Permit #: 56-01-24

APPLICATION/PERMIT TO WORK ON HIGHWAY RIGHT-OF-WAY

Wisconsin Department of Transportation (WisDOT)

DT1812 1/2016 s. 86.07(2), 86.16 and other applicable Wis. Stats.

1. Applicant's Name, Address, City, State and ZIP Code	2. Work Start Date / 3. Work Finish Date*	4. Location Description (¼ section, section, town, range; provide plat and location maps)
Kwik Trip - Bradford Fry PO Box 2107 La Crosse, WI 54063	March 2024 4/1/2025	SE 1/4, Section 20, T13N, R6E Map on Pg 5

5. Is the work area near a survey monument? (If yes, call 866-568-2852 or email geodetic@dot.wi.gov.)	☐ Yes ☒ No	6. Work Location (List all that apply): Town: ____ Village: Lake Delton City: ____ County: Sauk 7. Highway (List all that apply): WIS ~~STH 27~~ 23 US ____ Interstate ____
8. Trans 401 project designation? (Provide a formal erosion control plan for all Major projects. See provision #13.)	☐ Major ☒ Minor	
9. Are any environmental approvals, certifications or permits required from other regulatory agencies? (If yes, provide a copy of each item. If no, provide proof of other agency coordination as needed. For additional information, go to environmental coordination.)	☒ Yes ☐ No	

10. Work Type (Check all that apply)

- ☒ Access management
- ☒ Crash investigation/cleanup
- ☐ Drainage: Culverts/tiles
- ☒ Drainage: Grading/riprap
- ☒ Drainage: Storm Sewer
- ☐ Environmental assessment
- ☐ Harvesting nature products
- ☐ Hazmat: Cleanup/remediation
- ☐ Hazmat: Monitoring wells
- ☐ Invasive species assessment
- ☒ Landscaping
- ☐ Soil borings
- ☒ Surveying
- ☐ _____

11. Vegetation Management (Check all that apply)

- ☐ Mow ☒ Remove
- ☐ Prune ☐ Cut and/or trim
- ☒ Plant ☐ Chemically treat[13]

12. Work Zone Description (Check all that apply)

- ☐ Not applicable
- ☐ Full road closure: detour**
- ☐ Full road closure: temporary
- ☐ Lane closure: without flagging
- ☒ Lane closure: with flagging
- ☐ Lane encroachment (2 feet or less)
- ☐ Intersection/roundabout
- ☐ Shoulder/parking lane closure

Freeway/expressway location

- ☐ Off shoulder: < 30' off white line
- ☐ Off shoulder: ≥ 30' off white line
- ☐ Near right-of-way line or fence

Non–Freeway/expressway location

- ☐ Off shoulder: < 15' off white line
- ☐ Off shoulder: ≥ 15' off white line
- ☐ Back of curb: < 2' behind
- ☐ Back of curb: ≥ 2' behind

13. Provide detailed description of how work will be accomplished. Use page 2 or additional pages if needed. Provide work plans, drawings and specifications as needed. For chemical treatment, answer questions on page 2.

turn lane additions, pavement widening, access modifications, signal installation

It is understood and agreed that approval is subject to the applicant's full compliance with the pertinent Statutes, as well as any codes, rules, regulations, and other jurisdictional agencies' permit requirements. Applicant shall comply with all permit provisions, superimposed notes, and detail drawings that WisDOT may add. Any alteration of this form by the applicant is prohibited and may be cause to revoke this permit. When approved, the permit does not transfer any land; nor give, grant or convey any land right, right in land, nor easement in WisDOT right-of-way. It is not assignable or transferrable. All costs associated with this permit are the permittee's responsibility unless otherwise noted.

Meise Construction Incorporated
(Main Contractor Company Name, If applicable)

Dan Meise — 608 643 5222
(Contractor Representative/Title) — (Area Code/Phone No. – Office)

608 393 2862 — dan@meiseinc.com
(Area Code/Phone No. – Cell) — (Email Address)

X _____ 2024 01-04
(Applicant or Authorized Representative Signature) (Date)
(If Computer-filled, Brush Script Font)

Kwik Trip, Bradford Fry — PM
(Printed Name) (Title)

608 793 6414 — bfry@kwiktrip.com
(Area Code/Phone No.) (Email Address)

* **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.***

For Official Wisconsin DOT Use Only – Do Not Write Below

☒ ***PERMITTEE SHALL NOTIFY THE WISDOT REPRESENTATIVE LISTED BELOW 3 DAYS BEFORE STARTING ANY WORK:***

Region contact, title, office address, area code/phone no., and email address

Wisconsin DOT
Southwest Region - La Crosse
3550 Mormon Coulee
La Crosse, WI 54601

Attn: Mike Greiner (608.769.5522)

Wendy Braun
(WisDOT Authorized Representative Signature – If Computer-filled, Brush Script Font)

- ☒ **See Supplemental Permit Provisions (Page 4)**
- ☐ **Special Permit Provisions Also Included**
- ☒ Lane Closure System notification required
- ☐ Insurance or performance bond required
- ☐ Other regulatory agency permits not required
- ☐ **State highway traffic detour permit required
- ☐ Permit issued in conjunction with: _____
- ☐ Permit voids and supersedes permit(s): #_____, Issued _____
- ☒ HAMS I.D. 56-100330165-2023

Date Application Received	1-11-24
Date Application Complete	2-1-24
Permit Issuance Date	2-5-24
Permit Expiration Date	6-1-25
Permit Extension Date	
Permit Number	56-01-24

Use this section to provide information on chemical treatment (question #11):	Use this section to provide information that does not fit on front page or #11(a)-(f) on left:
(a) Chemical(s) to be used and EPA Registration Number(s)? (Example: Garlon 4 Ultra, EPA REG. NO. 62719-527) (b) Type of application(s)? (Example: Stump treatment, broadcast, etc.) (c) Applicator name(s) and Wisconsin certification number(s)? (Example: Bill Smith, 146886-CA. Personnel must be licensed as commercial applicators in category 6.0, Right-of-Way, to legally apply herbicides on roadsides.) (d) How will property owners bordering the affected highway ROW be notified prior to spraying? (Examples: In-person, doorknob cards, letters, phone calls, etc.) (e) Will spraying occur near wetlands? (If yes, see question #9) (f) Provide name(s) and cell number(s) for the supervisor or lead worker of each crew:	

INDEMNIFICATION

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

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

Notwithstanding the foregoing, a private contractor or subcontractor with the State under Chapter 84 Wisconsin Statutes, that fails to comply with sections 66.0831 and 182.0175 Wisconsin Statutes (2013-2014), remains subject to the payment to the Applicant of the actual cost of repair of intentional or negligent damage by the contractor or subcontractor to any property, lines or facilities placed by or on behalf of the Applicant pursuant to this permit or any other permit issued by the State for location of property, lines or facilities on highway right-of-way, and remains subject to payment to the Applicant for losses due to personal injury or death resulting from negligence by the contractor or subcontractor.

Notwithstanding the foregoing, if the State, or its officers, employees and agents, fail to comply with sections 66.0831 and 182.0175 Wisconsin Statutes (2013-2014), the State or its officers, employees and agents, remain subject to the payment to the Applicant of the actual cost of repair of willful and intentional damage by the State, or its officers, employees and agents, to any property, lines or facilities placed by or on behalf of the Applicant pursuant to this permit or any other permit issued by the State for location of property, lines or facilities on highway right-of-way, and remain subject to payment to the Applicant for losses due to personal injury or death resulting from negligence by the State, its officers, employees and agents.

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

GENERAL PERMIT PROVISIONS AND CONDITIONS OF APPROVAL (#1-28)

Pursuant to Wisconsin Statutes and once approved by WisDOT, this permit allows performance of the specific work described over which WisDOT has permit authority. ***The permittee shall abide by these general provisions, and any supplemental and/or special provisions.*** (ROW = right-of-way)

1. Warning signs, devices and methods shall be in place and fully functional prior to the start of any permitted work within highway ROW, and shall protect the public until all permitted work is complete. Warning signs and devices shall conform to the appropriate sizes, designs and configurations specified within the Wisconsin Manual of Uniform Traffic Control Devices, current edition. Provide and maintain the quantity of signs and devices therein described, and supplement those with additional signs, devices and flaggers as necessary to functionally protect people and property from injury or damage at all times and under all conditions, including changed or changing conditions. All personnel shall wear retro-reflective safety vests while working within the highway ROW.
2. Secure the work site and associated traffic control zone against any hazard to the public, both when the site is attended and is unattended during off-hours, holidays, and nighttime hours. This includes vehicles, equipment and materials. Any violation of this permit, particularly any failure to maintain safe work site and traffic control zone, will require immediately cure by the permittee, and may result in WisDOT stopping further work, removal of permittee from the highway ROW, and/or permit revocation.
3. Coordinate the permitted work and in no case interfere with any ongoing highway improvement project.
4. Keep a complete copy of the permit (which may be electronic) at the job site at all times the permitted work is ongoing along with a project manager or supervisor familiar with the permit and all of its details and requirements. Failure to comply with any part of this permit is the permittee's responsibility.
5. Determine the location of, and protect or cause to protect from any damage, any existing facilities in the area affected by the permitted work. All notifications to other facility owners are the permittee's responsibility.
6. Perform all permitted work without obstructing or closing any part of any traffic lane or fully closing any road unless specifically authorized by WisDOT.
7. Alter the permitted facilities as may be ordered by WisDOT to facilitate highway improvement, alteration, safety control, or maintenance. Accept all costs of constructing, maintaining, altering, temporarily moving or relocating the permitted facilities.
8. The permit authorizes only the described work of and for the permittee indicated on this permit. It does not grant authority for the work of any other, either by present or future installation.
9. Any disturbance to, operation within, or use of a highway median is expressly prohibited, unless specifically authorized by WisDOT. **The use of interstate or freeway median crossovers for any reason is prohibited and subject to law enforcement citation.**
10. Construction methods and restorations shall be in accordance with applicable parts of WisDOT's Standard Specifications for Highway and Structure Construction, current edition.
11. Comply with all applicable regulations and codes, including, but not limited to, the U.S. Department of Labor, Occupational Safety and Health Administration, 29 CFR Part 1926 for construction safety precautions and operations.
12. Do not open at any time any greater length of trench than is necessary to maintain essential progress of the work.
13. Implement erosion control best management practices (BMPs) prior to and at all times during work operations. Provide and maintain erosion control BMPS to protect all restored areas upon completion of the permitted work until the replacement vegetation achieves sustained growth. Trans 401 designations for major and minor projects in this permit use the same meanings as utility projects. If a project is not "minor", then it is "major".
14. Derive no direct access to install, maintain or repair the permitted facility from the freeway travel lane or shoulder or any interchange ramp, unless specifically authorized by WisDOT or if needed due to an emergency. In the latter case, immediately contact the Wisconsin State Patrol and WisDOT Region Office as indicated on this permit.
15. Install the facility in the specified permit location. Move any part of the facility found to be otherwise located to the correct location upon WisDOT order. Any facility part located other than as specified in this permit is at permittee's sole risk. Accordingly, if the same is undetected or is suffered to remain in variance to the permit, the permittee shall hold the State, its employees, agents and officers harmless and free of any cost, claim or liability associated with any accidental damage to such facility that may result from a highway construction, maintenance, traffic control, or ROW management project or function.
16. Promptly restore all highway facilities disturbed by the permitted work or associated operation. This includes natural highway facilities, including but not limited to living snow fence, headlamp screens, and other such highway safety features. WisDOT may issue a notice setting a specific time by which the restoration must be complete if restoration is not done voluntarily without delay. If the permittee fails to satisfactorily complete the restoration within the time established, WisDOT shall arrange for the restoration to be completed and bill the permittee accordingly. The permittee shall pay for all restoration costs.
17. Collect any brush, trash or waste materials resulting from the permitted work, and dispose of said materials off the ROW in accordance with applicable solid waste disposal regulations.
18. Send notice **within 10 calendar days** via regular mail or email to the authorized WisDOT representative who approved the permit upon completion of the work and restoration.
19. Smooth and finished slopes shall be constructed at any location where any regraded portion of the highway ROW meets the lands of adjacent property owners.
20. Backfill any excavation permitted within the highway pavement limits or shoulder areas with suitable granular material, placed in lifts or layers 12 inches or less each in depth, and mechanically compact to meet the appropriate density as specified in WisDOT's Standard Specifications for Highway and Structure Construction, current edition. Do not use water jetting to accomplish mechanical compaction. Repair to WisDOT's satisfaction any subsequent heavings, settlings, or other faultings attributable to the permitted work. Use temporary sheeting, shoring and/or trench boxes as needed to prevent trench/tunnel cave-ins.
21. Restore in-kind any curb, gutter, sidewalk, driveway, gravel base, ballast, shoulder material, or other highway ROW element/facility disturbed under this permit to the qualities, grades, compactions and conditions specified in WisDOT's Standard Specifications for Highway and Structure Construction, current edition.
22. Restore any turfed ROW area disturbed under this permit with fine-graded topsoil having a depth of not less than 4 inches, and reseeded to perennial grass or sodded to WisDOT's satisfaction.
23. Adjust manhole covers, shut-off and regulator valves, and like facilities to the level of the immediately adjacent grades.
24. Cure faults related to work or facilities under this permit that, in WisDOT's opinion, obstruct highway drainage or in any other manner adversely affect highway maintenance or operation, and restore the ROW as directed by and to WisDOT's satisfaction.
25. Keep all vehicles/equipment/materials outside the ROW fence including all bore pits of any bored or augered installations under a freeway. Do not keep vehicles/equipment/materials between any freeway travel lane and a bore pit if WisDOT authorizes the pit location within the freeway ROW. Locate all bore pits outside the clear zone and as close to the ROW fence as possible.
26. Do not keep vehicles/equipment/materials related to this permit within the non-freeway ROW limits except as are actively engaged in the work operation.
27. Be aware that future highway improvements may require the adjustment of part or all of the permitted facility, at permittee's cost, to conform to WisDOT's *Utility Accommodation Policy*.

28. Comply with appropriate laws, rules, policies, etc. when within tribal or federal lands. Provide documentation as needed when on WisDOT ROW to prove compliance or coordination with the following agencies:
    - Wisconsin Historical Society to avoid/mitigate any potential cultural resource (archeological, historical, burial site, etc.) impacts per Wis. Stat. s. 44.40.
    - Department of Natural Resources to avoid/mitigate any potential storm water runoff, site erosion, wetland, waterway and endangered/threatened species impacts.

SUPPLEMENTAL PERMIT PROVISIONS (#29-__)

The permittee shall abide by the following checked provisions:

TREE & VEGETATION MANAGEMENT

☐ 29. Plant trees/vegetation only in such locations and in such species as indicated on the plans included and approved with this permit, or as WisDOT specifies in the field.

☐ 30. Maintain all plantings according to the attached special permit provisions.

☐ 31. Do not place any sign or marker identifying the plantings within the highway ROW limits.

☐ 32. WisDOT accepts no responsibility for loss that may occur to the plantings. Be fully aware that the plantings are subject to:
- Thinning and/or mortality
- Normal hazards due to maintenance operations, snow control, and public utility installation or alteration
- Trimming or removal, if or when the plantings cause restrictions to sight distance or hazardous snow/ice conditions on the highway
- Destruction, if highway reconstruction is done
- Partial or complete abandonment or obliteration, or return to private ownership, if future changes in highway location are made

☐ 33. Do not cut, trim or damage trees/vegetation to facilitate the installation or maintenance of the permitted facility except as authorized by the owner of such tree/vegetation. See Wis. Stat. ss. 86.03(2), (4), 86.16(3), and 182.017(5).

☐ 34. Do not cut or prune oak trees between April 15 and October 15 to prevent Oak Wilt Disease from spreading unless a thick coat of asphalt base tree paint is applied immediately after **any** cut, pruning wound, or abrasion made between those dates. Cleanly cut the exposed ends of any roots encountered during grading or trenching with suitable pruning tools immediately after exposure. Adhere to any applicable laws, including local ordinances if they are stricter than WisDOT specifications.

☐ 35. Remove all stumps, branches, logs, and other debris resulting from the cutting and trimming operations and dispose of such materials off the ROW. Tree disposal may also occur by giving them to the adjacent property owner(s) at a storage location approved by the owner(s). Comply with applicable laws that regulate the sale, transport, or pruning/cutting of trees.

☐ 36. Cut trees flush with the ground. Any remaining stumps shall not interfere with mowing operations.

☐ 37. Cut trees may be chipped and used for mulch on the ROW in a layer not exceeding three inches.

☐ 38. Trim only the trees/vegetation necessary to provide safe clearances or by special provisions. Do not damage non-target trees/vegetation. Do not clear cut trees/vegetation.

☐ 39. Survey the trees/vegetation to be removed and inspect jointly with a WisDOT representative prior to starting any work on the highway ROW.

☐ 40. Treat all deciduous tree stumps with a herbicide approved for this use. Do not treat evergreen tree stumps.

☐ 41. Follow the conditions specified in WisDOT's "Vegetation Alteration Decision" for vegetation removed or trimmed pursuant to Wis. Stat. s. 84.305.

RAILROAD CROSSING WORK

☐ 42. Complete a permit/application form to detour state highway traffic (DT1479). This DT1812 permit shall only be in effect if WisDOT approves the matching DT1479 permit.

☐ 43. Comply with the attached "Special Provisions for Railroad Crossing Work."

WORK RESTRICTIONS

☒ 44. Daily, holiday and/or seasonal work restrictions apply to the permitted work as detailed on page __. Review the restrictions with the WisDOT Region Office(s) identified on this permit.

MISCELLANEOUS

☒ 45. Contact the WisDOT Region Office(s) identified on this permit to arrange for a Region representative to inspect the work site. Perform no work under this permit prior to his/her arrival.

☒ 46. Contact the WisDOT Region Office(s) identified on this permit prior to completing the permitted work to arrange for a Region representative to inspect the work before the permittee's employees or contractor leaves the site.

☐ 47. Call the State Traffic Operations Center (STOC) / - on a weekly basis or as otherwise determined by the STOC before working on any interstate or other major freeway. The STOC may place restrictions on work times and lane/shoulder closures based upon various special events, oversize freight movements, or daily peak travel times.

☐ 48. Construction by open-trench methods is authorized only if the permitted installation can be accomplished in advance of the highway paving. Bore or dry auger the permitted facility if this cannot be accomplished.

☐ 49. At any location where open-trench installation across highway pavement is authorized, saw-cut the surface full depth to enable it to be restored with smooth joints. Restore concrete pavement to the nearest joint.

☐ 50. Backfill all excavations according to the attached detail.

☐ 51. Blasting within the highway ROW **is authorized** with this permit.

☒ 52. See attached Special Provisions Pg 6

Permit #: 56-01-24

Project Location:
STH23 and IH90/94
Lake Delton, Sauk Co



Permit #: 56-01-24

SUPPLEMENTAL PROVISIONS (68-A)

STH 23 KT583 St., Village of Lake Delton, Sauk Co.

Pursuant to Wisconsin Statutes and once approved by WisDOT, this permit allows performance of the specific work described over which WisDOT has permit authority. ***The permittee shall abide by these general provisions, and any supplemental and/or special provisions.*** (ROW = right-of-way)

- Please contact Mike Greiner (WisDOT) 608.769.5522 10 days prior to work within the Right of Way.
- Coordinate work with the STH23 project (5060-00-77) construction if the work extends into the end of 2024. (Greg Brecka 608-516.6524)
- Provide a schedule prior to work on ROW.
- Provide a Resolution from the municipality accepting the street as a Public Street.
- No additional access is allowed to STH23 from the adjacent parcels. Access is from the new Public Street.
- Provide the WDNR and/or Municipal/County Construction Permit.
- Follow Plans dated Sept. 26, 2023.
- **WORK RESTRICTIONS:** Daily, holiday and/or seasonal work restrictions apply to the permitted work as detailed:
  - **Fridays** 12:00pm – **Mondays** 6:00am;
  - From noon Friday May 24, 2024 to 6:00 AM Tuesday May 28, 2024 for Memorial Day;
  - From noon Wednesday, July3, 2024 to 6:00 AM Monday, July 8, 2024, for Independence Day;
  - From noon Friday, August 30, 2024 to 6:00 AM Tuesday, September 3, 2024 for Labor Day;
  - From noon Wednesday, November 27, 2024 to 6:00 AM Monday, December 2, 2024 for Thanksgiving.
- Traffic Management:
  - Signage should follow Wisconsin Manual on Uniform Traffic Control Devices.
  - If closing a lane or shoulder, Provide the following advance notification to the engineer for incorporation into the Wisconsin Lane Closure System (LCS). (https://transportal.cee.wisc.edu/closures/)
  - NO lane closures are allowed if pavement is wet/icy/snow covered.
  - Any highway open to traffic that has an aggregate surface must be repaved with HMA within 72 hours or by the end of the week whichever occurs first.
  - Flaggers, if used, must be certified.
  - Do not store equipment or materials within 10' of traffic.
  - Any drop-off greater than 2" needs to be protected by a 3:1 slope or temporary concrete barrier is required. Follow WisDOT Standard Specification 104.6.1.2.3 and other related specifications.

Wisconsin Lane Closure System Advance Notification:
TABLE 108-1 CLOSURE TYPE AND REQUIRED MINIMUM ADVANCE NOTIFICATION

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
Detours	7 calendar days
Closure type without height, weight, or width restrictions (available width, all lanes in one direction ≥16')	**MINIMUM NOTIFICATION**
Lane and shoulder closures	3 business days
Modifying all closure types	3 business days

- Utilities: Avoid or move utilities that may be in the way of the work in right of way.
- Erosion Control (EC):
  - Do not store any materials within the State ROW.
  - Implement EC best management practices (BMPs) prior to and at all times during work operations. Provide and maintain erosion control BMPS to protect all restored areas upon completion of the permitted work until the replacement vegetation achieves sustained growth.
  - Any sediment deposited from the site onto WisDOT facilities needs to be removed and the area stabilized within 24 hours of the release.
  - Any sediment or materials tracked onto state right of way needs to be cleaned within that workday.
  - The applicant will assure that the ditches/storm sewer (down-stream) are cleaned and positively flow, prior to finalizing the construction.
  - Temporary EC best management practices need to be removed and the area restored.
  - After temporary use is complete, the area will be restored to pre-construction conditions in accordance with applicable parts of WisDOT's Standard Specifications for Highway and Structure Construction, current edition.
- **The final restoration work needs review prior to acceptance.**

Permit #: 56-01-24

KWIK TRIP STORE #583

ENGINEERING PLANS

VILLAGE OF LAKE DELTON
SAUK COUNTY, WISCONSIN

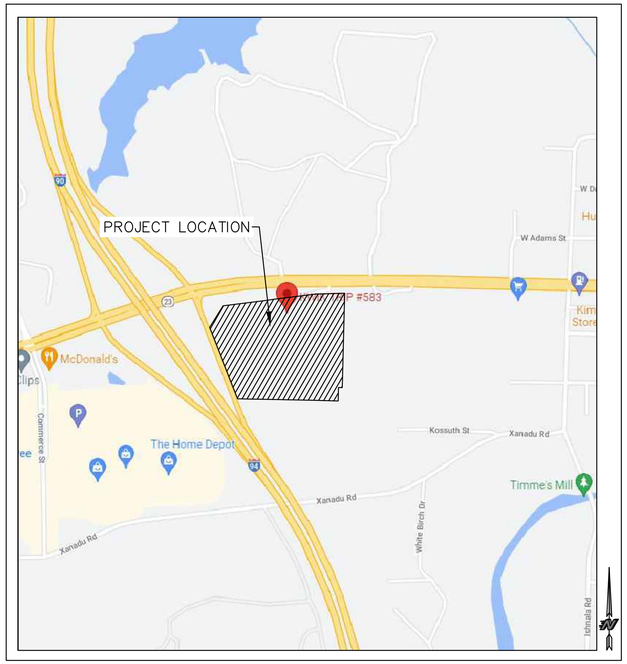
OWNER
KWIK TRIP, INC.
BRADFORD FRY, P.E.
1626 OAK STREET
LA CROSSE, WI 54602
PHONE: 608-793-6414
EMAIL: BFry@kwiktrip.com

CIVIL/SITE ENGINEER
raSmith
ROBERT J. HARLEY, P.E.
PROJECT MANAGER
EMAIL: Robert.Harley@rasmith.com

CHRISTOPHER B. WHITE, P.E.
CIVIL ENGINEER
EMAIL: Christopher.White@rasmith.com

AMY L. SCHNEIDER, PLA
LANDSCAPE ARCHITECT
EMAIL: Amy.Schneider@raSmith.com

16745 W. BLUEMOUND RD.
BROOKFIELD, WI 53005-5938
PHONE: 262-781-1000



SITE LOCATION MAP



AERIAL LOCATION MAP

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SP7.0	PLAN & PROFILE - PUBLIC UTILITY PLAN
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SP9.2	CROSS SECTIONS
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SP10.3	UTILITY DETAILS
SP10.4	UTILITY DETAILS
SP10.5	SIGNAGE AND STRIPPING
SP10.6	SIGNAGE AND STRIPPING
SP10.7	DOWEL AND JOINT DETAIL

DATUM NOTES, SURVEY PROVIDED BY RA SMITH, INC.

1. BEARINGS ARE BASED ON THE WEST LINE OF THE SOUTHEAST ¼ OF SECTION 20-13-6, WHICH TO BEARS SOUTH 00°37'51" EAST, NAD 83(1997) SAUK COUNTY COORDINATE SYSTEM
2. HORIZONTAL DATUM: NORTH AMERICAN DATUM 1997.
3. ELEVATIONS REFER TO NAV88 DATUM.

EXISTING CONDITIONS:

- EXISTING CONDITIONS SHOWN ON THIS PLAN ARE FROM ALTA/NSPS LAND TITLE SURVEY, DATED 3/9/2021 BY FROM RASMITH INC.

PLAN PREPARED BY:

CHRISTOPHER WHITE
R.A. SMITH, INC.
(262) 317-3286
christopher.white@rasmith.com

WISCONSIN
CHRISTOPHER B. WHITE
E-45676-6
WAUKESHA, WI
PROFESSIONAL ENGINEER
9/26/23

CHRISTOPHER WHITE	45676-6	09/26/2023
REGISTERED ENGINEER	NUMBER	DATE

LEGAL DESCRIPTION
TITLE COMMITMENT NO. NCS-1091108-MAD

PARCEL A: A PARCEL OF LAND LOCATED IN THE NORTHWEST ¼ OF THE SOUTHEAST ¼ OF SECTION 20, TOWNSHIP 13 NORTH, RANGE 6 EAST, IN THE VILLAGE OF LAKE DELTON, SAUK COUNTY, WISCONSIN, WHICH IS BOUNDED BY A LINE DESCRIBED AS FOLLOWS; COMMENCING AT A POINT ON THE SOUTHERLY RIGHT OF WAY OF S.T.H. 23, WHICH POINT IS WEST, 408.30 FEET AND NORTH 01°25' EAST, 926.37 FEET, FROM THE SOUTH EAST CORNER OF SAID NORTHWEST ¼ OF THE SOUTHEAST ¼; THENCE SOUTH 82°23' WEST, ALONG SAID RIGHT OF WAY 120 FEET; THENCE SOUTH 01°25' WEST, 40.50 FEET TO THE POINT OF BEGINNING; THENCE CONTINUING SOUTH 01°25' WEST, 354.40 FEET; THENCE NORTH 82°23' EAST, 120 FEET; NORTH 01°25' EAST, 354.40 FEET; THENCE SOUTH 82°23' WEST, 120 FEET TO THE POINT OF BEGINNING.

PARCEL B: LOT ONE (1) SAUK COUNTY CERTIFIED SURVEY MAP NO. 2516 AS RECORDED FEBRUARY 25, 1992 IN VOLUME 10 OF CERTIFIED SURVEY MAPS, ON PAGE 2516, AS DOCUMENT NO. 561368, LOCATED IN PART OF THE NW ¼ OF SE 1/4 , SECTION 20, TOWN 13 NORTH, RANGE 6 EAST, VILLAGE OF LAKE DELTON, SAUK COUNTY, WISCONSIN.

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16745 W. Bluemound Road
Brookfield, WI 53005-5938
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rasmith.com

COVER SHEET

CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL
HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	SP0.0

P:\3220019\Dwg\Sheets\3220019-TS01.dwg, COVER SHEET, 9/27/2023 8:49:50 AM, eng2

SEE ROAD WAY IMPROVEMENTS PLAN FOR MONROE AVE IMPROVEMENTS

CAUTION: SANITARY FORCEMAIN, FIBER OPTIC CABLE AND GAS SERVICE TO REMAIN

CAUTION

PRESERVE AND PROTECT WETLANDS

WETLAND DISTURBANCE

LIMITS OF DISTURBANCE

DEMO WIRE FENCE

PYLON SIGN TO BE DEMO'ED

DEMO LANDSCAPING ALONG PROPERTY LINE

TREE TO BE REMOVED (TYP.)

DEMO ASPHALT SURFACE

DEMO UNDERGROUND TANKS

REMOVE CANOPY AND ASSOCIATED PUMPS

DEMO ISLANDS

DEMO AND RAZE BUILDING AND ASSOCIATED UTILITIES

CONCRETE TO BE REMOVED (TYP.)

TRANSFORMER TO BE REMOVED WITH ASSOCIATED UTILITIES. CONTRACTOR TO COORDINATE WITH UTILITY PROVIDERS.

REMOVE GAS SERVICE. CONTRACTOR TO COORDINATE WITH PROVIDER

BUILDINGS HAVE BEEN RAZED. DEMO REMAINING ASSOCIATED UTILITIES. CONTRACTOR TO COORDINATE WITH UTILITY PROVIDERS. CONTRACTOR TO CONFIRM EXISTING SITE CONDITIONS.

REMOVE STEPS

DEMO SEPTIC TANK

REMOVE TELEPHONE SERVICE. CONTRACTOR TO COORDINATE WITH PROVIDER

DEMO ASPHALT (TYP.)

DEMO GATE AND ASSOCIATED FENCE

CHAIN LINK FENCE TO BE REMOVED

TRANSFORMER TO BE REMOVED WITH ASSOCIATED UTILITIES. CONTRACTOR TO COORDINATE WITH UTILITY PROVIDERS.

DEMO LEAN TO

BUILDINGS HAVE BEEN RAZED. DEMO REMAINING ASSOCIATED UTILITIES. CONTRACTOR TO COORDINATE WITH UTILITY PROVIDERS. CONTRACTOR TO CONFIRM EXISTING SITE CONDITIONS.

DEMO SCALE AND ASSOCIATED EQUIPMENT

DEMO CONCRETE WALL

DEMO CONCRETE WALL

DEMO LIGHT POLE (TYP.)

CHAIN LINK FENCE TO BE REMOVED ALONG SOUTH PROPERTY LINE

I.S.H. "90"
VARIABLE WIDTH PUBLIC R.O.W.
WDOT R/W PROJECT I-90-2(13)86

WDOT PLAT PROJECT S 0223(1)
WDOT R/W PROJECT NO 5080-00-23

S.T.H. "23"
WEST MONROE AVENUE
VARIABLE WIDTH PUBLIC R.O.W.

ABANDON WATER SERVICE. CLOSE PER VILLAGE STANDARDS

CAUTION: SANITARY FORCEMAIN, FIBER OPTIC CABLE AND GAS SERVICE TO REMAIN

REMOVE THIS SECTION OF THE WATER LINE. REUSE WATER, SEE SHEET SP7.0 IN OTHER PLAN SET FOR ADDITIONAL DETAILS.

DRIVEWAY CLOSURE. SEE OFFSITE PLANS

DEMO SIGN

TREE TO BE REMOVED

PRESERVE AND PROTECT STORM SEWER

DEMO BOULDER LINE

VILLAGE MONUMENT SIGN AND LIGHTS TO BE REMOVED

DEMO 12" GATE AND ASSOCIATED POSTS

REMOVE STORM SEWER

REMOVE SAN SEWER

DEMO WOOD POSTS (TYP.)

TRANSFORMER TO BE REMOVED WITH ASSOCIATED UTILITIES. CONTRACTOR TO COORDINATE WITH UTILITY PROVIDERS.

COORDINATE WITH INSPECTOR FOR POSSIBLE HYDRANT REUSE.

AIR PUMP TO BE REMOVED

DEMO MAILBOX

REMOVE SIGN

LIGHT POLE TO BE REMOVED (TYP.)

DEMO AND RAZE BUILDING

DEMO HVAC

DEMO AIR PUMP

DEMO COMPRESSOR

DEMO TRANSFORMER

OVERHEAD WIRE TO BE REMOVED WITH ASSOCIATED UTILITIES. CONTRACTOR TO COORDINATE WITH UTILITY PROVIDERS.

TRANSFORMER TO BE REMOVED WITH ASSOCIATED UTILITIES. CONTRACTOR TO COORDINATE WITH UTILITY PROVIDERS.

LANDSCAPING TO BE REMOVED

DEMO INTERIOR WETLANDS ON SITE

CHAIN LINK FENCE TO BE REMOVED

TRANSFORMER TO BE REMOVED WITH ASSOCIATED UTILITIES. CONTRACTOR TO COORDINATE WITH UTILITY PROVIDERS.

CHAIN LINK FENCE TO BE REMOVED ALONG EAST SIDE OF PROPERTY.

ASPHALT & GRAVEL TO BE REMOVED (TYP.)

SCALE: 1" = 50'

50 25 0 50 100

811
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LEGEND

- PROPERTY LINE/ RIGHT OF WAY
- SAWCUT PAVEMENT
- WETLANDS
- EXISTING GRAVEL TO BE REMOVED
- EXISTING CONCRETE PAVEMENT TO BE REMOVED
- EXISTING ASPHALT PAVEMENT TO BE REMOVED
- EXISTING BUILDING/STRUCTURE, FOUNDATION AND SLAB TO BE REMOVED
- TREE TO BE DEMO'ED

DEMOLITION NOTES

1. THE DEMOLITION CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL SITE AND DEMOLITION PERMITS.
2. THE DEMOLITION CONTRACTOR SHALL PREPARE AND MAINTAIN A PROJECT SAFETY PLAN. ALL SITE SAFETY EQUIPMENT AND MEASURES, INCLUDING FENCING, FIRE PROTECTION, AND THE LIKE ARE THE SOLE RESPONSIBILITY OF THE DEMOLITION CONTRACTOR.
3. THE DEMOLITION CONTRACTOR SHALL DEVELOP, OBTAIN NECESSARY APPROVALS/PERMITS AND MAINTAIN TRAFFIC AND PEDESTRIAN CONTROL PLANS THROUGHOUT ALL PHASES OF DEMOLITION.
4. INSTALL TEMPORARY CONSTRUCTION FENCE PRIOR TO ANY DEMOLITION ACTIVITY
5. INITIAL EROSION CONTROL MEASURES (SILT FENCE, ROCK CONSTRUCTION ENTRANCE, INLET PROTECTION) SHALL BE INSTALLED PRIOR TO ANY DEMOLITION ACTIVITY WITHIN PROJECT LIMITS.

NOTE

PARTIAL DEMO HAS BEEN PERFORMED ON SITE. CONTRACTOR TO VERIFY EXISTING SITE CONDITIONS.

DRAIN TILE NOTE:

CONTRACTOR RESPONSIBLE TO PRESERVE, PROTECT, AND MAINTAIN FUNCTIONALITY OF ANY EXISTING TITLE DRAINS, SEWERS AND OTHER SUBSURFACE DRAINS, OR PARTS THEREOF. REPAIR, AT NO EXPENSE TO THE OWNER, DAMAGE TO THESE FACILITIES RESULTING FROM NEGLIGENCE OR CARELESSNESS OF THE CONTRACTOR'S OPERATIONS. SEE GEOTECHNICAL REPORT FOR MORE INFORMATION.

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KWIK STAR

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DEMOLITION PLAN

CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL
HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	DP01

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DEMOLITION PHASING

CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL

HIGHWAY 23
LAKE DELTON, WI

NO.	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	DP02

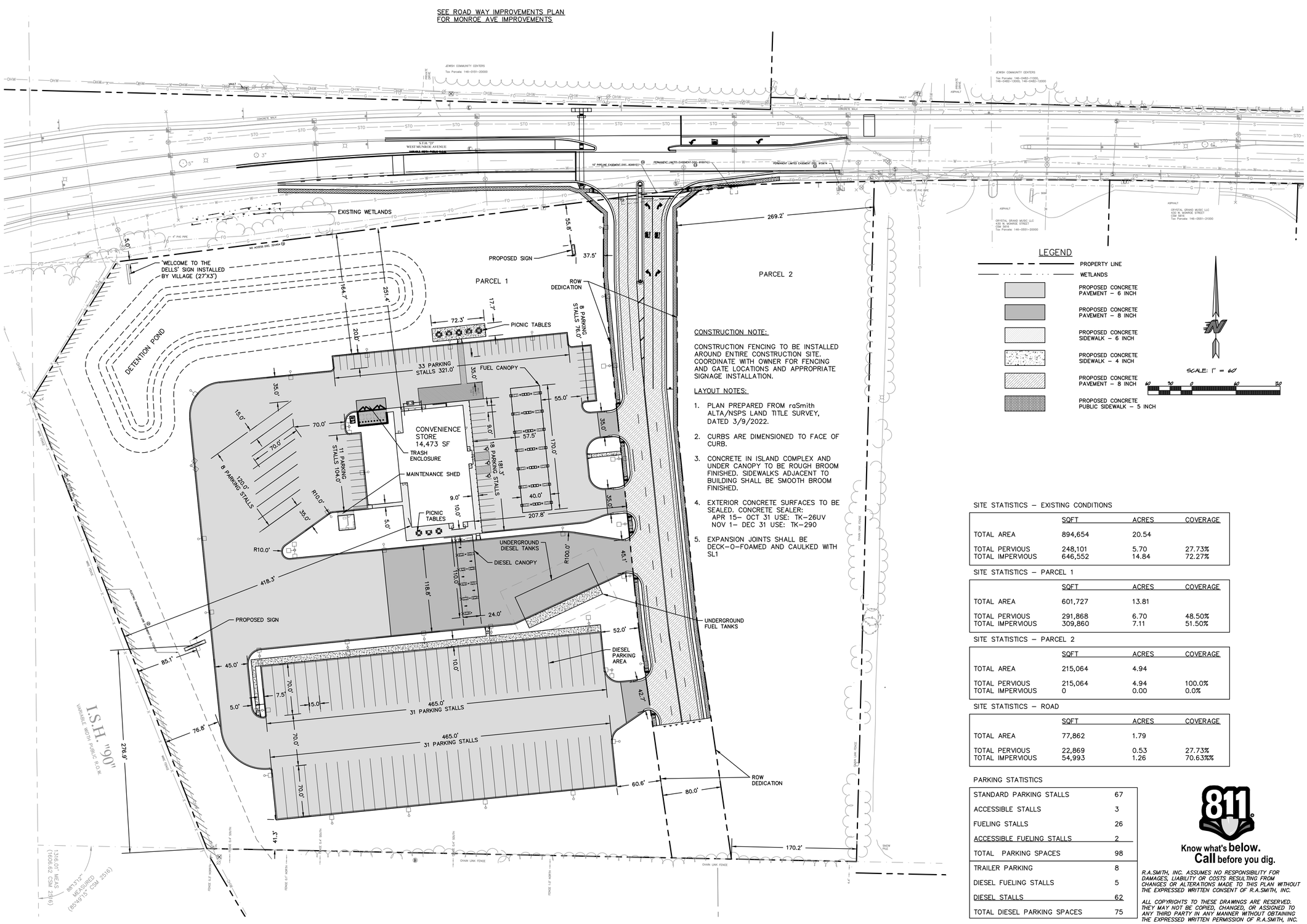
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SEE ROAD WAY IMPROVEMENTS PLAN
FOR MONROE AVE IMPROVEMENTS



CONSTRUCTION NOTE:

CONSTRUCTION FENCING TO BE INSTALLED AROUND ENTIRE CONSTRUCTION SITE. COORDINATE WITH OWNER FOR FENCING AND GATE LOCATIONS AND APPROPRIATE SIGNAGE INSTALLATION.

LAYOUT NOTES:

1. PLAN PREPARED FROM raSmith ALTA/NSPS LAND TITLE SURVEY, DATED 3/9/2022.
2. CURBS ARE DIMENSIONED TO FACE OF CURB.
3. CONCRETE IN ISLAND COMPLEX AND UNDER CANOPY TO BE ROUGH BROOM FINISHED. SIDEWALKS ADJACENT TO BUILDING SHALL BE SMOOTH BROOM FINISHED.
4. EXTERIOR CONCRETE SURFACES TO BE SEALED. CONCRETE SEALER:
   APR 15– OCT 31 USE: TK–26UV
   NOV 1– DEC 31 USE: TK–290
5. EXPANSION JOINTS SHALL BE DECK–O–FOAMED AND CAULKED WITH SL1

LEGEND

- PROPERTY LINE
- WETLANDS
- PROPOSED CONCRETE PAVEMENT – 6 INCH
- PROPOSED CONCRETE PAVEMENT – 8 INCH
- PROPOSED CONCRETE SIDEWALK – 6 INCH
- PROPOSED CONCRETE SIDEWALK – 4 INCH
- PROPOSED CONCRETE PAVEMENT – 8 INCH
- PROPOSED CONCRETE PUBLIC SIDEWALK – 5 INCH

SCALE: 1" = 60'

60 30 0 60 120

SITE STATISTICS – EXISTING CONDITIONS

	SQFT	ACRES	COVERAGE
TOTAL AREA	894,654	20.54	
TOTAL PERVIOUS	248,101	5.70	27.73%
TOTAL IMPERVIOUS	646,552	14.84	72.27%

SITE STATISTICS – PARCEL 1

	SQFT	ACRES	COVERAGE
TOTAL AREA	601,727	13.81	
TOTAL PERVIOUS	291,868	6.70	48.50%
TOTAL IMPERVIOUS	309,860	7.11	51.50%

SITE STATISTICS – PARCEL 2

	SQFT	ACRES	COVERAGE
TOTAL AREA	215,064	4.94	
TOTAL PERVIOUS	215,064	4.94	100.0%
TOTAL IMPERVIOUS	0	0.00	0.0%

SITE STATISTICS – ROAD

	SQFT	ACRES	COVERAGE
TOTAL AREA	77,862	1.79	
TOTAL PERVIOUS	22,869	0.53	27.73%
TOTAL IMPERVIOUS	54,993	1.26	70.63%%

PARKING STATISTICS

STANDARD PARKING STALLS	67
ACCESSIBLE STALLS	3
FUELING STALLS	26
ACCESSIBLE FUELING STALLS	2
TOTAL PARKING SPACES	98
TRAILER PARKING	8
DIESEL FUELING STALLS	5
DIESEL STALLS	62
TOTAL DIESEL PARKING SPACES	75

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OVERALL SITE PLAN

CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL
HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	SP1.0

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SEE ROAD WAY IMPROVEMENTS PLAN FOR MONROE AVE IMPROVEMENTS

TOP OF DETENTION POND. SEE SHEET SP4.1 FOR DETAILS.

'WELCOME TO THE DELLS' SIGN INSTALLED BY VILLAGE (27'X3')

NORMAL WATER LEVEL. SEE SHEET SP4.1 FOR DETAILS.

DETENTION POND

PROPOSED MONUMENT SIGN. SEE ARCHITECT PLANS FOR DETAILS.

ONLY ONLY

37.5'

72.3'

PICNIC TABLES

17.7'

5.0'

6.0'

R5.0'

PAINTED PARKING STRIPE, TYP.

9.5'

20.0'

CURB RAMP

35.0'

8.0'

SEASONAL OUTDOOR MERCHANDISING AREA, TYP.

47.9'

55.0'

20.0'

SCREENING WALL; DETAILS BY ARCHITECT

TRASH ENCLOSURE

TAPER CURB

R15.0'

R45.0'

5.0'

FUEL CANOPY; 40'X170'

R5.0'

R20'

R10.0'

18" CURB AND GUTTER, TYP.

35'

R20.0'

30" CURB AND GUTTER, SEE OFFSITE PLANS.

TRANSFORMER AND DISCONNECT PAD

PAINTED NO LOADING ZONE WITH TEXT

PAINTED PARKING STRIPE, TYP.

10.6'

CONVENIENCE STORE

78.8'

15.0'

69.9'

R5.0'

9.0'

8.0'

170.0'

CURB TRANSITION

CURB RAMP

R20'

R20.0'

55.0'

2 ACCESSIBLE PARKING STALLS; PAINTED SYMBOL, ADA AISLES AND SIGNS ON BOLLARDS

20.0'

46.9'

9.3'

18" CURB AND GUTTER

30" CURB AND GUTTER, SEE OFFSITE PLANS.

R10.0'

35.0'

70.0'

78.8'

CURB RAMP

5.0'

17.7'

PICNIC TABLES

37.5'

9.0'

TAPER CURB

40'

R50.0'

35.0'

R15.0'

CURB TRANSITION

STORAGE SHED; DETAILS BY ARCH;

CURB RAMP

10.0'

DIESEL PUMP ISLANDS

9.1'

R100.0'

18" CURB AND GUTTER, TYP.

CURB TRANSITION

R15.0'

30" CURB AND GUTTER, SEE OFFSITE PLANS.

TANK OVERDIG AREA

DIESEL CANOPY; 24'X110'

UNDERGROUND FUEL STORAGE

100.0'

118.8'

16.0'

PROPOSED PYLON SIGN. SEE ARCHITECT PLANS FOR DETAILS.

CURB RAMP

R20.0'

PAINT CURB YELLOW NEXT TO FUEL TANKS

18" CURB AND GUTTER

5.0'

R20.0'

10.0'

85.0'

45.0'

70.0'

15.0'

PAINTED PARKING STRIPE, TYP.

70.0'

18" CURB AND GUTTER, TYP.

CURB TRANSITION

45.7'

30" CURB AND GUTTER, SEE OFFSITE PLANS.

ROW DEDICATION

R15.0'

R3.0'

CURB RAMP

R60.0'

R3.0'

ELECTRIC TRANSMISSION LINE EASEMENT DOC. 1324410

WIRE FENCE

I.S.H. "90"

VARIABLE WIDTH PUBLIC R.O.W.

NO ACCESS DOC. 324454

4" PVC PIPE

SCALE: 1" = 40'

40 20 0 40 80

LEGEND

- PROPERTY LINE
- PROPOSED CONCRETE PAVEMENT – 6 INCH
- PROPOSED CONCRETE PAVEMENT – 8 INCH
- PROPOSED CONCRETE SIDEWALK – 6 INCH
- PROPOSED CONCRETE SIDEWALK – 4 INCH
- PROPOSED CONCRETE PAVEMENT – 8 INCH
- PROPOSED CONCRETE PUBLIC SIDEWALK – 5 INCH

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DETAILED SITE PLAN

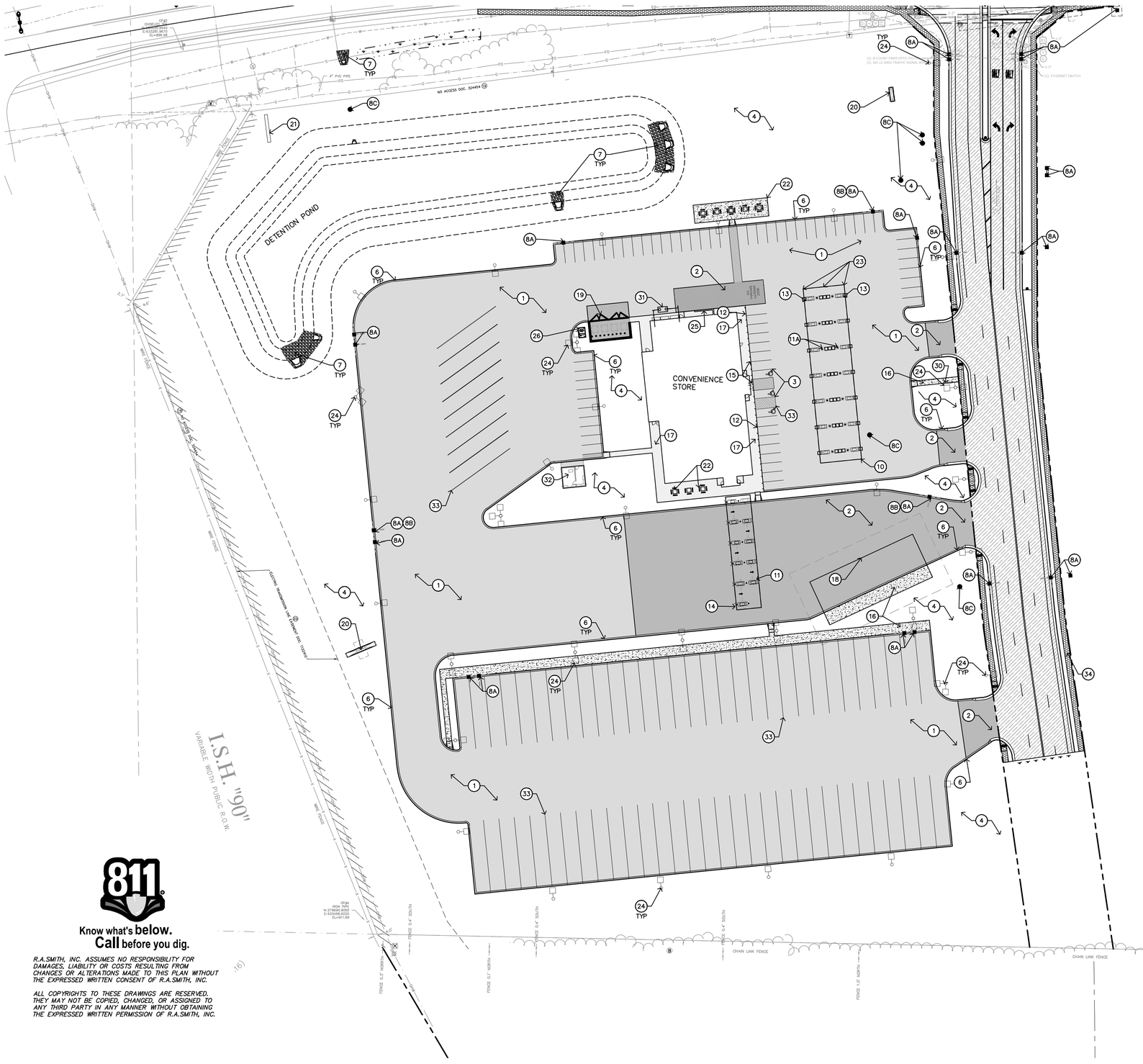
CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL

HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	SP1.1

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LEGEND

- PROPERTY LINE
- WETLANDS
- PROPOSED CONCRETE PAVEMENT – 6 INCH
- PROPOSED CONCRETE PAVEMENT – 8 INCH
- PROPOSED CONCRETE SIDEWALK – 6 INCH
- PROPOSED CONCRETE SIDEWALK – 4 INCH
- PROPOSED CONCRETE PAVEMENT – 8 INCH
- PROPOSED CONCRETE PUBLIC SIDEWALK – 5INCH

SCALE: 1" = 50'

50' 25' 0 50' 100'

SITE PLAN KEYNOTES

1. 6" DEPTH (MIN.) CONCRETE SLAB–ON–GRADE WITH #3 REBAR, 3" O.C. CONCRETE SEALER: TK–26UV. MIN. BASE COURSE = 12". (235,260 SQ.FT)
2. 8" DEPTH (MIN.) CONCRETE SLAB –ON–GRADE WITH #4 REBAR, 4" O.C. CONCRETE SEALER: TK–26UV. MIN, BASE COURSE = 12". (40,180 SQ.FT.)
3. A.D.A. ACCESSIBLE PARKING SPACE WITH LOADING ZONE. PROVIDE APPROPRIATE STRIPING AND PAVEMENT MARKINGS
4. LANDSCAPING AREA. SEE SHEETS LP1.0, LP2.0 AND LP2.1. ALL GREEN SPACE THAT DOESN'T RECEIVE EROSION MAT SHALL HAVE SOD APPLIED.
5. NOT USED
6. 18" CURB AND GUTTER. SEE DETAIL SP5.0
7. RIP RAP AT STORM SEWER OUTFALL
8. PROPOSED STORM STRUCTURE. SEE SP4.1 FOR FURTHER STORM SEWER INFORMATION
   - A. CATCH BASIN OR INLET CURB PER DETAIL SP5.0
   - B. OIL SKIMMER PER DETAIL SP5.1
   - C. MANHOLE, FRAME AND SOLID COVER PER DETAIL SP5.0
9. NOT USED
10. 40'–0" x 170'–0" DISPENSER ISLAND CANOPY. VERIFY SIZE, PLACEMENT, COLUMN AND FOOTING SIZE WITH CANOPY AND STRUCTURAL PLANS. CANOPY GRAPHICS PER OWNER
11. 24'–0" x 110'–0" DISPENSER ISLAND CANOPY. VERIFY SIZE, PLACEMENT, COLUMN AND FOOTING SIZE WITH CANOPY AND STRUCTURAL PLANS. CANOPY GRAPHICS PER OWNER.
12. CONCRETE ISLANDS W/6" EXPOSURE WITH FUEL DISPENSERS. DISPENSER PER OWNER.
    - a. 3'–6" x 7'–0" AT GAS CANOPY
    - b. 3'–6" x 8'–0" AT DIESEL CANOPY
13. 30" HT BOLLARD, SEE DETAIL SP5.0
14. 36" HT BOLLARD, SEE DETAIL SP5.0
15. 48" HT BOLLARD, SEE DETAIL SP5.0
16. HC PVC BOLLARD SLEEVE PER OWNER. VAN ACCESS SIGNAGE AT 48" HT. STALL PARKING AT 60" HT, SEE DETAIL SP5.0
17. 4" CONCRETE SIDEWALK. 4" AGG. BASE CL 5 (100% CRUSHED). (7,930 SQ. FT. ON SITE).
18. 6" CONCRETE SIDEWALK. 4" AGG. BASE CL 5 (100% CRUSHED). (4,825 SQ. FT. ON SITE).
19. UNDERGROUND FUEL STORAGE TANKS PER OWNER. PROVIDING PIPING AND VENTING PER OWNER'S SPECIFICATIONS
20. EXTERNAL TRASH ENCLOSURE TO MATCH BUILDING. SEE ARCHITECTURAL DETAILS
21. KWIK TRIP TRADEMARK SIGN (VERIFY LOCATION AND STYLE WITH SIGN PERMIT)
22. "WELCOME TO THE DELLS" SIGN ORDERED AND INSTALLED BY VILLAGE.
23. PICNIC TABLE PER OWNER. COORDINATE ACCESSIBLE TABLES WITH KWIK TRIP. PROVIDE TRASH CONTAINER PER OWNER
24. OUTDOOR MERCHANDISE AREA
25. SITE AREA LIGHT WITH CONCRETE BASE. SEE DETAIL SP5.0
26. EXTERIOR DELIVERY 'TOTE' STORAGE WITH SCREEN WALL
27. ELECTRICAL TRANSFORMER AND DISCONNECT PAD. VERIFY FINAL LOCATION WITH UTILITY PROVIDER
28. CONCRETE CURB ISLAND
29. NOT USED
30. CAR WASH KEY PAD/CONTROLLER. PROVIDE TRASH CONTAINER
31. SITE CAMERA WITH CONCRETE BE PER DETAIL.
32. GREASE INTERCEPTOR, DESIGNED BY MEP DESIGNER
33. GARAGE WITH STORAGE
34. OFF–STREET PARKING STALLS STRIPING – 4" WIDE STALL LINES, USE SHERWIN WILLIAMS SETFAST PREMIM ALKYD ZONE MARKING PAINT (YELLOW)

SPACES PROVIDED

(70) 15'–0 X 70'–0" TRAILER PARKING
(36) 9'–6" X 20'–0" GENERAL PARKING
(7) 9'–0" X 18'–0" GENERAL PARKING
(2) 8'–0" X 20'–0" ACCESSIBLE PARKING WITH
(1) 23'–0" X 87'–0" LOADING ZONE

34. 5" CONCRETE SIDEWALK. 5" AGG. BASE CL 5 (100% CRUSHED). (9,320 SQ. FT. ROAD IMPROVEMENTS)

NOTES

- PVC IRRIGATION SLEEVE UNDER PAVEMENT. VERIFY W/ IRRIGATION PLAN FOR EXACT SIZE AND LOCATION BEFORE INSTALLATION.
- UNLESS SHOWN OTHERWISE ON THIS DRAWING, CONTRACTOR SHALL PROVIDE CONTROL JOINTS, CONSTRUCTION JOINTS, AND EXPANSION JOINTS IN SLAB ON GRADE, SIDEWALKS, AND DRIVES.
- CONTROL JOINT MAXIMUM DISTANCE: WALKS – 8' O.C., ALL OTHERS – 15" O.C
- SAW CUT CONTROL JOINTS MINIMUM ONE – QUARTER CONCRETE THICKNESS
- EXPANSION JOINT MAXIMUM DISTANCE: WALKS – 24' O.C., ALL OTHERS – 60' O.C.
- DOWEL ALL EXPANSION JOINTS SHALL BE PLACED WHERE CONCRETE PAVEMENT THICKNESS CHANGE AND ALONG CURB AND GUTTERS.
- THE HASHING IN THE "NO PARKING LOADING ZONE" AREA AND ANY OTHER AREA THAT IS HASHED, THE LINES SHOULD BE 5' SPACED OC.
- LETTERING FOR ALL WORDING SUCH AS "NO PARKING LOADING ZONE" AND CARWASH SHOULD BE 12" TALL.
- CONTRACTOR TO PROVIDE JOINTING PLAN FOR OWNER REVIEW

KWIK TRIP

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SITE KEYNOTE PLAN

CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL

HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	SP1.2

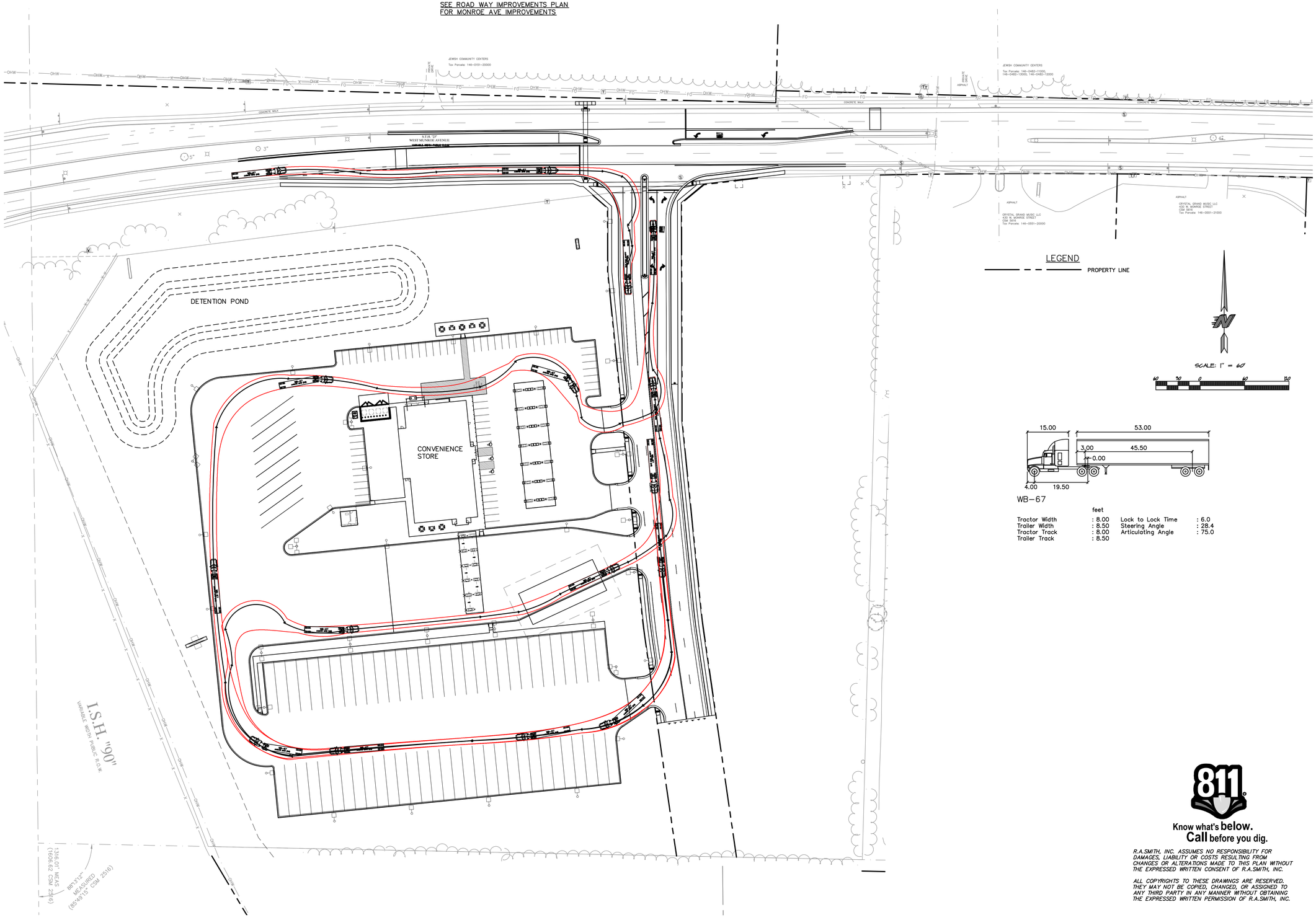
811 Know what's below. Call before you dig.

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P:\3220019\Dwg\Sheets\3220019-SP03.dwg, SITE KEYNOTE PLAN - NORTH, 9/27/2023 8:50:56 AM, eng2

SEE ROAD WAY IMPROVEMENTS PLAN
FOR MONROE AVE IMPROVEMENTS



LEGEND

PROPERTY LINE

SCALE: 1" = 60'

40 30 0 60 120

WB-67

feet

Tractor Width	: 8.00	Lock to Lock Time	: 6.0
Trailer Width	: 8.50	Steering Angle	: 28.4
Tractor Track	: 8.00	Articulating Angle	: 75.0
Trailer Track	: 8.50		

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TRUCK MOVEMENTS

CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL

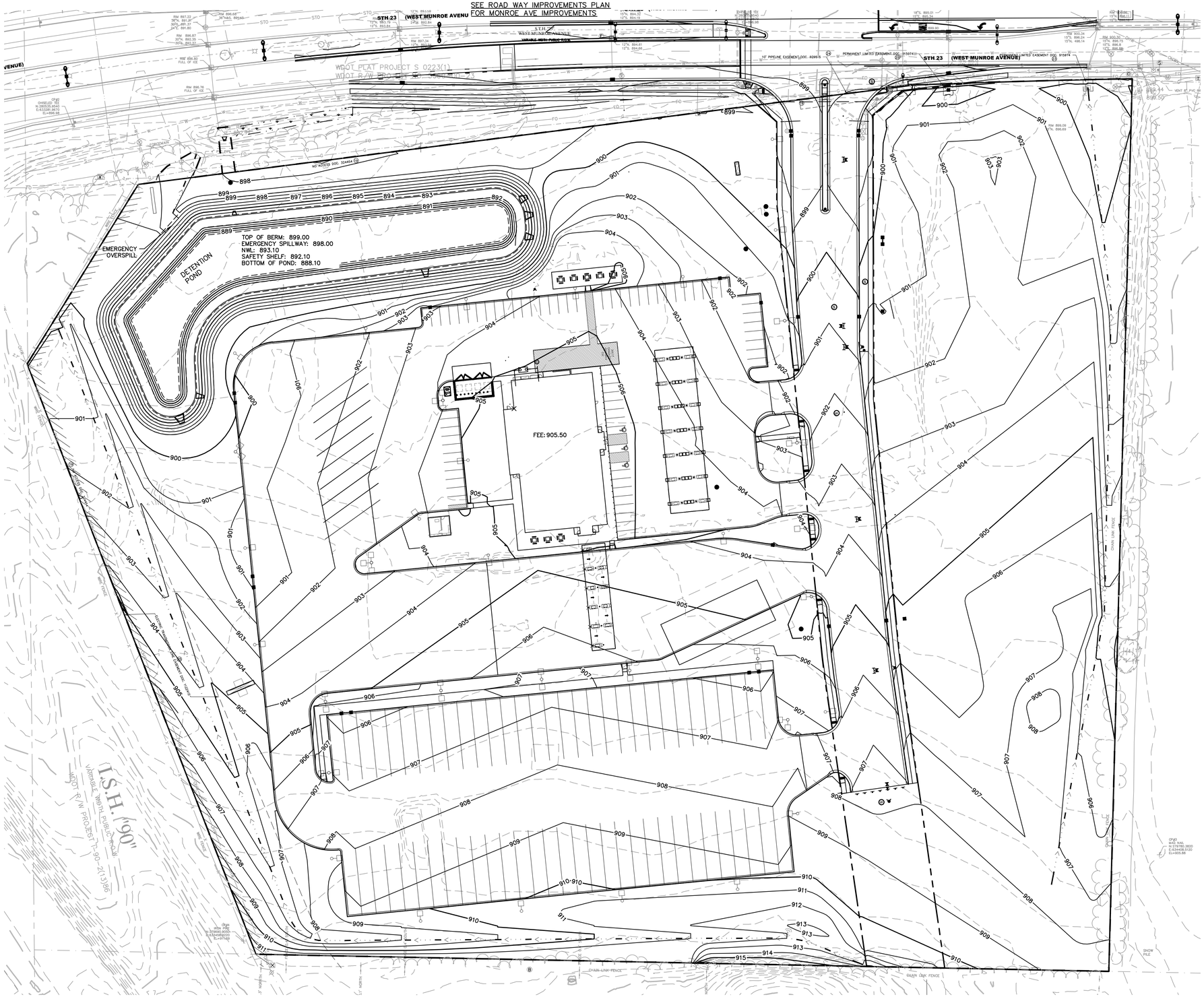
HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	SP1.3

P:\3220019\Dwg\Exhibits\3220019-AT01.dwg, Truck Movements, 9/27/2023 8:51:04 AM, emg2

SEE ROAD WAY IMPROVEMENTS PLAN
FOR MONROE AVE IMPROVEMENTS



SCALE: 1" = 50'

50 25 0 50 100

LEGEND

- PROPERTY LINE
- 840.00 — EXISTING SPOT ELEVATION
- 840 — EXISTING CONTOURS
- 840 — PROPOSED CONTOURS
- 840.00 — PROPOSED SPOT GRADES
- (840.00) — PROPOSED TOP OF CURB GRADE
- T/I 840.00 — PROPOSED TOP OF ISLAND GRADE
- PROPOSED STORM INLETS / MANHOLES
- LIMITS OF DISTURBANCE = 20.57 ACRES EXCLUDING MUNROE AVE IMPROVEMENTS
- WETLANDS
- SWALE

NOTES:

- CONTRACTOR TO OBTAIN RIGHT-OF-WAY EXCAVATION PERMIT PRIOR TO BEGINNING SITE WORK.
- CONSTRUCTION FENCING TO BE INSTALLED AROUND ENTIRE CONSTRUCTION SITE. COORDINATE WITH OWNER FOR FENCING AND GATE LOCATIONS AND APPROPRIATE SIGNAGE INSTALLATION.
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FINISHED FLOOR ELEV.
PROPOSED CONVENIENCE STORE = 905.50 FEET

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rasmith.com

OVERALL GRADING PLAN

CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL

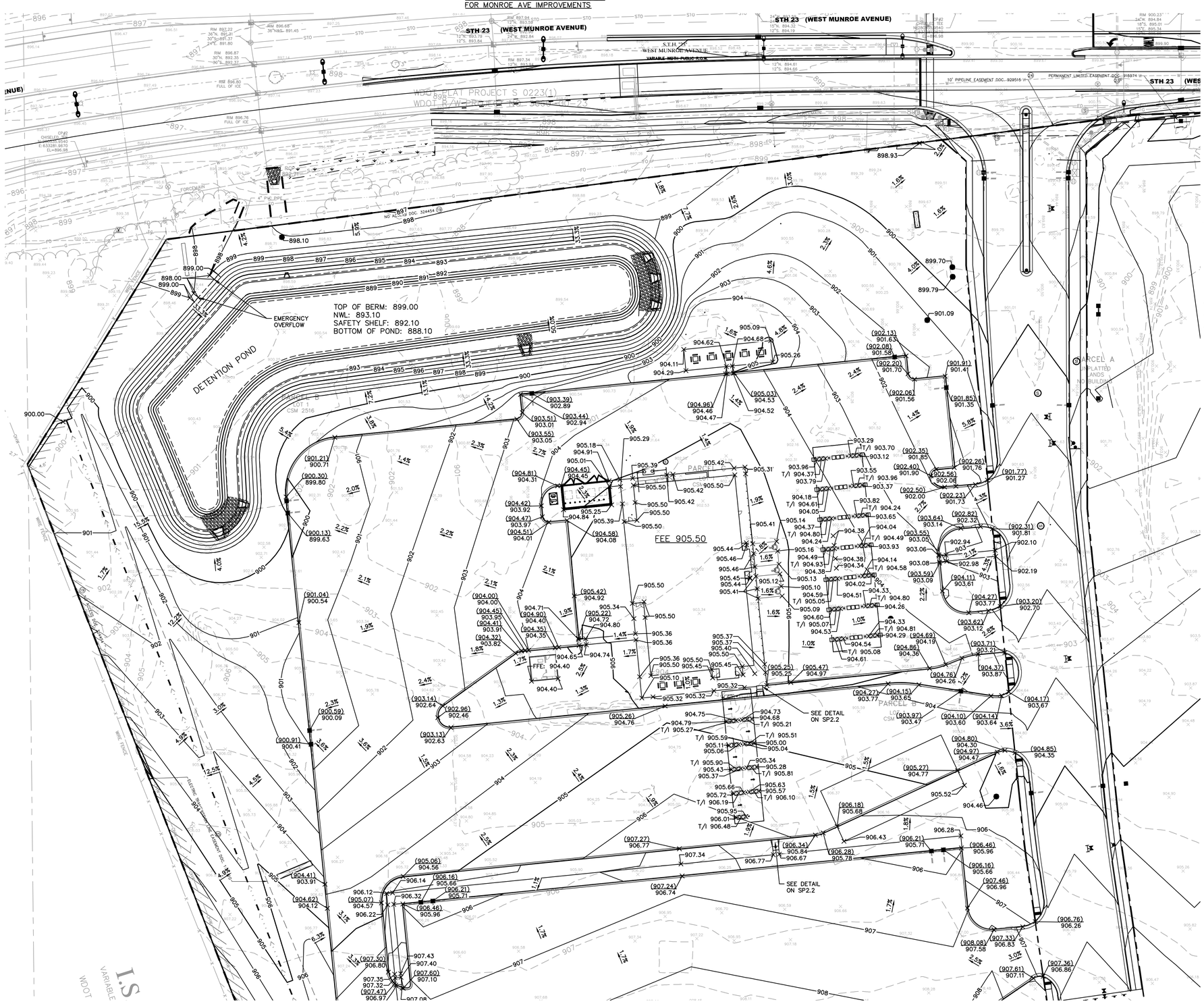
HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	SP2.0

P:\3220019\Dwg\Sheets\3220019-GP01.dwg, OVERALL GRADING PLAN, 9/27/2023 8:51:29 AM, emg2

SEE ROAD WAY IMPROVEMENTS PLAN
FOR MONROE AVE IMPROVEMENTS



SCALE: 1" = 40'

LEGEND

- PROPERTY LINE
- 840.00 × — EXISTING SPOT ELEVATION
- 840 — EXISTING CONTOURS
- 840 — PROPOSED CONTOURS
- 840.00 × — PROPOSED SPOT GRADES
- (840.00) × — PROPOSED TOP OF CURB GRADE
- T/I 840.00 × — PROPOSED TOP OF ISLAND GRADE
- ■ ● — PROPOSED STORM INLETS / MANHOLES
- LIMITS OF DISTURBANCE
- WETLANDS
- SWALE

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FINISHED FLOOR ELEV.
PROPOSED CONVENIENCE STORE = 905.50 FEET

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DETAILED GRADING PLAN - NORTH

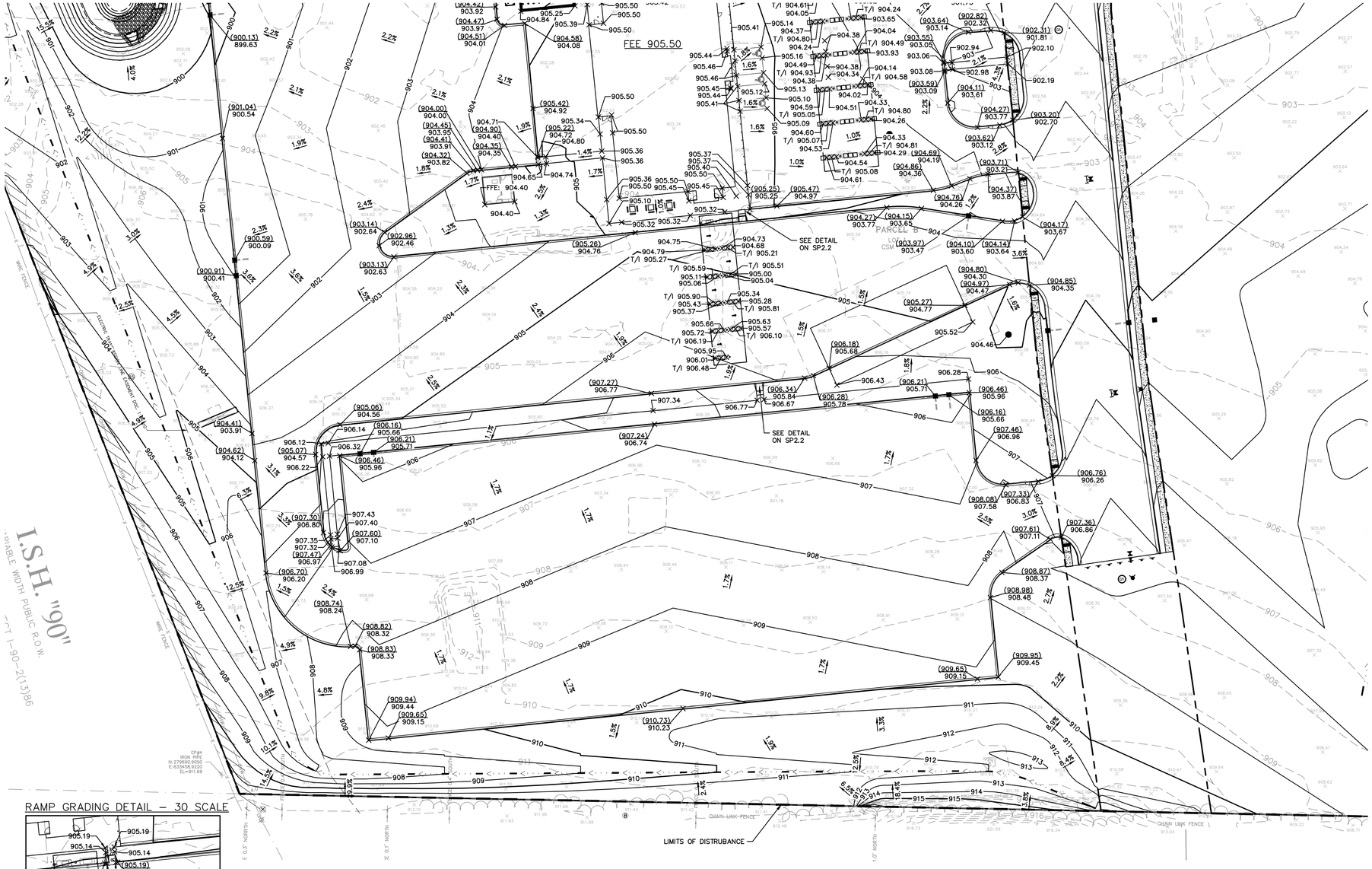
CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL

HIGHWAY 23
LAKE DELTON, WI

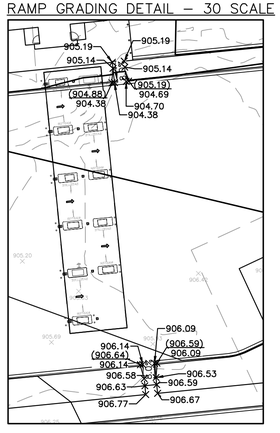
#	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	SP2.1

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RAMP GRADING DETAIL – 30 SCALE



SCALE: 1" = 40'

LEGEND

- PROPERTY LINE
- 840.00 EXISTING SPOT ELEVATION
- 840 EXISTING CONTOURS
- 840 PROPOSED CONTOURS
- 840.00 PROPOSED SPOT GRADES
- (840.00) PROPOSED TOP OF CURB GRADE
- T/I 840.00 PROPOSED TOP OF ISLAND GRADE
- PROPOSED STORM INLETS / MANHOLES
- LIMITS OF DISTURBANCE
- WETLANDS
- SWALE

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FINISHED FLOOR ELEV.
PROPOSED CONVENIENCE STORE = 905.50 FEET

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DETAILED GRADING PLAN - SOUTH

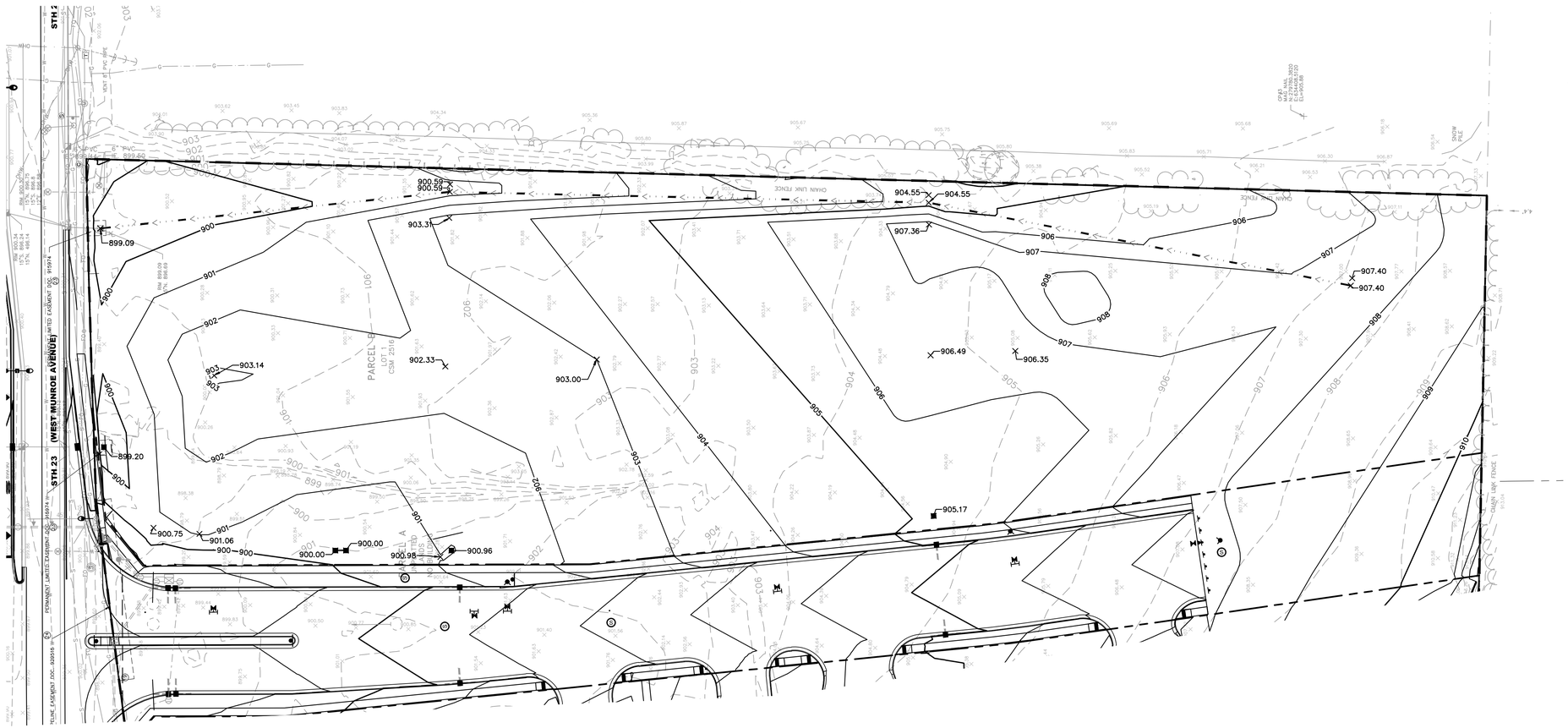
CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL
HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	SP2.2

P:\3220019\Dwg\Sheets\3220019-GPD2.dwg, DETAILED GRADING PLAN - SOUTH, 9/27/2023 8:52:01 AM, emg2

SEE ROAD WAY IMPROVEMENTS PLAN
FOR MONROE AVE IMPROVEMENTS



SCALE: 1" = 40'

LEGEND	
	PROPERTY LINE
840.00 ×	EXISTING SPOT ELEVATION
840	EXISTING CONTOURS
840	PROPOSED CONTOURS
840.00 ×	PROPOSED SPOT GRADES
(840.00) ×	PROPOSED TOP OF CURB GRADE
T/I 840.00 ×	PROPOSED TOP OF ISLAND GRADE
	PROPOSED STORM INLETS / MANHOLES
	LIMITS OF DISTURBANCE
	WETLANDS
	SWALE

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FINISHED FLOOR ELEV.
PROPOSED CONVENIENCE STORE = 905.50 FEET

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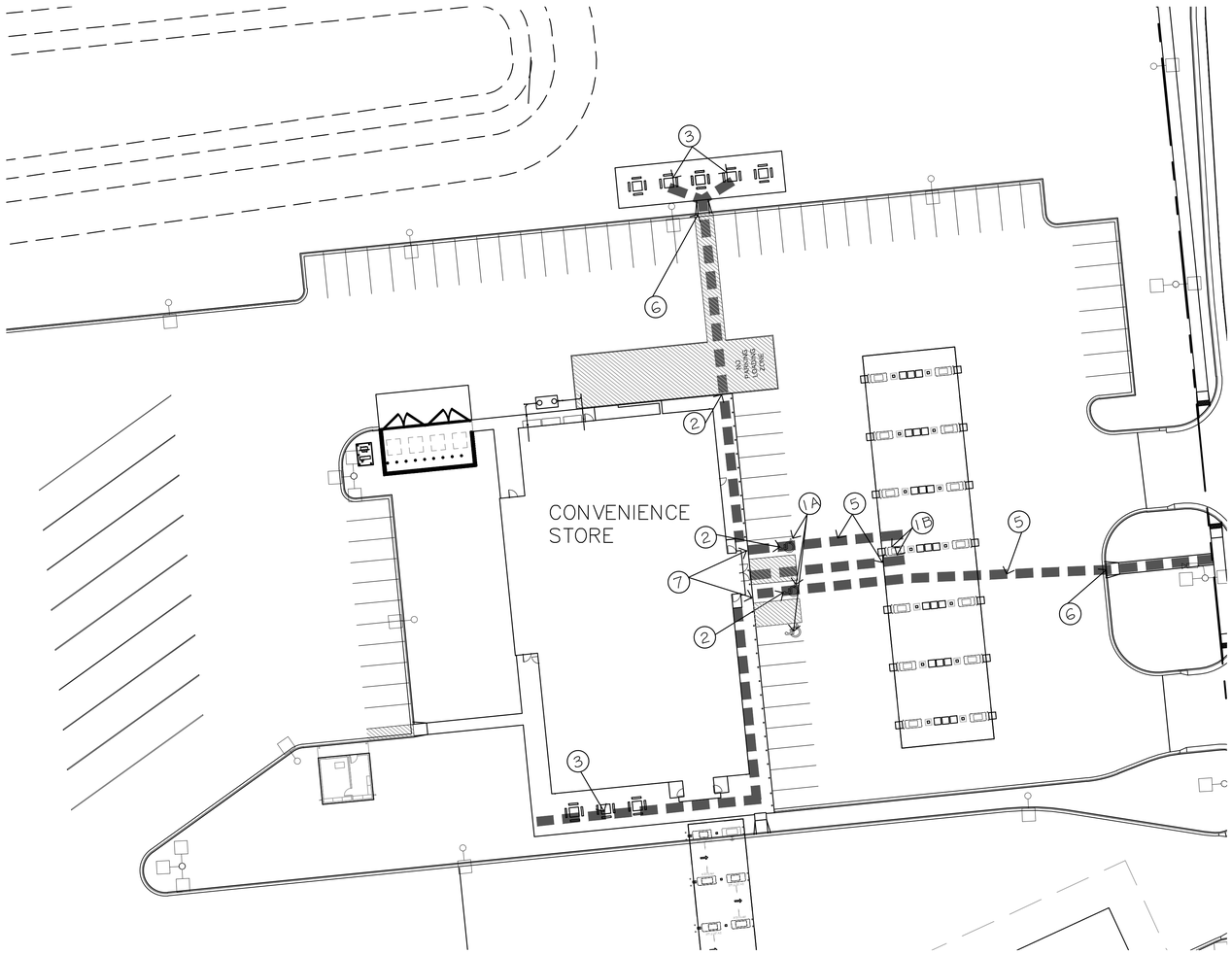
DETAILED GRADING PLAN - EAST

CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL
HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	SP2.3

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PLAN KEYNOTES

1. ACCESSIBLE STALLS
   A. STRIPING – 4" WIDE STALL LINES, USE HIGH VISIBILITY BLUE PAINT.
   SPACES PROVIDED
   (2) 8'–0" x 20'–0" MIN. ACCESSIBLE PARKING WITH
   (1) 8'–0" x 20'–0" MIN. LOADING ZONE
   B. ACCESSIBLE FUELING POINT AND DISPENSER AND VALET. VALET AND KEY PAD ON PUMP SHALL CONFORM TO ADA REACH DIMENSIONS AS SHOWN IN DETAIL. SEE NOTES FOR CONVENIENCE STORE ACCESSIBILITY.
2. PAVEMENTS FLUSH FOR ACCESSIBILITY.
3. PICNIC TABLE W/ ACCESSIBLE PLACEMENT, PROVIDE TRASH CONTAINER; CONFIRM WITH OWNER FOR FINAL LOCATIONS.
4. NOT USED.
5. ACCESSIBLE ROUTE TO STORE.
6. CURB RAMP.
7. ADA BOLLARD SIGNAGE.

SCALE: 1" = 30'

NOTES FOR CONVENIENCE STORE ACCESSIBILITY

AT LEAST 1 MPD(MULTI PRODUCT DISPENSER) COVERING ALL GRADES OF FUEL MUST BE ACCESSIBLE IN A 30"X48" CLEAR LEVEL FLOOR AREA(CLF).

ALL PUMP CONTROLS SHALL BE < 48"(2010 STANDARD). WINDOW WASHER, PAPER TOWEL DISPENSER, LITERATURE, FIRE EXTINGUISHER, EMERGENCY FUEL STOPS, ETC. BE ACCESSIBLE 30"X48" CLF SPACE AND WITHIN A FORWARD OR SIDE APPROACH REACH RANGE.

PROVIDE ISA(INDUSTRY STANDARD ARCHITECTURE) AT EACH ACCESSIBLE FUEL POSITION ON FACE OF PUMP.

PROVIDE ISA AT EACH ACCESSIBLE FUELING POSITION VISIBLE TO APPROACHING VEHICLES.

PROVIDE A SIGN AT EACH ACCESSIBLE FUELING POSITION WITH STORE TELEPHONE NUMBER, ADVISING AVAILABLE FUELING ASSISTANCE.

NOTES:

–REFER TO THE DOCUMENT FROM THE DEPARTMENT OF JUSTICE ON "2010 ADA STANDARDS FOR ACCESSIBLE DESIGN". CONTRACTOR SHALL REFERENCE CURRENT A.D.A. GUIDELINES AND LOCAL REGULATIONS FOR SITE ACCESSIBILITY. IN ALL CASES THE MINIMUM REQUIREMENTS SHALL BE PROVIDED ON SITE TO ENSURE COMPLIANCE TO ALL REGULATIONS.

– KWIK TRIP STANDARD ENTRANCE DOOR IS AUTOMATIC SLIDING DOOR SYSTEM DESIGNED TO COMPLY WITH ALL ACCESS CODES AND LAWS. ENTRANCE DOORS FOR ACCESSIBLE ROUTES WILL HAVE A MINIMUM CLEAR OPENING OF 32"

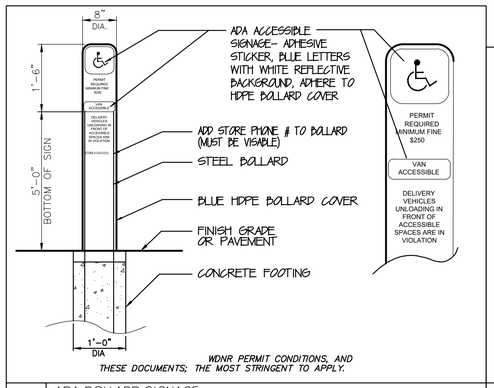
–STORE FRONTS WILL PROVIDE FLUSH PAVEMENTS ALONG ACCESSIBLE ROUTES WITH PROTECTIVE SECURITY BOLLARDS INDICATED AND SPACED BETWEEN PARKING SURFACES AND BUILDING WALK PER PLAN.

–NO OBJECTS OR DISPLAYS SHOULD PROTRUDE INTO THE MINIMUM CLEAR SPACE OF THE ACCESSIBLE ROUTES TO THE STORE ENTRANCE. THIS WILL INCLUDE SEASONAL DISPLAY VENDING AREAS AS WELL AS OTHER OUTDOOR STORAGE UNITS FOR PROPANE AND ICE, ETC.

–PER A.D.A GUIDELINES– CLEAR WIDTH OF ACCESSIBLE ROUTES SHALL BE 36" AND PERMITTED TO BE REDUCED TO 32" FOR A LENGTH OF 24".

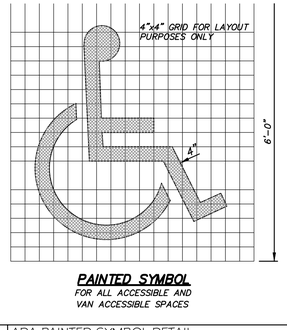
– ACCESS ISLES SERVING WHEEL CHAIR LIFTS OR CHAIR ACCESS FROM VEHICLES ARE REQUIRED TO BE NEARLY LEVEL IN ALL DIRECTIONS TO PROVIDE SAFE TRANSFER OF WHEELCHAIRS TO AND FROM VEHICLES. THE EXCEPTION WOULD BE FOR DRAINAGE. MAXIMUM SLOPE FOR THE ACCESS ISLE IS 1:48. NO CURB RAMPS SHALL BE A PART OF THE ACCESS ISLE.

–IDENTIFICATION SIGNS SHALL INCLUDE THE INTERNATIONAL SYMBOL OF ACCESSIBILITY WITH THE DESIGNATION OF 1 "VAN ACCESSIBLE' IN EVERY 8 ACCESSIBLE SPACES ON SITE.



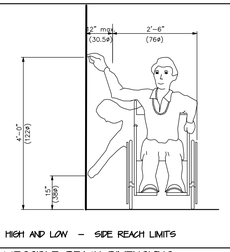
WDNR PERMIT CONDITIONS, AND THESE DOCUMENTS; THE MOST STRINGENT TO APPLY.

ADA BOLLARD SIGNAGE
NOT TO SCALE

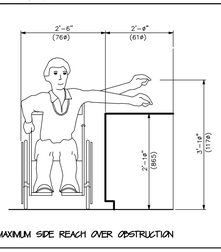


PAINTED SYMBOL
FOR ALL ACCESSIBLE AND VAN ACCESSIBLE SPACES

ADA PAINTED SYMBOL DETAIL
NOT TO SCALE

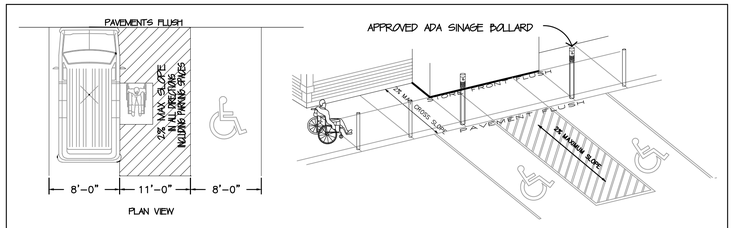


HIGH AND LOW – SIDE REACH LIMITS



MAXIMUM SIDE REACH OVER OBSTRUCTION

ACCESSIBLE REACH DIMENSIONS
NOT TO SCALE



VAN ACCESSIBLE PARKING
NOT TO SCALE

811 Know what's **below.** **Call** before you dig.

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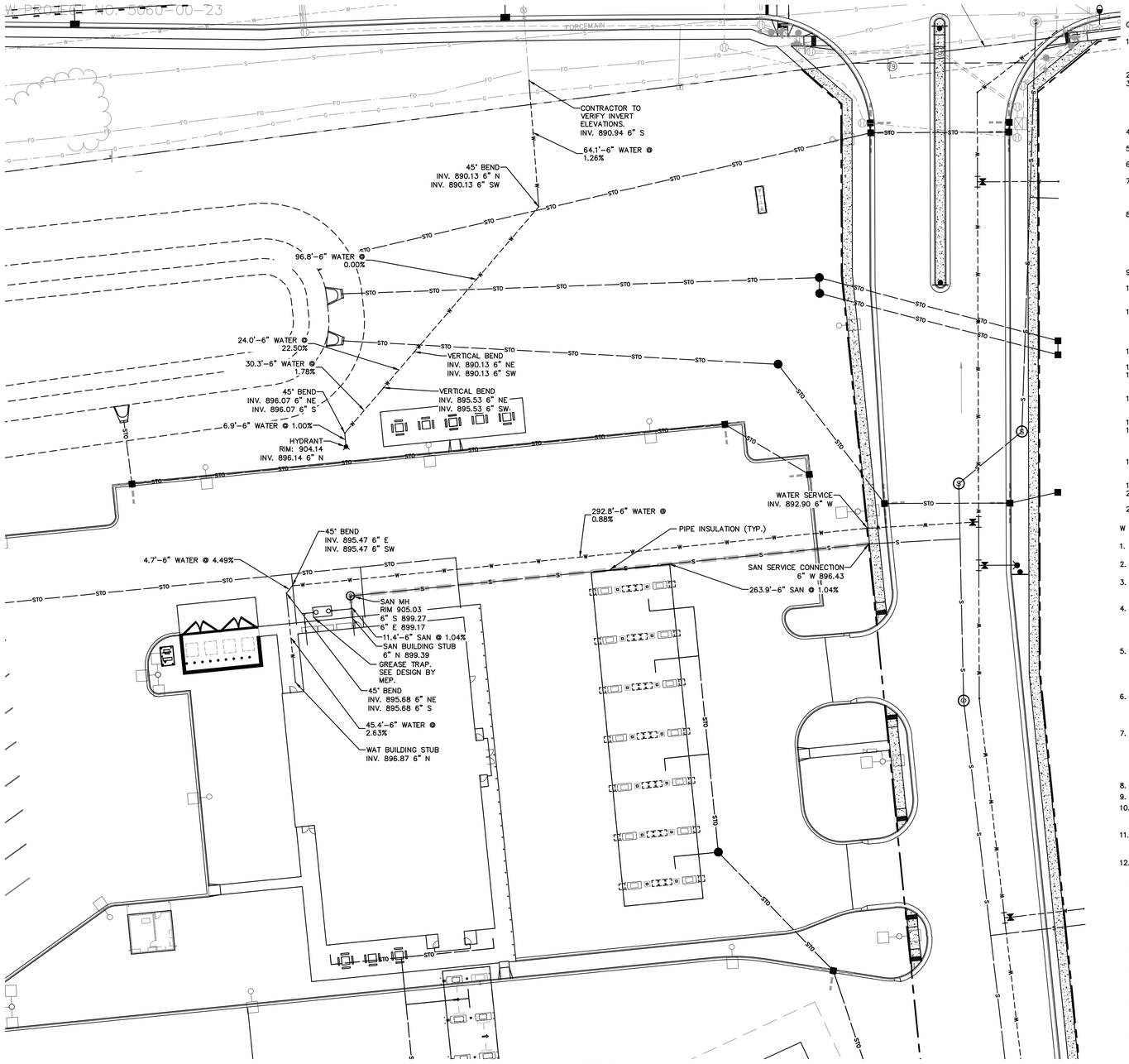
ACCESSIBLE PLAN

CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL
HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	SP2.4

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811 Know what's **below.** **Call** before you dig.

LEGEND

- PROPERTY LINE
- PROPOSED 18" CURB & GUTTER
- PROPOSED SANITARY SEWER LINE
- PROPOSED STORM SEWER LINE
- PROPOSED STORM INLET/MANHOLE
- PROPOSED WATER MAIN
- PROPOSED HYDRANT
- PROPOSED VALVE
- PROPOSED GAS LINE
- PROPOSED ELECTRICAL LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING WATER MAIN
- EXISTING ELECTRICAL LINE
- EXISTING OVERHEAD WIRING
- EXISTING TELEPHONE LINE
- EXISTING FIBER OPTIC LINE
- EXISTING GAS LINE

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SCALE: 1" = 30'

30 15 0 30 60

GENERAL:

1. COMPLY WITH THE WORK SAFETY PRACTICES SPECIFIED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA). COMPLY WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY REGULATIONS. OSHA PROHIBITS ENTRY INTO "CONFINED SPACES," SUCH AS MANHOLES AND INLETS (SEE 29 CFR SECTION 1910.146), WITHOUT UNDERTAKING CERTAIN SPECIFIC PRACTICES AND PROCEDURES. CONSTRUCTION SAFETY IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR, WHO IS ALSO SOLELY RESPONSIBLE FOR THE MEANS, METHODS, AND SEQUENCING OF THE CONSTRUCTION OPERATIONS.
2. PERFORM ALL UTILITY WORK IN ACCORDANCE WITH STATE AND VILLAGE REQUIREMENTS.
3. CONNECT TO EXISTING SANITARY SEWER MH'S BY COREDRILLING. CONNECT TO EXISTING STORM SEWER MH'S BY EITHER SAWCUTTING OR COREDRILLING. USE SAWS OR DRILLS THAT PROVIDE WATER TO THE BLADE. MEET ALL CITY STANDARDS AND SPECIFICATIONS FOR THE THE CONNECTION. RECONSTRUCT INVERTS AFTER INSTALLATION. USE WATER STOP GASKETS IN ORDER TO PROVIDE WATERTIGHT SEALS WHEN PENETRATING A STRUCTURE WALL WITH A PIPE. TAKE MEASUREMENTS BEFORE BEGINNING CONSTRUCTION TO ENSURE THAT SERVICE CONNECTIONS DO NOT CUT INTO MAINTENANCE ACCESS STRUCTURE JOINTS OR PIPE BARREL JOINTS. DO NOT ALLOW THE SLURRY PRODUCED BY THIS PROCESS TO BE TRACKED OUTSIDE OF THE IMMEDIATE WORK AREA OR DISCHARGED INTO THE SEWER SYSTEM.
4. PERFORM TRENCH EXCAVATIONS FOR ALL UTILITIES IN ACCORDANCE WITH THE REQUIREMENTS OF O.S.H.A. 29 CFR, PART 1926, SUBPART P, "EXCAVATIONS AND TRENCHES." (WWW.OSHA.GOV)
5. COORDINATE BUILDING UTILITY CONNECTION LOCATIONS AT 5 FT. OUT FROM THE PROPOSED BUILDING WITH THE WITH THE INTERIOR PLUMBING CONTRACTOR PRIOR TO CONSTRUCTION. VERIFY WATER AND SEWER SERVICE LOCATIONS AND ELEVATIONS WITH THE MECHANICAL ENGINEER PRIOR TO CONSTRUCTION.
6. THE SUBSURFACE UTILITY INFORMATION SHOWN ON THIS PLAN IS UTILITY QUALITY LEVEL D. THIS QUALITY LEVEL WAS DETERMINED ACCORDING TO THE GUIDELINES OF CI/ASCE 38-02, ENTITLED "STANDARD GUIDELINES FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA."
7. THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THIS PLAN ARE FROM RECORD INFORMATION. THE ENGINEER DOES NOT GUARANTEE THAT ALL EXISTING UTILITIES ARE SHOWN OR, IF SHOWN, EXIST IN THE LOCATIONS INDICATED ON THE PLAN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASCERTAIN THE FINAL VERTICAL AND HORIZONTAL LOCATION OF ALL EXISTING UTILITIES (INCLUDING WATER AND SEWER LINES AND APPURTENANCES). NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
8. CONTACT UTILITY COMPANIES FOR LOCATIONS OF ALL PUBLIC AND PRIVATE UTILITIES WITHIN THE WORK AREA PRIOR TO BEGINNING CONSTRUCTION. CONTACT DIGGER'S HOTLINE AT (414) 259-1181 IN THE MILWAUKEE METRO AREA, OR 1-800-242-8511 ELSEWHERE IN WISCONSIN FOR EXACT LOCATIONS OF EXISTING UTILITIES AT LEAST 72 HOURS (NOT INCLUDING WEEKENDS AND HOLIDAYS) BEFORE BEGINNING ANY CONSTRUCTION. OBTAIN TICKET NUMBER AND MEET WITH REPRESENTATIVES OF THE VARIOUS UTILITIES AT THE SITE. PROVIDE THE OWNER WITH THE TICKET NUMBER INFORMATION. DIGGER'S HOTLINE IS A FREE SERVICE THAT LOCATES MUNICIPAL AND UTILITY COMPANY LINES, BUT DOES NOT LOCATE PRIVATE UTILITY LINES. USE AN INDEPENDENT LOCATOR SERVICE OR OTHER MEANS IN ORDER TO OBTAIN LOCATIONS OF PRIVATE UTILITY LINES INCLUDING, BUT NOT LIMITED TO, UNDERGROUND ELECTRIC CABLES, TELEPHONE, TV, AND LAWN SPRINKLER LINES.
9. POTHOLE TO VERIFY THE POSITIONS OF EXISTING UNDERGROUND FACILITIES AT A SUFFICIENT NUMBER OF LOCATIONS IN ORDER TO ASSURE THAT NO CONFLICT WITH THE PROPOSED WORK EXISTS AND THAT SUFFICIENT CLEARANCE IS AVAILABLE.
10. WHERE EXISTING GAS, ELECTRIC, CABLE, OR TELEPHONE UTILITIES CONFLICT WITH THE WORK, COORDINATE THE ABANDONMENT, RELOCATION, OFFSET, OR SUPPORT OF THE EXISTING UTILITIES WITH THE APPROPRIATE LOCAL UTILITY COMPANIES. COORDINATE NEW GAS METER AND GAS LINE INSTALLATION, ELECTRIC METER AND ELECTRIC SERVICE INSTALLATION, CABLE SERVICE, AND TELEPHONE SERVICE INSTALLATION WITH THE LOCAL UTILITY COMPANIES.
11. ARRANGE FOR AND SECURE SUITABLE DISPOSAL AREAS OFF-SITE. DISPOSE OF ALL EXCESS SOIL, WASTE MATERIAL, DEBRIS, AND ALL MATERIALS NOT DESIGNATED FOR SALVAGE. WASTE MATERIAL AND DEBRIS INCLUDES TREES, STUMPS, PIPE, CONCRETE, ASPHALTIC CONCRETE, CANS, OR OTHER WASTE MATERIAL FROM THE CONSTRUCTION OPERATIONS. OBTAIN THE RIGHTS TO ANY WASTE AREA FOR DISPOSAL OF UNSUITABLE OR SURPLUS MATERIAL EITHER SHOWN OR NOT SHOWN ON THE PLANS. ALL WORK IN DISPOSING OF SUCH MATERIAL SHALL BE CONSIDERED INCIDENTAL TO THE WORK. ALL DISPOSAL MUST CONFORM TO APPLICABLE SOLID WASTE DISPOSAL PERMIT REGULATIONS. OBTAIN ALL NECESSARY PERMITS AT NO COST TO THE OWNER.
12. STRAIGHT LINE SAW-CUT EXISTING BITUMINOUS OR CONCRETE SURFACING AT THE PERIMETER OF PAVEMENT REMOVAL AREAS. USE SAWS THAT PROVIDE WATER TO THE BLADE. TACK, AND MATCH ALL CONNECTIONS TO EXISTING BITUMINOUS PAVEMENT.
13. RELOCATE OVERHEAD POWER, TELEPHONE, AND CABLE LINES AS REQUIRED.
14. ALL MATERIALS REQUIRED FOR THIS WORK SHALL BE NEW MATERIAL CONFORMING TO THE REQUIREMENTS FOR CLASS, KIND, GRADE, SIZE, QUALITY, AND OTHER DETAILS SPECIFIED HEREIN OR AS SHOWN ON THE PLANS. DO NOT USE RECYCLED OR SALVAGED AGGREGATE, ASPHALTIC PAVEMENT, CRUSHED CONCRETE, OR SCRAP SHINGLES. UNLESS OTHERWISE INDICATED, THE CONTRACTOR SHALL FURNISH ALL REQUIRED MATERIALS.
15. RESTORE THE PUBLIC RIGHT-OF-WAY. REPLACE ANY CONCRETE CURB AND GUTTER, BITUMINOUS PAVEMENT, SIDEWALK, OR VEGETATIVE COVER DAMAGED BY THE CONSTRUCTION ACTIVITY. RESTORE DAMAGED TURF WITH SOD WITHIN THE PUBLIC RIGHT-OF-WAY. THE WORK AREA SHOWN IS GENERAL AND MAY NEED TO BE ADJUSTED IN THE FIELD.
16. ADJUST ALL CURB STOPS, VALVE BOXES, MAINTENANCE HOLE CASTINGS, CATCHBASIN CASTINGS, CLEANOUT COVERS, AND SIMILAR ITEMS TO FINISHED GRADE.
17. INSTALL ALL PIPE WITH THE ASTM IDENTIFICATION NUMBERS ON THE TOP FOR INSPECTION. COMMENCE PIPE LAYING AT THE LOWEST POINT IN THE PROPOSED SEWER LINE. LAY THE PIPE WITH THE BELL END OR RECEIVING GROOVE END OF THE PIPE POINTING UPGRADE. WHEN CONNECTING TO AN EXISTING PIPE, UNCOVER THE EXISTING PIPE IN ORDER TO ALLOW ANY ADJUSTMENTS IN THE PROPOSED LINE AND GRADE BEFORE LAYING ANY PIPE. DO NOT LAY PIPES IN WATER OR WHEN THE TRENCH CONDITIONS ARE UNSUITABLE FOR SUCH WORK.
18. OBTAIN AND PAY FOR ALL PERMITS, TESTS, INSPECTIONS, ETC. REQUIRED BY AGENCIES THAT HAVE JURISDICTION OVER THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR ALL BONDS, LETTERS OF CREDIT, OR CASH SURETIES RELATED TO THE WORK. EXECUTE AND INSPECT WORK IN ACCORDANCE WITH ALL LOCAL AND STATE CODES, RULES, ORDINANCES, OR REGULATIONS PERTAINING TO THE PARTICULAR TYPE OF WORK INVOLVED.
19. OBTAIN PERMITS FROM THE CITY FOR WORK IN THE PUBLIC RIGHT-OF-WAY.
20. CONSTRUCT SANITARY SEWER, WATERMAIN, AND STORM SEWER UTILITIES IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN, SIXTH EDITION, THE LATEST REVISED EDITION, OR LOCAL MUNICIPAL SPECIFICATIONS, THE MORE STRINGENT SHALL APPLY.
21. ALL PROPOSED ON SITE UTILITIES ARE PRIVATE AND WILL BE MAINTAINED ACCORDINGLY.

WATER DISTRIBUTION SYSTEM:

1. BRING ALL SITE UTILITIES TO 5' OUTSIDE OF THE BUILDING LINE WITH THE EXCEPTION OF THE WATER SERVICE. EXTEND WATER SERVICE INTO THE BUILDING AND UP TO THE FLANGE FOR THE WATER METER.
2. SEPARATION OF WATER AND SEWER: PROVIDE A MINIMUM HORIZONTAL SEPARATION OF 8 FEET BETWEEN ALL WATER AND SANITARY SEWER LINES. PROVIDE A MINIMUM SEPARATION OF 18 INCHES AT ALL WATER LINE AND SANITARY SEWER LINE CROSSINGS.
3. WATERMAIN DEPTH: MAINTAIN 7.0 FEET OF COVER OVER THE TOP OF THE WATER LINES TO THE FINISHED GRADE. VERIFY ELEVATION OF PROPOSED AND EXISTING WATER LINES AT ALL UTILITY CROSSINGS. INSTALL THE WATER LINES AT GREATER DEPTHS IN ORDER TO CLEAR STORM SEWERS, SANITARY SEWERS, OR OTHER UTILITIES AS REQUIRED. INCLUDE COSTS TO LOWER WATER LINES IN THE BASE BID.
4. DISINFECTION: DISINFECT ALL COMPLETED WATERMAINS IN ACCORDANCE WITH AWWA STANDARD C651. IF THE TABLET OR CONTINUOUS FEED METHODS ARE USED, DISINFECT USING WITH WATER THAT CONTAINS AT LEAST 50 PPM OF AVAILABLE CHLORINE. RETAIN THE TREATED WATER IN THE PIPELINE FOR AT LEAST 24 HOURS. MEASURE THE CHLORINE RESIDUAL AT THE END OF THE 24 HOUR PERIOD. THE FREE CHLORINE RESIDUAL MUST BE AT LEAST 10 MG/L MEASURED AT ANY POINT IN THE LINE. MEASUREMENT OF THE CHLORINE CONCENTRATION AT REGULAR INTERVALS SHALL BE IN ACCORDANCE WITH STANDARD METHODS, AWWA M-12, OR USING APPROPRIATE CHLORINE TEST KITS.
5. TESTING: PRESSURE TEST AND PERFORM BACTERIOLOGICAL TESTS ON ALL WATER LINES UNDER THE SUPERVISION OF THE CITY PUBLIC WORKS DEPARTMENT. NOTIFY THE CITY AT LEAST 24 WORKING HOURS PRIOR TO ANY TESTING. PRESSURIZE THE WATERLINE TO 1034-KPA (150-PSI) GAUGE PRESSURE (MEASURED AT THE POINT OF LOWEST ELEVATION) BY MEANS OF A PUMP CONNECTED TO THE PIPE IN A SATISFACTORY MANNER. MAINTAIN THE TEST PRESSURE FOR A MINIMUM OF 2 HOURS. DO NOT ADD WATER TO THE WATERMAIN IN ORDER TO MAINTAIN THE REQUIRED PRESSURE DURING THE WATER MAIN PRESSURE TESTING. THE TEST SECTION OF PIPE IS ACCEPTABLE WITH A PRESSURE DROP OF 14 KPA (2 PSI) OR LESS.
6. USE MECHANICAL JOINT RESTRAINT DEVICES FOR JOINT RESTRAINT ON ALL WATERMAIN BENDS HAVING A VERTICAL OR HORIZONTAL DEFLECTION OF 22-1/2 DEGREES OR GREATER, ALL VALVES, STUBS, EXTENSIONS, TEES, CROSSES, PLUGS, ALL HYDRANT VALVES, AND ALL HYDRANTS IN ACCORDANCE WITH CITY REQUIREMENTS. USE "SERIES 1100 MEGALIG" MANUFACTURED BY EBAA IRON INC., EASTLAND, TEXAS, OR APPROVED EQUAL, INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS FOR RESTRAINT ON DUCTILE IRON PIPE.
7. AT ALL VALVE LOCATIONS WHICH REQUIRE A 12" OR SMALLER VALVE, INSTALL GATE VALVES WHICH ARE OF THE COMPRESSION RESILIENT SEATED (CRS) TYPE. USE AMERICAN FLOW CONTROL'S SERIES 2500 DUCTILE IRON RESILIENT WEDGE GATE VALVE, OR APPROVED EQUAL. GATE VALVES SHALL CONFORM TO AWWA C509. INSTALL CAST IRON VALVE BOXES CONFORMING TO ASTM A48 AT EACH VALVE LOCATION. VALVE BOXES SHALL BE THE THREE-PIECE TYPE WITH 5-1/4" SHAFTS. USE TYLER 6860-G WITH NO. 6 BASE, OR EQUIVALENT. VALVE BOXES SHALL HAVE AT LEAST 6" OF ADJUSTMENT ABOVE AND BELOW FINISHED GRADE. DROP COVERS ON VALVE BOXES SHALL BE ROUND AND BEAR THE WORD "WATER" CAST ON THE TOP. USE TYLER 6860-G "STAYPUT" COVERS WITH EXTENDED SKIRT, OR EQUIVALENT.
8. USE MUELLER H 10300 OR FORD EM 2 7057, OR APPROVED EQUAL, AT ALL CURB STOP LOCATIONS. STATIONARY ROD IS REQUIRED ON ALL CURB STOPS.
9. POLYVINYL CHLORIDE (PVC) BUILDING WATER SERVICES: ASTM D2241 OR ASTM D1785; PRESSURE RATED FOR WATER.
10. POLYVINYL CHLORIDE (PVC) WATERMAIN: USE AWWA C900 FOR ALL PVC WATERMAIN FURNISHED WITH INTEGRAL ELASTOMERIC BELL AND SPIGOT JOINTS; MINIMUM PRESSURE CLASS 150; DIMENSION RATIO NOT GREATER THAN 18; LAYING LENGTH 20 FEET. USE EBAA IRON, INC., "SERIES 2000 PV MEGALUG," OR APPROVED EQUAL FOR RESTRAINT ON C900 PVC WATERMAIN. LAY TRACE WIRE WITH ALL C900 PVC WATERMAIN.
11. TRACER WIRE: LOCATING REQUIREMENTS – A MEANS TO LOCATE BURIED UNDERGROUND EXTERIOR NON METALLIC SEWERS/MAINS MUST BE PROVIDED WITH TRACER WIRE OR OTHER METHODS IN ORDER TO BE LOCATED IN ACCORD WITH THE PROVISIONS OF THE WISCONSIN STATUTES 182.0175(2R) AND THE WISCONSIN DSPS 382.30(11)(H).
12. TRENCH SECTION SHALL CONFORM TO SECTION 4.3.C, FILE NO. 38 OF THE STANDARD SPECIFICATIONS. SAND OR STONE CHIP BEDDING MATERIAL IS REQUIRED.

SANITARY SEWER:

1. PIPE: USE SOLID-CORE, SDR-35, ASTM D3034 (OR APPROVED EQUAL) POLYVINYL CHLORIDE (PVC) PLASTIC PIPE FOR ALL DESIGNATED PVC SANITARY SEWER SERVICES. JOINTS FOR ALL SANITARY SEWER SHALL HAVE PUSH-ON JOINTS WITH ELASTOMERIC GASKETS. USE OF SOLVENT CEMENT JOINTS IS ALLOWED FOR BUILDING SERVICES. SOLVENT CEMENT JOINTS IN PVC PIPE MUST INCLUDE USE OF A PRIMER WHICH IS OF CONTRASTING COLOR TO THE PIPE AND CEMENT. PIPE WITH SOLVENT CEMENT JOINTS SHALL BE JOINED WITH PVC CEMENT CONFORMING TO ASTM D2564. LAY ALL PVC PIPE ON A CONTINUOUS GRANULAR BED. INSTALLATION MUST COMPLY WITH ASTM D2321.
2. SANITARY SEWER DEPTH: MAINTAIN 5.5 FEET OF COVER OVER THE TOP OF THE SANITARY SEWER LINES TO THE FINISHED GRADE. VERIFY ELEVATION OF PROPOSED AND EXISTING SANITARY LINES AT ALL UTILITY CROSSINGS. USE PIPE INSTALLATION WHERE 5.5 FEET OF COVER IS NOT POSSIBLE.
3. CLEANOUTS: INSTALL CLEANOUTS ON ALL SANITARY SEWER SERVICES. CLEANOUTS SHALL BE OF THE SAME NOMINAL SIZE AS THE PIPES THEY SERVE. INCLUDE FROST SLEEVES AND CONCRETE FRAME AND PIPE SUPPORT. INSTALL A METER BOX FRAME AND SOLID LID (NEENAH R-1914-A, OR APPROVED EQUAL) OVER ALL CLEANOUTS.
4. TESTING: PRESSURE TEST ALL SANITARY SEWER LINES. TEST ALL FLEXIBLE SANITARY SEWER LINES FOR DEFLECTION AFTER THE SEWER LINE HAS BEEN INSTALLED AND BACKFILL HAS BEEN IN PLACE FOR AT LEAST 30 DAYS. NO PIPE SHALL EXCEED A DEFLECTION OF 5%. IF THE TEST FAILS, MAKE NECESSARY REPAIRS AND RETEST.
5. UNLESS OTHERWISE INDICATED, USE REINFORCED, PRECAST, CONCRETE MAINTENANCE HOLES CONFORMING TO ASTM C478, FURNISHED WITH PRECAST BASES. SANITARY SEWER MAINTENANCE HOLES SHALL BE SUPPLIED WITH PRE-FORMED INVERTS AND FLEXIBLE NEOPRENE SLEEVE CONNECTIONS FOR ALL LATERAL LINES 375 MM (15 INCHES) IN DIAMETER OR LESS, UNLESS OTHERWISE INDICATED. JOINTS FOR ALL PRECAST MAINTENANCE HOLE SECTIONS SHALL HAVE CONFINED, RUBBER "O"-RING GASKETS IN ACCORDANCE WITH ASTM C923. THE INSIDE BARREL DIAMETER SHALL NOT BE LESS THAN 48 INCHES.
6. INSTALL FLEXIBLE WATERTIGHT FRAME/CHIMNEY SEALS ON ALL SANITARY SEWER MAINTENANCE HOLES. USE EITHER MANUFACTURED MAINTENANCE HOLE FRAME/CHIMNEY SEALS OR ELASTOMERIC WATERPROOFING FRAME/CHIMNEY SEALS.
7. USE NEENAH FOUNDRY CO. R-1642 CASTING WITH SELF-SEALING, SOLID, TYPE B LID, OR APPROVED EQUAL, ON ALL SANITARY SEWER MAINTENANCE HOLES. COVERS SHALL BEAR THE "SANITARY SEWER" LABEL.
8. TRACER WIRE: LOCATING REQUIREMENTS – A MEANS TO LOCATE BURIED UNDERGROUND EXTERIOR NON METALLIC SEWERS/MAINS MUST BE PROVIDED WITH TRACER WIRE AND TERMINAL BOXES IN ORDER TO BE LOCATED IN ACCORD WITH THE PROVISIONS OF THE WISCONSIN STATUTES 182.0175(2R) AND THE WISCONSIN DSPS 382.30(11)(H).
9. TRENCH SECTION SHALL BE CLASS "B" BEDDING. CRUSHED STONE CHIPS SHALL BE USED FOR BEDDING MATERIAL. PREFABRICATED WYE CONNECTIONS ARE REQUIRED FOR SANITARY LATERALS

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rasmith.com

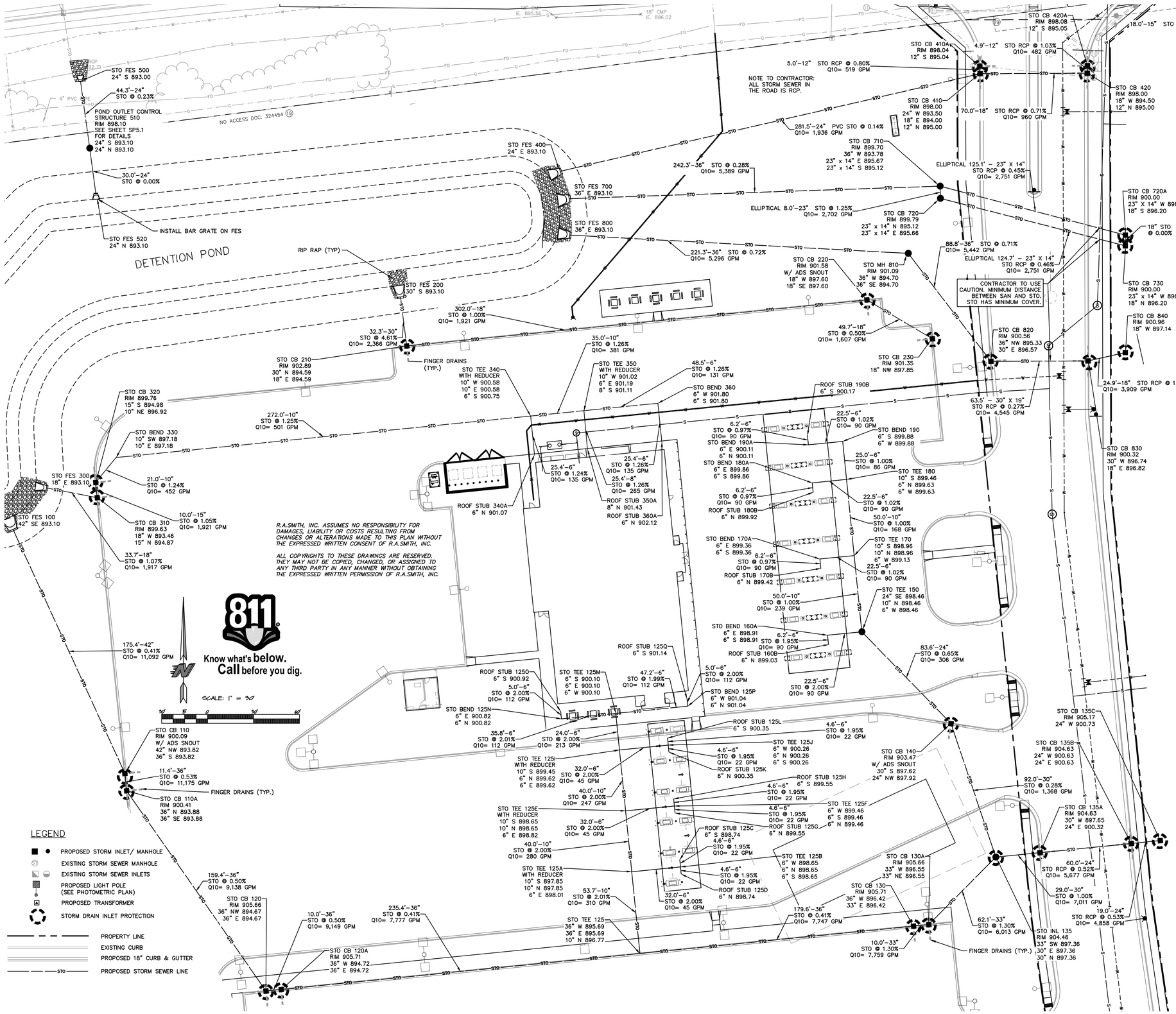
PRIVATE UTILITY PLAN

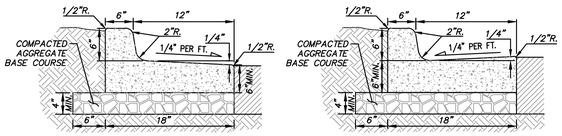
CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL
HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	SP4.0

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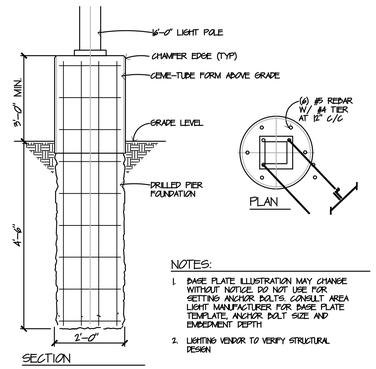

STO FES 500
24" S 893.00
44.3'–24"
STO @ 0.23%
POND OUTLET CONTROL STRUCTURE 510
RIM 898.10
SEE SHEET SP5.1 FOR DETAILS
24" S 893.10
24" N 893.10
30.0'–24"
STO @ 0.00%
STO FES 520
24" N 893.10
INSTALL BAR GRATE ON FES
DETENTION POND
RIP RAP (TYP)
STO FES 200
30" S 893.10
STO FES 400
24" E 893.10
STO FES 700
36" E 893.10
STO FES 800
36" E 893.10
NO ACCESS DOC. 324454
18" CMP IE. 895.56
18" CMP IE. 896.02
4" PVC IE. 897.73
NOTE TO CONTRACTOR: ALL STORM SEWER IN THE ROAD IS RCP.
5.0'–12" STO RCP @ 0.80% Q10= 519 GPM
281.5'–24" PVC STO @ 0.14% Q10= 1,936 GPM
242.3'–36" STO @ 0.28% Q10= 5,389 GPM
221.3'–36" STO @ 0.72% Q10= 5,296 GPM
302.0'–18" STO @ 1.00% Q10= 1,921 GPM
32.3'–30" STO @ 4.61% Q10= 2,366 GPM
272.0'–10" STO @ 1.25% Q10= 501 GPM
21.0'–10" STO @ 1.24% Q10= 452 GPM
10.0'–15" STO @ 1.05% Q10= 1,921 GPM
33.7'–18" STO @ 1.07% Q10= 1,917 GPM
175.4'–42" STO @ 0.41% Q10= 11,092 GPM
159.4'–36" STO @ 0.50% Q10= 9,138 GPM
10.0'–36" STO @ 0.50% Q10= 9,149 GPM
235.4'–36" STO @ 0.41% Q10= 7,777 GPM
STO CB 210 RIM 902.89 30" N 894.59 18" E 894.59
FINGER DRAINS (TYP.)
STO TEE 340 WITH REDUCER 10" W 900.58 10" E 900.58 6" S 900.75
35.0'–10" STO @ 1.26% Q10= 381 GPM
STO TEE 350 WITH REDUCER 10" W 901.02 6" E 901.19 8" S 901.11
48.5'–6" STO @ 1.26% Q10= 131 GPM
STO BEND 360 6" W 901.80 6" S 901.80
ROOF STUB 190B 6" S 900.17
STO CB 320 RIM 899.76 15" S 894.98 10" NE 896.92
STO BEND 330 10" SW 897.18 10" E 897.18
STO FES 300 18" E 893.10
STO FES 100 42" SE 893.10
STO CB 310 RIM 899.63 18" W 893.46 15" N 894.87
STO CB 110 RIM 900.09 W/ ADS SNOUT 42" NW 893.82 36" S 893.82
11.4'–36" STO @ 0.53% Q10= 11,175 GPM
FINGER DRAINS (TYP.)
STO CB 110A RIM 900.41 36" N 893.88 36" SE 893.88
STO CB 120 RIM 905.66 36" NW 894.67 36" E 894.67
STO CB 120A RIM 905.71 36" W 894.72 36" E 894.72
ROOF STUB 340A 6" N 901.07
ROOF STUB 350A 8" N 901.43
ROOF STUB 360A 6" N 902.12
25.4'–6" STO @ 1.24% Q10= 135 GPM
25.4'–6" STO @ 1.26% Q10= 135 GPM
25.4'–8" STO @ 1.26% Q10= 265 GPM
6.2'–6" STO @ 0.97% Q10= 90 GPM STO BEND 190A 6" E 900.11 6" N 900.11
STO BEND 180A 6" E 899.86 6" S 899.86
6.2'–6" STO @ 0.97% Q10= 90 GPM
ROOF STUB 180B 6" N 899.92
STO BEND 170A 6" E 899.36 6" S 899.36
6.2'–6" STO @ 0.97% Q10= 90 GPM
ROOF STUB 170B 6" N 899.42
STO BEND 160A 6" E 898.91 6" S 898.91
6.2'–6" STO @ 1.95% Q10= 90 GPM
ROOF STUB 160B 6" N 899.03
ROOF STUB 125O 6" S 901.14
ROOF STUB 125O 6" S 900.92
5.0'–6" STO @ 1.00% Q10= 112 GPM
STO BEND 125N 6" E 900.82 6" N 900.82
STO TEE 125M 6" S 900.10 6" E 900.10 6" W 900.10
47.2'–6" STO @ 1.99% Q10= 112 GPM
STO BEND 125P 6" W 901.04 6" N 901.04
5.0'–6" STO @ 2.00% Q10= 112 GPM
35.8'–6" STO @ 2.01% Q10= 112 GPM
24.0'–6" STO @ 2.00% Q10= 213 GPM
STO TEE 125I WITH REDUCER 10" S 899.45 6" N 899.62 6" E 899.62
32.0'–6" STO @ 2.00% Q10= 45 GPM
40.0'–10" STO @ 2.00% Q10= 247 GPM
STO TEE 125E WITH REDUCER 10" S 898.65 10" N 898.65 6" E 898.82
32.0'–6" STO @ 2.00% Q10= 45 GPM
40.0'–10" STO @ 2.00% Q10= 280 GPM
STO TEE 125A WITH REDUCER 10" S 897.85 10" N 897.85 6" E 898.01
53.7'–10" STO @ 2.01% Q10= 310 GPM
32.0'–6" STO @ 2.00% Q10= 45 GPM
STO TEE 125 36" W 895.69 36" E 895.69 10" N 896.77
ROOF STUB 125L 6" S 900.35
4.6'–6" STO @ 1.95% Q10= 22 GPM
STO TEE 125J 6" W 900.26 6" N 900.26 6" S 900.26
4.6'–6" STO @ 1.95% Q10= 22 GPM
ROOF STUB 125K 6" N 900.35
ROOF STUB 125H 6" S 899.55
4.6'–6" STO @ 1.95% Q10= 22 GPM
STO TEE 125F 6" W 899.46 6" S 899.46 6" N 899.46
4.6'–6" STO @ 1.95% Q10= 22 GPM
ROOF STUB 125G 6" N 899.55
ROOF STUB 125C 6" S 898.74
4.6'–6" STO @ 1.95% Q10= 22 GPM
4.6'–6" STO @ 1.95% Q10= 22 GPM
ROOF STUB 125D 6" N 898.74
STO TEE 125B 6" W 898.65 6" N 898.65 6" S 898.65
STO CB 130A RIM 905.66 33" W 896.55 33" NE 896.55
STO CB 130 RIM 905.71 36" W 896.42 33" E 896.42
179.6'–36" STO @ 0.41% Q10= 7,747 GPM
10.0'–33" STO @ 1.30% Q10= 7,759 GPM
62.1'–33" STO @ 1.30% Q10= 6,013 GPM
FINGER DRAINS (TYP.)
STO INL 135 RIM 904.46 33" SW 897.36 30" E 897.36 30" N 897.36
STO CB 140 RIM 903.47 W/ ADS SNOUT 30" S 897.62 24" NW 897.92
STO CB 135C RIM 905.17 24" W 900.73
STO CB 135B RIM 904.63 24" W 900.63 24" E 900.63
92.0'–30" STO @ 0.28% Q10= 1,368 GPM
STO CB 135A RIM 904.63 30" W 897.65 24" E 900.32
60.0'–24" STO RCP @ 0.52% Q10= 5,677 GPM
29.0'–30" STO @ 1.00% Q10= 7,011 GPM
19.0'–24" STO RCP @ 0.53% Q10= 4,858 GPM
STO CB 410A RIM 898.08 12" S 895.05
4.9'–12" STO RCP @ 1.03% Q10= 482 GPM
STO CB 410 RIM 898.00 24" W 893.50 18" E 894.00 12" N 895.00
70.0'–18" STO RCP @ 0.71% Q10= 960 GPM
STO CB 710 RIM 899.70 36" W 893.78 23" x 14" E 895.67 23" x 14" S 895.12
ELLIPTICAL 125.1' – 23" X 14" STO RCP @ 0.45% Q10= 2,751 GPM
ELLIPTICAL 8.0'–23" STO @ 1.25% Q10= 2,702 GPM
STO CB 720 RIM 899.79 23" x 14" N 895.12 23" x 14" E 895.66
88.8'–36" STO @ 0.71% Q10= 5,442 GPM
ELLIPTICAL 124.7' – 23" X 14" STO RCP @ 0.46% Q10= 2,751 GPM
STO MH 810 RIM 901.09 36" W 894.70 36" SE 894.70
STO CB 220 RIM 901.58 W/ ADS SNOUT 18" W 897.60 18" SE 897.60
49.7'–18" STO @ 0.50% Q10= 1,607 GPM
STO CB 230 RIM 901.35 18" NW 897.85
CONTRACTOR TO USE CAUTION. MINIMUM DISTANCE BETWEEN SAN AND STO. STO HAS MINIMUM COVER.
STO CB 820 RIM 900.56 36" NW 895.33 30" E 896.57
63.5'– 30" X 19" STO RCP @ 0.27% Q10= 4,545 GPM
24.9'–18" STO RCP @ 1.27% Q10= 3,909 GPM
STO CB 830 RIM 900.32 30" W 896.74 18" E 896.82
STO CB 420A RIM 898.08 12" S 895.05
STO CB 420 RIM 898.00 18" W 894.50 12" N 895.00
18.0'–15" STO RCP @ 0.22%
STO CB 900 RIM 899.20 15" N 895.21
STO CB 720A RIM 900.00 23" X 14" W 896.20 18" S 896.20
18" STO @ 0.00%
STO CB 730 RIM 900.00 23" x 14" W 896.20 18" N 896.20
STO CB 840 RIM 900.96 18" W 897.14
STO CB 510 RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
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STO CB 510EG RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
STO CB 510EH RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
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STO CB 510FL RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
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STO CB 510GL RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
STO CB 510GM RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
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STO CB 510GO RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
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STO CB 510GS RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
STO CB 510GT RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
STO CB 510GU RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
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STO CB 510GW RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
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STO CB 510HA RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
STO CB 510HB RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
STO CB 510HC RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
STO CB 510HD RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
STO CB 510HE RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
STO CB 510HF RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
STO CB 510HG RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
STO CB 510HH RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
STO CB 510HI RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
STO CB 510HJ RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
STO CB 510HK RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
STO CB 510HL RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10 24" N 893.10
STO CB 510HM RIM 898.10 SEE SHEET SP5.1 FOR DETAILS 24" S 893.10



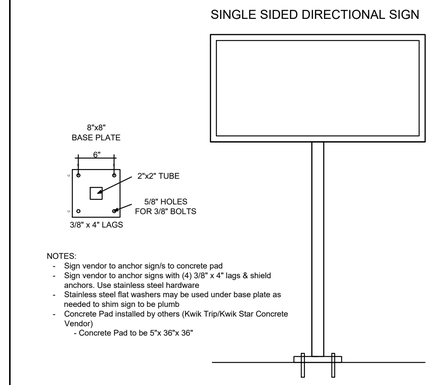
NOTES:
4,000 PSI CONCRETE SHALL BE USED IN CONSTRUCTION OF ALL CURB & GUTTER DETAILS. THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE SLOPE OF THE GUTTER PAN. 1/2" PREFORMED EXPANSION JOINT FILLER SHALL BE PLACED TRANSVERSELY IN THE CURB AS FOLLOWS:

1) AT EACH JUNCTION OF RADIUS RETURN CURB AND THE CURB WHICH IS PARALLEL TO THE PROJECT CENTER LINE.
2) AT EACH JUNCTION WITH EXISTING CONCRETE CURB OR CONCRETE CURB & GUTTER.
3) AT EACH JUNCTION WITH EXISTING CONCRETE SIDEWALK, TO THE DEPTH OF THE SIDEWALK.

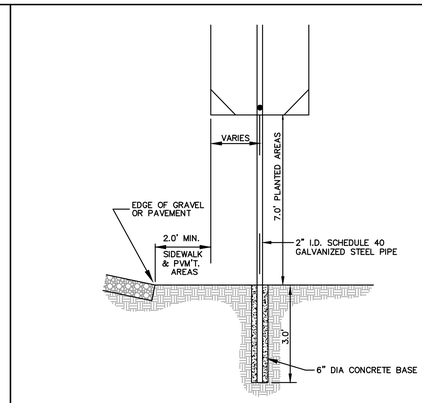
1 | SP5 — CONCRETE CURB & GUTTER DETAIL (ONSITE PRIVATE)
SCALE - N.T.S.



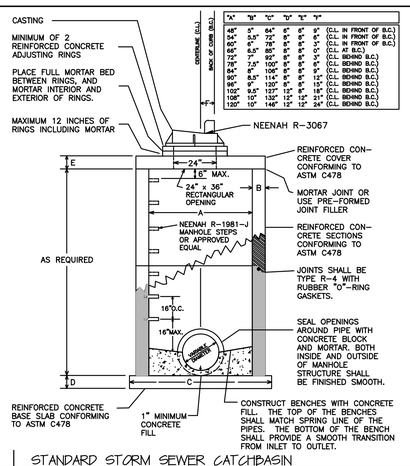
2 | SP5 — ROUND AREALIGHT FOUNDATION
SCALE - 1/2"=1'-0"



1 | SP5 — DIRECTIONAL SIGN CONCRETE BASE
NOT TO SCALE

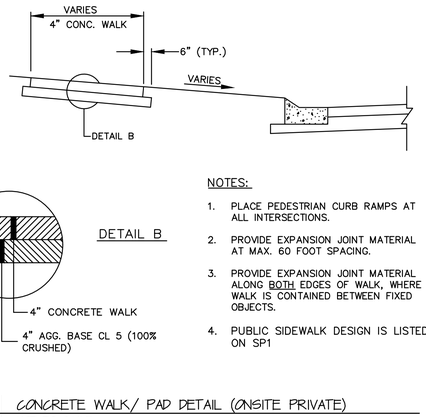


2 | SP5 — SIGN AND POST INSTALLATION (ONSITE PRIVATE)
NOT TO SCALE

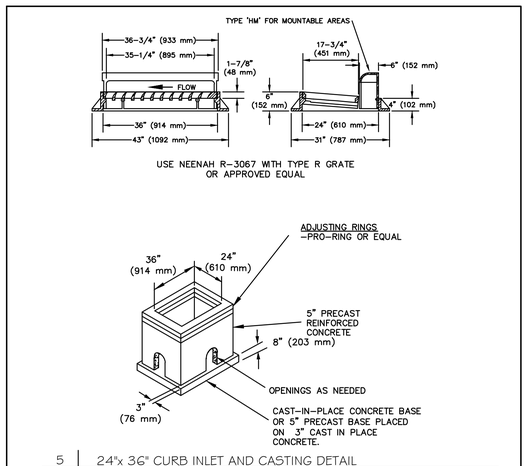


"A"	"B"	"C"	"D"	"E"	"F"	
48"	5"	84"	8"	8"	5"	(CL. IN FRONT OF B.C.)
54"	5.5"	72"	8"	8"	5"	(CL. IN FRONT OF B.C.)
60"	6"	78"	8"	8"	5"	(CL. IN FRONT OF B.C.)
66"	6.5"	80"	8"	8"	5"	(CL. BEHIND B.C.)
72"	7"	102"	8"	8"	9"	(CL. BEHIND B.C.)
84"	8"	108"	8"	8"	9"	(CL. BEHIND B.C.)
90"	8.5"	114"	8"	8"	13"	(CL. BEHIND B.C.)
96"	9"	120"	8"	8"	13"	(CL. BEHIND B.C.)
102"	9.5"	127"	12"	8"	18"	(CL. BEHIND B.C.)
108"	10"	132"	12"	12"	21"	(CL. BEHIND B.C.)
120"	10"	146"	12"	12"	24"	(CL. BEHIND B.C.)

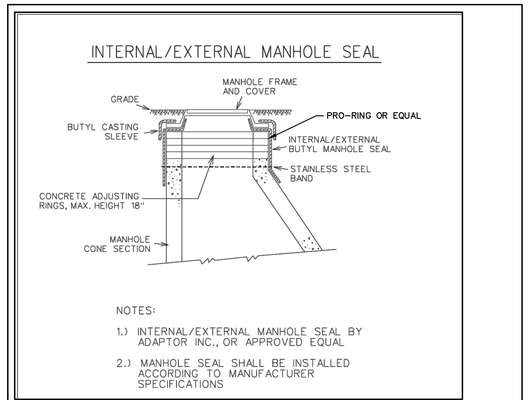
3 | SP5 — STANDARD STORM SEWER CATCHBASIN
NOT TO SCALE



4 | SP5 — CONCRETE WALK/ PAD DETAIL (ONSITE PRIVATE)
NOT TO SCALE



5 | SP5 — 24"x 36" CURB INLET AND CASTING DETAIL
NOT TO SCALE



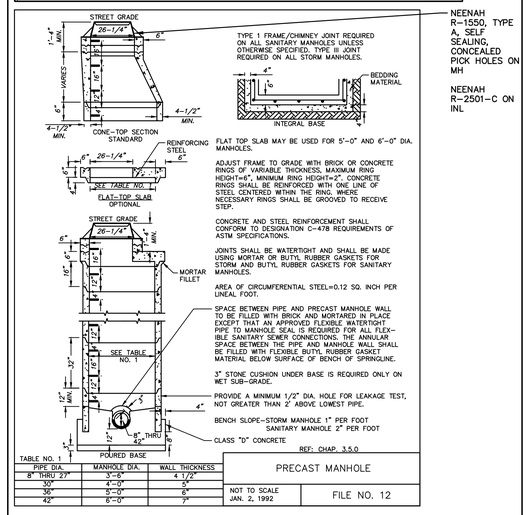
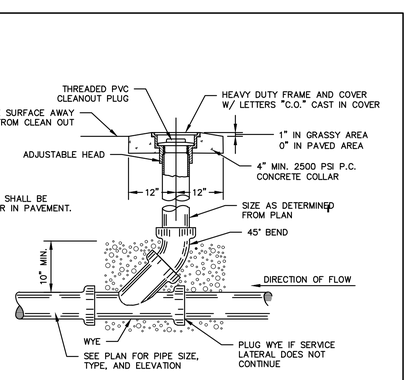


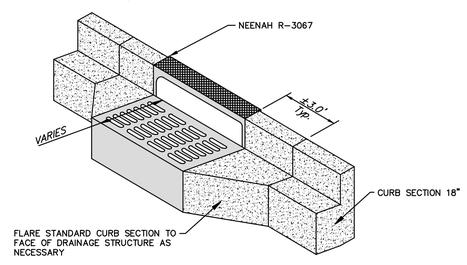
TABLE NO. 1		
PIPE DIA.	MANHOLE DIA.	WALL THICKNESS
8" THRU 27"	3'-6"	4 1/2"
30"	4'-0"	5"
36"	5'-0"	6"
42"	6'-0"	7"

PRECAST MANHOLE
NOT TO SCALE | FILE NO. 12
JAN. 2, 1992

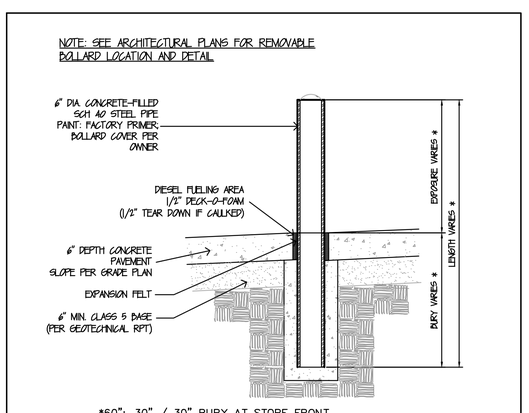
6 | SP5.0 — PRECAST REINFORCE CONC. MANHOLE
NOT TO SCALE



4 | SP5.1 — SEWER CLEAN-OUT DETAIL
NOT TO SCALE



7 | SP5 — CURB & DRAINAGE STRUCTURE INTERFACE (ONSITE PRIVATE)
NOT TO SCALE



8 | SP5.0 — 6" PIPE BOLLARD
SCALE - 3/8" = 1'-0"

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

raSmith
CREATIVITY BEYOND ENGINEERING
16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com

SITE PLAN DETAILS

CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL

HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	SP5.0

C:\3220019\Dwg\Sheets\3220019-DT01.dwg, SITE PLAN DETAILS, 9/27/2023 8:53:01 AM, emg2

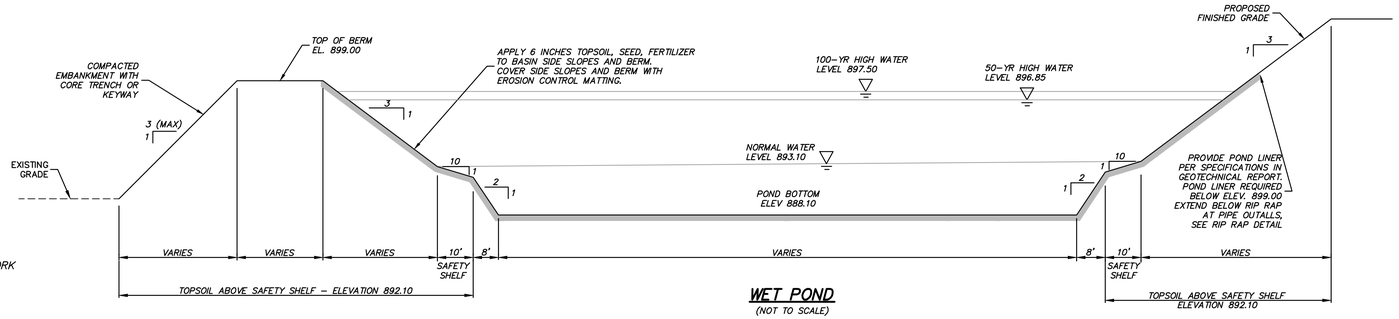
POND CLAY LINER & EMBANKMENT

THE ENTIRE POND AREA, FROM THE BASE OF THE EMERGENCY SPILLWAY TO THE POND BOTTOM SHALL BE UNDERCUT, SCARIFIED AND COMPACTED. THE UNDERCUT AREA SHALL THEN BE FILLED AND COMPACTED WITH A 'TYPE A' CLAY LINER. ALL MATERIAL USED FOR EMBANKMENT FOR STORM WATER PONDS SHALL BE PLACED AND COMPACTED IN STRICT CONFORMANCE WITH THE REQUIREMENTS OF THE GEOTECHNICAL REPORT.

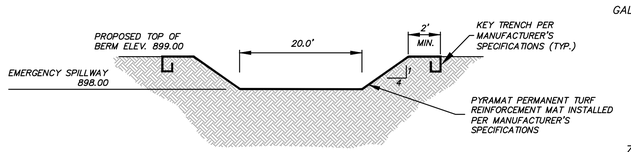
DEWATERING AND WELL POINTS MAY BE REQUIRED BASED ON GROUNDWATER ELEVATION AT TIME OF CONSTRUCTION. CONFIRM WITH GEOTECHNICAL ENGINEER.

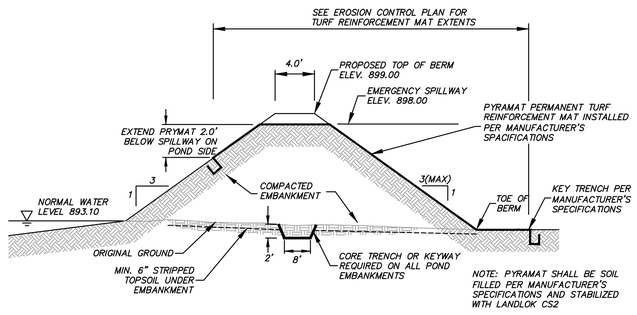
GEOTECHNICAL TESTING & SUPERVISION

A GEOTECHNICAL ENGINEER SHALL SUPERVISE THE EXCAVATION AND CONSTRUCTION OF ALL STORM WATER PONDS AND EMBANKMENTS. ALL WORK TO BE COMPLETED IN ACCORDANCE WITH PROJECT GEOTECHNICAL REPORT.

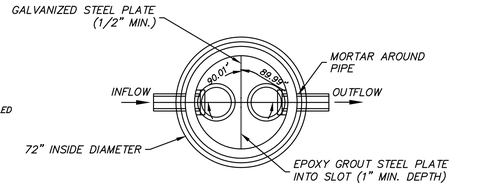


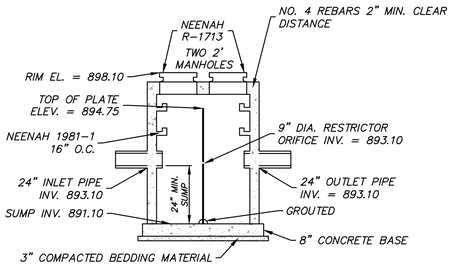
WET POND
(NOT TO SCALE)

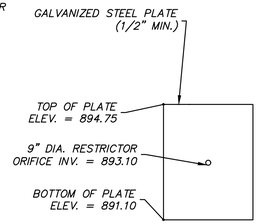




PROPOSED EMERGENCY SPILLWAY DETAIL
N.T.S.





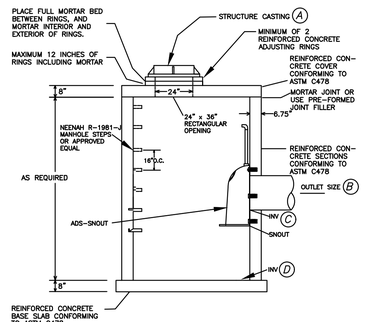


OUTLET CONTROL STEEL PLATE DETAIL

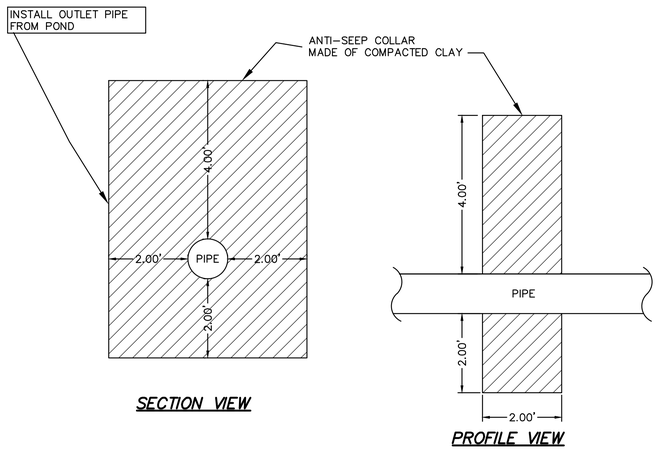
NOTES:
1. STRUCTURE SHALL BE CONSTRUCTED CONFORMING TO THE REQUIREMENTS OF ASTM C-478.
2. REINFORCING STEEL NOT SHOWN

POND OUTLET CONTROL STRUCTURE DETAIL
(NOT TO SCALE)

STRUCTURE ID	STRUCTURE CASTING SIZE A	OUTLET SIZE B	OUTLET INVERT ELEV. C	SUMP INVERT ELEV. D
CB110	R-3067-R	42"	893.82	885.07
CB140	R-3067-R	30"	897.62	891.37
CB220	R-3067-R	18"	897.60	893.85

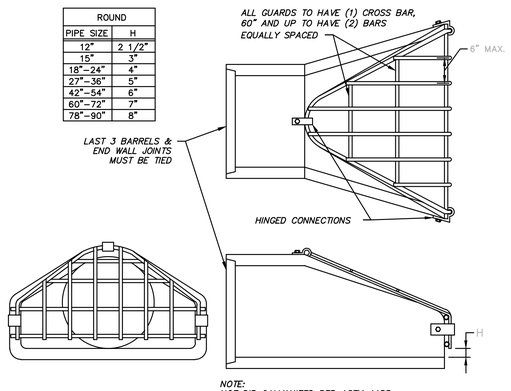


OIL SKIMMER DETAIL



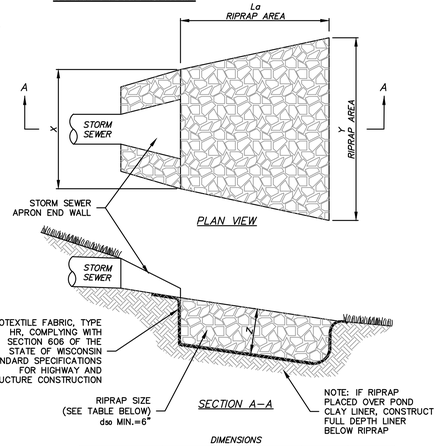
ANTI-SEEP COLLAR DETAIL

ROUND	
PIPE SIZE	H
12"	2 1/2"
15"	3"
18"-24"	4"
27"-36"	5"
42"-54"	6"
60"-72"	7"
78"-90"	8"



BAR SIZES							
STANDARD DESIGN				HEAVY DESIGN			
PIPE SIZE	HOLE DIA. REQ'D	BOLT DIA.	BAR SIZE	PIPE SIZE	HOLE DIA. REQ'D	BOLT DIA.	BAR SIZE
12"-24"	3/4"	5/8"	5/8"	12"-18"	3/4"	5/8"	3/4"
27"-48"	7/8"	3/4"	3/4"	21"-42"	7/8"	3/4"	1"
54"-90"	1 1/8"	1"	1"	48"-90"	1 1/8"	1"	1 1/4"
BOLT LENGTH = PIPE WALL THICKNESS + 2 1/2"							

BAR GRATES FOR OUTFALL FLARED END SECTIONS



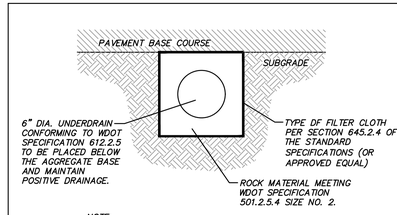
DIMENSIONS

OUTLET	La	X	Y	dso	Z
FES 100	15'	14.5'	18.50'	6"	1'
FES 200	10'	12'	12.5'	6"	1'
FES 300	10'	10'	11.50'	6"	1'
FES 400	10'	12'	12.5'	6"	1'
FES 500	10'	10'	12'	6"	1'
FES 700	10'	10'	11.50'	6"	1'
FES 800	10'	12'	12.5'	6"	1'

RIPRAP SHALL COMPLY WITH THE SECTION 606 OF THE STATE OF WISCONSIN STANDARD FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

PLAN VIEW CONTOURS AND GRADES REPRESENT PROPOSED TOP OF RIPRAP ELEVATIONS.

RIPRAP DETAIL
(NOT TO SCALE)



NOTE:
INSTALL IN ACCORDANCE WITH WSDOT S.D.D. 8D15

INSTALL AT STORM CATCH BASINS OR INLETS, WHERE INDICATED ON UTILITY PLAN.

FINGER DETAIL

KWIK TRIP

KWIK STAR

KWIK TRIP, Inc.
P.O. BOX 2107
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LA CROSSE, WI 54602-2107
PH. (608) 781-8988
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raSmith
CREATIVITY BEYOND ENGINEERING
16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com

STORMWATER DETAILS

CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL

HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	SP5.1

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SEE ROAD WAY IMPROVEMENTS PLAN FOR MONROE AVE IMPROVEMENTS

PROPOSED WET DETENTION POND AND OUTLET CULVERT TO BE USED AS TEMPORARY SEDIMENT BASIN DURING CONSTRUCTION. BASIN TO BE CLEANED OUT TO MEET PROPOSED DESIGN ONCE SITE IS STABILIZED. TEMPORARY GRADES SHOWN TO ALLOW POND.SEDIMENT BASIN CONSTRICTION WHILE EXISTING STORE REMAINS OPEN. SEE PHASING PLAN ON SHEET DP02

TEMPORARY EROSION CONTROL MATTING ON ALL SLOPES 4:1 OR STEEPER

TRM AT SPILLWAY

SILT FENCE

CONCRETE WASHOUT

STONE TRACKING PAD; CONTRACTOR TO RELOCATE AS NEEDED BASED ON CONSTRUCTION PHASING

SILT FENCE

SILT FENCE

SILT FENCE

TEMPORARY STORM DRAIN INLET PROTECTION, TYP.

STH 23 (WEST MUNROE AVENUE

STH 23 (WEST MUNROE AVENUE

STH 23 (W

I.S.H. "90"
VARIABLE WIDTH PUBLIC R.O.W.
WDOT R/W PROJECT 1-90-2(13)86

WDOT PLAT PROJECT S 0223(1)
WDOT R/W BRIDGE NO. B-32-0411

PARCEL A
PLATTED LANDS
CSM 2518

PARCEL B
LOT 1
CSM 2516

PARCEL C
CSM 2520

PARCEL B
LOT 1
CSM 2516

SCALE: 1" = 50'

50 25 0 50 100

SEE ROAD WAY IMPROVEMENTS IN THE ROAD WAY IMPROVEMENT PLANS

LEGEND

- PROPERTY LINE
- LIMITS OF DISTURBANCE = 20.55 ACRES EXCLUDING MUNROE AVE IMPROVEMENTS
- PROPOSED SILT FENCE
- STORM DRAIN INLET PROTECTION
- STONE TRACKING PAD
- PERMANENT TURF REINFORCEMENT MAT
- TEMPORARY EROSION CONTROL MATTING

-ALL SILT FENCE MUST BE INSTALLED BY THE CONTRACTOR AND INSPECTED BY THE VILLAGE PRIOR TO ANY SITE WORK.

-SITE EROSION CONTROL MEASURES MUST BE IN PLACE AT ALL TIMES. SHOULD DEVICES BE REMOVED FOR WORK ACCESS, THEY SHALL BE REINSTALLED AT THE END OF EACH WORK DAY UNTIL PAVEMENTS HAVE BEEN INSTALLED AND ALL LANDSCAPE AREAS HAVE BEEN MULCHED AND SODDED. SEEDED AREAS MUST EXHIBIT MINIMUM OF 70% SOIL COVERAGE.

-REFER TO THE SWPPP AND DETAIL SHEETS FOR MORE INFORMATION.

OWNER CONTACT:

NAME:	BRAD FRY, PE
COMPANY:	KWIK TRIP INC.
ADDRESS:	KWIK TRIP, INC. – STORE ENGINEERING 1813 KRAMER STREET PO BOX 2107 LA CROSSE, WI 54602
TELEPHONE:	(608) 793–6414.

CONSTRUCTION SEQUENCE

1. INSTALL SILT FENCE.
2. INSTALL CONSTRUCTION ENTRANCES. THESE ARE THE ONLY EXITS TO BE USED FOR ALL CONSTRUCTION ACTIVITIES. CONTRACTOR MAY ADJUST LOCATIONS TO FACILITATE CONSTRUCTION PHASING
3. CONSTRUCT WET DETENTION POND. WET DETENTION POND SHALL BE UNDERCUT BY 2 FEET AND LINED WITH A 2 FOOT LAYER OF CLAY. IF ACCEPTABLE MATERIAL IS AVAILABLE ONSITE, IT MAY BE USED. IF ACCEPTABLE MATERIAL IS NOT AVAILABLE ONSITE, IT SHALL BE IMPORTED. THE CONTRACTOR SHALL CONSULT WITH THE GEOTECHNICAL ENGINEER TO DETERMINE WHETHER MATERIAL IS ACCEPTABLE TO LINE THE POND. WET DETENTION POND TO BE USED AS TEMPORARY SEDIMENT BASIN DURING CONSTRUCTION.
4. INSTALL STORM DRAIN INLET PROTECTION ON EXISTING INDICATED STORM INLETS.
5. STRIP TOPSOIL AND GRADE SITE IN INCREMENTS APPROPRIATE TO WORK WHILE MAINTAINING SEDIMENTATION AND EROSION CONTROL PRACTICES IN CONFORMANCE WITH LOCAL AND STATE GUIDELINES. TEMPORARY DIVERSION SWALES MAY BE NEEDED TO PROMOTE DRAINAGE TOWARDS TEMPORARY SEDIMENT BASIN.
6. INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROL BMPs WHEN SITE WORK AND GRADING ALLOWS.
7. CONSTRUCT UTILITIES AND INSTALL ADDITIONAL STORM DRAIN INLET PROTECTION TO INLETS AS SOON AS THEY ARE CONSTRUCTED.
8. PREPARE ROADWAY AND PARKING LOT SUBGRADE. INSTALL CURB AND GUTTER AND PAVE SITE.
9. APPLY SEED FERTILIZER AND MULCH TO LANDSCAPE LAWN AREAS AS SOON AS POSSIBLE.
10. FLUSH STORM SEWER.
11. CLEAR OUT CONSTRUCTION SEDIMENT FROM POND AT THE END OF CONSTRUCTION.
12. CONTRACTOR SHALL REMOVE ALL REMAINING TEMPORARY EROSION CONTROL BMPs WHEN DISTURBED AREAS ARE STABILIZED AND NO LONGER SUSCEPTIBLE TO EROSION

PROJECT DATA

PROJECT START DATE: SPRING 2024
PROJECT COMPLETION DATE: FALL 2024

Know what's **below.**
Call before you dig.

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EROSION CONTROL PLAN

CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL

HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
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SHEET	SWP1

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GENERAL STORMWATER POLLUTION PREVENTION:

APPLY FOR AND OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION ACTIVITY.

STORMWATER POLLUTION PREVENTION PLAN (SWPPP): THE SWPPP INCLUDES THIS NARRATIVE, PLAN SHEETS SP1–SP4, SWP1–SWP5 AND THE STORMWATER MANAGEMENT CALCULATIONS. KEEP A COPY OF THE SWPPP, ALL CHANGES TO IT, AND INSPECTIONS AND MAINTENANCE RECORDS AT THE SITE DURING THE CONSTRUCTION. DURING THE CONSTRUCTION PROCESS THE SWPP WILL HAVE TO BE AMENDED FOR ALL CHANGES PERFORMED BY THE CONTRACTOR. THE OWNER SHALL BE AWARE OF THE AMENDMENTS PRIOR TO CHANGES MADE TO THE SWPP PLAN. ALL NOTES, PHOTOGRAPHS, RECORDED DATES, SKETCHES, REFERENCES, AND DIAGRAMS WILL HAVE TO BE RECORDED AND MADE AVAILABLE AS PART OF THE SWPP PERMIT.

INDIVIDUAL(S) PREPARING THE SWPPP FOR THE PROJECT, OVERSEEING IMPLEMENTATION OF THE SWPPP, REVISING AND AMENDING THE SWPPP, AND AT LEAST ONE INDIVIDUAL ON THE PROJECT PERFORMING INSTALLATION, INSPECTION, MAINTENANCE, AND REPAIRS OF BMP'S MUST BE TRAINED. THE TRAINING MUST BE DONE BY A LOCAL, STATE, FEDERAL AGENCIES; PROFESSIONAL ORGANIZATION; OR OTHER ENTITITES WITH EXPERTISE IN EROSION PREVENTION, SEDIMENT CONTROL, OR PERMANENT STORMWATER MANAGEMENT.

RESPONSIBLE PARTIES: THE CONTRACTOR MUST DESIGNATE A PERSON KNOWLEDGEABLE AND EXPERIENCED IN THE APPLICATION OF EROSION PREVENTION AND SEDIMENT CONTROL BMPS WHO WILL OVERSEE THE IMPLEMENTATION OF THE SWPPP, AND THE INSTALLATION, INSPECTION, AND MAINTENANCE OF THE EROSION PREVENTION AND SEDIMENT CONTROL BMPS BEFORE AND DURING CONSTRUCTION.

THE OWNER IS RESPONSIBLE FOR IDENTIFYING WHO WILL HAVE RESPONSIBILITY FOR THE LONG TERM OPERATION AND MAINTENANCE OF THE PERMANENT STORMWATER MANAGEMENT SYSTEMS.

OWNER CONTACT:

NAME: BRADFORD FRY, P.E.
COMPANY: KWIK TRIP INC.
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1626 OAK STREET, P.O. BOX 2107
LA CROSSE, WI 54601–2107
TELEPHONE: (608) 793–6414

SITE INVESTIGATION, INSTALLATION, IMPLEMENTATION :

1. PRIOR TO ANY WORK, CONTRACTOR SHALL VISIT THE SITE, DOCUMENT EXISTING CONDITIONS AS NECESSARY(PHOTOS, NOTES, ETC) AND NOTE EXISTING DRAINAGE PATTERNS ON AND OFF SITE THAT ARE RELATED TO THE PROJECT. THESE NOTES SHALL BE PART OF THE SWPP.

2. INSTALL ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES INCLUDING SILT FENCE, ROCK CONSTRUCTION ENTRANCE(S), EROSION CONTROL BERMS, ROCK FILTERS, SILT SACKS, ROCK /EARTH BERMS, AND SEDIMENTATION BASINS. PROTECT ALL RECEIVING WATERS, CATCH BASINS, DITCHES, INLETS ETC. IN AND AROUND THE SITE. ALL PROTECTIVE AND PREVENTATIVE MEASURES MUST BE IN PLACE AND INSPECTED PRIOR TO BEGINNING SITE CLEARING, GRADING, OR OTHER LAND–DISTURBING ACTIVITY.

3. PRIOR TO BEGINNING SITE CLEARING AND GRADING, PROTECT ALL STORM SEWER INLETS THAT RECEIVE RUNOFF FROM DISTURBED AREAS. IN ORDER TO PREVENT SEDIMENT FROM LEAVING THE SITE AND ENTERING THE DOWNSTREAM STORM SEWER SYSTEM, SEAL ALL STORM SEWER INLETS THAT ARE NOT NEEDED FOR SITE DRAINAGE DURING CONSTRUCTION. PROTECT ALL OTHER STORM SEWER INLETS BY INSTALLING SEDIMENT CONTROL DEVICES, SUCH AS SILT SACKS, OR ROCKED FILTRATION LOGS/WIERS. STRAW BALES OR FABRIC UNDER THE GRATES ARE NOT ACCEPTABLE FORMS OF INLET PROTECTION. PROTECT NEW STORM SEWER INLETS AS THEY ARE COMPLETED. MAINTAIN STORM SEWER INLET PROTECTION IN PLACE UNTIL ALL SOURCES WITH POTENTIAL FOR DISCHARGING TO THE INLETS ARE STABILIZED.

4. BEFORE BEGINNING CONSTRUCTION, INSTALL A TEMPORARY ROCK CONSTRUCTION ENTRANCE AT EACH POINT WHERE VEHICLES EXIT THE CONSTRUCTION SITE WHEN AT ALL POSSIBLE CONTRACTOR SHALL DESIGNATE ONLY ONE ACCESS POINT FOR VEHICLES ENTERING AND EXITING THE SITE. THE ROCK ON THE ENTRANCE WILL HAVE TO BE INSPECTED DAILY AND REPLACED OR ROCK SUPPLEMENTED BY THE CONTRACTOR WHEN OVER 50% OF THE VOIDS IN THE ROCK ARE FILLED. A CLEANING STATION SHOULD BE MADE AVAILABLE TO DRIVERS AND VISIBLY SIGNED AS SUCH. PROVIDE SHOVELS, BROOMS AND/OR HOSE WITH A WASH OUT AREA SO SOILS CAN BE REMOVED FROM VEHICLES ON SITE.

5. AVOID ENTIRE REMOVAL OF TREES AND SURFACE VEGETATION ALL AT ONCE WHENEVER POSSIBLE AS THIS LIMITS THE AMOUNT OF SITE SUSCEPTIBLE TO EROSION. SCHEDULE CONSTRUCTION ZONES AND NOTE THIS ON THE SWPP PLAN IN ORDER TO EXPOSE THE SMALLEST PRACTICAL AREA OF SOIL AT ANY GIVEN TIME. UTILIZE VEGETATION REMOVED BY ON SITE GRINDING AND MULCHING AND USING THIS MATERIAL TO PROTECT THE SOIL FROM EROSION.

6. FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, COMPLETE PERMANENT OR TEMPORARY STABILIZATION AGAINST EROSION DUE TO RAIN, WIND, AND RUNNING WATER WITHIN 14 CALENDAR DAYS ON ALL DISTURBED OR GRADED AREAS. THIS REQUIREMENT DOES NOT APPLY TO THOSE AREAS THAT ARE CURRENTLY BEING USED FOR MATERIAL STORAGE ON A DAILY BASIS OR FOR THOSE AREAS ON WHICH GRADING, SITE BUILDING, OR OTHER CONSTRUCTION ACTIVITIES ARE ACTIVELY UNDERWAY. PROVIDE TEMPORARY COVER ON ALL STACKED TOPSOIL PILES, AND OTHER AREAS OF STOCKPILED EXCAVATED MATERIAL IN ORDER TO PREVENT SOIL EROSION AND RAPID RUNOFF DURING THE CONSTRUCTION PERIOD. STOCKPILES CAN BE MULCHED,COVERED WITH POLY OR FABRIC, AND OR SEEDED DURING PROLONGED EXPOSURE. PROLONGED PERIODS OF OPEN, BARE EARTH WITHOUT GRASS COVER WILL NOT BE PERMITTED. STABILIZE ALL DISTURBED GREENSPACE AREAS WITH A MINIMUM OF 4" TOPSOIL IMMEDIATELY AFTER FINAL SUBGRADE COMPLETION. SEED AND MULCH, OR SOD AND PROTECT THESE AREAS WITHIN 48 HOURS AFTER COMPLETION OF FINAL GRADING WORK (WEATHER PERMITTING). STABILIZE ALL DISTURBED AREAS TO BE PAVED USING EARLY APPLICATION OF GRAVEL BASE. STABILIZE THE NORMAL WETTED PERIMETER OF ANY TEMPORARY OR PERMANENT DRAINAGE DITCH THAT CONVEYS WATER FROM THE CONSTRUCTION SITE, OR DIVERTS WATER AROUND THE CONSTRUCTION SITE, WITHIN 200 LINEAL FEET FROM THE PROPERTY EDGE, OR WITHIN 200 FEET FROM THE POINT OF DISCHARGE TO ANY SURFACE WATER. STABILIZE TEMPORARY OR PERMANENT DRAINAGE DITCHES WITHIN 24 HOURS OF CONNECTING TO A SURFACE WATER. PROTECT OUTFALLS MINIMUM OF 200FEET DOWN STREAM AND TO THE SIDE OF THE DISCHARGE POINT. ADDITIONAL SETTLING "POTS" ACHIEVED BY FILTER LOGS OR FILTERED STICK BALES STAKED IN THE CHANNEL WILL DISSIPATE THE WATER ENERGY. PROVIDE PIPE OUTLETS WITH TEMPORARY OR PERMANENT ENERGY DISSIPATION WITHIN 24 HOURS OF CONNECTION TO A SURFACE WATER.

7. RECEIVING WATERS – IT IS THE CONTRACTORS RESPONSIBILITY TO INSPECT THE SITE DISCHARGE POINT AS WELL AS DOWNSTREAM TO THE RECEIVING BODY OF WATER(POND, LAKE, STREAM, ETC.) ON A REGULAR BASIS INCLUDING AFTER EACH STORM EVENT AND DOCUMENT IF ANY DIFFERENCES OR CHANGES IN NORMAL IN DISCHARGE AND IF MATERIAL IS LEAVING THE CONSTRUCTION SITE. IF SO IT SHALL BE DOCUMENTED AND REMOVED IMMEDIATELY.

NOTE: ALL EROSION AND SEDIMENT CONTROL DEVICES WILL BE CHECKED BY THE CONTRACTOR AFTER EACH STORM EVENT AND BE MAINTAINED, OR IMPROVED UPON AFTER EVERY STORM EVENT TO ENSURE ADEQUATE PERFORMANCE.

POLLUTION CONTROL:

1. DESIGNATE A CONCRETE WASH–OUT AND TRUCK WASH AREA:
MAKE IT VISIBLE IN THE FIELD TO VEHICLE OPERATORS AND NOTE THIS ON THE SWPP PLAN.

A. WHEN WASHOUTS OCCUR ON THE SITE, CONCRETE WASHOUT WATER MUST BE CONTAINED IN A LEAK–PROOF CONTAINMENT FACILITY OR IMPERMEABLE LINER. LIQUID AND SOLID WASTES MAY NOT TOUCH THE GROUND AND THERE MUST NOT BE RUNOFF FROM THE CONCRETE WASHOUT OPERATIONS OR AREAS.

B. ON SITES WHERE CONCRETE WASHOUT AREAS ARE NOT FEASIBLE AS SHOWN ON THE DETAIL SHEET, ABOVE GROUND METHODS AND/OR OFF–SITE METHODS CAN BE UTILIZED AS APPROVED BY OWNER.

C. CONCRETE WASHOUT MAY BE PROVIDED OFF–SITE BY CONCRETE CONTRACTOR OR CONCRETE SUPPLIER, AT AN APPROVED WASHOUT DISPOSAL AREA. CONCRETE SUPPLIER MAY PROVIDE CONCRETE WASHOUT AREAS ON–BOARD THEIR TRANSPORTS FOR DISPOSAL OFF–SITE. CONCRETE CONTRACTOR SHALL VERIFY WITH SUPPLIER IN REGARDS TO PROVIDED CONCRETE WASHOUT AREAS ON AND OFF–SITE, AS NECESSARY.

D. LIMIT EXTERNAL WASHING OF TRUCKS AND OTHER CONSTRUCTION VEHICLES TO A DEFINED AREA PREFERABLY BEFORE THE CONSTRUCTION ACCESS/EXIT POINT. WASH VEHICLES ONLY ON AN AREA STABILIZED WITH STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE. CONTAIN RUNOFF AND PROPERLY DISPOSE OF WASTE. ENGINE DEGREASING IS PROHIBITED.

2. SOLID WASTE: PROPERLY DISPOSE OF COLLECTED SEDIMENT, ASPHALT AND CONCRETE MILLINGS, FLOATING DEBRIS, PAPER, PLASTIC, FABRIC, CONSTRUCTION AND DEMOLITION DEBRIS, AND OTHER WASTES IN COMPLIANCE WITH STATE REQUIREMENTS.

3. HAZARDOUS MATERIALS: PROPERLY DISPOSE OF ALL WASTE AND UNUSED BUILDING MATERIALS (INCLUDING GARBAGE DEBRIS, CLEANING WASTES, OIL, GASOLINE, PAINT, WASTEWATER, TOXIC MATERIALS, AND HAZARDOUS MATERIALS) OFF–SITE. DO NOT ALLOW WASTE AND UNUSED BUILDING MATERIALS TO BE CARRIED BY RUNOFF INTO A RECEIVING CHANNEL OR STORM SEWER SYSTEM. PROPERLY STORE OIL, GASOLINE, PAINT, AND OTHER HAZARDOUS MATERIALS IN ORDER TO PREVENT SPILLS, LEAKS, OR OTHER DISCHARGE. INCLUDE SECONDARY CONTAINMENT. RESTRICT ACCESS TO STORAGE AREAS IN ORDER TO PREVENT VANDALISM. STORAGE AND DISPOSAL OF HAZARDOUS MATERIALS MUST BE IN COMPLIANCE WITH REGULATIONS.

4. MACHINERY: AND MECHANICALIZED EQUIPMENT THAT LEAKS WASTE SHALL HAVE A PROTECTIVE BARRIER OR CONTAINMENT UNDER THE DEVICE ADEQUATE TO CONTAIN THE WASTE. PROPERLY DISPOSE OF THE WASTE.

5. EMERGENCY SPILL STATION: CONTRACTOR SHALL LOCATE AND SIGN AN EMERGENCY SPILL STATION THAT HAS NECESSARY CONTAINMENT OR CLEANUP DEVICES FOR ALL WORKERS TO ACCESS.

EROSION CONTROL :

APPLY NECESSARY MOISTURE TO THE CONSTRUCTION AREA AND HAUL ROADS TO PREVENT THE SPREAD OF DUST.

CONTRACTOR SHALL UTILIZE COARSELY GROUND WOOD AND TREE MULCHES TO COVER EXPOSED SOILS. MULCHES SHALL BE SPORED ON SITE TO SUPPLEMENT AND USE IN PROBLEM AREAS DURING ALL PHASES OF THE CONSTRUCTION PROJECT.

CONTRACTOR SHALL USES STAR TACK OR OTHER ORGANIC SUBSTANCES IN SITUATIONS TO PREVENT SOIL FROM ERODING AWAY BY WIND OR RAIN.

WHENEVER POSSIBLE CONTRACTOR SHALL GRADE AREAS OF SOIL TO LIMIT POTENTIAL OF EROSION, TO INCLUDE TRACKING PERPENDICULAR TO FALL LINE OF GRADES AS WELL AS DIVERTING WATER FLOWS FROM PROBLEMATIC AREAS ON THE SITE.

SEEDING, FIBER BLANKETS, POLY/TARPS OR COVER MULCHES, DISKED MULCHES AND COMPOST CAN BE USED TO COVER TEMPORARILY EXPOSED AREAS FROM WIND AND RAIN. OTHER METHODS BY THE CONTRACTOR SHALL BE DOCUMENTED IN THE SWPP.

SEDIMENT CONTROL:

INLET SEDIMENT CONTROL PROTECTION DEVICES:
THE FOLLOWING ARE APPROVED INLET SEDIMENT CONTROL DEVICES:

A. ROAD DRAIN TOP SLAB MODEL RD 23 (FITS ROUGH OPENING FOR 2'X3' INLET), ROAD DRAIN TOP SLAB MODEL RD 27 (FITS ROUGH OPENING FOR 27" INLET), OR ROAD DRAIN TOP SLAB MODEL CG 3067 (FITS NEENAH CASTING WITH 35–1/4"X17–3/4" DIMENSIONS) MANUFACTURED BY WIMCO, 799 THEIS DRIVE, SHAKOPEE, MN, 55379, PHONE (952) 233–3055. OR APPROVED EQUAL

B. SILT SACK MANUFACTURED BY ACF ENVIRONMENTAL, 2831 CARDWELL ROAD, RICHMOND, VA, 23234, PHONE (800) 448–3636. OR APPROVED EQUAL

C. INFRASAFE SEDIMENT CONTROL BARRIER. INSTALL GEOTEXTILE SOCK ON THE OUTSIDE OF THE BARRIER IN ORDER TO TRAP ADDITIONAL FINES. STANDARD FRAMES ARE AVAILABLE TO FIT 24" TO 30" DIAMETER AND 2'X3' OPENINGS. DISTRIBUTED BY ROYAL ENTERPRISES AMERICA, 30622 FOREST BOULEVARD, STACY, MN, 55079, PHONE (651) 462–2130. OR APPROVED EQUAL

D. RIDGE BAG ROCK LOG. USE ROCK LOGS ONLY FOR CURB INLETS AFTER PAVEMENT IS IN PLACE. MANUFACTURED BY RED BARN RIDGE, 3135 COUNTY ROAD 136, SAINT CLOUD, MN, 35301, PHONE (320) 253–3744. OR APPROVED EQUAL

E. INFLATABLE DRAIN PLUGS BY INTERSTATE PRODUCTS WWW.INTERSTATEPRODUCTS.COM OR APPROVED EQUAL

RIPRAP:
PLACE A 450 MM (18 INCH) THICK LAYER OF RIPRAP ONTO A 225 MM (9 INCH) THICK LAYER OF GRANULAR FILTER MATERIAL AT LOCATIONS INDICATED ON THE PLAN IN ACCORDANCE WITH WIDOT SPECIFICATION 606. INSTALL TWO LAYERS OF MEDIUM DUTY GEOTEXTILE FABRIC (WIDOT HR, SECTION 645.3.7) BENEATH THE GRANULAR FILTER MATERIAL. AT PIPE OUTFALLS CONFIGURE THE INSTALLATION AS SHOWN ON DETAIL SHEET FOR THE SIZE OF PIPE INDICATED AND EXTEND THE GEOTEXTILE FABRIC UNDER THE CULVERT APRON A MINIMUM OF 3 FEET. FOR PIPE SIZES SMALLER THAN 300 MM (12 INCH) DIAMETER, THE MINIMUM QUANTITY OF RIPRAP AND FILTER BLANKET SHALL BE NO LESS THAN THAT REQUIRED FOR 300 MM (12 INCH) DIAMETER PIPES.

SILT FENCE:
INSTALL AND MAINTAIN PER WIDNR CONSERVATION PRACTICE STANDARD 1056.

TRACKING PAD / CONSTRUCTION ENTRANCE:
INSTALL AND MAINTAIN PER WIDNR CONSERVATION PRACTICE STANDARD 1057. USE BROCK WHITE FODS TRACKOUT CONTROL MAT OR EQUAL PRODUCT. INSTALL AND MAINTAIN PER THE MANUFACTURER'S RECOMMENDATIONS AS TO PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PAVED ROADWAYS. CLOSE ENTRANCES NOT PROTECTED BY TEMPORARY ROCK CONSTRUCTION ENTRANCES TO ALL CONSTRUCTION TRAFFIC.

TEMPORARY SEDIMENT BASINS
IN THE CONSTRUCTION PROCESS OR IF NOTED ON THE PLAN THE CONTRACTOR SHALL CONSTRUCT TEMPORARY SEDIMENT BASIN(S). AS PER GENERAL RULE THE SEDIMENT BASIN SHALL BE SIZED APPROPRIATELY TO A CAPACITY RELEGATED TO THE DRAINAGE AREA ON A RATIO OF 3,600 CUBIC FEET PER ACRE OF DRAINAGE ZONE ENTERING THE BASIN. BASINS SHALL BE INSPECTED AFTER EVERY RAINFALL EVENT, MATERIAL REMOVED AND STABILIZED. IF CHANGES TO THE BASIN ARE MADE, DOCUMENT AND AMEND THE SWPP PLAN.

DEWATERING:

IF DEWATERING IS REQUIRED AND SUMP PUMPS ARE USED, ALL PUMPED WATER MUST BE DISCHARGED THROUGH AN EROSION CONTROL FACILITY (TEMPORARY SEDIMENTATION BASIN, GRIT CHAMBER, SAND FILTER, UPFLOW CHAMBER, HYDRO–CYCLONE, SWIRL CONCENTRATOR, DEWATERING BAG OR OTHER APPROPRIATE FACILITY) PRIOR TO LEAVING THE CONSTRUCTION SITE. PROPER ENERGY DISSIPATION MUST BE PROVIDED AT THE OUTLET OF THE PUMP SYSTEM. DISCHARGE CLEAR WATER ONLY. TO ACHIEVE BETTER SEPARATION OF THE MATERIAL SUSPENDED IN THE WATER A BIODEGRADABLE NOT TOXIC FLOCCULENT AGENT MAY BE REQUIRED. FOR MORE INFORMATION AND MATERIALS GO TO BY INTERSTATE PRODUCTS WWW.INTERSTATEPRODUCTS.COM

GEOTEXTILE DEWATERING BAGS SHALL MEET REQUIREMENTS OF DNR TECHNICAL STANDARD 1061. THE FOOTPRINT OF GEOTEXTILE BAGS SHALL BE NO SMALLER THAN 100 SQUARE FEET, AND SHALL BE SECURELY ATTACHED TO THE DISCHARGE PIPE. POLYMERS CAN BE USED TO ENHANCE THE EFFICIENCY OF GEOTEXTILE BAGS. IF USED, POLYMERS SHALL MEET THE CRITERIA WITHIN DNR TECHNICAL STANDARD 1051.

Table 1 – Prescriptive Compliance Area Soil Stabilization

Prescriptive Compliance Areas	Bare Soil	Slope & Channel Management	Periods of Inactivity	Final Grade
Soil stockpiles that will exist for more than 7 days **Utility trench backfills** **Temporary ditches/swales that will exist for more than 7 days** **Permanent ditches/swales** **Small areas – Less than 1 acre and less than 1% of site** **Discrete areas – Less than 1 acre** **Storm water practice side slopes** **Slopes steeper than 20%**	Areas that Do Not Drain to Sediment Basins or Traps Limit the duration of soil exposure to no more than 30 days. Areas that Drain to Sediment Basins or Traps Limit the duration of soil exposure to no more than 90 days. However, use the duration from the soil loss and sediment discharge calculations for the other areas of the site if less than 90 days.	General Design and implement approved soil stabilization practices per DNR technical standards. Refer to WisDOT Slope & Channel Matrices for appropriate slope and slope length conditions. Slopes Steeper than 20% Provide stable diversion of off-site runoff around the slope. Provide slope interruption devices in accordance with Manufactured Perimeter Control & Slope Interruption Products Technical Standard 1071 or equivalent methods to reduce uninterrupted slope length.	Planned Inactivity Stabilize immediately if area will be left inactive for more than 14 days. Unplanned Inactivity Stabilize area immediately if period of inactivity reaches 14 days.	Permanent Features Stabilize area immediately after reaching final grade. Temporary Features Stabilize area immediately after establishment of temporary feature or reaching specified temporary grade.

PDA, ESC, STABILIZATION
WDNR September 2017

INSPECTIONS–MAINTENANCE–DAILY RECORD–AMEND THE SWPP PLAN

1. CONTRACTOR SHALL INSPECT ALL EROSION AND SEDIMENT CONTROL DEVICES, STABILIZED AREAS, AND INFILTRATION AREAS ON A DAILY BASIS UNTIL LAND–DISTURBING ACTIVITY HAS CEASED. THEREAFTER, INSPECT AT LEAST ON A WEEKLY BASIS UNTIL VEGETATIVE COVER IS ESTABLISHED. INSPECT ALL EROSION AND SEDIMENT CONTROL DEVICES, STABILIZED AREAS, AND INFILTRATION AREAS WITHIN 24 HOURS AFTER A RAINFALL EVENT GREATER THAN 0.5 INCHES IN 24 HOURS. REMOVE ACCUMULATED SEDIMENT DEPOSITS FROM BEHIND EROSION AND SEDIMENT CONTROL DEVICES AS NEEDED. DO NOT ALLOW SEDIMENT TO ACCUMULATE TO A DEPTH OF MORE THAN ONE–THIRD OF THE HEIGHT OF THE EROSION AND SEDIMENT CONTROL DEVICES. IMMEDIATELY REPLACE DETERIORATED, DAMAGED, ROTTED, OR MISSING EROSION CONTROL DEVICES. DOCUMENT INSPECTIONS AND DATES OF RAINFALL EVENTS. MAINTAIN A WRITTEN LOG OF ALL INSPECTION, MAINTENANCE, AND REPAIR ACTIVITIES RELATED TO EROSION AND SEDIMENT CONTROL FACILITIES. ALL NONFUNCTIONAL BMPS MUST BE REPAIRED, REPLACED, OR SUPPLEMENTED WITH FUNCTIONAL BMPS WITHIN 24 HOURS AFTER DISCOVERY, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.

2. ALL INSPECTIONS AND MAINTENANCE ACTIVITIES MUST BE RECORDED IN WRITING DAILY IN A DETAILED RECORD(NOTES, PHOTOGRAPHS, SKETCHES, ETC, AND KEPT WITH THE SWPPP BY THE CONTRACTOR.

3. CONTRACTOR SHALL REMOVE ALL SOILS AND SEDIMENTS TRACKED OR OTHERWISE DEPOSITED ONTO ADJACENT PROPERTY, PAVEMENT AREAS, SIDEWALKS, STREETS, AND ALLEYS. REMOVAL SHALL BE ON A DAILY BASIS THROUGHOUT THE DURATION OF THE CONSTRUCTION AND/OR AS DIRECTED BY THE CITY. CLEAN PAVED ROADWAYS BY SHOVELING OR WET–SWEEPING. DO NOT DRY SWEEP. IF NECESSARY, SCRAPE PAVED SURFACES IN ORDER TO LOOSEN COMPACTED SEDIMENT MATERIAL PRIOR TO SWEEPING. HAUL SEDIMENT MATERIAL TO A SUITABLE DISPOSAL AREA. STREET WASHING IS ALLOWED ONLY AFTER SEDIMENT HAS BEEN REMOVED BY SHOVELING OR SWEEPING.

4. ALL SOIL HAULED FROM THE SITE SHALL BE ACCOUNTED FOR AND DOCUMENTED IN THE SWPP BY THE CONTRACTOR. ITS FINAL DESTINATION AND HOW THE SOIL HAS BEEN STORED AND STABILIZED.

5. CONTRACTOR SHALL MAINTAIN ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES IN PLACE UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED (HARD–SURFACED AREAS PAVED AND VEGETATION ESTABLISHED IN GREEN SPACE). REPAIR ANY RILLING, GULLY FORMATION, OR WASHOUTS. AFTER FINAL ESTABLISHMENT OF PERMANENT STABILIZATION, REMOVE ALL TEMPORARY SYNTHETIC, STRUCTURAL, AND NONBIODEGRADABLE EROSION AND SEDIMENT CONTROL DEVICES AND ANY ACCUMULATED SEDIMENTS. DISPOSE–OF OFF SITE. RESTORE PERMANENT SEDIMENTATION BASINS TO THEIR DESIGN CONDITION IMMEDIATELY FOLLOWING STABILIZATION OF THE SITE.

6. CONTRACTOR SHALL CLEAN SEDIMENTATION BASINS, STORM SEWER CATCH BASINS, DITCHES, AND OTHER DRAINAGE FACILITIES AS REQUIRED IN ORDER TO MAINTAIN THEIR EFFECTIVENESS. TEMPORARY AND PERMANENT SEDIMENTATION BASINS MUST BE DRAINED AND THE SEDIMENT REMOVED WHEN THE DEPTH OF SEDIMENT COLLECTED IN THE BASIN REACHES 1/2 OF THE STORAGE VOLUME. DRAINAGE AND REMOVAL MUST BE COMPLETED WITHIN 72 HOURS, OR AS SOON AS FIELD CONDITIONS ALLOW ACCESS.

7. CONTRACTOR SHALL INSPECT INFILTRATION AREAS TO ENSURE THAT NO SEDIMENT FROM ONGOING CONSTRUCTION ACTIVITIES IS ACCUMULATING. REMOVE SEDIMENT IMMEDIATELY ENSURING SUBSOILS ARE NOT COMPACTED BY MACHINERY.

8. EVERY VEHICLE SHALL NOT TRACK MATERIAL OFF–SITE. CLEAN THE WHEELS OF CONSTRUCTION VEHICLES IN ORDER TO REMOVE SOILS BEFORE THE VEHICLES LEAVE THE CONSTRUCTION SITE. WASH VEHICLES ONLY ON AN AREA STABILIZED WITH STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAPPING DEVICE.

9. CONTRACTOR SHALL REINFORCE EROSION CONTROL FACILITIES IN AREAS WHERE CONCENTRATED FLOWS OCCUR (SUCH AS SWALES, DITCHES, AND AREAS IN FRONT OF CULVERTS AND CATCH BASINS) BY BACKING THEM WITH SNOW FENCE, WIRE MESH, OR STIFF PLASTIC MESH REINFORCEMENT UNTIL PAVING AND TURF ESTABLISHMENT OPERATIONS HAVE BEEN COMPLETED. POSTS FOR THE REINFORCING FENCE SHALL BE 100 MM (4 INCH) DIAMETER WOOD POSTS, OR STANDARD STEEL FENCE POSTS WEIGHING NOT LESS THAN 0.59 KG (1.3 LBS) PER LINEAL FOOT, WITH A MINIMUM LENGTH OF 762 MM (30 INCHES) PLUS BURIAL DEPTH. SPACE POSTS FOR THE REINFORCING FENCE AT INTERVALS OF 3 M (10 FEET) OR LESS. DRIVE POSTS FOR THE REINFORCING FENCE AT LEAST 0.6 M (2 FEET) INTO THE GROUND.

GENERAL SOIL STABILIZATION:
(SEE LANDSCAPE PLAN FOR MORE INFORMATION)

ESTABLISHMENT OF LAWN, PRAIRIE/WILDFLOWER AND/OR PLANT BED AREAS WILL BE NOTED ON THE LANDSCAPE PLAN

TO ENSURE STABILIZATION OF SOILS, RESTAKING OF SOD WHERE APPLICABLE, PROPER WATERING AND MULCH MAINTENANCE WILL BE REQUIRED. INSPECT SEEDED OR SODDED AREAS ON A TIMELY DAY–TO–DAY BASIS. IN THE EVENT OF A SEEDING FAILURE, RESEED AND REMULCH THE AREAS WHERE THE ORIGINAL SEED HAS FAILED TO GROW AND PERFORM ADDITIONAL WATERING AS NECESSARY AT NO ADDITIONAL COST TO THE OWNER. SPECIAL MAINTENANCE PROVISIONS FOR WILD AND PRAIRIE GRASS SEEDED AREAS AS NOTED IN THE LANDSCAPE PLAN. PROMPTLY REPLACE ALL SOD THAT DRIES OUT TO THE POINT WHERE IT IS PRESUMED DEAD AND ALL SOD THAT HAS BEEN DAMAGED, DISPLACED, WEAKENED, OR HEAVILY INFESTED WITH WEEDS AT NO ADDITIONAL COST TO THE OWNER. .

IN AREAS TO BE TEMPORARILY SEEDED, USE INTRODUCED SEED MIXTURE EQUIVALENT TO WIDOT #10 OR #20. APPLY SEED MIXTURE PER WIDOT 630.3.3.5. INCORPORATE A FERTILIZER (SLOW RELEASE TYPE WITH 10 WEEK RESIDUAL) CONSISTING OF 23–0–30 (%N–P–K) INTO THE SOIL AT AN APPLICATION RATE OF 224 KG PER HECTARE (200 LBS PER ACRE) BY DISKING PRIOR TO SEEDING. IN PROBLEMATIC AREAS IT MAY BE NECESSARY TO USE A LOW PHOSPHORUS ORGANIC FERTILIZER IN CASES WHERE SEEDS MAY NOT GERMINATE. IF THIS IS THE CASE, SEED AND FERTILIZER SHALL BE DISKED INTO THE SURFACE AND MULCHED PROPERLY TO ENSURE GERMINATION AND UPTAKE OF THE PHOSPHORUS BY THE SEED.

TO ENSURE ADEQUATE GERMINATION OF THE SEED THE WORK WILL BE PERFORMED AS FOLLOWS:
SPRING– FROM APRIL 1 THROUGH MAY 15.
FALL– FROM AUGUST 15 TO SEPTEMBER 20.
AFTER SEPTEMBER 20, WAIT UNTIL OCTOBER 30 TO PERFORM DORMANT SEEDING. DORMANT SEEDING WILL ONLY BE ALLOWED IF THE MAXIMUM SOIL TEMPERATURE AT A DEPTH OF 25 MM (1 INCH) DOES NOT EXCEED 4.44 DEGREES C (40 DEGREES F) IN ORDER TO PREVENT GERMINATION.

IN SEEDED AREAS WITH SLOPES STEEPER THAN 3:1 AND LENGTHS LESS THAN 15 METERS (50 FEET), INSTALL BIODEGRADABLE EROSION CONTROL BLANKETS UNIFORMLY OVER THE SOIL SURFACE BY HAND WITHIN 24 HOURS AFTER SEEDING IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS. USE WIDOT URBAN TYPE B OR OWNER APPROVED EQUAL.

IN AREAS WHERE IRRIGATION IS TO BE INSTALLED, CONTRACTOR SHALL WORK IN ZONES TO FINISH GRADE AND INSTALL THE SYSTEM IN ZONES. NOTE– EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL SOILS HAVE BEEN STABILIZED WITH SOD OR SEEDED AREAS THAT EXHIBIT MINIMUM OF 70% LAWN VEGETATIVE COVERAGE. IF SILT FENCE HAS TO BE REMOVED TO INSTALL THE IRRIGATION SYSTEM, IT SHALL BE REINSTALLED AT THE END OF EACH WORK DAY OR USE BIO ROLLS TO PROVIDE PROTECTION DURING THE INSTALLATION PROCESS UNTIL LAWN AREAS HAVE SOD AND/OR PLANT BEDS ARE MULCHED.

IN AREAS TO BE SODDED, SILT FENCE CAN BE REMOVED SHORT TERM FOR WORKING, BUT EXPOSED SOIL AREAS SHALL BE SODDED OR EROSION CONTROL MEASURES SHALL BE REINSTALLED AT THE END OF EACH WORK DAY.

NOTE: THE PROJECT'S LANDSCAPE PLAN IS PART OF THE SWPP FOR SOIL STABILIZATION. REFERENCES SHALL BE MADE TO THE APPROVED LANDSCAPE PLAN. AMENDMENTS TO THE LANDSCAPE PLAN SHALL BE APPROVED BY THE OWNER AND DOCUMENTED AS PART OF THE SWPP

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KWIK STAR

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EROSION CONTROL DETAILS

CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL
HIGHWAY 23
LAKE DELTON, WI

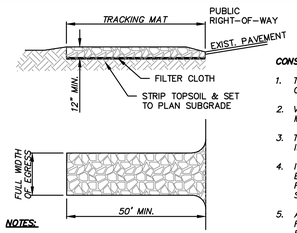
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ALL EROSION CONTROL MEASURES TO BE INSTALLED AND MAINTAINED PER WDNR STANDARDS

http://dnr.wi.gov/org/water/wm/nps/stormwater/techstds.htm



NOTES:

A. TRACKING PAD:

1. THE TRACKING PAD SHALL BE INSTALLED PRIOR TO ANY TRAFFIC LEAVING THE SITE.
2. THE AGGREGATE FOR THE TRACKING PAD SHALL BE HARD, DURABLE, ANGULAR STONE OR RECYCLED CONCRETE MEETING THE GRADATION OF TABLE 1 OF THE WISCONSIN DNR TECHNICAL STANDARD 1057. WHERE THIS GRADATION IS NOT AVAILABLE, MEET THE GRADATION IN WISCONSIN DEPARTMENT OF TRANSPORTATION (DOT) 2018 STANDARD SPECIFICATION, SECTION 312, SELECT CRUSHED MATERIAL.
3. THE AGGREGATE SHALL BE PLACED IN A LAYER AT LEAST 12 INCHES THICK. ON SITES WITH A HIGH WATER TABLE, OR WHERE SATURATED CONDITIONS ARE EXPECTED DURING THE LIFE OF THE PRACTICE, STONE TRACKING PADS SHALL BE UNDERLAIN WITH A WSDOT TYPE R GEOTEXTILE FABRIC TO PREVENT MIGRATION OF UNDERLYING SOIL INTO THE STONE.
4. THE TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT. THE TRACKING PAD SHALL BE A MINIMUM OF 50 FEET LONG.
5. SURFACE WATER MUST BE PREVENTED FROM PASSING THROUGH THE TRACKING PAD. FLOWS SHALL BE DIVERTED AWAY FROM TRACKING PADS OR CONVEYED UNDER AND AROUND THEM BY USING A VARIETY OF PRACTICES, SUCH AS CULVERTS, WATER BARS, OR OTHER SIMILAR PRACTICES.

B. TIRE WASHING:

IF CONDITIONS ON THE SITE ARE SUCH THAT THE SEDIMENT IS NOT REMOVED FROM VEHICLE TIRES BY THE TRACKING PAD, THEN TIRES SHALL BE WASHED UTILIZING PRESSURIZED WATER BEFORE ENTERING A PUBLIC ROAD.

1. THE WASHING STATION SHALL BE LOCATED ON-SITE ON AN AREA THAT IS STABILIZED AND DRAINS INTO A SUITABLE SEDIMENT TRAPPING OR SETTLING DEVICE.
2. THE WASH RACK SHALL CONSIST OF A HEAVY GRATING OVER A LOWERED AREA. THE RACK SHALL BE STRONG ENOUGH TO SUPPORT THE VEHICLES THAT WILL CROSS IT.

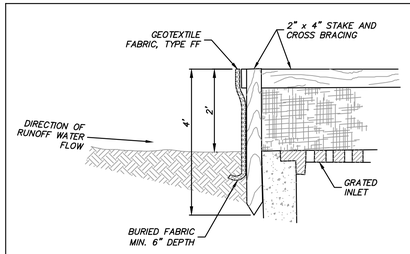
C. MAINTENANCE

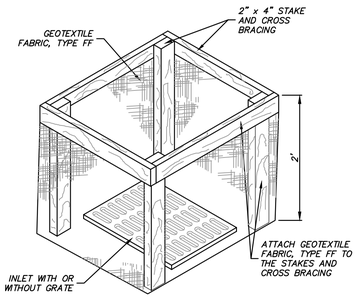
1. ROCKS LODGED BETWEEN THE TIRES IF DUAL WHEEL VEHICLES SHALL BE REMOVED PRIOR TO LEAVING THE CONSTRUCTION SITE.
2. TRACKING PADS AND TIRE WASHING STATIONS SHALL, AT AT MINIMUM, BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT PRODUCES 0.5 INCHES OF RAIN OR MORE DURING A 24-HOUR PERIOD.
3. THE TRACKING PAD PERFORMANCE SHALL BE MAINTAINED BY SCRAPING OR TOP-DRESSING WITH ADDITIONAL AGGREGATE.
4. A MINIMUM 12-INCH THICK PAD SHALL BE MAINTAINED.

CONSIDERATIONS:

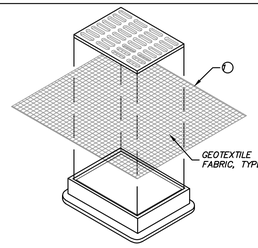
1. TIRE WASHING AND TRACKING PAD TO CONFORM TO WDNR CONSERVATION PRACTICE STANDARD 1057.
2. VEHICLES TRAVELING ACROSS THE TRACKING PAD SHOULD MAINTAIN A SLOW CONSTANT SPEED.
3. THE BEST APPROACH TO PREVENTING OFF-SITE TRACKING IS TO RESTRICT VEHICLES TO STABILIZED AREAS.
4. IT IS ALWAYS PREFERABLE TO PREVENT SEDIMENT FROM BEING DEPOSITED UPON THE ROAD THAN CLEANING THE ROAD LATER. SEDIMENT ON A ROAD CAN CREATE A SAFETY HAZARD AS WELL AS A POLLUTION PROBLEM.
5. ANY SEDIMENT TRACKED ONTO A PUBLIC OR PRIVATE ROAD SHOULD BE REMOVED BY STREET CLEANING, NOT FLUSHING, BEFORE THE END OF EACH WORKING DAY.

STONE TRACKING PAD AND TIRE WASHING
(NOT TO SCALE)

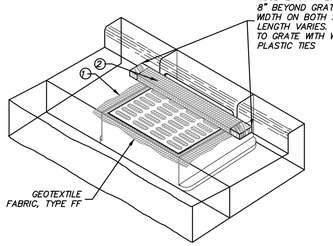




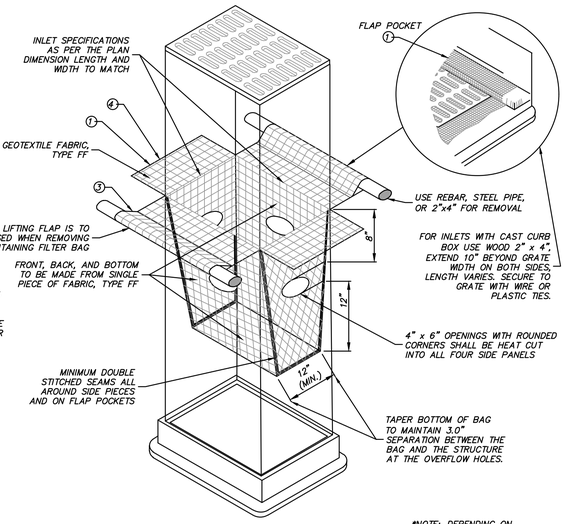
INLET PROTECTION, TYPE A



INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)
(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C
(WITH CURB BOX)



INLET PROTECTION, TYPE D
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

*NOTE: DEPENDING ON EXPOSED SOIL TEXTURE, TYPE D-M OR TYPE D-HR INLET PROTECTION MAY BE USED IN PLACE OF TYPE D.

① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4. THE REBAR, STEEL PIPE, OR WOOD SHALL BE INSTALLED IN THE REAR FLAP AND SHALL NOT BLOCK THE TOP HALF OF THE CURB FACE OPENING.
④ SIDE FLAPS SHALL BE A MAXIMUM OF 2" LONG. FOLD THE FABRIC OVER AND REINFORCE WITH MULTIPLE STITCHES.

GENERAL NOTES:

INLET PROTECTION DEVICES SHALL CONFORM TO WDNR CONSERVATION PRACTICE STANDARD 1060 AND BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE WSDOT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED IF ALLOWED BY ENGINEER.

TYPE A IS TO BE USED PRIOR TO PAVING AND INSTALLATION OF CURB AND GUTTER, AND TYPES B, C, AND D ARE TO BE USED AFTER PAVING IS PLACED.

TYPE A SHALL BE USED AROUND INLETS AND UNPAVED AREAS UNTIL PERMANENT STABILIZATION METHODS HAVE BEEN ESTABLISHED.

TYPE B SHALL BE USED AFTER THE CASTING AND GRATE ARE IN PLACE, ON INLETS WITHOUT A CURB BOX WHEN TYPE D INLET DEVICES CANNOT BE USED.

TYPE C SHALL BE USED AFTER THE CASTING AND GRATE ARE IN PLACE, ON STREET INLETS WITH CURB HEADS.

TYPE D SHALL BE USED IN AREAS WHERE OTHER TYPES OF INLET PROTECTION ARE INCOMPATIBLE WITH ROADWAY AND TRAFFIC CONDITIONS (I.E. POSSIBLE SAFETY HAZARD IF PONDING OCCURS), OR WHERE MORE EFFECTIVE INLET FILTERING IS NEEDED.

TAPER BOTTOM OF BAG TO MAINTAIN 3" OF CLEARANCE BETWEEN THE BAG AND THE STRUCTURE, MEASURED FROM THE BOTTOM OF THE OVERFLOW OPENINGS TO THE STRUCTURE WALL.

GEOTEXTILE FABRIC TYPE FF FOR FLAPS, TOP AND BOTTOM OF OUTSIDE OF FILTER BAG. FRONT, BACK, AND BOTTOM OF FILTER BAG BEING ONE PIECE.

INSTALLATION NOTES:

TYPE B & C:
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D:
DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.

MAINTENANCE:

REMOVE INLET PROTECTION DEVICES ONCE THE CONTRIBUTING DRAINAGE AREA IS STABILIZED WITH APPROPRIATE VEGETATION OR IMPERVIOUS SURFACE.

INLET PROTECTION SHALL BE, AT A MINIMUM, INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EVERY PRECIPITATION EVENT THAT PRODUCES 0.5 INCHES OF RAIN OR MORE DURING A 24-HOUR PERIOD.

FOR TYPE A, B OR C INLET PROTECTION, SEDIMENT DEPOSITS SHALL BE REMOVED AND THE INLET PROTECTION DEVICE RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED BETWEEN 1/3 TO 1/2 THE DESIGN DEPTH OF THE DEVICE, OR WHEN THE DEVICE IS NO LONGER FUNCTIONING AS DESIGNED.

FOR TYPE D INLET PROTECTION (INCLUDING D-M AND D-HR), REMOVE SEDIMENT WHEN SEDIMENT ACCUMULATES TO WITHIN 6" OF THE BOTTOM OF THE OVERFLOW HOLES, OR WHEN STANDING WATER REMAINS WITHIN 6" OF THE BOTTOM OF THE OVERFLOW HOLES 24 HOURS AFTER A RUNOFF EVENT. HOLES IN THE TYPE FF FABRIC MAY BE REPAIRED BY STITCHING IF LESS THAN 2" IN LENGTH, BUT THE FABRIC SHOULD BE REPLACED IF THE HOLES ARE GREATER THAN 2" IN LENGTH IN THE TYPE FF FABRIC OR IF THERE ARE ANY HOLES IN THE TYPE HR FABRIC. THE FILTER MUST ALSO BE REPLACED IF THE FLAP POCKETS SUSTAIN DAMAGE THAT COMPROMISES FILTER INTEGRITY OR THE ABILITY TO PERFORM MAINTENANCE.

REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND STABILIZED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, DUE CARE SHALL BE TAKEN TO ENSURE SEDIMENT DOES NOT FALL INTO THE INLET AND IMPEDE THE INTENDED FUNCTION OF THE DEVICE. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

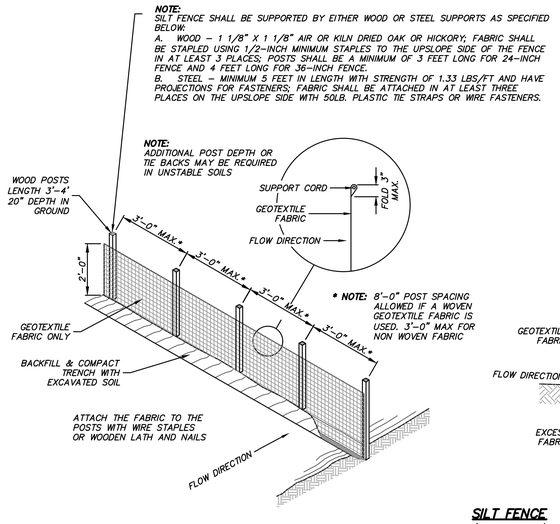
STORM DRAIN INLET PROTECTION
(NOT TO SCALE)

NOTES:

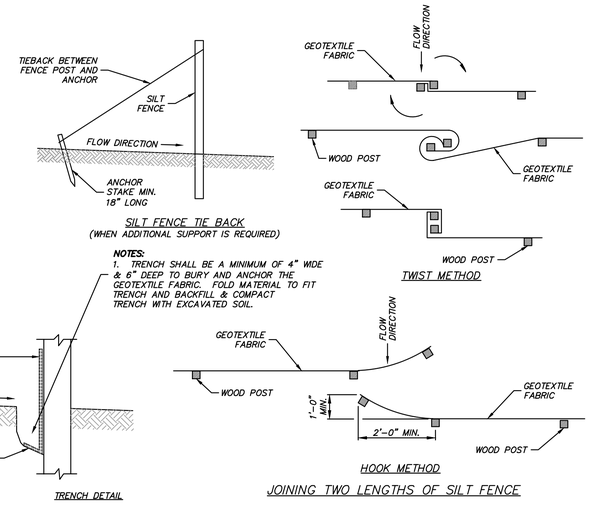
1. SILT FENCE INSTALLATION AND MATERIALS SHALL CONFORM TO WDNR CONSERVATION STANDARD 1056
2. SILT FENCE SHALL BE PLACED ON THE CONTOUR AND NOT PERPENDICULAR TO THE CONTOUR. THE ENDS SHALL BE EXTENDED UPSLOPE TO PREVENT WATER FROM FLOWING AROUND THE ENDS OF THE FENCE.
3. WHEN SILT FENCE IS INSTALLED ON A SLOPE, THE PARALLEL SPACING SHALL NOT EXCEED THE REQUIREMENTS IN THE TABLE BELOW:

SLOPE	FENCE SPACING
< 2%	100 FEET
2 TO 5%	75 FEET
5 TO 10%	50 FEET
10 TO 33%	25 FEET
> 33%	20 FEET

4. INSTALLED SILT FENCES SHALL BE MINIMUM 14 INCHES HIGH AND A MAXIMUM OF 28 INCHES IN HEIGHT MEASURED FROM THE INSTALLED GROUND ELEVATION.
5. A MINIMUM OF 20 INCHES OF THE POST SHALL EXTEND INTO THE GROUND AFTER INSTALLATION.
6. SILT FENCE SHALL BE ANCHORED BY SPREADING AT LEAST 8 INCHES OF THE FABRIC IN A 4-INCH TRENCH WIDE BY 6-INCH DEEP TRENCH, OR 6-INCH V-TRENCH ON THE UPSLOPE SIDE OF THE FENCE. TRENCH SHALL BE BACKFILLED AND COMPACTED. TRENCHES SHALL NOT BE EXCAVATED WIDER THAN NECESSARY FOR PROPER INSTALLATION.
7. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS:
   A) TWIST METHOD--OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES.
   B) HOOK METHOD--HOOK THE END OF EACH SILT FENCE LENGTH.
8. SILT FENCE SHALL AT A MINIMUM BE INSPECTED WEEKLY AND WITHIN 24 HOURS AFTER EACH PRECIPITATION EVENT THAT PRODUCES 0.5 INCHES OF RAIN OR MORE DURING A 24-HOUR PERIOD.
9. DAMAGED OR DECOMPOSED FENCES, UNDERCUTTING, OR FLOW CHANNELS AROUND THE END OF BARRIERS SHALL BE REPAIRED OR CORRECTED.
10. SEDIMENT SHALL BE PROPERLY DISPOSED OF ONCE THE DEPOSITS REACH ONE HALF THE HEIGHT OF THE FENCE.
11. SILT FENCES SHALL BE REMOVED ONCE THE DISTURBED AREA IS PERMANENTLY STABILIZED AND IS NO LONGER SUSCEPTIBLE TO EROSION.



SILT FENCE
(NOT TO SCALE)



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EROSION CONTROL DETAILS

CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL

HIGHWAY 23
LAKE DELTON, WI

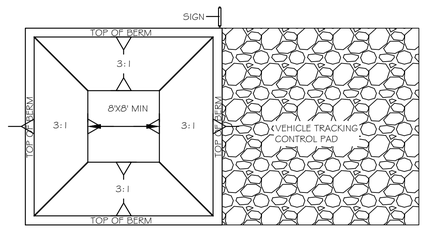
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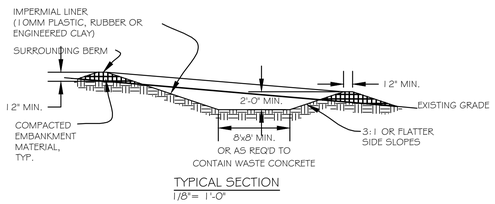
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ALL EROSION CONTROL MEASURES TO BE INSTALLED AND MAINTAINED PER WDNR STANDARDS

http://dnr.wi.gov/org/water/wm/nps/stormwater/techstds.htm



PLAN
1/8"= 1'-0"



TYPICAL SECTION
1/8"= 1'-0"

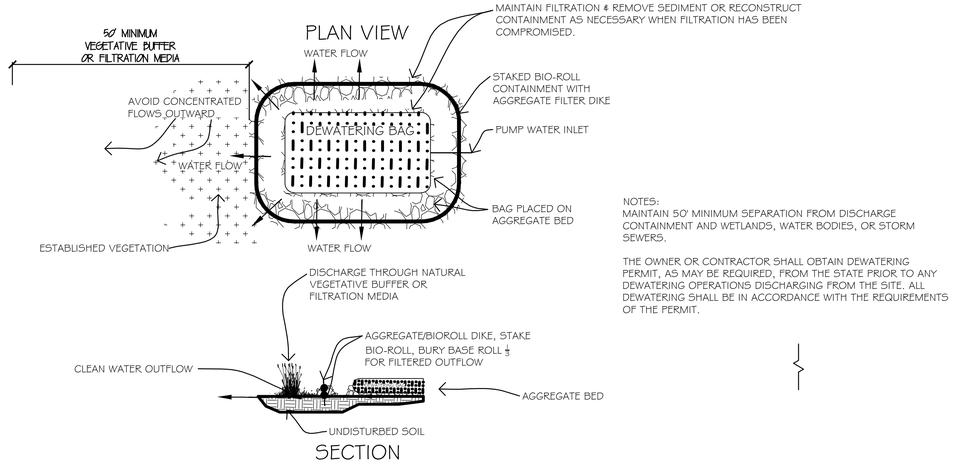
CONCRETE WASHOUT AREA INSTALLATION NOTES

1. SEE EROSION CONTROL PLAN FOR LOCATIONS OF CONCRETE WASHOUT AREA(S). TO BE PLACED A MIN. OF 50' FROM DRAINAGEWAYS, BODIES OF WATER, AND INLETS.)
2. THE CONCRETE WASHOUT AREA(S) SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
3. VEHICLE TRACKING CONTROL PAD IS REQ'D AT THE ACCESS POINT(S).
4. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA(S), AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREAS TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
5. EXCAVATED MATERIAL SHALL BE UTILIZED IN PERIMETER BERM CONSTRUCTION.

CONCRETE WASHOUT AREA MAINTENANCE NOTES

6. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE
7. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM SITE AND DISPOSED OF AT AN APPROVED WASTE SITE.
8. WHEN CONCRETE WASHOUT AREA(S) IS REMOVED, THE DISTURBED AREA SHALL BE STABILIZED PER SITE EROSION CONTROL MEASURES.
9. INSPECT WEEKLY AND DURING AND AFTER ALL STORM EVENTS. CLEAN-OUT OR COVER WASHOUT AREA PRIOR TO PREDICTED STORM EVENTS TO PREVENT OVER-FLOW.

CONCRETE WASHOUT AREA

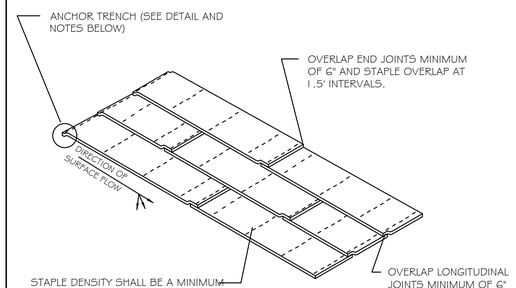


NOTES:
MAINTAIN 50' MINIMUM SEPARATION FROM DISCHARGE CONTAINMENT AND WETLANDS, WATER BODIES, OR STORM SEWERS.

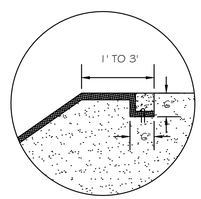
THE OWNER OR CONTRACTOR SHALL OBTAIN DEWATERING PERMIT, AS MAY BE REQUIRED, FROM THE STATE PRIOR TO ANY DEWATERING OPERATIONS DISCHARGING FROM THE SITE. ALL DEWATERING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE PERMIT.

DEWATERING BAG INSTALLATION, FOR DISCHARGING ERODED, SUSPENDED PARTICLES IN WATER
NOT TO SCALE

EROSION CONTROL BLANKET(SEEDED AREAS) ON SIDE SLOPES OF 3:1 OR GREATER AND STORM WATER BASINS
BIO-DEGRADABLE, DOUBLE NETTED, LIGHT DUTY(HEAVY DUTY IN DRAINAGE SWALES)
(WisDOT CLASS 1 TYPE B)



ANCHOR TRENCH
1. DIG 6" X 6" TRENCH
2. LAY BLANKET IN TRENCH
3. STAPLE AT 1.5' INTERVALS
4. BACKFILL WITH NATURAL SOIL AND COMPACT
5. BLANKET LENGTH SHALL NOT EXCEED 100' WITHOUT AN ANCHOR TRENCH



EROSION CONTROL BLANKET INSTALLATION

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EROSION CONTROL DETAILS

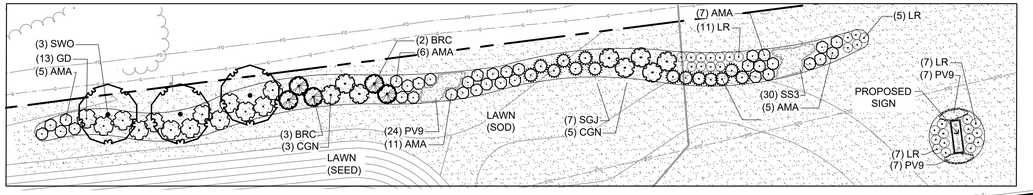
CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL

HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	SWP4

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MONUMENT SIGN & BUFFER PLANTING DETAIL

SCALE 1" = 30'

Lake Delton
Parkway Overlay Improvements
Standards
1. All properties shall provide landscape features along a minimum of 50% of street side frontage. Minimum width of landscape beds shall be 5 ft.

Highway 23 = 671 LF

REQUIRED: 671 x 50% = 336LF landscape bed
PROVIDED: 352LF landscape bed

PLANT SCHEDULE - LP1.0

DECIDUOUS TREES	QTY	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	REMARKS
SWO	3	Swamp White Oak	Quercus bicolor	2" CAL	B&B	Full, matching heads
RO	3	Red Oak	Quercus rubra	2" CAL	B&B	Full, matching heads
EVERGREEN TREES	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
BRC	5	Burk Red Cedar	Juniperus virginiana `Burkii`	6` HT	B&B	Semi-sheared, fully branched to ground
CJ	10	Canaerti Juniper	Juniperus virginiana `Canaertii`	6` HT	B&B	Fully branched
DECIDUOUS SHRUBS	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
AMA	34	Autumn Magic Black Chokeberry	Aronia melanocarpa `Autumn Magic`	24"HT	CONT.	
GD	13	Gray Dogwood	Cornus racemosa	3`HT	CONT.	
LR	30	Kodiak® Orange Diervilla	Dierviilla x `G2X08544`	15" HT	CONT.	
CGN	8	Center Glow Ninebark	Physocarpus opulifolius `Center Glow`	3` HT	CONT.	
EVERGREEN SHRUBS	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
SGJ	14	Sea Green Juniper	Juniperus chinensis `Sea Green`	18"SPD	CONT.	
ORNAMENTAL GRASSES	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
PV9	38	Ruby Ribbons Switch Grass	Panicum virgatum `Ruby Ribbons`	1 GAL	POT	24" Spacing
SS3	30	Carousel Little Bluestem Grass	Schizachyrium scoparium `Carousel`	1 GAL	POT	24" Spacing

SOD AREAS - LAWN

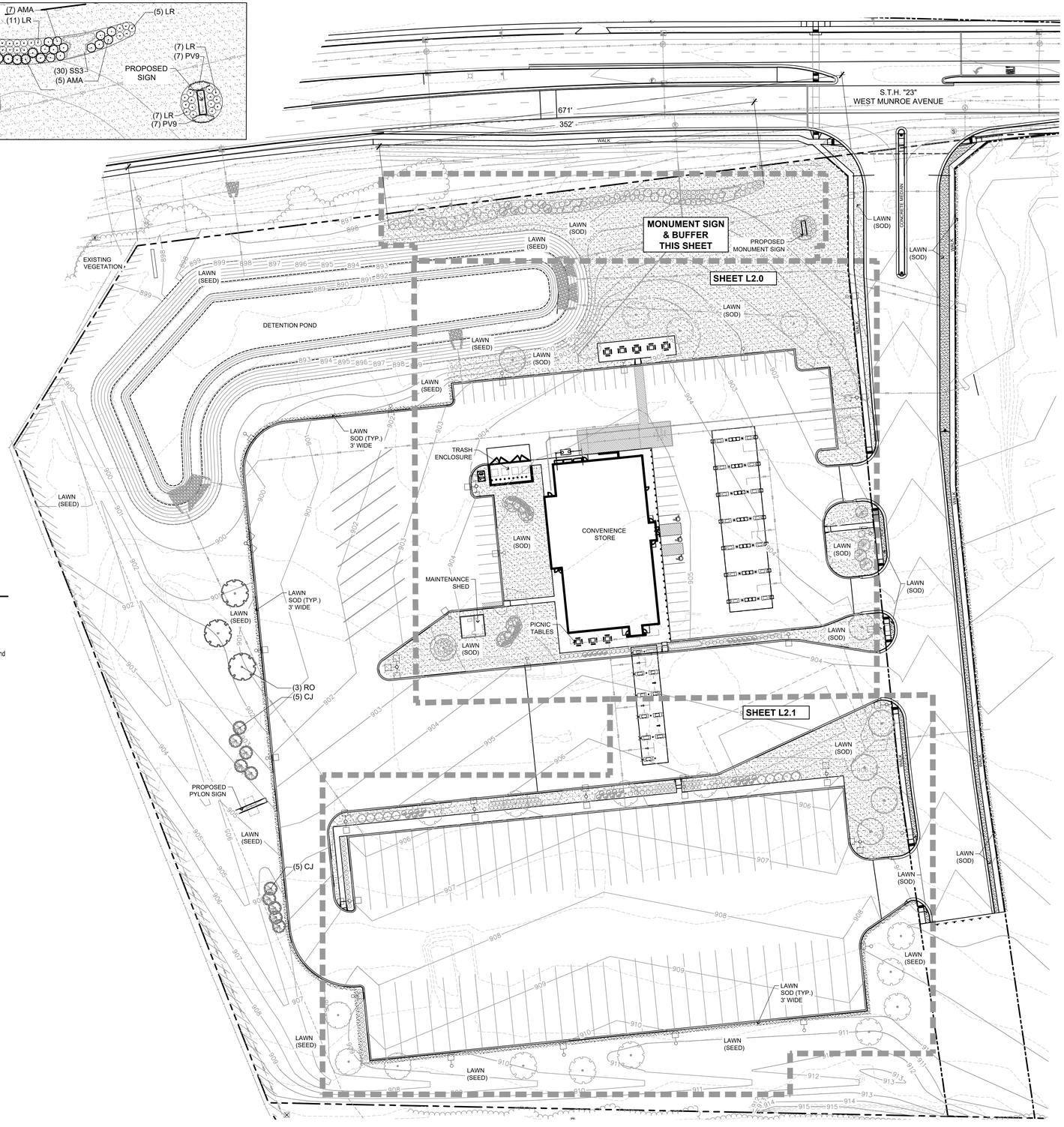
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SCALE: 1" = 50'

50 25 0 50 100



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OVERALL LANDSCAPE PLAN

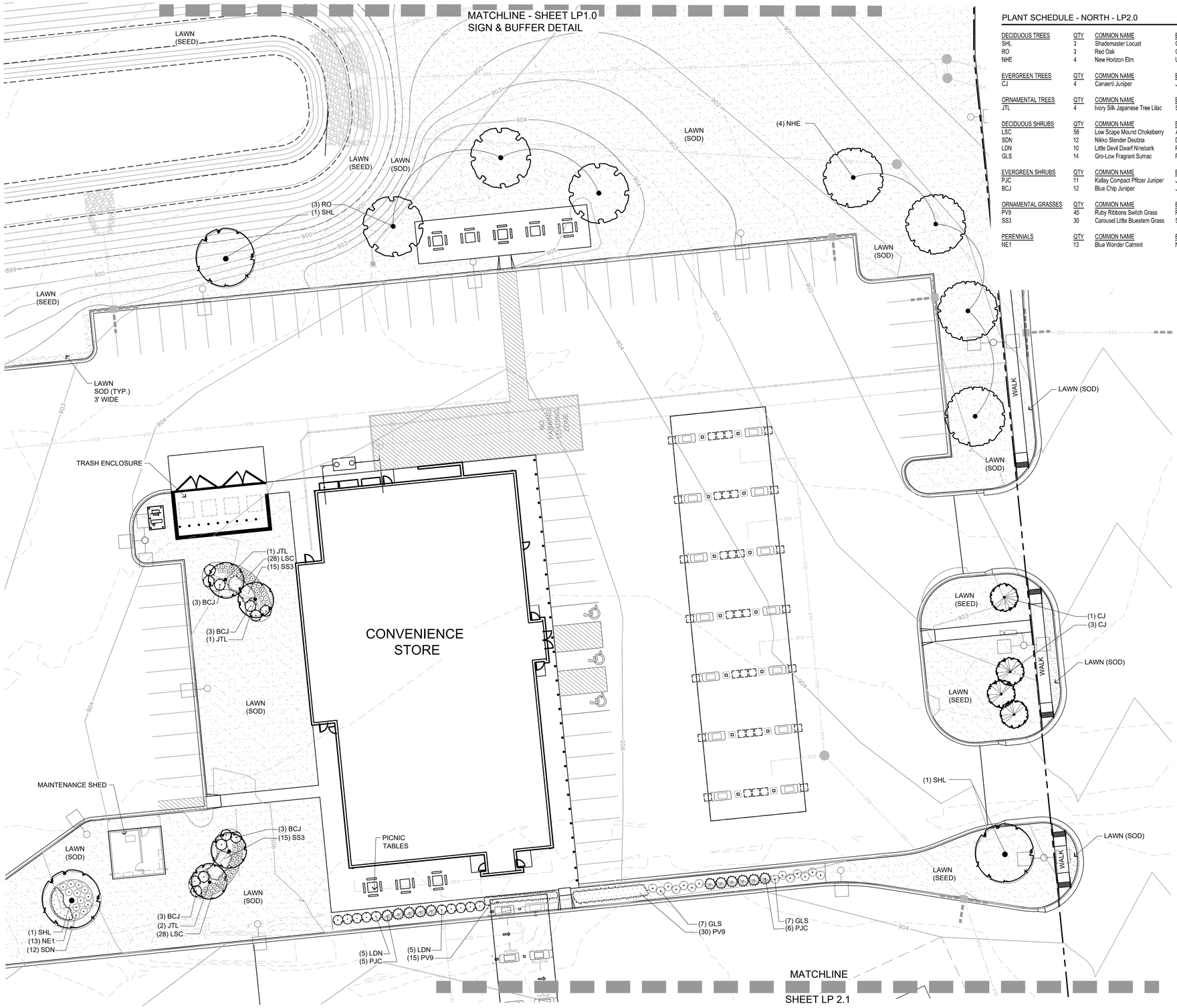
CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL

HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	LP1.0

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PLANT SCHEDULE - NORTH - LP2.0

DECIDUOUS TREES	QTY	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	REMARKS
SHL	3	Shademaster Locust	Gleditsia triacanthos inermis `Shademaster` TM	2" CAL	B&B	Full, matching heads
RO	3	Red Oak	Quercus rubra	2" CAL	B&B	Full, matching heads
NHE	4	New Horizon Elm	Ulmus x `New Horizon`	2" CAL	B&B	Full, matching heads
EVERGREEN TREES	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
CJ	4	Canaerti Juniper	Juniperus virginiana `Canaertii`	6` HT	B&B	Fully branched
ORNAMENTAL TREES	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
JTL	4	Ivory Silk Japanese Tree Lilac	Syringa reticulata `Ivory Silk`	1 1/2" CAL	B&B	Full, matching heads
DECIDUOUS SHRUBS	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
LSC	56	Low Scape Mound Chokeberry	Aronia melanocarpa `UCONNAM165`	15" HT	CONT.	
SDN	12	Nikko Slender Deutzia	Deutzia gracilis `Nikko`	12" HT	CONT.	
LDN	10	Little Devil Dwarf Nineback	Physocarpus opulifolius `Little Devil` TM	24" HT	CONT.	
GLS	14	Gro-Low Fragrant Sumac	Rhus aromatica `Gro-Low`	15" HT	CONT.	
EVERGREEN SHRUBS	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
PJC	11	Kallay Compact Pfitzer Juniper	Juniperus chinensis `Kallays Compact`	18"SPD	CONT.	
BCJ	12	Blue Chip Juniper	Juniperus horizontalis `Blue Chip`	18"SPD	CONT.	
ORNAMENTAL GRASSES	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
PV9	45	Ruby Ribbons Switch Grass	Panicum virgatum `Ruby Ribbons`	1 GAL	POT	24" Spacing
SS3	30	Carousel Little Bluestem Grass	Schizachyrium scoparium `Carousel`	1 GAL	POT	24" Spacing
PERENNIALS	**QTY**	**COMMON NAME**	**BOTANICAL NAME**	**SIZE**	**ROOT**	**REMARKS**
NE1	13	Blue Wonder Catmint	Nepeta x faassenii `Blue Wonder`	4 1/2"	POT	18" Spacing

SOD AREAS - LAWN

SCALE: 1" = 20'

20 10 0 20 40

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LANDSCAPE PLAN - NORTH

CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL

HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	LP2.0

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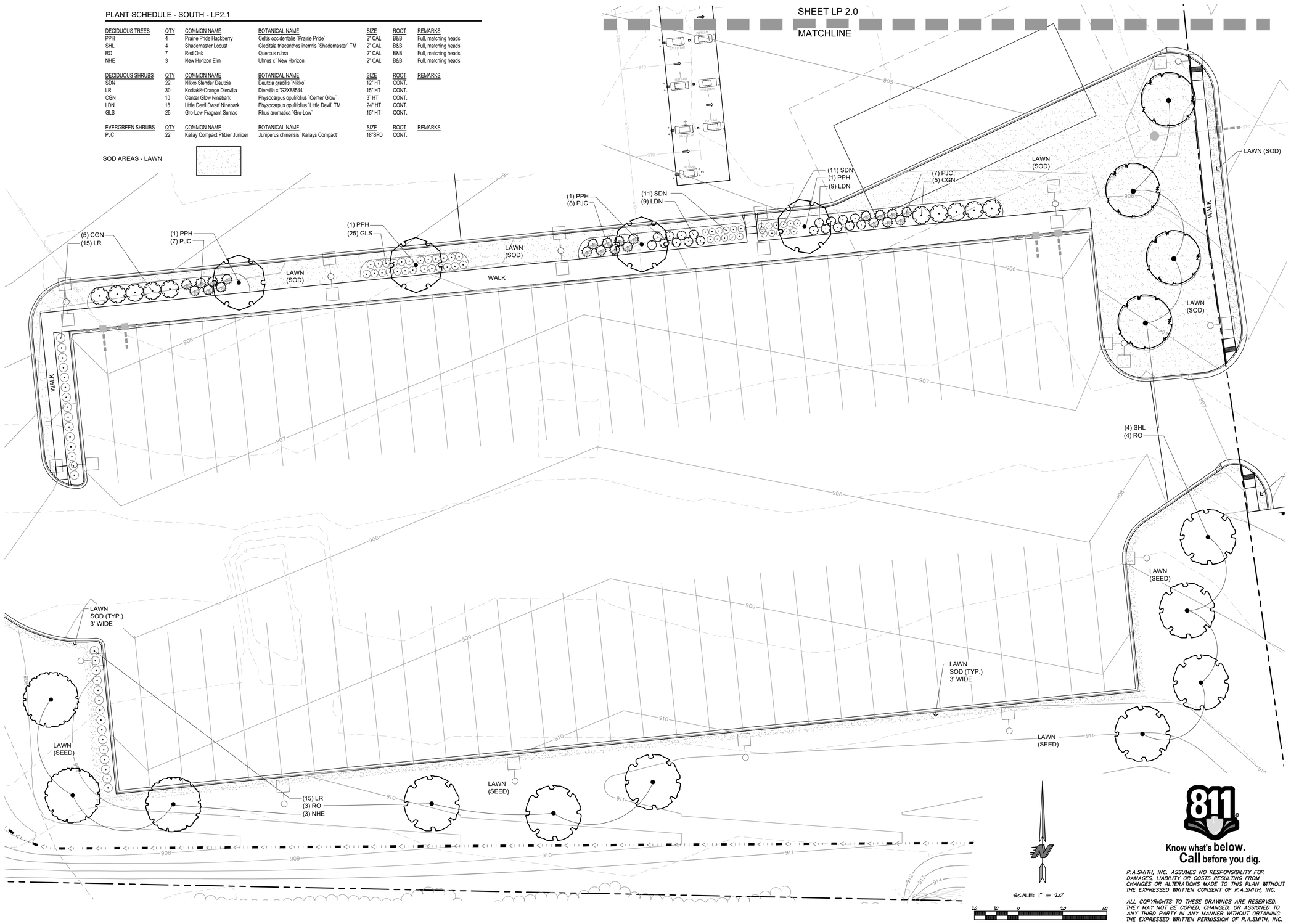
PLANT SCHEDULE - SOUTH - LP2.1

DECIDUOUS TREES	QTY	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	REMARKS
PPH	4	Prairie Pride Hackberry	Celtis occidentalis `Prairie Pride`	2" CAL	B&B	Full, matching heads
SHL	4	Shademaster Locust	Gleditsia triacanthos inermis `Shademaster` TM	2" CAL	B&B	Full, matching heads
RO	7	Red Oak	Quercus rubra	2" CAL	B&B	Full, matching heads
NHE	3	New Horizon Elm	Ulmus x `New Horizon`	2" CAL	B&B	Full, matching heads

DECIDUOUS SHRUBS	QTY	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	REMARKS
SDN	22	Nikko Slender Deutzia	Deutzia gracilis `Nikko`	12" HT	CONT.	
LR	30	Kodiak® Orange Diervilla	Diervilla x `G2X88544`	15" HT	CONT.	
CGN	10	Center Glow Ninebark	Physocarpus opulifolius `Center Glow`	3` HT	CONT.	
LDN	18	Little Devil Dwarf Ninebark	Physocarpus opulifolius `Little Devil` TM	24" HT	CONT.	
GLS	25	Gro-Low Fragrant Sumac	Rhus aromatica `Gro-Low`	15" HT	CONT.	

EVERGREEN SHRUBS	QTY	COMMON NAME	BOTANICAL NAME	SIZE	ROOT	REMARKS
PJC	22	Kallay Compact Pfitzer Juniper	Juniperus chinensis `Kallays Compact`	18"SPD	CONT.	

SOD AREAS - LAWN



SCALE: 1" = 20'

20 10 0 20 40

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LANDSCAPE PLAN - SOUTH

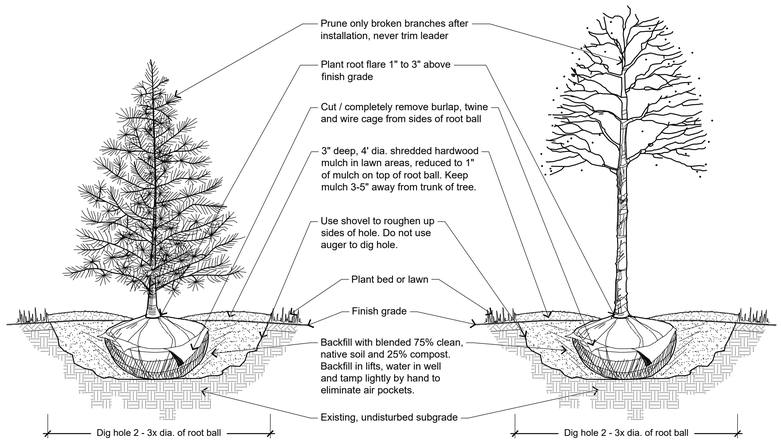
CONVENIENCE STORE #583
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HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

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SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	LP2.1

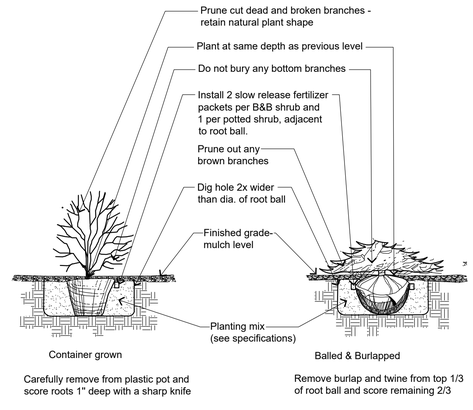
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1 TREE PLANTING DETAIL

NOT TO SCALE

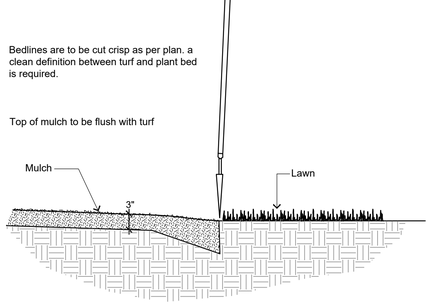
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2 SHRUB PLANTING DETAIL

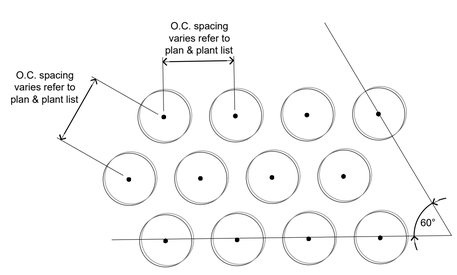
NOT TO SCALE

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3 SHOVEL CUT PLANT BED EDGING DETAIL

NOT TO SCALE



4 PLANTING LAYOUT

NOT TO SCALE

ras-1-3220019-01

GENERAL LANDSCAPE NOTES

1. Contractor responsible for contacting public and private underground utility locating service to have site marked prior to any digging or earthwork.
2. Contractor to verify all plant quantities shown on plant list and verify with plan. Report any discrepancies immediately to general contractor.
3. All plantings shall comply with standards as described in American Standard of Nursery Stock - ANSI Z60.1 (latest version). General contractor or owner's representative reserves the right to inspect and potentially reject any plants that are inferior, compromised, undersized, diseased, improperly transported, installed incorrectly or damaged.
4. Any potential plant substitutions must be submitted in writing and approved by the general contractor or owner's representative prior to installation. All plants must be installed as per sizes shown on plant material schedule, unless approved by general contractor or owner's representative.
5. The subsequent requirements regarding topsoil should be coordinated between the general contractor, grading contractor and landscape contractor.
6. Topsoil should be placed to within 3" of finish grade by general / grading contractor during rough grading operations. Planting islands and planting beds to be backfilled with screened topsoil (per note below) to a minimum depth of 18" by general / grading contractor to insure long term plant health.
7. Topsoil shall be: screened existing stockpiled topsoil, screened existing in-place soil, or screened soil from an off-site source that will support plant growth, and meets the following requirements. The soil shall closely match the mechanical analysis (percentage sand, silt and clay) of the existing subsoil. Soil shall be free of rocks, coarse fragments, gravel, sticks, trash, roots, debris over 3/4" and any substances harmful to plant growth. It also must be free of plants or plant parts of any noxious weeds.
8. Planting beds and parking lot islands: Landscape contractor is responsible for ensuring that unwanted material (gravel, debris, roots and other extraneous material harmful to plant growth) has been removed from the topsoil and the fine grading of all landscaped areas. The fine grading of planting beds and parking lot islands may require additional topsoil to bring to finish grade. Crown all planting islands and planting beds not adjacent to buildings, a minimum of 6" to provide proper drainage, unless otherwise specified. All other finished landscaped areas to be smooth, uniform and provide positive drainage away from structures and pavement.
9. Seeded areas: to receive a settled minimum depth of 3" of blended, prepared and non-compacted topsoil. Landscape contractor is responsible for excavation and removal of unwanted material (gravel, debris, roots and other extraneous material harmful to plant growth) to the specified depth, supplementing with additional topsoil (if necessary) and the fine grading of all seeded areas.
10. Tree planting (see planting detail):
    Plant all trees slightly higher than finished grade at root flare. Remove excess soil from top of root ball, if needed.Scarify side walls of tree pit prior to installation. Remove and discard non-biodegradable ball wrapping and support wire. Remove biodegradable burlap and wire cage (if applicable) from top one-third of rootball. Carefully bend remaining wire down to the bottom of hole once the tree has been placed into the hole and will no longer be moved. Score the remaining two-thirds of burlap and remove twine. Backfill pit with 80% existing soil removed from excavation and 20% plant starter mix blended prior to backfilling holes. Discard any gravel, heavy clay or stones. Avoid any air pockets and do not tamp soil down. When hole is two-thirds full, trees shall be watered thoroughly, and water left to soak in before proceeding.

    Provide a 3" deep, 4 ft. diameter shredded hardwood bark mulch ring around all LAWN (SEED) trees. Do not build up any mulch onto trunk of any tree. Trees that are installed incorrectly will be replaced at the time and expense of the landscape contractor. Stake trees if site conditions warrant, to promote the long term establishment of the tree.
11. Shrub planting: all shrubs to be pocket planted with a 50/50 mix of plant starter and topsoil. Install topsoil into all plant beds as needed to achieve proper grade and replace undesirable soil (see planting detail). Remove all excessive gravel, clay and stones from plant beds prior to planting. When hole is two-thirds full, shrubs shall be watered thoroughly and water left to soak in before proceeding.
12. Mulching: all tree and shrub planting beds to receive a 3" deep layer of high quality shredded hardwood bark mulch (not enviromulch). Do not allow mulch to contact plant stems and tree trunks.
13. Edging: edge all planting beds with a 4" deep spaded edge (shovel cut or mechanical). Bedlines are to be cut crisp, as per plan. A clean definition between LAWN (SEED) area and plant bed is required
14. LAWN (SEED) installation for all seeded turfgrass areas: remove / kill off any existing unwanted vegetation prior to seeding. Prepare the topsoil and seed bed by removing all surface stones 1" or larger and grading LAWN (SEED) areas to finish grade. Apply a starter fertilizer and specified seed uniformly and provide mulch covering suitable to germinate and establish turf. Provide seed and fertilizer mix information to general contractor prior to installation. Erosion control measures are to be used in swales and on steep grades, where applicable. Methods of installation may vary at the discretion of the landscape contractor on his/her responsibility to establish and guarantee a smooth, uniform, quality turf. A minimum depth of 3" of blended, prepared and non-compacted topsoil is required for all LAWN (SEED) areas. If straw mulch is used as a mulch covering, a tackifier may be necessary to avoid wind damage. Marsh hay containing reed canary grass is not acceptable as a mulch covering.
15. An acceptable quality turf is defined as having no more than 10% of the total area with bare spots larger than 1 square foot and uniform coverage throughout all turf areas.
16. Seed type for LAWN (SEED) areas - use only a premium quality seed mix. Premium blend seed mix (or equivalent): 50% blended Kentucky bluegrass, 25% creeping red fescue, 25% perennial rye applied at 5 lbs per 1,000 SF or at recommended rates from supplier. Provide seed specifications to general contractor prior to installation
17. Warranty and replacements: Trees, evergreens, and shrubs to be guaranteed (100% replacement) for a minimum of one (1) year from the date of substantial project completion. Only one replacement per plant will be required during the warranty period, except for losses or replacements due to failure to comply with specified requirements.
18. The landscape contractor is responsible for the watering and maintenance of all landscape areas at time of planting and throughout construction until the substantial completion of the installation and acceptance by the owner. This includes all trees, shrubs, evergreens, perennials, ornamental grasses and turf grass. Work also includes weeding, edging, mulching (only if required), fertilizing, trimming, sweeping up grass clippings, pruning and deadheading.
19. Project completion: upon substantial completion of the project, the landscape contractor is responsible to conduct a final review with the owner's representative and the general contractor to answer questions and insure that all specifications have been met. The landscape contractor is to provide watering and general ongoing maintenance instructions (in writing) for the new plantings and LAWN (SEED) to the owner and general contractor.

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LANDSCAPE NOTES & DETAILS

CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL
HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

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SECTION 33 10 00 WATER UTILITIES

1. SUBMITTALS: CONTRACTOR SHALL SUBMIT SUCH PRODUCT LITERATURE AND CATALOG CUTS OF MATERIALS TO BE SUPPLIED TO RELATE THESE MATERISAL TO THE SPECIFICATION. CONTRACTOR SHALL SUBMIT SUCH SUBMITTALS AND DETAILS REQUIRED FOR THE CONSTRUCTION AND INSTALLATION OF THE MATERIALS. SUBMITTALS AND DETAILS SHALL INDICATE THE INTENDED MATERIALS ARRANGEMENT, DIMENSIONS, MAJOR SUPPORT REQUIREMENTS, PLOT AREA AND INDICATE OR DETAILED CONSTRUCTION REQUIREMENTS.
2. PIPE: ALL WATER MAIN 4 INCHES IN DIAMETER OR LARGER SHALL MEET THE FOLLOWING MINIM REQUIREMENTS: DUCTILE IRON PIPE: SHALL MEET THE REQUIREMENTS OF ANSI/AWWA C151/A21.51, CLASS 52. STANDARD BITUMINOUS COATED PIPE WITH CEMENT–MORTAR LINING SHALL BE PROVIDED AND SHALL MEET THE REQUIREMENTS OF ANSI/AWWA C104/A21.4. ONLY DUCTILE PIPE MANUFACTURED IN NORTH AMERICA SHALL BE ALLOWED. ALL WATER MAIN LESS THAN 4 INCHES IN DIAMETER SHALL MEET THE FOLLOWING REQUIREMENTS: COOPER PIP SHALL BE TYPE K COPPER TUBING, ASTM B88, AND SHALL CONFORM TO THE SIZING REQUIREMENTS OF ANSI/AWWA C800.
3. FITTINGS: ALL FITTINGS FOR WATER MAIN 4 INCHES IN DIAMETER OR LARGER SHALL MEET THE FOLLOWING REQUIREMENT: DUCTILE IRON PIPE. FULL BODY FITTINGS SHALL CONFORM TO ANSI/AWWA C110/ A21.10 AND ANSI/AWWA C111/A21.11 WITH BITUMINOUS COATING. COMPACT FITTINGS SHALL CONFORM TO ANSI/AWWA C153/A21.53 AND ANSI/AWWA C111/21.11 WITH BITUMINOUS COATING. ALL FITTINGS SHALL BE PROVIDED WITH CEMENT MORTAR LINING CONFORMING TO ANSI/AWWA C104/A21.4. ONLY DUCTILE IRON FITTINGS MANUFACTURED IN NORTH AMERICA SHALL BE ALLOWED. CONTINUITY STRAPS SHALL BE PROVIDED FROM PIPE TO PIPE ACROSS ALL FITTINGS. REPAIR TYPE FITTINGS SHALL NOT BE ALLOWED ON NEWLY CONSTRUCTED WATER MAIN. ANY DAMAGED SECTION ON NEW WATER MAIN SHALL BE REPAIRED WITH SOLID SLEEVES AND MEGA–LUG RESTRAINING GLANDS. TAPPING SLEEVES SHALL BE SMITH–BLAIR MODEL MJ, OR EQUAL, EPOXY COATED, WITH STAINLESS STEEL BOLTS
4. JOINTS: ALL JOINTS FOR WATER MAIN 4 INCHES IN DIAMETER OR LARGER SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS: DUCTILE IRON PIPE. JOINTS SHALL BE EITHER PUSH–ON OR MECHANICAL JOINT CONFORMING TO ANSI/AWWA C111/A21.11 UNLESS SPECIFIED OTHERWISE. ALL JOINTS, FITTINGS, ETC., SHALL BE EQUIPPED TO PROVIDE ELECTRIC CONTINUITY. THE CONTINUITY MUST BE PROVIDED THROUGH THE USE OF A TRADEMARKED, WELL ESTABLISHED METHOD ACCEPTABLE TO THE ENGINEER. AT A MINIMUM, CONTINUITY STRAPS SHALL BE PROVIDED ACROSS ALL MECHANICAL JOINTS. ALL JOINTS FOR WATER MAIN REQUIRING JOINT RESTRAINT SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS: MECHANICAL JOINTS: MECHANICAL JOINTS SHALL BE INSTALLED WITH WEDGE ACTION RESTRAINING GLANDS, MEGA_LUG BY EBAA IRON SALES, INC. OR EQUAL. CONTINUITY STRAPS SHALL BE PROVIDED FROM PIPE TO PIPE ACROSS ALL MECHANICAL JOINTS. CONTRACTOR SHALL PROVIDE PRE–CAST CONCRETE THRUST BLOCKING IN ACCORDANCE WITH THE STANDARD DETAILS IN ADDITION TO THE JOINT RESTRAINT DEFINED ABOVE. PUSH ON JOINTS: PUSH–ON JOINTS SHALL BE INSTALLED UTILIZING A BELL RESTRAINT HARNESS WITH A WEDGE ACTION RESTRAINT RING. MEGA–LUG SERIES 1700 OR EQUAL, WITH LOW ALLOY CORROSION RESISTANT HIGH STRENGTH STAINLESS STEEL TIE BOLTS IN ACCORDANCE WITH ANSI/AWWA C111/A21.11. ALL HANDLES STEEL THE RODS MAY BE USED IN LIEU OF THE HIGH STRENGTH STEEL TIE BOLTS UNLESS SPECIFIED OTHERWISE BY THE ENGINEER. PUSH–ON JOINTS ON HYDRANT LEADS SHALL BE RESTRAINED WITH FIELD–LOK GASKETS, OR EQUAL. OTHER RESTRAINT OPTIONS FOR PUSH–ON JOINTS FOR STRAIGHT PIPE SHALL BE AS MANUFACTURED BY THE PIPE MANUFACTURER OR AS SPECIFIED BY THE ENGINEER. GASKETS SHALL MEET THE MATERIAL REQUIREMENTS OF ANSI/AWWA C111/A21.11. RESTRAINED JOINT RETAINER RINGS SHALL BE MANUFACTURED OF DUCTILE IRON COMPATIBLE WITH PIPE. CASING APPLICATIONS: ALL JOINTS FOR CARRIER PIPE WITHIN A CASING SHALL BE RESTRAINED VA FIELD–LOK GASKETS, OR EQUAL. ALL RESTRAINED JOINTS SHALL HAVE A PRESSURE RATING EQUAL TO THAT OF THE PIPE.
5. VALVES: ALL VALVES FOR WATER MAIN 4–INCHES THRU 12–INCHES IN DIAMETER OR LARGER SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS: VALVES SHALL BE RESILIENT–SEATED GATE VALVES, MECHANICAL JOINT CONFORMING TO ANSI/AWWA C509 OR ANSI/AWWA C515 UNLESS SPECIFIED OTHERWISE. WITH CAST IRON BOX, VALVE ADAPTER, EXTENSIONS, AND NUTS. CONTINUITY STRAPS SHALL BE INSTALLED FROM PIPE TO PIPE ACROSS THE VALVE. VALVES SHALL BE MADE BY AMERICAN FLOW CONTROL ALL VALVES FOR WATER MAIN LARGER THAN 12–INCHES IN DIAMETER SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS: VALVES SHALL BE RUBBER–SEATED BUTTERFLY VALVES, MECHANICAL JOINT CONFORMING TO ANSI/AWWA C504 UNLESS SPECIFIED OTHERWISE AND SHALL BE KENNEDY VALVE COMPANY. ALL VALVES FOR WATER MAIN SERVICES LESS THAN 4–INCHES IN DIAMETER ARE DETAILED IN SECTION 2.06 OF THIS SPECIFICATION.ALL BOLTS ON VALVES 4–INCHES OR LARGER SHALL BE STAINLESS STEEL.VALVES SHALL BE INSTALLED WITH THE FOLLOWING ACCESSORIES: VALVE BOX. VALVE BOX SHALL CONSIST OF A TOP SECTION, BOTTOM SECTION, AND NECESSARY EXTENSIONS AND ALL SHALL BE CAST IRON. LID SHALL HAVE THE WORD "WATER" CAST ON THE LID. THE TOP SECTION OF VALVE BOX EXTENSIONS AND THE VALVE BOX COVER SHALL BE MANUFACTURED BY BINGHAM & TAYLOR FOR VALVES 4–INCHES OR GREATER. VALVE BOX ADAPTOR. ALL 4–INCH OR LARGER VALVES SHALL BE INSTALLED WITH A VALVE BOX ADAPTOR AS MANUFACTURED BY ATLANTA PIPE CORPORATION, 5295 PORSCHE DRIVE, DULUTH, MINNEAPOLIS PHONE (800) 241–4788. VALVES FOR 4–INCH BURY, 1_1/4 INCH UPPER, PENTAGON NUT OPENING WITH STATIONARY ROD. IF VALVE BOX EXCEEDS 7–FEET IN DEPTH, AN OPERATOR EXTENSION PIPE SHAFT SHALL BE INSTALLED. THE EXTENSION STEM SHALL TERMINATE WITHIN 4–5–FEET FROM THE FINISHED GRADE OF THE VALVE BOX COVER. IN NO CASE SHALL THE EXTENSION TERMINATE LESS THAN 4–FEET FROM THE VALVE BOX COVER.
6. HYDRANTS: ALL HYDRANTS FOR WATER MAIN SHALL MEET THE FOLLOWNG MINIMUM REQUIREMENTS: HYDRANTS SHALL BE DRY BARREL FIRE HYDRANT, DRY TOP DESIGN, CONFORMING TO ANSI/AWWA C502 WITH MECHANICAL JOINT BASE CONNECTION. HYDRANTS SHALL BE MANUFACTURER'S PREMIUM MODEL, UNDERWRITERS LABORATORIES, INC. (UL) AND FACTORY MUTUAL RESEARCH (FM) LISTED FIRE HYDRANT. HYDRANTS SHALL BE TRAFFIC DESIGN WITH PROTECTIVE GROUND LINE COUPLING (TRAFFIC FLANGE) WHICH ASSURES RELIABLE FRACTURE AT TRAFFIC IMPACT. THIS COUPLING SHALL ALSO ALLOW HYDRANT BARREL TO ANY POSITION AFTER HYDRANT INSTALLATION. HYDRANTS SHALL BE FURNISHED AS STANDARD 3_WAY STYLE WITH TWO 2_1/2 INCH AND ONE 4_1/2 INCH STANDARD HOSE NOZZLES (CHAINS ON NOZZLE CAPS ARE REQUIRED). HYDRANTS SHALL HAVE 5_1/4 INCH MAIN VALVE OPENINGS. HYDRANT OPERATING NUT SHALL BE A STANDARD TWO–PIECE PENTAGON (5 SIDED). OPERATING ASSEMBLY SHALL INCLUDE, AS A MINIMUM, WEATHER SHIELD, THRUST WASHER, REVOLVING NUT WITH SEAL FOR DRY TOP DESIGN, AND LIFETIME LUBRICATION. HYDRANT BASE SHALL CONTAIN A BARREL DRAIN OPERATED BY HYDRANT ACTIVATOR. ALL HYDRANTS SHALL BE CONNECTED TO THE MAIN WITH A 6_INCH DIAMETER (MINIMUM) WATER MAIN PIPE CONFORMING TO THE REQUIREMENTS OF THIS SECTION. PUMPER NOZZLE SHALL BE LOCATED 15–INCHES FROM THE TRAFFIC FLANGE MEASURED CENTER TO CENTER. HYDRANTS SHALL BE AMERICAN FLOW CONTROL WATEROUS CLASSIC PAGER METHOD THE FOLLOWING REQUIREMENTS UNLESS NOTED OTHERWISE BY THE ENGINEER. HYDRANTS SHALL HAVE UPPER BARREL SECTION SHALL BE A MINIMUM 16–INCHES, NATIONAL STANDARD THREAD, OPERATING NUT WILL BE A STANDARD 1_1/2 INCH PENTAGON, CCW OPEN, OPERATING NUT SHALL MAKE WEATHER SHIELD, MECHANICAL JOINT CONNECTIONS, PAINTED RED, MAINTAIN ELECTRICAL CONTINUITY, RESILIENT WEDGE MAIN SEAT, BRONZE TO BRONZE FITTINGS, TAPPING DRAINPORT OPENING WITH PLUG. HYDRANTS SHALL BE FURNISHED HAVING 7–FEET 6–INCH BURY OR AS SHOWN ON THE CONTRACT DRAWINGS OR AS DEFINED IN SPECIAL PROCEDURES – DIVISION 01.
7. WATER SERVICES: ALL WATER SERVICE LINES SHALL BE 1 INCH UNLESS SHOWN OTHERWISE ON THE CONTRACT DRAWINGS OR AS SPECIFIED IN SPECIAL PROCEDURES – DIVISION 01. ALL SERVICE LINES FOR WATER MAIN SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS: SERVICE LINES SHALL BE TYPE K COPPER TUBING AND SHALL CONFORM TO ANSI/AWWA C800. COPPER SERVICE LINES SHALL CONFORM TO ANSI/AWWA C800 FOR COPPER SERVICE LINES. CORPORATIONS LARGER THAN 1 INCH SHALL BE FURNISHED AND INSTALLED WITH SERVICE SADDLES. SERVICE SADDLES SHALL BE RATED FOR 250 PSI, HAVE A COATED DUCTILE IRON BODY, 304 STAINLESS STEEL STRAP AND NITRILE O_RING GASKET. SERVICE SADDLES SHALL MEET ALL APPLICABLE PARTS OF ANSI/AWWA C800. CORPORATION STOPS SHALL BE MUELLER GROUND KEY CONDUCTIVE COMPRESSION OR AS SPECIFIED IN SPECIAL PROCEDURES _ DIVISION 01. ALL CURB STOPS FOR WATER SERVICES SHALL MEET THE FOLLOWING MINIMUM REQUIREMENTS: CURB STOPS SHALL BE DESIGNED FOR USE WITH COPPER SERVICE LINES AND SHALL CONFORM TO AWWA C800. CURB STOPS SHALL BE PROVIDED WITH A CURB IN COMPLIANCE WITH SPECIAL CONDITIONS – DIVISION 1 OF THESE SPECIFICATIONS. ALL CURB STOPS SHALL HAVE BRASS PLUGS. WHEN EXTENSION RODS ARE WARRANTED, RODS SHALL BE BETWEEN 3–FEET MINIMUM TO 4–FEET MAXIMUM IN LENGTH TO MEET THE REQUIREMENTS OF SECTION 2.04 E. CORPORATION, CURB STOPS AND SERVICE LINES SHALL BE AS FOLLOWS UNLESS OTHERWISE NOTED. VILLAGE STANDARD PRODUCTS FOR WATER SERVICES: CORPORATIONS: MUELLER GROUND KEY CONDUCTIVE COMPRESSION MODEL #H–15008 (1 INCH OR LESS), MUELLER ORI–CORP MODEL H–15013 (SERVICES GREATER THAN 1 INCH). SADDLES: TAPPING SADDLE FOR SERVICES GREATER THAN 1 INCH SHALL BE MODEL 3825 AS MANUFACTURED BY MCDONALD. CURB BOX: MUELLER, MINNEAPOLIS PATTERN, 6 FOOT 6 INCH BURY, 1–1/4 INCH UPPER, PENTAGON NUT OPENING WITH STATIONARY ROD. CURB STOP: MUELLER MARK II ORISEAL MODEL #H–15155 (1 INCH OR LESS), MUELLER 300 BALL CURB VALVE MODEL #B–25155 WITH CONDUCTIVE COMPRESSION FITTINGS. ALL CURB STOPS SHALL HAVE BRASS PLUGS. SERVICE LINES: TYPE K COPPER, 1 INCH OR AS SPECIFIED IN SPECIAL PROCEDURES – DIVISION 01.
8. POLYETHYLENE ENCASEMENT: POLYETHYLENE ENCASEMENT SHALL BE POLYETHYLENE FILM TUBE CONFORMING TO ANSI/AWWA C105/A21.5. POLYETHYLENE FILM SHEET CONFORMING TO ANSI/AWWA C105/A21.5 MAY BE USED AT ODD_SHAPED APPURTENANCES WHERE THE USE OF TUBE IS NOT PRACTICAL. THE POLYETHYLENE FILM SHALL BE CLEARLY MARKED WITH THE INFORMATION REQUIRED IN ANSI/AWWA C105/A21.5.
9. INSULATION: INSULATION SHALL BE EXTRUDED POLYSTYRENE INSULATION (25 PSI) CONFORMING TO ASTM C578, TYPE IV IN 4 FOOT X 8 FOOT SHEETS WITH MINIMUM THICKNESS OF 2 INCHES.

WATER UTILITIES CONSTRUCTION METHODS

1. ALL CONSTRUCTION SHALL BE DONE IN CONFORMANCE WITH ANSI/AWWA C600 UNLESS OTHERWISE SPECIFIED
2. EXCAVATION SHALL CONFORM TO TRENCHING AND BACKFILLING – DIVISION 31 OF THESE SPECIFICATIONS EXCEPT AS MODIFED HEREIN
3. FIELD INSPECTION OF MATERIALS: BEFORE LOWERING AND WHILE SUSPENDED, THE PIPE OR FITTING SHALL BE INSPECTED FOR DEFECTS. ALL MATERIALS USED IN THE WORK MUST PASS FIELD INSPECTION
4. DIRECTION OF LAYING: UNLESS OTHERWISE ORDERED, PIPE SHALL BE LAID WITH THE BELL ENDS FACING THE DIRECTION OF LAYING. WHEN THE GRADE EXCEEDS 30 FEET OF RISE PER ONE HUNDRED FEET OF TRENCH, THE BELLS SHALL BE FACE UPGRADE.
5. INSTALLATION: THE CONTRACTOR SHALL HAVE SUFFICIENT AND ADEQUATE EQUIPMENT ON THE SITE OF THE WORK FOR UNLOADING AND LOWERING PIPE AND FITTINGS INTO THE TRENCH. EXTREME CARE SHALL BE EXERCISED BY THE CONTRACTOR IN HANDLING ALL PIPE, FITTINGS, AND SPECIAL CASTINGS SO AS TO PREVENT BREAKAGE UNDER NO CIRCUMSTANCES SHALL THEY BE DROPPED INTO THE TRENCH OR SO HANDLED AS TO RECEIVE HARD BLOWS OR SHALL THEY BE ALLOWED TO SLIDE AGAINST THE PIPE. CONTRACTOR SHALL SUPPLY AND INSTALL PIPE, FITTINGS, COUPLING, WHEN BEING MADE AND APPURTENANCES AS REQUIRED TO COMPLETE THE PROJECT. ALL TEES, CROSSES, BENDS, AND REDUCERS SHALL BE DUCTILE IRON. NO PVC APPURTENANCES WILL BE ALLOWED. CONTRACTOR SHALL INSTALL TEMPORARY WATER SERVICE TO ALL USERS WHERE WATER SERVICE WILL BE INTERRUPTED FOR MORE THAN 4 HOURS. CONTRACTOR SHALL COORDINATE INTERRUPTION TO BUSINESS AND COMMERCIAL USERS SO THE INTERRUPTION WILL NOT CAUSE A DISRUPTION OF BUSINESS OR COMMERCIAL ACTIVITIES. THE OWNER AND ALL USERS SHALL BE GIVEN 48 HOUR NOTICE OF SERVICE INTERRUPTION, EXCEPT DURING EMERGENCIES. ABANDONED WATER MAINS OR HYDRANT LEADS SHALL HAVE THEIR ENDS PLUGGED WITH CONCRETE OR A RESTRAINED MECHANICAL JOINT CAP, AS REQUIRED BY OWNER. ALL EXISTING WATER MAINS BEING REPLACED ARE TO REMAIN IN SERVICE UNTIL THE NEW WATER MAINS ARE TESTED AND ACCEPTED. THE CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE OWNER AND THE ENGINEER TO SEQUENCE CONNECTION AND OPERATION OF NEW MAINS AND ABANDONMENT OF EXISTING MAINS.
6. JOINING OF PIPE: EVERY PRECAUTION SHALL BE TAKEN TO PREVENT FOREIGN MATERIAL FROM ENTERING THE PIPE WHILE IT IS BEING PLACED IN THE LINE. IF THE CREW CANNOT PUT THE PIPE INTO THE TRENCH AND IN PLACE WITHOUT GETTING EARTH INTO IT, THE ENGINEER MAY REQUIRE THAT BEFORE LOWERING THE PIPE INTO THE TRENCH, A HEAVY, TIGHTLY WOVEN CANVAS BAG OF SUITABLE SIZE SHALL BE PLACED OVER EACH END AND LEFT THERE UNTIL THE CONNECTION IS TO BE MADE TO THE ADJACENT PIPE. DURING LAYING OPERATIONS, NO DEBRIS, TOOLS, CLOTHING, OR OTHER MATERIALS SHALL BE PLACED IN THE PIPE.
7. CUTTING OF PIPE: PIPE SHALL BE CUT AT RIGHT ANGLES TO THE CENTERLINE OF THE PIPE. CUTTING SHALL BE DONE IN A NEAT WORKMANLIKE MANNER WITHOUT DAMAGE TO THE PIPE AND SO AS TO LEAVE A SMOOTH END. ALL PIPES SHALL BE CUT WITH AN APPROVED MECHANICAL CUTTER. THE CUT END OF A PIPE TO BE USED WITH RUBBER GASKET JOINTS SHALL BE TAPERED BY GRINDING OR FILING ABOUT 1/8 INCH BACK AT AN ANGLE OF APPROXIMATELY 30 DEGREES WITH THE CENTERLINE OF THE PIPE, AND ANY SHARP OR ROUGH EDGES SHALL BE REMOVED.
8. OBSTRUCTION IN LINE OR GRADE: WHENEVER IT BECOMES NECESSARY TO LAY A MAIN OVER, UNDER OR AROUND A KNOWN OBSTRUCTION, THE CONTRACTOR WILL FURNISH AND INSTALL THE REQUIRED FITTINGS. IF AN UNKNOWN UNDERGROUND STRUCTURE INTERFERES WITH THE WORK TO SUCH AN EXTENT THAT AN ALTERATION OF THE PLAN IS REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER.
9. THRUST RESTRAINT: THRUST RESTRAINT IS REQUIRED FOR ALL BENDS, CAPS, PLUGS, TEES, AND VALVES ADJACENT TO TEES. THRUST RESTRAINT SHALL BE PROVIDED BY USE OF SOLID, PRECAST CONCRETE BLOCK BUTTRESSES AND MEGA–LUG, OR EQUAL, JOINT RESTRAINT ON ALL MAINLINE PIPE. HYDRANT LEADS SHALL BE RESTRAINED WITH SOLID PRECAST CONCRETE BLOCKS AND MEGA–LUG JOINT RESTRAINT OR FIELD–LOK GASKETS. CONCRETE BUTTRESSES SHALL BE PLACED AGAINST FIRM, UNDISTURBED GROUND. WHEN CONCRETE BUTTRESSES CANNOT BE PLACED AGAINST UNDISTURBED GROUND THEY SHALL BE PLACED AGAINST FILL MATERIAL OF COMPOSITION CONFORMING TO THE REQUIREMENTS OF ASTM C12 OR ASTM D2321 AS APPLICABLE FOR RIGID AND FLEXIBLE PIPE RESPECTIVELY, COMPACTED TO 95 PERCENT OF THE MODIFIED PROCTOR DENSITY FOR THE MATERIAL. THE BUTTRESSES SHALL BE CONSTRUCTED TO THE MINIMUM DIMENSIONS AS SHOWN ON THE CONTRACT DRAWINGS OR AS REQUIRED BY THE ENGINEER. SOLID PRECAST CONCRETE BLOCKS SHALL BE USED IN LIEU OF THE POURED BUTTRESSES. CONCRETE BLOCKS SHALL BE STEPPED–OUT TO MATCH THE MINIMUM DIMENSIONS REQUIRED FOR POURED CONCRETE BUTTRESSES. RESTRAINED JOINT FITTINGS SHALL BE USED IN CONJUNCTION WITH PRECAST BLOCKING. WHEN RESTRAINED JOINT FITTINGS ARE USED, A SUFFICIENT LENGTH OF PIPE ON EACH SIDE OF THE FITTING SHALL BE RESTRAINED TO RESIST THE THRUST FORCES. THE MINIMUM LENGTH OF RESTRAINED PIPE REQUIRED SHALL BE 25 FEET OR AS SPECIFIED IN SPECIAL PROCEDURES _ DIVISION 01. IF NO MINIMUM LENGTH FOR RESTRAINED JOINTS IS SPECIFIED, THE CONTRACTOR SHALL SUBMIT THE RESTRAINED JOINT CALCULATIONS TO THE ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION. PUSH–ON JOINT RESTRAINT SHALL BE MEGA–LUG SERIES 1700, OR EQUAL.
10. JOINT DEFLECTION: THE MAXIMUM ALLOWABLE DEFLECTION FOR DUCTILE IRON PIPE WILL BE AS GIVEN IN ANSI/AWWA C600. IF EXCESS DEFLECTION IS REQUIRED, SPECIAL BENDS SHALL BE FURNISHED TO PROVIDE ANGULAR DEFLECTIONS. THE MAXIMUM DEFLECTION SHALL BE AS SPECIFIED BY THE MANUFACTURER.
11. DEPTH: THE WATER MAIN SHALL BE PLACED AT A DEPTH AS TO PREVENT FREEZING. THIS DEPTH SHALL PROVIDE A MINIMUM SEVEN FEET (7–FEET) OF COVER OVER IRON/COPPER PIPE UNLESS OTHERWISE SHOWN ON THE CONTRACT DRAWINGS OR REQUIRED BY SPECIAL PROCEDURES _ DIVISION 01 OF THESE SPECIFICATIONS. INSULATION SHALL BE INSTALLED IF BURY IS LESS THAN SIX FEET FIVE INCHES (6–FEET 5–INCHES) OR UTILITY CROSSING EFFECTIVELY REMOVES EARTHEN FREEZE PROTECTION. INSULATION SHALL BE INSTALLED AS SHOWN ON THE CONTRACT DRAWINGS OR AS DIRECTED BY THE ENGINEER IN THE FIELD.
12. UNSTABLE SOIL: IF IN THE OPINION OF THE ENGINEER THE TRENCH BOTTOM IS OF UNSTABLE MATERIAL, THE ENGINEER MAY DIRECT THE CONTRACTOR TO EXCAVATE THE UNSTABLE MATERIAL AND REPLACE SAME WITH 3/4 INCH WASHED OR CLEAR STONE. WASHED OR CLEAR STONE USED IN SUCH CASES SHALL BE CONSIDERED INCIDENTAL AND INCLUDED IN THE PRICE BID FOR WATER MAIN UNLESS BID OR SPECIFIED OTHERWISE. WHERE THE CONDITION OF UNSTABLE MATERIAL IS UNUSUALLY SEVERE, THE ENGINEER MAY ORDER THE PLACEMENT OF A CONCRETE CRADLE. MATERIALS USED FOR CONCRETE CRADLES, WHEN NOT CALLED FOR IN THE CONTRACT DOCUMENTS, SHALL BE PAID FOR BY CHANGE ORDER AT A NEGOTIATED PRICE.
13. SETTING VALVES: VALVES IN WATER MAINS SHALL BE PROVIDED AND INSTALLED IN LOCATIONS AS SHOWN ON THE CONTRACT DRAWINGS. CONTINUITY STRAPS SHALL BE INSTALLED FROM PIPE TO PIPE ACROSS ALL VALVES. A VALVE BOX AND VALVE BOX ADAPTOR SHALL BE PROVIDED FOR EVERY VALVE UNLESS OTHERWISE SPECIFIED. THE VALVE BOX SHALL NOT TRANSMIT SHOCK OR STRESS TO THE VALVE AND SHALL BE CENTERED AND PLUMB OVER THE WRENCH NUT OF THE VALVE. THE BOX COVER SHALL BE ¼ TO ½ INCH LOWER THAN THE SURFACE OF THE FINISHED PAVEMENT. AUXILIARY VALVES FOR HYDRANTS SHALL BE PLACED 3 FEET FROM THE MAINLINE TEE, MEASURED CENTER TO CENTER
14. SETTING HYDRANTS: HYDRANTS SHALL BE LOCATED AS SHOWN ON THE CONTRACT DRAWINGS OR AS DIRECTED BY THE ENGINEER. ALL HYDRANTS SHALL STAND PLUMB AND SHALL HAVE THE PUMPER NOZZLE FACING THE CURB. HYDRANTS SHALL BE SET TO THE ESTABLISHED GRADE WITH THE HYDRANT TRAFFIC FLANGE 3 INCHES ABOVE THE FINISHED GRADE. THE ABOVE HYDRANT VERTICAL PLACEMENT MAY BE ACCOMPLISHED BY ADDING HYDRANT EXTENSIONS. THE UNIT PRICE BID FOR THE HYDRANT SHALL INCLUDE THE COST OF EXTENSIONS.ALL HYDRANT DRAINPORT SHALL BE PLUGGED IN THE FOLLOWING CONDITIONS: HYDRANT DRAINPORT WOULD BE INSTALLED BELOW GROUNDWATER TABLE, HYDRANT IS PLACED IN AREA WITH KNOWN SOIL CONTAMINATION, SOIL MATERIALS AND COLORATION INDICATE GROUNDWATER MAY BE ABOVE HYDRANT DRAINPORT., PLUGGING REQUIREMENTS ARE EITHER SHOWN ON THE CONTRACT DRAWINGS OR DIRECTED BY THE ENGINEER THE FIELD, OR DIRECTED BY THE VILLAGE WATER UTILITY SUPERVISOR OR OPERATOR. PLUGS SHALL BE PROVIDED IN THESE CONDITIONS AND CONSIDERED INCIDENTAL TO THE HYDRANT BID ITEM. WHEREVER A HYDRANT IS SET IN SOIL THAT IS PERVIOUS, DRAINAGE SHALL BE PROVIDED AT THE BASE OF THE HYDRANT BY PLACING ¾–INCH WASHED OR CLEAR STONE FROM THE BOTTOM OF THE TRENCH TO AT LEAST 12–INCHES ABOVE THE WASTE OPENING IN THE HYDRANT AND TO A DISTANCE OF 1–FOOT AROUND THE ELBOW. THE DRAINAGE MATERIAL SHALL BE WRAPPED WITH NON_WOVEN GEOFABRIC FABRIC TYPE SAS CONFORMING TO THE REQUIREMENTS OF GEOSYNTHETICS FOR EARTHWORK – DIVISION 31 OF THESE SPECIFICATIONS. WHEREVER A HYDRANT IS SET IN CLAY OR OTHER IMPERVIOUS SOIL, DRAINAGE SHALL BE PROVIDED AT THE BASE OF THE HYDRANT BY PLACING ¾–INCH WASHED OR CLEAR CRUSHED STONE UNDER AND AROUND THE ELBOW OF THE HYDRANT TO A LEVEL OF 12–INCHES ABOVE THE WASTE OPENING IN THE HYDRANT AND TO A DISTANCE 3–FEET ALONG THE TRENCH BACK TOWARD THE MAIN.ALL HYDRANTS SHALL BE CONSTRUCTED WITH A MINIMUM OF SIX AND ONE_HALF FEET (6'_6") OF COVER OVER THE LEAD, OR AS SHOWN ON THE CONTRACT DRAWINGS OR SPECIFIED IN SPECIAL PROCEDURES – DIVISION 01, AND BE SET ON A SOLID CONCRETE BLOCK. ALL HYDRANTS SHALL BE INSTALLED WITH THRUST RESTRAINT UTILIZING PRECAST CONCRETE BLOCKS AND JOINT RESTRAINT, SEE THRUST RESTRAINT THIS SECTION. HYDRANT LEADS SHALL BE FULLY RESTRAINED FROM HYDRANT TO MAIN.
15. INSTALLING SERVICES: ALL CORPORATIONS SHALL BE TAPPED INTO THE MAIN WHERE THE PROPER NUMBER OF THREADS IN CONTACT WITH THE MAIN CAN BE ACHIEVED IN OPERATION. THE CORPORATION SHALL CANNOT BE TAPPED INTO THE MAIN THROUGH A SERVICE SADDLE TAPPING SERVICE FURNISHED. ALL COSTS RELATED TO TAPPING SADDLES SHALL BE INCLUDED IN THE CORPORATION UNIT PRICE. TAPS SHALL BE CUT_IN USING A "SHELL CUTTER" TAPPING DEVICE TO CAPTURE ALL LOOSE MATERIALS. SERVICE LINES SHALL HAVE A 1–FOOT OFFSET (GOOSENECK) FROM THE CORPORATION.
16. POLYETHYLENE ENCASEMENT: POLYETHYLENE ENCASEMENT SHALL BE INSTALLED WHERE SHOWN IN THE CONTRACT DRAWINGS OR AS REQUIRED IN THE SPECIAL PROCEDURES _ DIVISION 01. INSTALLATION OF POLYETHYLENE ENCASEMENT SHALL CONFORM TO ANSI/AWWA C105/A21.5L. THE POLYETHYLENE FILM SHALL BE FITTED TO THE CONTOUR OF THE PIPE CREATING A SNUG, BUT NOT TIGHT, ENCASEMENT. SUFFICIENT SLACK SHALL BE PROVIDED IN CONTOURING TO PREVENT STRETCHING THE POLYETHYLENE WHERE IT BRIDGES IRREGULAR SURFACES, SUCH AS JOINTS OR FITTINGS, AND TO PREVENT DAMAGE TO THE POLYETHYLENE DURING BACKFILLING OPERATIONS. THE POLYETHYLENE SHALL BE SECURED WITH ADHESIVE TAPE OR PLASTIC TIE STRAPS. FOR INSTALLATIONS BELOW THE WATER TABLE, CIRCUMFERENTIAL WRAPS OF TAPE SHALL BE PLACED AT TWO FOOT INTERVALS ALONG THE BARREL OF THE PIPE. ALL FITTINGS AND VALVES SHALL BE FULLY WRAPPED WITH POLYETHYLENE. EXPOSED PIPE, SUCH AS AT VALVE STEMS, SHALL HAVE A CUT OF FILM MADE AT THE BREAKLINE.
17. TRACER WIRE: TRACE WIRE SHALL BE INSTALLED IN CONJUNCTION WITH ALL PVC, HDPE, OR NON–CONDUCTIVE WATER MAIN AND SERVICES IN ACCORDANCE WITH TRACER WIRE – DIVISION 33 AND WITH THE CONTRACT DRAWINGS AND THE SPECIAL PROCEDURES – DIVISION 01.
18. DISINFECTING WATER MAIN: ALL WATER MAIN AND SERVICES SHALL BE DISINFECTED IN CONFORMANCE WITH ANSI/AWWA C651. THE MAIN WILL NOT BE ACCEPTED OR PLACED IN SERVICE UNTIL TWO CONSECUTIVE SATISFACTORY TESTS ARE TAKEN 24 HOURS APART FROM SAMPLES FROM THE NEW MAIN HAVE BEEN TAKEN AND FOUND SATISFACTORY BY THE ENGINEER. FINAL FLUSHING OF THE MAIN SHALL PRECEDE DISINFECTION. ALL VALVES SHALL BE CLEANED USING A CHLORINATED SOLUTION TO PROVIDE DISINFECTION FROM THE ISOLATION VALVE TO THE LINE WATER MAIN. AT LEAST ONE SET OF SAMPLES SHALL BE COLLECTED FROM EVERY 1,200 FEET OF THE NEW WATER MAIN, PLUS ONE SET OF SAMPLES FROM THE END OF THE MAIN AND A MINIMUM OF ONE SET FROM EACH WATER MAIN BRANCH. THE TESTING LAB SHALL FURNISH COPIES OF LAB RESULTS FROM THE BACTERIOLOGICAL TESTS RUN ON THE WATER MAINS TO THE ENGINEER.
19. WATER SUPPLY DECHLORINATION: CHLORINATED WATER DISCHARGED DIRECTLY OR INDIRECTLY TO SURFACE WATERS AS A RESULT OF FLUSHING NEWLY INSTALLED WATER MAINS, DISCHARGING WATER TANKS OR RESERVOIRS, HYDRANT FLUSHING, TEST PUMPING WELLS, OR ANY OTHER CIRCUMSTANCE SHALL BE DECHLORINATED TO ACHIEVE COMPLIANCE WITH THE CURRENT HYDROSTATIC TEST WATER OR WATER SUPPLY SYSTEM WATER GENERAL PERMIT, WPDES PERMIT NO. WI_0057681". THE FREE CHLORINE RESIDUAL OF DISCHARGED WATER SHALL BE REDUCED TO 0.1 PARTS PER MILLION OR LESS, OR TO THE NORMAL OPERATING CONCENTRATION OF THE CHLORINE RESIDUAL MAINTAINED IN THE WATER SUPPLY SYSTEM. THE CONCENTRATION OF CHLORINE RESIDUAL SHALL BE MEASURED BY THE CONTRACTOR IN ACCORDANCE WITH ENTIRE
20. TESTING: ALL EQUIPMENT REQUIRED FOR HYDROSTATIC TESTING SHALL BE FURNISHED AND OPERATED BY THE CONTRACTOR SUBJECT TO THE APPROVAL OF THE ENGINEER. THIS EQUIPMENT SHALL INCLUDE ALL SAMPLING TAPS AND NECESSARY FLUSHING APPURTENANCES. HYDROSTATIC TESTS SHALL CONSIST OF PRESSURE AND LEAKAGE TEST IN ACCORDANCE WITH ANSI/AWWA C600, HYDROSTATIC TESTING. THE HYDRAULIC TESTS SHALL BE CONDUCTED AT 150 PERCENT OF NORMAL WORKING PRESSURE, BUT NOT LESS THAN 150 PSI, WHICH AT THE HIGHEST POINTS SHALL BE CONDUCTED ON SECTIONS OF WATER MAIN RECOMMENDED AS READY BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. NO SECTION SHALL BE LESS THAN ONE BLOCK (APPROXIMATELY 400 FEET) OF WATER MAIN UNLESS CONDITIONS WARRANT SUCH TESTING OF SMALLER SECTIONS. WHERE WATER MAIN SERVICE IS IN PLACE, THE WATER MAIN SHALL B

SPECIFICATIONS CONTINUED

3.13 MAINTAINING SANITARY SEWER SERVICE: THE CONTRACTOR SHALL PROVIDE ADEQUATE EQUIPMENT AND FACILITIES TO PROVIDE BYPASS PUMPING FOR ALL ELEMENTS OF WORK REQUIRING INTERRUPTION TO FLOW IN THE SANITARY SEWER. PROVIDE BACKUP OR STANDBY CAPABILITIES SATISFACTORY TO THE OWNER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO PRIVATE OR PUBLIC PROPERTY DUE TO SEWER BACKUP WHILE CONTROLLING SEWAGE FLOW. UNDER NO CIRCUMSTANCES WILL BYPASSING OF UNTREATED WASTEWATER TO ANY STORM DRAINAGE FACILITY OR SURFACE WATER COURSE BE ALLOWED. THE CONTRACTOR SHALL NOTIFY THE OWNER SEVEN (7) DAYS IN ADVANCE OF SEWER SECTIONS WHICH WILL NOT BE USEABLE IN ORDER TO ALLOW TIME FOR THE OWNER TO NOTIFY RESIDENTS. INTERRUPTIONS SHALL THEN BE VERIFIED AT LEAST 24 HOURS IN ADVANCE. INTERRUPTIONS OF SERVICE SHALL BE LIMITED TO EIGHT (8) HOURS.ALL EXISTING SANITARY LATERALS SHALL BE PERMANENTLY RECONNECTED WITHIN TWO DAYS AFTER INITIAL DISCONNECTION OF THE MAIN LINE SEWER BYPASS. THESE EXISTING SANITARY LATERALS SHALL BE TEMPORARILY RECONNECTED IF THE PERMANENT RECONNECTION CANNOT BE ACCOMPLISHED IMMEDIATELY AFTER DISCONNECTION.ALL COSTS FOR FLOW CONTROL, TEMPORARY PUMPING, ETC., SHALL BE INCLUSIVE TO THE UNIT PRICE BID FOR SANITARY SEWER. ALL COSTS ASSOCIATED WITH CONNECTING PROPOSED SEWERS TO EXISTING SEWERS OR MANHOLES, MANHOLE REMOVAL AND ABANDONMENT, SANITARY SEWER REMOVALS AND ABANDONMENT, SHALL BE INCLUDED IN THE UNIT PRICE BID FOR SANITARY SEWER.

3.14 REPAIR OF DEFECTIVE PIPE FOR SANITARY SEWER REHABILITATION PROJECTS

E. GENERAL. THE WORK INCLUDES FURNISHING ALL MATERIALS, EQUIPMENT AND LABOR TO EXCAVATE AND REPAIR LEAKING JOINTS, SHEARS, CRACKED PIPE, ETC., FOR THE PURPOSE OF ELIMINATING EXISTING OR PREVIOUSLY OBSERVED INFILTRATION OF GROUNDWATER. ALL SEWER DEFECTS SHALL BE REPAIRED WATERTIGHT AND TO THE SATISFACTION OF THE ENGINEER. ALL APPLICABLE SECTIONS OF THESE SPECIFICATION SHALL APPLY EXCEPT AS SPECIFIED BELOW. THE CONTRACTOR SHALL LOCATE OR MAKE ARRANGEMENTS FOR LOCATING ALL STRUCTURES AND UNDERGROUND UTILITIES PRIOR TO BEGINNING ANY EXCAVATIONS. WHERE EXISTING WYES, TEES, RISERS OR SERVICE CONNECTIONS ARE ENCOUNTERED IN SEWER TO BE REPLACED, THEY SHALL BE REPLACED WITH NEW FITTINGS AND PIPING WITHIN THE LIMITS OF THE EXCAVATION AT NO CHANGE IN THE CONTRACT PRICE. WHERE PIPING IS TO BE REMOVED, EXCAVATIONS SHALL EXTEND TO A DEPTH BELOW THE BOTTOM OF THE PIPE, SUITABLE FOR PLACEMENT OF NEW BEDDING.

F. PIPE REPAIR. ALL DEFECTIVE PIPE SHALL BE REMOVED. WHERE THE LENGTH OF DEFECTIVE PIPE IS NOTED IN THE CONTRACT DRAWINGS, THE CONTRACTOR SHALL REMOVE THE LENGTH OF PIPE SHOWN ALONG WITH ANY OTHER PIPE OBSERVED TO BE DEFECTIVE AFTER EXCAVATION. THE CONTRACTOR SHALL GENERALLY REMOVE THE ENTIRE LENGTH OF PIPE IN WHICH THE DEFECT OCCURRED. WHERE JOINTS ARE TO BE REPAIRED, A MINIMUM OF ONE_HALF OF THE UPSTREAM PIPE AND ONE_HALF OF THE DOWNSTREAM PIPE SHALL BE REMOVED. WHERE PIPE SHEARS ARE LOCATED NEAR JOINTS AND WHERE SHEAR DISPLACEMENT HAS OCCURRED, BOTH UPSTREAM AND DOWNSTREAM SECTIONS OF SEWER SHALL BE REPLACED.

G. EXISTING PIPE 16 INCHES IN DIAMETER AND LESS SHALL GENERALLY BE REPAIRED BY CUTTING AND REMOVING EXISTING PIPE BETWEEN JOINTS. ALL CUTS SHALL BE MADE PERPENDICULAR TO THE DIRECTION IN WHICH THE PIPE IS LAID. NEW SANITARY SEWER SHALL BE CONNECTED TO EXISTING SANITARY SEWER WITH STAINLESS STEEL REINFORCED RUBBER CONNECTION, FERNCO STRONGBACK OR EQUAL. ADJUSTABLE STAINLESS STEEL SHEAR RINGS SHALL BE PROVIDED WHEREVER AVAILABLE. NEW PIPING SHALL BE AIR TESTED PRIOR TO PLACEMENT OF BACKFILL.

H. EXISTING PIPE LARGER THAN 16 INCHES IN DIAMETER SHALL GENERALLY BE REPAIRED BY REMOVING EXISTING PIPING AT EXISTING JOINTS. SECTIONS OF PIPING SHALL BE REMOVED BY CUTTING OFF THE EXISTING UPSTREAM SPIGOT END. THE UPSTREAM BELL END OF THE PIPE SHALL BE REMOVED AND THE DOWNSTREAM BELL END SHALL REMAIN. ANY JOINTING MATERIAL SHALL BE REMOVED FROM THE DOWNSTREAM BELL. A NEW PLAIN END PIECE OF PIPE SHALL THEN BE INSERTED IN THE EXISTING BELL AND THE PIPE JOINT SEALED WITH DAUBERT 301, MASTIK OR EQUAL AS PER MANUFACTURER'S RECOMMENDATIONS. THE NEW UPSTREAM PLAIN END PIECE OF PIPE SHALL BE JOINTED TO EXISTING PIPING WITH AN EXTERNAL PIPE JOINT WRAPPING EQUAL TO MACWRAP AS MANUFACTURED BY THE MARMAC MANUFACTURING COMPANY, INC.; CADILLOC AS MANUFACTURED BY CADILLOC, INC.; OR EQUAL. WHENEVER ANY PORTION OF EXISTING CONCRETE CRADLE OR CONCRETE BACKFILL MUST BE REMOVED, PIPING SHALL BE REPLACED TO THE INSIDE OF THE MANHOLE WALL.

I. EXISTING PIPE THAT IS LAID IN CONCRETE CRADLE SHALL BE REPAIRED BY CUTTING AND REMOVING EXISTING PIPE BETWEEN JOINTS. CONCRETE CRADLE BELOW THE REPAIRED PIPE SHALL BE REMOVED. THE NEW PIPE SHALL BE BUTTED AGAINST THE EXISTING PIPE AND REPAIRED AS INDICATED ON THE DETAIL DRAWINGS.

SECTION 33 39 13 SANITARY SEWER MANHOLES

PART 1 GENERAL

1.01APPLICABLE PROVISIONS

A. APPLICABLE PROVISIONS OF DIVISION 01 SHALL GOVERN THE WORK OF THIS SECTION.

1.02 APPLICABLE PUBLICATIONS

A. THE FOLLOWING PUBLICATIONS OF THE ISSUES LISTED BELOW, BUT REFERRED TO THEREAFTER BY BASIC DESIGNATION ONLY, FORM A PART OF THIS SPECIFICATION TO THE EXTENT INDICATED BY THE REFERENCE THERETO.

1. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM), ANNUAL BOOK OF ASTM STANDARDS:
   a. ASTM A48 – SPECIFICATION FOR GRAY IRON CASTINGS, CURRENT EDITION.
   b. ASTM A240 – SPECIFICATION FOR HEAT–RESISTING CHROMIUM AND CHROMIUM–NICKEL STAINLESS STEEL PLATE, SHEET AND STRIP FOR PRESSURE VESSELS AND GENERAL APPLICATIONS, CURRENT EDITION.
   c. ASTM A615 – SPECIFICATION FOR DEFORMED AND PLAIN CARBON–STEEL BARS FOR CONCRETE REINFORCEMENT, CURRENT EDITION.
   d. ASTM A668 – SPECIFICATION FOR STEEL FORGINGS, CARBON AND ALLOY, AND FOR GENERAL INDUSTRIAL USE, CURRENT EDITION.
   e. ASTM C76 – SPECIFICATION FOR REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE, CURRENT EDITION.
   f. ASTM C478 – SPECIFICATION FOR PRECAST REINFORCED CONCRETE MANHOLE SECTIONS, CURRENT EDITION.
   g. ASTM C913 – SPECIFICATION FOR PRECAST CONCRETE WATER AND WASTEWATER STRUCTURES, CURRENT EDITION.
   h. ASTM C923 – SPECIFICATION FOR RESILIENT CONNECTORS BETWEEN REINFORCED CONCRETE MANHOLE STRUCTURES, PIPES, AND LATERALS, CURRENT EDITION.
   i. ASTM D4101 – SPECIFICATION FOR POLYPROPYLENE INJECTION AND EXTRUSION MATERIALS, CURRENT EDITION.
   j. ASTM F593 – SPECIFICATION FOR STAINLESS STEEL BOLTS, HEX CAP SCREWS, AND STUDS, CURRENT EDITION.
   k. ASTM F783 – SPECIFICATION FOR STAPLE, HANDGRAB, HANDLE, AND STIRRUP RUNG, CURRENT EDITION.
2. CODE OF FEDERAL REGULATIONS (CFR), TITLE 29, CHAPTER XVII – OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), DEPARTMENT OF LABOR, PART 1926 REGULATIONS, CURRENT EDITION.
3. FEDERAL SPECIFICATIONS (FS), SPECIFICATIONS AND STANDARDS, CURRENT EDITION.
4. DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES (DSPS), ADMINISTRATIVE CODE OF RULES AND REGULATIONS, CURRENT EDITION.
5. STATE DEPARTMENT OF NATURAL RESOURCES (DNR), ADMINISTRATIVE CODE OF RULES AND REGULATIONS, CURRENT EDITION.
6. STATE STANDARD SPECIFICATIONS (SSS), FOR SEWER AND WATER CONSTRUCTION, CURRENT EDITION.

1.03 DESCRIPTION OF WORK

A. THE WORK UNDER THIS SECTION SHALL COVER FURNISHING AND INSTALLING STANDARD MANHOLES CONSTRUCTED OF PRECAST CONCRETE SECTIONS, CIRCULAR IN HORIZONTAL SECTION SET ON A CONCRETE BASE AND FITTED WITH STANDARD MANHOLE COVERS, FRAMES, WATERPROOFING, AND STEPS IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND AS SPECIFIED HEREIN.

1.04 RELATED WORK ELSEWHERE

A. PROCUREMENT AND CONTRACTING REQUIREMENTS – DIVISION 00 (ALL SECTIONS)

B. SUBMITTALS – DIVISION 01

C. TRENCHING AND BACKFILLING – DIVISION 31

D. EROSION AND SEDIMENTATION CONTROLS – DIVISION 31

E. PUBLIC SANITARY UTILITY SEWERAGE PIPE – DIVISION 33

F. SANITARY UTILITY SEWERAGE FORCE MAIN – DIVISION 33

1.05 SUBMITTALS

A. CONTRACTOR SHALL SUBMIT SUCH PRODUCT LITERATURE AND CATALOG CUTS OF MATERIALS TO BE SUPPLIED. INFORMATION SHALL BE IN CONFORMANCE WITH REQUIREMENTS OF SUBMITTALS – DIVISION 01 OF THIS SPECIFICATION.

B. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND DETAILS REQUIRED FOR THE CONSTRUCTION AND INSTALLATION OF THE MATERIALS. SUBMITTALS AND DETAILS SHALL INDICATE THE INTENDED MATERIALS ARRANGEMENT, DIMENSIONS, MAJOR SUPPORT REQUIREMENTS, PLOT AREA AND INTRICATE OR DETAILED CONSTRUCTION REQUIREMENTS.

1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

PART 2 PRODUCTS AND MATERIALS

2.01 ACCEPTABLE MANUFACTURERS

A. THE PRODUCTS LISTED ARE INTENDED TO ESTABLISH A BASIS FOR COMPARISON OF PRODUCTS OF OTHER MANUFACTURERS. SUBSTITUTIONS WILL BE PERMITTED BUT ONLY WITH THE PRIOR WRITTEN APPROVAL OF THE ENGINEER. CATALOGUE REFERENCE NUMBERS STATED ARE THOSE OF NEENAH FOUNDRY COMPANY AND ARE INTENDED TO ESTABLISH A BASIS FOR COMPARING THE PRODUCTS OF OTHER MANUFACTURERS. OTHER MANUFACTURERS ARE MCKINLEY IRON WORKS OR BINGHAM AND TAYLOR.

2.02 PRECAST MANHOLE SECTIONS

A. PRECAST CONCRETE MANHOLE SECTIONS SHALL HAVE A MINIMUM INSIDE DIAMETER OF 48 INCHES. CLEAR OPENING SHALL MATCH DIMENSIONS OF CASTINGS. THE CONE SECTION SHALL BE THE ECCENTRIC TYPE WITH A MINIMUM CLEAR OPENING OF 24 INCHES. COMPRESSIVE STRENGTH OF THE CONCRETE SHALL BE 4000 PSI AND SHALL CONFORM TO ASTM C478. WALL THICKNESSES OF MANHOLES WILL VARY WITH DIAMETER IN CONFORMANCE WITH ASTM C76, CLASS B CONCRETE TONGUE AND GROOVE JOINT PIPE. LARGER DIAMETER MANHOLES (7 FEET +) SHALL HAVE WALL THICKNESS A MINIMUM OF ONE–TWELFTH THE INSIDE DIAMETER OF THE MANHOLE AS SPECIFIED IN ASTM C478.

B. STEEL REINFORCEMENT (SQ. IN./LIN. FT.) SHALL NOT BE LESS THAN 0.0025 TIMES THE INSIDE DIAMETER OF THE MANHOLE IN INCHES.

C. THE CONTRACTOR SHALL VERIFY SIZE, INVERT ELEVATION, AND LOCATION OF ALL PIPES IN EXISTING MANHOLES AND INFORM ENGINEER OF ANY DISCREPANCIES BEFORE THE REPLACEMENT MANHOLE IS CONSTRUCTED.

2.03 STEPS

A. STEPS SHALL BE CONSTRUCTED OF A 1/2 INCH DIAMETER, GRADE 60 REINFORCING STEEL BAR CONFORMING WITH ASTM A615 COMPLETELY ENCASED IN POLYPROPYLENE CONFORMING WITH ASTM D4101 TO OBTAIN A MINIMUM THICKNESS OF 1_1/8 INCH AND MINIMUM WIDTH OF 12 INCHES. THEY SHALL BE SECURELY AND PERMANENTLY SET IN THE MANHOLE WALL. STEPS SHALL BE SET AT 16 INCHES ON CENTER AND HAVE A 5_3/4 INCH PROJECTION FROM THE WALL. STEPS SHALL CONFORM WITH ASTM C478.

2.04 FRAMES, COVERS AND GRATINGS

A. FRAMES, COVERS AND GRATINGS SHALL BE OF THE TYPE AND DUTY AS SHOWN IN THE CONTRACT DOCUMENTS. IRON CASTINGS SHALL CONFORM TO ASTM A48, CLASS 20. ALL CASTINGS SHALL BE TRUE TO PATTERN IN FORM AND DIMENSIONS, FREE FROM FAULTS, SPONGINESS, CRACKS, BLOW HOLES, AND OTHER DEFECTS AFFECTING THEIR STRENGTH.

B. THE STANDARD CASTINGS FOR SANITARY SEWER MANHOLES SHALL BE NEENAH R–1550, TYPE A WITH SELF–SEALING, GASKETED NON–ROCKING LIDS WITH CONCEALED PICK HOLES EXCEPT AS DESIGNATED OTHERWISE ON THE CONTRACT DRAWINGS OR IN SPECIAL PROCEDURES – DIVISION 01.

C. WHERE LOW PROFILE CASTINGS ARE SPECIFIED ON THE CONTRACT DRAWINGS OR IN SPECIAL PROCEDURES – DIVISION 01, THEY SHALL BE NEENAH R_1689 (4–INCH CASTING) WITH TYPE A SELF–SEALING GASKETED, NON–ROCKING LID WITH CONCEALED PICKHOLES.

2.05 SANITARY SEWER MANHOLE JOINT MATERIALS

A. SANITARY SEWER MANHOLE JOINT MATERIALS SHALL BE PLASTIC GASKET MATERIAL OR BUTYL RUBBER GASKET MATERIAL. PLASTIC GASKETS SHALL BE PREFORMED, HIGH ADHESION MATERIAL, PACKAGED READY FOR USE BETWEEN PROTECTIVE PAPER STRIPS CONFORMING TO FEDERAL SPEC SS_S_00210, TYPE I, ROPE FORM; RAM_NEK BY K.T. SNYDER COMPANY, INC.; KENT SEAL NO. 2 OR EQUAL. BUTYL RUBBER GASKETS SHALL BE PERFORMED, HIGH ADHESION MATERIAL, PACKAGED READY FOR USE BETWEEN PROTECTIVE PAPER STRIPS, CONFORMING TO FEDERAL SPEC SS_S_210A, ROPE FORM; BY PRESS SEAL GASKET CORPORATION OR EQUAL.

2.06 WATERSTOP SEALS

A. ALL PIPES CONNECTING TO A SANITARY MANHOLE SHALL INCLUDE AN APPROVED WATERTIGHT RUBBER BOOT CONNECTION MEETING ASTM C–923, AND SECURED TO THE PIPE WITH A STAINLESS STEEL BAND. WATERSTOP SEALS SHALL BE PSX: DIRECT DRIVE BY PRESS SEAL CORPORATION, KOR–N–SEAL I 106 OR 406 SERIES (PIPE O.D. LESS THAN 15"), KOR–N–SEAL II 206 SERIES (PIPE O.D. 15" AND GREATER), QUIK–LOK OR Z–LOK CONNECTORS BY A–LOK PRODUCTS, INC. OR EQUAL.

2.07 ADJUSTMENT RINGS

A. POLYPROPYLENE ADJUSTMENT RINGS
   1. ADJUSTING RINGS SHALL BE PRO–RING BY CORTEX.
   2. ADJUSTMENT RINGS SHALL BE MANUFACTURED FROM EXPANDED POLYPROPYLENE (EPP), COMPLIANT WITH ASTM D4819 AND TESTED ACCORDING TO ASTM D3575.
   3. RINGS SHALL BE AVAILABLE IN HEIGHTS (THICKNESSES) WHICH WILL ALLOW FINAL ADJUSTMENT OF THE FRAME AND COVER OR GRATE TO WITHIN ¼" (ONE QUARTER INCH) TO ½" (ONE HALF INCH) OF THE SPECIFIED FINAL ELEVATION.
   4. "FINISH" RINGS SHALL BE PROVIDED WITH GROOVES ON THE LOWER SURFACE AND FLAT UPPER SURFACE. "FINISH" RINGS MAY ALSO HAVE A KEYWAY ON THE UPPER SURFACE OF THE INNER DIAMETER TO FACILITATE INSTALLATION OF AN "ANGLE" RING, WHERE "ANGLE" RING IS REQUIRED.
   5. "ANGLE" RINGS MAY EITHER HAVE AN UPPER AND LOWER KEYWAY (TONGUE AND GROOVE) FOR VERTICAL ALIGNMENT AND/OR AN ADHESIVE TRENCH ON THE UNDERSIDE.
   6. ANY ADHESIVE OR SEALANT USED FOR WATERTIGHT INSTALLATION OF THE MANHOLE GRADE ADJUSTMENT RINGS SHALL MEET MANUFACTURERS SPECIFICATIONS AND THE REQUIREMENTS OF ASTM C–920, TYPE S, GRADE NS, CLASS 25, USES NT, T, M, G, A AND O FEDERAL SPECIFICATION TT–S–00230–C TYPE II, CLASS A .
   7. ADHESIVE SEALANT SHALL BE USED BETWEEN THE PRECAST CONCRETE AND ADJUSTMENT RINGS AS WELL AS BETWEEN THE ADJUSTMENT RINGS AND MANHOLE CASTING. ADHESIVE SEALANT SHALL BOND TO CONCRETE.

2.08 SANITARY SEWER MANHOLE CHIMNEY SEALS

A. SANITARY SEWER MANHOLE CHIMNEY SEAL SHALL BE INTERNAL OR EXTERNAL TYPE, RUBBER SLEEVE, UNLESS INDICATED OTHERWISE IN THE SPECIAL PROCEDURES – DIVISION 01 OR THE CONTRACT DOCUMENTS. THE SLEEVE AND EXTENSION SHALL HAVE A MINIMUM THICKNESS OF 3/16 INCHES AND SHALL BE EXTRUDED OR MOLDED FROM A HIGH GRADE RUBBER COMPOUND CONFORMING TO THE APPLICABLE REQUIREMENTS OF ASTM C923, WITH A MINIMUM 1,500 PSI TENSILE STRENGTH, MAXIMUM 18 PERCENT COMPRESSION SET AND HARDNESS (DUROMETER) OF 48±5. THE SLEEVE SHALL BE DOUBLED–PLEATED WITH A MINIMUM UNEXPANDED VERTICAL HEIGHT OF 8 INCHES AND BE CAPABLE OF VERTICAL EXPANSION OF NOT LESS THAN 2 INCHES WHEN INSTALLED.

B. THE BANDS USED FOR COMPRESSING THE SLEEVE AND EXTENSION AGAINST THE MANHOLE SHALL BE FABRICATED FROM 16 GAUGE STAINLESS STEEL CONFORMING TO ASTM A240 TYPE 304. ALL SCREWS, BOLTS OR NUTS USED ON THIS BAND SHALL BE STAINLESS STEEL CONFORMING TO ASTM F593 AND 594, TYPE 304.

C. SANITARY SEWER MANHOLE CHIMNEY SEAL SHALL PROVIDE A WATERTIGHT SEAL FROM 2 INCHES ABOVE THE BOTTOM OF THE CASTING TO 2 INCHES BELOW THE TOP OF THE MANHOLE CONE SECTION OR FLAT TOP.

PART 3 CONSTRUCTION METHODS

3.01 MANHOLES, GENERAL

A. ALL LIFT HOLES ON SANITARY SEWER MANHOLES SHALL BE SEALED WATERTIGHT.

3.02 INVERTS AND BENCHES

A. INVERT CHANNELS SHALL BE SMOOTH AND ACCURATELY SHAPED AND IN ACCORDANCE WITH THE CONTRACT DRAWINGS.

B. NO HORIZONTAL SURFACES SHALL BE LEFT ON THE INSIDE OF THE MANHOLE. THE BENCH SHALL BE SHAPED TO DRAIN INTO THE FLOOR CHANNEL.

3.03 FRAMES AND COVERS, INTERNAL CHIMNEY SEALS

A. SANITARY SEWER MANHOLES SHALL BE BUILT UP SO THAT THE FRAMES AND COVER, WHEN PLACED, WILL BE AT THE REQUIRED GRADE. MORTAR SHALL BE USED UNDER THE FRAME TO ADJUST THE CASTING TO THE REQUIRED GRADE.

3.04 JOINT WRAP

A. EXPOSE THE AREA TO BE SEALED AND CLEAN THE ENTIRE AREA AROUND THE JOINT WITH A WIRE BRUSH AND WHISK BROOM. REMOVE ANY SHARP PROTRUDING EDGES AROUND THE JOINT WITH AN ABRASIVE TOOL. WHEN FINISHED CLEANING THE ENTIRE AREA MUST BE DRY AND FREE OF ANY DIRT.

B. REMOVE THE FIRST FOOT OF PAPER BACKING FROM THE MASTIC. CENTER AND PLACE THE JOINT WRAP AROUND THE JOINT. CONTINUE TO REMOVE PAPER BACKING AS YOU APPLY JOINT WRAP TO THE ENTIRE STRUCTURE.

C. SEAL THE OVERLAPPING AREA WITH A 6–INCH MINIMUM OVERLAP. BE SURE NOT TO STRETCH MATERIAL AT THE OVERLAP AREA.

D. CUT EXCESS MATERIAL USING A UTILITY KNIFE. USING A RUBBER MALLET OR HAND ROLLER, FIRMLY FLATTEN THE JOINT WRAP 360 DEGREES AROUND THE JOINT.

3.05 PROVISION FOR FUTURE CONNECTION

A. CONNECTIONS FOR FUTURE SEWERS, WHEN SPECIFIED, SHALL CONSIST OF A SHORT PIECE OF SEWER TERMINATING WITH A BELL END AND STOPPER OR BULKHEAD NOT MORE THAN ONE FULL PIPE LENGTH OUTSIDE THE MANHOLE WALL UNLESS OTHERWISE SHOWN. IF NO ELEVATION IS GIVEN FOR FUTURE CONNECTIONS, SET THE INVERT 1/2 INCH ABOVE THE MAIN SEWER INVERT.

B. ABS AND PVC PIPE SHALL BE FITTED WITH RUBBER WATERSTOP SEALS WHERE THEY PASS THROUGH THE MANHOLE WALL.

3.06 DROP CONNECTIONS

A. SANITARY SEWER MANHOLE DROP CONNECTIONS SHALL BE OUTSIDE DROPS CONSTRUCTED ACCORDING TO DETAIL DRAWINGS AND THE FOLLOWING PROVISIONS.
   1. THE DROP ASSEMBLY SHALL CONSIST OF A TEE OR WYE CONNECTING TO THE INFLOWING SEWER, A DROP PIPE OF THE SAME DIAMETER AS THE INFLOWING SEWER, AND A 90_DEGREE BEND AT THE BOTTOM, ALL ENCASED IN CONCRETE.
   2. DUCTILE IRON PIPE USED FOR THE DROP CONNECTION NEED NOT BE ENCASED IN CONCRETE IF THE DROP IS FREE OF JOINTS BETWEEN THE 90–DEGREE BEND AND THE TEE.

3.07 PLUGGING OF ABANDONED LINES

A. UNLESS OTHERWISE DIRECTED BY THE ENGINEER, THE CONTRACTOR SHALL REMOVE ALL ABANDONED PIPE LINES FROM EACH MANHOLE. EACH PIPE SHALL BE ENTIRELY REMOVED FROM THE MANHOLE WALL. ALL LOOSE OR DEFECTIVE MORTAR, CONCRETE BLOCK, OR CONCRETE SHALL BE REMOVED. THE ENTIRE AREA SHALL THEN BE PLUGGED WITH NON_SHRINK MORTAR, PACKED IN PLACE.

3.08 ABANDONMENT OF SEWER AND SANITARY SEWER MANHOLES

A. SANITARY SEWER LINES TO BE ABANDONED SHALL BE PLUGGED AT BOTH ENDS WITH CONCRETE OR SEWER BRICK AND MORTAR. WHERE A NEW MANHOLE IS TO BE BUILT OR AN EXISTING MANHOLE IS TO REMAIN, THE PLUGGED END OF THE ABANDONED SEWER LINE SHALL END NO CLOSER THAN FIVE FEET FROM THE MANHOLE AND CONCRETE BACKING SHALL BE POURED BETWEEN THE PLUG AND THE MANHOLE. WHERE THE MANHOLE AND THE SEWER ARE TO BE ABANDONED, THE SEWER SHALL BE BLOCKED AND THE MANHOLE SHALL BE FILLED WITH CONCRETE ABOVE THE CROWN OF BOTH THE INFLOWING AND OUTFLOWING SEWERS TO A MAXIMUM OF 4 FEET. SEWERS ENTERING THE MANHOLE MORE THAN 4 FEET ABOVE THE BOTTOM SHALL BE PLUGGED WITH CONCRETE OR BRICK AND MORTAR. ALL MANHOLES TO BE ABANDONED SHALL BE REMOVED TO A MINIMUM OF 3 FEET BELOW GROUND LEVEL.

B. BACKFILL SHALL CONFORM TO THE REQUIREMENTS OF TRENCHING AND BACKFILLING – DIVISION 31 OF THESE SPECIFICATIONS.

SECTION 33 05 26.16

PART 1 GENERAL

1.01APPLICABLE PROVISIONS

A. APPLICABLE PROVISIONS OF DIVISION 01 SHALL GOVERN THE WORK OF THIS SECTION.

1.02 APPLICABLE PUBLICATIONS (NONE)

1.03 DESCRIPTION OF WORK

A. CONTRACTOR SHALL INSTALL TRACER WRE IN CONJUNCTION WITH BURIED, NON–METALLIC PIPING IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND THE REQUIREMENTS OF THE ENGINEER.

1.04 RELATED WORK ELSEWHERE

A. PROCUREMENT AND CONTRACTING REQUIREMENTS – DIVISION 00 (ALL SECTIONS)

B. LOW PRESSURE UTILITY SEWERAGE – DIVISION 33

C. SANITARY UTILITY SEWERAGE FORCE MAIN – DIVISION 33

D. PUBLIC SANITARY UTILITY SEWERAGE PIPE – DIVISION 33

E. WATER UTILITIES – DIVISION 33

F. UTILITY HORIZONTAL DIRECTIONAL DRILLING – DIVISION 33

G. WASTEWATER PROCESS PIPING SYSTEM – DIVISION 40

1.05 SUBMITTALS

A. CONTRACTOR SHALL SUBMIT SUCH PRODUCT LITERATURE AND CATALOG CUTS OF MATERIALS TO BE SUPPLIED TO RELATE THESE MATERIALS TO THESE SPECIFICATIONS. INFORMATION SHALL BE IN CONFORMANCE WITH REQUIREMENTS OF SUBMITTALS – DIVISION 01 OF THESE SPECIFICATIONS.

1.06 OPERATION/MAINTENANCE MANUALS AND INSTRUCTIONS (NONE)

PART 2 PRODUCTS AND MATERIALS

2.01 TRACER WIRE

A. ALL TRACER WIRE, WIRE CONNECTORS, AND TERMINAL BOXES SHALL BE MANUFACTURED BY:
   COPPERHEAD INDUSTRIES, LLC
   P.O. BOX 1081
   MONTICELLO, MN 55362
   PHONE: 877–726–5644
   FAX: 763–271–3694
   WWW.COPPERHEADWIRE.COM

B. FOR DIRECT BURIAL INSTALLATIONS, TRACER WIRE SHALL BE COPPERHEAD NO. 12 CCS HIGH STRENGTH SOFT DRAWN 380 LB., CONFORMING TO ASTM B910 / B910M.

C. HORIZONTAL DIRECTIONAL DRILLED INSTALLATIONS SHALL BE COPPERHEAD NO. 12 GAUGE EXTRA HIGH STRENGTH WIRE, 1,150 POUND AVERAGE TENSILE BREAK LOAD, 45 MIL HDPE COATED, 30 VOLT RATING. A MINIMUM OF TWO (2) WIRES IS REQUIRED TO BE INSTALLED.

D. TRACER WIRE FOR PIPE BURSTING INSTALLATIONS SHALL BE 7X7 STRANDED COPPER CLAD STEEL WIRE WITH A MINIMUM 4,700 POUND AVERAGE TENSILE BREAK LOAD, 50 MIL HDPE COATING, 30 VOLT RATING, A MINIMUM OF TWO (2) WIRES IS REQUIRED TO BE INSTALLED.

E. TRACER WIRE TERMINAL LOCATION BOXES SHALL BE COPPERHEAD SNAKE PIT ROADWAY TRACER BOX OR EQUAL, WITH A CAST IRON LOCKABLE TOP. TOP COLOR SHALL BE GREEN FOR SANITARY SEWERAGE UTILITIES AND BLUE FOR WATER UTILITIES.

F. TRACER WIRE FOR SANITARY SEWERAGE UTILITIES INSTALLATION SHALL HAVE GREEN COLORED INSULATOR.

G. TRACER WIRE FOR WATER UTILITIES INSTALLATION SHALL HAVE BLUE COLORED INSULATOR.

PART 3 CONSTRUCTION METHODS

3.01 INSTALLATION

A. TRACER WIRE SHALL BE INSTALLED IN CONJUNCTION WITH ALL NON–CONDUCTIVE PIPE TYPES AND INSTALLED CONTINUOUS TO THE GREATEST EXTENT POSSIBLE AND IN ACCORDANCE WITH THE CONTRACT DRAWINGS, SPECIFICATIONS, AND MANUFACTURER RECOMMENDATIONS AND THE REQUIREMENTS OF THE ENGINEER.

B. WIRE SHALL BE PLACED ALONG THE TOP OF THE ENTIRE LENGTH OF THE PIPE, AND ZIP–TIED TO THE PIPE, INCLUDING HYDRANT BARRELS, AT INTERVALS NOT EXCEEDING 10–FEET.

C. WIRE SHALL SURFACE EVERY 300 TO 400 FEET, TYPICALLY AT HYDRANTS, VALVE BOXES, OR TERMINAL LOCATION BOXES. IN TERMINATION POINTS, THE WIRE SHALL BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS.

D. SPLICES IN THE WIRE SHALL BE HELD TO A MINIMUM. WHERE SPLICES ARE NECESSARY, THEY SHALL BE MADE WITH COPPERHEAD SNAKE BITE CONNECTORS OR MANUFACTURER APPROVED METHODS. SEE THE ATTACHED PRODUCT INFORMATION SHEET FOR ACCEPTABLE CONNECTORS AND CONNECTOR INFORMATION.

E. EIGHTEEN (18) INCHES OF EXTRA WIRE SHALL BE PROVIDED AT ALL TERMINATIONS.

PART 4 MEASUREMENT AND PAYMENT

4.01 TRACER WIRE

A. GENERAL. TRACER WIRE SHALL BE PAID FOR AT THE BID PRICE IN ACCORDANCE WITH ONE OF THE FOLLOWING METHODS, UNLESS INDICATED OTHERWISE IN THE BID SCHEDULE OR SPECIAL PROCEDURES – DIVISION 1.
   1. TRACER WIRE, INCLUSIVE. WHEN NO QUANTITY IS PROVIDED, TRACER WIRE SHALL BE CONSIDERED INCLUSIVE TO PAYMENT FOR WORK SCHEDULED UNDER THIS CONTRACT.

B. TRACER WIRE TESTING, INCLUSIVE. ALL TESTING SHALL BE INCLUSIVE TO THE PAYMENT FOR THE RESPECTIVE UTILITY. PAYMENT FOR UTILITIES REQUIRING TRACER WIRE WILL NOT BE ISSUED UNTIL AN ACCEPTED LOCATE HAS BEEN PERFORMED AND ACCEPTED BY THE ENGINEER.

4.02 TRACER WIRE TERMINAL LOCATION BOXES

A. GENERAL. TRACER WIRE TERMINAL LOCATION BOXES SHALL BE PAID FOR AT THE BID PRICE IN ACCORDANCE WITH ONE OF THE FOLLOWNG METHODS, UNLESS INDICATED OTHERWISE IN THE BID SCHEDULE OR SPECIAL PROCEDURES – DIVISION 1.
   1. TRACER WIRE TERMINAL BOX, INCLUSIVE. WHEN NO QUANTITY IS PROVIDED, TRACER WIRE TERMINAL BOXES SHALL BE CONSIDERED INCLUSIVE TO PAYMENT FOR WORK SCHEDULED UNDER THIS CONTRACT.

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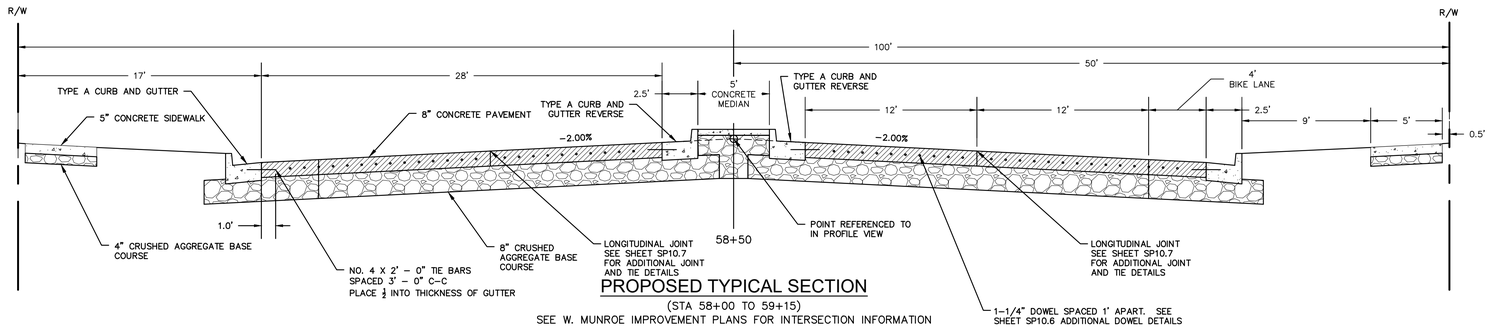
PUBLIC UTILITY SPECIFICATIONS

CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL
HIGHWAY 23
LAKE DELTON, WI

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PROJ. NO.	3220019
DATE	04/11/2022
SHEET	USP1.1

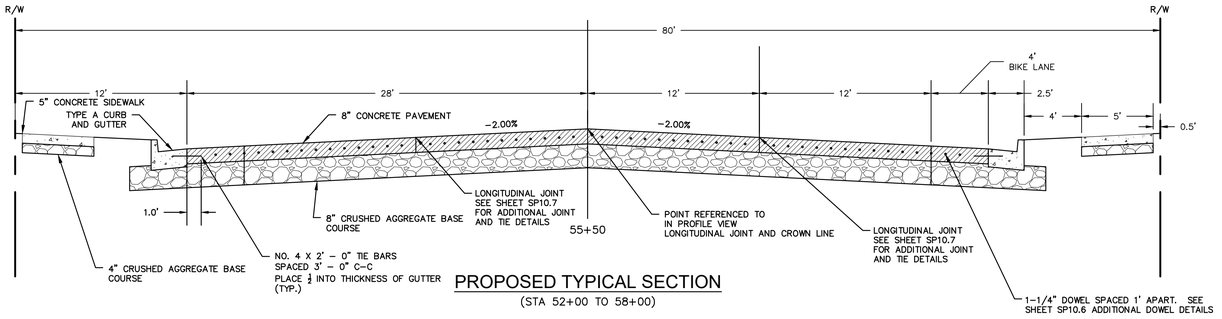
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PROPOSED TYPICAL SECTION

(STA 58+00 TO 59+15)

SEE W. MUNROE IMPROVEMENT PLANS FOR INTERSECTION INFORMATION



PROPOSED TYPICAL SECTION

(STA 52+00 TO 58+00)

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TYPICAL SECTIONS

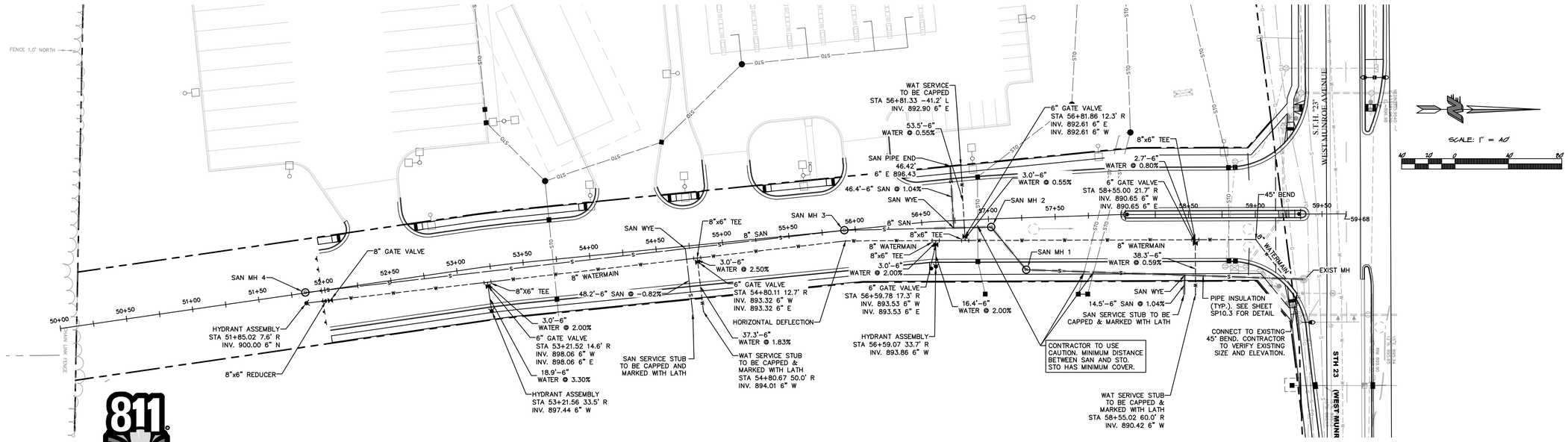
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W/1 BAY CAR WASH & SIDE DIESEL

HIGHWAY 23
LAKE DELTON, WI

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811 Know what's below. Call before you dig.

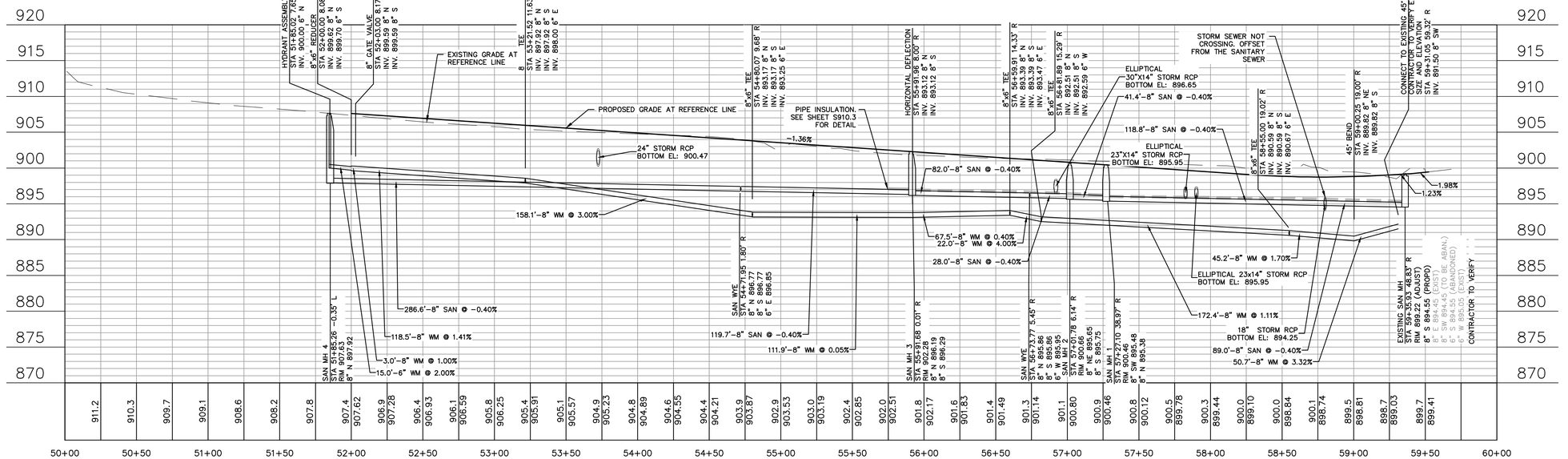
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NOTE: STORM SEWER IS PART OF A PRIVATE DEVELOPMENT. SEE SHEET SP4.1 OF THE KWIK TRIP #583 REDEVELOPMENT FOR ADDITIONAL INFORMATION.

NOTE: ALL PUBLIC WATERMAIN AND SERVICES SHALL BE DIWM C52. GATE VALVES SHALL BE AMERICAN FLOW CONTROL WITH A VALVE BOX ADAPTOR.

NOTE: SANITARY SEWER REQUIRES A MINIMUM OF 5.5' OF COVER FROM THE TOP OF THE OUTSIDE OF THE PIPE & WATERMAIN REQUIRES A MINIMUM OF 7' OF COVER FROM THE TOP OF THE OUTSIDE OF THE PIPE. IN THE EVENT THE MINIMUM COVER IS NOT MET, THE PIPE MUST BE INSULATED. SEE SP10.0 FOR THE INSULATION DETAIL.



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PLAN & PROFILE - PUBLIC UTILITY PLAN

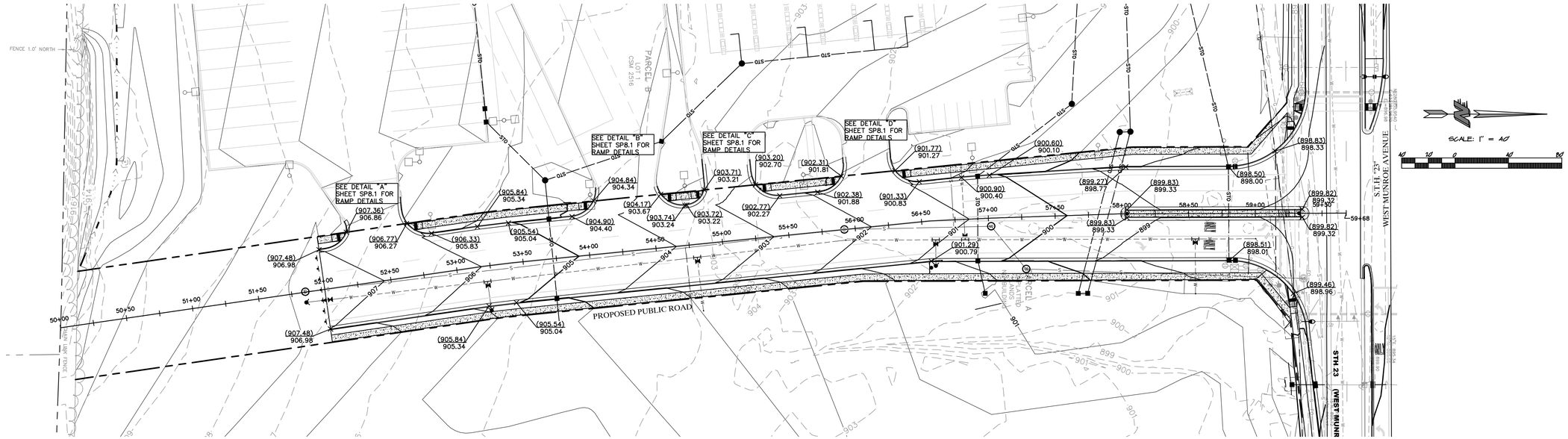
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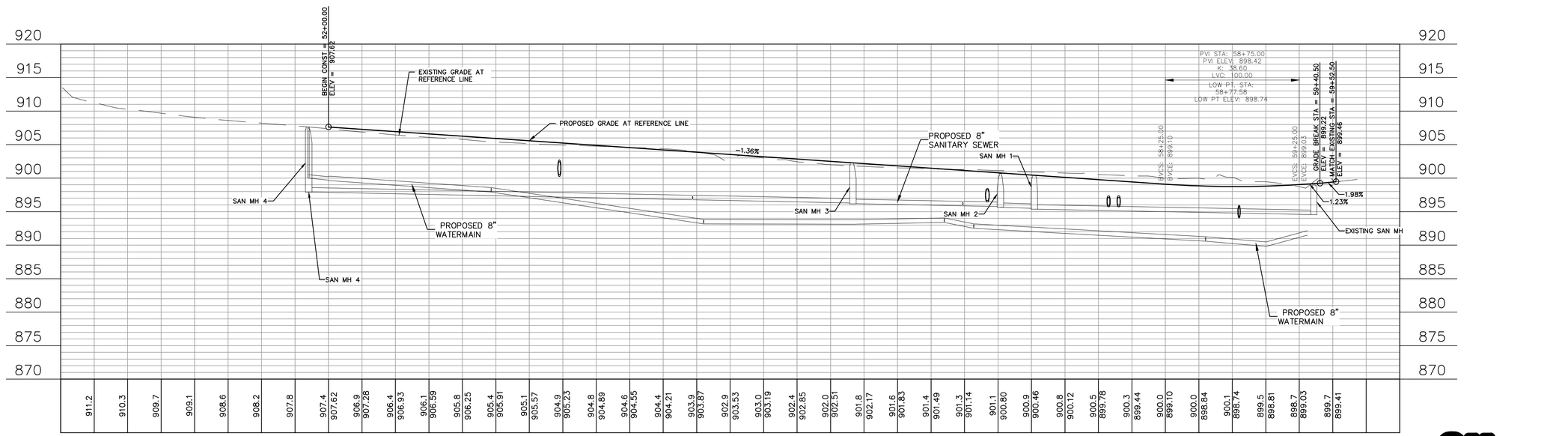
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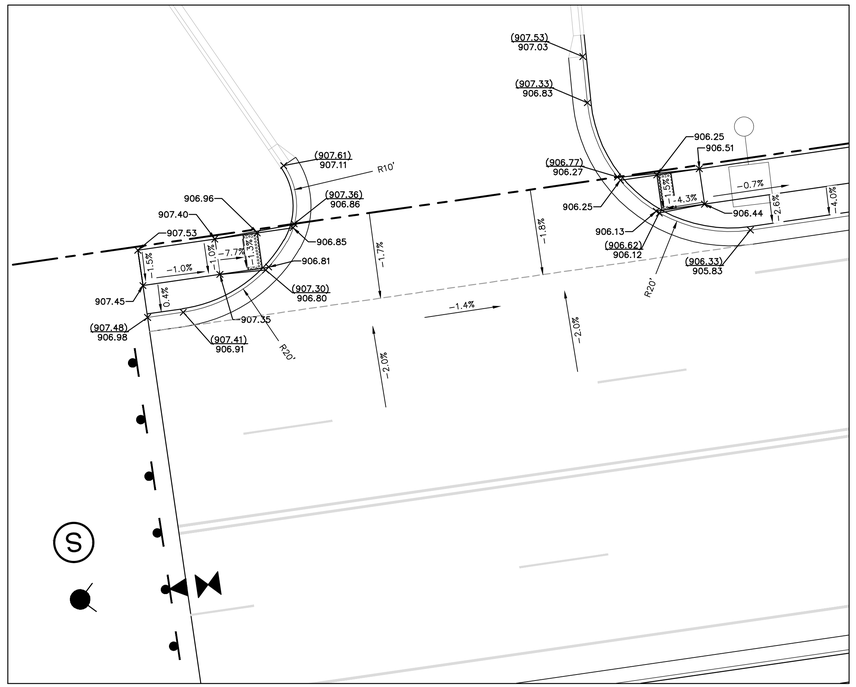
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CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL
HIGHWAY 23
LAKE DELTON, WI

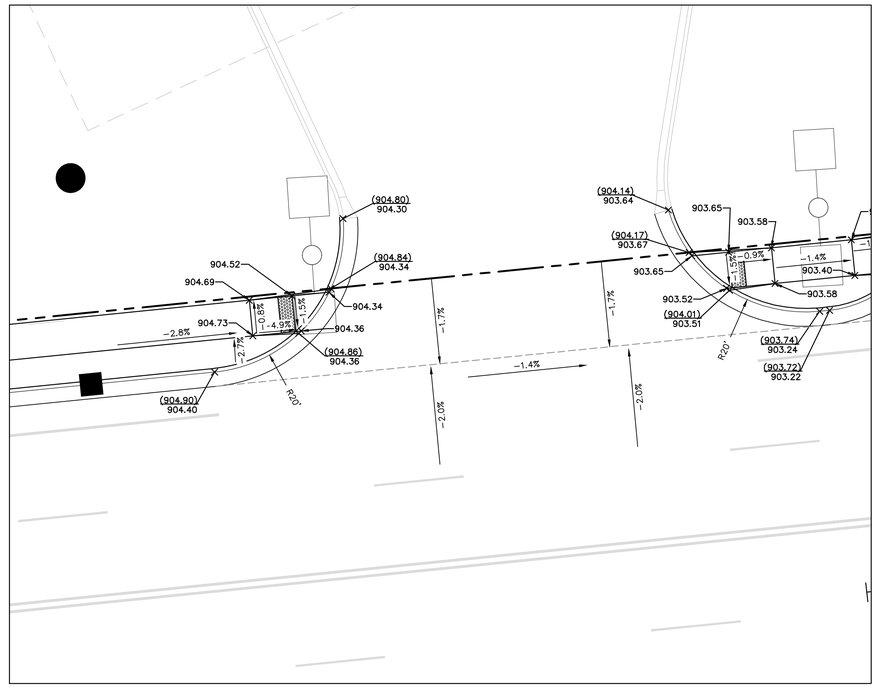
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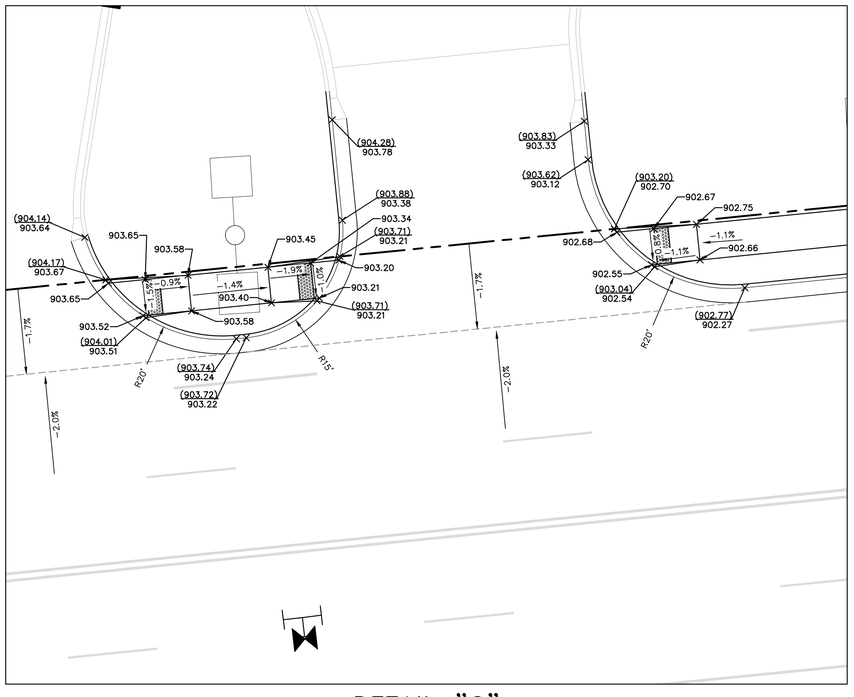
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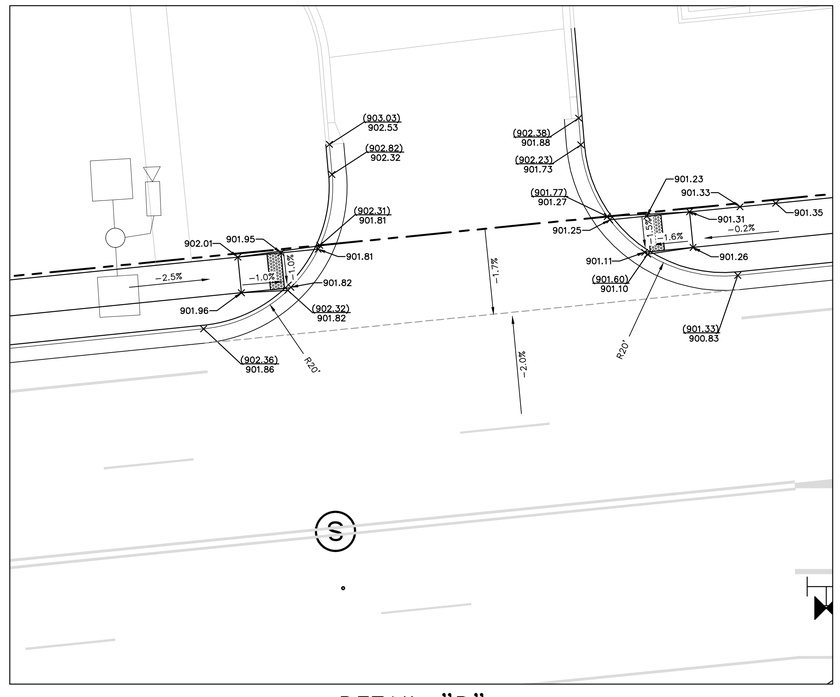
DETAIL "A"



DETAIL "B"



DETAIL "C"



DETAIL "D"

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SCALE: 1" = 10'

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RAMP DETAILS

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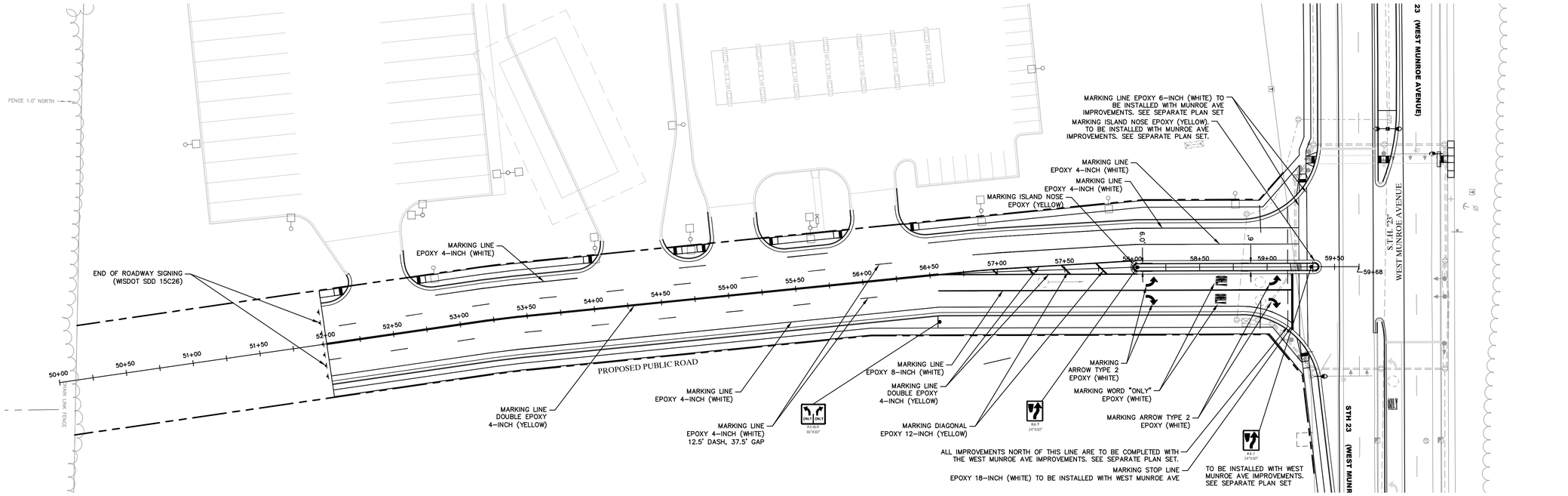
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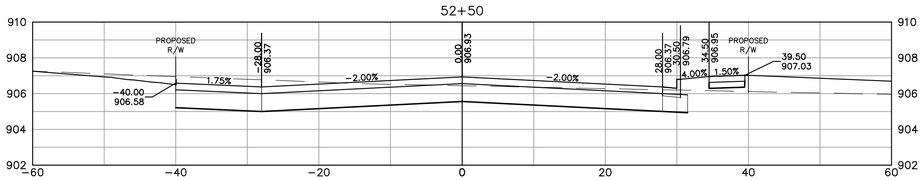
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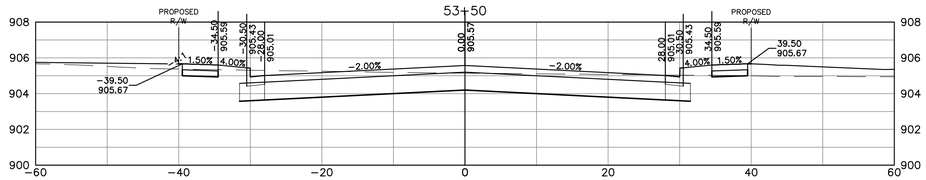
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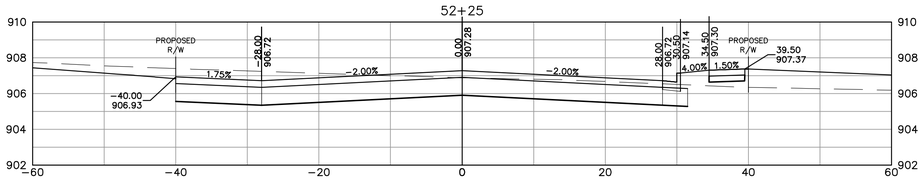
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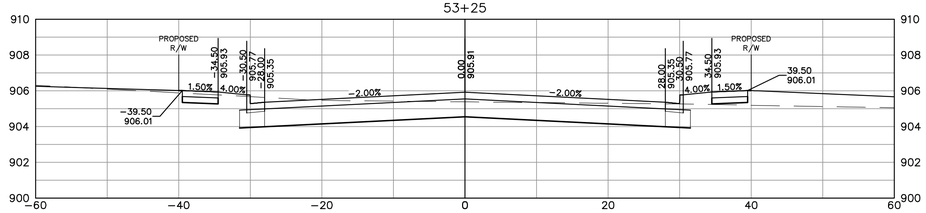
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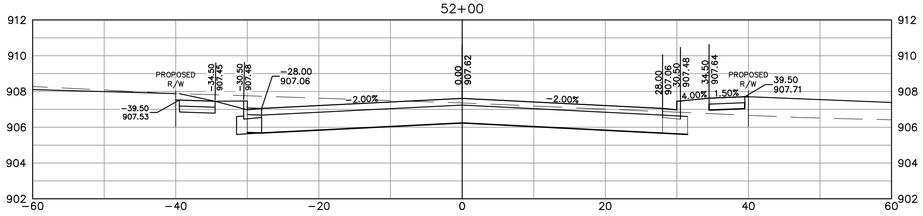
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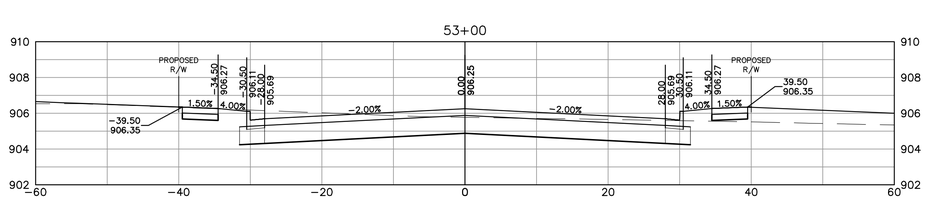


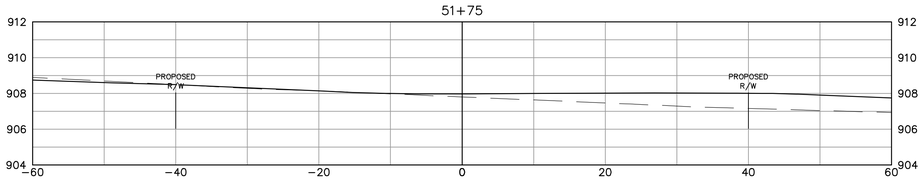


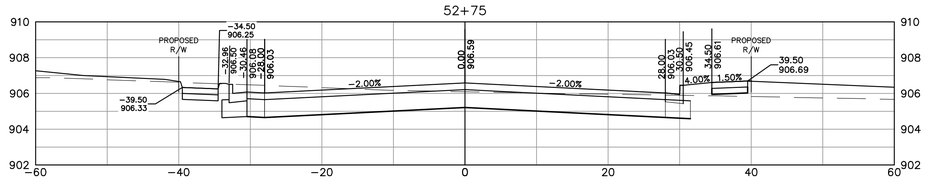












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CROSS SECTIONS

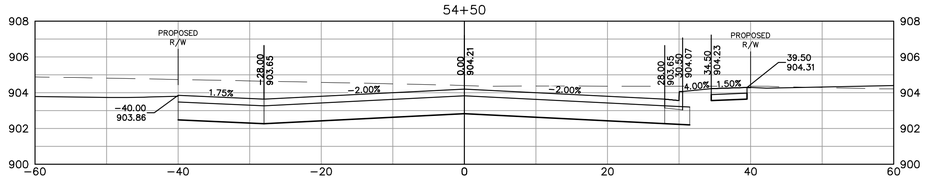
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W/1 BAY CAR WASH & SIDE DIESEL

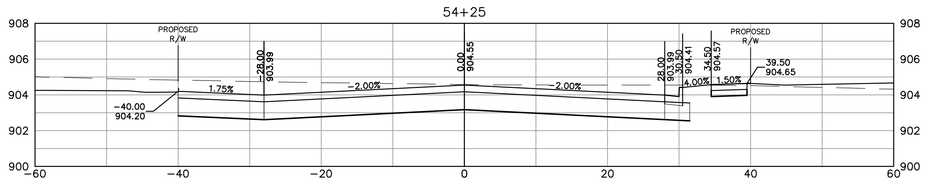
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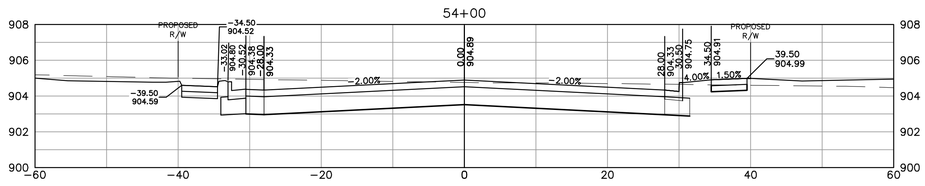
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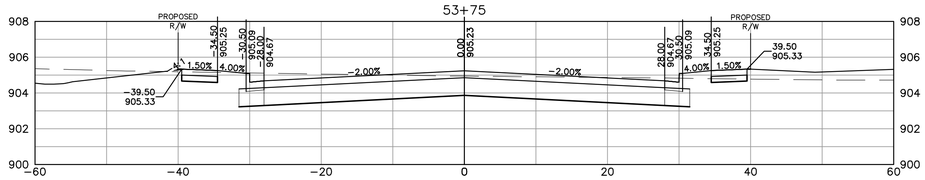
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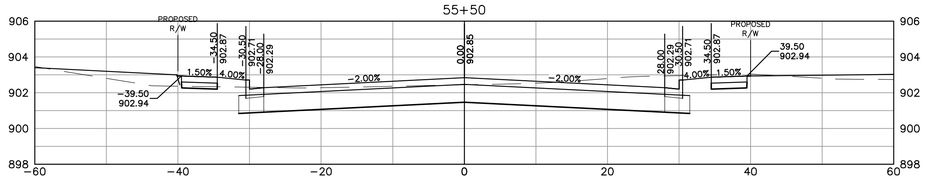
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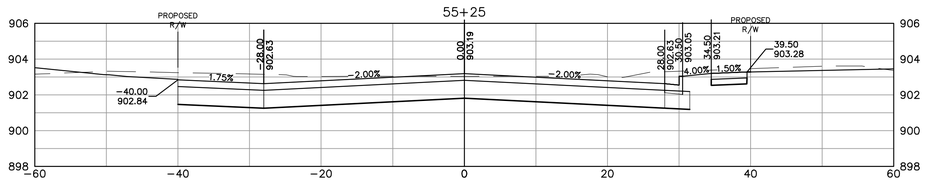


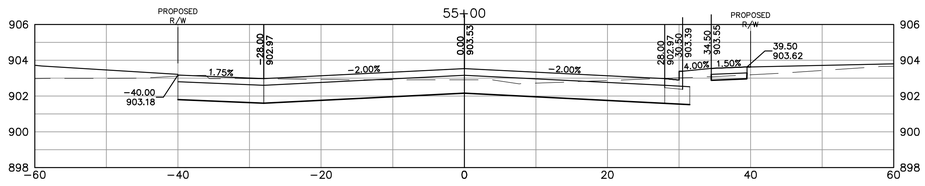


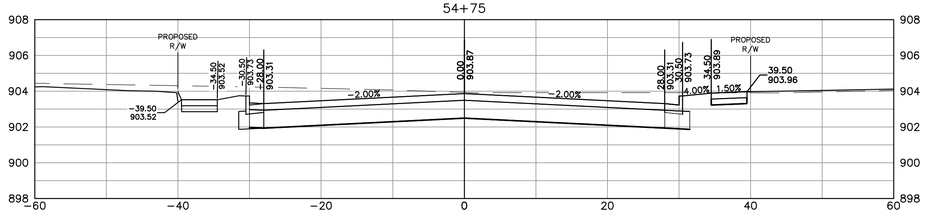












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CROSS SECTIONS

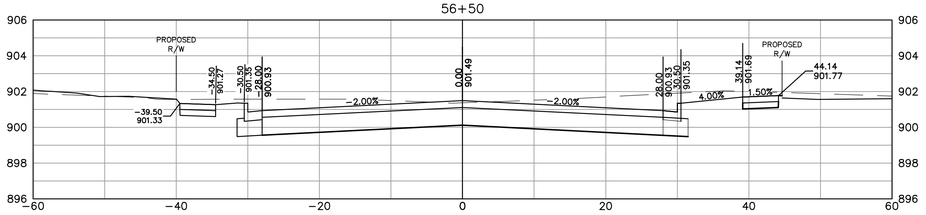
CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL

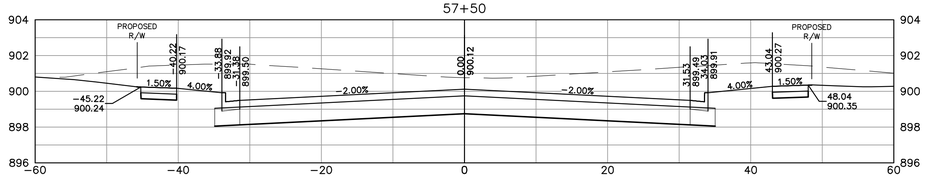
HIGHWAY 23
LAKE DELTON, WI

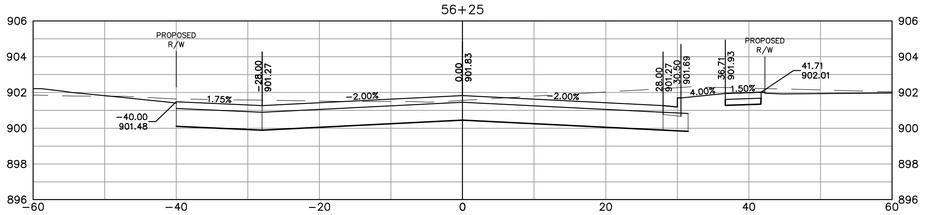
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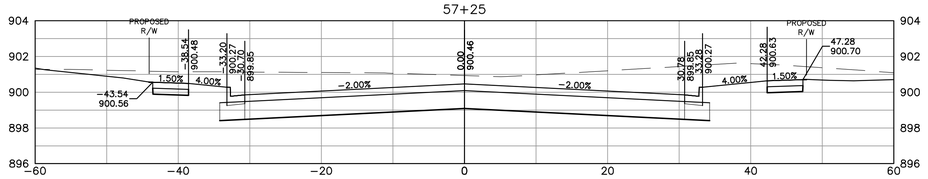
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PROJ. NO.	3220019
DATE	04/11/2022
SHEET	SP9.1

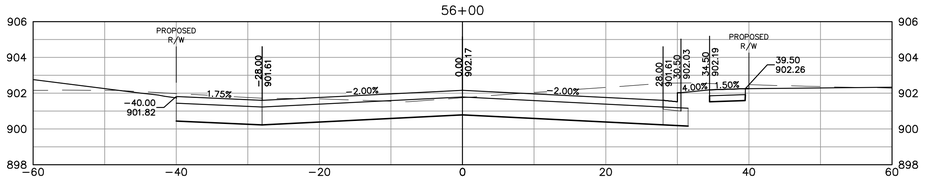
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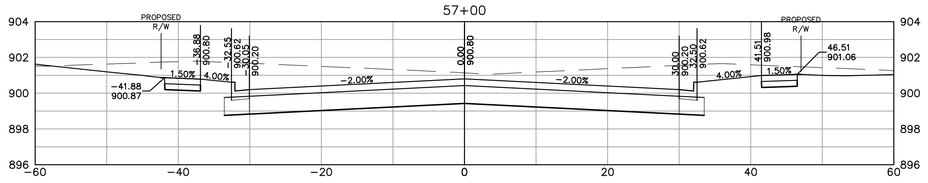


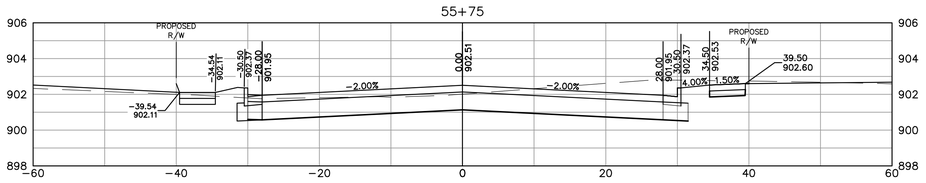


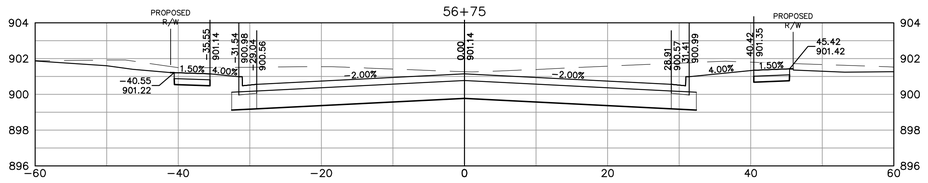












SCALE: 1" = 10'

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16745 W. Bluemound Road
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CROSS SECTIONS

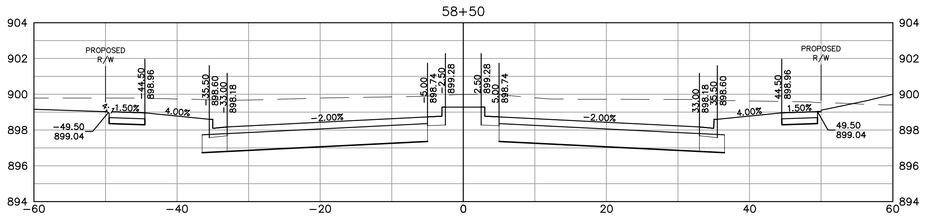
CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL

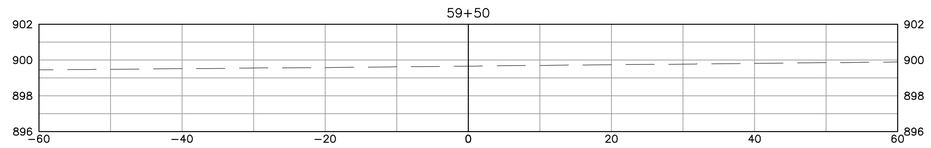
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LAKE DELTON, WI

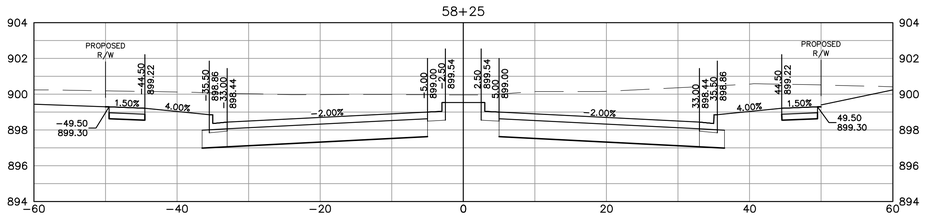
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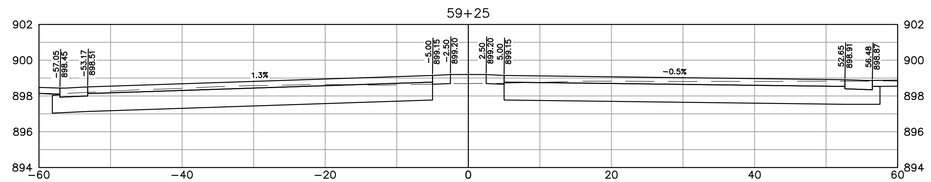
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PROJ. NO.	3220019
DATE	04/11/2022
SHEET	SP9.2

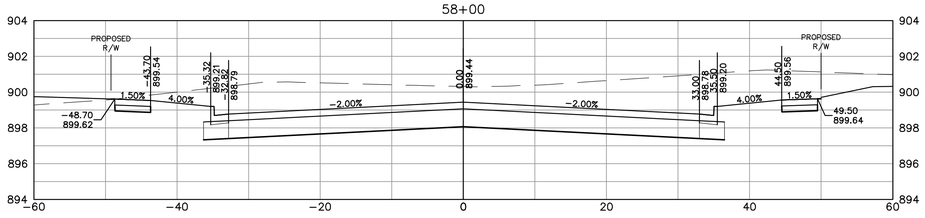
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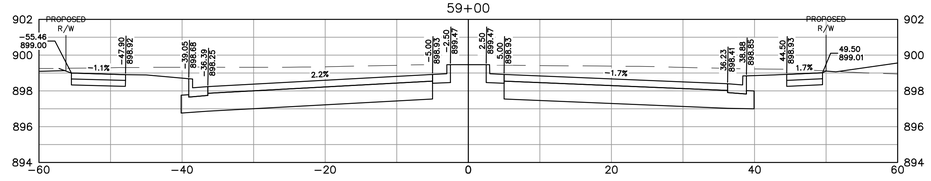


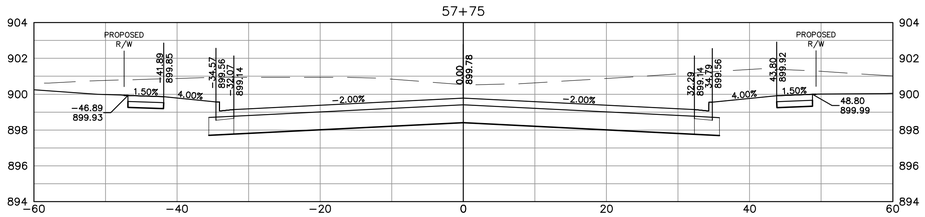


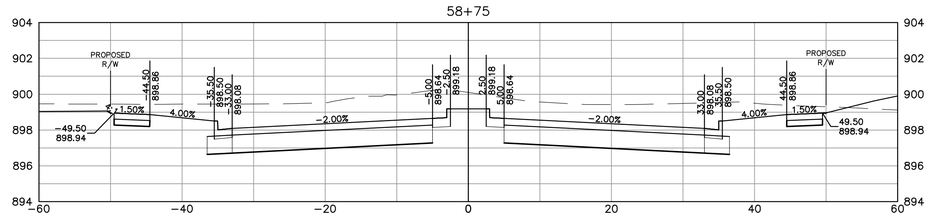












SCALE: 1" = 10'

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CROSS SECTIONS

CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL

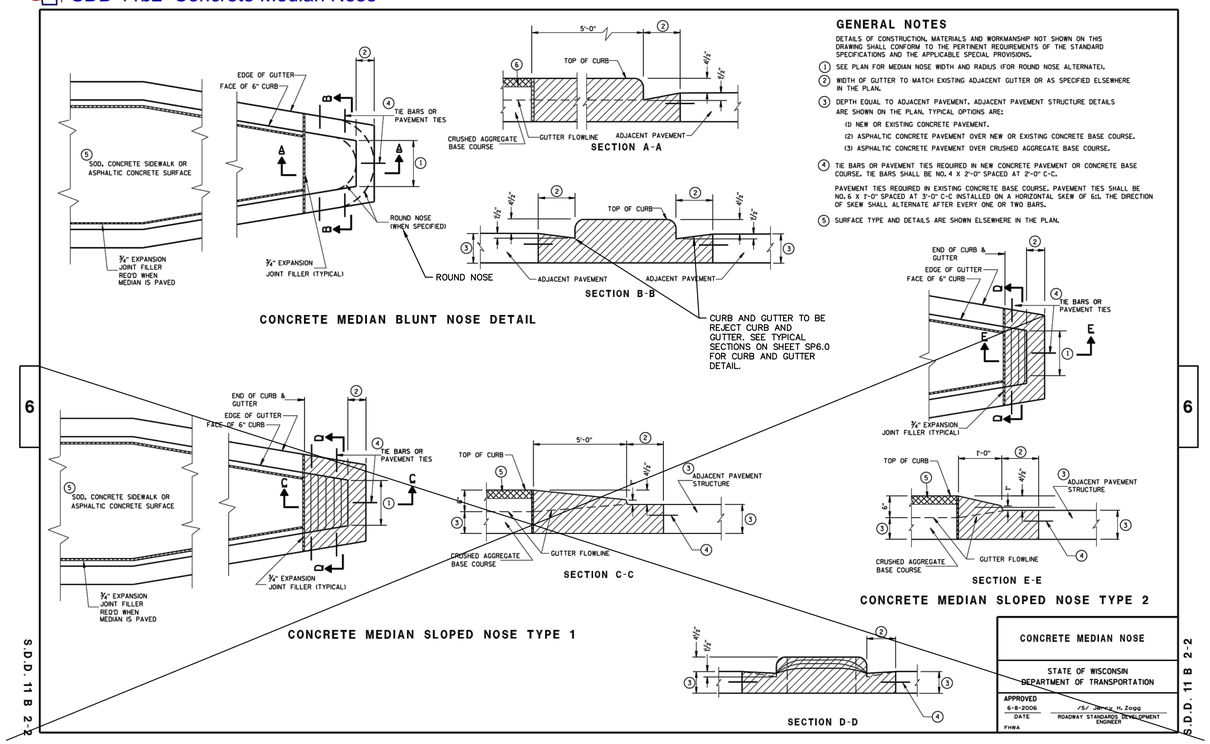
HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

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SHEET	SP9.3

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SDD 11b2 Concrete Median Nose



GENERAL NOTES

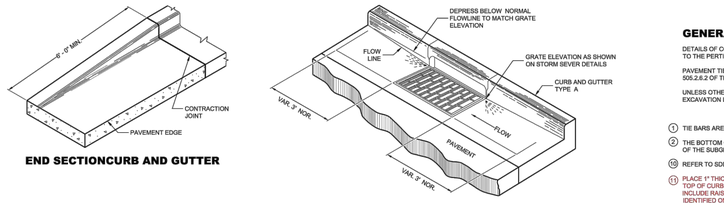
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

1. SEE PLAN FOR MEDIAN NOSE WIDTH AND RADIUS (FOR ROUND NOSE ALTERNATE).
2. WIDTH OF GUTTER TO MATCH EXISTING ADJACENT GUTTER OR AS SPECIFIED ELSEWHERE IN THE PLAN.
3. DEPTH EQUAL TO ADJACENT PAVEMENT. ADJACENT PAVEMENT STRUCTURE DETAILS ARE SHOWN ON THE PLAN. TYPICAL OPTIONS ARE:
   (1) NEW OR EXISTING CONCRETE PAVEMENT.
   (2) ASPHALTIC CONCRETE PAVEMENT OVER NEW OR EXISTING CONCRETE BASE COURSE.
   (3) ASPHALTIC CONCRETE PAVEMENT OVER CRUSHED AGGREGATE BASE COURSE.
4. TIE BARS OR PAVEMENT TIES REQUIRED IN NEW CONCRETE PAVEMENT OR CONCRETE BASE COURSE. TIE BARS SHALL BE NO. 4 X 2'-0" SPACED AT 2'-0" C-C.

   PAVEMENT TIES REQUIRED IN EXISTING CONCRETE BASE COURSE. PAVEMENT TIES SHALL BE NO. 6 X 1'-0" SPACED AT 3'-0" C-C INSTALLED ON A HORIZONTAL SKEW OF 6Cl. THE DIRECTION OF SKEW SHALL ALTERNATE AFTER EVERY ONE OR TWO BARS.
5. SURFACE TYPE AND DETAILS ARE SHOWN ELSEWHERE IN THE PLAN.

CONCRETE MEDIAN NOSE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 6-8-2006 DATE	/S/ James H. Zogg ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

S.D.D. 11 B 2-2



(TYPICAL H INLET COVER SHOWN)

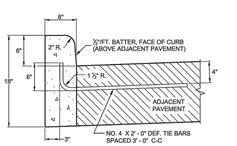
GENERAL NOTES

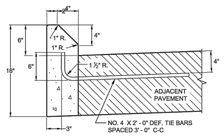
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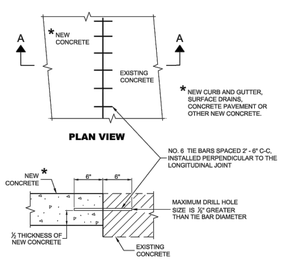
PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

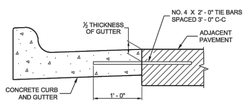
UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2'-0" BEHIND THE BACK OF CURBS.

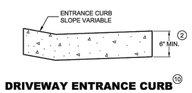
1. TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
2. THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
10. REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.
11. PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.

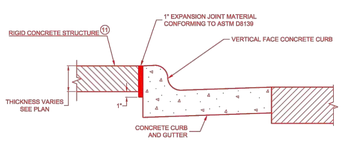






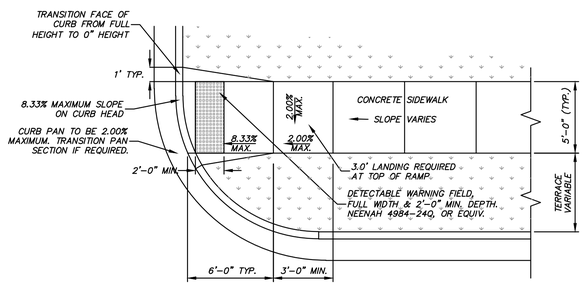






CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED May 2023 DATE	/S/ Rodney Taylor ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	

SDD 08D01 - 23b



TYPE 4 CURB RAMP

NOTES:
1. SURFACE OF CURB RAMP SHALL HAVE A BROOM FINISH OR SIMILAR SLIP RESISTANT SURFACE.

SDD 08D01 - 23b

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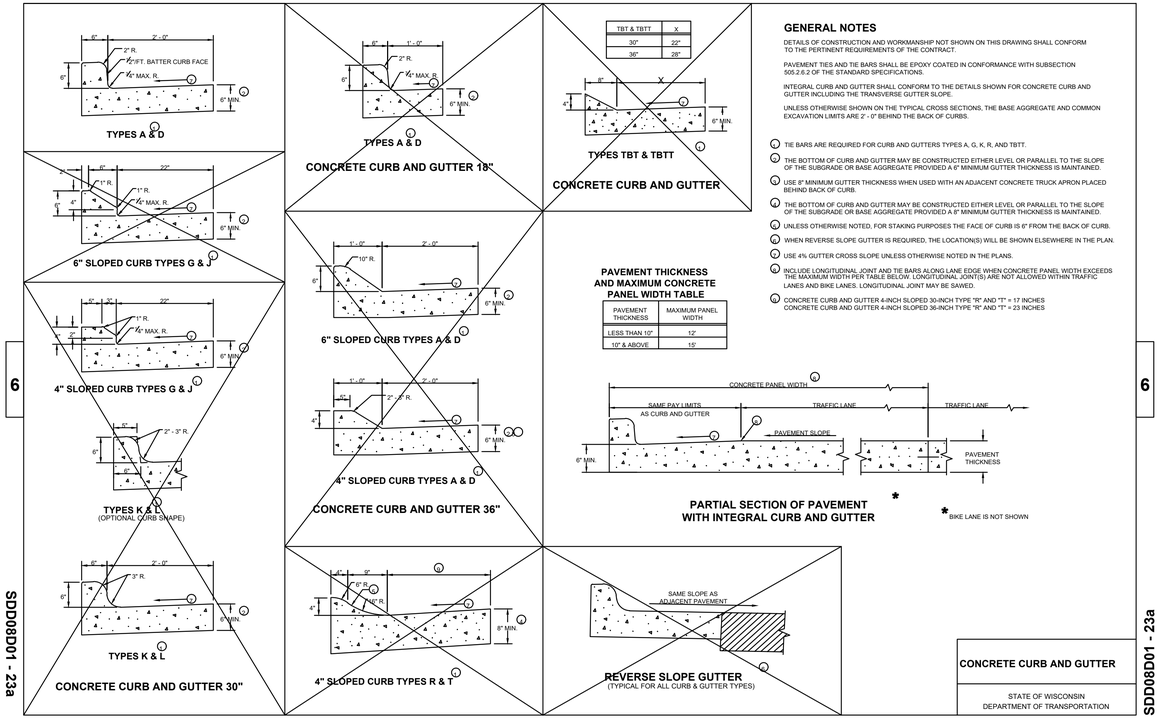
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SITE PLAN AND UTILITY DETAILS

CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL
HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	SP10.0



GENERAL NOTES

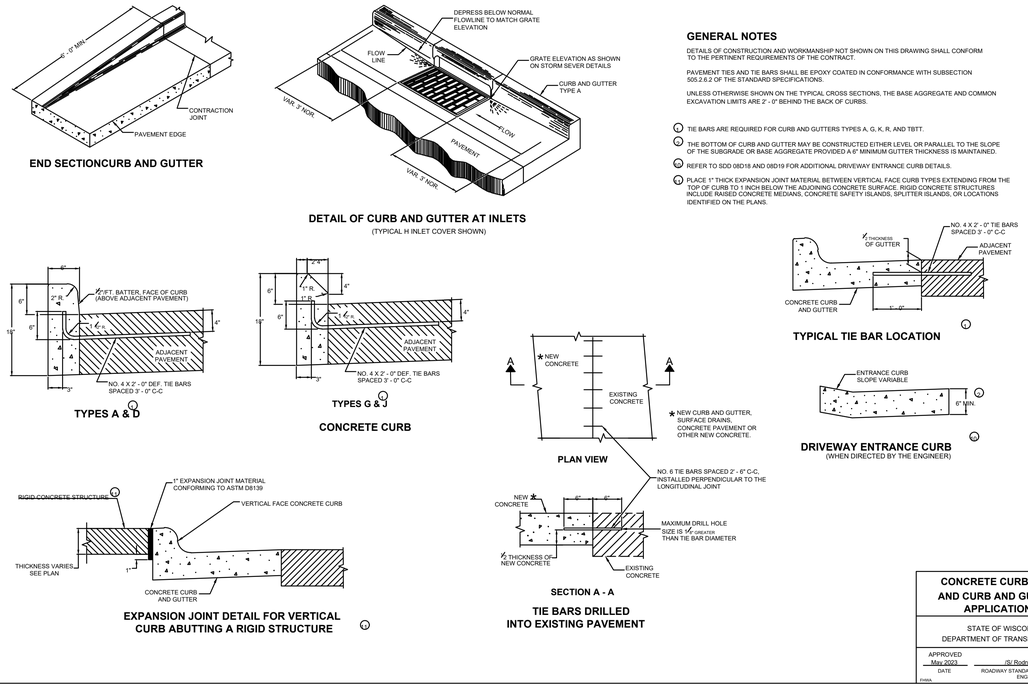
DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

INTEGRAL CURB AND GUTTER SHALL CONFORM TO THE DETAILS SHOWN FOR CONCRETE CURB AND GUTTER INCLUDING THE TRANSVERSE GUTTER SLOPE.

UNLESS OTHERWISE SHOWN ON THE TYPICAL CROSS SECTIONS, THE BASE AGGREGATE AND COMMON EXCAVATION LIMITS ARE 2' - 0" BEHIND THE BACK OF CURBS.

1. TIE BARS ARE REQUIRED FOR CURB AND GUTTERS TYPES A, G, K, R, AND TBTT.
2. THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 6" MINIMUM GUTTER THICKNESS IS MAINTAINED.
3. USE 8" MINIMUM GUTTER THICKNESS WHEN USED WITH AN ADJACENT CONCRETE TRUCK APRON PLACED BEHIND BACK OF CURB.
4. THE BOTTOM OF CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE AGGREGATE PROVIDED A 8" MINIMUM GUTTER THICKNESS IS MAINTAINED.
5. UNLESS OTHERWISE NOTED, FOR STAKING PURPOSES THE FACE OF CURB IS 6" FROM THE BACK OF CURB.
6. WHEN REVERSE SLOPE GUTTER IS REQUIRED, THE LOCATION(S) WILL BE SHOWN ELSEWHERE IN THE PLAN.
7. USE 4% GUTTER CROSS SLOPE UNLESS OTHERWISE NOTED IN THE PLANS.
8. INCLUDE LONGITUDINAL JOINT AND TIE BARS ALONG LANE EDGE WHEN CONCRETE PANEL WIDTH EXCEEDS THE MAXIMUM WIDTH PER TABLE BELOW. LONGITUDINAL JOINT(S) ARE NOT ALLOWED WITHIN TRAFFIC LANES AND BIKE LANES. LONGITUDINAL JOINT MAY BE SAWED.
9. CONCRETE CURB AND GUTTER 4-INCH SLOPED 30-INCH TYPE "R" AND "T" = 17 INCHES
   CONCRETE CURB AND GUTTER 4-INCH SLOPED 36-INCH TYPE "R" AND "T" = 23 INCHES



GENERAL NOTES

DETAILS OF CONSTRUCTION AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE CONTRACT.

PAVEMENT TIES AND TIE BARS SHALL BE EPOXY COATED IN CONFORMANCE WITH SUBSECTION 505.2.6.2 OF THE STANDARD SPECIFICATIONS.

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3. REFER TO SDD 08D18 AND 08D19 FOR ADDITIONAL DRIVEWAY ENTRANCE CURB DETAILS.
4. PLACE 1" THICK EXPANSION JOINT MATERIAL BETWEEN VERTICAL FACE CURB TYPES EXTENDING FROM THE TOP OF CURB TO 1 INCH BELOW THE ADJOINING CONCRETE SURFACE. RIGID CONCRETE STRUCTURES INCLUDE RAISED CONCRETE MEDIANS, CONCRETE SAFETY ISLANDS, SPLITTER ISLANDS, OR LOCATIONS IDENTIFIED ON THE PLANS.

CONCRETE CURB, TIES AND CURB AND GUTTER APPLICATIONS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
May 2023 — DATE
/S/ Rodney Taylor — ROADWAY STANDARDS DEVELOPMENT ENGINEER

SDD08D01 - 23b

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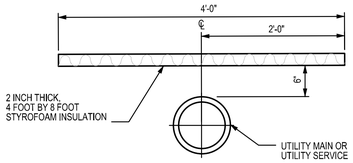
SITE PLAN DETAILS

CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL
HIGHWAY 23
LAKE DELTON, WI

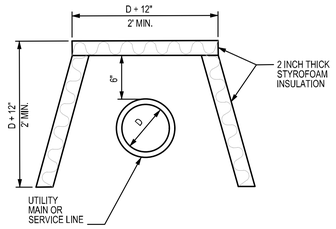
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PROJ. NO. 3220019
DATE 09/26/2023
SHEET SP10.1

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STANDARD INSTALLATION



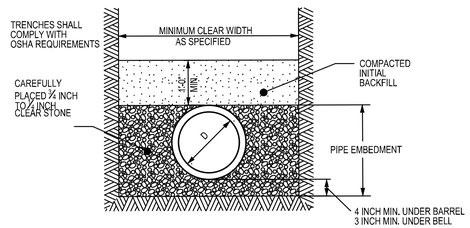
SIDE PROTECTION INSTALLATION

GENERAL NOTES:

1. THE SIDE PROTECTION INSTALLATION SHALL BE USED WHERE FROST WILL PENETRATE BELOW THE PIPE INVERT.

PIPE INSULATION DETAIL

SCALE: NONE

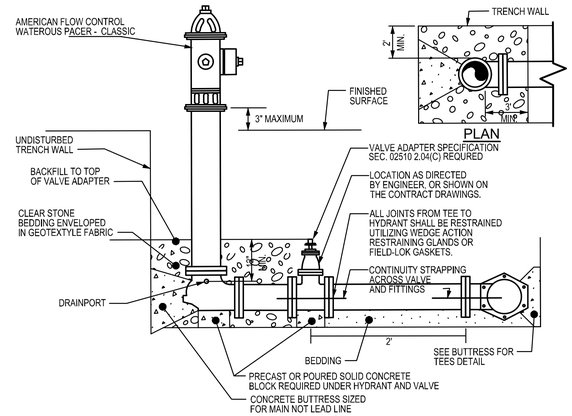


GENERAL NOTES:

1. INITIAL BACKFILL SHALL BE DENSELY COMPACTED, NON-COHESIVE FINELY DIVIDED MATERIAL FREE OF DEBRIS, ORGANIC MATERIAL, AND LARGE STONES.
2. IN ROCK OR OTHER INCOMPRESSABLE MATERIALS, THE TRENCH SHALL BE OVEREXCAVATED A MINIMUM OF 6-INCHES AND REFILLED WITH GRANULAR MATERIAL.

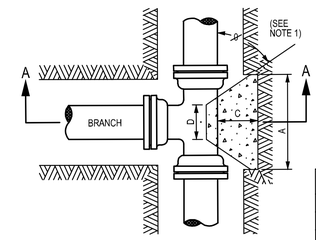
DUCTILE IRON WATER MAIN EMBEDMENT DETAIL

SCALE: NONE



HYDRANT AND LEAD CONNECTION DETAIL

SCALE: NONE



BUTTRESS DIMENSIONS				
B.D	A	B	C	
6"	1'-3"	1'-0"		
8"	1'-6"	1'-4"		
10"	1'-10"	1'-8"		
12"	2'-3"	2'-0"		
16"	3'-2"	2'-6"		
20"	4'-0"	3'-0"		
24"	5'-3"	3'-4"		

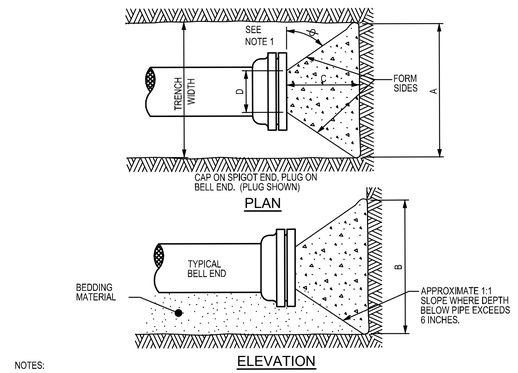
SEE NOTE NO. 1

B.D. = BRANCH DIAMETER

NOTES:

1. PRECAST CONCRETE BLOCKS SHALL BE USED IN LIEU OF POURED-IN-PLACE CONCRETE. PRECAST CONCRETE SHALL BE PLACED TO THE DIMENSIONS SHOWN ON THESE DETAILS. ALL FITTINGS SHALL ALSO RECEIVE MEGA-LUG OR EQUAL JOINT RESTRAINT.
2. DIMENSION 'C' SHOULD BE LARGE ENOUGH TO MAKE ANGLE Θ GREATER THAN OR EQUAL TO 45°.
3. CONCRETE SHOULD BEAR ON THIS QUADRANT OF PIPE AT A MINIMUM.
4. DIMENSION 'D' SHOULD BE AS LARGE AS POSSIBLE BUT CONCRETE SHOULD NOT INTERFERE WITH MECHANICAL JOINTS.
5. BUTTRESS DIMENSIONS ARE BASED ON A SOIL RESISTANCE OF TWO TONS PER SQ. FT. AND A WATER PRESSURE OF 150 PSI. INFORM THE ENGINEER IF ON-SITE SOIL DOES NOT MEET THIS CONDITION OR PRESSURES EXCEED 150 PSI.
6. BUTTRESS TO BE POURED AGAINST FIRM UNDISTURBED SOIL, OR DISTURBED SOIL COMPACTED TO 95% OF MODIFIED PROCTOR DENSITY, ASTM D1557.
7. CONCRETE SHALL HAVE A MINIMUM 7-DAY COMPRESSIVE STRENGTH OF 2000 PSI.

BUTTRESS FOR TEES DETAIL



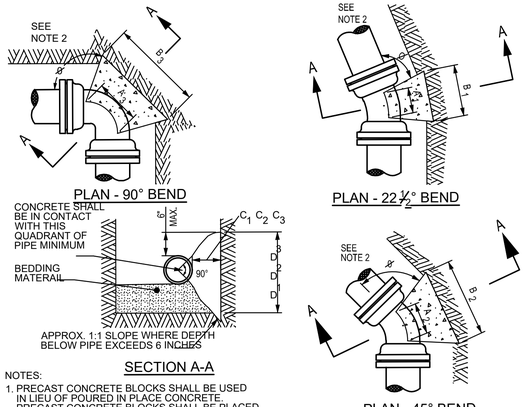
BUTTRESS DIMENSIONS				
DIA.	A	B	C	D
6"	1'-6"	1'-2"		
8"	2'-0"	1'-4"		
12"	2'-5"	1'-10"		
16"	3'-4"	2'-4"	SEE NOTE NO. 1	SEE NOTE NO. 2
20"	4'-3"	2'-10"		
24"	5'-2"	3'-4"		
30"	6'-9"	4'-0"		

NOTES:

1. PRECAST CONCRETE BLOCKS SHALL BE USED IN LIEU OF POURED-IN-PLACE CONCRETE. PRECAST CONCRETE SHALL BE PLACED TO THE DIMENSIONS SHOWN ON THESE DETAILS. ALL FITTINGS SHALL ALSO RECEIVE MEGA-LUG OR EQUAL JOINT RESTRAINT.
2. DIMENSION 'C' SHOULD BE LARGE ENOUGH TO MAKE ANGLE O EQUAL TO OR LARGER THAN 45°.
3. DIMENSION 'D' EQUALS APPROX. I.D. OF PIPE LESS 2 INCHES. THE CONCRETE SHOULD NOT INTERFERE WITH THE MECHANICAL JOINTS.
4. WHERE BUTTRESSES ARE NOT POSSIBLE BECAUSE OF POOR SOIL CONDITIONS OR LACK OF ROOM, STRAPPING SHALL BE PERMITTED.
5. BUTTRESS DIMENSIONS ARE BASED ON A SOIL RESISTANCE OF TWO TONS PER SQ. FT. AND A WATER PRESSURE OF 150 PSI. INFORM THE ENGINEER IF ON-SITE SOIL DOES NOT MEET THIS CONDITION OR PRESSURES EXCEED 150 PSI.
6. BUTTRESS TO BE POURED AGAINST FIRM UNDISTURBED SOIL, OR DISTURBED SOIL COMPACTED TO 95% OF MODIFIED PROCTOR DENSITY, ASTM D1557.
7. CONCRETE SHALL HAVE A MINIMUM 7-DAY COMPRESSIVE STRENGTH OF 2000 PSI.

BUTTRESS FOR PLUGS DETAIL

SCALE: NONE



NOTES:

1. PRECAST CONCRETE BLOCKS SHALL BE USED IN LIEU OF POURED IN PLACE CONCRETE. PRECAST CONCRETE BLOCKS SHALL BE PLACED TO THE DIMENSIONS SHOWN ON THESE DETAILS. ALL FITTINGS SHALL ALSO RECEIVE MEGA-LUG OR EQUAL JOINT RESTRAINT.
2. DIMENSIONS IN TABLE ARE BASED ON A WATER PRESSURE OF 150 P.S.I. AND AN EARTH RESISTANCE OF 2 TONS PER SQ. FT. INFORM THE ENGINEER IF PRESSURES EXCEED 150 PSI, OR ON-SITE SOIL DOES NOT MEET THIS CONDITION.
3. DIMENSION C2 C3 C SHOULD BE LARGE ENOUGH TO MAKE ANGLE O EQUAL TO OR LARGER THAN 45°.
4. DIMENSION A2 A3 A SHOULD BE AS LARGE AS POSSIBLE WITHOUT INTERFERRING WITH THE MECHANICAL JOINT.
5. BUTTRESS TO BE POURED AGAINST FIRM UNDISTURBED SOIL, OR DISTURBED SOIL COMPACTED TO 95% OF MODIFIED PROCTOR DENSITY, ASTM D1557.

BUTTRESS DIMENSIONS						
PIPE SIZE	22½° BENDS		45° BENDS		90° BENDS	
	B_1	D_1	B_2	D_2	B_3	D_3
6"	1'-0"	1'-0"	1'-0"	1'-0"	1'-4"	1'-2"
8"	1'-0"	1'-0"	1'-4"	1'-2"	1'-10"	1'-6"
10"	1'-2"	1'-2"	1'-7"	1'-7"	2'-3"	1'-10"
12"	1'-4"	1'-4"	1'-10"	1'-10"	2'-8"	2'-3"
16"	1'-10"	1'-8"	2'-6"	2'-4"	3'-10"	2'-10"
20"	2'-4"	2'-0"	3'-3"	2'-10"	5'-0"	3'-4"
24"	2'-10"	2'-4"	4'-0"	3'-3"	6'-4"	3'-10"

KWIK TRIP

KWIK STAR

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UTILITY DETAILS

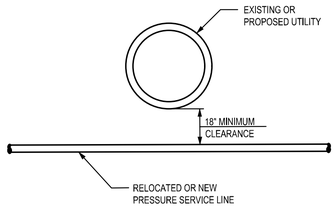
CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL

HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	SP10.2

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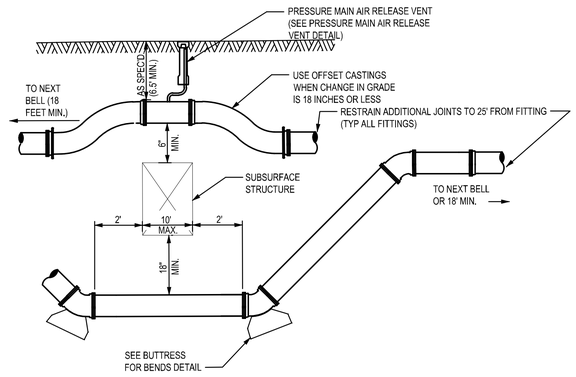


GENERAL NOTES:

1. PIPE INSULATION SHALL BE INSTALLED AS REQUIRED. SEE "PIPE INSULATION DETAIL."

PRESSURE SERVICE CROSSING DETAIL

SCALE: NONE

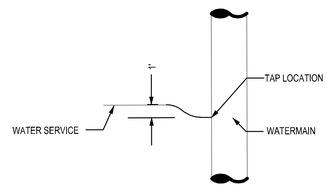


GENERAL NOTES:

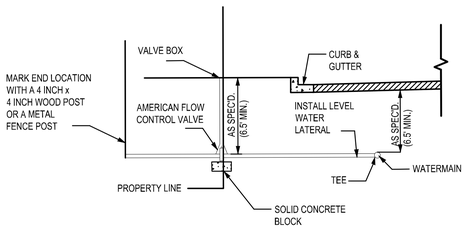
1. ALL FITTINGS SHALL BE CONNECTED TO THE PIPE WITH AN APPROVED WEDGE ACTION THRUST RESTRAINING GLAND.
2. LOCATIONS OF EXISTING MAINS ARE APPROXIMATE. LENGTH REQUIRED TO BE LOWERED WILL BE DETERMINED IN THE FIELD.
3. MAINS SHALL BE INSULATED IF COVER IS LESS THAN 6.5 FEET.
4. PROVIDE CONTINUITY STRAPS ACROSS ALL FITTINGS FROM PIPE TO PIPE

PRESSURE MAIN OFFSET DETAIL

SCALE: NONE



OFFSET DETAIL - PLAN VIEW

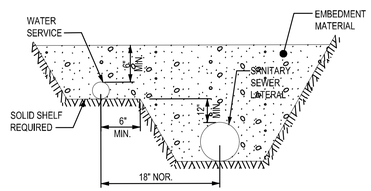


GENERAL NOTES:

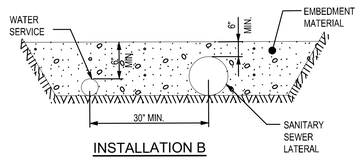
1. SEE PLANS AND SPECIFICATIONS FOR SIZE AND TYPE OF CURB STOP AND BOX CORPORATION AND SERVICE LINE.
2. COMMUNITY STANDARDS SHALL SUPERSEDE THE DIMENSIONS FROM THE PROPERTY LINE.

WATER SERVICE DETAIL

SCALE: NONE



INSTALLATION A



INSTALLATION B

GENERAL NOTES:

1. DETAILS OF CONSTRUCTION MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING, SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE SPECIFICATIONS.
2. INSTALLATION B SHALL BE USED WHEN THE WATER SERVICE WILL HAVE LESS THAN 12 INCHES VERTICAL SEPARATION ABOVE THE SANITARY SEWER.
3. WATER SERVICES 2 INCHES IN DIAMETER OR LESS SHALL BE INSTALLED AS SHOWN ON THIS DETAIL. WATER SERVICES 2-1/2 INCHES OR LARGER IN DIAMETER SHALL BE INSTALLED AT LEAST 8 FEET HORIZONTALLY FROM ANY SANITARY SEWER.

WATER SERVICE AND SANITARY SEWER LATERAL DETAIL

SCALE: NONE

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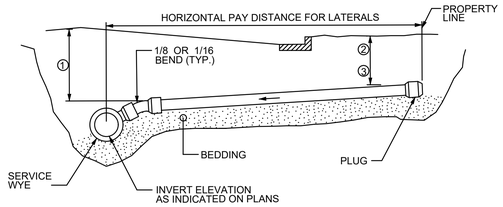
CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL

HIGHWAY 23
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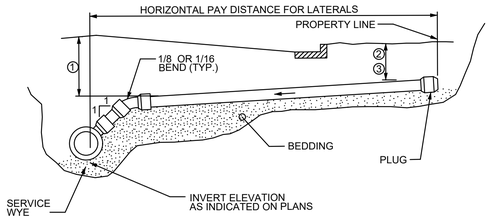
#	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	SP10.3

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STANDARD INSTALLATION WITHOUT RISER



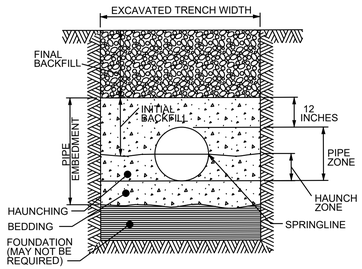
STANDARD INSTALLATION WITH RISER

GENERAL NOTES:

1. MININUM DEPTH OF COVER UNDER ROADWAY = 7 FEET.
2. MININUM DEPTH OF COVER UNDER GRASS AREAS = 5 1/2 FEET.
3. MININUM DEPTH OF COVER UNDER GRASS AREAS WITH FROST PROTECTION = 3 FEET 6 INCHES.
4. LATERAL SLOPES SHALL BE 1/8 INCH PER FOOT MINIMUM AND 1/2 INCH PER FOOT MAXIMUM.
5. ALL NON-CONDUCTIVE LATERALS SHALL BE INSTALLED WITH TRACER WIRE AND TERMINAL BOXES (SEE TRACER WIRE DETAIL).

SANITARY SEWER LATERAL DETAIL

SCALE: NONE

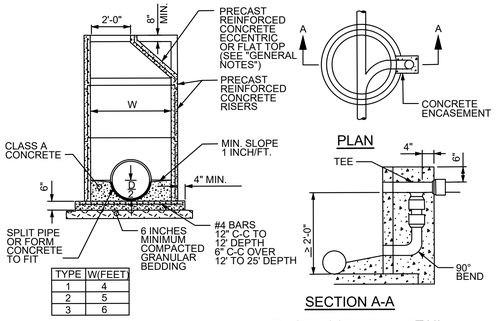


GENERAL NOTES:

1. DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO ASTM D2321.
2. CLASS 1A EMBEDMENT AND INITIAL BACKFILL MATERIAL SHALL BE CLEAN, OPEN GRADED CRUSHED STONE.
3. CLASS 1B EMBEDMENT AND INITIAL BACKFILL MATERIAL SHALL BE CLEAN, DENSE GRADED CRUSHED STONE AND SAND/STONE MIXTURES.
4. NO PARTICLES LARGER THAN 1 1/2 -INCHES SHALL BE USED IN THE PIPE EMBEDMENT.
5. DO NOT USE CLASS 1A MATERIAL WHERE CONDITIONS MAY CAUSE MIGRATION OF FINES FROM ADJACENT SOIL AND LOSS OF PIPE SUPPORT.
6. CLASS 1 MATERIAL IS SUITABLE AS FOUNDATION AND FOR REPLACING OVER-EXCAVATED AND UNSTABLE TRENCH BOTTOM. INSTALL AND COMPACT IN 6-INCH MAXIMUM LAYERS.
7. INSTALL BEDDING IN 6-INCH MAXIMUM LAYERS. LEVEL FINAL GRADE BY HAND. MINIMUM DEPTH 4 INCH (6 INCH IN ROCK CUTS).
8. INSTALL AND COMPACT HAUNCHING IN 6-INCH MAXIMUM LAYERS. WORK IN AROUND PIPE BY HAND TO PROVIDE UNIFORM SUPPORT.
9. INSTALL AND COMPACT INITIAL BACKFILL TO A MINIMUM OF 12 INCHES ABOVE PIPE CROWN.
10. EMBEDMENT COMPACTION:
    CLASS 1A: PLACE AND WORK BY HAND TO INSURE ALL EXCAVATED VOIDS AND HAUNCH AREAS ARE FILLED. FOR HIGH DENSITIES USE VIBRATORY COMPACTORS.
    CLASS 1B: MINIMUM DENSITY 85% STANDARD PROCTOR. USE HAND TAMPERS OR VIBRATORY COMPACTORS.

CLASS I - FLEXIBLE PIPE EMBEDMENT DETAIL

SCALE: NONE



TYPE	W(FEET)
1	4
2	5
3	6

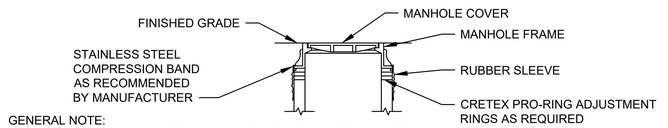
DROP ASSEMBLY DETAIL

GENERAL NOTES:

1. DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL CONDITIONS.
2. DETAILED DRAWINGS FOR PROPOSED ALTERNATE DESIGNS FOR UNDERGROUND STRUCTURES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PROVIDING THAT SUCH ALTERNATE DESIGNS MAKE PROVISION FOR EQUIVALENT CAPACITY AND STRENGTH.
3. PRECAST REINFORCED BASES SHALL BE PLACED ON A BED OF MATERIAL AT LEAST 6 INCHES IN DEPTH, WHICH MEETS THE REQUIREMENTS FOR GRANULAR BACKFILL. THIS BEDDING SHALL BE COMPACTED AND PROVIDE UNIFORM SUPPORT FOR THE ENTIRE AREA OF THE BASE.
4. ECCENTRIC CONE TOPS SHALL BE USED ON ALL STRUCTURES 5 FEET OR GREATER IN DEPTH, AND FLAT TOPS SHALL BE USED ONLY ON STRUCTURES LESS THAN 5 FEET IN DEPTH, UNLESS DIRECTED BY THE ENGINEER.
5. PRECAST REINFORCED CONCRETE RISERS MAY BE PLACED WITH TONGUE UP OR DOWN.
6. ALL PRECAST INLET UNITS SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF AASHTO DESIGNATION M 199.
7. DROP CONNECTIONS SHALL BE USED WHEN THE PIPE INVERT IS MORE THAN 2 FEET ABOVE THE MANHOLE INVERT.
8. PRECAST STRUCTURE MANWAY CLEAR OPENING SHALL MATCH CASTING - REFER TO STANDARD SPECIFICATION DIVISION 33 AND THE APPLICABLE SPECIAL CONDITIONS.
   - OPENING SHALL BE 24" FOR R-1550 CASTINGS
   - OPENING SHALL BE 27" FOR R-1642 CASTINGS

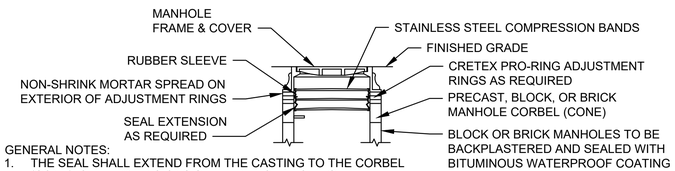
PRECAST REINFORCED CONCRETE MANHOLE DETAIL

SCALE: NONE



GENERAL NOTE:
THE SEAL SHALL EXTEND FROM THE CASTING TO THE CORBEL (CONE). SEAL EXTENSIONS SHALL BE USED AS REQUIRED.

EXTERNAL RUBBER SLEEVE FRAME/CHIMNEY SEAL
USED IN ALL APPLICATONS EXCEPT CONCRETE PAVEMENT

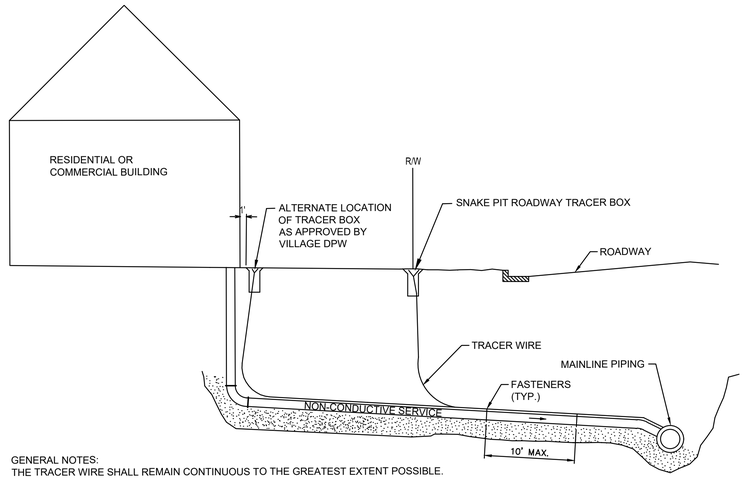


GENERAL NOTES:

1. THE SEAL SHALL EXTEND FROM THE CASTING TO THE CORBEL (CONE). SEAL EXTENSIONS SHALL BE USED AS REQUIRED.
2. AN INTERNAL ADAPTOR SEAL RING MAY BE USED IN LIEU OF THE RUBBER SLEEVE. THE INTERNAL ADAPTOR SEAL RING SHALL BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.

INTERNAL RUBBER SLEEVE FRAME/CHIMNEY SEAL
ONLY USED IN CONCRETE PAVEMENT APPLICATION

MANHOLE WATERPROOFING DETAIL
NO SCALE



GENERAL NOTES:
THE TRACER WIRE SHALL REMAIN CONTINUOUS TO THE GREATEST EXTENT POSSIBLE.

COPPERHEAD NO. 12 CCS TRACER WIRE SHALL BE INSTALLED WITH THE NON-CONDUCIVE SERVICE. PIPE TRACER WIRE TERMINAL BOXES SHALL BE INSTALLED AT LOCATIONS SHOWN ON THE PLANS OR AS DETERMINED BY THE ENGINEER OR VILLAGE DPW. TRACER WIRE INSTALLATION REQUIRES ACCESS POINTS AT LEAST EVERY 300 FEET.

TRACER WIRE SHALL BE RESTRAINED BY ZIP-TIES OR BY NON-CORROSIVE FASTENER APPROVED BY THE VILLAGE DPW, INSTALLED EVERY 10 FEET ALONG SERVICE. DO NO WRAP TRACER WIRE AROUND THE PIPE.

TRACER WIRE SHALL BE TERMINATED IN A FLUSH MOUNTED TERMINAL BOX WITH A CAST IRON LOCKABLE TOP. SPLICES IN TRACER WIRE SHOULD BE MADE WITH COPPERHEAD SNAKE BITE CONNECTORS. WIRE NUTS SHALL NOT BE USED. A WATER-PROOF CONNECTION IS NECESSARY TO PREVENT CORROSION. TERMINAL BOX SHALL BE SNAKEPIT ROADWAY TRACER BOX OR APPROVED EQUAL.

CONTRACTOR MUST DEMONSTRATE TRACEABILITY UPON COMPLETION.

TRACER WIRE INSTALLATION FOR NON-CONDUCTIVE SERVICE

SCALE: NONE

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UTILITY DETAILS

CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL

HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	SP10.4

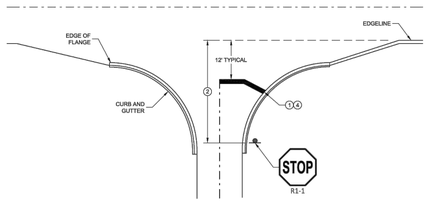
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SDD 15C33 Stop Line and Crosswalk Pavement Marking

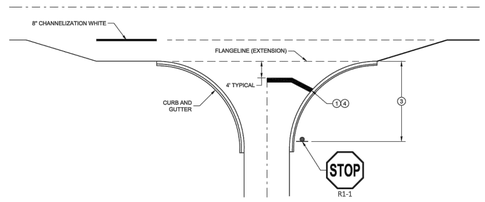
GENERAL NOTES

STOP SIGN SHALL BE PLACED A MINIMUM OF 6 FEET TO A MAXIMUM OF 50 FEET FROM THE EDGELINE LOCATION.

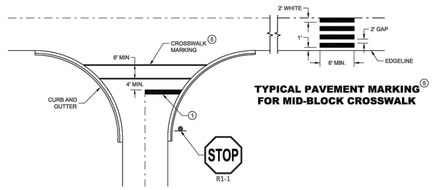
1. 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE REGION MARKING ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
2. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGELINE.
3. NO STOP LINE IS REQUIRED IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGE LINE EXTENSION.
4. MOVE CLOSER TO THE EDGE OF TRAVEL LINE AS NEEDED FOR VISIBILITY AND SIGHT LINES (NO CLOSER THAN 4 FEET).
5. LADDER BAR CROSSWALKS SHOULD ONLY BE USED FOR MID BLOCK CROSSINGS. USE 2 - 6" TRANSVERSE LINES INSTEAD.



TYPICAL STOP LINE PAVEMENT MARKING WITH CURB AND GUTTER

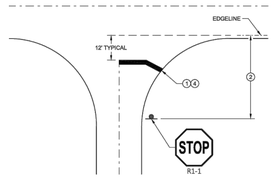


TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH RIGHT TURN LANE



TYPICAL PAVEMENT MARKING FOR MID-BLOCK CROSSWALK

TYPICAL STOP LINE PAVEMENT MARKING FOR SIDE ROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING WITHOUT CURB AND GUTTER

STOP LINE AND CROSSWALK PAVEMENT MARKING

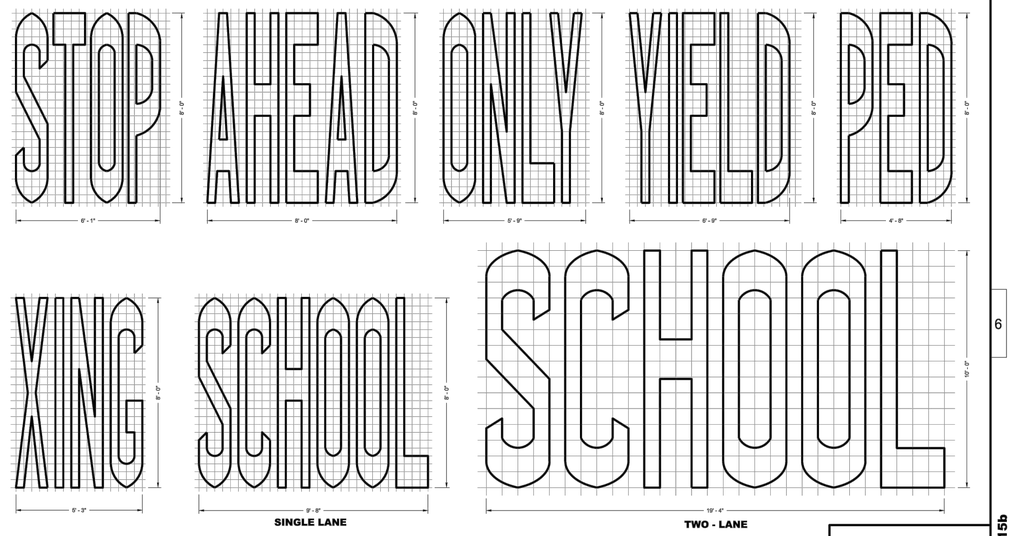
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED November 2019 (DATE) /S/ Matthew Rauch (STATE SIGNING AND MARKING ENGINEER)

FHWA

SDD 15C33 - 04

SDD 15C07-b Pavement Marking Words



GENERAL NOTES

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

PAVEMENT MARKING WORDS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED November 2019 (DATE) /S/ Matthew Rauch (STATE SIGNING AND MARKING ENGINEER)

FHWA

SDD 15C07 - 15b

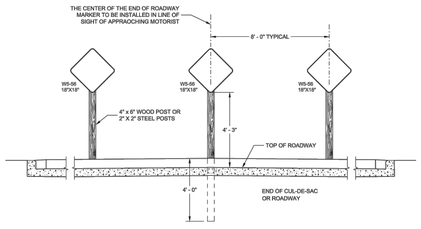
SDD 15C26 End-of-Roadway Signing

GENERAL NOTES

SIGN LOCATIONS SHOWN ARE TYPICAL PLACEMENT AND MAY BE ADJUSTED BY THE ENGINEER AS FIELD CONDITIONS DICTATE.

THE MINIMUM NUMBER OF END-OF-ROADWAY SIGNS ARE THREE (AS SHOWN). ADDITIONAL END-OF-ROADWAY SIGNS MAY BE INSTALLED AS FIELD CONDITIONS DICTATE. (SEE SIGNING PLAN).

WHEN BEAMGUARD IS REQUIRED, PLACE END-OF-ROADWAY SIGNING BEHIND BEAMGUARD.



TYPICAL SIGN INSTALLATION

END-OF-ROADWAY SIGNING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED May 2019 (DATE) /S/ Matthew Rauch (STATE SIGNING AND MARKING ENGINEER)

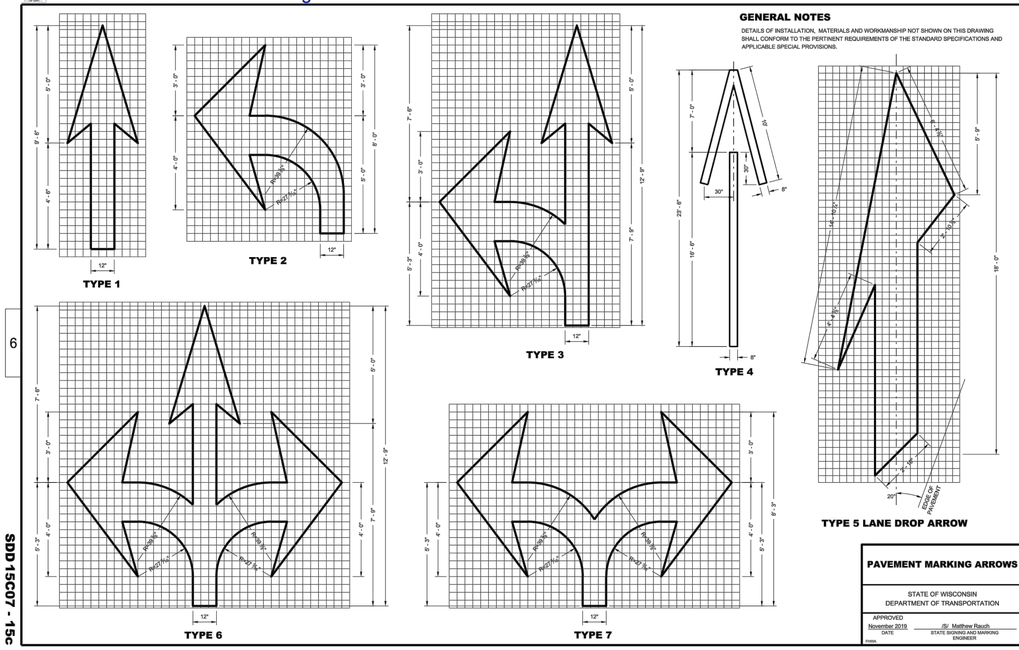
FHWA

SDD 15C26 - 04

SDD 15C07-c Pavement Marking Arrows

GENERAL NOTES

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



PAVEMENT MARKING ARROWS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED November 2019 (DATE) /S/ Matthew Rauch (STATE SIGNING AND MARKING ENGINEER)

FHWA

SDD 15C07 - 15c

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
LA CROSSE, WI 54602-2107
PH. (608) 781-8988
FAX (608) 781-8960

raSmith
CREATIVITY BEYOND ENGINEERING
16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com

SIGNAGE AND STRIPPING DETAILS

CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL

HIGHWAY 23
LAKE DELTON, WI

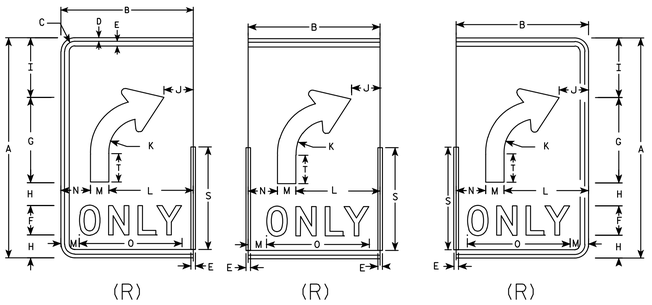
#	DATE	DESCRIPTION

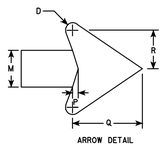
DRAWN BY	CBW
SCALE	GRAPHIC
PROJ. NO.	3220019
DATE	09/26/2023
SHEET	SP10.5

P:\3220019\Dwg\Sheets\Public Road\3220019-PD01.dwg, SIGNAGE AND STRIPPING, 9/27/2023 8:57:50 AM, emg2

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D





ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
2M	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
3	36	24	1 3/8	1/2	5/8	5	14	3 1/2	9 3/4	6	5 3/8	15	3	6	17 5/8	1/2	5 3/4	3 1/8	16 3/4	4 5/8							6.0
4	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0
5	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0

STANDARD SIGN
R3-8 (R) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

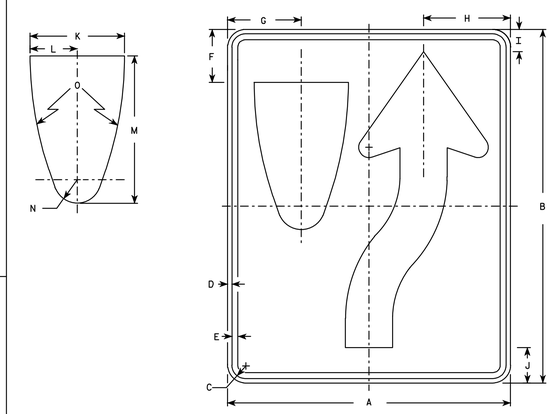
DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO: | SHEET NO: E

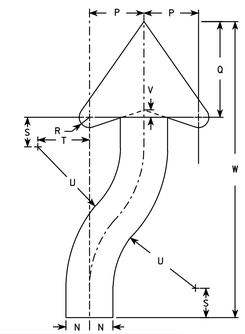
FILE NAME : C:\CAE\files\Projects\stdplate_R38.dgn | PLOT DATE : 21-MAY 2019 4:38 | PLOT BY : mac_j9h | PLOT NAME : | WISDOT/CADDS SHEET 42

NOTES

1. Sign is Type II - Type H Reflective - reference WIS DOT Standard Specification for HIGHWAY and STRUCTURE CONSTRUCTION latest edition. material is plywood but borders shall be rounded
2. Color:
   Background - White
   Message - Black
3. Corners may be square or rounded when base as shown. When base material is metal, the corners and borders shall be rounded.
4. R4-8 is the same as R4-7 except Legend is reversed.



R4-7



ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1	18	24	1 1/8	3/8	1/2	3 3/8	4 3/4	5 1/2	1 3/8	2 1/4	6	3	9 3/8	1 1/2	22 1/2	3 1/2	6 1/8	5/8	1 1/8	3 1/4	6 3/4	1/2	20 3/8				3.0
2S	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 1/8	3	8	4	12 1/2	2	30	4 3/8	8 1/8	1/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
2M	24	30	1 1/8	3/8	1/2	4 1/2	6 1/4	7 3/8	1 1/8	3	8	4	12 1/2	2	30	4 3/8	8 1/8	1/8	2 1/2	4 3/8	9	5/8	25 1/8				5.0
3	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 1/8	4 1/2	12	6	18 3/4	3	45	6 1/8	12 1/4	1 1/4	3 3/4	6 1/8	13 1/2	1	40 3/4				12.0
4	36	48	1 3/4	1/2	5/8	6 3/4	9 3/8	11 1/8	2 1/8	4 1/2	12	6	18 3/4	3	45	6 1/8	12 1/4	1 1/4	3 3/4	6 1/8	13 1/2	1	40 3/4				12.0
5	48	60	2 1/4	3/4	1	9	12 1/2	14 3/4	3 3/4	6	16	8	25	4	60	9 1/4	16 1/4	1 3/8	5	8 3/4	18	1 1/4	50 1/4				20.0

STANDARD SIGN
R4-7 & R4-8

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

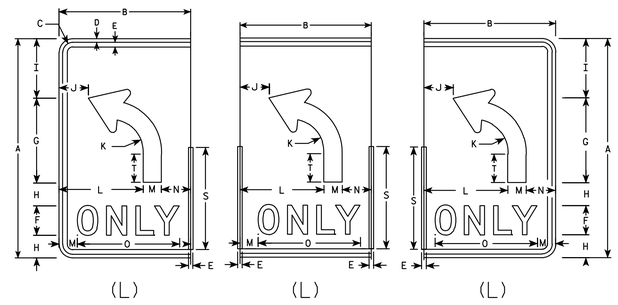
DATE 3/25/2011 PLATE NO. R4-7.8

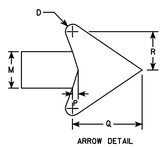
PROJECT NO: | HWY: | COUNTY: | SHEET NO: E

FILE NAME : C:\User's\PROJECTS\tr_stdplate\R47.DGN | PLOT DATE : 25-MAR-2011 14:10 | PLOT BY : meaajo | PLOT NAME : | PLOT SCALE : 5.462457:1.000000 | WISDOT/CADDS SHEET 42

NOTES

1. Sign is Type II - Type H Reflective
2. Color:
   Background - White
   Message - Black
3. Message Series - D





ARROW DETAIL

SIZE	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	Area sq. ft.
1																											
2S	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
2M	30	18	1 3/8	1/2	5/8	4	11 5/8	3 1/8	8 1/8	4	4 1/2	11 1/2	2 1/2	4	14	3/8	4 3/4	2 5/8	14	3 7/8							3.75
3	36	24	1 3/8	1/2	5/8	5	14	3 1/2	9 3/4		5 3/8	15	3	6	17 5/8	1/2	5 3/4	3 1/8	16 3/4	4 5/8							6.0
4	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0
5	48	30	2 1/4	3/4	1	6	18 5/8	5 1/8	13 1/8	6 1/8	7 1/4	18	4	8	21 3/4	5/8	7 5/8	4 1/4	22 3/8	6 1/4							10.0

STANDARD SIGN
R3-8 (L) Arrow

WISCONSIN DEPT OF TRANSPORTATION

APPROVED Matthew R Rauch for State Traffic Engineer

DATE 5/21/19 PLATE NO. R3-8.1

PROJECT NO: | SHEET NO: E

FILE NAME : C:\CAE\files\Projects\stdplate_R38.dgn | PLOT DATE : 21-MAY 2019 4:38 | PLOT BY : mac_j9h | PLOT NAME : | WISDOT/CADDS SHEET 42

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
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raSmith
CREATIVITY BEYOND ENGINEERING
16745 W. Bluemound Road
Brookfield, WI 53005-5938
(262) 781-1000
rasmith.com

SIGNAGE AND STRIPPING DETAIL

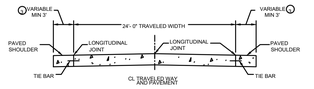
CONVENIENCE STORE #583
W/1 BAY CAR WASH & SIDE DIESEL

HIGHWAY 23
LAKE DELTON, WI

#	DATE	DESCRIPTION

DRAWN BY CBW
SCALE GRAPHIC
PROJ. NO. 3220019
DATE 09/26/2023
SHEET SP10.6

P:\3220019\Dwg\Sheets\Public Road\3220019-PD01.dwg, SIGNAGE AND STRIPPING (3), 9/27/2023 8:57:55 AM, emg2

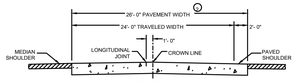


SECTION A - A

TWO-LANE TWO-WAY HIGHWAY



SECTION B - B



ALTERNATIVE SECTION B - B

DIVIDED HIGHWAY

GENERAL NOTES

CONTRACTION JOINTS

CONSTRUCT TRANSVERSE CONTRACTION JOINTS NORMAL TO THE CENTERLINE. SHOW THE LOCATION OF CONTRACTION JOINTS THROUGH INTERSECTIONS ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

INSTALL DOWEL BARS PARALLEL TO THE PAVEMENT CENTERLINE AND PAVEMENT SURFACE.

FOR PAVEMENT SLABS OF VARYING WIDTHS, LOCATE THE OUTER MOST DOWEL BAR SO THAT THE CENTER OF THE BAR IS A MINIMUM OF 6 INCHES FROM AND A MAXIMUM OF 18 INCHES FROM THE FREE EDGE OF PAVEMENT.

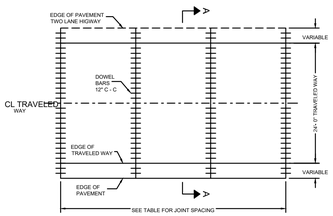
CONSTRUCTION JOINTS

LOCATE CONSTRUCTION JOINTS A MINIMUM OF 6 FEET FROM THE NEAREST CONTRACTION JOINT AND ALIGN PARALLEL TO THE CONTRACTION JOINTS.

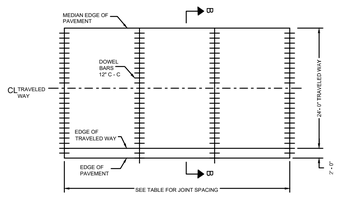
1. REFER TO TYPICAL CROSS SECTIONS FOR ADDITIONAL DETAILS.
2. MEASURE THE ENTIRE PAVED WIDTH INCLUDING THE PORTION(S) LABELED "PAVED SHOULDER" AS CONCRETE PAVEMENT.
3. SHOULDER WIDTHS LESS THAN 3 FEET SHALL BE PAVED INTEGRAL TO THE MAINLINE CONCRETE PAVEMENT, SEE SECTION B-B.

PAVEMENT DEPTH, DOWEL BAR SIZE AND JOINT SPACING TABLE

PAVEMENT DEPTH (D)	DOWEL BAR DIAMETER	CONTRACTION JOINT SPACING
6", 6½"	NONE	13'
7", 7½"	1"	14'
8" & ABOVE	1¼"	15'



CONTRACTION JOINT LAYOUT FOR TWO-LANE TWO-WAY HIGHWAY



CONTRACTION JOINT LAYOUT FOR DIVIDED HIGHWAY

RURAL DOWELED CONCRETE PAVEMENT

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

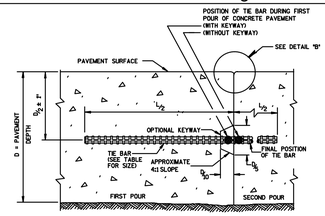
SDD13C11 - 14a

SDD13C11 - 14a

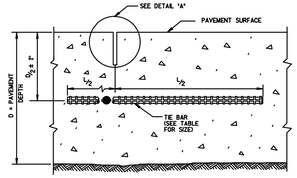
6

6

SDD 13C1 Concrete Pavement Longitudinal Joints and Ties



CONSTRUCTION JOINT



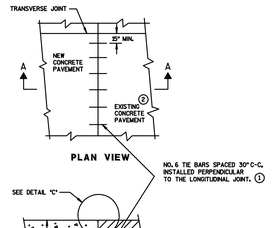
SAWED JOINT

GENERAL NOTES

CREATE A LONGITUDINAL JOINT FOR PAVEMENT WIDTHS GREATER THAN 15 FEET.

CORRELATE LONGITUDINAL JOINTS WITH LANE LINES WHEN POSSIBLE.

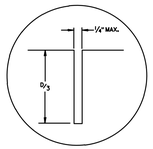
1. ANCHOR TIE BARS INTO DRILLED HOLES WITH AN EPOXY.
2. PAVEMENT THAT WAS IN PLACE PRIOR TO THE CONTRACT.



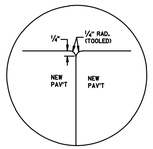
PLAN VIEW

SECTION A-A

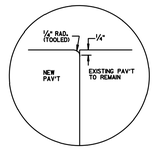
LONGITUDINAL CONSTRUCTION JOINT TIE BARS ANCHORED INTO EXISTING PAVEMENT



DETAIL "A"



DETAIL "B"



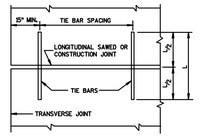
DETAIL "C"

TIE BAR TABLE

PAVEMENT DEPTH (D)	TIE BAR SIZE	TIE BAR LENGTH (L)	MAX. TIE BAR SPACING
< 10 ½"	NO. 4	30"	36"
	NO. 5	36"	36"
≥ 10 ½"	NO. 4*	30"	24"**

* SUBSTITUTE BENT BARS AT LONGITUDINAL JOINTS WHEN EQUIPMENT LIMITATIONS DURING CONSTRUCTION WARRANT (e.g. AUXILIARY LANES OR TURN LANES)

** CONFORM TO 25' MINIMUM SPACING FROM TRANSVERSE JOINTS; SPACING BETWEEN TIE BARS WILL BE 30" AT TRANSVERSE JOINTS.



PLAN VIEW

SHOWING LOCATION OF TIE BARS

CONCRETE PAVEMENT LONGITUDINAL JOINTS AND TIES

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
March 2018
DATE
FHWA

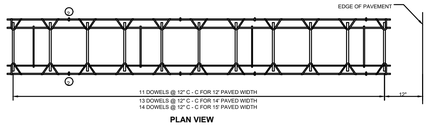
/S/ Peter Kemp, P.E.
PAVEMENT SUPERVISOR

S.D.D. 13 C 1-19

S.D.D. 13 C 1-19

6

6

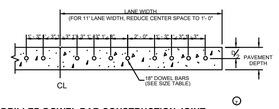


PLAN VIEW



SIDE VIEW
(NORMAL TO CENTERLINE)

CONTRACTION JOINT DOWEL ASSEMBLY


LANE WIDTH
(FOR 11' LANE WIDTH, REDUCE CENTER SPACE TO 1'- 0"
1'- 3" 3" 3"