH NEW
WISDOT FTMS DUCT PATH
APPROX 677' FROM HANDHOLE TO
HANDHOLE

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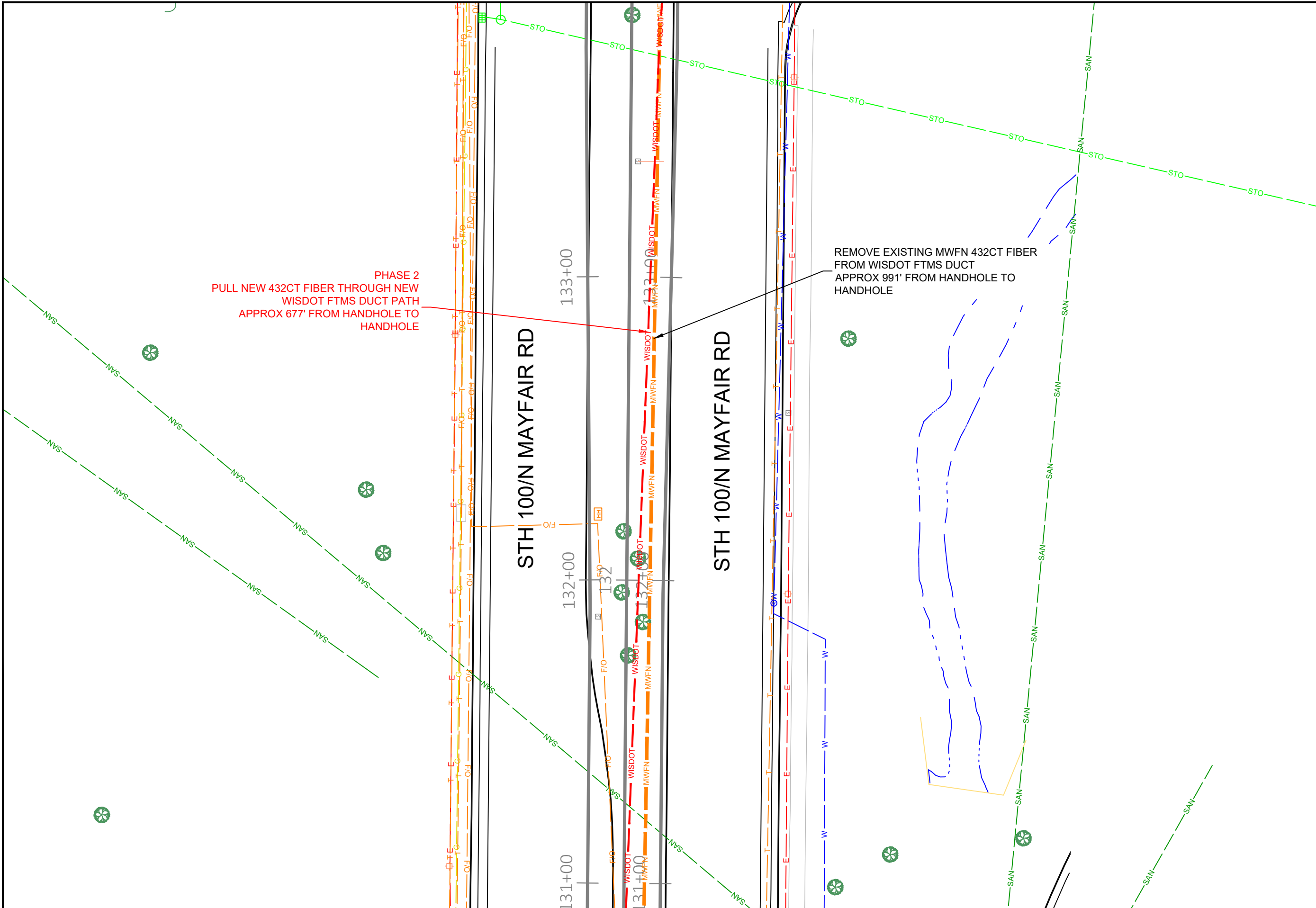
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PRELIMINARY

2207049
RELO - HWY 100 BRIDGE & ROAD WORK
WAUWATOSA, WI

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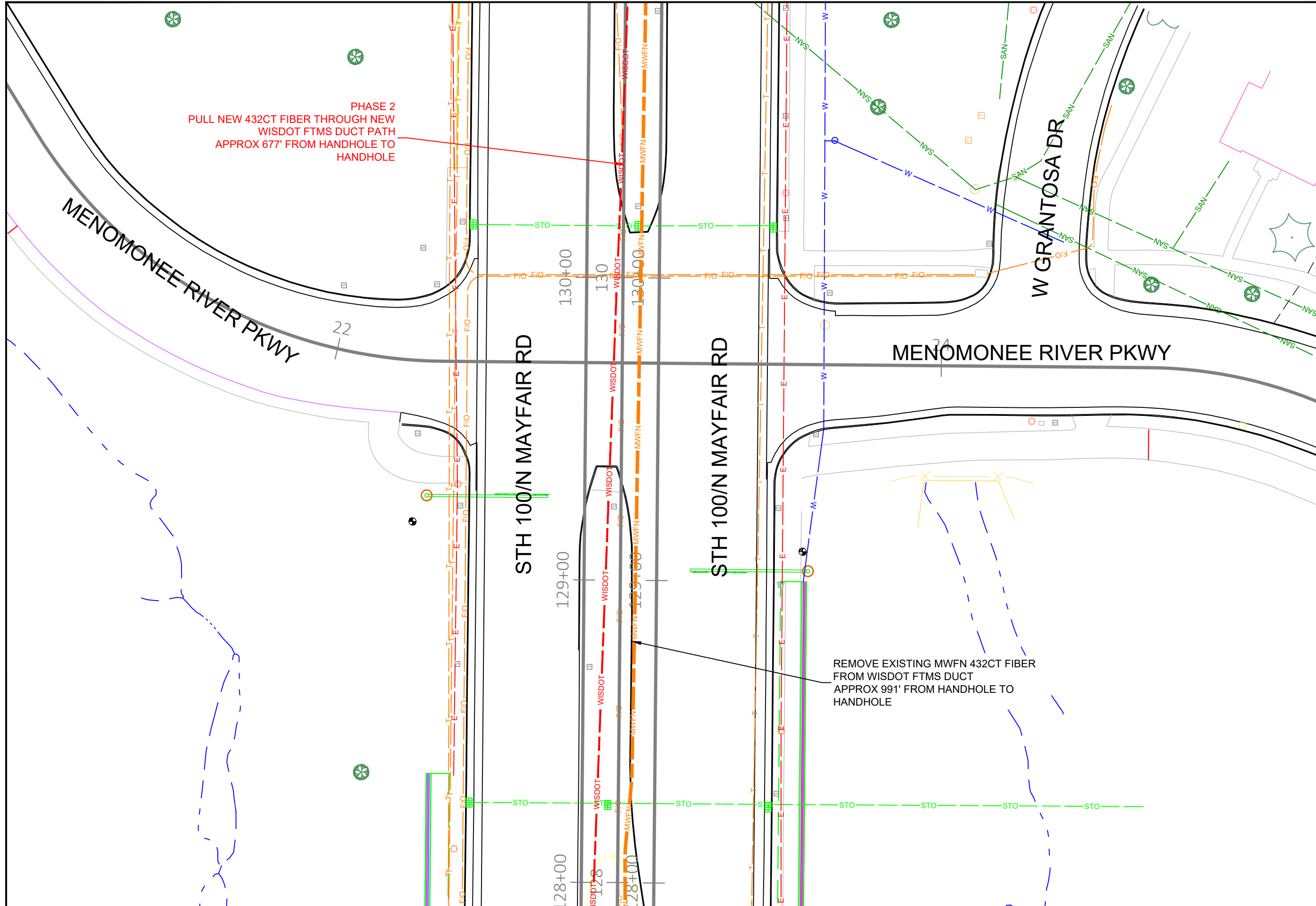
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PRELIMINARY

2207049
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WAUWATOSA, WI

MUNICIPALITY:	C/ WAUWATOSA
COUNTY:	MILWAUKEE
STATE:	WI
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DATE:	4/29/26
DRAWN BY:	TFG-MWFN
DRAWING SCALE:	1" = 30'

REVISIONS			
REV. NO.	DESCRIPTION	BY	DATE



PHASE 2
PULL NEW 432CT FIBER THROUGH NEW
WISDOT FTMS DUCT PATH
APPROX 677' FROM HANDHOLE TO
HANDHOLE

REMOVE EXISTING MWFN 432CT FIBER
FROM WISDOT FTMS DUCT
APPROX 991' FROM HANDHOLE TO
HANDHOLE

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PRELIMINARY

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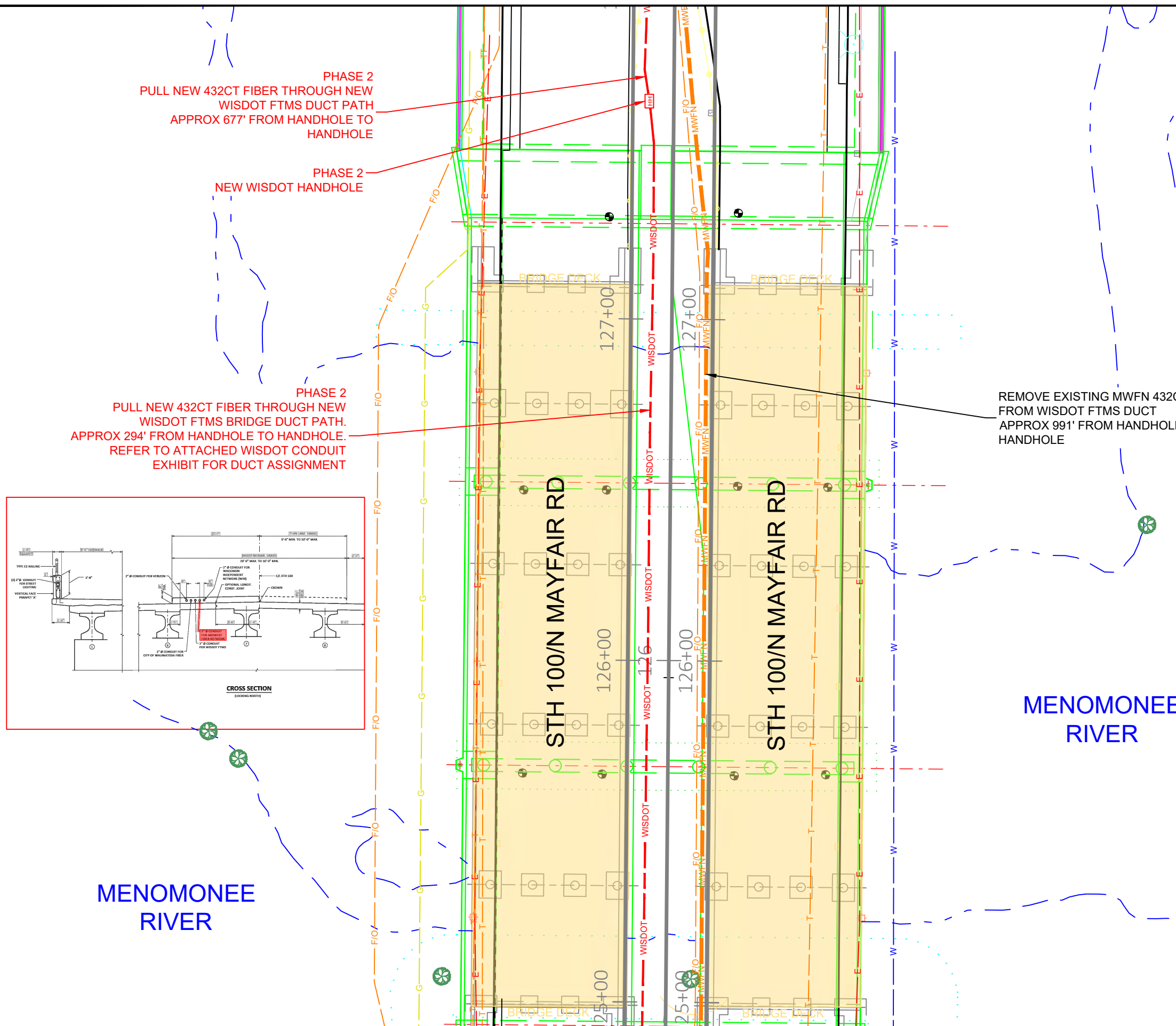
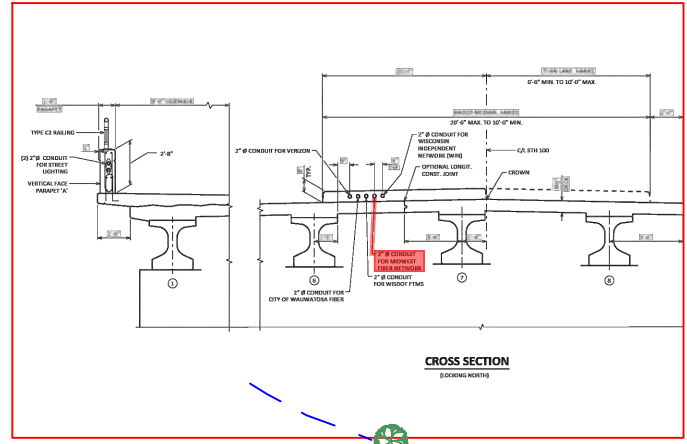
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PHASE 2
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WISDOT FTMS DUCT PATH
APPROX 677' FROM HANDHOLE TO
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PHASE 2
NEW WISDOT HANDHOLE

PHASE 2
PULL NEW 432CT FIBER THROUGH NEW
WISDOT FTMS BRIDGE DUCT PATH.
APPROX 294' FROM HANDHOLE TO HANDHOLE.
REFER TO ATTACHED WISDOT CONDUIT
EXHIBIT FOR DUCT ASSIGNMENT

REMOVE EXISTING MWFN 432CT FIBER
FROM WISDOT FTMS DUCT
APPROX 991' FROM HANDHOLE TO
HANDHOLE



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PRELIMINARY

2207049
RELO - HWY 100 BRIDGE & ROAD WORK
WAUWATOSA, WI

MUNICIPALITY: C/ WAUWATOSA
COUNTY: MILWAUKEE STATE: WI
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DRAWING SCALE: 1" = 30'

REVISIONS			
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PHASE 2
PULL NEW 432CT FIBER THROUGH NEW
WISDOT FTMS BRIDGE DUCT PATH.
APPROX 294' FROM HANDHOLE TO HANDHOLE.
REFER TO ATTACHED WISDOT CONDUIT
EXHIBIT FOR DUCT ASSIGNMENT

PHASE 2
NEW WISDOT HANDHOLE

REMOVE EXISTING MWFN 432CT FIBER
FROM WISDOT FTMS DUCT
APPROX 991' FROM HANDHOLE TO
HANDHOLE

EXISTING WISDOT HANDHOLE

CURRIE PARK
GOLF COURSE

PHASE 2
PULL NEW 432CT FIBER THROUGH NEW
WISDOT FTMS DUCT PATH
APPROX 719' FROM HANDHOLE TO
HANDHOLE

REMOVE EXISTING MWFN 432CT FIBER
FROM WISDOT FTMS DUCT
APPROX 214' FROM HANDHOLE TO
HANDHOLE

CURRIE PARK ENTRANCE

STH 100/N MAYFAIR RD

STH 100/N MAYFAIR RD

MENOMONEE
RIVER
PARKWAY

122+36
REPLACE & RELOCATE EXISTING MWFN HANDHOLE
& SPLICE APPROX 4' WEST TO ACCOMODATE
NEW CURB & GUTTER UNDERBUILD.
ADJUST & LEVEL HANDHOLE TO FINAL GRADE
AFTER FILL IS PLACED BY ROAD CONTRACTOR.

LEAVE 150' SLACK LOOP
ADD LOCATE BRACKET FOR TRACER WIRE

ACTIVE MWFN 12CT FIBER

PLACE (2) 1.25" HDPE DUCT AND #8
TRACER WIRE
257' FROM BORE PIT TO HANDHOLE.
MAINTAIN DEPTH OF 36-48" UNLESS
OTHERWISE NOTED.
PULL 12CT 6LF/ 6SM OFNR FIBER
REEL 012

EXISTING WISDOT HANDHOLE

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CURRIE PARK
GOLF COURSE

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PULL NEW 432CT FIBER THROUGH NEW
WISDOT FTMS DUCT PATH
APPROX 719' FROM HANDHOLE TO
HANDHOLE

PLACE (2) 1.25" HDPE DUCT AND #8
TRACER WIRE
257' FROM BORE PIT TO HANDHOLE.
MAINTAIN DEPTH OF 36-48" UNLESS
OTHERWISE NOTED.
PULL 12CT 6LF/ 6SM OFNR FIBER
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TRACER WIRE
246' FROM BORE PIT TO HANDHOLE.
MAINTAIN DEPTH OF 36-48" UNLESS
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STH 100/N MAYFAIR RD

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MENOMONEE
RIVER
PARKWAY

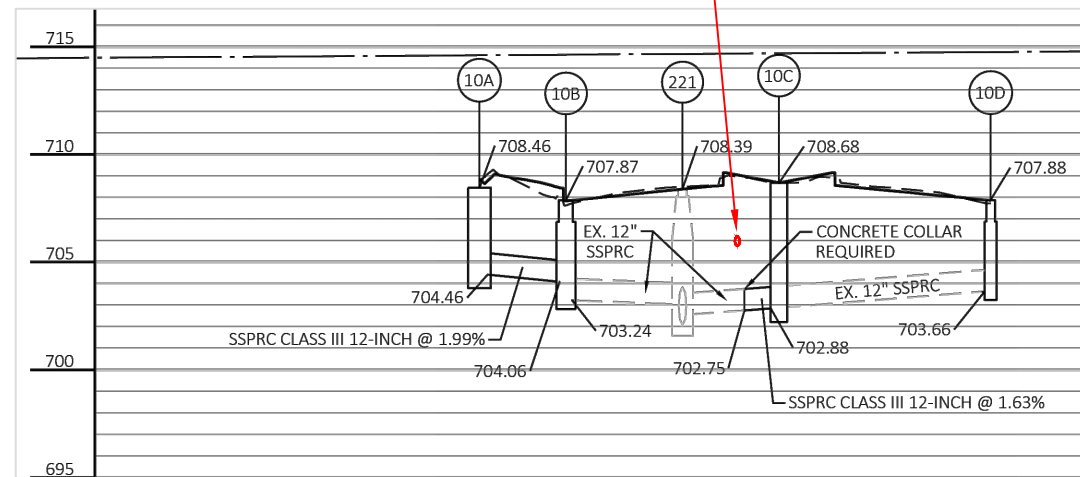
121+01
PROPOSED 24" ST GAS MAIN
CROSSING @ 48" DEEP

BORE MWFN MIN 60" DEEP

REMOVE EXISTING MWFN 432CT FIBER
FROM WISDOT FTMS DUCT

119+50
PROPOSED 12" STORM CROSSING.
TOP OF STORM MAIN APPROX. 63" DEEP

BORE MWFN 36" DEEP



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OSP ENGINEER: CORY SCHMUKI
EMERGENCY NOTIFICATION NUMBER: 1-866-831-1661

PRELIMINARY
2207049
RELO - HWY 100 BRIDGE & ROAD WORK
WAUWATOSA, WI

MUNICIPALITY: CI WAUWATOSA
COUNTY: MILWAUKEE STATE: WI
TOWN RANGE SEC: T7N R21E SEC8
DATE: 4/29/26
DRAWN BY: TFG-MWFN
DRAWING SCALE: 1" = 30'

REVISIONS			
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CURRIE PARK
GOLF COURSE

MENOMONEE
RIVER
PARKWAY

PLACE (2) 1.25" HDPE DUCT AND #8
TRACER WIRE
246' FROM BORE PIT TO HANDHOLE.
MAINTAIN DEPTH OF 36-48" UNLESS
OTHERWISE NOTED.
PULL 12CT 6LF/ 6SM OFNR FIBER
REEL 012

PHASE 2
PULL NEW 432CT FIBER THROUGH
NEW WISDOT FTMS DUCT PATH
APPROX 719' FROM HANDHOLE TO
HANDHOLE

117+34
PLACE (1) 30" X 48" X 36"
HANDHOLE ON 6" GRAVEL BASE
SPlice NEW 12CT TO EXISTING 432CT
LEAVE 150' SLACK LOOP
INSTALL LOCATE BRACKET

PHASE 2
EXISTING MWFN HANDHOLE AND SPLICE
SPlice NEW 432CT FIBER
LEAVE 75' TAIL FOR SPLICING

PLACE (2) 1.25" HDPE DUCT AND #8 TRACER WIRE
2' FROM HANDHOLE TO WISDOT HANDHOLE
MAINTAIN DEPTH OF 36-48" UNLESS OTHERWISE NOTED.
PULL EXISTING 432CT INTO NEW MWFN HANDHOLE
FOR SPLICING

REMOVE EXISTING MWFN 432CT FIBER
FROM WISDOT FTMS DUCT.

EXISTING WISDOT HANDHOLE

PULL EXISTING 432CT FIBER BACK FROM
NORTH TO WISDOT HANDHOLE.
INSTALL INTO NEW MWFN HANDHOLE
LEAVE 75' TAIL FOR SPLICING NEW 12CT.

W. KEEFE AVE.

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NETWORKS**

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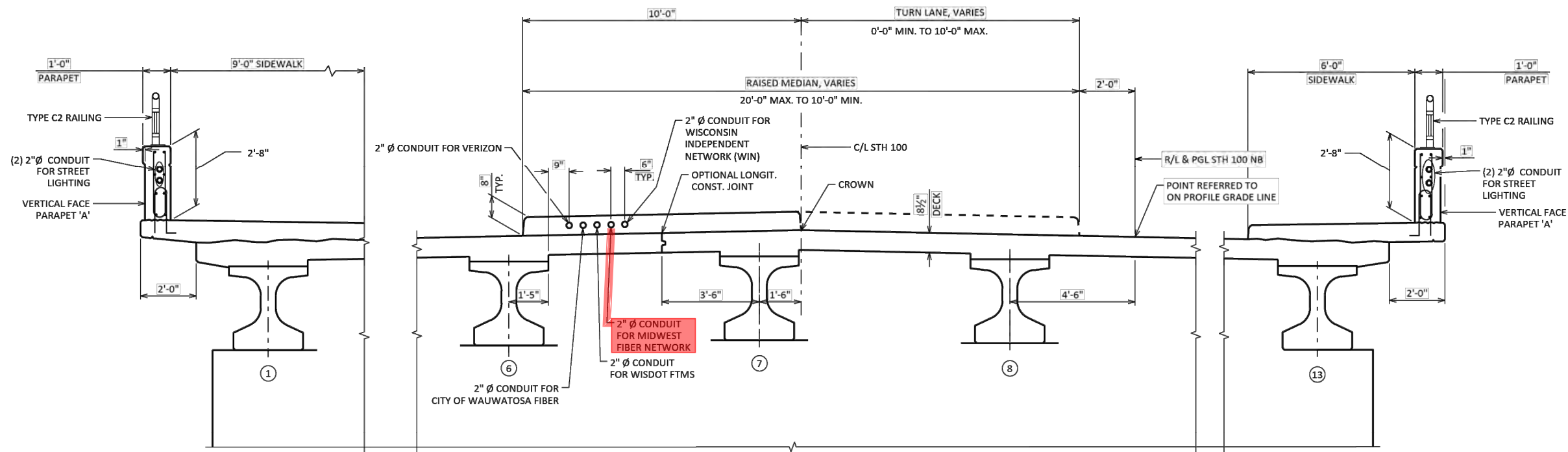
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PAGE NUMBER: 15 - CONDUIT EXHIBIT



CROSS SECTION
(LOOKING NORTH)

NO.	DATE	REVISION	BY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

STRUCTURE B-40-1029

DRAWN BY: CWG PLANS CK'D

CONDUIT EXHIBIT SHEET X OF X

PAGE 1 OF 6

Date: 3/11/2024 **Author:** Midwest Fiber Networks **Project:** N Mayfair Rd - 2207049 Relocation - Lane Closures

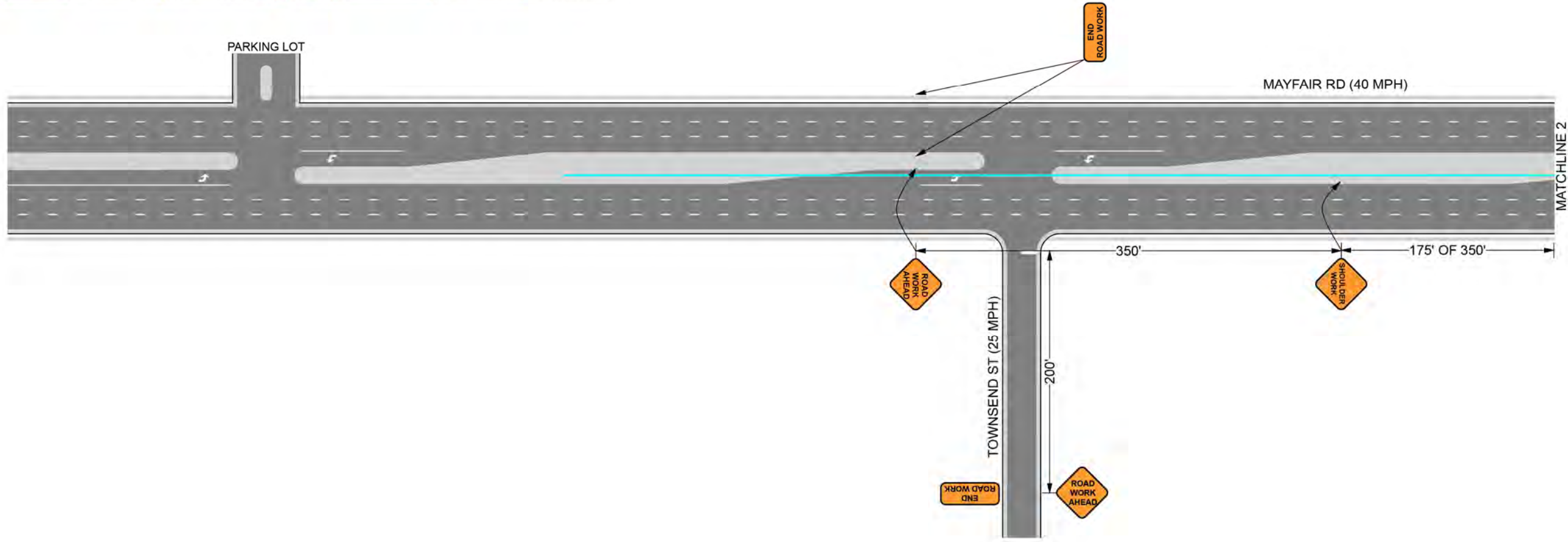
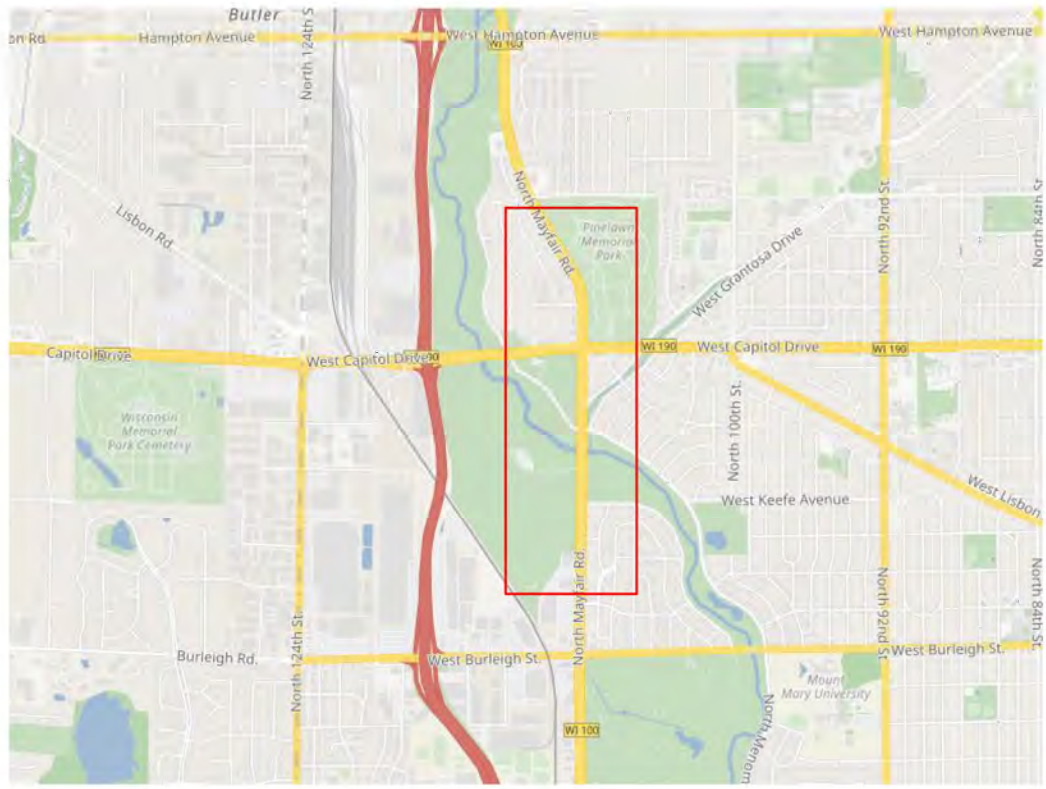
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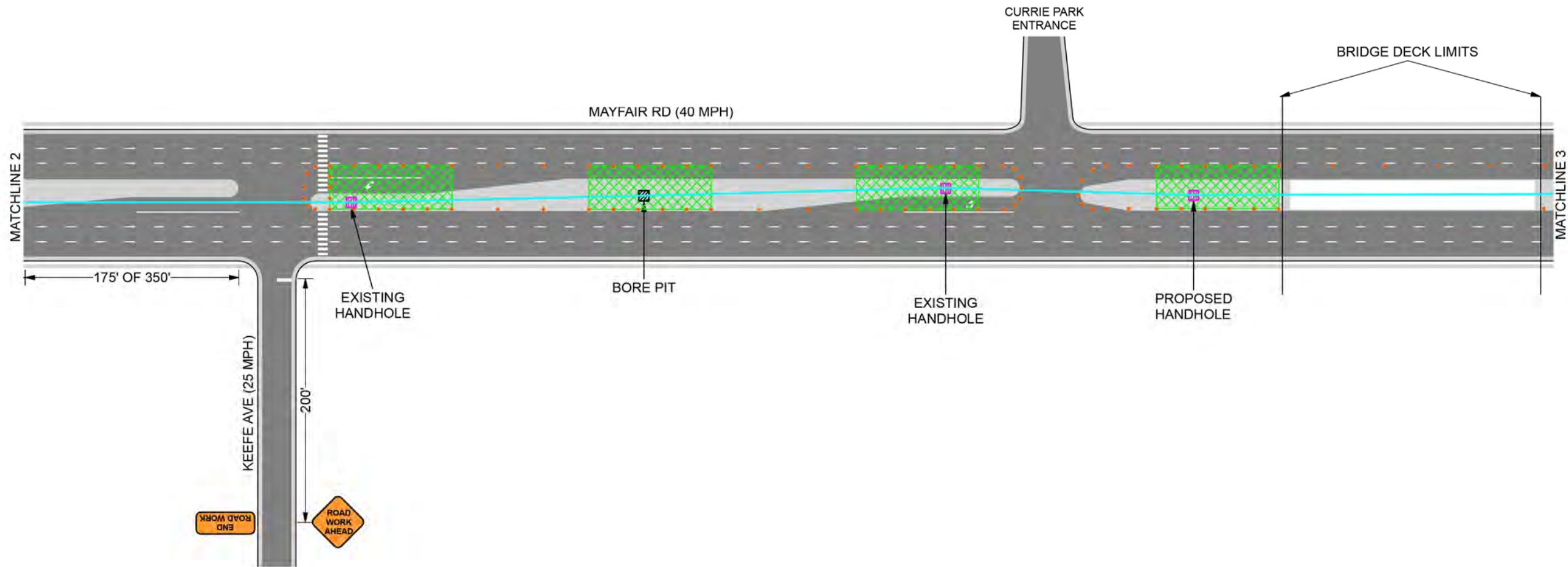

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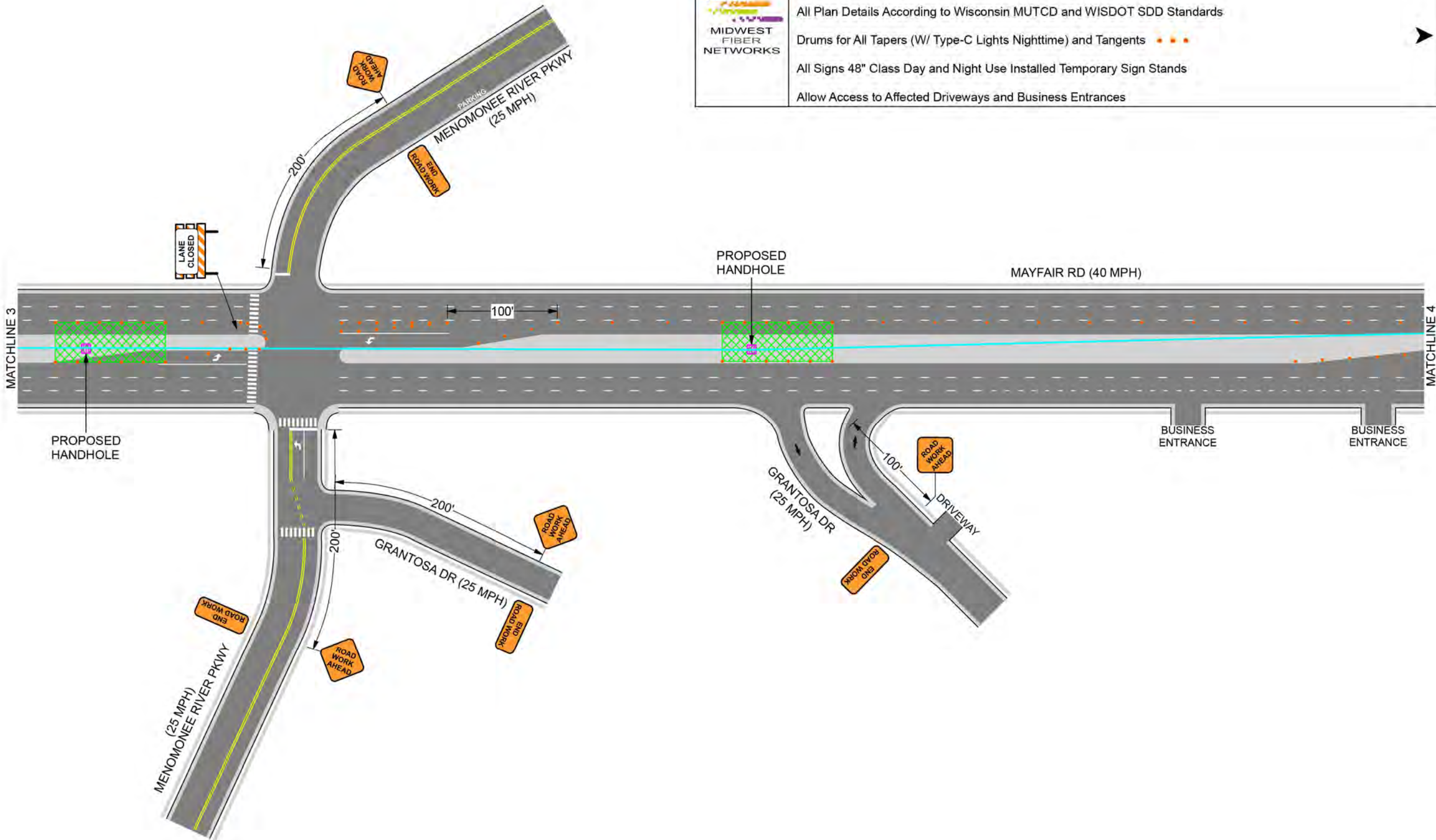
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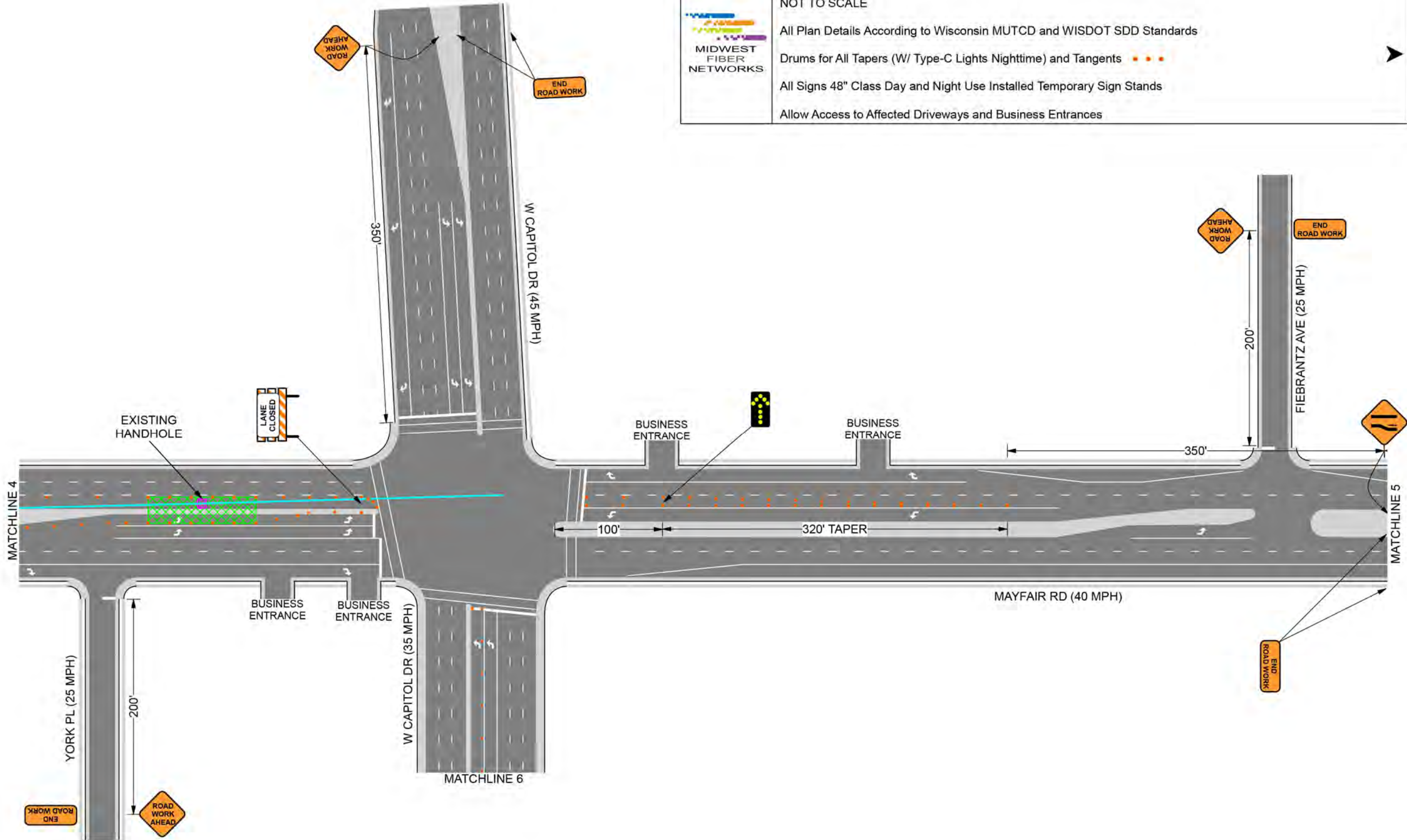
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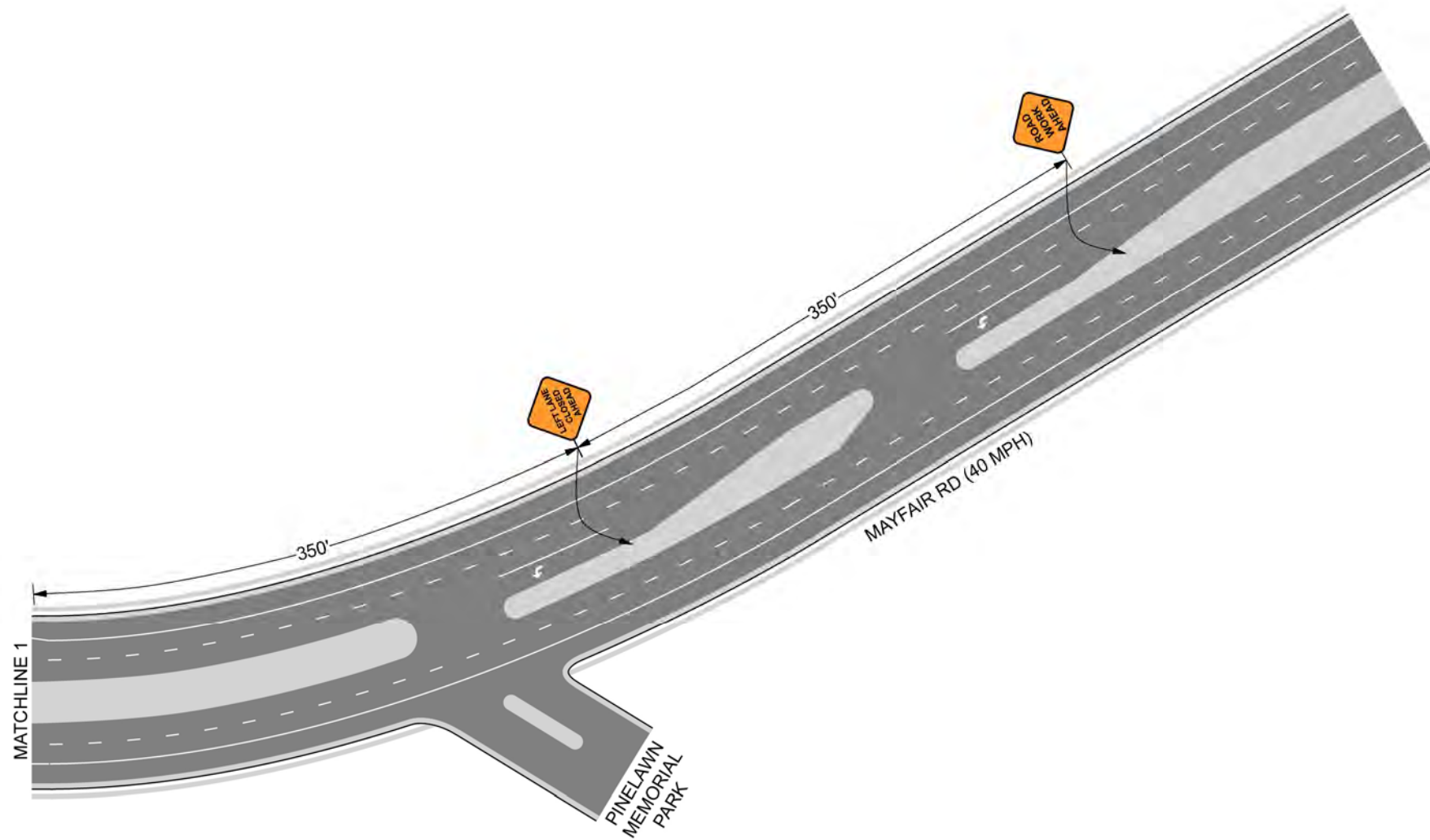
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MIDWEST FIBER NETWORKS

414.672.5612
6070 N FLINT RD
GLENDALE, WI 53209


OSP ENGINEER: CORY SCHMUKI

EMERGENCY NOTIFICATION NUMBER: 1-866-831-1661

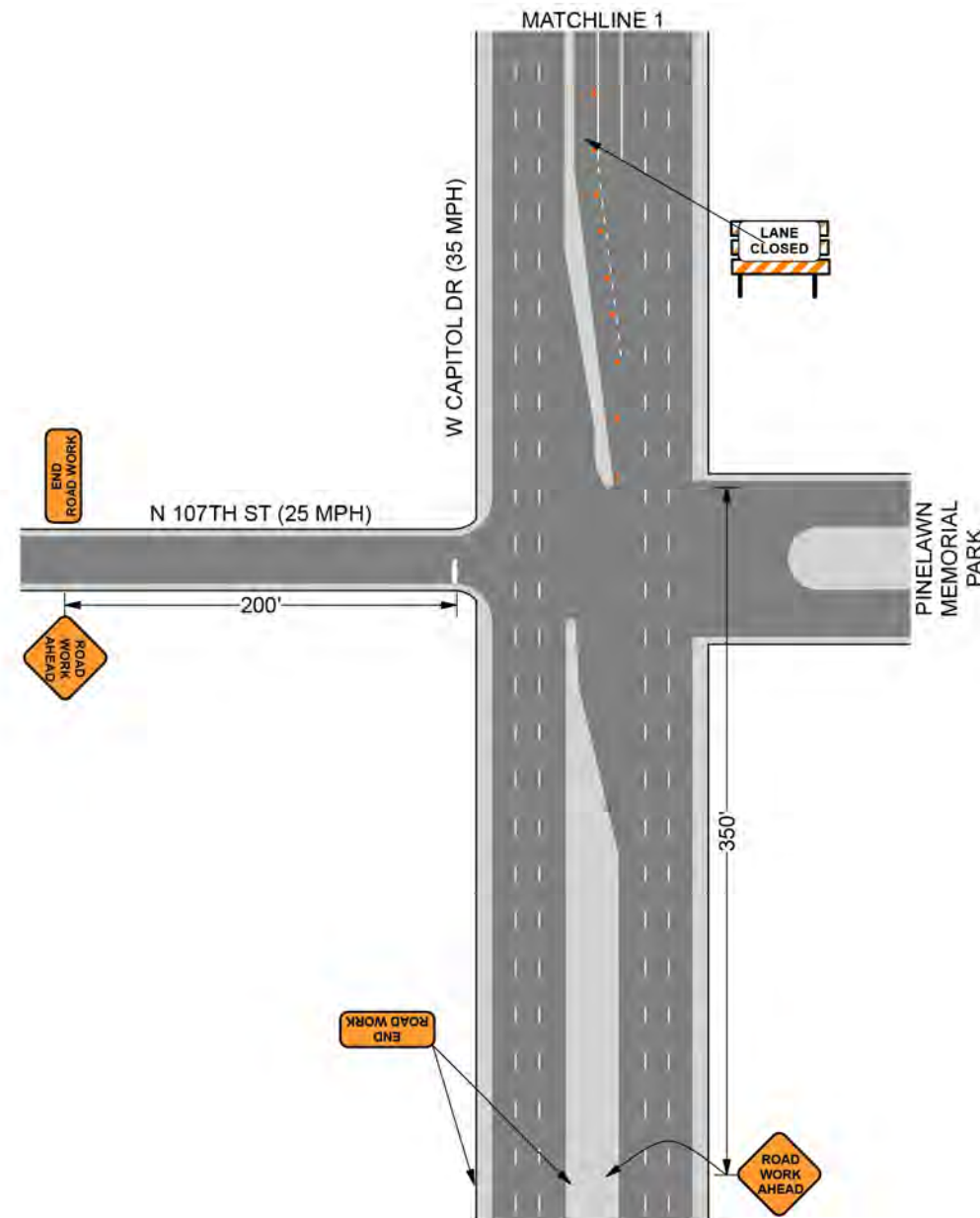
PRELIMINARY
2207049
RELO - HWY 100 BRIDGE & ROAD WORK
WAUWATOSA, WI

MUNICIPALITY:	C/ WAUWATOSA
COUNTY:	MILWAUKEE
STATE:	WI
TOWN RANGE SEC:	T7N R21E SEC8
DATE:	4/29/26
DRAWN BY:	TFG-MWFN
DRAWING SCALE:	NTS

REVISIONS			
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 <p>MIDWEST FIBER NETWORKS</p>	<p>Date: 3/11/2024 Author: Midwest Fiber Networks Project: N Mayfair Rd - 2207049 Relocation - Lane Closures</p>
	<p>Comments: NOT TO SCALE</p>
	<p>All Plan Details According to Wisconsin MUTCD and WISDOT SDD Standards</p>
	<p>Drums for All Tapers (W/ Type-C Lights Nighttime) and Tangents</p>
	<p>All Signs 48" Class Day and Night Use Installed Temporary Sign Stands</p>

Allow Access to Affected Driveways and Business Entrances



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2. RESTORE ALL DISTURBED LAWN AREAS WITH TOPSOIL AND SEED AND COMPLY WITH ANY PROVISIONS SET FORTH BY THE MUNICIPALITY OR PERMIT AUTHORITY.
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








EMERGENCY NOTIFICATION NUMBER: 1-866-831-1661

PRELIMINARY
2207049
RELO - HWY 100 BRIDGE & ROAD WORK
WAUWATOSA, WI

MUNICIPALITY: C/ WAUWATOSA
COUNTY: MILWAUKEE STATE: WI
TOWN RANGE SEC: T7N R21E SEC8
DATE: 4/29/26
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REVISIONS			
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LEGEND

-  SIGN ON TEMPORARY SUPPORT
-  TRAFFIC CONTROL DRUM
-  WORK AREA
-  UNDER PEDESTRIAN TRAFFIC
-  TEMPORARY CURB RAMP
-  TEMPORARY PEDESTRIAN SURFACE "A"
-  TEMPORARY PEDESTRIAN SURFACE "B"
-  TEMPORARY PEDESTRIAN BARRICADE
-  DIRECTION OF TRAFFIC

GENERAL NOTES

- TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG.
- WHERE TEMPORARY BARRICADE RUNS PARALLEL ALONG SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.
- ① SHOULDER OR LANE CLOSURE ADVANCE WARNING AND BUFFER SPACE REQUIRED.
 - ② PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL PAST THE SIDEWALK ON THE SIDE AWAY FROM THE ROAD.
 - ③ MOUNTING HEIGHT OF 5 FEET FROM THE SURFACE TO THE BOTTOM OF SIGN.
 - ④ USE EXISTING PAVEMENT SURFACE. IF EXISTING PAVEMENT SURFACE HAS BEEN REMOVED, USE A TEMPORARY PEDESTRIAN SURFACE. WHEN THE TEMPORARY PEDESTRIAN ACCESS ROUTE RUNS PARALLEL ON THE ROADWAY SURFACE, THE MAXIMUM CROSS SLOPE WILL MATCH THE EXISTING ROADWAY CROSS SLOPE.

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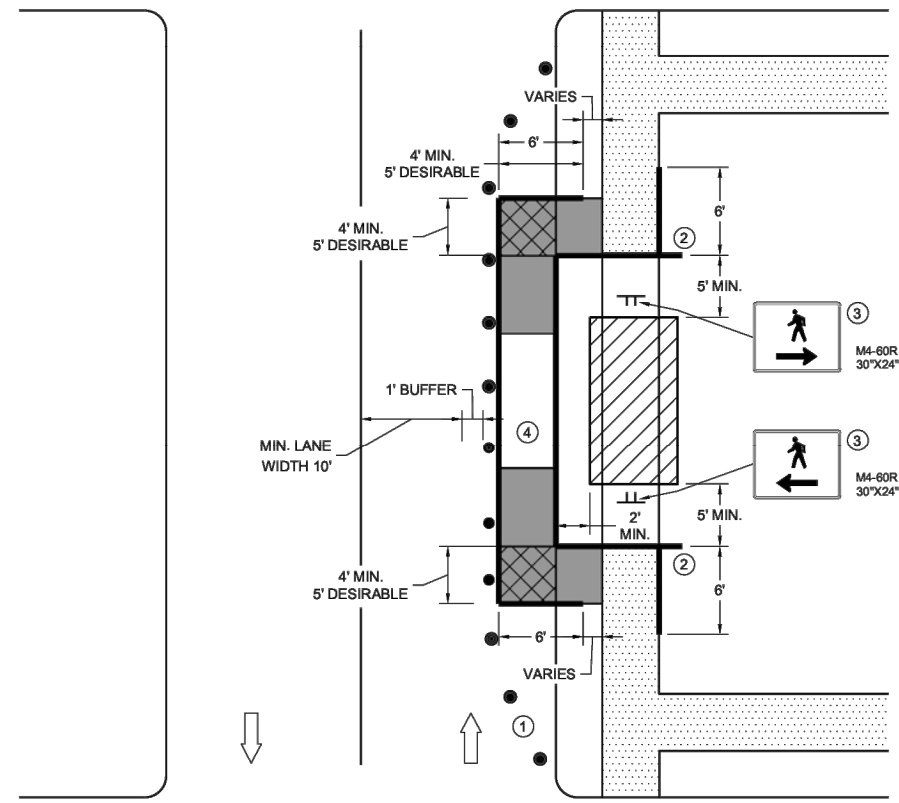
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SIDEWALK BYPASS, SINGLE SIDE

**TRAFFIC CONTROL,
PEDESTRIAN ACCOMMODATION**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

6

SDD 15D30-12h

6

SDD 15D30-12h

**MIDWEST
FIBER
NETWORKS**

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GLENDALE, WI 53209

OSP ENGINEER: CORY SCHMUKI
EMERGENCY NOTIFICATION NUMBER: 1-866-831-1661

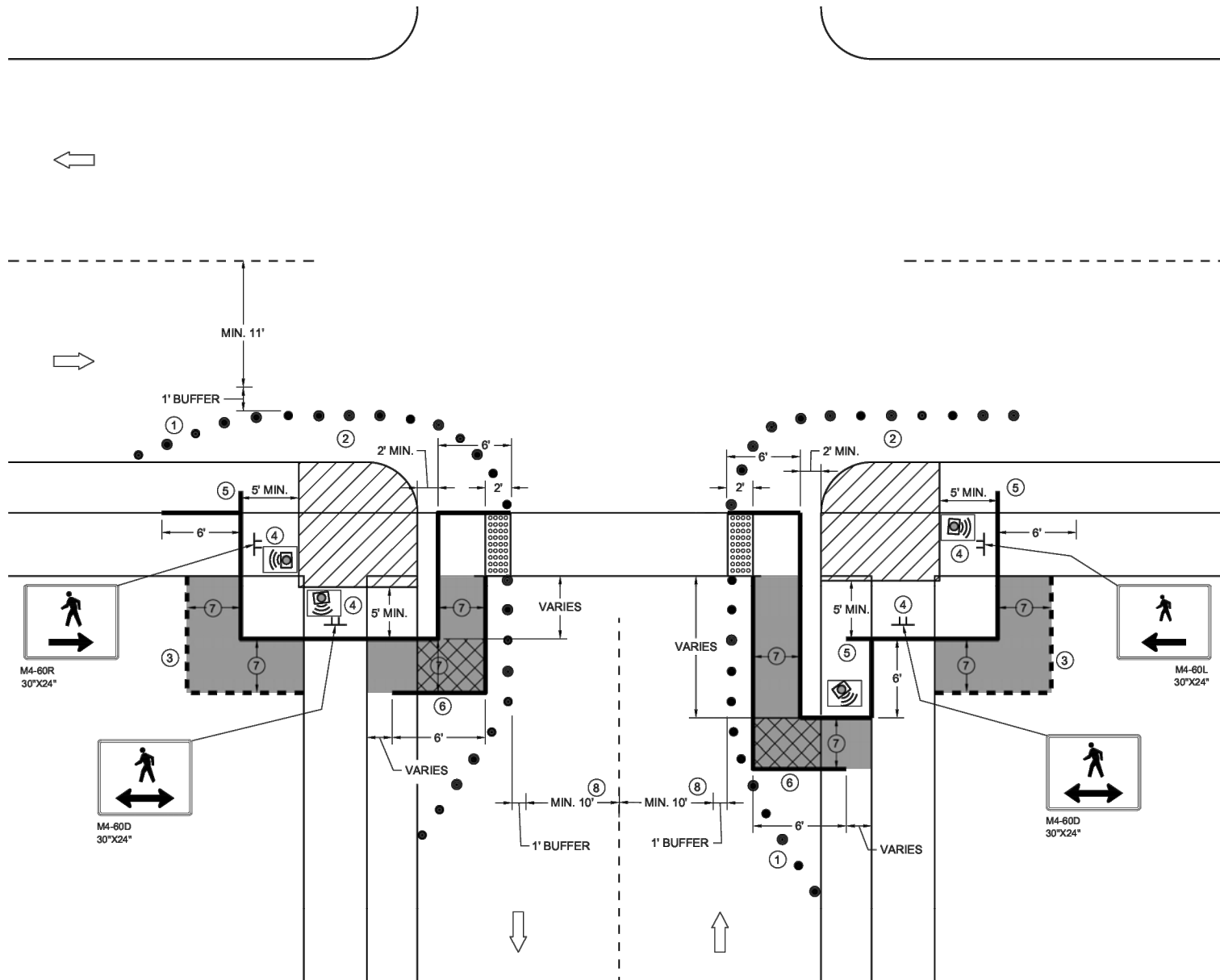
PRELIMINARY

2207049

RELO - HWY 100 BRIDGE & ROAD WORK
WAUWATOSA, WI

MUNICIPALITY: CI WAUWATOSA	
COUNTY: MILWAUKEE	STATE: WI
TOWN RANGE SEC: T7N R21E SEC8	
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**CURB RAMP PEDESTRIAN TRAFFIC CONTROL
SIDEWALK ON SINGLE SIDE**

GENERAL NOTES

IF PEDESTRIAN PUSH BUTTONS ARE PRESENT ON THE EXISTING FACILITY, ENSURE THEY ARE MAINTAINED/ACCESSIBLE FOR PEDESTRIAN USE THROUGHOUT THE TEMPORARY PEDESTRIAN ACCOMMODATIONS.

TYPICAL TEMPORARY PEDESTRIAN BARRICADE PANEL IS 6 FEET LONG

WHEN TEMPORARY PEDESTRIAN BARRICADE RUNS PARALLEL ALONG THE SIDEWALK, PLACE THE FACE OF THE BARRICADE AT THE EDGE OF THE SIDEWALK.

WHEN THE TEMPORARY PEDESTRIAN ACCESS ROUTE RUNS PARALLEL ON THE ROADWAY SURFACE, THE MAXIMUM CROSS SLOPE WILL MATCH THE EXISTING ROADWAY CROSS SLOPE.

- ① SHOULDER OR LANE CLOSURE ADVANCE WARNING AND PROPER BUFFER SPACE REQUIRED.
- ② PROVIDE ADEQUATE SPACE FOR CONTRACTOR OPERATIONS
- ③ USE TEMPORARY PEDESTRIAN BARRICADE TO SEPARATE PEDESTRIANS FROM DROP OFFS OR FOR ADDITIONAL PEDESTRIAN CHANNELIZATION.
- ④ MOUNTING HEIGHT OF 5 FEET FROM SIDEWALK SURFACE TO BOTTOM OF SIGN.
- ⑤ PLACE EXCESS PORTION OF TEMPORARY PEDESTRIAN BARRICADE PANEL IN THE SIDEWALK TERRACE.
- ⑥ IF TEMPORARY PEDESTRIAN BARRICADE DOES NOT REACH THE FACE OF THE CURB, USE AN ADDITIONAL PANEL AND EXTEND INTO THE TERRACE.
- ⑦ 4 FEET MINIMUM, 5 FEET DESIRABLE
- ⑧ IF MINIMUM LANE WIDTHS CAN'T BE ATTAINED, CURB RAMP MAY NEED TO BE CONSTRUCTED AT SEPARATE TIMES.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- TRAFFIC CONTROL DRUM
- WORK AREA
- TEMPORARY CURB RAMP
- TEMPORARY PEDESTRIAN SURFACE "A"
- TEMPORARY PEDESTRIAN SURFACE "B"
- TEMPORARY DETECTABLE WARNING FIELD
- TEMPORARY PEDESTRIAN BARRICADE
- OPTIONAL TEMPORARY PEDESTRIAN BARRICADE
- DIRECTION OF TRAFFIC
- TEMPORARY AUDIBLE MESSAGE DEVICE (EXACT PLACEMENT BASED UPON FIELD CONDITIONS)

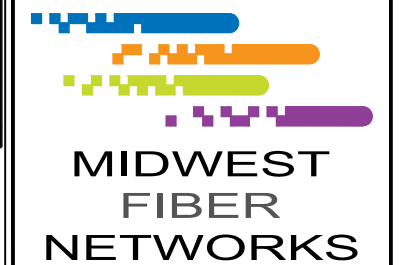
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OSP ENGINEER: CORY SCHMUKI
EMERGENCY NOTIFICATION NUMBER: 1-866-831-1661

PRELIMINARY

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WAUWATOSA, WI

MUNICIPALITY: C/ WAUWATOSA
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SDD 15D30-12I

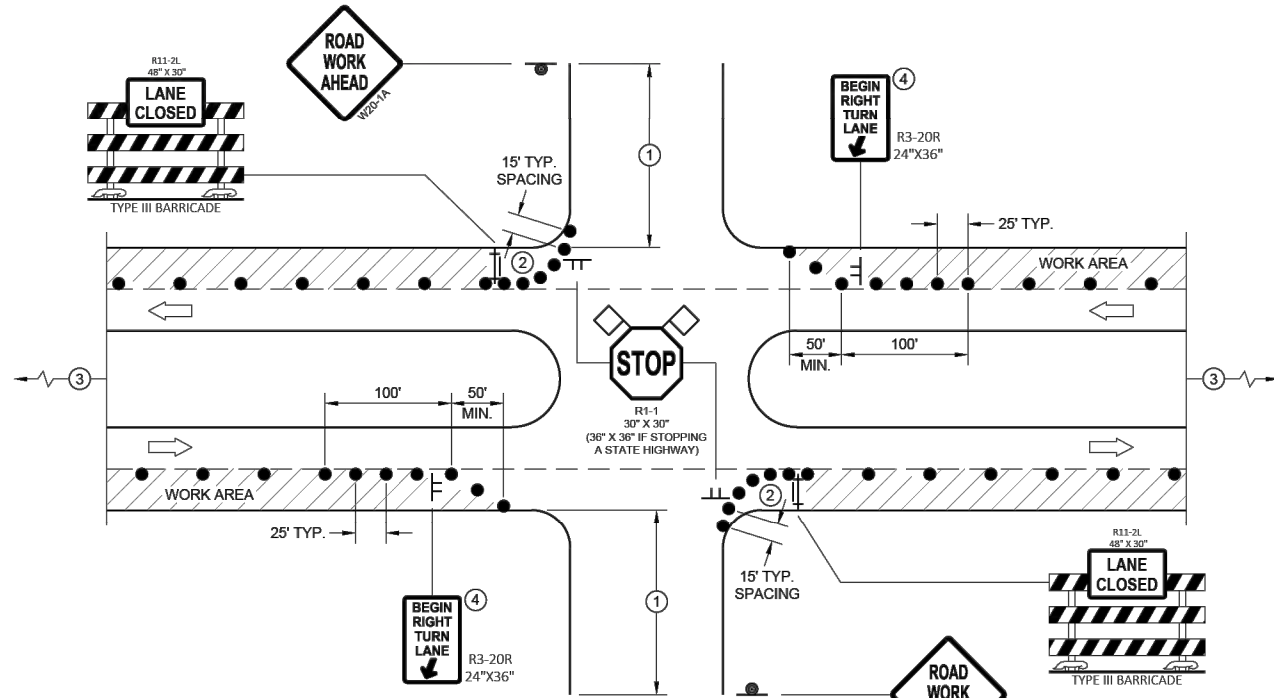
SDD 15D30-12I

**TRAFFIC CONTROL,
PEDESTRIAN ACCOMMODATION**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



SDD 15D21-a Traffic Control, Intersection Within Single Right Lane Closure



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

FOR RIGHT LANE CLOSURE AT INTERSECTION

GENERAL NOTES

ALL SIGNS ARE 48"X48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" MAY BE USED IF APPROVED BY THE DISTRICT TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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 TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE

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

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

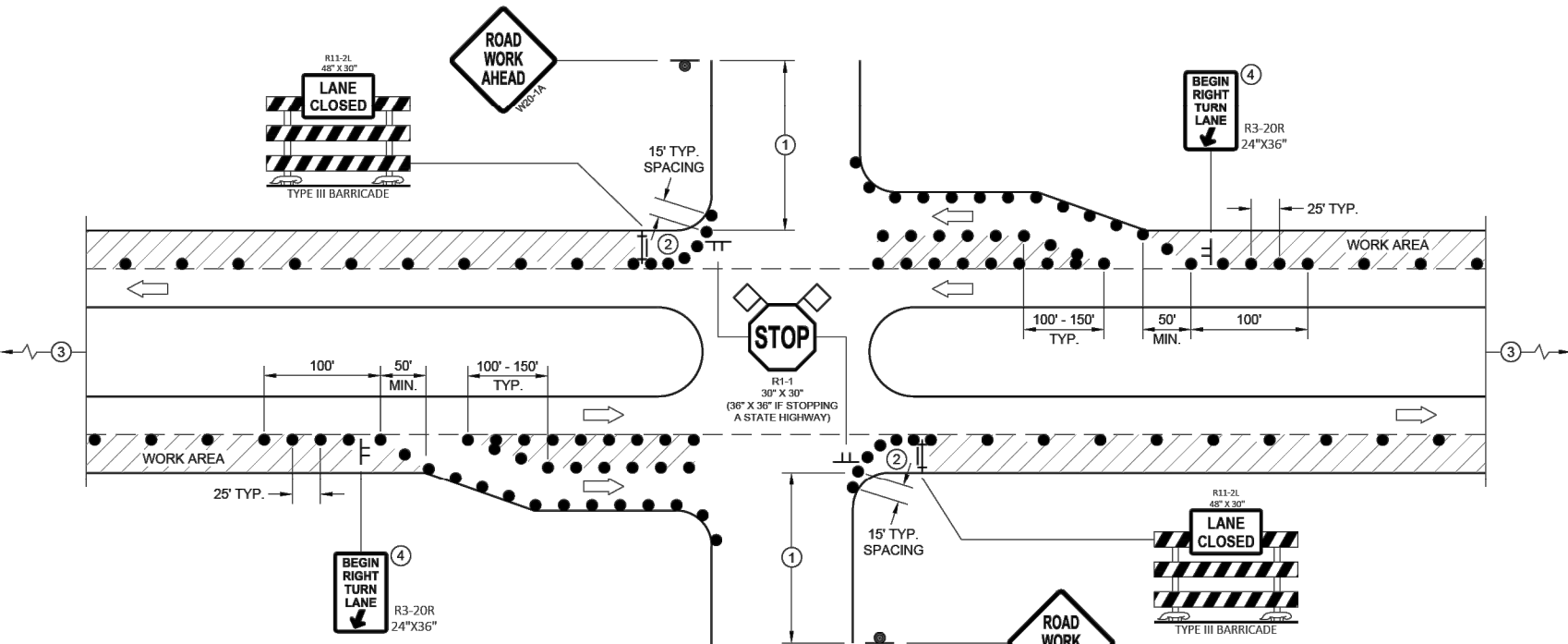
BARRICADES IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

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

- 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.
- ④ MINIMUM MOUNTING HEIGHT OF 5 FEET FROM EDGE OF PAVEMENT (AT EDGE LINE LOCATION) TO BOTTOM OF SIGN.

LEGEND

- SIGN ON TEMPORARY SUPPORT
- SIGN ON PERMANENT SUPPORT
- TRAFFIC CONTROL DRUM
- TYPE III BARRICADE WITH ATTACHED SIGN
- DIRECTION OF TRAFFIC
- FLAGS, 16" X 16" MIN., ORANGE
- WORK AREA



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

TRAFFIC CONTROL, INTERSECTION WITHIN SINGLE RIGHT LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

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







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SDD 15D21 - 07a

SDD 15D21 - 07a

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  REMOVING PAVEMENT MARKINGS
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  CONNECTED ARROW BOARD
-  WZ START LOCATION MARKER
-  WZ END LOCATION MARKER

GENERAL NOTES

FOR WORK ON ROADWAYS WITH SPEEDS GREATER THAN 45MPH, USE SDD 15D12.

THIS LANE CLOSURE DETAIL IS TYPICAL FOR CLOSING THE LEFT LANE. FOR A RIGHT LANE CLOSURE, REVERSE THE TRAFFIC CONTROL.

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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 REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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 TEMPORARY SUPPORTS.

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W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN

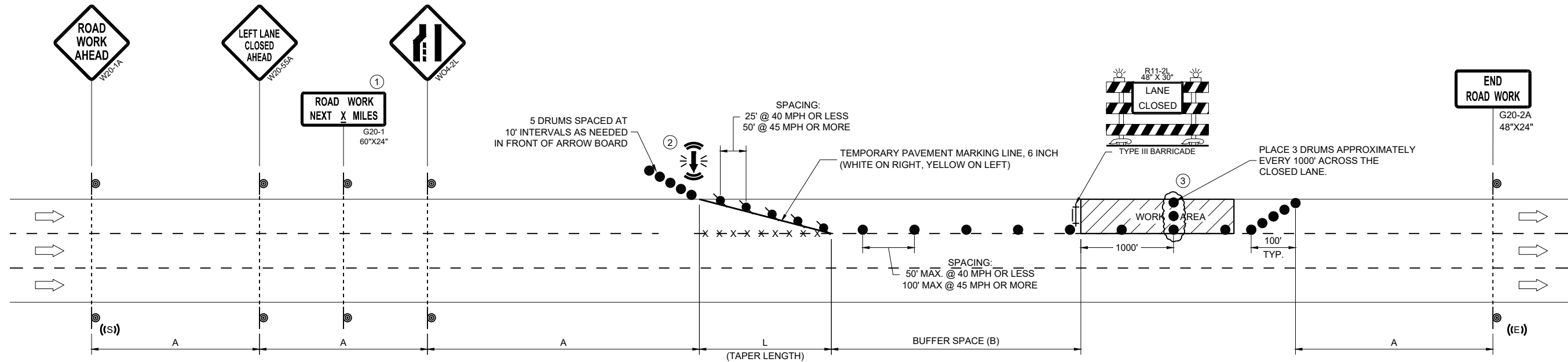
PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

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

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

- ① OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.
- ② WHERE THE SHOULDER OR TERRACE HAS INSUFFICIENT SPACE TO PLACE THE ARROW BOARD AS SHOWN, PLACE THE ARROW BOARD AT THE END OF THE TAPER.
- ③ DRUMS IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	TAPER LENGTH (12 FT. LANE) (L) FEET	BUFFER SPACE (B) FEET
25	200'	125'	155'
30	200'	180'	200'
35	350'	245'	250'
40	350'	320'	305'
45	500'	540'	360'












TRAFFIC CONTROL, SINGLE LANE CLOSURE, DIVIDED NON-FREEWAY/EXPRESSWAY

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  REMOVING PAVEMENT MARKINGS
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  CONNECTED ARROW BOARD
-  WZ START LOCATION MARKER
-  WZ END LOCATION MARKER

GENERAL NOTES

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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 REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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 TEMPORARY SUPPORTS.

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 TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE

IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

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

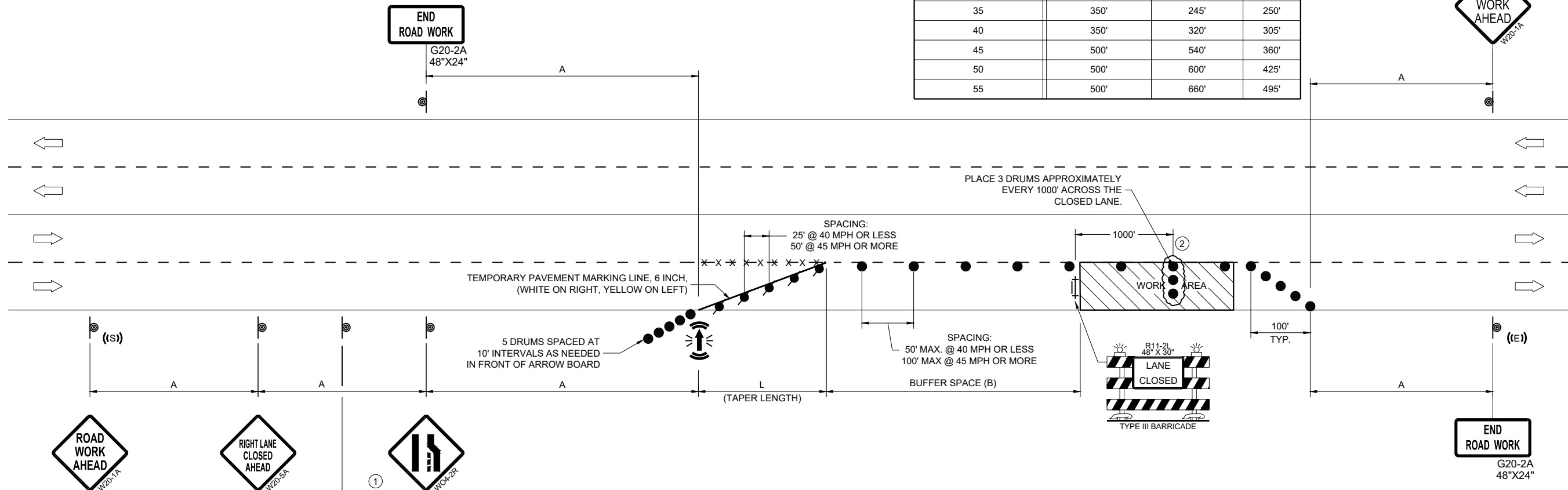
WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

- ① OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.
- ② DRUMS IN A CLOSED LANE THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY REESTABLISHED UPON COMPLETION OF THE OPERATION, OR FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	TAPER LENGTH (12 FT. LANE) (L) FEET	BUFFER SPACE (B) FEET
25	200'	125'	155'
30	200'	180'	200'
35	350'	245'	250'
40	350'	320'	305'
45	500'	540'	360'
50	500'	600'	425'
55	500'	660'	495'

6

6



SDD 15D20-11b

SDD 15D20-11b












**TRAFFIC CONTROL,
SINGLE RIGHT LANE
CLOSURE, UNDIVIDED
NON-FREEWAY/EXPRESSWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED _____
November 2025 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

LEGEND

-  SIGN ON PERMANENT SUPPORT
-  TRAFFIC CONTROL DRUM
-  TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TYPE "A" WARNING LIGHT (FLASHING)
-  REMOVING PAVEMENT MARKINGS
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  CONNECTED ARROW BOARD
-  WZ START LOCATION MARKER
-  WZ END LOCATION MARKER

GENERAL NOTES

THIS DETAIL MAY BE USED FOR ROADWAYS WITH EITHER TWO OR THREE LANES IN EACH DIRECTION.

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 REGIONAL TRAFFIC UNIT.

"WO" SIGN IS THE SAME AS "W" SIGN EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH THE TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON COVERED OR "DOWNED" SIGNS.

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 TEMPORARY SUPPORTS.

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 TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET (500' DESIRABLE) DISTANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

W20-1A, G20-1 AND G20-2A SIGNS ARE NOT REQUIRED IF THE LANE CLOSURE IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING LINE IF LANE CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARDS SO THE APPROACHING DRIVER HAS A CLEAR VIEW OF THE ARROW BOARDS AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

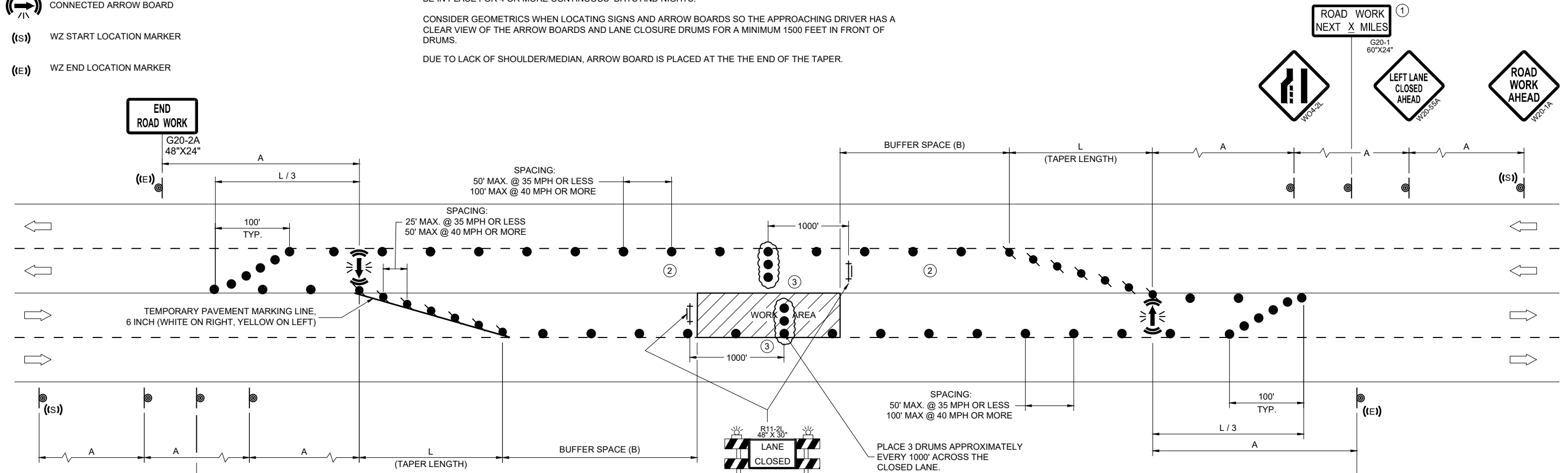
DUE TO LACK OF SHOULDER/MEDIAN, ARROW BOARD IS PLACED AT THE THE END OF THE TAPER.

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

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

- ① OMIT G20-1 SIGNS IF LENGTH OF WORK AREA IS 2 MILES OR LESS.
- ② LANE MAY BE OPENED WHEN WORKERS ARE NOT PRESENT IN THE WORK AREA.

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



POSTED SPEED LIMIT PRIOR TO WORK STARTING (MPH)	ADVANCE WARNING SIGN SPACING (A) FEET	TAPER LENGTH (12 FT. LANE) (L) FEET	BUFFER SPACE (B) FEET
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55	500'	660'	495'

**TRAFFIC CONTROL,
SINGLE LEFT LANE
CLOSURE, UNDIVIDED
NON-FREEWAY/EXPRESSWAY**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
November 2025 /S/ Andrew Heidtke
DATE WORK ZONE ENGINEER

FHWA

6

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SDD 15D20-11C

SDD 15D20-11C

*Traffic Control, Single Lane Closure, Non-Freeway/Expressway***References:**

Part VI, of the Wisconsin Manual on Uniform Traffic Control Devices (WMUTCD)

[FDM 11-50-1](#)

[FDM 11-50-20](#)

Bid items associated with this drawing:

<u>ITEM NUMBER</u>	<u>DESCRIPTION</u>	<u>UNIT</u>
643.0300	Traffic Control Drums.....	DAY
643.0420	Traffic Control Barricades Type III.....	DAY
643.0705	Traffic Control Warning Lights Type A.....	DAY
643.0715	Traffic Control Warning Lights Type C.....	DAY
643.0810	Connected Arrow Board.....	DAY
643.0900	Traffic Control Signs.....	DAY
643.1220	Connected Work Zone Start and End Location Markers.....	DAY
643.3200-3299	Temporary Marking Line (Material) 6-Inch.....	LF
646.1000-1099	Marking Line (Material) 4-Inch.....	LF
646.2000-2099	Marking Line (Material) 6-Inch.....	LF
646.9000	Marking Removal Line 4-Inch.....	LF
646.9060	Marking Removal Line 6-Inch.....	LF

Standardized Special Provisions associated with this drawing:

<u>STSP NUMBER</u>	<u>TITLE</u>
NONE	

Other SDDs associated with this drawing:

SDD 15C11	Traffic Control, Channelizing Devices – Drums, Cones, Barricades and Vertical Panel
SDD 15D15	Traffic Control, Exit and Entrance Ramp Within Lane Closure
SDD 15D21	Traffic Control, Intersection within Single Lane Closure
SDD 15D30	Traffic Control, Pedestrian Accommodation (if sidewalk will be closed)

Design Notes:

This drawing may be used when closing one lane of a non-freeway/expressway. For single-lane closures on freeways/expressways, see SDD 15D12 and 15D3. To help determine if the Special Provisions should restrict the times of day or week when a lane may be closed, compare the vehicle capacity of the remaining open lanes to the hourly traffic volumes. If there will be intersections or ramps within the lane closure, additional traffic control details are needed. SDD 15D21 or 15D15 may be appropriate.

Additional warning signs may be desirable further in advance of the lane closure. On projects which spread over long distances, the G20-1 "Road Work Next x Miles" signs may be repeated at intervals of 2 or more miles, and/or beyond intersections with state or county trunk highways. Additional signs should be shown on a traffic control overview sheet.

Closer drum spacing (e.g. 25 or 50 feet) along the buffer space and work area may be justified in urban areas, on congested roadways, along drop-offs, or during work at night. If closer spacing is desired, it may be specified on separate plan sheets or in the Special Provisions.

Contact Person:

Andrew Heidtke (414) 220-6802