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VILLAGE OF GERMANTOWN
N112 W17001 MEQUON ROAD, GERMANTOWN, WI 53022

MEETING: **PLAN COMMISSION**
DATE AND TIME: **MONDAY, MAY 11, 2020 6:30 p.m.**
LOCATION: **VIRTUAL WEBEX MEETING:**

Meeting Number: 623 153 510 Meeting Password: m3PG83czstv

https://villageofgermantown.my.webex.com/webappng/sites/villageofgermantown.my/meeting/download/b6f76c0efe524f3abf33747158b79e5d?siteurl=villageofgermantown.my&MTID=m4a58e5a020347f2747a0d64f2a5f32bb or Call 408-418-9388.

NOTICE: Pursuant to the current recommendation of the Centers for Disease Control and Prevention limiting the size of public gatherings and the various federal and state orders implementing that recommendation, this meeting will be held virtually through the WebEx platform with each member accessing the meeting remotely. Citizens wishing to view the meeting are encouraged to watch the live broadcast of the meeting through Channel 25 on Spectrum cable, or on the Village's website.

Citizens wishing to submit any public comments should do so by sending an email to comments@village.germantown.wi.us by 4 p.m. on the day of the meeting so that it can be provided to the members for their consideration. Citizens wishing to present their comments verbally can join the WebEx meeting using their phone, computer or other internet-capable device and using the meeting number access code specified above.

To reasonably accommodate citizens who are unable to view or participate in another manner, the Village Board room will be open and set up with technology to access the meeting. Social distancing will be employed within the Board room so seating will be limited.

AGENDA

I. **CALL TO ORDER** This meeting has been given public notice in accordance with Wisconsin Statutes, Section 19.83 and 19.84 in such form that will apprise the general public and news media of subject matter that is intended for discussion and action.

II. **ROLL CALL**

III. **PUBLIC INPUT/PUBLIC APPEARANCE** Please be advised per §19.84(2) that information will be received from the public, however, no action will be taken at this time. Written Public Comments should be directed to comments@village.germantown.wi.us by 4 p.m. on Monday, May 11th so that they can be provided to the members for the consideration.

IV. **APPROVAL OF MINUTES** April 13, 2020

V. **NEW BUSINESS**

A. Diversified Engineering Inc., Agent for Waste Management of Wisconsin, Property Owner - N96 W13840 County Line Road, N96 W13600 & N96 W13640 County Line Road. Amendment to Conditional Use Permit (CUP) No. 04-2019 to operate a truck maintenance facility, and a Site Plan Review for revised plans for the truck maintenance building and site improvements. **[PUBLIC HEARING & ACTION]**

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B. Tyler Edwards, Agent for Menard Inc., Property Owner - W186 N9754 Appleton Avenue. A Conditional Use Permit (CUP) for: development within a 25' wetland setback; an amendment to CUP No. 07-2002 to allow the expansion of a store larger than 50,000 sqft; an amendment to CUP No. 08-2002 to allow the expansion of a fenced storage yard; a Rezoning Application to remove .914 acres from the Shoreland-Wetland Zoning District; and a Site Plan Review for a proposed storage yard expansion, warehouse addition, building additions and exterior remodeling to the existing Menards home improvement retail store. **[PUBLIC HEARING & ACTION]**

C. Scott Morgan, Agent for All Terrain Adventure Company LLC, Property Owner - N112 W14972 Mequon Road. Conditional Use Permit for a Construction Services-Contractor Shop. **[PUBLIC HEARING & ACTION]**

D. D. Lynne Luckow, Redline Canine Training Center and Behavioral Consultation, LLC, Agent for Ozaukee Development Corporation, Property Owner - W188 N11786 Maple Road, Suites 1,2,3 & 4. Amendment to Conditional Use Permit No. 01-2019 for the operation of a dog training operation. **[PUBLIC HEARING & ACTION]**

E. Skyline Development Corp., Agent for JDV Real Estate Holdings LLC, Property Owner of Enviro-Safe Consulting - W130 N10500 Washington Drive. Site Plan Review for a 29,746 sqft warehouse and office expansion. **[ACTION]**

F. Josh Brown, Agent for Bliffert Germantown Holdings LLC, Property Owner - N116 W16474 Main Street. Site Plan Review for exterior façade enhancement and remodeling of 3,800 sqft for offices, retail floor space, and bathrooms in an existing warehouse with additional parking. **[ACTION]**

G. Zilber Property Group, Agent for ZPG Development Corp., LLC, Property Owner - W210 N13150 Gateway Crossing. Site Plan Review for a 145,600 sqft multi-tenant industrial building. **[ACTION]**

H. Bauer Sign & Lighting Co., Agent for WMG Development, Property Owner - N112 W16286 Mequon Road. Sign Review for Germantown Dental Care. **[ACTION]**

I. Bauer Sign & Lighting Co., Agent for Anderson Brothers Construction, Property Owner - W188 N10707 Maple Road. Sign Review for American Parts Equipment Supply. **[ACTION]**

VI. **ANNOUNCEMENTS**

VII. **ADJOURNMENT**

UPON REASONABLE NOTICE, efforts will be made to accommodate the needs of disabled individuals through appropriate aids and services. For additional information or to request this service please contact the Village Clerk at (262)250-4740 at least 2 days prior to the meeting. Notice is given that a majority of the Village Board may attend this meeting to gather information about an item over which they have decision making responsibility. This may constitute a meeting of the Village Board per State ex rel. Badke v. Greendale Village Board, even though the Village Board will not take formal action at this meeting.

PLAN COMMISSION MINUTES
April 13, 2020

CALL TO ORDER: Chairman Wolter called the meeting to order at 6:30 pm. The meeting was held as a virtual WebEx meeting.

ROLL CALL: Chairman Dean Wolter, Trustee Rep David Baum, Commissioners Tony Laszewski, Matt Kimmler, Bill Shadid, Bob Williams and Peter Nilles were in attendance. Also present were Community Development Director Jeff Retzlaff, Associate Planner Emily Zandt and Planning Assistant Lori Johnson.

PUBLIC INPUT: None

APPROVAL OF MINUTES:
MOTION Baum second Shadid to Approve the minutes from 3-9-20.
MOTION carried. Commissioner Nilles abstained.

David Gutbrod Family LLC - W202 N10246 Lannon Road. David Gutbrod, property owner of a 6.538-acre lot is seeking approval of a 2-lot Certified Survey Map (CSM) to create one additional commercial lot. Associate Planner Zandt summarized the proposal.

David Gutbrod explained he is requesting the land division because he's had the property for sale for some time. Several people have been interested in purchasing the property until they find out about the acreage

MOTION Laszewski second Baum to Approve the proposed 2-lot Certified Survey Map (CSM) of the 6.538-acre parcel owned by Gutbrod Family LLC located at W202N10246 Lannon Road with the following conditions:

1. ***A note shall be added to the CSM that reads "Access Restriction: Access to Lot 1 and Lot 2 is restricted to one (1) shared access driveway unless a second, separate access driveway is allowed by Washington County.***
2. ***The property owner shall obtain a driveway permit from Washington County within 30 days of CSM approval if an additional or modified access is desired.***
3. ***A shared driveway/cross-access easement shall be created and recorded if a shared driveway is constructed***.

Commissioner Laszewski questioned why the driveway permit needed to be obtained within 30 days. Planner Retzlaff said that was requested by the Washington County Highway department during the review discussions. Mr. Gutbrod said he already reached out to the County for the permit but didn't know how long the process would take. He indicated he would appreciate more time to acquire the permit.

MOTION to Amend Baum second Shadid to revise the language in Condition #2 from "obtain a driveway permit" to apply for a driveway permit".

MOTION to Approve the Amendment carried unanimously.

MOTION to Approve as Amended carried unanimously by roll call vote.

DRAFT

Systems LLC - W194 N11481 McCormick Drive. Monches Construction, agent for Systems Inc., is seeking approval of site development and building plans for an 8,763 sqft expansion to the existing manufacturing facility and the construction of 19 additional parking spaces to the west of the facility. Planner Retzlaff summarized the proposal.

MOTION Baum second Shadid to Approve the site development & building plans for the proposed 8,763 sqft expansion to the existing facility located at W194 N11481 McCormick Drive in the Germantown Industrial Park subject to the following conditions:

1. ***Approval is for the site development and building plan set dated January 10, 2020 (unless otherwise revised by a subsequent plan set approved by the Village Planner pursuant to revisions required herein or by the Plan Commission).***
2. ***All information and additional materials including, but not limited to, the items identified in the Memo from the Public Works Director must be submitted to Village Planning and/or Engineering staff for review and approval prior to commencing construction of the proposed parking expansion (19 stalls).***
3. ***A landscaping plan, meeting the requirements of Chapter 17.43(5) Site Plan Approval Requirements shall be submitted and approved by the Village Arborist and Planning Staff prior to commencement of construction to the expanded parking area.***
4. ***The fire sprinkler system shall be extended to include the new addition unless building code-compliant fire walls separating the new addition are constructed.***
5. ***All landscaping, screening, grading, and paving improvements shown on the approved site plans shall be installed as proposed prior to issuance of an occupancy permit unless a cash bond or letter of credit in an amount equal to 120 percent of the estimated installation and material costs reviewed and approved by the Village is submitted to the Village as necessary to ensure that installation of the proposed features and improvements will be completed within one (1) year after issuance of the occupancy permit.***
6. ***State approved plans and a $20,000 occupancy bond may be required by Inspection Services as part of the building permit application.***
7. ***The property owner shall obtain approval of the 19-stall parking area to be constructed within the existing easement owned by ANR Pipeline Company prior to commencing construction of the parking lot expansion.***

MOTION carried unanimously by roll call vote.

ANNOUNCEMENTS: None

ADJOURNMENT: There being no further business, the meeting was adjourned at 6:49 pm.

Respectfully submitted,

Lori Johnson
Planning Assistant

DRAFT

CONDITIONAL USE PERMIT (CUP) APPLICATION & SITE PLAN REVIEW

5/11/20 Plan Commission Meeting

Waste Management of Wisconsin Inc.

Village Planner Report **Germantown, Wisconsin**

Summary

Nick Berner, Diversified Engineering Inc., agent for Waste Management of WI, property owner, is requesting approval of a revised Conditional Use Permit (CUP) to operate and revised site development and building plans for a 29,760 ~~35,035~~ sqft truck maintenance facility from the 45.8-acre property located at N96 W13840 County Line Road.

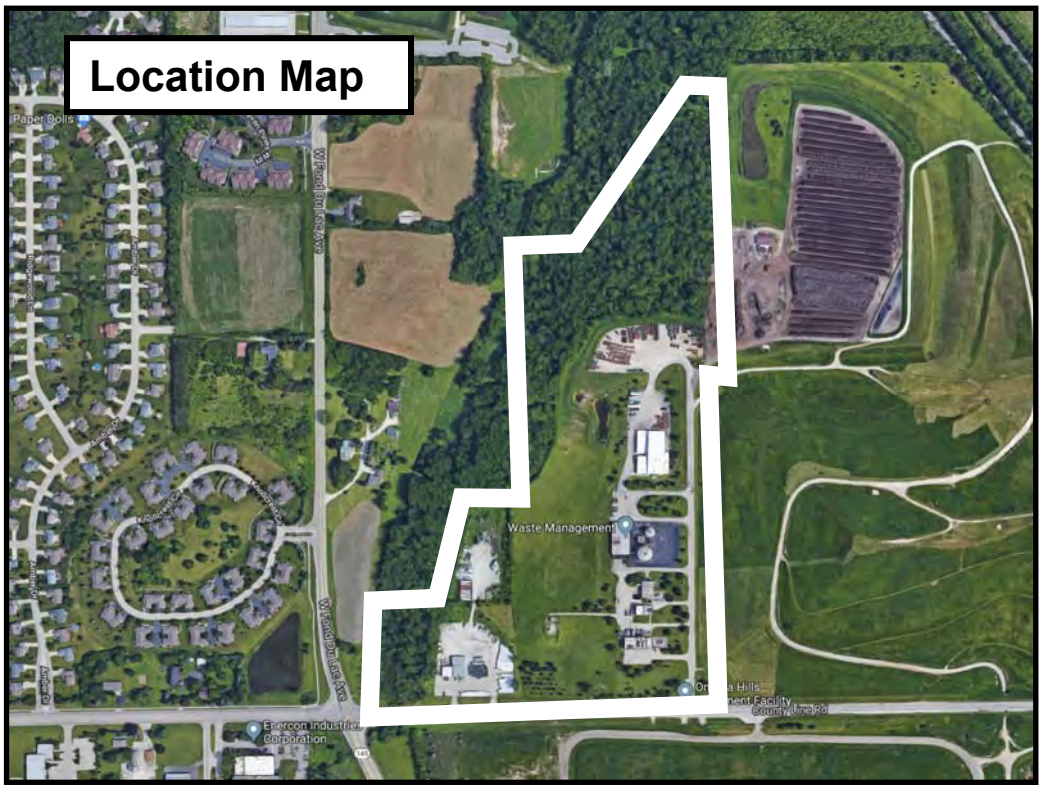
Location: N96 W13840 County Line Road

Applicant/ Property Owner:

Nick Berner, PE	Don Smith, PE
Diversified Engineering	Waste Management of WI
New Philadelphia, OH	Chicago, IL

Zoning: M-2: General Industrial

Adjacent Land Uses		Zoning
North	Agricultural/Industrial	A-1/M-2
South	Industrial (Menomonee Falls)	n/a
East	Industrial (retired landfill)	M-2
West	Residential/Business	Rd-2/Rs-1/B-3



Background/Proposal

Waste Management of WI (WM) has submitted revised plans for the proposed truck maintenance facility on County Line Road. The proposed facility was granted a conditional use permit (CUP #4-19) by the Village Board in March, 2019. Site development and building plans were conditionally approved by the Plan Commission in March, 2019.

At this time, WM has submitted revisions to the site development and building plans that make the following minor changes to the site and building:

1. Reduce office/maintenance building from 35,035 to 29,760 sqft (footprint)
    a. 5,760 office
    b. 24,000 maintenance facility
    c. 1,897 sqft mezzanine
2. Increase truck parking from 100 to 130 stalls
3. Reduce vehicle parking from 159 to 160 stalls
4. Realigned truck parking stalls & circulation to reduce back-up operations

The following sections of this report are taken from the original March, 2019 report with necessary revisions (and additional commentary) shown in a **~~strikeout~~** and **underline** format to clearly show changes and/or current conditions.

Proposal

At this time, Nick Berner, Diversified Engineering Inc., agent for Waste Management of WI, property owner, is requesting approval of a revised Conditional Use Permit (CUP) to operate and revised site development and building plans for a 29,760 ~~35,035~~ sqft truck maintenance facility from the 45.8-acre property located at N96 W13840 County Line Road.

As detailed in the February 28, 2020 ~~January 9~~ project narrative and site development plans, the existing buildings and site improvements on the 8.15-acre parcel formerly occupied by WM's Port-O-Let storage operation will be re-developed to accommodate the proposed truck maintenance facility. The facility will extend onto portions of the adjacent 35.6-acre parcel to the east *[NOTE: both parcels have been combined by CSM approved by the Village in September, 2019].* ~~As noted in the application, WM intends to combine a total of four adjoining parcels owned by WM located north of County Line Road, east of STH 145/Fond du Lac Avenue, and west of the private internal driveway commonly referred to as "Midlands Drive" that serves other WM operations (i.e. Orchard Ridge Gas-to-Electric Power Plant, the former WM Healthcare Solutions medical waste recycling operation building, and the WM compost operation). This land combination will be accomplished with a certified survey map (CSM) submitted to the Village pending approval of the conditional use permit and site development & building plan applications.~~

The proposed truck maintenance facility includes a 29,760 ~~35,035~~ sqft pre-engineered metal building that will serve as a new location for the existing operations and staffing at the Menomonee Falls facility located at W124 N8925 Boundary Road.

The west 5,760 ~~9,750~~ sqft of the building will have office space for eleven (11) ~~thirty (30)~~ staff and a "launch" area serving 90-100 waste hauling truck drivers (office/assembly space for pre-route communications and management). The east 24,000 ~~25,285~~ sqft will have space for a 14-bay truck compressed natural gas (CNG) maintenance facility. The WM vehicle fleet of waste removal/recycling vehicles is transitioning from one that operates with diesel fuel to a fleet of vehicles powered entirely by compressed natural gas (CNG) that results in low or no particulate emissions, greenhouse gases and less noise than comparable diesel-powered trucks. The transition is expected to take a period of five years. A series of trusses supporting an overhead CNG refueling system will be installed in the north parking lot providing each parking stall a retractable refueling hose ~~(Sheet A1.2)~~. Overhead lighting, cameras and fire detection devices will be installed to and above the truss system. Underground pipes will provide CNG from the on-site CNG compound to the truss refueling system. *[NOTE: details for the CNG Fueling Facility are provided in a separate plan set dated 4/14/2020 included with the other revised plans dated 2/28/2020].*

The operation is expected to serve up to eleven (11) ~~thirty (30)~~ full and part-time office staff and up to 100 truck drivers. Hours of operation are proposed to be 3:30a.m. to 12 midnight, Monday through Friday, and, 5:00am to 12 noon on Saturday. *[NOTE: As explained in the February 28, 2020 Design Narrative, the primary reason for the changes to the proposed facility result from the relocation of thirty (30) office/sales employees to the existing WM facility on Grant Drive in the Germantown Business Park].*

In addition to the office and maintenance facility components of the building, site improvements include:

- 159 ~~166~~ employee/visitor vehicle parking stalls ~~(44 additional future stalls)~~
- 130 ~~100~~ waste removal/recycling truck parking stalls
- Compressed natural gas (CNG) compound & fueling station
- (2) access driveways serving the facility

Parking, Access and Traffic Circulation

Primary access to the new truck maintenance facility will be provided by the existing westernmost driveway on County Line Road. Secondary access will be provided to/from a new driveway connection linking the parking area north of the facility to the existing internal roadway commonly referred to as "Midlands Drive"; a north-south roadway intersecting County Line Road approximately 1,000 feet east of the access driveway.

On-site parking includes 159 ~~166~~ parking stalls for employees/visitors located south and west of the maintenance facility. ~~An additional 44 stalls can be constructed in a secondary parking area west of the main driveway and parking area south of the building for a total of 210 parking stalls~~ (vs. 207 stalls recommended under the Village's guidelines) to serve both the truck maintenance facility. An additional 130 ~~100~~ parking stalls for waste removal/recycling trucks are provided north of the building that will be enclosed by a secure 6' high chain link fence with controlled access gates.

Utilities
Public water and sanitary sewer lateral lines will be extended to the site from existing mains in County Line Road. Water is provided by the Village of Menomonee Falls. Sanitary sewer is provided by Germantown. All other essential utility services including gas, electric, etc. will utilize existing connections.

Storm Water Management
Impervious area across the entire 46.03 acre site will be approximately 14.2 ~~11.8~~ acres (31% ~~25.7%~~) leaving 69 ~~74.3~~% open space (maximum impervious allowed is 50% in the M-2: General Industrial District).

As shown on the Storm Water Management Plan (Sheet C1.12 ~~8~~), the facility will be served by three (3) ~~two (2)~~ storm water retention basins. Two ~~One~~ basins are ~~is~~ located west of the building and primary driveway into the site and the second basin located in the northeast portion of the site. On-site storm sewers, catch basins, roof drains, ditching and swales will be used to divert run-off into the two basins.

[NOTE: there are multiple alternative paving options shown on Sheets C1.10 and C1.11, including an option for a crushed limestone aggregate surface course for the drive areas around the building and truck parking areas.]

Landscaping
A detailed landscaping plan (Sheet L1.0) shows landscape items comprised of evergreen , deciduous and ornamental trees, shrubs, perennials, and grasses installed at the primary driveway entrance, in landscaped medians in the parking lots around the south and east perimeter of the south parking lot and along the south side of the maintenance building. A low-level berm will be installed east of the parking area with additional evergreen trees to supplement and enhance the existing landscaping along County Line Road.

Existing chain link fencing around the existing Port-O-Let operation will be removed and replaced with new 6’ chain link fencing around the maintenance building and parking area for the waste removal/recycling trucks. Controlled gates will be installed at two points of entry/exit to the north parking area and maintenance building (Sheet X1.1).

Lighting. Exterior lighting of the site and SMT building will include:

- (33 ~~24~~) 249W 31,777 ~~102W 12,500~~ Lumen LED fixtures w/ 5000K “white” color mounted on 20’ poles and 2’5” concrete bases (22’6” max fixture mounted height) along the primary and secondary driveways, ~~and~~ within the parking areas and mounted on the building at a height of 25’ around the perimeter;
- ~~(10) 207W 25,500 Lumen LED fixtures w/ 4000K “white” color wall mounted on the building at a height of 25’;~~
- (9 ~~5~~) 249W 32,700 Lumen LED fixtures w/ 5000K “white” color mounted on 20’ poles and 2’5” concrete bases (22’6” max fixture mounted height) at the east end of the truss refueling systems and at the CNG compound and quick refueling

station in the north parking area;
- (68) 74W 10,500 Lumen LED fixtures surface mounted to the truss system at a height of 19';
- (7 ~~11~~) 29W 3,200 Lumen LED wall sconce fixtures mounted on the north, west and south elevations of the office building at a height of 12 feet.
- (3) 37W 5,240 Lumen LED ceiling fixtures mounted on the north elevation of the office building at a height of 8'6".

[NOTE: As a result of the fixtures changes noted above, the overall lighting levels increase along the driveways and in the parking lot over those that were previously approved.]

Signage
One (1) 6' high x 12' wide (72 sqft) wall sign is proposed on the side (west) façade of the office building facing the parking lot. The sign is comprised of aluminum plates surface mounted to the metal wall panel. No lighting is proposed. No other signage is proposed at this time. A separate sign permit will be submitted for a future monument sign along County Line Road.

Staff Comments
Consistency with Village's Land Use Plan & M-2 Zoning District.
The 2020 Land Use Plan map classifies this property as "Industrial/Office". The current zoning of the property (and adjacent WM parcels to the east) is M-2: General Industrial. The proposed truck maintenance facility can be allowed within the M-2 District with a conditional use permit (CUP) under Section 17.35(c) of the M-2 District regulations.

At the initial public hearing, Plan Commission members and staff expressed concern with potential site lighting, noise and odor associated with the new maintenance facility. As discussed, representatives for WM explained that no trash or recyclables will be kept on the maintenance facility site. WM also indicated that in the event that noise becomes a problem for the surrounding residential area (specifically the "beep-beep-beep" noise from truck-mounted backup alarms), they will replace the backup alarms with "white noise" warning devices. These commitments have been ~~should be~~ made part of any conditional use permit.

Site lighting is addressed as part of the site plan submittal. The lighting fixtures and associated levels are greater than those previously approved, but generally consistent with the Village's fixture requirements and recommended lighting levels for industrial uses/activities. *[NOTE: the previously-approved lighting plan had lower lighting levels.]* WM staff indicated that the LED fixtures proposed for the site will have the ability to be dimmed at non-activity times during the day. A more detailed plan for when and how lighting will be dimmed on the site has been included as a condition of approval in the CUP but not yet submitted ~~should be prepared and submitted~~ to the Village as part of the operational plan for the operation ~~and review and approval as a condition of approval~~.

As noted above, there are multiple alternative paving options shown on Sheets C1.10 and C1.11, including an option for a crushed limestone aggregate surface course for the drive areas around the building and truck parking areas. The Village Code requires bituminous concrete or concrete pavement on non-residential parking areas and drive lanes. The crushed aggregate alternative is not code compliant.

It has been pointed out that the Village of Menomonee Falls is the current provider of public water to the WM property and other existing buildings in their "complex" in Germantown. The Germantown Fire Department has been working cooperatively with WM and Menomonee Falls staff to ensure adequate water supply and pressure is provided to the proposed maintenance facility. As a result, WM will be replacing and installing new fire hydrants in and around the proposed facility. All parties agreed that a pressure testing will be done to ensure adequate fire flows are available.

Further, Menomonee Falls has maintenance jurisdiction over the segment of County Line Road east of STH145/Fond du Lac Avenue. The Village Engineer for Menomonee Falls has requested traffic counts projected for the maintenance facility operation at the time a driveway permit is request by WM. That traffic information will be used to determine what, if any, intersection and/or driveway improvements, e.g. turn-lanes, by-pass or acceleration lanes, may be required on County Line Road at either of the two driveway intersections.

The landscape plan is adequate except for the street tree requirement along County Line Road. While most of the trees proposed on the site are evergreen trees, additional deciduous trees are required to satisfy the street tree requirement. The landscape plan needs to be revised to address this deficiency. At a minimum, additional street trees in an amount equal to one (1) tree per 50 feet of road frontage shall be added to the plan and installed in addition to the site landscaping already shown in the landscape plan. Further, the landscape plan specifies 3" caliper White Spruce and Black Hills Spruce trees. Unlike deciduous trees, evergreen trees are typically discussed in terms of total height (vs. trunk caliper) under the Village's landscaping and street tree guidelines. A typical planted size of evergreen trees in Germantown is a minimum of 6-8 feet. If the 3" caliper evergreen trees that WM intends to install as shown on the landscape plan are, in fact, a minimum of 6'-8', nothing more needs to be done. However, if a 3" caliper evergreen tree is less than 6' in height, the landscape plan needs to be revised to reflect a minimum planted height of 6'-8' for evergreen trees.

~~An accessory use proposed for the facility is a 10,000 gal above-ground storage tank (AST) for diesel fuel used by the WM fleet as it transitions to a CNG-powered fleet over the next 5 years. In the M-2: General Industrial District, more than one AST over 5,000 gal capacity requires a conditional use permit and compliance with the Village's AST regulations under Chapter 11.071 of the Municipal Code. The proposed 10,000 gal AST needs to be added to the list of uses in any approved CUP for the proposed facility.~~

~~As discussed previously, WM intends to combine a number of adjacent parcels it owns pending approval of the CUP and Site Plans. While not required in order to commence~~

~~site preparation and development, WM should be required to file a certified survey map (CSM) for purposes of combining their parcels within (90) days after Village Board action on the CUP application.~~

The WM site contains wetlands on the west side of the property associated with the navigable Nor-X-Way Channel that meanders through the wooded area north and west of the proposed facility. An updated wetland delineation has been submitted that indicates ~~is required for the property to ensure site~~ development does not encroach into any wetland or the Village's 25' wetland setback. As shown on the site plans, development is proposed in a manner that does not come close to, much less encroach into, the wetland areas as previously identified by the WisDNR. ~~Nonetheless, a delineation is needed and should be required to be prepared and submitted to the Village within (90) days after Village board action on the CUP (if approved).~~

Finally, WM has provided a clarification to information provided at the February 11 2019 public hearing regarding the CNG operation. At that time it was stated that the CNG to be used on the property did not contain the same odorant found in gas supplied to homes and businesses. At this time WM indicates the CNG used at this facility will contain the same odorant.

Inspection Services

Inspection Services has indicated that the submission of state-approved plans will be required prior to issuing a building permit along with the required $20,000 occupancy bond.

Fire Department/Police Department

The Fire Department has been working cooperatively with WM regarding the issues of providing adequate fire flow and hydrants to the site. The Fire Department is recommending approval of the project subject to the following additional requirements not already reflected in the plans:

1. The existing Knox Box shall be relocated to a mutually-agreeable location approved by the Germantown Fire Department;
2. The maintenance building and office will require fire sprinkler protection per IBC 903.2.9.1;
3. The Fire Department Connection (FDC) location shall be approved by the Germantown Fire Department;
4. A new main gate shall be installed at the southeast corner of the fenced area on the south side of the maintenance parking lot;
5. State approval is required for the 10,000 gal above-ground diesel fuel storage tank.

All exterior doors (except primary entrance) shall be clearly marked with reflective 5" or larger letters/numbers to aid emergency personnel access as required by the Police Department.

Engineering

The Village Public Works Department staff has identified a number of technical issues, plan corrections and code-based requirements that need to be addressed and/or incorporated into the site development and building plans. (see March 24, 2020 ~~February 12, 2019 Village Engineer~~ memo). ~~WM has responded to these items in a March 1, 2019 letter and revised plans and supplemental information. WM's responses contained in their March 1, 2019 letter should be made conditions of approval for the Site Plans.~~

Village Forester

The Village Forester has recommended the following landscape plan revisions:

- Replace White Spruce with Norway Spruce. Norway spruce is much less susceptible to needle cast diseases that affect spruce species;
- Replace Balsam Fir with Concolor Fir. Balsam Fir is a much more northern species that does not perform well in southeastern Wisconsin.

Village Planner Recommendation:

Conditional Use Permit

APPROVE a conditional use permit (CUP) for Waste Management of WI (WM), property owner to develop and operate a 29,760 ~~35,035~~ sqft truck maintenance facility from the property located at N96 W13840 County Line Road subject to (7) conditions:

1. The uses and activities allowed on the property shall be limited to those uses and activities and relative locations specified in the conditional use permit (CUP) and site plan application materials dated January 4, 2019, and supporting documents including a February 11, 2019 letter from Lynn Morgan, and a March 1, 2019 letter from Diversified Engineering Inc. The physical facilities from which said uses and activities are permitted include those as presented in the detailed site development and building plans dated February 28, 2020 ~~March 1, 2019~~. Days and hours of operation shall be limited to those specified in the CUP application and supporting materials submitted to the Village. This permit shall Include the right to install and use a 10,000 gal above-ground storage fuel tank (AST) to be installed on the site.
2. All temporary and permanent exterior signs require a permit and shall comply with all current sign regulations. Off-premise advertising and directional signage is regulated by the Village and requires a permit if/when allowed.
3. In the event the Village receives complaints regarding noise negatively affecting the nearby residential areas that is coming from the truck maintenance facility operation, including but not limited to noise from truck-mounted backup alarms, WM will cooperate with the Village in resolving the issue. WM has indicated that they will replace the backup alarms with “white noise” warning devices if this noise becomes a problem.
4. The LED fixtures proposed for installation and use on the building and site have the ability to be dimmed at no or low activity periods during the day. WM shall provide a mutually-agreeable schedule or plan detailing when and to what lighting levels the building and/or site lighting will operate and be dimmed on the site should be prepared and submitted to the Village as part of the operational plan. In the event the Village receives complaints regarding light and/or glare coming from the truck maintenance facility site that is not Village Code compliant or becomes public nuisance negatively affecting the nearby residential areas, WM will cooperate with the Village in resolving the issue.
5. No trash, recyclables or other waste material that may create an odor negatively affecting the nearby residential areas shall be kept on the property or in the waste removal/recycling trucks stored on the property.
6. If the use, activities and/or operation subject of this permit falls out of conformity with the conditions herein, or where there is a change in the nature, character, intensity or extent of the permitted conditional uses and activities which cause special problems or harmful effects associated with the permitted uses and activities that were not revealed or anticipated at the time this CUP was granted, or, where conditions imposed by this CUP that were anticipated to mitigate or eliminate harmful effects associated with the uses and activities but are subsequently insufficient to do so, or, for similar cause based upon consideration for the public comfort, safety, and welfare, this conditional use permit may be terminated or modified by the Village Board by the amendment to or addition of conditions after public hearing thereon.

Village Planner Recommendation:
Conditional Use Permit *(cont)*

~~7. WM intends to combine a series of adjacent parcels pending approval of the CUP and site development and building plans. WM shall file the certified survey map (CSM) for purposes of combining their parcels within (90) days after Village Board approval of this CUP.~~

~~8. WM shall prepare and submit to the Village an updated wetland delineation for the property to ensure site development does not encroach into any wetland or the Village's 25' wetland setback. The CSM shall be submitted to the Village within (90) days after Village Board approval of this CUP.~~

7. WM indicated at the February 11, 2019 public hearing that the compressed natural gas (CNG) to be stored and dispensed on the property does not contain the same odorant found in gas supplied to homes and businesses. WM shall ensure that the storage and use of CNG at this facility does not create an odor or safety issue affecting employees on the site or residents and property owners in the surrounding area.

VILLAGE PLANNER RECOMMENDATION:

Site Development & Building Plans

APPROVE the site development and building plans for a 29,760 ~~35,035~~ sqft truck maintenance facility from the property located at N96 W13840 County Line Road subject to (11) conditions:

1. This approval is subject to all the conditions and requirements set forth herein and adopted by the Plan Commission. Approval is granted for the architectural and engineering plan set dated February 28, 2020 ~~March 1, 2019, and the site plan application materials dated January 4, 2019,~~ and supporting documents including a February 11, 2019 letter from Lynn Morgan, and a March 1, 2019 letter from Diversified Engineering Inc., unless superseded by subsequent plan sheets approved by the Village Planner or Engineer pursuant to revisions required herein and/or by the Plan Commission.
2. All landscaping, screening, grading, paving, storm water management, utility and other improvements that are not fire-safety related as shown on the approved site plans shall be installed as proposed prior to issuance of an occupancy permit unless a cash bond or letter of credit in an amount equal to 120 percent of the estimated installation and material costs reviewed and approved by the Village is submitted to the Village as necessary to ensure that installation of the proposed features and improvements will be completed within one (1) year after issuance of the occupancy permit.
3. The following items shall be provided as required by the Village Fire Department: (a) a Knox Box shall be located and installed to a mutually-agreeable location approved by the Germantown Fire Department; (b) the maintenance building and office will require fire sprinkler protection per IBC 903.2.9.1; (c) the Fire Department Connection (FDC) location shall be approved by the Germantown Fire Department; (d) a new man gate shall be installed at the southeast corner of the fenced area on the south side of the maintenance parking lot at a mutually-agreed to location and design with the Germantown fire Department; (e) State approval is required for the 10,000 gal above-ground diesel fuel storage tank.
4. All exterior doors (except primary entrance) shall be clearly marked with reflective 5” or larger letters/numbers to aid emergency personnel access as required by the Police Department.
5. All technical issues, corrections and plan requirements identified by the ~~Village Engineer and~~ Public Works Department staff (see March 24, 2020 February 12, 2019 Village Engineer memo) shall be addressed and reflected in revised plans and/or supplemental information reviewed and approved by Village staff prior to issuance of a building permit (excluding “early start” site clearing and footing/foundation work approved by the Village and/or WI DSPS).
6. WM shall cooperate with the Germantown Fire Department and Menomonee Falls engineering and water utility to ensure adequate water supply and fire flow pressure is provided to the proposed maintenance facility, including conducting pressure testing. WM shall install new fire hydrants and/or other water system improvements required by Menomonee Falls.
7. State approved plans and a $20,000 occupancy bond are required by the Building Inspection Department as part of the building permit application.

VILLAGE PLANNER RECOMMENDATION:

Site Development & Building Plans *(cont.)*

~~8. WM shall prepare and submit to the Village an updated wetland delineation for the property to ensure site development does not encroach into any wetland or the Village's 25' wetland setback. The CSM shall be submitted to the Village within (90) days after Village Board approval of the CUP. In the event development encroaches into a wetland or 25' wetland setback, WM shall obtain the necessary WisDNR and Village permits, or, modify the site development accordingly.~~

~~9. All landscaping, screening, grading, paving, storm water management, utility and other improvements that are not fire-safety related as shown on the approved site plans shall be installed as proposed prior to issuance of an occupancy permit unless a cash bond or letter of credit in an amount equal to 120 percent of the estimated installation and material costs reviewed and approved by the Village is submitted to the Village as necessary to ensure that installation of the proposed features and improvements will be completed within one (1) year after issuance of the occupancy permit.~~

8. WM shall revise the landscape plan to address the Village's street tree requirements. At a minimum, additional street trees in an amount equal to one (1) tree per 50 feet of road frontage of the existing Port-O-Let parcel shall be added to the plan and installed in addition to the site landscaping already shown in the landscape plan.
9. WM shall cooperate with the Menomonee Falls engineering and highway departments to ensure adequate road and intersection capacity and level of service is provided to the proposed maintenance facility and adjacent road system, including the driveway intersections onto County Line road and the Fond du Lac Ave/STH145 intersection. WM shall install and/or contribute to the cost of all road and intersection improvements deemed necessary as a result of or contribution of traffic generated to/from the proposed truck maintenance facility as required by the Menomonee Falls Village Engineer.
10. The paving options shown on Sheets C1.10 and C1.11 include an option for a crushed limestone aggregate surface course for the drive areas around the building and truck parking areas. The Village Code requires bituminous concrete or concrete pavement on non-residential parking areas and drive lanes. The crushed aggregate alternative shall not be installed. WM shall consult with the Village Engineer to investigate acceptable alternative paving options prior to installation of the parking areas and drive lanes if necessary.
11. The landscape plan shall be revised as recommended by the Village Forester to: (a) replace White Spruce with Norway Spruce; and (b) replace Balsam Fir with Concolor Fir.

Engineering Department Memorandum

To : Jeffrey W. Retzlaff, AICP, Planning Director/Zoning Administrator

From : Lawrence Ratayczak, P.E., Director of Public Works

Date : March 24, 2020

Re : Waste Management – Truck Maintenance Facility

Items Reviewed:

1. Civil Plan Set C1.0 – C3.2 (27 pages) Dated: 02-28-20

General Comments:

1. Please respond to each item below. **A written response addressing each item shall be included in your submittal**.
2. The submitted plans have been reviewed for general conformance with State and Village design guidelines. Additional comments could arise as a result of the plan completion and modifications. The items listed below will need to be fully resolved before the Engineering Dept. can recommend a formal approval of the plans and permit for construction.
3. This project will require a WRAPP/NOI from the DNR. Please submit a copy of the approved permit prior to final approval.
4. The project will require DSPS plumbing a review and approval. Please provide a copy of the DSPS approval prior to engineering approval.
5. Please provide a copy of the wetland delineation for the site.
6. As-builts prepared to Village standards shall be prepared and provided to the Village post-construction (for all applicable items).
7. A professional engineer's original seal is to be affixed, signed and dated on the final set of construction plans.
8. Contact Ryan Ehlerding, 262-250-4723 for a utility permit.
9. As a guide to the review response: Items in *italics* are resolved or acknowledged, items in regular font are to be addressed yet, items in **Bold** are additional feedback to remaining original comment.

Wastewater Utility Comments

1. Plans show new sanitary tying in to Menomonee Falls sewer on County Line Rd. if that is the case, existing laterals for the former Port- o- Let site and the former Engineering services Building need to be abandoned per Germantown standards at the main.

C1.3 Site Improvements Plan

1. It appears there are a number of separate parcels including some public right of way. Will these parcels be combined for this development?

C1.5 Site Grading Plan

2. Provide additional spot elevations in the ditches, specifically at the high and low points.
3. The plan has large portions of parking lots sheet flowing off the edge of the pavement. How will erosion be controlled at the edge of these parking lots to ensure erosion is not an on-going issue?

C1.6 Enlarged Site Grading Plan

1. ADA parking spaces appear to be over the 2% max slope. Provide additional spot elevations showing the 2% slope requirement is met.

C1.7 Site Utility Plan

1. Add invert elevation to Culvert pipes

C3.2 Stormwater Management Note and Details

1. Provide an erosion control plan showing the locations of the erosion control BMP's. Inlet protection, erosion matting, silt fence, etc.
2. Provide erosion control notes that match WDNR guidance. Specifically construction sequence, inspection and reporting requirements, late season stabilization requirements, etc.

Stormwater Management Plan

1. The report references sheet C1.12 for the subbasins. I believe this should reference C3.0.
2. Please provide a plan sheet showing the basins on the existing site as well as the proposed site.
3. Turf grass and lawn areas of the site should be modeled as open space with good grass cover (CN 74)
4. Show Time of concentration path on the existing site conditions. Generally I would expect longer Tc times for the existing condition, but it's difficult to determine how they where calculated.
5. Provide additional information on the rainfall intensity and Tc used for the storm sewer calculations. Storm sewer system 1 would like have a Tc time of 5 minutes and 10 year intensity of 7.14 in/hour.
6. Critical time period should start at 11.75 hours.
7. Provide volumetric data for sub-basin 1 as well as the site as a whole.
8. Provide numeric hydrographs showing the volume over the critical time.
9. Provide water quality calculations using WinSLAMM or other WDNR approved method showing the site as a whole meets the 80% requirement.
10. Provide hydraulic model inputs and hydrograph printouts

Village of Germantown Willkommen

Fee must accompany application

- [x] $700 Minor Addition
- [ ] $1,240 Construction <10,000 SF
- [ ] $2,095 Construction 10,000 SF to 50,000
- [ ] $3,460 Industrial Construction >50,000 SF
- [ ] $3,460 Commercial Construction >50,000
- [ ] $200 Plan Commission Consultation
- [ ] $125 Fire Department Plan Review

PAID [signature] DATE 3-3-20

SITE PLAN REVIEW APPLICATION

Pursuant to Section 17.43 of the Municipal Code

Please read and complete this application carefully. All applications must be signed and dated.

1 APPLICANT OR AGENT

Diversified Engineering Inc.
Nick Berner, P.E.

175 Ray Ave. NE
New Philadelphia, OH 44663

Phone (330) 364-1631
E-Mail nberner@div-eng.com

PROPERTY OWNER

Waste Management of Wisconsin Inc.
Donald Smith, P.E.

W132 N10487 Grant Dr.
Germantown, WI 53022

Phone (262) 250-8700
E-Mail dasmith@wm.com

2 PROPERTY ADDRESS

N96 W13840 County Line Rd. Germantown, WI 53022

3 NEIGHBORING USES – Specify name and type of use, e.g. Enviro Tech – Industrial, Smith – Residential, etc.

North	South	East	West
See Attached - ADJACENT PARCEL ZONING			

4 READ AND INITIAL THE FOLLOWING:

DAS I am aware of the Village of Germantown ordinance requiring fire sprinklers in most new construction.

DAS I understand that all new development is subject to Impact and/or Connection Fees that must be paid before building permits will be issued.

DAS I understand that an incomplete application will be withdrawn from the Plan Commission agenda and that all resubmissions to the Plan Commission are subject to a new application fee.

5 SIGNATURES – ALL APPLICATION MUST BE SIGNED BY OWNER!

[signature] 2/28/20 — Applicant — Date
Nick Berner

[signature] 2/28/20 — Owner — Date

Village of
Germantown
...Willkommen

Fee must accompany application

☐ **$1460** Paid _____ Date_____

CONDITIONAL USE PERMIT APPLICATION

Pursuant to Section 17.42 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 APPLICANT OR AGENT

Diversified Engineering Inc.
Nick Berner, P.E.

175 Ray Ave. NE
New Philadelphia, OH 44663

Phone (330)364-1631
Fax (330)364-4031
E-Mail nberner@div-eng.com

PROPERTY OWNER

Waste Management of Wisconsin Inc.
Donald Smith, P.E.

W132 N10487 Grant Dr.
Germantown, WI 53022

Phone (262)250-8700
dasmith@wm.com

2 TO WHOM SHOULD THE PERMIT BE ISSUED?

Waste Management of Wisconsin, Inc.

3 PROPERTY ADDRESS / TAX KEY NUMBER

PROPERTY ADDRESS	TAX KEY NUMBER
N96 W13840 County Line Rd. Germantown, WI 53022	363996 & 363986

4 DESCRIPTION OF EXISTING OPERATION

Briefly describe the use as it exists today, including use, size, number of employees, hours of operation, etc. If this permit involves new construction, describe the current status of the property, e g "vacant." Use additional pages as necessary.

Tax Key 363996: Currently occupied by WM Port-o-let division garage, office and storage area (approximately 8.15 ac.).

Tax Key 363986: Currently occupied by WM Orchard Ridge Gas to Electric Power Plant , Industrial Pretreatment Plant and WM Healthcare Solutions building (approximately 35.63 ac.)

5 DESCRIPTION OF PROPOSED OPERATION

Write the name of the proposed conditional use exactly as it appears in the Municipal Code

Germantown, WI Municipal Code, Chapter 17.34 - M-2 General Industrial District, Section 3

Describe the proposed use, including size, number of employees, hours of operation and extent of any new construction/alterations

Conditional use permit requested for development of parcels 363996 and 363986. Proposed development includes the construction of a Waste Management Truck Maintenance Facility (240'x100') and office space (60'x96'). Hours of operation are anticipated to be 3:30am- midnight, M-F and 5am-noon, Saturday. The facility is anticipated to serve 100 employees during first shift/day shift, and approximately 10 during second shift.

6 METES AND BOUNDS LEGAL DESCRIPTION OF PROPERTY – REQUIRED

Attach pages as necessary

Tax key 363986: Lot 2- CSM4247 V28 P30 PT of SW V1013 P676 SEC 36-9-20 8.15 ac.

Tax key 363986: PT NW SW V747 P264 PT SOLD SEC 36-9-20

See attached CSM 4247 and Deed and exclusion for 363986

7 SUPPORTING DOCUMENTATION:

- ☐ Site Plan and elevations for new construction (can be conceptual)
- ☐ Photos of existing use and/or proposed use operating elsewhere
- ☐ _____
- ☐ _____

8 READ AND INITIAL THE FOLLOWING:

DAS I understand that the Village is under no obligation to issue a Conditional Use Permit and will do so only if the applicant successfully demonstrates that the proposed use is harmonious with the neighborhood and the long range goals of the Village.

DAS I will notify the Village if any aspects of the conditional use changes. I understand that failure to do so may result in the revocation of the CUP.

DAS I understand that a Conditional Use Permit is valid only if the conditions and restrictions of the permit are met. I understand that failure to comply with any aspect of the permit may result in revocation.

DAS I understand that Village Staff is required to post one or more signs along the street frontage of and/or on the property subject of this application that indicate to nearby property owners and the general public that a public hearing of my application will be held before the Village Plan Commission and/or Village Board prior to action being taken on this application; I hereby grant Village Staff permission to enter onto the property for the expressed purpose of installing said sign(s) provided Village Staff is responsible for installing, maintaining and removing said signs in a reasonable manner and timeframe.

9 SIGNATURES – ALL APPLICATIONS MUST BE SIGNED BY OWNER!

Applicant 2/28/20 Date

Nick Berner

Owner DWA Smith 2/28/20 Date

Donald A. Smith

Diversified Engineering Inc.
CONSULTING ENGINEERS & SURVEYORS

February 28, 2020

Design Narrative

Project: Waste Management – Germantown Truck Maintenance Facility

The Germantown Truck Maintenance Facility will be a 29,760 square foot pre-engineered metal building located at parcel 363986 & 3639896. The facility will serve as a new CNG compliant facility for existing operations and staffing at the Waste Management Menomonee Falls Facility.

The building will be divided into two structures of differing eaves and use groups with a dividing masonry unit fire wall. The western portion of the facility will be a single-story 5,760 square foot office, 15' eave, consisting of 6 office spaces and 4 cubicles, serving a maximum daily staff of 11. The office space also incorporates locker rooms and launch areas to serve 120-130 drivers/technicians.

The eastern portion of the building will serve as a 24,000 square foot, 28' eave, CNG compliant maintenance facility. The space is designed to operate 14 maintenance bays and a pull through wash bay split by a parts/tools and vital equipment storage space. The building will be equipped with necessary monitoring systems, automated alarms and air change units per CNG code compliance.

The structure has been designed to match the surrounding campus of various industrial buildings owned and operated by Waste Management. Most notably in design materials, color pallet and façade. Additional design considerations have been incorporated with intent of improving site safety and appearance as well as minimize operational noise.

The building has been set approximately 500 feet north from County Line Rd, to allow the existing dilapidated structure and staging area to be removed and replaced. The proposed design incorporates additional green space, landscaped berms and tree lined employee parking area in the place of the existing structure and storage areas. The landscaping berm has been set back from County Line Rd approximately 80-90 feet to allow for additional visibility for on-coming maintenance vehicle traffic.

Maintenance vehicle parking has been located at the north end of the parcel with a dedicated drive to the northeast connecting to the existing drive along the eastern edge of the property. The parking area has been designed to incorporate back in spaces to reduce noise during morning vehicle launches, by ensuring vehicles first move is forward. The dedicated drive to the northeast allows for vehicles to access County Line Rd at an existing pronounced intersection that features added sight distance.

Though this site has been previously approved, there have been some minor design changes to both the site and the building footprint. We have reduced the footprint of the office from 9,750 sf to 5,760 sf (-3,990 sf), reduced the footprint of the shop from 25,000 sf to 24,000 sf (-1,000 sf), increased the truck parking area from 100 to 130 (+30 spaces), and changed the parking area from 159/7hc to 160/5hc (+1/-2hc spaces). The main cause of the reduction was the relocation of 30 office/sales personnel to the existing Germantown building off Grant Rd. In addition to the reduced building, the truck parking was adjusted per the conditional use permit to enforce truck back-up operations to the east.

Sincerely,

Nicholas J. Berner, P.E.
Project Manager

175 Ray Ave. N.E. New Philadelphia, OH 44663 - Phone: 330-364-1631 - Fax: 330-364-4031 - Email: dei@div-eng.com

CUP #04 – 19 Document No.	CONDITIONAL USE PERMIT Document Title

Document # 1471475
WASHINGTON COUNTY WISCONSIN
05-10-2019 01:52 PM
Sharon A. Martin
SHARON A MARTIN
WASHINGTON COUNTY
REGISTER OF DEEDS
Fee: $30.00

Pages: 4

VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN
CONDITIONAL USE ZONING PERMIT

Whereas the Applicant:

Waste Management of Wisconsin, Inc., Property Owner

agrees to comply with applicable Codes and Ordinances of the Village of Germantown, Wisconsin, and further agrees that all work done pursuant to the permission granted herewith will conform with the applications and drawings filed with and approvals granted by officials of the Village for the purpose of obtaining this permit.

Now, therefore, this permit is issued to the Applicant to permit the construction and operation of a Truck Maintenance Facility pursuant to Section 17.34(3)(c) and the installation and use of a 10,000 gal above-ground fuel storage tank pursuant to Section 17.34(3)(b) of the Village's Zoning Code.

4

Name & Return Address:
Village of Germantown
P.O. Box 337
Germantown, WI 53022

Parcel Identification No:
GTNV 363-996 & 363-986

On the following described property located in the Village of Germantown, Washington County, Wisconsin:

N96 W13840 County Line Road (Tax Key: GTNV 363-996)
Lot 2 of Certified Survey Map No. 4247 in the SW ¼ of the SW ¼ of Section 36, Town 9 North, Range 20 East, in the Village of Germantown, Washington County, Wisconsin, containing approximately 8.15 acres.

N96 W13600 & W13640 County Line Road (Tax Key: GTNV 363-986)
All that part of the Southwest ¼ of Section 36 Township 9 North, Range 20 east, Village of Germantown, Washington County Wisconsin, bounded and described as follows: COMMENCING at the West ¼ corner of the said Section 36; thence N88013'49.7" E, along the North Line of the said SW ¼ Section 36 684.747 feet to the point of beginning of this description; thence continuing along the said North line, 845.663 feet; thence S 01°45' 50.53" E, 1241.501 feet; thence South 87°54'15.49" W, 79.981 feet; thence S 01°45' 50.53" E, 1400.00 feet to a point on the South Line, 263.23 feet; thence N 2°05'44.2" W, 363.00 feet; thence S 87°54'15.77" W and parallel to the said South Line, 120.00 feet; thence S 2°05'44.2"E, 363.00 feet to a point on the said South Line; thence S 87°54'15.77" W, 79.49 feet; thence N 01°26'25.02" W, 660.00 feet to the point of beginning of this description and containing approximately 35.63 acres.

Pursuant to the following condition(s):

1. The uses and activities allowed on the property shall be limited to those uses and activities and relative locations specified in the conditional use permit (CUP) and site plan application materials dated January 4, 2019, and supporting documents including a February 11, 2019 letter from Lynn Morgan, and a March 1, 2019 letter from Diversified Engineering Inc. The physical facilities from which said uses and activities are permitted include those as presented in the detailed site development and building plans dated March 1, 2019. Days and hours of operation shall be limited to those specified in the CUP application and supporting materials submitted to the Village. This permit shall Include the right to install and use a 10,000 gal above-ground storage fuel tank (AST) to be installed on the site.
2. All temporary and permanent exterior signs require a permit and shall comply with all current sign regulations. Off-premise advertising and directional signage is regulated by the Village and requires a permit if/when allowed.
3. In the event the Village receives complaints regarding noise negatively affecting the nearby residential areas that is coming from the truck maintenance facility operation, including but not limited to noise from truck-mounted backup alarms, WM will cooperate with the Village in resolving the issue. WM has indicated that they will replace the backup alarms on the existing fleet of vehicles prior to operating from the County Line property with low impact (e.g. "white noise" or other alternative) backup warning devices ~~if this noise becomes a problem~~. Said devices shall be added to/replaced on new vehicles added to the fleet within thirty (30) days after operation from the property. WM shall re-evaluate the design and orientation of the truck parking stalls in the north parking lot to reduce the amount and duration of truck backing when driving into, from and within the facility to the extent practical. Any revisions to the parking lot plan shall be presented in a revised site plan to the Village Planner and Village Engineer for review and approval prior to construction of the parking lot.
4. The LED fixtures proposed for installation and use on the building and site have the ability to be dimmed at no or low activity periods during the day. WM shall provide a mutually-agreeable schedule or plan detailing when and to what lighting levels the building and/or site lighting will operate and be dimmed on the site should be prepared and submitted to the Village as part of the operational plan. In the event the Village receives complaints regarding light and/or glare coming from the truck maintenance facility site that is not Village Code compliant or becomes public nuisance negatively affecting the nearby residential areas, WM will cooperate with the Village in resolving the issue.
5. No trash, recyclables or other waste material that may create an odor negatively affecting the nearby residential areas shall be kept on the property or in the waste removal/recycling trucks stored on the property.
6. If the use, activities and/or operation subject of this permit falls out of conformity with the conditions herein, or where there is a change in the nature, character, intensity or extent of the permitted conditional uses and activities which cause special problems or harmful effects associated with the permitted uses and activities that were not revealed or anticipated at the time this CUP was granted, or, where conditions imposed by this CUP that were anticipated to mitigate or eliminate harmful effects associated with the uses and activities but are subsequently insufficient to do so, or, for similar cause based upon consideration for the public comfort, safety, and welfare, this conditional use permit may be terminated or modified by the Village Board by the amendment to or addition of conditions after public hearing thereon.

7. WM intends to combine a series of adjacent parcels pending approval of the CUP and site development and building plans. WM shall file the certified survey map (CSM) for purposes of combining their parcels within (120) days after Village Board approval of this CUP.
8. WM shall prepare and submit to the Village an updated wetland delineation for the property to ensure site development does not encroach into any wetland or the Village's 25' wetland setback. The wetland delineation shall be submitted to the Village within (90) days after Village Board approval of this CUP.

Granted by the Village Board of the Village of Germantown, Washington County, Wisconsin on the 18 day of March, 2019.

Dean Wolter, Village President

ATTEST:

Deanna Braunschweig
Deanna Braunschweig, Village Clerk

STATE OF WISCONSIN) SS
WASHINGTON COUNTY)
Personally came before me this 19 day of March, 2019, the above named Dean Wolter, Village President, and Deanna Braunschweig, Village Clerk, to me known to be the persons who executed the foregoing instrument and acknowledged the same.

Ben Hubrich
{type or print name of Notary on this line}

Ben Hubrich
{signature of Notary on this line}

Notary Public, State of Wisconsin
My Commission Expires: 5/25/2021

NOTARY PUBLIC BEN HUBRICH STATE OF WISCONSIN

ACCEPTANCE OF TERMS AND CONDITIONS BY OPERATOR

I, DONALD A. SMITH, representing Waste Management of Wisconsin, Inc., hereby accept the terms and conditions set forth in this Permit, and realize that non-adherence to the terms and conditions as stated hereon may result in the revocation of this Permit by the Village of Germantown.

Dated this 6th day of MAY, 2019

DONALD A. SMITH, ENGR. MNGR
{type or print name on this line}

DAS
{signature on this line}
Agent for Waste Management of Wisconsin, Inc., ~~Property Owner~~

STATE OF WISCONSIN) SS
WASHINGTON COUNTY)

Personally came before me this 6th day of MAY, 2019, being the above named DONALD A. SMITH, to me known to be the person who executed the foregoing instrument and acknowledged the same.

RENEE POHLAND
{type or print name of Notary on this line}

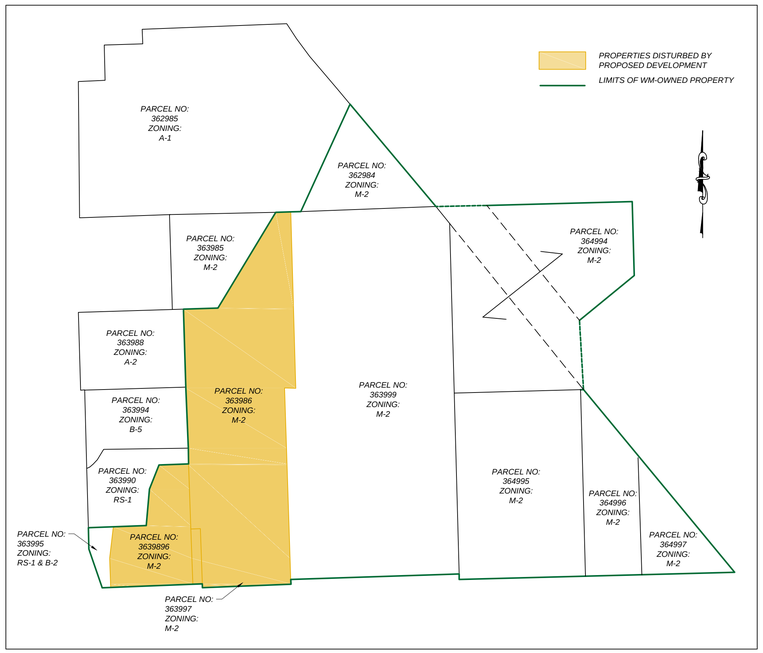
{signature of Notary on this line}
Notary Public, State of Wisconsin
My Commission Expires: 1/27/21

This instrument was drafted by:
Jeffrey W. Retzlaff, AICP
Director, Community Development Department
Village of Germantown, Wisconsin

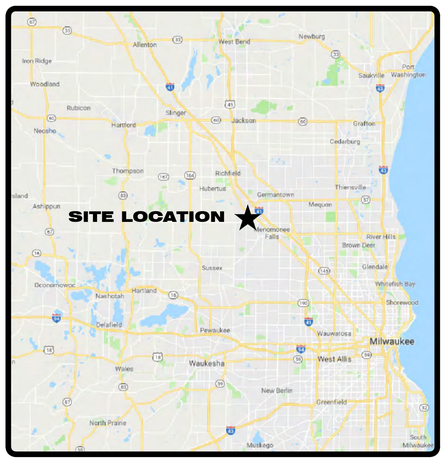
PLANS FOR:

WASTE MANAGEMENT TRUCK MAINTENANCE FACILITY

N96 W13840 COUNTY LINE RD.
GERMANTOWN, WI 53022



ADJACENT PROPERTY ZONING MAP:
SCALE: 1" = 500'



LOCATION MAP

SITE MAP
SCALE: 1" = 200'

ISSUED FOR PERMIT 02/28/2020

PROJECT CONTACTS:

CIVIL ENGINEER:

Diversified Engineering Inc.
CONSULTING ENGINEERS & SURVEYORS

DIVERSIFIED ENGINEERING INC.
NICK BERNER, P.E.
175 RAY AVE NE
NEW PHILADELPHIA, OH 44663
PHONE: (330) 364-1631
EMAIL: nberner@div-eng.com

OWNER:

WM
WASTE MANAGEMENT

WASTE MANAGEMENT OF WISCONSIN, INC.
DONALD SMITH, P.E.
W132 N10487 GRANT DR.
GERMANTOWN, WI 53022
PHONE: (262) 250-8700
EMAIL: dasmith@wm.com

SITE INFORMATION:

PARCEL NO 1:		PARCEL NO. 2:		FEMA:	
TAX KEY	GTNV_363996	TAX KEY	GTNV_363986	COMMUNITY NUMBER:	550472
ZONING	M2	ZONING	M2	PANEL #:	0379
TOTAL ACREAGE	8.15 AC.	TOTAL ACREAGE	35.63 AC.	SUFFIX:	D
				DATE OF FIRM:	11/20/2013
				FIRM ZONE:	A
				BFE:	769 FT.

BENCHMARKS:

WASHINGTON COUNTY BENCH MARK NO.	102
DATUM:	NATIONAL GEODETIC VERTICAL DATUM OF 1929
ELEVATION:	766.809
DETAILED DESCRIPTION:	BENCHMARK 102 IS A CHISELED SQUARE SET IN THE TOP OF THE EASTERLY 60-INCH-DIAMETER CONCRETE CULVERT PIPE

LEGAL DESCRIPTION:

PARCEL NO. 1: (363996)
LOT 2 - CSM4247 V28 P30 PT OF SW SW V1013 P676 SEC 36-9-20 8.15 AC.

PARCEL NO. 2: (363986)
PT NW SW V747 P264 EXC PT SOLD SEC 36-9-20

DRAWING INDEX:

GENERAL		**CIVIL (cont.)**	
G1.0	COVER	C2.5	STORM SEWER NOTES & TYPICAL DETAILS
		C3.0	STORM WATER MANAGEMENT DRAINAGE MAP
CIVIL		C3.1	STORM WATER MANAGEMENT PLAN
C1.0	SYMBOLS LEGEND & GENERAL NOTES	C3.2	SWM NOTES & TYPICAL DETAILS
C1.1	EXISTING CONDITIONS PLAN		
C1.2	SITE DEMOLITION PLAN	**LANDSCAPING**	
C1.3	SITE IMPROVEMENT PLAN	L1.0	SITE LANDSCAPING PLAN
C1.4	ENLARGED SITE IMPROVEMENT PLAN	L2.0	LANDSCAPING DETAILS
C1.5	SITE GRADING PLAN		
C1.6	ENLARGED SITE GRADING PLAN	**EXHIBITS**	
C1.7	SITE UTILITY PLAN	X1.0	SITE PHOTOMETRIC PLAN
C1.8	SITE SANITARY PLAN AND PROFILE	X1.1	SITE FENCING EXHIBIT
C1.9	SITE WATER PLAN AND PROFILE	X1.2	SITE SNOW REMOVAL EXHIBIT
C1.10	HARD SURFACE KEY PLAN BASE BID	X1.3	SITE ZONING MAP
C1.11	HARD SURFACE KEY PLAN ALT BID	X2.0	EROSION CONTROL PLAN - PHASE I
C1.12	SITE STORM SEWER OVERALL PLAN	X2.1	EROSION CONTROL PLAN - PHASE II
C1.13	STORM SEWER PLAN & PROFILE	X2.2	EROSION CONTROL PLAN - PHASE III
C1.14	STORM SEWER PLAN & PROFILE	X2.3	EROSION CONTROL PLAN - PHASE IV
C1.15	WEST WET POND PLAN	X2.4	EROSION CONTROL PLAN - PHASE V
C1.16	NORTH WET POND PLAN		
C1.17	WET POND DETAILS	**ARCITECTUAL**	
C2.0	GENERAL DETAILS	A1.0	EXTERIOR ELEVATIONS
C2.1	GENERAL DETAILS	A1.1	OVERALL FLOOR PLANS
C2.2	SANITARY NOTES & TYPICAL DETAILS	A1.2	ENLARGED FLOOR PLAN (MAINTENANCE BAYS)
C2.3	WATERLINE NOTES & TYPICAL DETAILS	A1.3	ENLARGED FLOOR PLAN (OFFICE)
C2.4	WATERLINE NOTES & TYPICAL DETAILS	A1.4	CNG TRUSS STRUCTURE TYPICAL DETAIL

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WASTE MANAGEMENT
PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI
SHEET TITLE: COVER SHEET

SHEET NO: G1.0
JOB NO: ENG-1465

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ABBREVIATIONS

R/W	- Right-of-Way
P/L	- Adjoiner Property Line
℄	- Centerline
P.O.B.	- Place/Point of Beginning
P.O.C.	- Place/Point of Commencement
Rad	- Radius
Arc	- Arc Length
α	- Delta Angle
ChL	- Chord Length
ChB	- Chord Bearing
Calc.	- Calculated
Msd.	- Measured
Dd.	- Deed
(Record)	- Actual
N.R.D.	- No Recorded Distance
F.F.E.	- Finished Floor Elevation
CMP	- Corrugated Metal Pipe
DI	- Ductile Iron
HDPE	- High Density Polyethylene
PVC	- Polyvinyl Chloride
RCP	- Reinforced Concrete Pipe
VCP	- Vitrified Clay Pipe

LINEWORK

- Guardrail
- Fence (As Noted)
- Wood Fence (As Noted)
- Steel Fence (As Noted)
- Sanitary Sewer
- Storm Sewer
- Water Line
- Underground Gas Pipeline
- Underground Electric
- Underground Lighting
- Underground Telephone
- Underground Cable T.V.
- Underground Fiberoptics
- Overhead Utilities
- Gravel Area
- Concrete Area
- No Parking Area
- Building Area
- 1' Elevation Contour
- 5' Elevation Contour

STANDARD/ROADWAY

- Iron Pin Set
- Drill Hole or Railroad Spike Set
- Iron Pin Found
- Iron Pipe Found
- Monument Found as Noted
- Stone Monument Found
- Monument Box
- Sign
- Air Condition Unit
- Monitoring Well
- Bollard Post
- Parking Meter
- Air Pump
- Bollard Light / Ground Light
- Grease Trap
- Ground Light
- Mail Box
- Basketball Hoop
- Gate Entry Key Pad
- Flag Pole
- Interstate Highway
- United States Highway
- State Highway
- County Highway

UTILITIES

- Manhole
- Storm Manhole
- Curb Inlet Basin w/ Grate
- Catch Basin
- Storm Vault
- Cleanout
- Sanitary Manhole
- Sanitary Vault
- Water Stand Pipe
- Fire Hydrant
- Post Indicator Valve
- Water Valve
- Water Meter
- Water Manhole
- Water Backflow Preventer
- Water Vault
- Water Curb Box
- Gas Meter
- Gas Valve
- Gas Curb Box
- Fiberoptic Manhole
- Cable T.V. Pedestal
- Electric Meter
- Electric Transformer
- Electric Manhole
- Electric Vault
- Telephone Pedestal
- Telephone Manhole
- Telephone Booth
- Telephone Vault
- Traffic Vault
- Signal Pull Box
- Power Pole
- Traffic Pole
- Telephone Pole
- Flag Pole
- Light Pole
- Guy Wire
- Utility Vault
- Underground Utility Marker
- Vacuum
- Unknown Valve

ALTA/MISC

- Encroachment
- Easement Circle
- Easement Alt. 1
- Easement Alt. 1
- Label 1
- Label 2
- Regular Parking Count
- Handicap Parking Count
- Handicap Space

GENERAL PLAN NOTES:

1. All necessary preventative measures will be taken to keep damage from occurring to adjacent structures such as utilities, tree, poles, structures, and private property during the progress of this work. Any and all damages that occur due to construction activities shall be repaired or replaced by the contractor at no expense to the owner.
2. All material excavated or used in the laying of the pipe will be located and stockpiled in a way not to endanger the public, the personnel on the job, or block natural drainage patterns.
3. DEWATERING:
   Contractor is responsible for any and all necessary dewatering activities for any excavation.
4. ROOF DRAIN NOTE:
   Roof drains, foundation drains, and other clean water connections to sanitary sewer system are strictly prohibited.
5. NOTIFICATION:
   Any time utilities are involved, other than city water and sewer, notify One Call prior to excavation.
6. EROSION CONTROL:
   Contractor to allow no silt or erosion to enter existing/proposed storm sewer system or water courses during construction phase. Contractor shall use erosion control measures such as inlet filters and ditch check dams in accordance with D.O.T. Specifications.
7. All grass areas to be disturbed shall have topsoil removed and stockpiled prior to excavation. Upon completion of construction, a 6" minimum of topsoil shall be replaced, then seeded and mulched (in accordance with D.O.T. Specifications). All disturbed areas are to be graded to have positive drainage.
8. Underground utilities were plotted from records and field observations and actual locations may deviate from the plans. Contractor shall be responsible for verifying location of all underground utilities within the project area.
9. Contractor shall exercise caution within and adjacent to his work areas so as not to damage existing facilities. Any facilities that are damaged due to the contractors operations shall be repaired or replaced by the contractor to original or better condition at no expense to the owner.
11. TRACKING OF MUD UPON PUBLIC WAYS
    It shall be the duty of the contractor to supervise the handling of all traffic entering and leaving the work area to prevent mud or debris of any nature from being tracked onto the sidewalks and streets of the city.
12. MATERIAL DISPOSAL
    The contractor shall not dump any waste materials on the Owner's property without the written permission of the Owner, or another property without the written permission of the owner or lessor thereof. When such permission is granted, dumping shall be subject to regulations prescribed by the Engineer.
13. PROTECTION OF TREES
    All trees within the construction area not specified for removal are to be protected by the contractor. Care shall be taken to ensure the the roots are not cut. The contractor shall be responsible for replacing any damaged trees of the same size and kind as damaged. Damaged tree branches shall be properly trimmed immediately after damage.
14. CONCRETE PROTECTIONS
    The contractor shall protect the finish of all freshly placed concrete from vandalism until the concrete has taken its initial set. The contractor shall be responsible for any damage to the concrete finish caused by vandals due to his or her failure to protect the concrete.
15. UNDERGROUND STORAGE TANKS
    All existing underground tanks must be removed or closed by a certified tank system remover-cleaner. The certified remover will clean out and remove the tank, properly dispose of the removed waste material and tank, and complete the paperwork required by the DATCP Bureau of Weights and Measures. In the event any petroleum leakage or spillage is observed during the UST removal process, contractor shall notify the engineer/owner immediately. In the event the spill observed is in need of an urgent response, certified remover shall notify local fire department and the Department of Natural Resources (DNR).

MAINTENANCE OF TRAFFIC:

1. Contractor shall submit a maintenance of traffic plan to Waste Management, Maintenance Supervisor and Diversified Engineering for review and approval 15 days prior to start of work.
2. Contractors maintenance of traffic plan shall be in accordance with D.O.T. Specifications.
3. The contractor shall furnish and maintain all necessary safeguards such as barricades, satisfactory barriers, lighting, flaggers, and such other traffic control devices as provided in D.O.T. Specifications.
4. All construction traffic control signs used for the project shall conform to the current "Manual of Uniform Traffic Control Devices" and shall be provided, erected, and maintained by the contractor.

CALL BEFORE YOU DIG !

WISCONSIN LAW REQUIRES EXCAVATORS TO NOTIFY THE PROTECTION SERVICE AT LEAST THREE (3) BUSINESS DAYS BUT NOT MORE THAN TEN (10) CALENDAR DAYS PRIOR TO EXCAVATION

Wisconsin One Call Notification Center
www.diggershotline.com
811 or 1-800-242-8511

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WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI

SHEET TITLE: SYMBOLS LEGEND & GENERAL NOTES

SHEET NO: C1.0

JOB NO: ENG-1465

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EXISTING CONDITIONS PLAN

Scale: 1" = 100'

NORTH

Scale: 1 in. = 100 ft.

0' 100' 200' 300'

Graphic Scale

LEGEND:

- *Wetland Boundary, per CSM performed by CQM, Inc.*
- *Wetland Boundary 25' Offset, per CSM performed by CQM, Inc.*
- *Nor-X-Way Centerline, per CSM performed by CQM, Inc.*
- *Nor-X-Way 75' offset, per CSM performed by CQM, Inc.*
- *FEMA Flood Zone AE - Map Number 55131C0379D, per CSM performed by CQM, Inc.*

GENERAL NOTES:

A. *All existing utilities are shown herein as reference only and are based on record of the various utility companies and a field survey. Contractor is responsible for determining the exact locations of all utilities prior to any construction activities.*

B. *All existing conditions, topography, utilities, and property information are taken from a survey of land situated in the Village of Germantown, State of Wisconsin, by surveyors: Construction Quality Management, Inc., 2679 Continental Drive, Green Bay, WI. 54311. ph: (920) 465-3911, fx: (920) 465-3913.*

C. *All existing wetland information per wetland delineation by Thompson & Associates Wetland Services (June, 2019) and field locations verified by Construction Quality Management, Inc.*

ISSUE DATE 02/26/2020 | SCALE 1" = 100' | CTR INT. 2°
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DRAWN BY DSW | APPROVED BY MJB

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WASTE MANAGEMENT

PROJECT: *TRUCK MAINTENANCE FACILITY GERMANTOWN, WI*

SHEET TITLE: *EXISTING CONDITIONS PLAN*

SHEET NO: **C1.1**

JOB NO: ENG-1465

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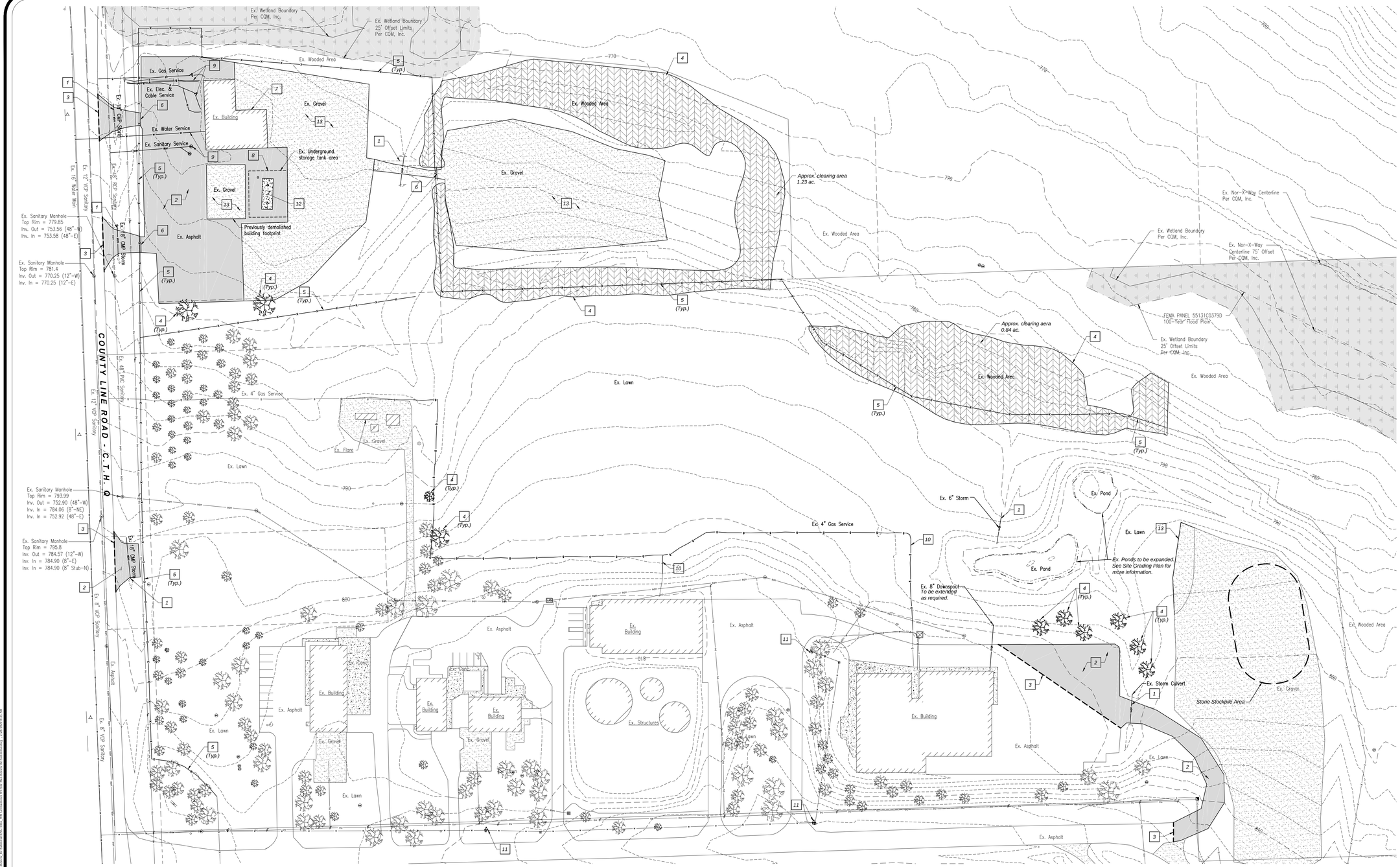

SITE DEMOLITION PLAN

Scale: 1" = 60'

KEYED NOTES:

1.) *Remove storm water pipe. Demolition debris shall be hauled off-site.*

2.) *Remove asphalt pavement section and base material. Demolition debris shall be hauled off-site.*

3.) *Full depth asphalt saw cut line.*

4.) *Clear, grub and completely remove stump(s). Demolition debris shall be hauled off-site.*

5.) *Remove fence and appurtenances. Demolition debris shall be hauled off-site.*

6.) *Remove gate and appurtenances. Coordinate any electrical disconnection with Electrical Contractor. Demolition debris shall be hauled off-site.*

7.) *Remove building. Coordinate any utility disconnection with associated trade. Demolition debris shall be hauled off-site.*

8.) *Remove underground storage tanks. See note "H" on this sheet for backfill requirements. Coordinate any utility disconnection with associated trade. Demolition debris shall be hauled off-site.*

9.) *Existing building utility services to be abandoned per utility service provider requirements. Demolition debris shall be hauled off-site.*

10.) *Relocate 4" gas service. See "SITE IMPROVEMENT PLAN" for further information.*

11.) *Existing Hydrant Assembly to be replaced. See "SITE UTILITY PLAN" for further information.*

12.) *Remove concrete pavement section and base material. Demolition debris shall be hauled off-site.*

13.) *Remove stone pavement section. Stone to be stockpiled in the northern gravel yard. Contractor to confirm exact stockpile area with owner.*

GENERAL NOTES:

A. *At start of project and prior to demolition of existing conditions, contractor shall be in contact with adjacent property owners, city representative, and site representative to coordinate demolition timing.*

B. *Contractor to remove and dispose of all debris and other materials resulting from demolition and construction operations, disposal will be in accordance with all local, state, and federal regulations governing such operations.*

C. *Contractor shall take all precautions necessary to avoid damage to adjacent properties during construction phases of this project. Contractor will be solely responsible for damage to neighboring properties occurring as a result of construction activities.*

D. *All existing utilities are shown herein as reference only and are based on record of the various utility companies. Contractor is responsible for determining the exact locations and depths of all utilities prior to demolition activities.*

E. *Contractor shall provide traffic control in accordance with the state manual on uniform traffic control devices. See sheet C1.0 "Maintenance of Traffic" for further detail and notes.*

F. *Prior to starting demolition, it is the responsibility of the contractor to obtain all permits, tap fees, bond fees, and inspection fees required by local and state governmental agencies.*

G. *All landfill fees shall be paid by the Contractor.*

H. *Utilities shall be removed and the trenches backfilled with approved backfill material. Backfill material shall be placed in maximum eight inch lifts and compacted in accordance with the geotechnical report or to a minimum of 95% of the maximum dry density as determined by ASTM D-1557 modified proctor method +/- 3% optimum moisture content.*

I. *Contractor shall not burn debris or use explosives.*

J. *Contractor shall be responsible for all phasing of demolition when the demolition may impact traffic, access, or utilities to neighbors or facilities to remain and other surrounding infrastructure or facilities.*

K. *Conduct demolition operations to ensure minimal interference with roads, sidewalks, and any other adjacent occupied facilities.*

L. *Do not close or obstruct roads, sidewalks, or any other occupied facilities without permission from the local authority having jurisdiction and/or property owners.*

M. *The contractor shall be responsible for ensuring the construction site and surrounding areas are free of accumulated debris.*

N. *All existing underground tanks must be removed or closed by a certified tank system remover-cleaner. The certified remover will clean out and remove the tank, properly dispose of the removed waste material and tank, and complete the paperwork required by the DATCP Bureau of Weights and Measures. In the event any petroleum leakage or spillage is observed during the UST removal process, contractor shall notify the engineer/owner immediately. In the event the spill observed is in need of an urgent response, certified remover shall notify local fire department and the Department of Natural Resources (DNR).*

NORTH

Scale: 1 in. = 60 ft.

0' 60' 120' 180'

Graphic Scale

LEGEND:

- Existing Asphalt to be Removed
- Existing Wooded area to be cleared
- Proposed Full-depth Saw Cut Line
- Existing Concrete to be Removed
- Wetland Boundary 25' Offset, per CSM performed by CQM, Inc.

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WASTE MANAGEMENT

PROJECT: *TRUCK MAINTENANCE FACILITY GERMANTOWN, WI*

SHEET TITLE: *SITE DEMOLITION PLAN*

SHEET NO: **C1.2**

JOB NO: ENG-1465

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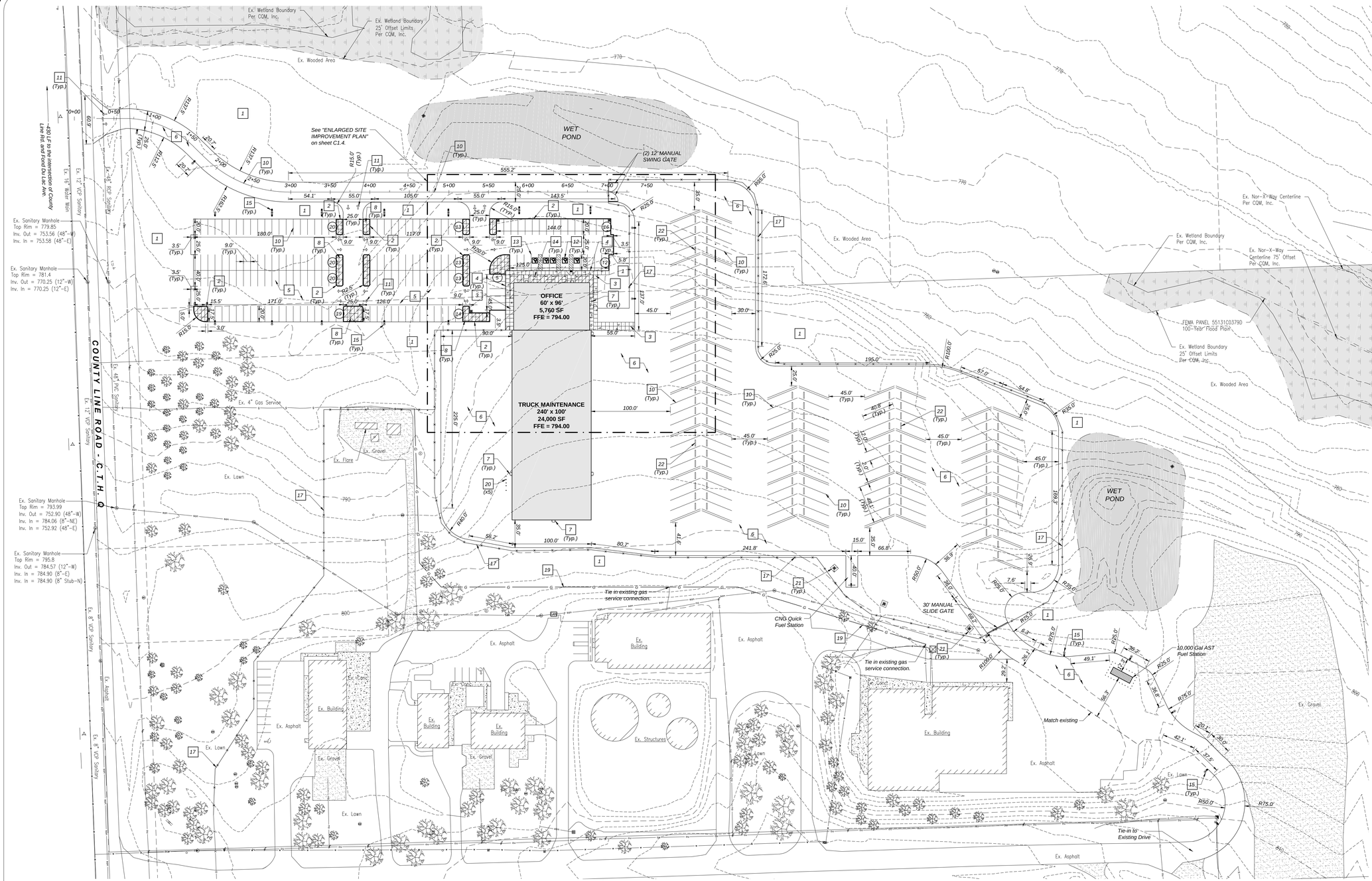
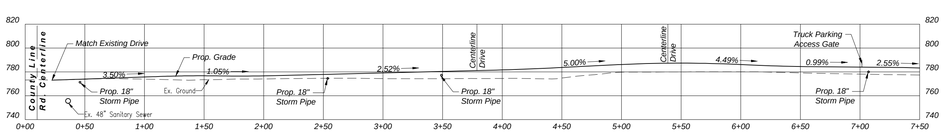


SITE IMPROVEMENT PLAN

Scale: 1" = 60'



ROAD PROFILE

Scale: 1" = 60' H & V

GENERAL NOTES:

A. *Provide smooth transition from newly paved areas to existing paved area as necessary. The existing edge of pavement shall be free of all loose debris at all areas where proposed pavement meets existing pavement. The edge of existing asphalt pavement shall be properly sealed with a tack coat material in all areas where new asphalt pavement is indicated to join existing.*

B. *Contractor is responsible for locating and verifying all existing underground utilities prior to construction, and is responsible for any damage to them during construction.*

C. *All dimensions to face of curb or edge of concrete unless otherwise noted.*

D. *All pavement markings depicting parking spaces, accessible parking spaces, access aisles and no parking signage shall be applied with mechanical equipment and templates at the locations and lengths shown on the plans (two coats all locations). Paint shall be yellow in color (unless otherwise specified) and shall meet all applicable requirements of state department of highway specifications, unless otherwise specified.*

E. *Contractor shall be solely responsible for and take all precautions necessary to avoid damage to adjacent properties during the construction phases of this project.*

F. *All construction methods and materials must conform to current standards and specifications of the federal, state, county, city or local requirements, whichever has jurisdiction.*

G. *All excavated and/or disturbed areas are to be seeded with a locally adaptive turf seed mix after finish grading unless otherwise noted. All newly seeded areas shall have a minimum of 6" of topsoil. Hold soil down 1" from pavement elevation. Contractor to supply straw mulch where grass seed has been planted.*

H. *All radii indicated on plans shall be constructed as circular.*

I. *Resurface or reconstruct at least to original conditions all areas where traffic by contractors, subcontractors or suppliers have damaged existing pavement, lawns or other improvements during construction, after construction work is complete.*

J. *The contractor shall verify all dimensions and elevations in the field prior to the start of construction. The contractor shall be responsible for all field dimensions and elevations during the entire construction schedule. If any discrepancies are found in these plans from actual field dimensions, the contractor shall contact the engineer immediately.*

NORTH

Scale: 1 in. = 60 ft.

0' 60' 120' 180'

Graphic Scale

LEGEND:

(8) *Proposed Parking Space Count Indicator*

Proposed Chain Link Fence

Proposed Landscaping Area, See Site Landscaping Plan for further coordination

PARKING BREAKDOWN

Total Parking Spaces (Public)	*= 160*
Total Parking Spaces (Handicap)	*= 5*
Typical Parking Space Dimension: 9' x 20' (Unless otherwise noted)	

PARKING LOT LANDSCAPING

Visitor/Employee Parking Area	*= 57,501 SF*
Interior Landscaping Area	*= 3,167 SF*
Landscape Area Percentage	*= 5.5%*

KEYED NOTES:

1.) *Grass area (slope to drain). Re-seed existing lawn where disturbed by new construction and construction activities.*

2.) *6" concrete curb, See Sheet C2.0, "General Details", for Standard 6" Concrete Curb Detail.*

3.) *4" concrete sidewalk. See Sheet C2.0, "General Details", for Typical Concrete Sidewalk Section.*

4.) *Integral concrete curb and walk, See Sheet C2.0, "General Details", for Typical Integral Concrete Curb and Sidewalk Detail.*

5.) *Proposed light-duty asphalt pavement. See Sheet C1.10, "Hard Surface Key Plan", for Typical Light-duty Asphalt Pavement Section.*

6.) *Proposed heavy-duty concrete pavement. See Sheet C1.10, "Hard Surface Key Plan", for Typical Heavy-duty Concrete Pavement Section.*

7.) *Frost footing at man doors by G.C. See Structural drawings for further coordination.*

8.) *Proposed Landscaping: (Shown for reference). See Sheet L1.0 "Site Landscaping Plan".*

9.) *Taper curb. See sheet C2.0, "General Details", for Concrete Curb Taper Detail.*

10.) *Pavement painting: 4" wide yellow striping.*

11.) *Pavement marking: Yellow directional arrow. See Sheet C2.0, "General Details", for Pavement Marking Typical Direction Arrow.*

12.) *Pavement painting: "Universal Symbol", blue painted field w/ white painted wheelchair and border. See Sheet C2.0, "General Details", for Pavement Marking International Symbol of Accessibility For Parking Stalls.*

13.) *Pavement painting: 4" wide blue paint striping at accessible parking space.*

14.) *Accessible parking sign (post-mounted). See Sheet C2.0 "General Details" for Typical Accessible Parking Sign Detail.*

15.) *Proposed site lighting: By E.C. See site electrical plan for further coordination.*

16.) *Not Used.*

17.) *6' high chain link security fence / access gate. See sheet C2.1, "General Details", for Typical Chain Link Fence & Access Gate Detail.*

18.) *Not Used.*

19.) *Proposed relocated 4" gas service line location.*

20.) *Bollards. See Sheet C2.1, "General Details", for Typical Pipe Bollard Detail.*

21.) *Reinforced Concrete Catch Basin Apron. See Sheet C2.4, "Storm Sewer Notes & Typical Details", for Typical Concrete Catch Basin Apron Detail.*

22.) *Concrete truck wheel stop. See Sheet C2.0, "General Details", for Typical Concrete Truck Wheel Stop Detail.*

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WASTE MANAGEMENT

PROJECT: *TRUCK MAINTENANCE FACILITY GERMANTOWN, WI*

SHEET TITLE: *SITE IMPROVEMENT PLAN*

SHEET NO: **C1.3**

JOB NO: **ENG-1465**

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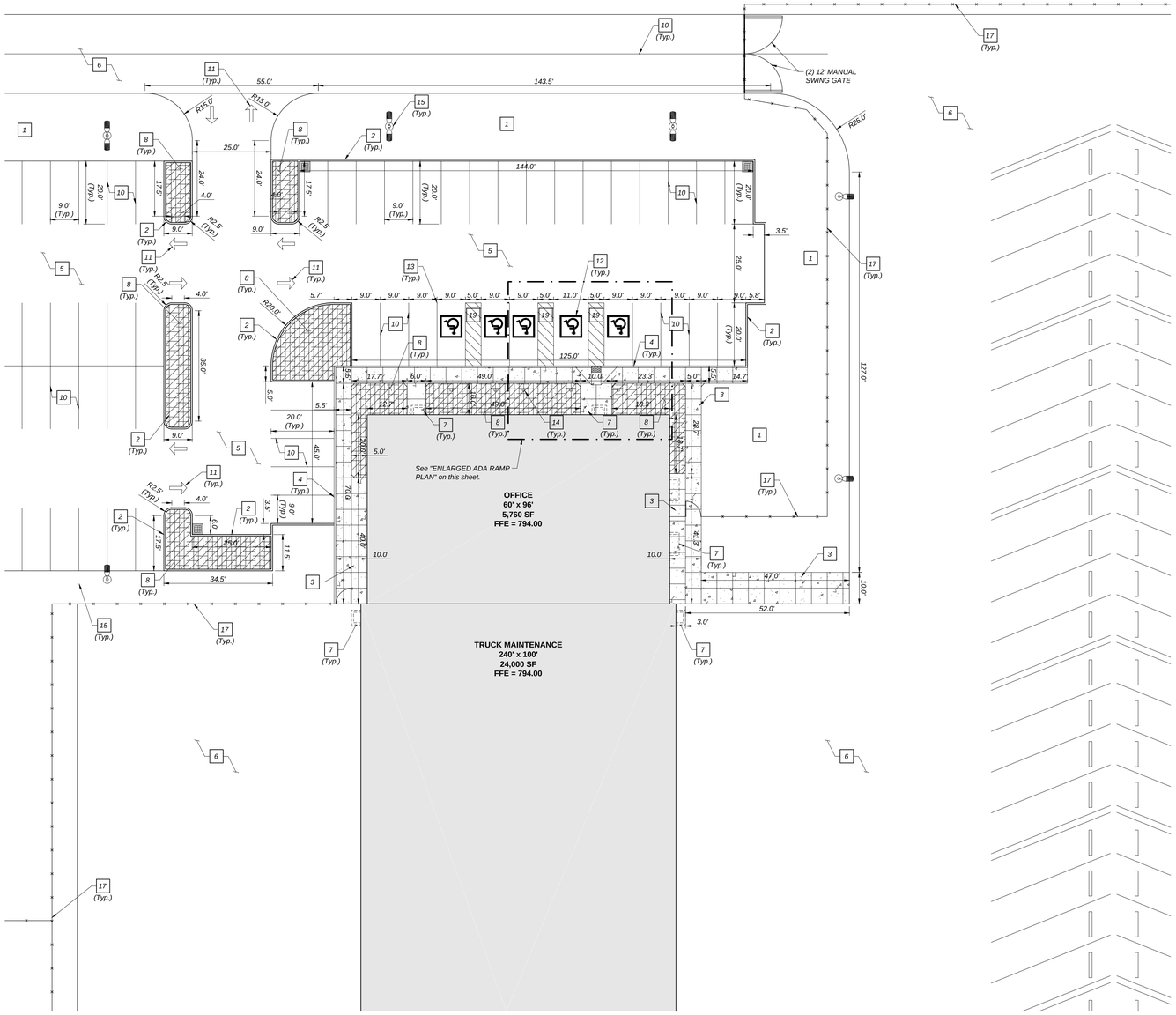


ENLARGED SITE IMPROVEMENT PLAN

Scale: 1" = 20'

KEYED NOTES: ☐ (ENLARGED SITE IMPROVEMENT PLAN)

1.) *Grass area (slope to drain). Re-seed existing lawn where disturbed by new construction and construction activities.*

2.) *6" concrete curb, See Sheet C2.0, "General Details", for Standard 6" Concrete Curb Detail.*

3.) *4" concrete sidewalk. See Sheet C2.0, "General Details", for Typical Concrete Sidewalk Section.*

4.) *Integral concrete curb and walk, See Sheet C2.0, "General Details", for Typical Integral Concrete Curb and Sidewalk Detail.*

5.) *Proposed light-duty asphalt pavement. See Sheet C1.10, "Hard Surface Key Plan", for Typical Light-duty Asphalt Pavement Section.*

6.) *Proposed heavy-duty concrete pavement. See Sheet C1.10, "Hard Surface Key Plan", for Typical Heavy-duty Concrete Pavement Section.*

7.) *Frost footing at man doors by G.C. See Structural drawings for further coordination.*

8.) *Proposed Landscaping: (Shown for reference). See Sheet L1.0 "Site Landscaping Plan".*

9.) *Taper curb. See sheet C2.0, "General Details", for Concrete Curb Taper Detail.*

10.) *Pavement painting: 4" wide yellow striping.*

11.) *Pavement marking: Yellow directional arrow. See Sheet C2.0, "General Details", for Pavement Marking Typical Direction Arrow.*

12.) *Pavement painting: "Universal Symbol", blue painted field w/ white painted wheelchair and border. See Sheet C2.0, "General Details", for Pavement Marking International Symbol of Accessibility For Parking Stalls.*

13.) *Pavement painting: 4" wide blue paint striping at accessible parking space.*

14.) *Accessible parking sign (post-mounted). See Sheet C2.0 "General Details" for Typical Accessible Parking Sign Detail.*

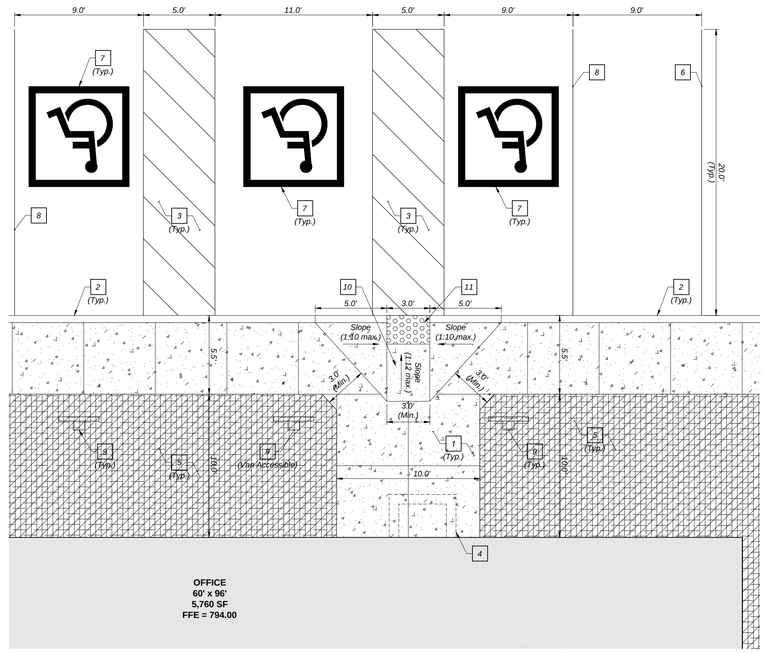
15.) *Proposed site lighting: By E.C. See site electrical plan for further coordination.*

16.) *Not Used.*

17.) *6' high chain link security fence / access gate. See sheet C2.1, "General Details", for Typical Chain Link Fence & Access Gate Detail.*

18.) *Not Used.*

19.) *Accessible parking design to meet all governing codes. Quantity as required by I.A.C. & A.D.A. - accessible parking spaces and their access aisles shall be 1:20 running-slope and 1:48 cross-slope. Accessible route delineation shall be 4" wide blue outline w/ 4" blue cross hatch.*



ENLARGED ADA RAMP PLAN

Scale: 1" = 5'

KEYED NOTES: ☐ (ENLARGED ADA RAMP PLAN)

1.) *4" concrete sidewalk. See Sheet C2.0, "General Details", for Typical Concrete Sidewalk Section.*

2.) *Integral concrete curb and walk, See Sheet C2.0, "General Details", for Typical Integral Concrete Curb and Sidewalk Detail.*

3.) *Accessible parking design to meet all governing codes. Quantity as required by I.A.C. & A.D.A. - accessible parking spaces and their access aisles shall be 1:20 running-slope and 1:48 cross-slope. Accessible route delineation shall be 4" wide blue outline w/ 4" blue cross hatching.*

4.) *Frost footing at man doors by G.C. See Structural drawings for further coordination.*

5.) *Proposed Landscaping: (Shown for reference). See Sheet L1.0 "Site Landscaping Plan".*

6.) *Pavement painting: 4" wide yellow striping.*

7.) *Pavement painting: "Universal Symbol", blue painted field w/ white painted wheelchair and border. See Sheet C2.0, "General Details", for Pavement Marking International Symbol of Accessibility For Parking Stalls.*

8.) *Pavement painting: 4" wide blue paint striping at accessible parking space.*

9.) *Accessible parking sign (post-mounted). See Sheet C2.0 "General Details" for Typical Accessible Parking Sign Detail.*

10.) *Curb ramp w/detectable warning mat.*

11.) *Detectable warning mat: (1) 2'x3' tile, cast-in-place w/truncated domes complying with ADA guidelines, brick red. Equal to Detectable Warning Systems - "EZ Set Tile".*

GENERAL NOTES:

A. *Provide smooth transition from newly paved areas to existing paved area as necessary. The existing edge of pavement shall be free of all loose debris at all areas where proposed pavement meets existing pavement. The edge of existing asphalt pavement shall be properly sealed with a tack coat material in all areas where new asphalt pavement is indicated to join existing.*

B. *Contractor is responsible for locating and verifying all existing underground utilities prior to construction, and is responsible for any damage to them during construction.*

C. *All dimensions to face of curb or edge of concrete unless otherwise noted.*

D. *All pavement markings depicting parking spaces, accessible parking spaces, access aisles and no parking signage shall be applied with mechanical equipment and templates at the locations and lengths shown on the plans (two coats all locations). Paint shall be yellow in color (unless otherwise specified) and shall meet all applicable requirements of state department of highway specifications, unless otherwise specified.*

E. *Contractor shall be solely responsible for and take all precautions necessary to avoid damage to adjacent properties during the construction phases of this project.*

F. *All construction methods and materials must conform to current standards and specifications of the federal, state, county, city or local requirements, whichever has jurisdiction.*

G. *All excavated and/or disturbed areas are to be seeded with a locally adaptive turf seed mix after finish grading unless otherwise noted. All newly seeded areas shall have a minimum of 6" of topsoil. Hold soil down 1" from pavement elevation. Contractor to supply straw mulch where grass seed has been planted.*

H. *All radii indicated on plans shall be constructed as circular.*

I. *Resurface or reconstruct at least to original conditions all areas where traffic by contractors, subcontractors or suppliers have damaged existing pavement, lawns or other improvements during construction, after construction work is complete.*

J. *The contractor shall verify all dimensions and elevations in the field prior to the start of construction. The contractor shall be responsible for all field dimensions and elevations during the entire construction schedule. If any discrepancies are found in these plans from actual field dimensions, the contractor shall contact the engineer immediately.*

NORTH

Scale: 1 in. = 20 ft.

0' 20' 40' 60'

Graphic Scale

ISSUE DATE 02/28/2020 | SCALE AS NOTED | CTR INT. –
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DRAWN BY DSW | APPROVED BY MJB

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WASTE MANAGEMENT

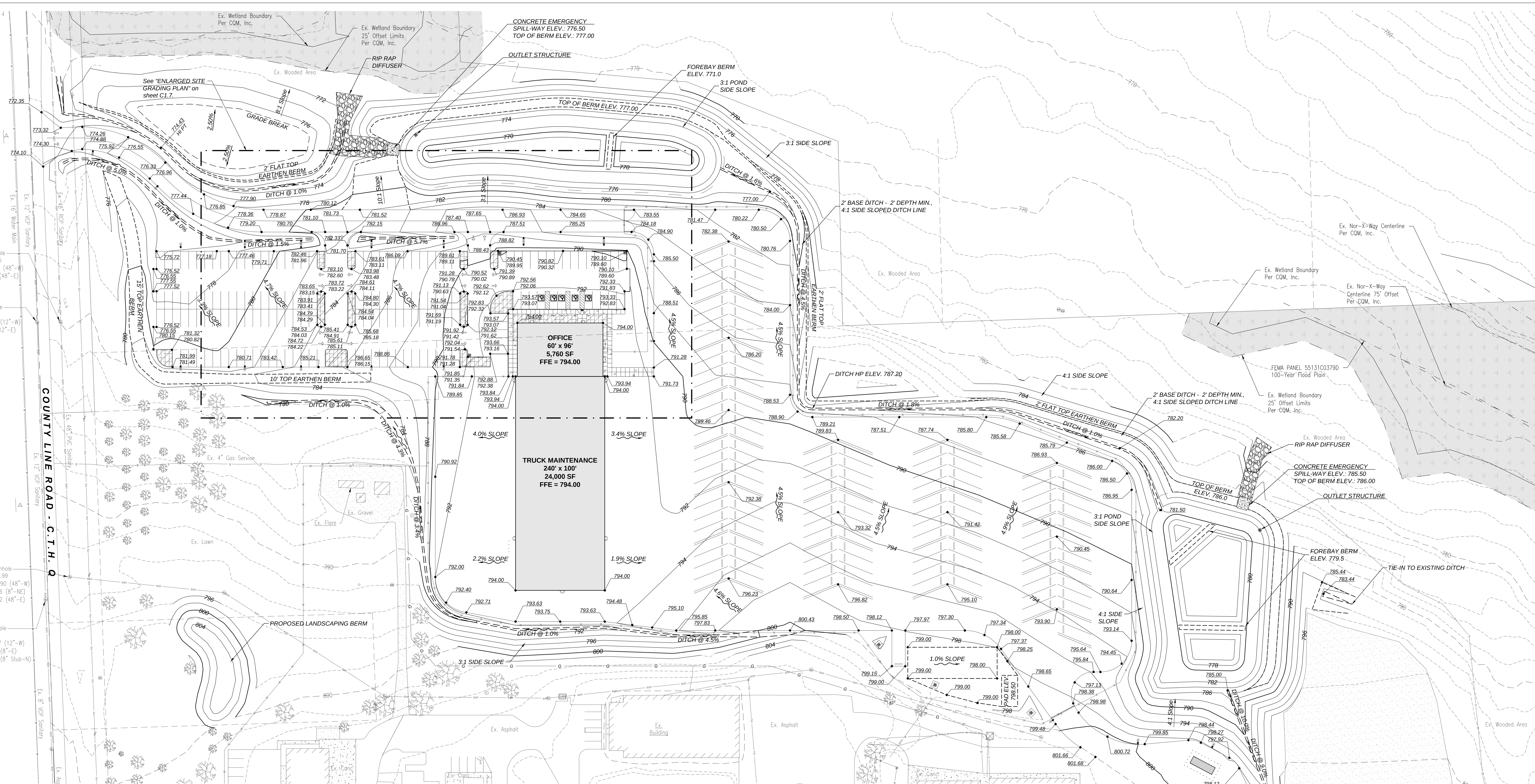
PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI

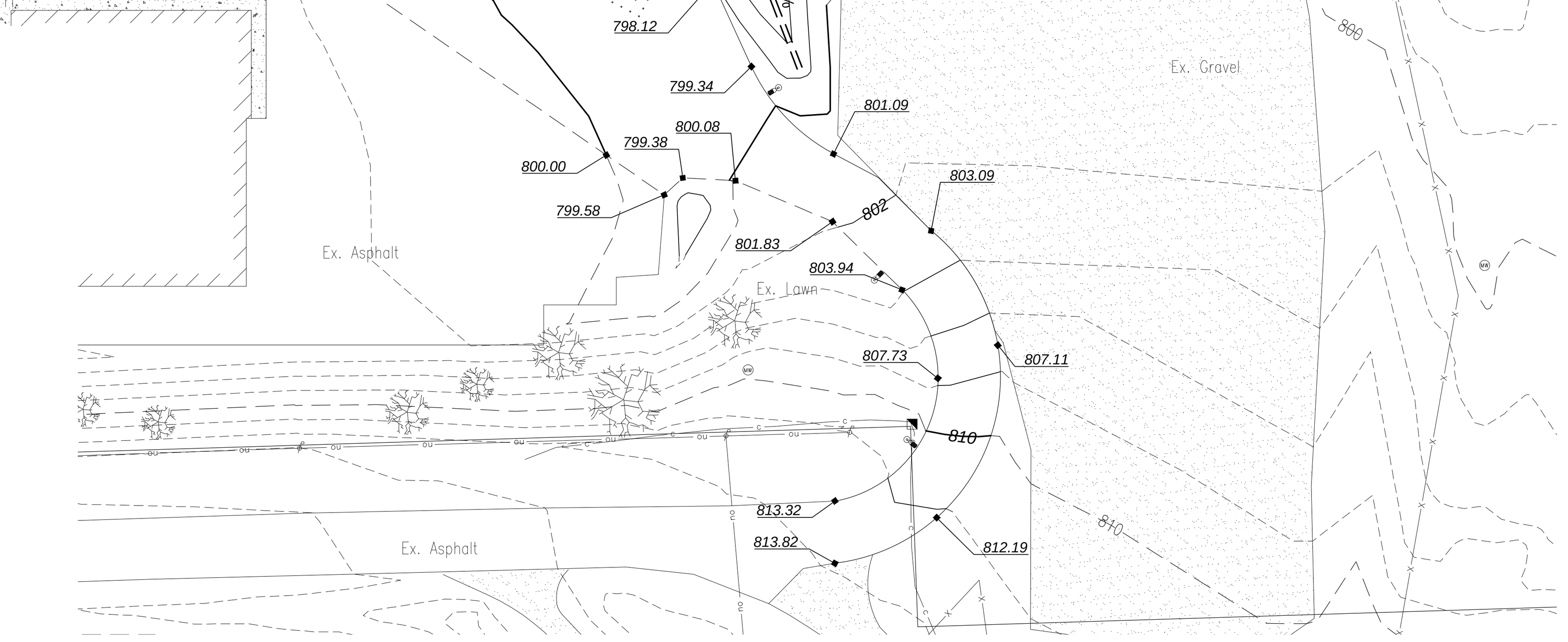
SHEET TITLE: ENLARGED SITE IMPROVEMENT PLAN

SHEET NO: C1.4

JOB NO: ENG-1465

Z:\Jobs Files\Proj\ENG\ENG-1465 WM Maintenance Fcltv - WI (Waiting Permits)\Construction Plans\Site Plans\Site Plan\ENG-1465_WM Maintenance Fcltv Site Plans for Submittal.dwg, 2/28/2020 8:31 AM





SITE GRADING PLAN

Scale: 1" = 60'

GENERAL NOTES & SPECIFICATIONS SITE PREPARATION-GRADING:

Topsoil Removal / Replacement

1. Required topsoil shall be hauled and stockpiled on site.
2. Topsoil stockpile shall be sloped to drain and side slopes shall be "tracked and dressed" to minimize erosion.
3. Silt fence shall be constructed around the entire perimeter of the completed stockpile.
4. Topsoil stockpile shall be seeded and mulched to prevent erosion.
5. The completed stockpile shall be seeded with 50# annual ryegrass and 50# perennial ryegrass per acre.
6. The stockpile shall be mulched with 2 tons of straw per acre.
7. Any topsoil removal necessary to perform the site grading shall be considered incidental to the grading. All topsoil shall be removed from areas of excavation or embankment. Upon completion of site grading, 6" of topsoil is to be replaced on all disturbed areas to be seeded.

Site Grading

1. Concurrent with or immediately following removal of topsoil, the area shall be graded to drain as shown on this sheet.

Building Site Preparation

1. The building site shall be graded following topsoil removal and the area of the controlled fill compacted with a sheep's foot roller or vibratory compaction equipment.
2. The controlled fill shall be placed in maximum nine (9) inch loose lifts for all soils, beginning at the lowest elevation, and the lifts shall be level.

   a.) Refer to GEI Consultants, Inc. Subsurface Exploration and Geotechnical Engineering Evaluation report dated June 20, 2019.
3. The controlled fill shall be clean, inorganic soil (LOI<3%), free of any miscellaneous materials, cobbles and boulders (no greater than 3") and have liquid limits (LL) and plasticity indexes (PI) not to exceed 45 and 20, respectively.
4. The fill shall be carefully compacted in lifts to a dry unit weight equal to a minimum 95 percent of the maximum dry unit weight and at or near -2% to +3% optimum moisture content as determined by laboratory test for moisture-density relations of soils (ASTM D698). If clean granular soil is used as fill, testing shall be in accordance of ASTM D4254.
5. No fill shall be placed in a frozen condition or on a frozen subgrade.
6. The constructed fill shall be compacted and sealed at the end of every work day to shed water from the surface.
7. The fill shall be scarified prior to placing any additional fill after if has been sealed to shed water.
8. Each lift of controlled fill shall be tested for compaction by an approved independent testing laboratory field technician. Tests shall be made in such locations and in such quantity as the construction manager and the testing laboratory deem necessary. A minimum of six (6) tests per lift at random locations shall be made.
9. The controlled fill shall constructed to final line and grade as shown on the plans. Sloped areas shall be compacted with an equal number of compaction passes as the level area.
10. Any material brought on site and subsequently deemed unsuitable for incorporation into the controlled fill shall be removed from the site at the contractors expense.

Subgrade Preparation

1. The entire site shall be proof rolled prior to placement of any fill material under the supervision of the Engineer. Material deemed to be unsuitable is at the discretion of the Engineer. Proof rolling shall be as prescribed in the Proof Rolling of Subgrade section below. Once subgrade elevation of the fill is achieved, the subgrade shall be proof rolled prior to any sub-base placement as prescribed in the Proof Rolling of Subgrade section below. Deformation of the subgrade is at the discretion of the Engineer.
2. If the Engineer deems an area of the subgrade as unsuitable, that area shall be overexcavated until suitable material is achieved as determined by the Engineer. Overexcavation depth shall not exceed 2 feet.
3. Overexcavated area shall be backfilled with DOT approved, crushed limestone aggregate. Aggregate shall be placed in lifts not to exceed 8". Each lift shall be compacted with a vibratory compactor.
4. Backfilled areas shall be proof rolled following the guidelines listed in the Proof Rolling of Subgrade section below.

Proof Rolling of Subgrade

1. Perform the testing of the stability and uniformity of the subgrade compaction in locations shown on the plans by proof rolling.
2. Use a proof roller conforming to the following:
   - A. Four heavy pneumatic tire wheels mounted on a rigid steel frame.
   - B. Wheels evenly spaced in one line across the width of the roller.
   - C. Wheels arranged so that all wheels carry approximately equal loads when operated over an uneven surface.
   - D. A maximum center-to-center spacing between adjacent wheels not exceeding 32 inches (0.8 m).
   - E. A body for ballast loading capable of varying the gross load from 25 to 50 tons (23 to 45 metric tons).
   - F. Tires capable of operating at inflation pressures ranging from 90 to 150 pounds per square inch (620 to 1040 kPa). Provide a tire pressure gage for measurement before use.
   - G. Tires filled with liquid from 90 to 95 percent by volume.
3. Provide ballast that consist of ingots of known unit weight, sand bags with a unit weight of 100 pounds (45 kg), bags of other material of known unit weight, or other suitable material such that the total ballast weight is readily determinable at all times. Provide sufficient ballast to load equipment to a maximum gross weight of 50 tons (45 metric tons).
4. Furnish the Engineer information verifying that the weights and tire pressures can be met.
5. After compacting the subgrade and before placing overlying course, proof roll designated subgrade areas. If proof rolling is performed after the underdrains are installed, do not use the proof roller within 1 Ì feet (450 mm) of the underdrains.
6. Ensure that the subgrade moisture content at the time of proof rolling is within 2 percent of the moisture used for acceptance.
7. Adjust the load and tire inflation pressure according to the following:
   - A. For soils classified as A-3, A-4, A-6, or A-7-6, use a 35-ton (32 metric tons) roller with a tire pressure of 120 pounds per square inch (820 kPa).
   - B. For granular soils, and soil, rock, and granular mixtures, use a 50-ton (46 metric tons) roller with a tire pressure of 150 pounds per square inch (1030 kPa).
   - C. Measure the tire pressure in the presence of the Engineer.
8. Operate equipment at a speed between 2 Ì and 5 miles per hour (4 and 8 km/hr). Adjust the speed to allow the Engineer to measure the deflections, ruts, or elasticity.
9. Make only one trip of the proof roller over any area. Offset trips to completely cover the subgrade area. Operate the proof roller in a pattern to readily allow recording of the number of coverages.
10. Where proof rolling indicates areas of soft subgrade or areas of non-uniform subgrade stability, the Engineer will investigate for the source of the problem. The Engineer will check the subgrade materials, density, and moisture content. The Contractor is responsible for all problems found in the materials constructed under the Contract Documents. Correct all deficiencies found.
11. Correct the subgrade to a uniform and satisfactory stability according to the current version of the Construction Inspection Manual of Procedures.
12. After proof rolling, check the subgrade for conformance to the plans, and correct all surface irregularities. Shape the subgrade within the tolerances.

ISSUE DATE 02/28/2020 SCALE 1" = 60' CTR INT. 2'
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WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY GERMANTOWN, WI

SHEET TITLE: SITE GRADING PLAN

SHEET NO: C1.5

JOB NO: ENG-1465

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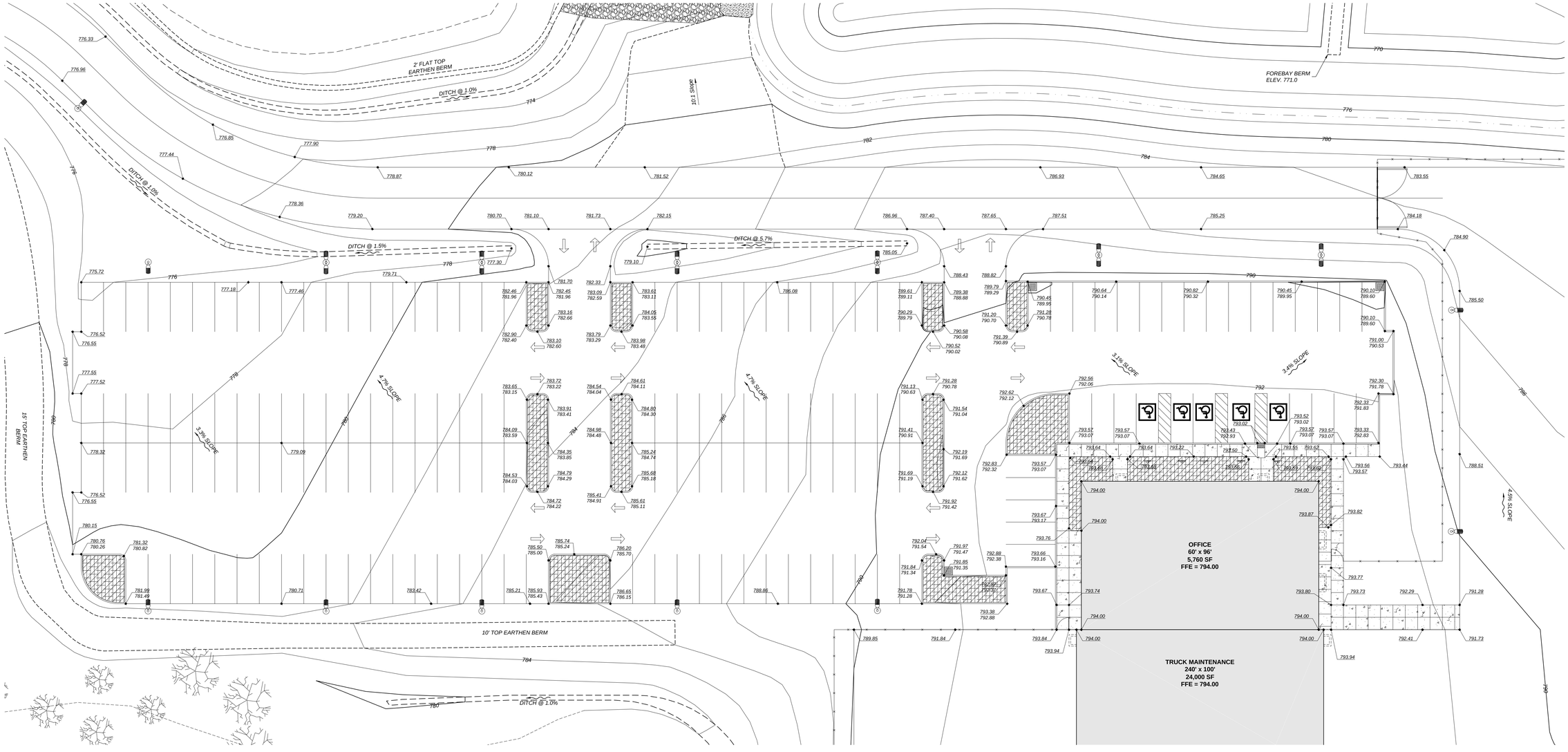
NORTH

Scale: 1 in. = 20 ft.

0' 20' 40' 60'

Graphic Scale



ENLARGED SITE GRADING PLAN

Scale: 1" = 20'

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APPROVED BY	2"
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	MJB

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WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI

SHEET TITLE: ENLARGED SITE GRADING PLAN

SHEET NO: C1.6

JOB NO: ENG-1465

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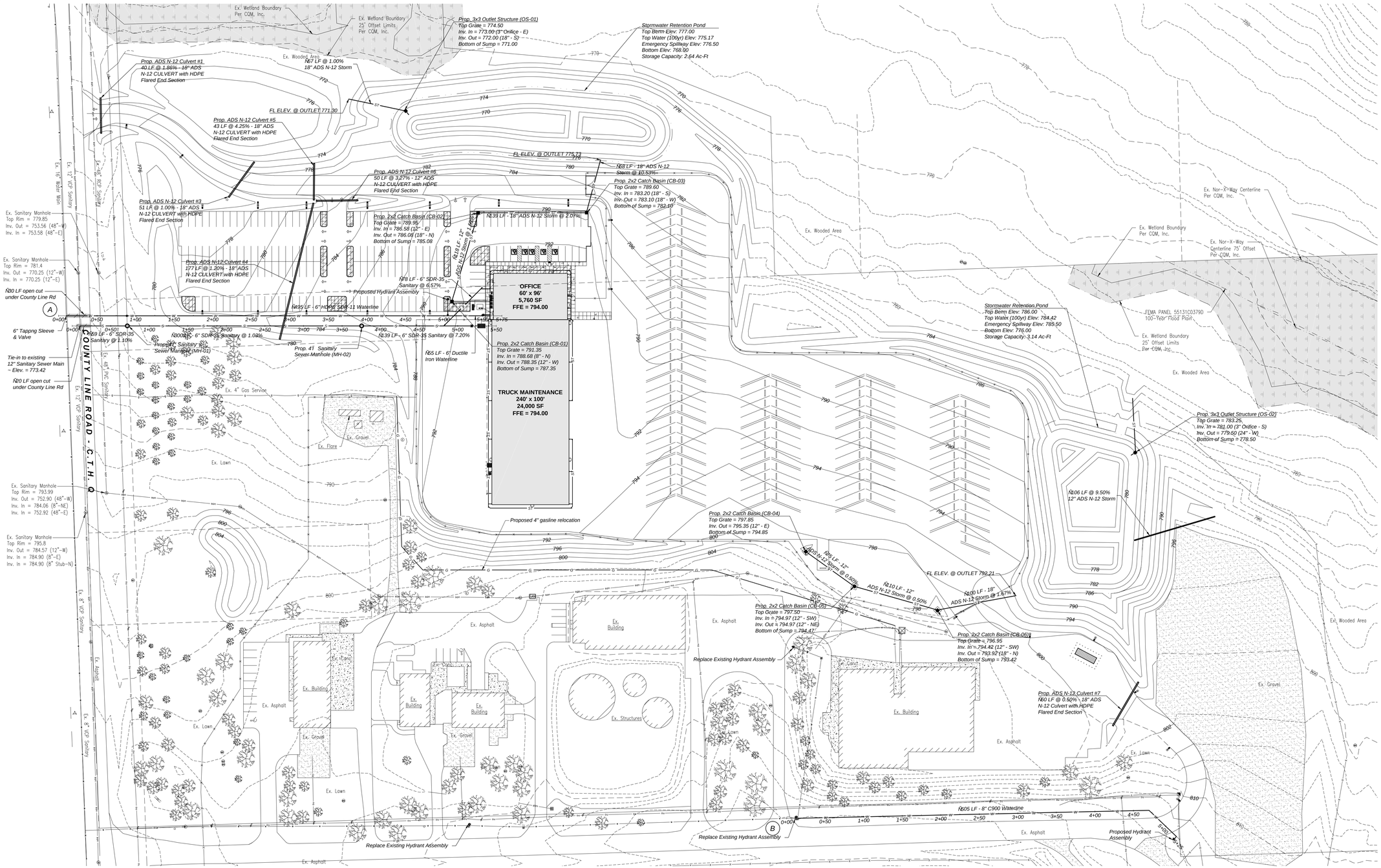

SITE UTILITY PLAN

Scale: 1" = 60'

GENERAL NOTES:

A. *All existing utilities are shown herein as reference only and are based on record of the various utility companies. Contractor is responsible for determining the exact locations and depths of all utilities prior to any construction activities.*

B. *The contractor shall field verify the elevations and pipe material of existing piping prior to ordering any pre-cast structure.*

C. *The contractor shall refer to architectural plans for exact location and size of downspouts.*

D. *The Site Contractor shall coordinate locations of utilities provided by other trades not shown on this plan.*

ISSUE DATE 02/26/2020 | SCALE 1" = 60' | CTR INT. 2"
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WASTE MANAGEMENT

PROJECT: *TRUCK MAINTENANCE FACILITY GERMANTOWN, WI*

SHEET TITLE: *SITE UTILITY PLAN*

SHEET NO: **C1.7**

JOB NO: ENG-1465

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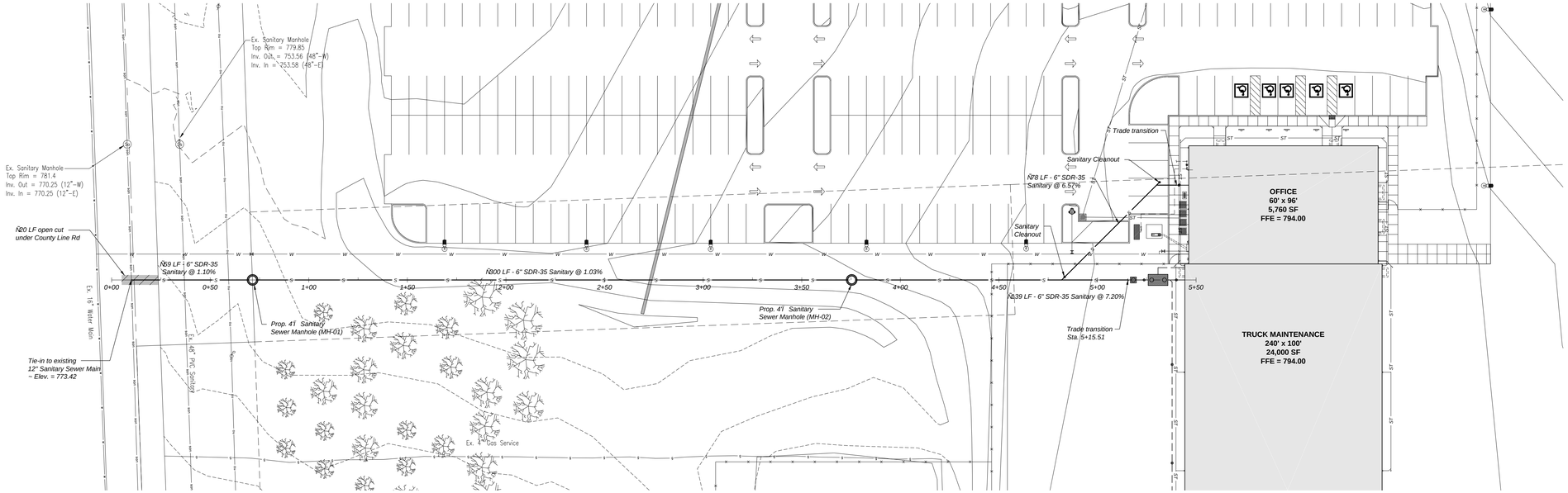
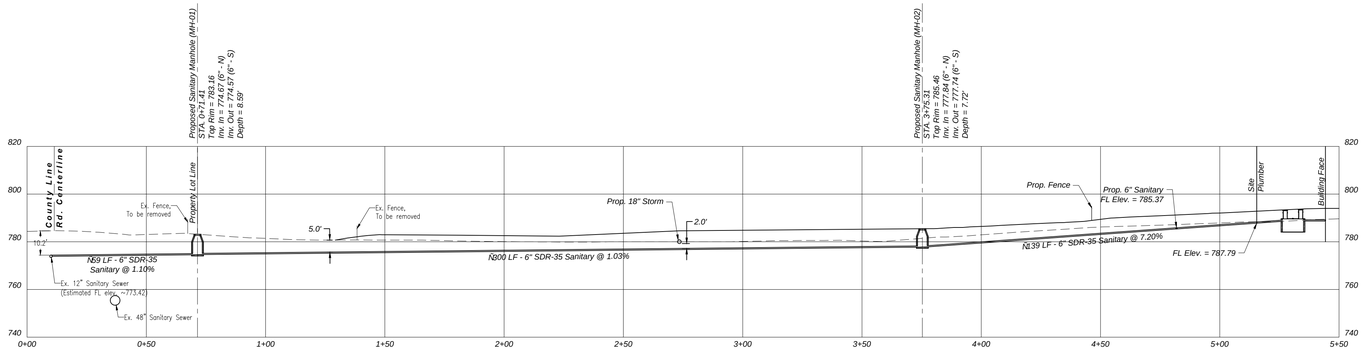


SITE SANITARY PLAN

Scale: 1" = 30'



SANITARY SEWER PROFILE "A"

Scale: 1" = 30' H & V

NORTH

Scale: 1 in . = 30 ft.

0' 30' 60' 90'

Graphic Scale

GENERAL NOTES:

A. All existing utilities are shown herein as reference only and are based on record of the various utility companies. Contractor is responsible for determining the exact locations and depths of all utilities prior to any construction activities.

B. The contractor shall field verify the elevations and pipe material of existing piping prior to ordering any pre-cast structure.

C. The contractor shall refer to architectural plans for exact location and size of downspouts.

D. The Site Contractor shall coordinate locations of utilities provided by other trades not shown on this plan.

E. Inlet and outlet elevations are to the interior flow line of pipe and does not account for pipe wall thickness.

F. Manhole depth is determined by subtracting the lowest flow line elevation and does not account for pipe wall thickness of manhole floor thickness.

MENOMONEE FALLS NOTES:

A. Backfill for all trenches shall be 1 1/4" crushed limestone TB (Section 305.2.2.1 of the WisDOT Std. Specifications for Highway and Structure Construction) unless other wise noted in the profile or in the project specification.

ISSUE DATE 02/28/2020 SCALE 1" = 30' CTR INT. 2'

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DRAWN BY DSW APPROVED BY NJB

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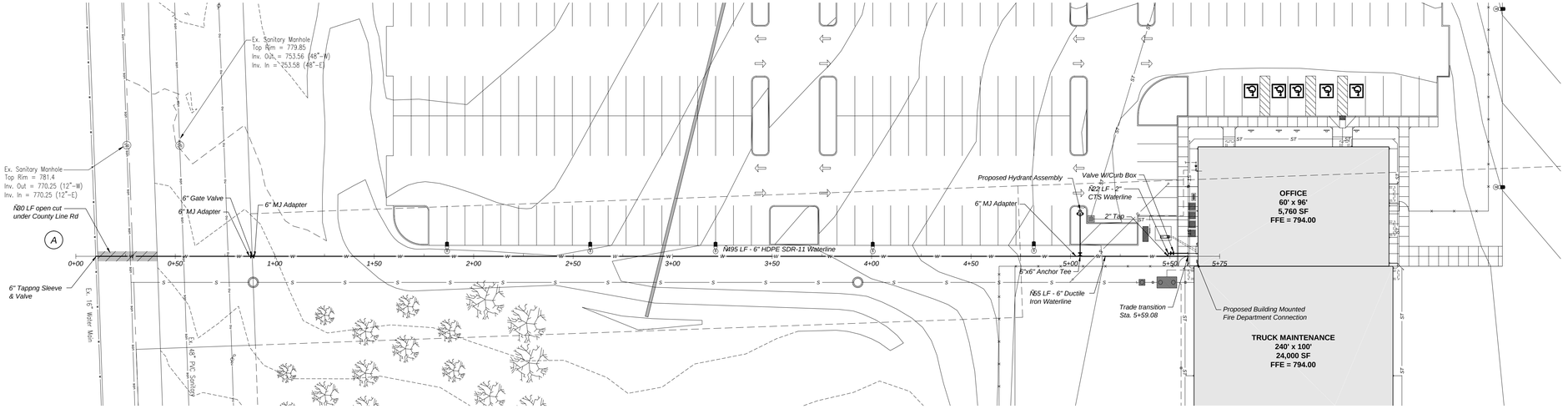
WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY GERMANTOWN, WI

SHEET TITLE: SITE SANITARY PLAN AND PROFILE

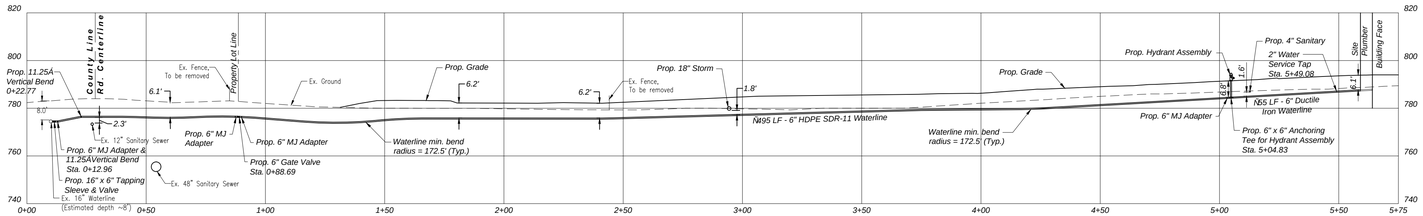
SHEET NO: C1.8

JOB NO: ENG-1465



SITE WATER PLAN "A"

Scale: 1" = 30'



WATERLINE PROFILE "A"

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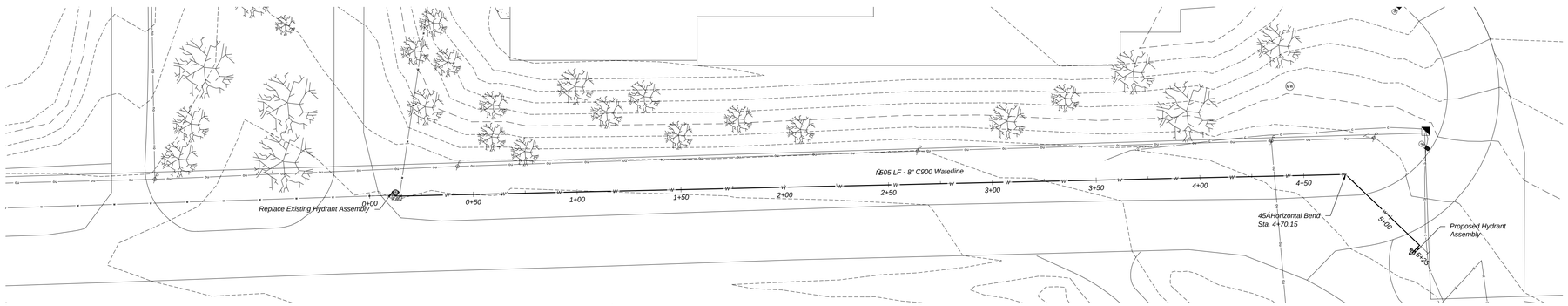
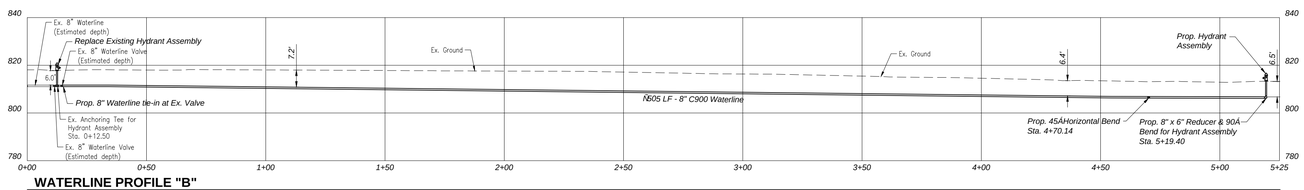


SITE WATER PLAN "B"

Scale: 1" = 30'



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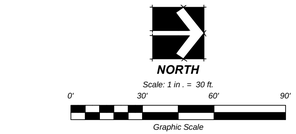

GENERAL NOTES:

A. *All existing utilities are shown herein as reference only and are based on record of the various utility companies. Contractor is responsible for determining the exact locations and depths of all utilities prior to any construction activities.*

B. *The contractor shall field verify the elevations and pipe material of existing piping prior to ordering any pre-cast structure.*

C. *The contractor shall refer to architectural plans for exact location and size of downspouts.*

D. *The Site Contractor shall coordinate locations of utilities provided by other trades not shown on this plan.*

MENOMONEE FALLS NOTES:

A. *Backfill for all trenches shall be 1 ½" crushed limestone TB (Section 305.2.2.1 of the WisDOT Std. Specifications for Highway and Structure Construction) unless other wise noted in the profile or in the project specification.*

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WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI

SHEET TITLE: SITE WATER PLAN AND PROFILE

SHEET NO: C1.9

JOB NO: ENG-1465

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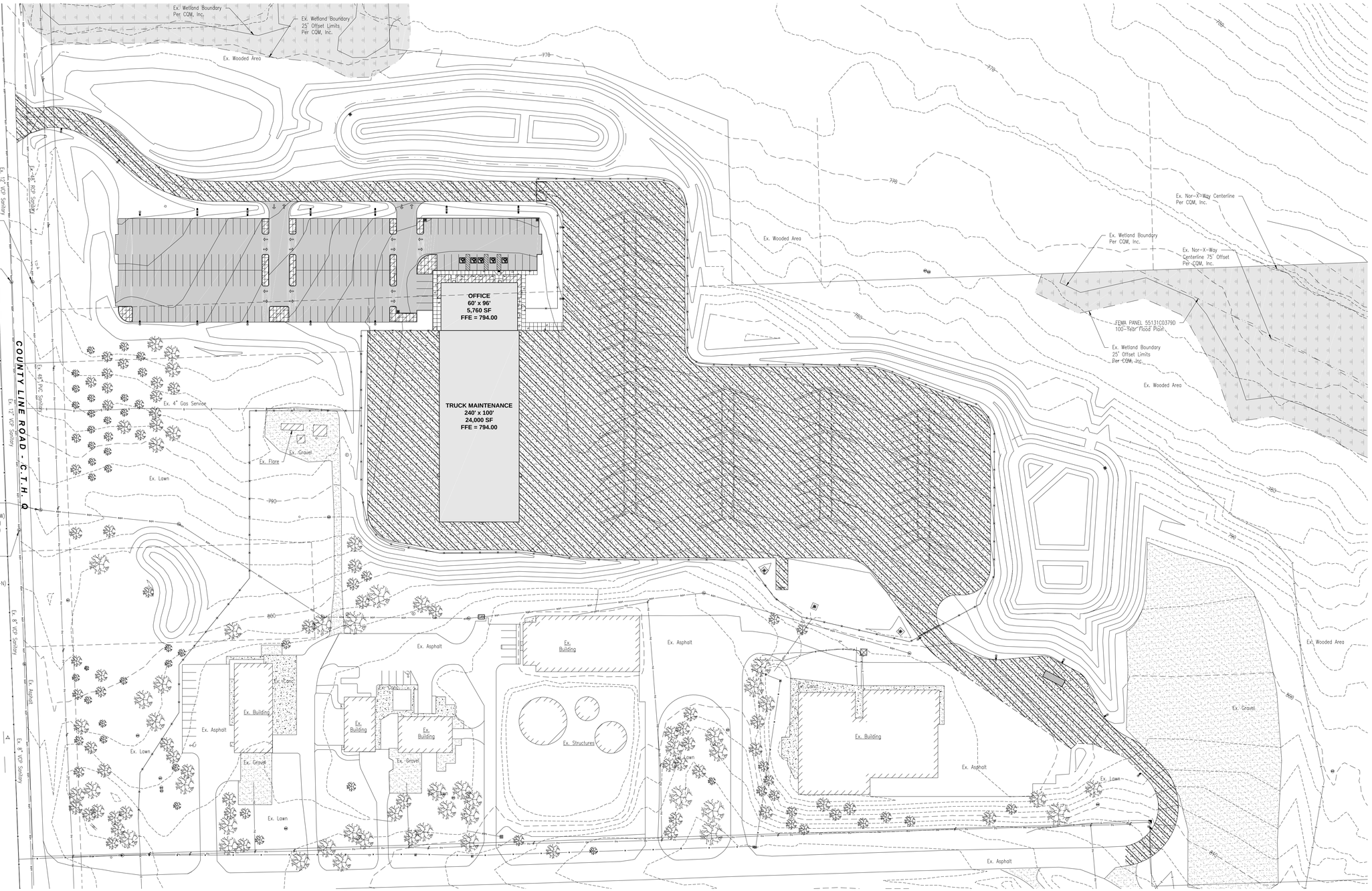


HARD SURFACE KEY PLAN BASE BID

Scale: 1" = 60'

NORTH

Scale: 1 in. = 60 ft.

0' 60' 120' 180'

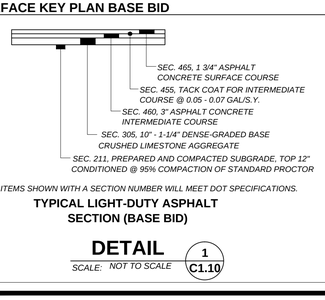
Graphic Scale

LEGEND:

- *Proposed light-duty asphalt pavement, light-duty concrete pavement, see detail on this sheet*
- *Proposed heavy-duty concrete pavement, heavy-duty asphalt pavement, see detail on this sheet*

SITE SURFACING AREAS:

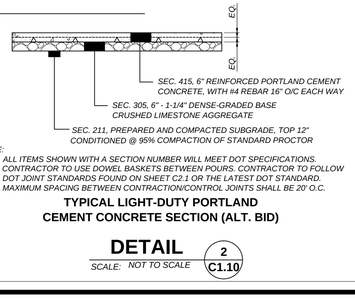
- *Heavy-Duty Surfacing* - 248,718 SF
- *Light-Duty Surfacing* - 57,500 SF



NOTE:
1. ALL ITEMS SHOWN WITH A SECTION NUMBER WILL MEET DOT SPECIFICATIONS.

TYPICAL LIGHT-DUTY ASPHALT SECTION (BASE BID)

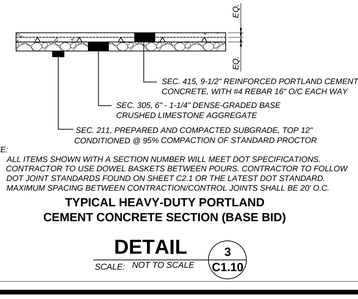
DETAIL 1 C1.10 — SCALE: NOT TO SCALE



NOTE:
1. ALL ITEMS SHOWN WITH A SECTION NUMBER WILL MEET DOT SPECIFICATIONS.
2. CONTRACTOR TO USE DOWEL BASKETS BETWEEN POURS. CONTRACTOR TO FOLLOW DOT JOINT STANDARDS FOUND ON SHEET C2.1 OR THE LATEST DOT STANDARD.
3. MAXIMUM SPACING BETWEEN CONTRACTION/CONTROL JOINTS SHALL BE 20' O.C.

TYPICAL LIGHT-DUTY PORTLAND CEMENT CONCRETE SECTION (ALT. BID)

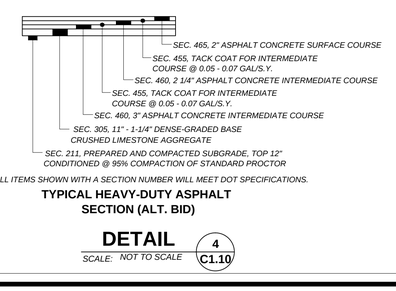
DETAIL 2 C1.10 — SCALE: NOT TO SCALE



NOTE:
1. ALL ITEMS SHOWN WITH A SECTION NUMBER WILL MEET DOT SPECIFICATIONS.
2. CONTRACTOR TO USE DOWEL BASKETS BETWEEN POURS. CONTRACTOR TO FOLLOW DOT JOINT STANDARDS FOUND ON SHEET C2.1 OR THE LATEST DOT STANDARD.
3. MAXIMUM SPACING BETWEEN CONTRACTION/CONTROL JOINTS SHALL BE 20' O.C.

TYPICAL HEAVY-DUTY PORTLAND CEMENT CONCRETE SECTION (BASE BID)

DETAIL 3 C1.10 — SCALE: NOT TO SCALE



NOTE:
1. ALL ITEMS SHOWN WITH A SECTION NUMBER WILL MEET DOT SPECIFICATIONS.

TYPICAL HEAVY-DUTY ASPHALT SECTION (ALT. BID)

DETAIL 4 C1.10 — SCALE: NOT TO SCALE

ISSUE DATE	02/28/2020	SCALE	1" = 60'	CTR INT:	2"
SURVEYED BY	COM	CHECKED BY		KJB	
DRAWN BY	EGM	APPROVED BY		MJB	

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

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Web: www.dei-eng.com

WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY GERMANTOWN, WI

SHEET TITLE: HARD SURFACE KEY PLAN BASE BID

SHEET NO: C1.10

JOB NO: ENG-1465

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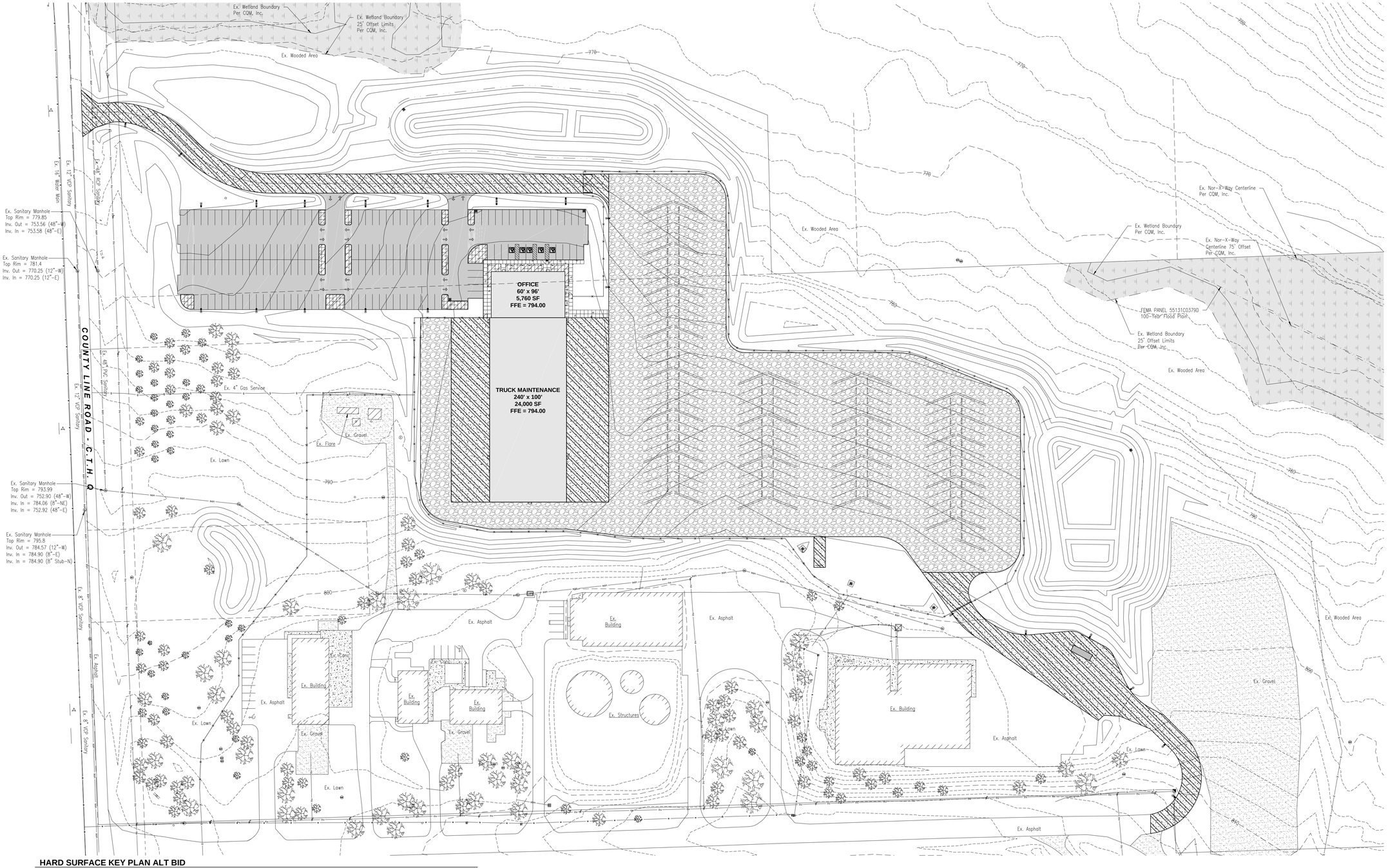

HARD SURFACE KEY PLAN ALT BID

Scale: 1" = 60'

NORTH

Scale: 1 in. = 60 ft.

0' 60' 120' 180'

Graphic Scale

LEGEND:

- Proposed light-duty asphalt pavement, light-duty concrete pavement, see detail on this sheet C1.13
- Proposed heavy-duty concrete pavement, heavy-duty asphalt pavement, see detail on sheet C1.13
- Proposed heavy-duty aggregate pavement, see detail on this sheet

SITE SURFACING AREAS:

- Heavy-Duty Hard Surface Alt. - 65,270 SF
- Light-Duty Hard Surface Alt. - 57,500 SF
- Heavy-Duty Aggregate - 183,448 SF

2" - #1 CLEAR CRUSHED LIMESTONE AGGREGATE TOPCOAT

SEC. 305, 4" - 1-1/4" DENSE-GRADED BASE CRUSHED LIMESTONE AGGREGATE

6" - #3 CLEAR LIMESTONE AGGREGATE

10 OZ/SY WOVEN GEOTEXTILE FABRIC

SEC. 211, PREPARED AND COMPACTED SUBGRADE, TOP 12" CONDITIONED @ 95% COMPACTION OF STANDARD PROCTOR

NOTE:

1. ALL ITEMS SHOWN WITH A SECTION NUMBER WILL MEET DOT SPECIFICATIONS.

TYPICAL HEAVY-DUTY AGGREGATE PAVEMENT SECTION (ALT. BID)

DETAIL 1 / C1.11

SCALE: NOT TO SCALE

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

ISSUE DATE 02/28/2020 SCALE 1" = 60' CTR INT. 2'

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DRAWN BY DSW APPROVED BY NJB

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Web: www.dv-eng.com

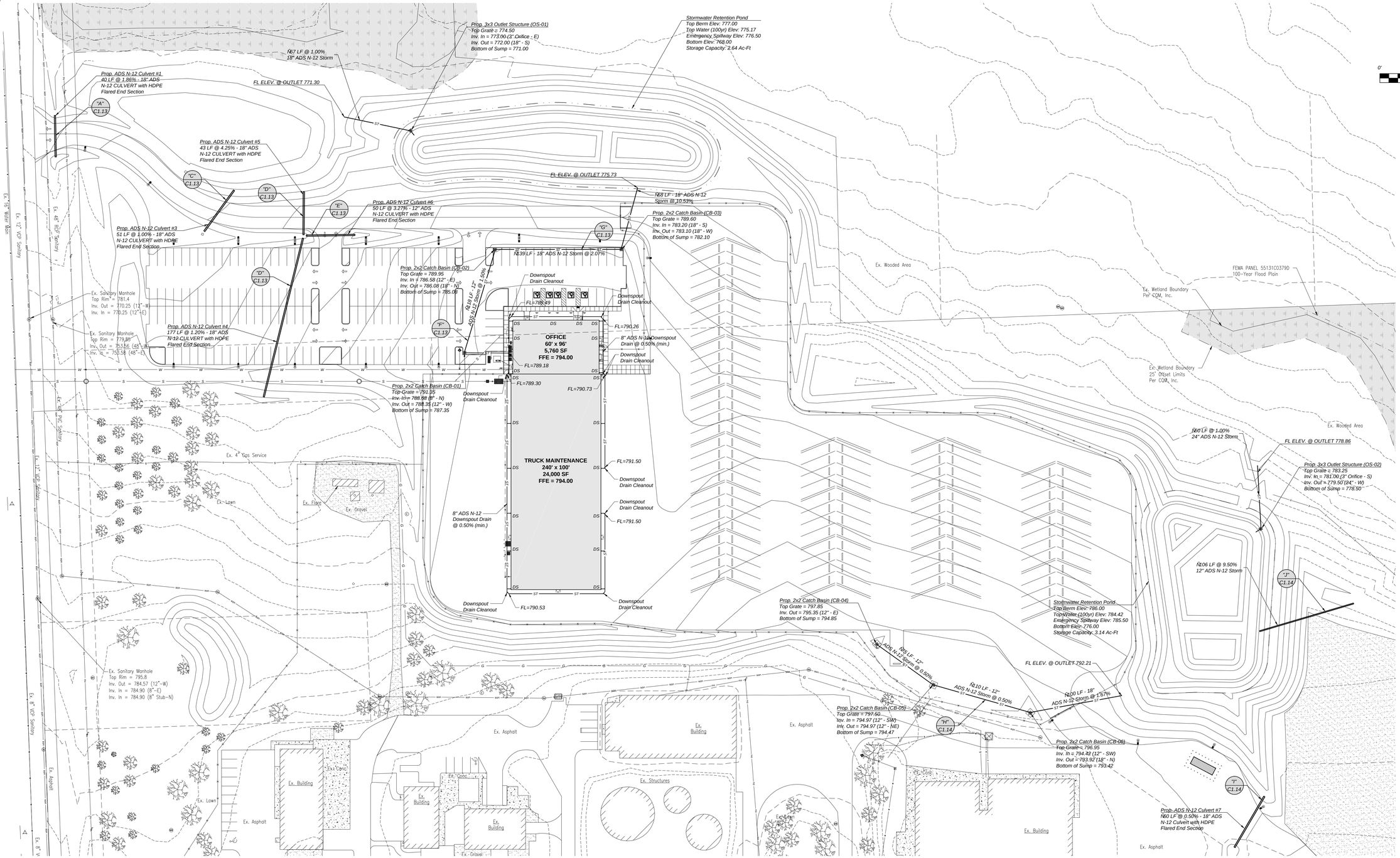
WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY GERMANTOWN, WI

SHEET TITLE: HARD SURFACE KEY PLAN ALT BID

SHEET NO: C1.11

JOB NO: ENG-1465



STORM SEWER OVERALL PLAN

Scale: 1" = 50'

GENERAL NOTES:

A. *STREET SWEEPING: Streets directly adjacent to construction entrances and receiving traffic from the development area shall be cleaned daily to remove sediment tracked off-site.*

B. *INTERNAL INSPECTION AND MAINTENANCE: All controls on the development shall be inspected at least once every seven (7) calendar days and within 24 hours after any storm event greater than one-half (0.5) inch of rain per 24 hour period by the Owner.*

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

ISSUE DATE: 02/28/2020 | SCALE: 1" = 50' | CTR INT.: 2"
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DRAWN BY: DSW | APPROVED BY: MJB

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WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI

SHEET TITLE: STORM SEWER OVERALL PLAN

SHEET NO: C1.12

JOB NO: ENG-1465

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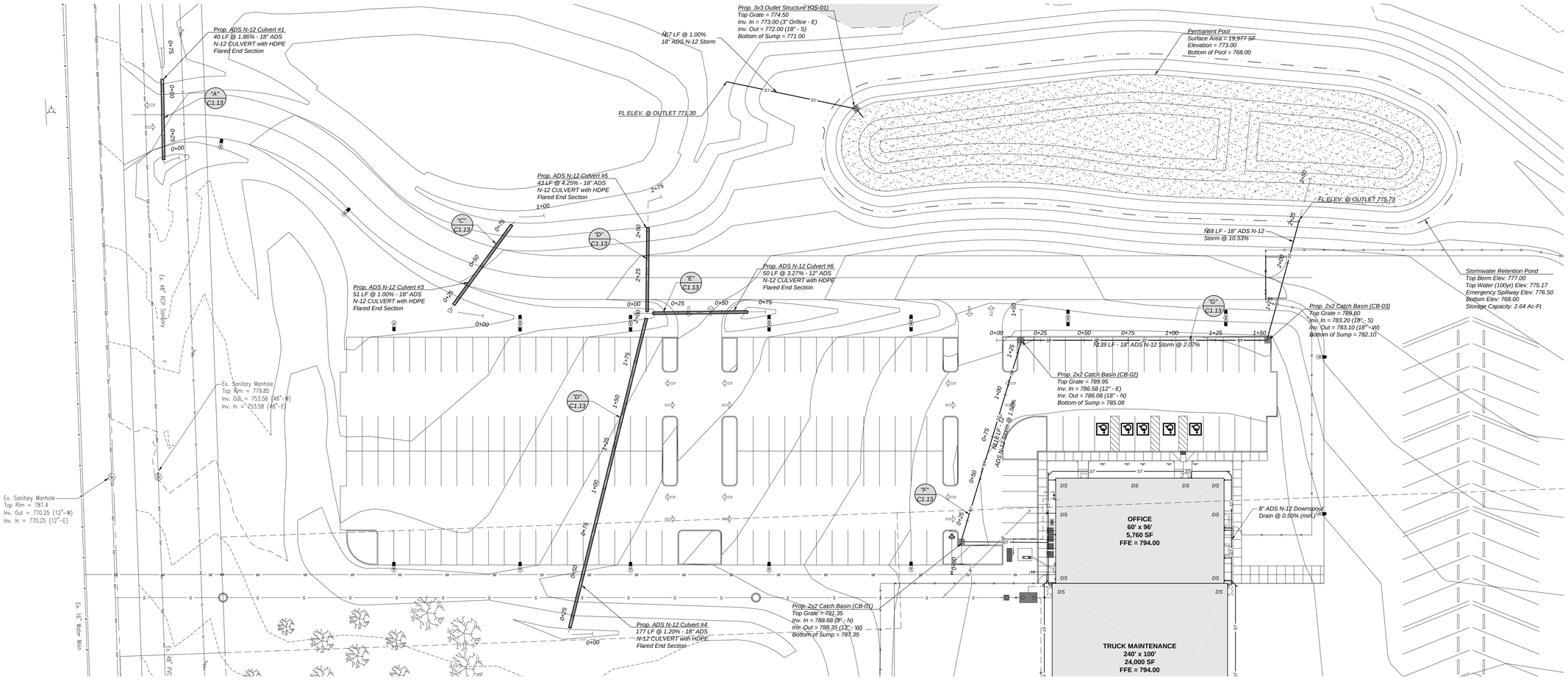
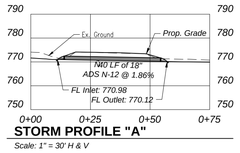


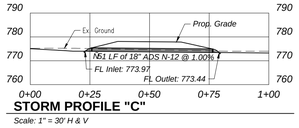
ENLARGED STORM SEWER PLAN

Scale: 1" = 30'



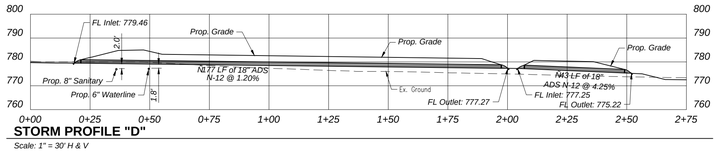
STORM PROFILE "A"

Scale: 1" = 30' H & V



STORM PROFILE "C"

Scale: 1" = 30' H & V



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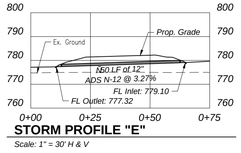

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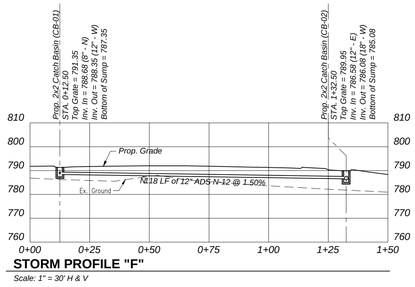

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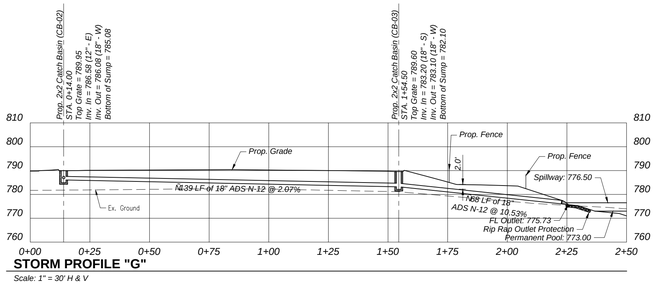

STORM PROFILE "G"

Scale: 1" = 30' H & V

NORTH

Scale: 1 in. = 30 ft.

0' 30' 60' 90'

Graphic Scale

GENERAL NOTES:

A. *All existing utilities are shown herein as reference only and are based on record of the various utility companies. Contractor is responsible for determining the exact locations and depths of all utilities prior to any construction activities.*

B. *The contractor shall field verify the elevations and pipe material of existing piping prior to ordering any pre-cast structure.*

C. *The contractor shall refer to architectural plans for exact location and size of downspouts.*

D. *The Site Contractor shall coordinate locations of utilities provided by other trades not shown on this plan.*

E. *Inlet and outlet elevations are to the interior flow line of pipe and does not account for pipe wall thickness.*

ISSUE DATE 02/28/2020 | SCALE 1" = 30' | CTR INT. 2"
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REV | DATE

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WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI

SHEET TITLE: STORM SEWER PLAN AND PROFILE

SHEET NO: C1.13

JOB NO: ENG-1465

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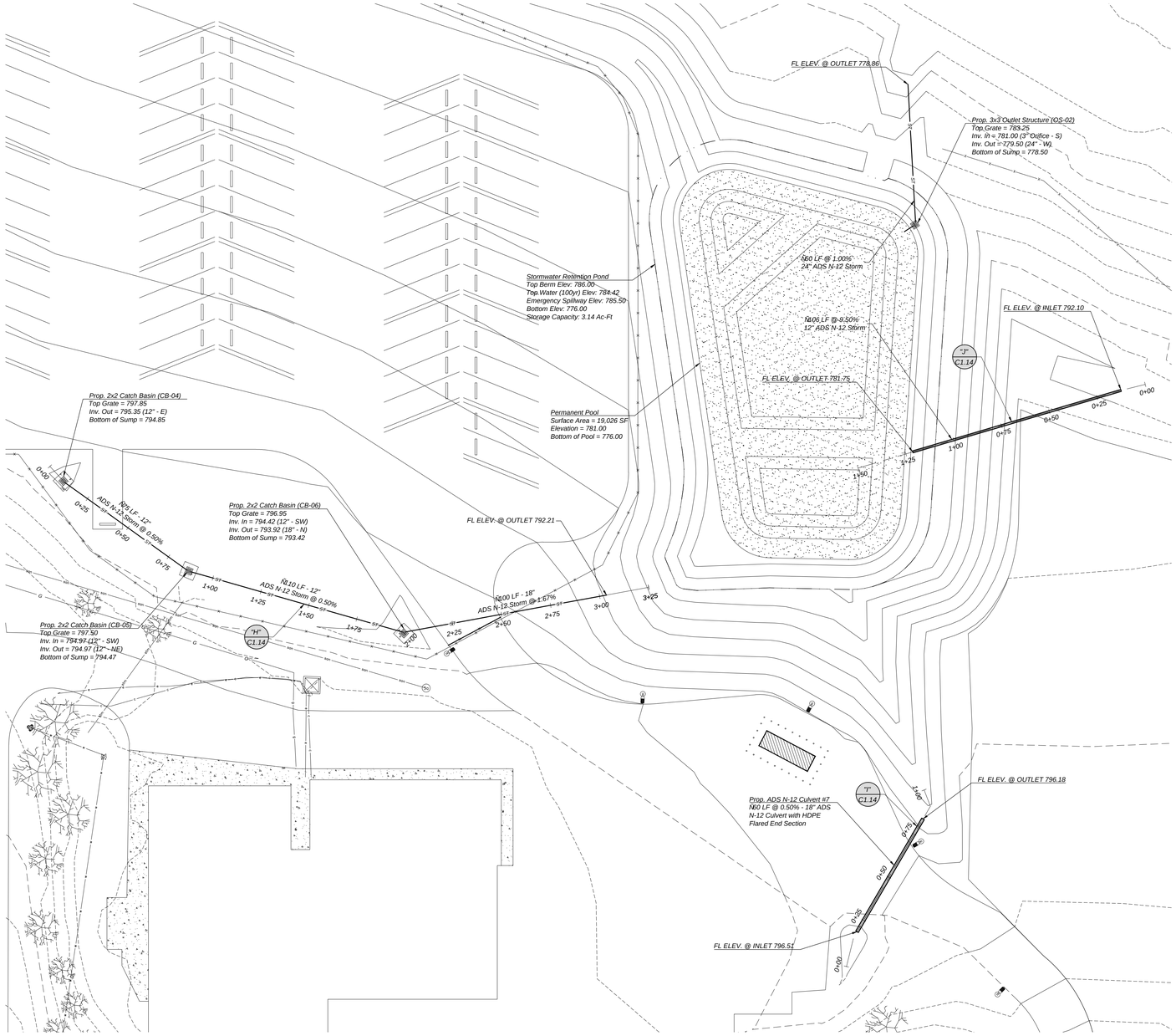
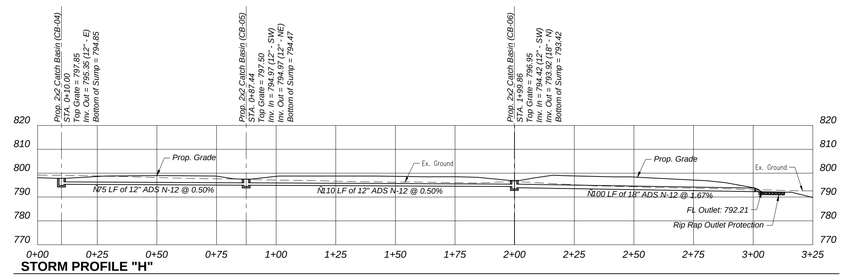


ENLARGED STORM SEWER PLAN

Scale: 1" = 30'



STORM PROFILE "H"

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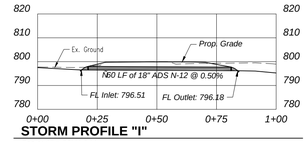

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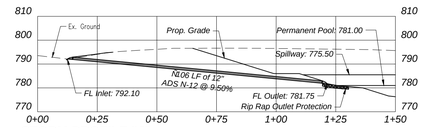

STORM PROFILE "J"

Scale: 1" = 30' H & V

NORTH

Scale: 1 in. = 30 ft.

0' 30' 60' 90'

Graphic Scale

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DRAWN BY: LSW | APPROVED BY: MJB

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WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI

SHEET TITLE: STORM SEWER
PLAN AND PROFILE

SHEET NO: C1.14

JOB NO: ENG-1465

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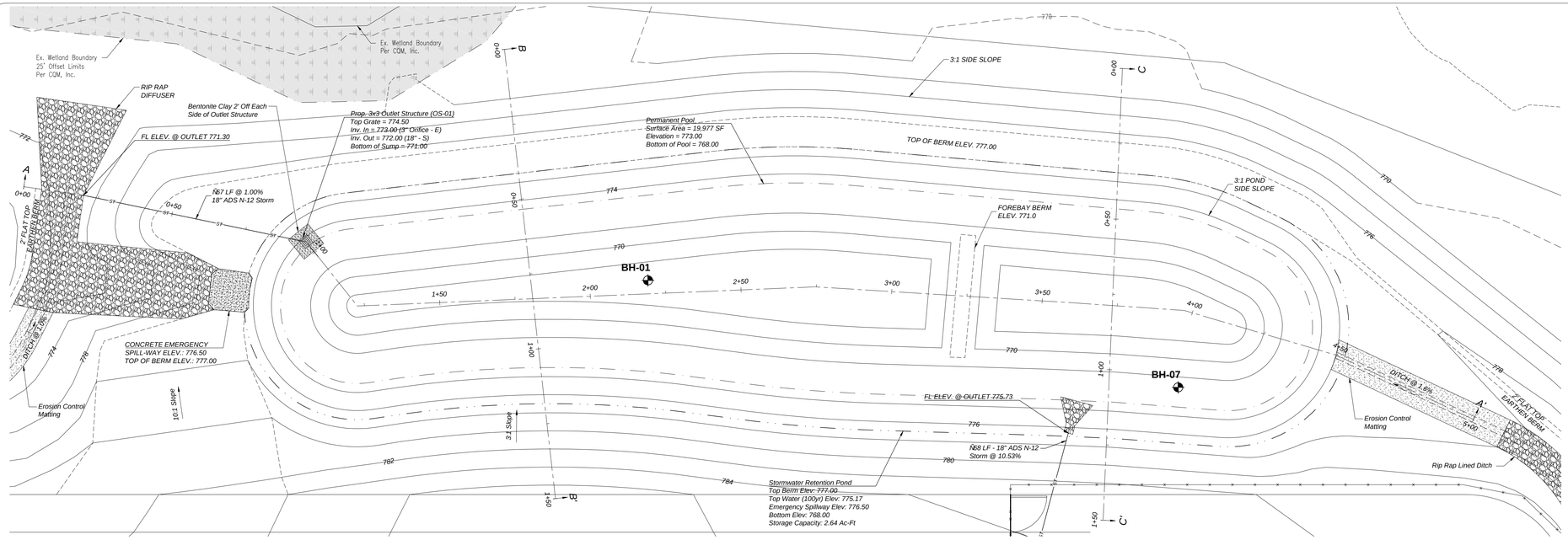
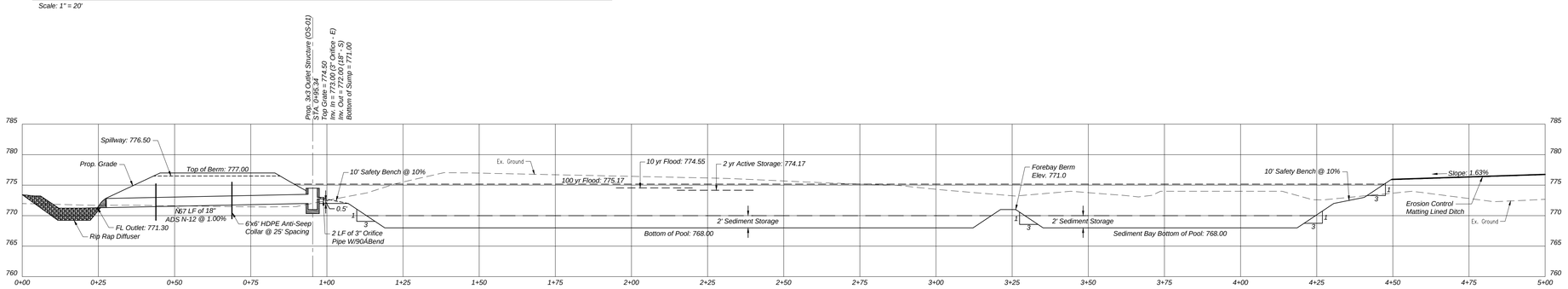


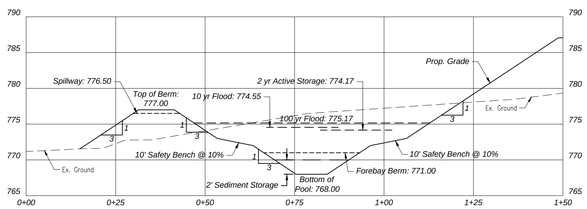
WEST POND PLAN

Scale: 1" = 20'



WEST POND SECTION A-A'

Scale: 1" = 20' H & 1" = 10' V



WEST POND SECTION B-B'

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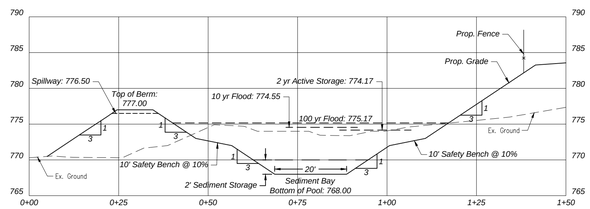
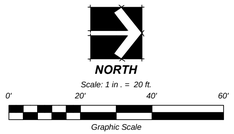


WEST POND SECTION C-C'

Scale: 1" = 20' H & 1" = 10' V



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WASTE MANAGEMENT

PROJECT: *TRUCK MAINTENANCE FACILITY*
GERMANTOWN, WI

SHEET TITLE: *WEST WET POND PLAN*

SHEET NO: **C1.15**

JOB NO: ENG-1465

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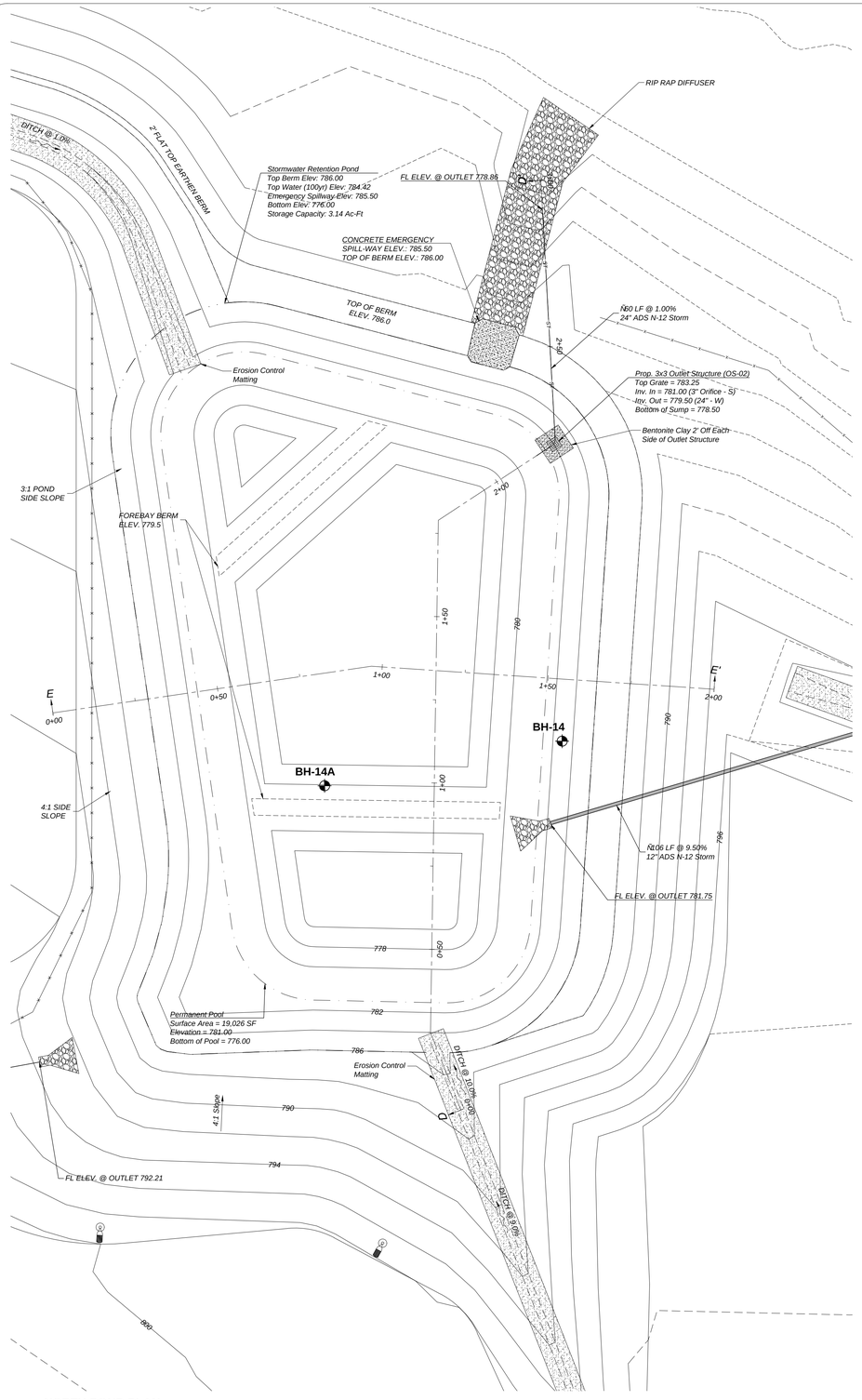
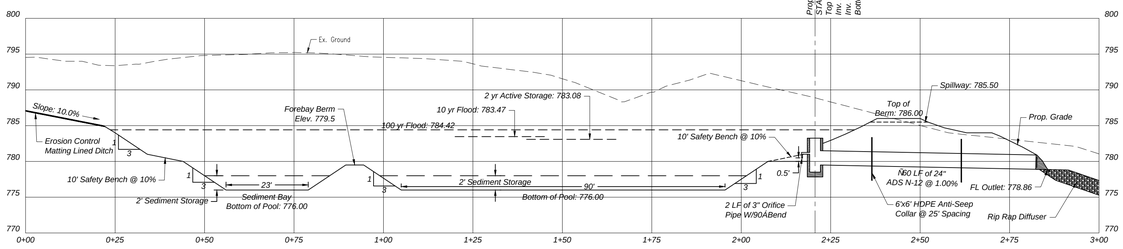


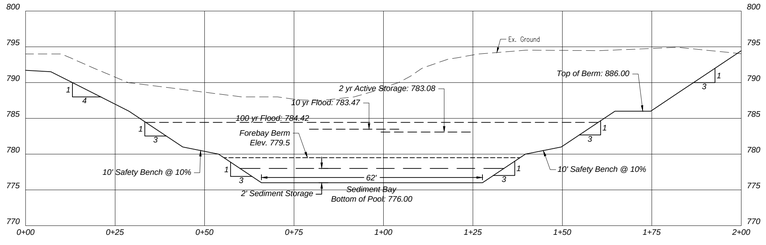
NORTH POND PLAN

Scale: 1" = 20'



NORTH POND SECTION D-D'

Scale: 1" = 20' H & 1" = 10' V



NORTH POND SECTION E-E'

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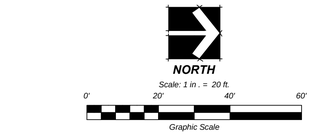

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WASTE MANAGEMENT

PROJECT: *TRUCK MAINTENANCE FACILITY*
GERMANTOWN, WI

SHEET TITLE: *NORTH WET POND PLAN*

SHEET NO: **C1.16**

JOB NO: ENG-1465

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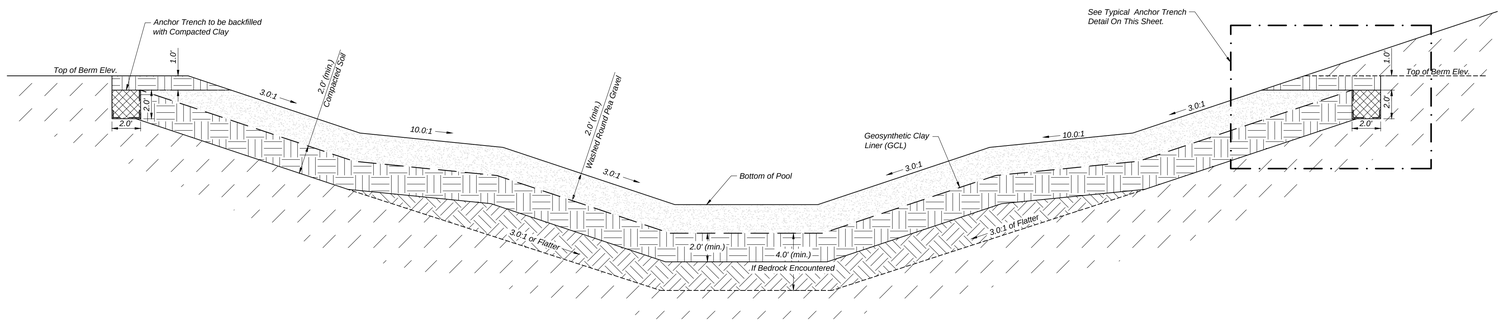


TYPICAL POND LINER

DETAIL SCALE: NOT TO SCALE — 1 / C1.17

POND LINER SPECIFICATIONS

WASTE STORAGE FACILITY

(No.)

Code 313

313–12

Table 4 - *Geosynthetic Clay Liner (GCL)* Criteria for Impoundments

1a. Soils (Directly Below Liner) [Note 1]			
% Fines		≥ 20%	≥ 20%
Plasticity Index (PI)		≥ 7	—
Thickness (from bottom and sides)		≥ 2 ft.	≥ 3 ft.
Compaction of placed material		WI Spec 203 [Note 2]	WI Spec 203 [Note 2]
1b. Liner Cover Material Thickness			
Bottom		≥ 1 ft.	≥ 1 ft.
Side Slopes		≥ 2 ft.	≥ 2 ft.
Compaction of Placed Materials		WI Spec 203 [Note 2]	WI Spec 203 [Note 2]
2. Separation Distances			
Well Distance [Note 3]		≥ 250 ft.	≥ 250 ft.
Sinkholes		≥ 400 ft.	≥ 400 ft.
Subsurface Saturation (V.A.9)		≥ 4 ft.	≥ 5 ft.
Bedrock		≥ 4 ft.	≥ 5 ft.
3. Impoundment			
Inside Slope [Note 4]		3:1 or flatter	
4. Other			
Liner Protection	Agitation and Pumping Locations	Minimum dimension of 20 ft. wide x 30 ft. long x 4 in. thick concrete pad or sump in bottom and 20 ft. wide ramp or a 16 ft. wide ramp with 18 in. high curb to top of facility. GCL continues under the concrete pad or sump. Poured in place concrete slabs shall meet requirements of Section V.B.1.	
	- Scraping and Other Mechanical Means of Removing Solids and Sand	Sand bedding may be used in conjunction with a geosynthetic clay liner, but the design must include a method to remove sand from the waste stream before the waste is stored in the liner or the liner must be protected to allow mechanical removal of the sand. Poured in place concrete slabs shall meet requirements of Section V.B.1.	
GCL Material [Note 5]		Non-woven needle punched.	

[Note 1] The liner is in intimate contact with the soil, and the two work together to reduce seepage losses. The PI shall be determined in accordance with ASTM D4318 and the percent fines in accordance with ASTM D1140.

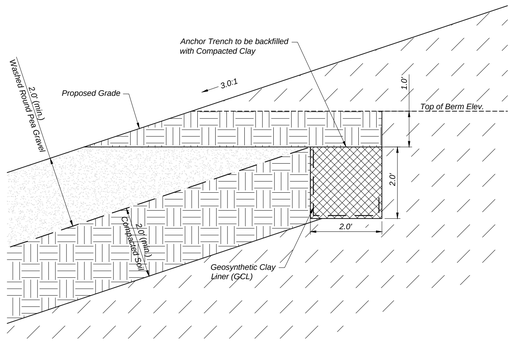
[Note 2] WI FOTG Construction Specification 203, Geosynthetic Clay Liner.

[Note 3] Community water system wells may require larger separation distances (see NR 811).

[Note 4] The GCL and soil cover shall be stable at the designed side slope.

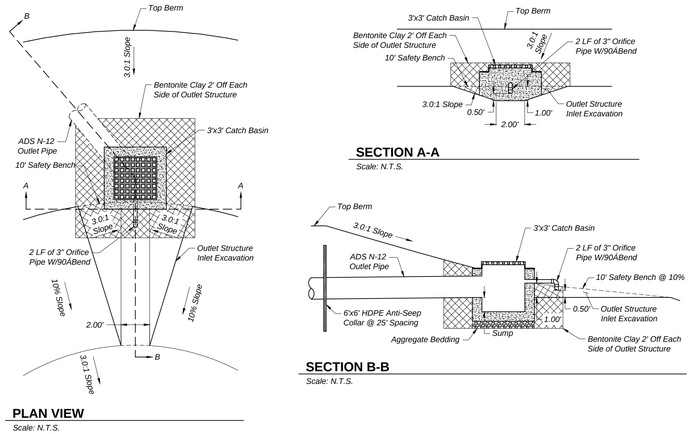
[Note 5] The liner shall be installed according to manufacturer's specifications and WI FOTG Construction Specification 203, Geosynthetic Clay Liner.

NRCS, WI
1/14



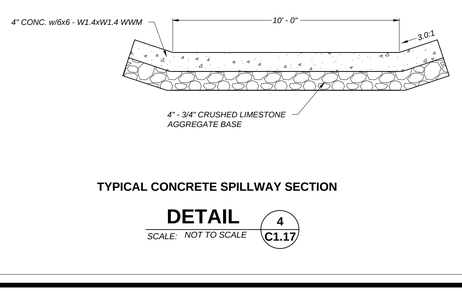
TYPICAL ANCHOR TRENCH

DETAIL SCALE: NOT TO SCALE — 2 / C1.17



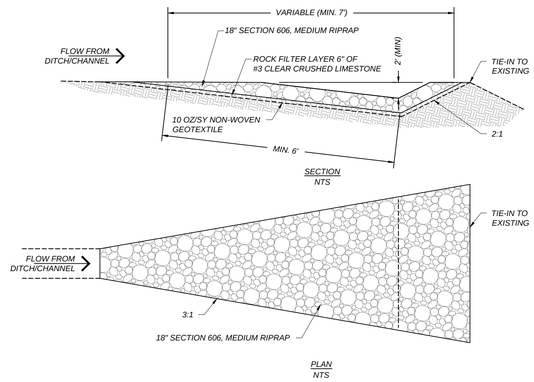
TYPICAL OUTLET STRUCTURE

DETAIL SCALE: NOT TO SCALE — 3 / C1.17



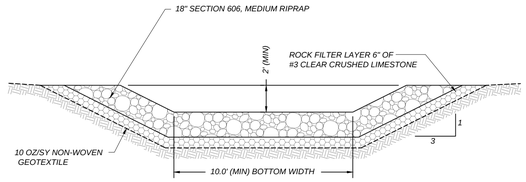
TYPICAL CONCRETE SPILLWAY SECTION

DETAIL SCALE: NOT TO SCALE — 4 / C1.17



RIP RAP STONE DIFFUSER

DETAIL SCALE: NOT TO SCALE — 5 / C1.17



TYPICAL 10' BASE RIP RAP CHANNEL

DETAIL SCALE: NOT TO SCALE — 6 / C1.17

ISSUE DATE	02/28/2020	SCALE	N.T.S.	CTR INT.	-
SURVEYED BY		COM		CHECKED BY	KJB
DRAWN BY		ESW		APPROVED BY	MJB

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

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WASTE MANAGEMENT

PROJECT: *TRUCK MAINTENANCE FACILITY GERMANTOWN, WI*

SHEET TITLE: *WET POND DETAILS*

SHEET NO: **C1.17**

JOB NO: **ENG-1465**

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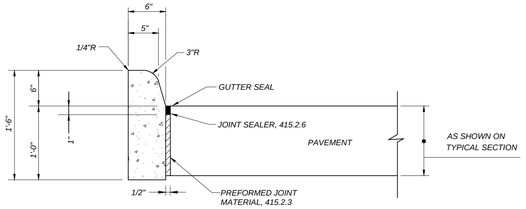
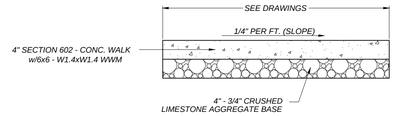


DESIGNER NOTE: EXPANSION JOINT MATERIAL AND JOINT SEALER IS NOT REQUIRED FOR THAT PORTION OF THE CURB WHICH IS ADJACENT TO A FLEXIBLE TYPE PAVEMENT.

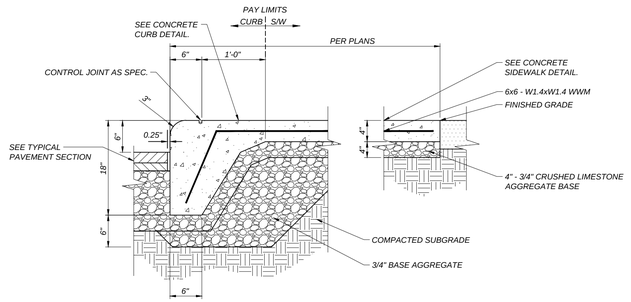
STANDARD 6" CONCRETE CURB DETAIL

DETAIL 1 / C2.0
SCALE: NOT TO SCALE



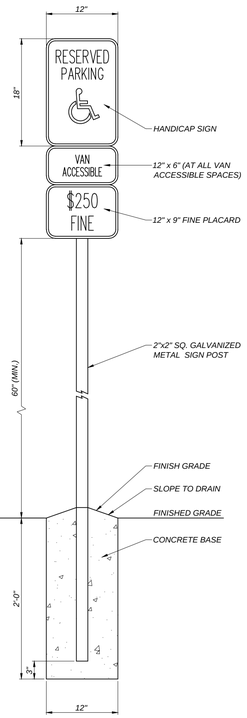
TYPICAL CONCRETE SIDEWALK SECTION

DETAIL 2 / C2.0
SCALE: NOT TO SCALE



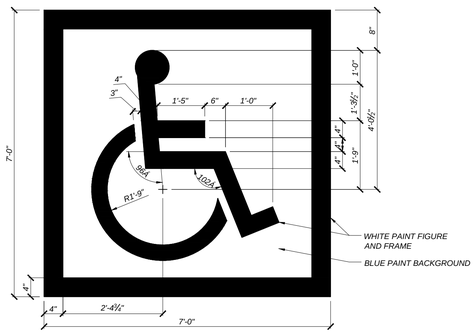
TYPICAL INTEGRAL CONCRETE CURB AND SIDEWALK DETAIL

DETAIL 3 / C2.0
SCALE: NOT TO SCALE



TYPICAL ACCESSIBLE PARKING SIGN DETAIL

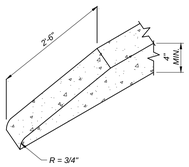
DETAIL 4 / C2.0
SCALE: NOT TO SCALE



NOTES:
1.) *SYMBOL TO BE CENTERED ON WIDTH OF PARKING STALL.*
2.) *BOTTOM OF SYMBOL FRAME TO BE LOCATED 6" FROM ACCESS DRIVE, INTO PARKING SPACE.*
3.) *SYMBOL IS REQUIRED TO CONTRAST WITH BACKGROUND.*
4.) *USE WHITE ON BLUE (COLOR #105090 IN FEDERAL STANDARD 5952) (2) COATS.*

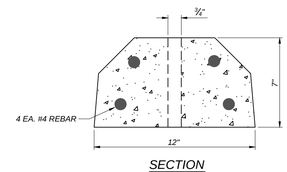
PAVEMENT MARKING INTERNATIONAL SYMBOL OF ACCESSIBILITY FOR PARKING STALLS

DETAIL 5 / C2.0
SCALE: NOT TO SCALE

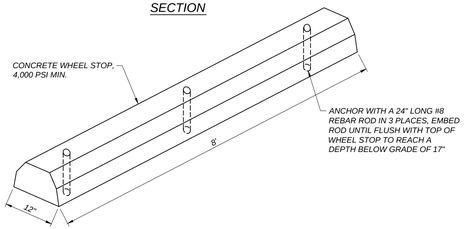


CONCRETE CURB TAPER DETAIL

DETAIL 6 / C2.0
SCALE: NOT TO SCALE

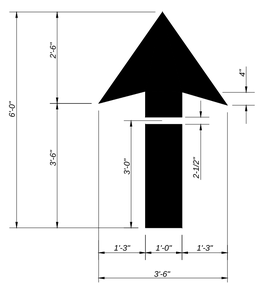


SECTION



TYPICAL CONCRETE TRUCK WHEEL STOP

DETAIL 7 / C2.0
SCALE: NOT TO SCALE



PAVEMENT MARKING TYPICAL DIRECTIONAL ARROW

DETAIL 8 / C2.0
SCALE: NOT TO SCALE

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REV	DATE	DESCRIPTION			DWN BY	DES BY	CHK BY	APP BY

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NEW PHILADELPHIA, OH 44663

WASTE MANAGEMENT

PROJECT: *TRUCK MAINTENANCE FACILITY GERMANTOWN, WI*

SHEET TITLE: *GENERAL DETAILS*

SHEET NO: **C2.0**

JOB NO: *ENG-1465*

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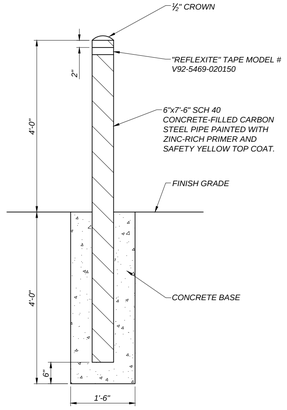
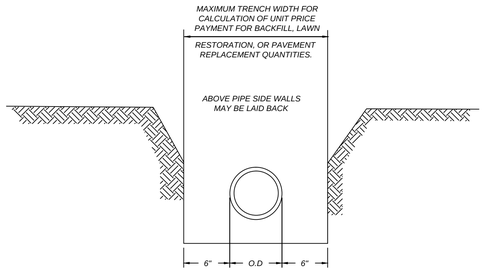


TYPICAL PIPE BOLLARD

DETAIL 1 / C2.1

SCALE: NOT TO SCALE



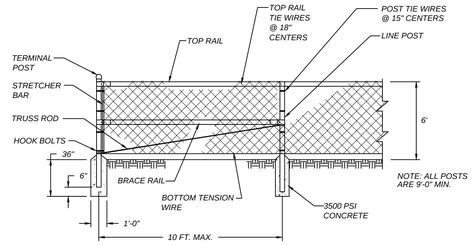
NOTES:

1. INCLUDE ANY COST ASSOCIATED WITH RESTORATION, REPAIR, AND REPLACEMENT, OUTSIDE THE ALLOWABLE TRENCH WIDTH IN THE COST OF WORK WITHIN THE ALLOWABLE TRENCH WIDTH.
2. THE WIDTH OF THE ACTUAL TRENCH BELOW THE ELEVATION OF THE TOP OF THE PIPE IS LIMITED TO WIDTHS ALLOWED BY THE APPLICABLE ASTM STANDARD FOR THE TYPE OF PIPE BEING USED.

SINGLE PIPE TYPICAL TRENCH

DETAIL 2 / C2.1

SCALE: NOT TO SCALE

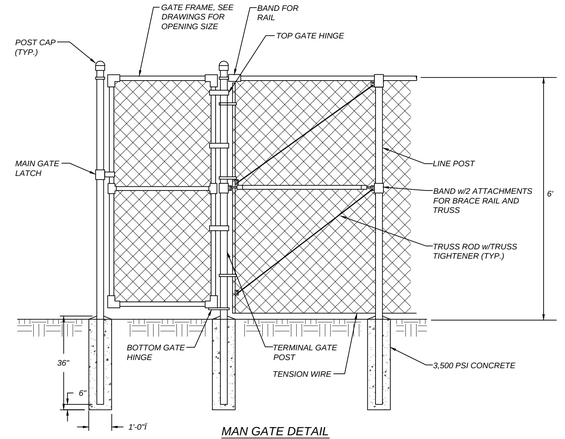


FENCE DETAILS

NOT TO SCALE

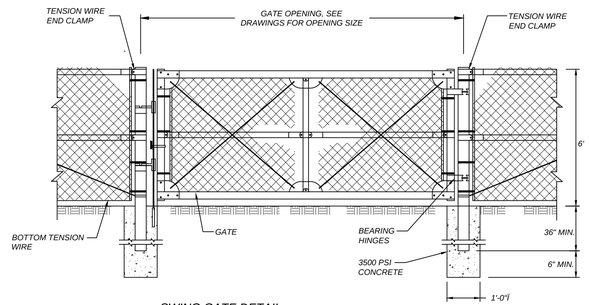
CONSTRUCTION NOTES:

1. MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE MANUFACTURER'S SPECIFICATIONS.
2. ALL POSTS SHALL BE INSTALLED VERTICALLY. WHERE POSTS ARE INSTALLED ON AN INCLINED SURFACE, THE ANGLE OF THE POST SHALL BE ADJUSTED SO THAT THE POST WILL BE VERTICAL.
3. THE FENCING SHALL BE #11 GAGE FENCE FABRIC, STANDARD 2-INCH CHAIN LINK DIAMOND MESH. MAXIMUM CLEAR SPACING AT BOTTOM IS 2".
4. CONTRACTOR TO CONFIRM ALL SAFETY SPECIFICATIONS PRIOR TO FABRICATION / INSTALLATION OF FENCE, GATES AND APPURTENANCES.



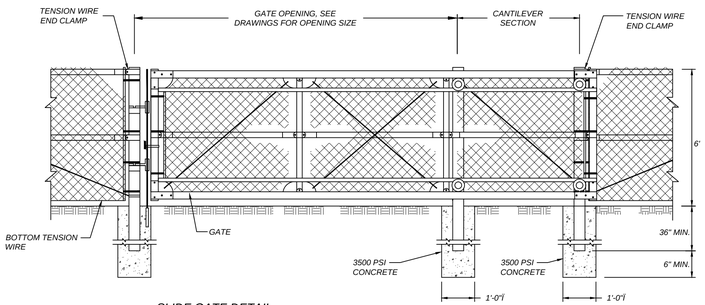
MAN GATE DETAIL

NOT TO SCALE



SWING GATE DETAIL

NOT TO SCALE



SLIDE GATE DETAIL

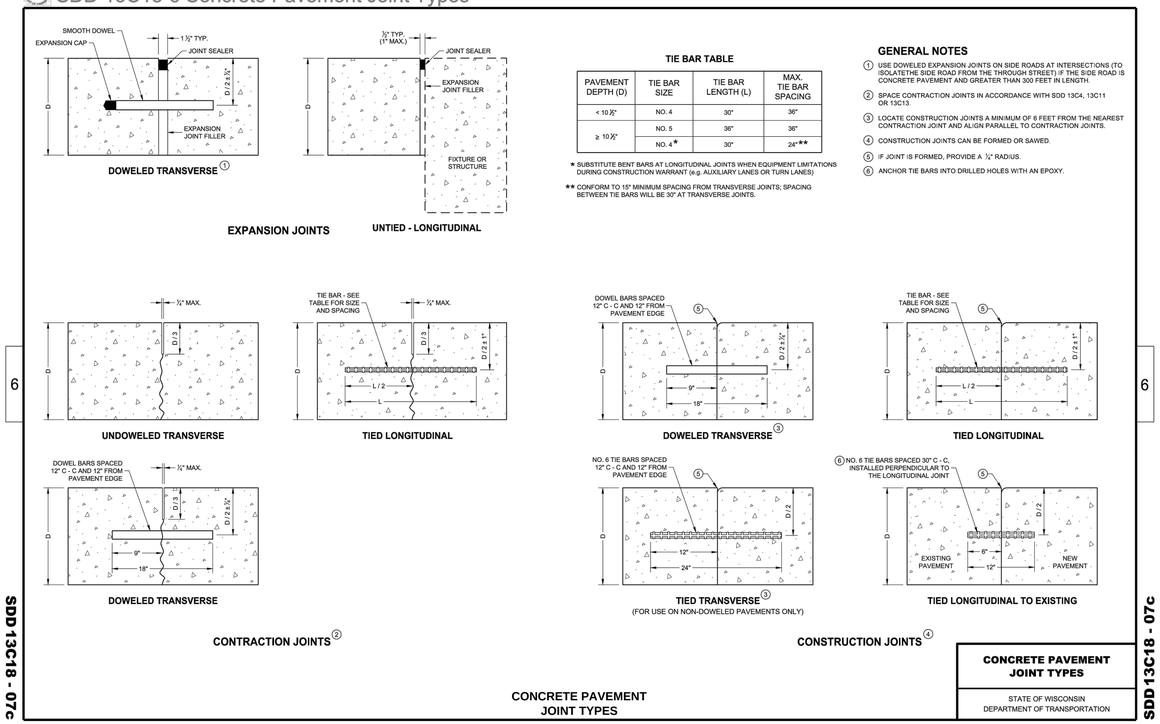
NOT TO SCALE

TYPICAL CHAIN LINK FENCE & ACCESS GATE

DETAIL 3 / C2.1

SCALE: NOT TO SCALE

SDD 13C18-c Concrete Pavement Joint Types



CONCRETE PAVEMENT JOINT TYPES

DETAIL 4 / C2.1

SCALE: NOT TO SCALE

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WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI

SHEET TITLE: GENERAL DETAILS

SHEET NO: C2.1

JOB NO: ENG-1465

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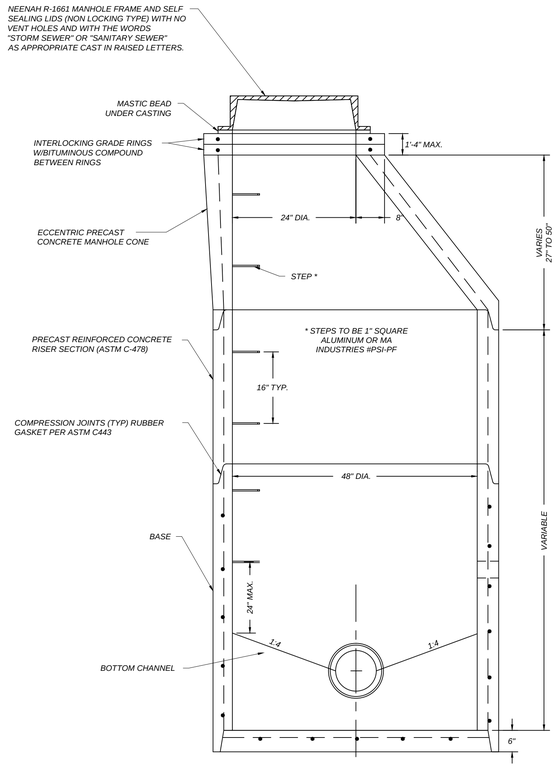
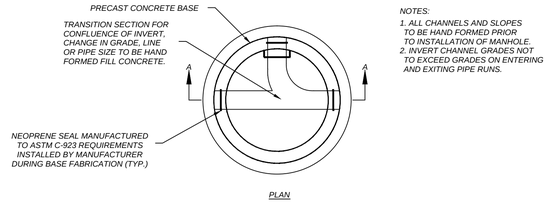


PRECAST CONCRETE MANHOLE

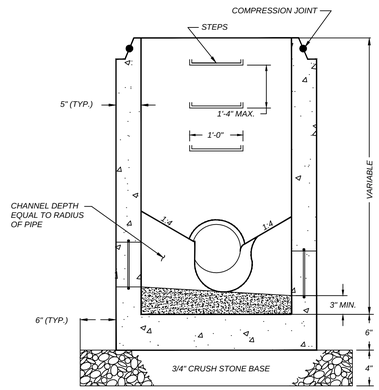
DETAIL 1 / C2.2 — SCALE: NOT TO SCALE



PLAN

NOT TO SCALE

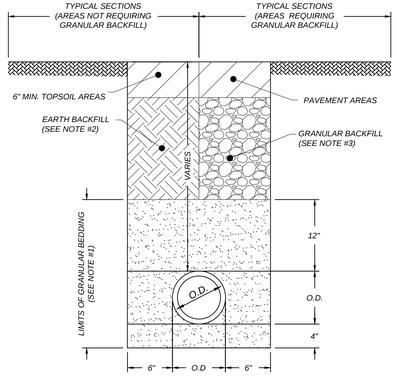
NOTES:
1. ALL CHANNELS AND SLOPES TO BE HAND FORMED PRIOR TO INSTALLATION OF MANHOLE.
2. INVERT CHANNEL GRADES NOT TO EXCEED GRADES ON ENTERING AND EXITING PIPE RUNS.



SECTION A-A

PRECAST MONOLITHIC CONCRETE MANHOLE BASE

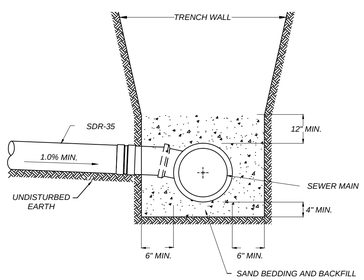
DETAIL 2 / C2.2 — SCALE: NOT TO SCALE



NOTES:
1. AGGREGATE FOR BEDDING IS ¾" CRUSHED STONE CHIPS.
2. EARTH BACKFILL SHALL BE NATURAL SOIL FREE FROM STONES LARGER THAN TWO INCHES ACROSS THEIR GREATEST DIMENSION, TOPSOIL, VEGETATION, DEBRIS, RUBBISH, OR FROZEN MATERIAL, COMPACTED TO 95% OF ITS MAXIMUM DRY WEIGHT.
3. GRANULAR BACKFILL TO BE USED UNDER AND WITHIN 1.5:1 OF PAVEMENT EDGE OR PAVED BERM, AND SHALL BE COMPACTED 1-1/4" DENSE-GRADE AGGREGATE BASE.

PIPE BEDDING / BACKFILL DETAIL FOR ALL FLEXIBLE SEWER PIPE

DETAIL 3 / C2.2 — SCALE: NOT TO SCALE



SECTION

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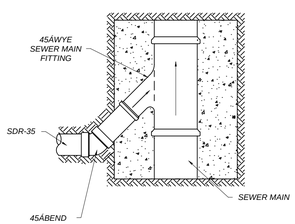
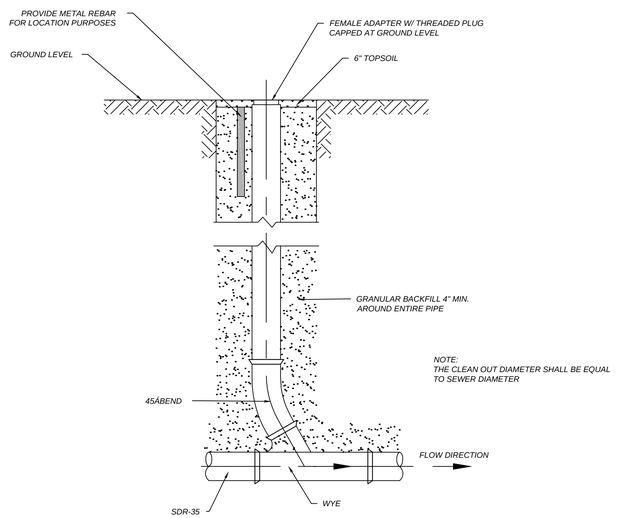


PLAN

NOT TO SCALE

TYPICAL SANITARY SEWER LATERAL

DETAIL 4 / C2.2 — SCALE: NOT TO SCALE



TYPICAL CLEAN OUT

DETAIL 5 / C2.2 — SCALE: NOT TO SCALE

SANITARY SEWER SPECIFICATIONS

GENERAL

1. NEW SANITARY SEWER LINE SHALL NOT BE USED FOR CONTROLLING GROUND WATER. IF GROUND WATER IS ENCOUNTERED, CONTRACTOR WILL PROVIDE AND OPERATE APPROPRIATE PUMPING EQUIPMENT ADEQUATE TO MAINTAIN WORKING CONDITIONS, SO THAT LAYING AND JOINTING PIPE SECTIONS IS COMPLETED IN A DRY ENVIRONMENT. WATER DISCHARGED FROM PUMPS WILL BE DONE IN A WAY NOT TO CAUSE PROPERTY DAMAGE.
2. SANITARY SEWERS LOCATED WITHIN THE LIMITS OF OR WITHIN A 1.5:1 SLOPE OF EXISTING AND/OR PROPOSED ROADWAYS, PARKING AREAS, BUILDINGS, SIDEWALKS, AND/OR DRIVES SHALL HAVE GRANULAR BACKFILL. ALL OTHER SANITARY SEWERS MAY HAVE NON-GRANULAR BACKFILL.

SANITARY SEWER PIPE

1. SANITARY SEWER PIPE SHALL BE POLYVINYL CHLORIDE (PVC) GRAVITY SEWER PIPE MANUFACTURED IN ACCORDANCE WITH ASTM D-3034, SDR 35 WITH GASKET (ELASTOMETRIC SEALS) JOINTS. PIPE JOINTS SHALL MEET ASTM D-3212-92 FOR DRAIN AND SEWER PIPE USING FLEXIBLE ELASTOMETRIC SEALS AND THE SEALS SHALL MEET ASTM F-477 FOR ELASTOMETRIC SEALS.
2. ALL MAIN SEWER LINES SHALL BE NOMINAL 8" DIAMETER.
3. SANITARY SEWER PIPE SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
4. PIPE SHALL BE LAID STRAIGHT AND TRUE TO GRADE ALIGNMENT
5. PIPE DEFLECTION SHALL NOT EXCEED 5% HORIZONTAL.
6. A MANDRELL TEST SHALL BE PERFORMED ON ALL NEW SEWER LINES INSTALLED IN ACCORDANCE WITH ASTM D-2321.
7. A LOW PRESSURE AIR TEST SHALL BE PERFORMED ON ALL NEW SANITARY SEWER LINES INSTALLED IN ACCORDANCE WITH ASTM F1417-98
8. ALL SANITARY SEWERS OR MANHOLES SHALL BE PLACED WITH AT LEAST 10 FEET HORIZONTAL SEPARATION (OUT-TO-OUT CLEAR) FROM WATER LINES. WHENEVER A WATER LINE AND SEWER MUST CROSS, AN 18 INCH MINIMUM VERTICAL SEPARATION (OUT-TO-OUT CLEAR) SHALL BE MAINTAINED BETWEEN WATER AND SEWER.

MANHOLES

1. MANHOLES SHALL BE CONSTRUCTED OF PRECAST CONCRETE WITH CAST IRON FRAMES AND COVERS AT THE LOCATIONS AS SHOWN ON THE PLANS.
2. TOPS OF MANHOLES SHALL BE CONSTRUCTED TO THE GRADES SPECIFIED IN THE PLANS. PRECAST REINFORCED CONCRETE GRADE RINGS MAY BE USED TO MAKE MINOR ADJUSTMENTS IN GRADE TO ENABLE THE FRAME AND COVER TO BE SET AT THE SPECIFIED GRADE. THE PRECAST GRADE RINGS SHALL BE INSTALLED USING BITUMINOUS COMPOUND BETWEEN JOINTS TO INSURE A WATER TIGHT FIT. MANHOLES SHALL BE SET ON A CONTINUOUS MASTIC BEAD TO INSURE A WATERTIGHT FIT.
3. PRECAST CONCRETE MANHOLES SHALL BE REINFORCED AND MEET ASTM C-478. MANHOLE RISER SECTIONS SHALL HAVE O-RING JOINTS CONFORMING TO ASTM C-443.
4. MANHOLE BASE SECTIONS SHALL HAVE PRE-FORMED OPENINGS FOR PIPE(S) WITH NEOPRENE SEALS, MANUFACTURED TO ASTM C-923 SPECIFICATIONS, INSTALLED DURING BASE FABRICATION.
5. FLOW CHANNELS IN THE MANHOLE BASE(S) SHALL BE PREFORMED AND ALIGNED AS SHOWN ON THE PLANS.
6. MANHOLES SHALL BE PROPERLY ALIGNED, SET TRUE TO GRADE AND SHALL BE PLUMB.
7. MANHOLE FRAMES AND COVERS SHALL BE NEENAH R-1661 MANHOLE FRAME AND SELF SEALING LIDS (NON LOCKING TYPE) WITH NO VENT HOLES AND WITH THE WORDS "SANITARY SEWER" IN RAISED LETTERS CAST THEREON.
8. MANHOLES SHALL BE HYDROSTATICALLY TESTED FOR LEAKAGE OR BY VACUUM TEST PRIOR TO BACKFILL IN ACCORDANCE WITH ASTM C1244.

ISSUE DATE 02/28/2020 | SCALE N.T.S. | CTR INT. - | DWN BY | DES BY | CHK BY | APP BY
SURVEYED BY | COM | CHECKED BY | KJB
DRAWN BY | ESW | APPROVED BY | MJB
REV | DATE | DESCRIPTION

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Fax: (330) 364-4331
e-mail: dei@dei-eng.com
Web: www.dei-eng.com

WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY GERMANTOWN, WI

SHEET TITLE: SANITARY NOTES & TYPICAL DETAILS

SHEET NO: C2.2

JOB NO: ENG-1465

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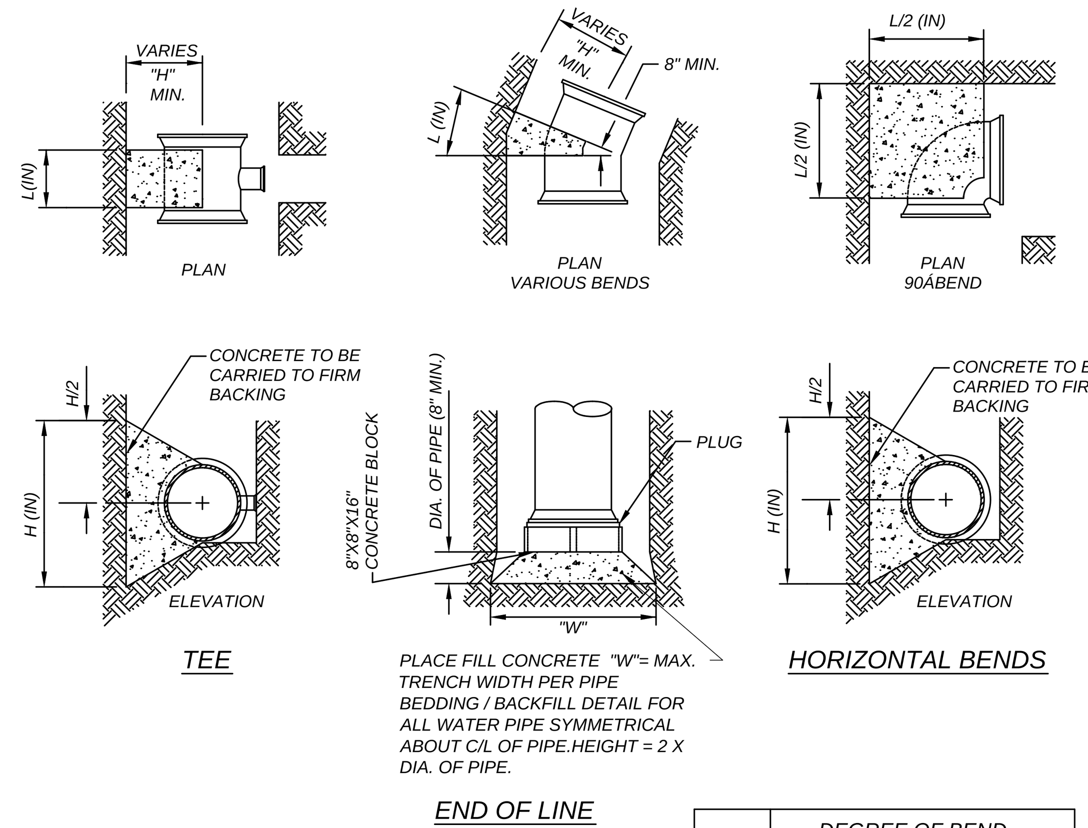


L & H DIMENSIONS ARE IN INCHES

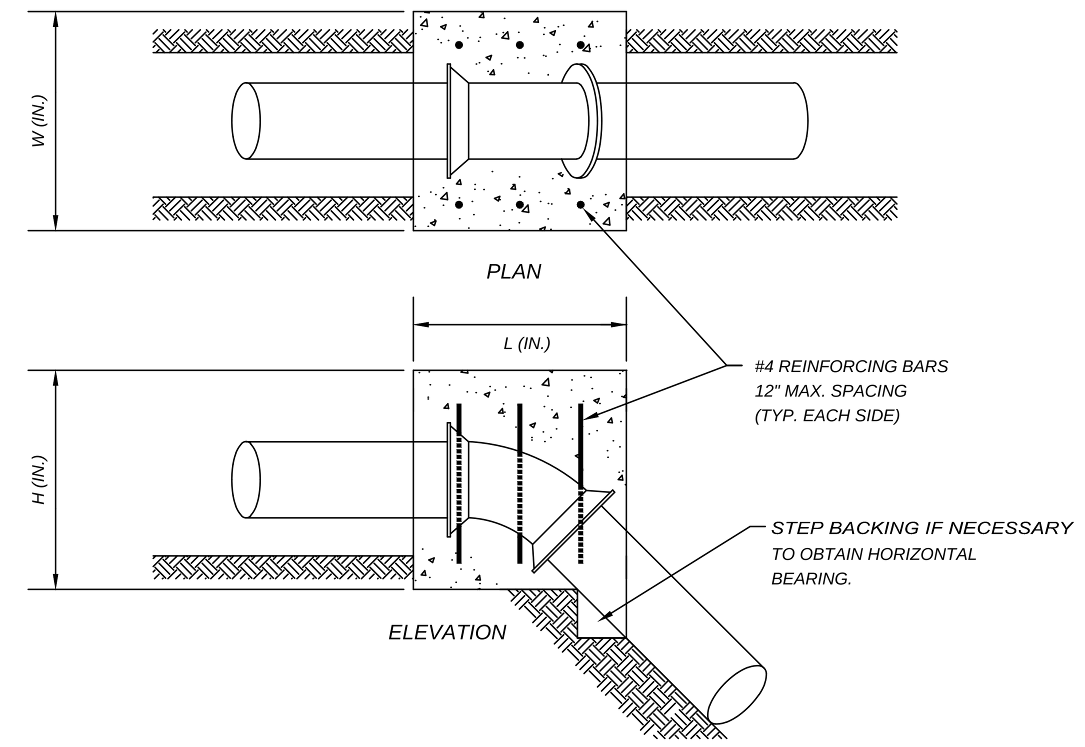
RUN	BRANCH 2"		3"		4"		6"		8"		10"		12"	
	L	H	L	H	L	H	L	H	L	H	L	H	L	H
2"	6	5												
3"	6	5	8	6										
4"	6	5	8	6	12	7								
6"	6	6	8	6	10	8	15	12						
8"	6	8	6	8	10	8	15	12	18	18				
10"	6	10	6	10	8	10	15	12	18	18	22	22		
12"	6	12	6	12	7	12	15	12	18	18	22	22	24	29
14"	6	14	6	14	6	14	13	14	18	18	22	22	26	27

NOTE: USE FILL CONCRETE. DESIGN BASED ON A WORKING PRESSURE OF 125 PSI AND A SOIL BEARING OF 3000 LB./SQ. FT.

SIZE OF PIPE	DEGREE OF BEND 11¼Á		22½Á		45Á		90Á	
	L	H	L	H	L	H	L	H
2"	4	3	4	4	5	4	10	5
3"	4	3	5	4	7	5	16	6
4"	5	4	7	5	10	6	20	8
6"	6	6	10	7	17	8	30	12
8"	8	8	14	9	19	13	36	18
10"	10	10	17	11	22	17	44	22
12"	12	12	19	15	24	22	48	29
14"	14	14	20	19	25	29	52	36
16"	16	16	20	24	27	35	58	42
18"	18	18	22	28	28	42	62	50
20"	20	20	25	30	32	46	68	56
24"	23	24	29	37	36	58	80	68

THRUST BLOCKING DETAIL
HORIZONTAL BENDS

DETAIL 1 / C2.3
SCALE: NOT TO SCALE



NOTE:
1. BLOCKING TO BE CENTERED ON BEND HORIZONTALLY.
2. ALL CONCRETE TO BE FILL CONCRETE.
3. L & W & H DIMENSIONS ARE IN INCHES.
4. BLOCKING DESIGN BASED ON A WORKING PRESSURE OF 125 PSI AND A SOIL BEARING OF 3000 LB./SQ. FT.

SIZE OF PIPE	DEGREE OF BEND 11¼Á			22½Á			45Á			90Á		
	L	W	H	L	W	H	L	W	H	L	W	H
3"	12	18	15	13	24	15	18	30	16	25	30	20
4"	13	24	16	16	30	16	25	30	20	27	40	24
6"	15	36	18	27	36	18	30	44	24	36	45	36
8"	20	40	20	28	48	22	34	50	34	43	58	42
10"	24	44	22	32	54	27	40	55	40	51	64	50
12"	32	48	24	36	60	30	46	60	46	60	66	59
14"	34	54	26	40	60	38	54	60	53	66	73	66
16"	35	60	30	42	66	42	59	66	58	72	80	72
18"	36	66	32	48	66	46	66	66	65	75	94	74
20"	38	70	36	54	66	50	68	76	68	78	106	78
24"	42	72	44	60	72	60	78	84	77	90	114	90

THRUST BLOCKING DETAIL
VERTICAL BENDS

DETAIL 2 / C2.3
SCALE: NOT TO SCALE

REQUIREMENTS FOR WATER SERVICE OR FIRELINE INSTALLATION
Village of Menomonee Falls Water Utility

FIELD REQUIREMENTS
- A twenty-four (24) hour notice is required for inspection of all fittings, valves, and water main prior to installation.
- Water main or lateral installation may not begin until footings of building are installed.
- When installing a fireline only, a licensed sprinkler fitter is required to be on site.
- All valves to be operated by Water Utility personnel only.

TAPPING
- Forty-eight (48) hour notice is required prior to a tap. Contact the Water Utility at 262-532-4800 by 8:00 a.m. on day of tap to confirm tap due to possible cancellation, and so valving and throttling of watermains can be done in a timely manner as to avoid any damage to the utility facilities.
- The Water Utility requires a new tapping bit.
- Tapping saddles of four inch (4ò) thru twenty inch (20ò) will require testing before tapping by filling test plug with water and pressurized with air to eighty (80) PSI.
- All taps require tapping saddles. (See Material Specification List #9).

NOTE: Contractor to notify Water Utility for inspection before backfilling of all taps.

UNDERGROUND REQUIREMENTS
- All material must be inspected before backfilling. Failure to do so will require you to dig up for inspection.
- All water main and/or laterals must be installed at minimum six feet (6') bury depth.
- Plastic wrap on all fittings and valve boxes required.
- Firelines entering through a wall must be rodded back to the last twenty foot (20') bell clamp or wall clamp required. (See Material Specification List #5).
- Risers must be ductile iron only.
- No extensions on risers below grade.
- Concrete buttress required behind all bends.
- Megalugs and rods are required on spool piece.
- Ten (10) gauge solid tracer wire required from point of connection to inside.

PRESSURE TESTING
- Twenty-four (24) hour prior notification for a pressure test.
- A fireline test must be pumped up to test pressure by 12:45 p.m. the day of test.
- All mains four inch (4ò) thru twenty inch (20ò) require a 200 PSI pressure test for two (2) hours.
- No leakage test allowed.
- Only hydrostatic tests will be accepted.
- Only liquid filled gauge rated for over 200 PSI will be accepted. Gauge must be on tested portion separate from pump.

NOTE: Water Utility personnel must be present to witness test.

FILLING OF WATER MAINS
- Call the Water Utility office at (262) 532-4800 to arrange for all valving.
- Water for filling, testing and flushing will be supplied only with permission of the Water Utility.

FLUSHING
- Contact Water Utility to set up appointment time for flush. Water Utility will then coordinate with Fire Department.
- All water mains four (4ò) inch thru twenty (20ò) inch are required to have a line flush to remove debris from line per NFPA 24.
- No hook-up to the riser until a witnessed flush is completed and a safe sample has been returned.
- It is the contractor's responsibility for a water sample to be taken at time of flushing.
- Fire Department personnel must be present with Water Utility personnel during flushing.
- NFPA form 9-2.1 to be filled out and submitted at this time.

Hose Size requirements for flushing.

Water Main Size	Hose Size Required
4òthru 6ò	3 inch
8ò	4 inch
10òthru 12ò	6 inch

Per NFPA Table 9-1.1

- MJ cap required to be bolted on riser flange after each flush.
- An individual holding a valid underground restricted, master plumber or sprinkler fitter license must be on site.
- All testing and flushing must be completed within a three (3) month period of original application.

SAMPLING
- Safe water sample required and in writing prior to meter issuance and water turn on.
- Results from a certified state laboratory must be faxed ((262) 532-4809) within three (3) days of taking sample.

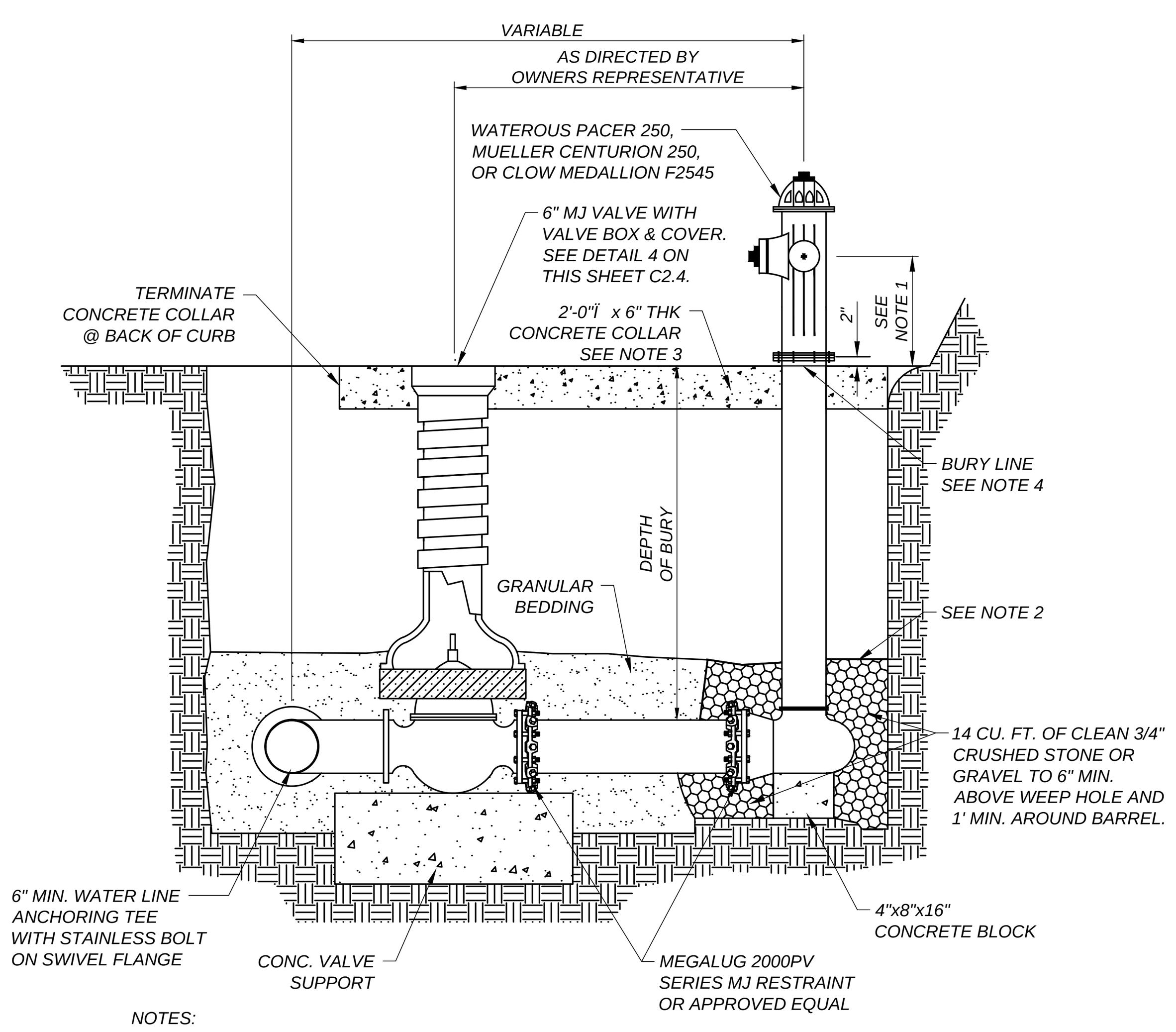
CHECK VALVES
- Copy of the Wisconsin cross Connection Control Device Performance test sheet showing approved test results submitted to the Water Utility prior to meter issuance.
- All double check valve units require leak detector meter.

FIRE HYDRANTS
- All hydrants must be installed per Menomonee Falls Water Utility specification.
- All private hydrants are required to be yellow in color.
- For a building requiring one hydrant, the hydrant may be installed directly off of fireline. No metering required. (Contact Water Utility for details).
- For a building requiring two or more hydrants metering is required. (Contact Water Utility for details).

METER PIT
- A meter pit is required at the lot line where laterals exceed three hundred (300) feet to building.

WATERLINE SPECIFICATIONS

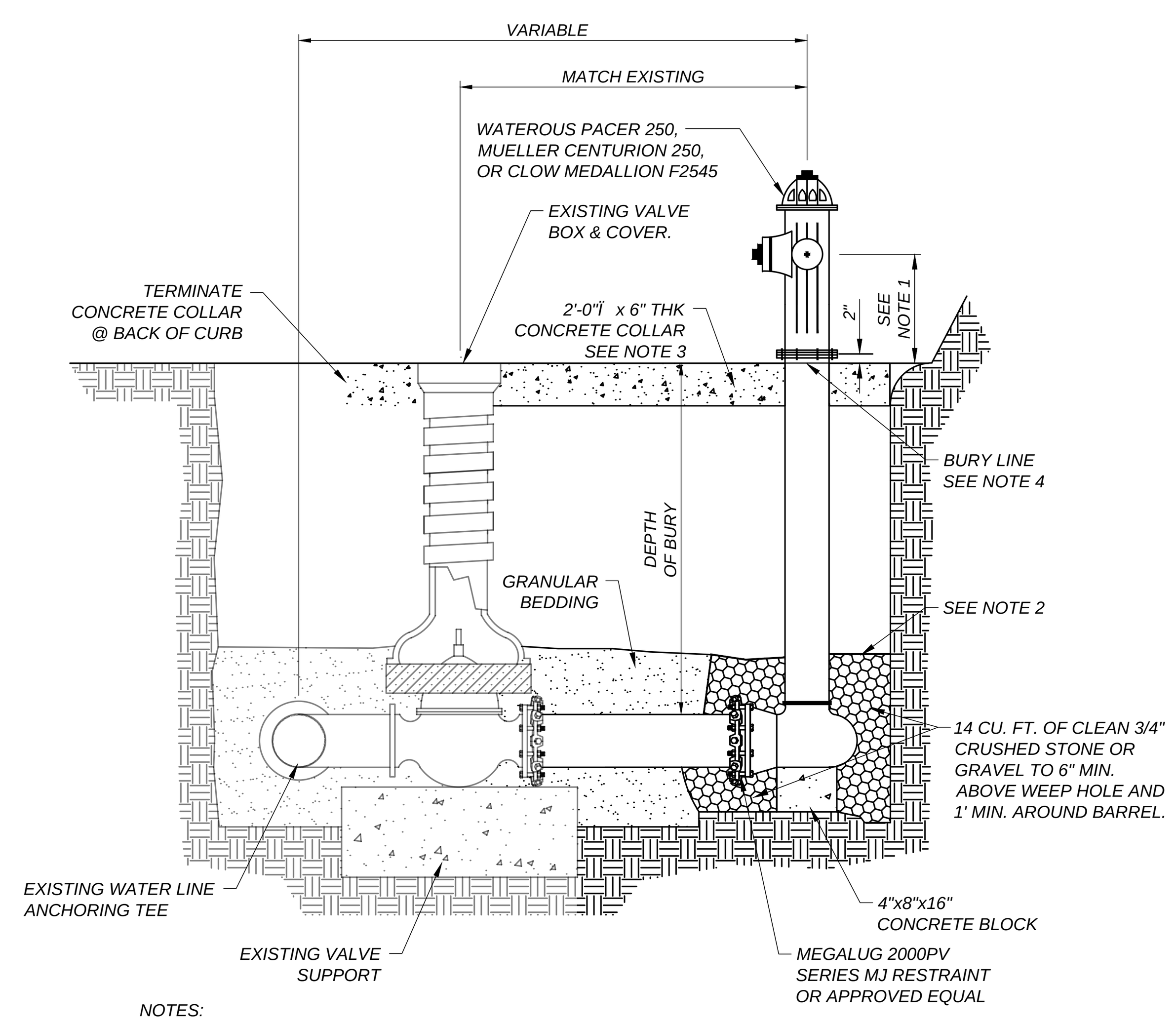
1. WATER LINE SHALL BE AWWA C-900 POLYVINYL CHLORIDE PIPE (DR-18 235 PSI AND DR-14 305 PSI FOR FIRELINES), NSF APPROVED RUBBER GASKETED BELL-JOINT PIPE (ASTM F477, ASTM D3139). PIPE SIZE SHALL BE AS SPECIFIED ON THE PLANS
2. DEPTH OF BURY - 72 INCHES MINIMUM COVER
3. ALL GATE VALVES SHALL CONFORM TO AWWA C-500 SPECIFICATIONS AND SHALL BE AS MANUFACTURED BY MUELLER CO. MODEL A-2360 MJ x MJ. VALVES SHALL HAVE IRON BODIES AND BRONZE MOUNTED WITH BRONZE NON-RISING STEMS, BRONZE BUSHINGS, BRONZE RINGS, BRONZE GUIDES, STAINLESS STEEL TRIM, AND OPEN TO THE LEFT. THEY SHALL BE OF RESILIENT SEAT WEDGE GATE TYPE WITH A RELIABLE MECHANISM TO INSURE THEIR PERFECT PERFORMANCE.
4. VALVE BOXES SHALL BE TYLER "DD" OR EAST JORDAN "DD" THREE PIECE WITH ADAPTERS (VALVE BOX ADAPTERS BY ADAPTER INC.) AND SHALL BE 5-1/4" NOMINAL BARREL DIAMETER, CAST IRON THREE PIECE ADJUSTABLE RISER WITH COVER MARKED "WATER" AND SHALL BE PLACED ¼" BELOW FINISH GRADE OF ASPHALT.
5. VALVE BOXES SHALL BE ADJUSTABLE , FOLLOWING INSTALLATION, A MINIMUM OF SIX (6) INCHES VERTICALLY IN EITHER DIRECTION.
6. ALL FITTINGS SHALL BE DUCTILE CAST IRON WITH A WALL THICKNESS EQUAL OR GREATER THAN THE REQUIREMENTS OF AWWA C-153 FOR DUCTILE CAST IRON FITTINGS. ALL FITTING JOINTS SHALL BE MECHANICAL. THE FOLLOWING SHALL BE USA MADE ONLY: ALL FITTINGS SHALL BE TYLER/UNION FOUNDRY OR CLOW; ALL BOLTS AND NUTS SHALL BE CORE BLUE; AND ANCHOR TEES FOR HYDRANTS WITH BOLT ON SWIVEL FLANGE.
7. ALL FIRE HYDRANTS SHALL BE WATERROUS PACER 250, MUELLER CENTURION 250, OR CLOW MEDALLION F2545.
8. RESTRAINTS SHALL BE USED ON ALL DUCTILE IRON FITTINGS. RESTRAIN ALL T-SECTIONS, HORIZONTAL BENDS, VERTICAL BENDS, AND REDUCERS BY MEGALUG SERIES 2000PV RESTRAINTS OR FORD UNI-FLANGE.
9. RESTRAIN ALL JOINTS WITHIN SPECIFIED JOINTS WITH FORD 1390 HUB RESTRAINT OR MEGALUG SERIES 1600 RESTRAINT
   - 3 JOINTS FROM BENDS
   - 5 JOINTS FROM DEAD ENDS
10. FOLLOWING COMPLETE INSTALLATION AND TESTING OF LINES, VALVES, AND APPURTENANCES AND BEFORE PLACING IN OPERATION, THE SYSTEM SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA STANDARD C-651.
11. STAMP OR ETCH A "W" INTO TOP OF CURB OVER SERVICE LINE LOCATION.
12. A TEN FOOT MIN. HORIZONTAL SEPARATION (OUT-TO-OUT, CLEAT) SHALL BE MAINTAINED BETWEEN THE WATERLINE AND SANITARY SEWER.
13. AN 18-INCH MIN. VERTICAL SEPARATION (OUT-TO-OUT, CLEAR) SHALL BE MAINTAINED BETWEEN THE WATERLINE AND SANITARY SEWER.
14. A TEN FOOT MIN. HORIZONTAL SEPARATION (OUT-TO-OUT, CLEAR) SHALL BE MAINTAINED BETWEEN THE WATERLINE AND STORM SEWER.
15. AN 18-INCH MIN. VERTICAL SEPARATION (OUT-TO-OUT, CLEAR) SHALL BE MAINTAINED BETWEEN THE WATERLINE AND STORM SEWER
16. WHEN IT IS IMPOSSIBLE TO OBTAIN THE MIN. SPECIFIED HORIZONTAL SEPARATION DISTANCE THE WATER MAIN MUST BE LAID IN A SEPARATE TRENCH ON ONE SIDE OF THE SEWER AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18" ABOVE THE TOP OF THE GRAVITY SEWER.
17. ALL SEWER LATERALS WITH LESS THAN 2' OF VERTICAL SEPARATION SHALL BE SLEEVED.
18. WHERE PLANS CALL FOR A NEW SERVICE CONNECTION, CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING LOCATION OF EXISTING SERVICE LINE. LOCATIONS SHOWN ON PLANS ARE APPROXIMATE.
19. BOOSTER PUMPS ARE NOT PERMITTED ON SERVICE CONNECTIONS.



NOTES:
1. TO BE 12" MIN. OR AS RECOMMENDED BY HYDRANT MANUFACTURER.
2. COVER STONE WITH 8-MIL POLYETHYLENE BEFORE BACKFILLING.
3. CONCRETE COLLAR SHALL BE FLUSH WITH GROUND IN RURAL AREAS AND 8" BELOW FINISH GRADE IN RESIDENTIAL AREAS.
4. SET BURY LINE ON HYDRANT ASSEMBLY AT THE TOP CONCRETE COLLAR.

FIRE HYDRANT ASSYMBLY
WITH VALVE AND VALVE BOX

DETAIL 3 / C2.3
SCALE: NOT TO SCALE



NOTES:
1. TO BE 12" MIN. OR AS RECOMMENDED BY HYDRANT MANUFACTURER.
2. COVER STONE WITH 8-MIL POLYETHYLENE BEFORE BACKFILLING.
3. CONCRETE COLLAR SHALL BE FLUSH WITH GROUND IN RURAL AREAS AND 8" BELOW FINISH GRADE IN RESIDENTIAL AREAS.
4. SET BURY LINE ON HYDRANT ASSEMBLY AT THE TOP CONCRETE COLLAR.

FIRE HYDRANT REPLACEMENT

DETAIL 3 / C2.3
SCALE: NOT TO SCALE

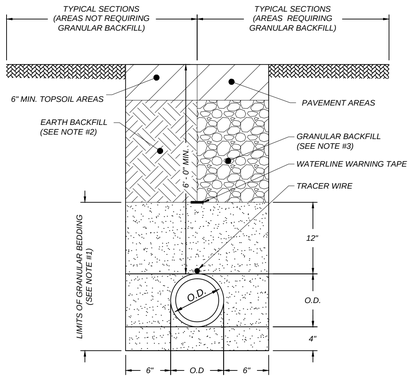
ISSUE DATE 02/28/2020 SCALE N.T.S. CTR INT. --
SURVEYED BY CQM CHECKED BY NJB
DRAWN BY DSW APPROVED BY NJB

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

Diversified Engineering Inc.
CONSULTING ENGINEERS & SURVEYORS
175 RAY AVENUE, N.E
NEW PHILADELPHIA, OH 44663
Phone: (330) 364-1631
Fax: (330) 364-4031
e-mail: dei@div-eng.com
Web: www.div-eng.com

WASTE MANAGEMENT
PROJECT: TRUCK MAINTENANCE FACILITY GERMANTOWN, WI
SHEET TITLE: WATERLINE NOTES & TYPICAL DETAILS
SHEET NO: **C2.3**
JOB NO: ENG-1465

Z:\Alpha-Data\Data\ENGINEERING\ENG-1465 WM Menomonee Falls - WI (Hauling Facility)\Construction Plans\Site Plan Review_Re-Submittal\ENG-1465_WM Germantown WI-Site Plan Review Re-Submittal.dwg , 2/28/2020 8:37 AM

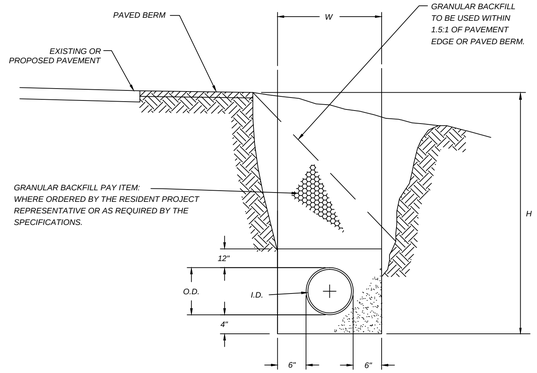


NOTES:

1. AGGREGATE FOR BEDDING IS ¾" CRUSHED STONE CHIPS.
2. EARTH BACKFILL SHALL BE NATURAL SOIL FREE FROM STONES LARGER THAN TWO INCHES ACROSS THEIR GREATEST DIMENSION, TOPSOIL, VEGETATION, DEBRIS, RUBBISH, OR FROZEN MATERIAL, COMPACTED TO 95% OF ITS MAXIMUM DRY WEIGHT.
3. GRANULAR BACKFILL TO BE USED UNDER AND WITHIN 1.5:1 OF PAVEMENT EDGE OR PAVED BERM, AND SHALL BE COMPACTED 1-1/4" DENSE-GRADE AGGREGATE BASE.

PIPE BEDDING / BACKFILL DETAIL FOR ALL WATER PIPE

DETAIL SCALE: NOT TO SCALE — 1 / C2.4



LIMITS OF PAYMENT:

PAYMENT SECTION IS 'W' x 'H'

THE TOP LIMIT OF 'H' IS THE BOTTOM OF PAVEMENT, BOTTOM OF BERM AGGREGATE BASE, TOP OF TRENCH, OR REQUIRED ELEVATION (WHERE THE TRENCH IS ONLY PARTIALLY BACKFILLED WITH GRANULAR BACKFILL).

THE BOTTOM LIMIT OF 'H' IS THE TOP OF THE GRANULAR BEDDING MATERIAL ACCORDING TO PIPE BEDDING / BACKFILL DETAIL FOR ALL FLEXIBLE SEWER, WATER PIPE, OR STORM SEWER PIPE AS APPROPRIATE.

NOTES:

DUCTILE IRON WATER PIPE SHALL HAVE A MINIMUM OF 12" OF GRANULAR BEDDING ABOVE AND 4" BELOW THE INSTALLED WATER PIPE.

USE STONE FOUNDATION WHEN THE NATURAL FOUNDATION PROVES UNSUITABLE AS DETERMINED BY THE RESIDENT PROJECT REPRESENTATIVE AND IN ACCORDANCE WITH THE SPECIFICATIONS.

GRANULAR BACKFILL DETAIL FOR TRENCH

DETAIL SCALE: NOT TO SCALE — 2 / C2.4

MATERIAL SPECIFICATION LIST
Village of Menomonee Falls Water Utilies

1. PIPE
- PVC-DR-18
- PVC-DR-14 for Firelines
- DUCTILE CLASS 55, POLY WRAPPED
- HDPE SDR11-PIPS
- TRACER WIRE (#10 SOLID)

2. FITTINGS (USA MADE ONLY)
- TYLER/UNION FOUNDRY or CLOW
- CORE BLUE NUTS & BOLTS ONLY
- ANCHOR TEES FOR HYDRANTS/WITH STAINLESS BOLT ON SWIVEL FLANGE

3. GATE VALVES 4" TO 8"
- WATEROUS # 2500 SERIES -DUCTILE OR CAST IRON, S.S. TRIM, OPEN LEFT
- MUELLER # 2360 SERIES-DUCTILE/CAST IRON, STAINLESS TRIM, RW, OPEN LEFT
- CLOW #CS09OI-HEAVY DUCTILE, STAINLESS TRIM, RW, OPEN LEFT

BUTTERFLY VALVES 10" TO 24"
- CLOW - KENNEDY - M & H STYLE 4500 WITH ALL STAINLESS HARDWARE, OPEN LEFT

4. VALVE BOXES
- TYLER "DD" THREE PIECE, WITH ADAPTERS (VALVE BOX ADAPTER/BY ADAPTER INC).
- EAST JORDAN "DD" THREE PIECE, WITH ADAPTERS (VALVE BOX ADAPTER/BY ADAPTER INC.)

5. M.J. RESTRAINTS	BELL JOINT RESTRAINTS	FRICTION CLAMPS
• EBAA IRON MEGA LUGS	FORD- 1390 HUB RESTRAINER	MAX WEISS
• FORD UNI-FLANGE	EBBA- 1600 SERIES HUB RESTRAINTS	FRICTION CLAMPS

6. HYDRANTS
- WATEROUS PACER 250
- MUELLER CENTURION 250
- CLOW MEDALLION F2545
- HYDRANT EXTENSIONS MUST BE OEM ONLY

NOTE: ALL HYDRANTS MUST BE GREASE LUBRICATION
NOTE: ALL HYDRANTS MUST HAVE FACTORY INSTALLED VANDAL SHIELD
NOTE: MUELLER OR CLOW HYDRANTS MUST BE USED ON MAIN ROADS DESIGNATED BY WATER SUPERINTENDENT

7. SERVICES - MINIMUM OF 1-1/4" REQUIRED FOR NEW CONSTRUCTION (FULL PORT ONLY)
- ALL WATERWORKS BRASS AS OF 2014 MUST BE NSF/ANSI 61
- ALL BRASS MUST HAVE TRACER WIRE NUT (T.W.)
- FORD FULL PORT CORP STOP # FB1000 SERIES
- FORD FULL PORT CURB STOP # B44 SERIES
- MUELLER CURB STOP #300 SERIES
- MUELLER CORPORATION STOP # B25 SERIES
- POLY TUBING 200 PSI RATED, SS INSERTS REQUIRED
- AY McDonald FULL PORT CORP STOP #74701BQ SERIES
- AY McDonald FULL PORT CURB STOP #76104Q SERIES

8. STAINLESS STEEL TAPPING SADDLES FOR SERVICE (1" THROUGH 2") (NO REDUCING BUSHING ALLOWED)
- FORD FS202 - SINGLE STRAP
- SMITH BLAIR # 317 SERIES
- ROMAC # 202N SERIES

9. TAPPING SLEEVES (4" THROUGH 20")
- FORD # FTSSM J. OUTLET
- ROMAC/RSST SS MJ OUTLET
- SMITH BLAIR - # 665 WITH M.J. OUTLET

NOTE: ALL STAINLESS HARDWARE REQUIRED

10. LOCKING BY PASS VALVES
- ORD # B11-666-W (1-1/2") # B11-777W (2")
- MUELLER # B200200 (1-1/2" THROUGH 2")

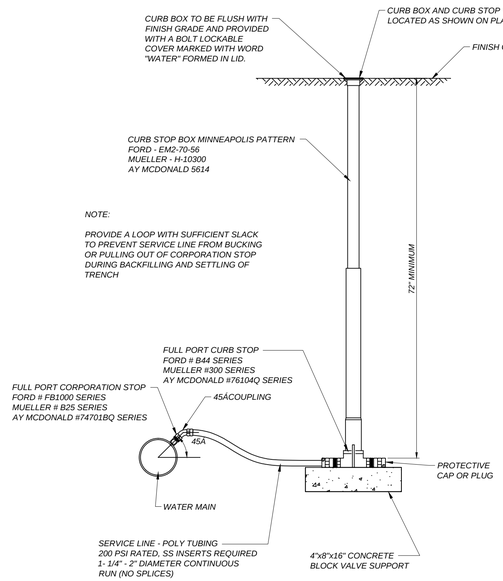
11. CURB STOP BOXES Minneapolis Pattern
- FORD - EM2-70-56
- MUELLER - H-10300
- AY McDonald 5614

12. TRACER WIRE KIT (VAIT)
- BRACKET -HTWB - 7000
- PROCTECTION - LPPV - C007
- TWIST LOCK WIRE CONNECTORS
- #10 SOLID WIRE

13. CASING SPACERS
- POWER SEAL-MODEL 4810
- CASCADE - TYPE CCS

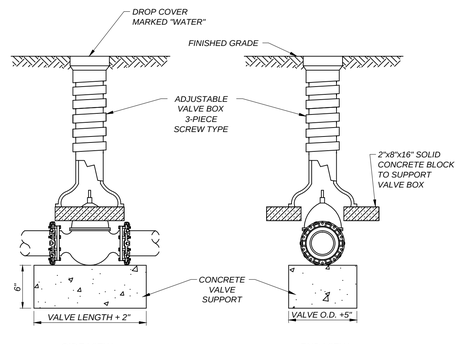
14. METER PITS
- FORD # PMBHH-688-36-72 WITH MC-36-MD-TT COVER 6' BURY DEPTH

15. FIRELINE DOUBLE CHECK VALVE
- Watts 706 DCDA



TYPICAL SERVICE LINE AND SERVICE STOP SETTING

DETAIL SCALE: NOT TO SCALE — 3 / C2.4



TYPICAL VALVE AND VALVE BOX SETTING

DETAIL SCALE: NOT TO SCALE — 4 / C2.4

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

ISSUE DATE 02/28/2020 — SCALE N.T.S. — CTR INT. 1"
SURVEYED BY COM — CHECKED BY KJB
DRAWN BY DSW — APPROVED BY MJB

Diversified Engineering Inc.
CONSULTING ENGINEERS & SURVEYORS
175 RAY AVENUE, N.E.
NEW PHILADELPHIA, OH 44663
Phone: (330) 364-1821
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e-mail: dsi@dei-eng.com
Web: www.dei-eng.com

WASTE MANAGEMENT

PROJECT: *TRUCK MAINTENANCE FACILITY GERMANTOWN, WI*

SHEET TITLE: *WATERLINE NOTES & TYPICAL DETAILS*

SHEET NO: **C2.4**

JOB NO: ENG-1465

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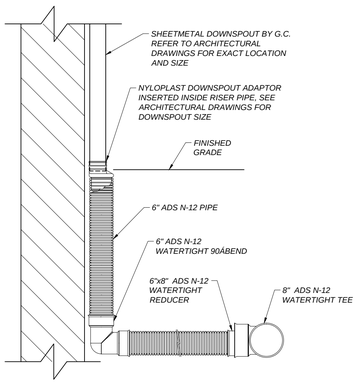
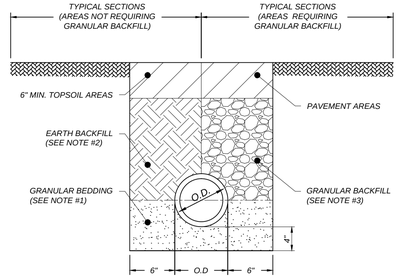


DOWNSPOUT ADAPTOR DETAIL

DETAIL SCALE: NOT TO SCALE — 1 / C2.5



NOTES:

1. AGGREGATE FOR BEDDING IS ¾" CRUSHED STONE CHIPS.
2. EARTH BACKFILL SHALL BE NATURAL SOIL FREE FROM STONES LARGER THAN TWO INCHES ACROSS THEIR GREATEST DIMENSION, TOPSOIL, VEGETATION, DEBRIS, RUBBISH, OR FROZEN MATERIAL, COMPACTED TO 95% OF ITS MAXIMUM DRY WEIGHT.
3. GRANULAR BACKFILL TO BE USED UNDER AND WITHIN 1.5:1 OF PAVEMENT EDGE OR PAVED BERM, AND SHALL BE COMPACTED 1-1/4" DENSE-GRADE AGGREGATE BASE.

PIPE BEDDING / BACKFILL DETAIL FOR ALL STORM SEWER PIPE

DETAIL SCALE: NOT TO SCALE — 2 / C2.5

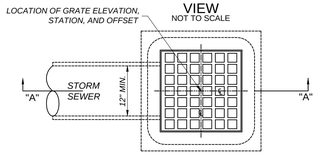
NOTES:

1. PRECAST CONCRETE CATCH BASINS ARE ALLOWED AS NOTED HERIN.
2. ALL CONCRETE SHALL CONFORM TO DOT SECTION 501 CLASS C (4000 psi).
3. A CONCRETE CHANNEL SHALL BE POURED INTO THE BOTTOM OF THE CATCH BASIN USING CLASS 'C' CONCRETE. THE CHANNEL SHALL TAPER FROM 9" THICKNESS TO 2" MIN. THICKNESS AT THE LOWEST SEWER INVERT AND SHALL BE FINISHED WITH A SMOOTH SURFACE.
4. THE EXCAVATED AREA AROUND THE CATCH BASIN SHALL BE BACKFILLED WITH DOT 608.2 COMPACTED IN 8" LIFTS. NO FOUNDRY SAND OR SLAG PERMITTED.
5. WHERE CATCH BASIN WILL BE LOCATED WITHIN CROSSWALK, AT ADA RAMP, OR IN DESIGNATED BIKE LANE, CASTING SHALL BE EAST JORDAN IRON WORKS (EJIW) 5250 INLET WITH V-5622080 ADA GRATE OR NEENAH R-3405-A INLET WITH TYPE 'L' GRATE, OR APPROVED EQUAL. AS APPLICABLE, GRATE SHALL BE ORIENTED SUCH THAT THE LONG OPENINGS ARE PERPENDICULAR TO NORMAL DIRECTION OF BICYCLE TRAFFIC FLOW. IN OTHER LOCATIONS, CASTING SHALL BE EJIW 5250 OR NEENAH R-3405 INLET AND STANDARD GRATE MAY BE USED. IN ALL LOCATIONS, GRATE MUST INCLUDE "ECO-SENSITIVE" MARKINGS SUCH AS: "DUMP NO WASTE; DRAINS TO STREAM" AND AN AQUATIC LIFE LOGO. THE LETTERING AND LOGO SHALL BE RAISED OR RECESSED AND INTEGRAL WITH THE CASTING. ALTERNATE NOTATION OR LOGO IS SUBJECT TO CITY APPROVAL.
6. ALL OPENINGS AND KNOCKOUTS FOR INLET AND OUTLET PIPINGS SHALL BE FASHIONED NEATLY. ALL ANGULAR SPACE SHALL BE FILLED WITH CEMENT GROUT, BRICK AND MORTAR, OR CLASS 'C' CONCRETE.

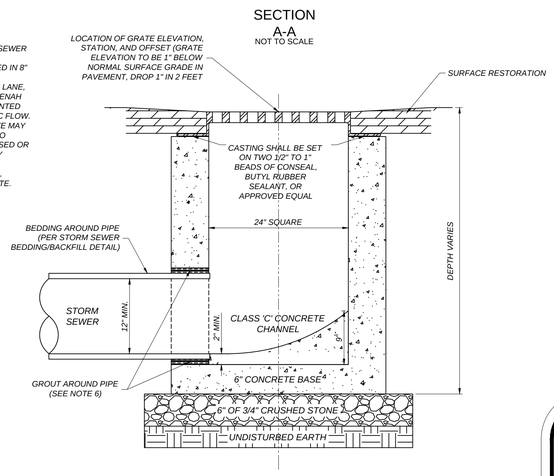
PRECAST CONCRETE CATCH BASINS ARE ACCEPTABLE AND SHALL BE CONSTRUCTED PER THIS DRAWING AND THE FOLLOWING SPECIFICATIONS:

1. THE PRECAST UNIT SHALL CONFORM TO DOT SECTION 611.2.
2. PRECAST WALLS AND BOTTOM SHALL HAVE A MINIMUM THICKNESS OF 6".
3. STACKED PRECAST SECTIONS MUST HAVE A TONGUE/GROOVE JOINT AND A BUTYL SEALANT.

PLAN VIEW
NOT TO SCALE

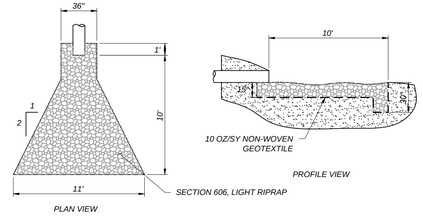


SECTION
A-A
NOT TO SCALE



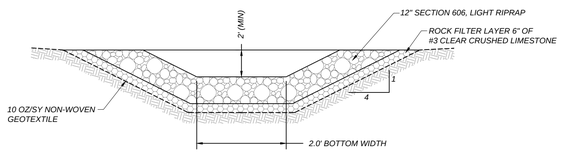
2x2 CATCH BASIN

DETAIL SCALE: NOT TO SCALE — 3 / C2.5



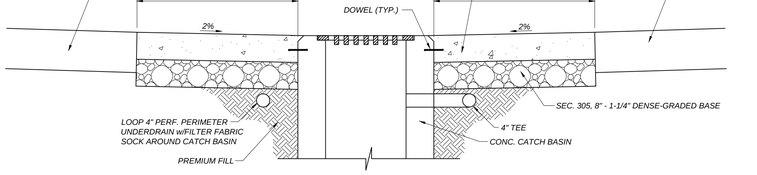
RIPRAP STONE OUTLET PROTECTION

DETAIL SCALE: NOT TO SCALE — 4 / C2.5



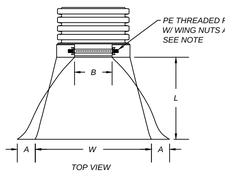
TYPICAL 2' BASE RIP RAP CHANNEL

DETAIL SCALE: NOT TO SCALE — 6 / C2.5



TYPICAL CATCH BASIN CONCRETE APRON

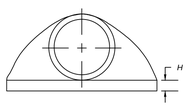
DETAIL SCALE: NOT TO SCALE — 5 / C2.5

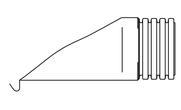


FLARED END SECTIONS

PART #	PIPE SIZE	A	B(MAX)	H	L	W
1015NP	10 in (250 mm)	3.8 in (95 mm)	10.0 in (254 mm)	6.5 in (165 mm)	28.0 in (711 mm)	34.5 in (876 mm)
1215NP	12 & 15 in (300 & 375 mm)	6.5 in (165 mm)	10.0 in (254 mm)	6.5 in (165 mm)	25.0 in (635 mm)	29.0 in (737 mm)
1810NP	18 in (450 mm)	7.5 in (191 mm)	15.0 in (381 mm)	6.5 in (165 mm)	32.0 in (813 mm)	35.0 in (889 mm)
2410NP	24 in (600 mm)	7.5 in (191 mm)	18.0 in (457 mm)	6.5 in (165 mm)	36.0 in (914 mm)	45.0 in (1143 mm)
3015NP	30 in (750 mm)	7.5 in (191 mm)	12.0 in (305 mm)	8.6 in (218 mm)	58.0 in (1473 mm)	63.0 in (1600 mm)
3615NP	36 in (900 mm)	7.5 in (191 mm)	25.0 in (635 mm)	8.6 in (218 mm)	58.0 in (1473 mm)	63.0 in (1600 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL





	DRAWING #:	6070	
	DRAWN BY:	JCB	01.17.07
	APPROVED BY:	JCB	06.28.07
	REVISIONS:	TJR	6/7/2016

ADVANCED DRAINAGE SYSTEMS, INC.

TYPICAL CULVERT FLARED END SECTION

DETAIL SCALE: NOT TO SCALE — 7 / C2.5

STORM SEWER SPECIFICATIONS

1. ALL PROPOSED STORM SEWERS SHALL MEET THE REQUIREMENTS OF DOT SECTION 608 FOR CLASS III-A STORM SEWERS. STORM SEWERS LOCATED WITHIN THE LIMITS OF OR WITHIN A 1.5:1 SLOPE OF EXISTING AND/OR PROPOSED ROADWAYS, PARKING AREAS, BUILDINGS, SIDEWALKS, AND/OR DRIVES SHALL HAVE GRANULAR BACKFILL. ALL OTHER STORM SEWERS MAY HAVE NON-GRANULAR BACKFILL.
2. THE CONTRACTOR SHALL SUBMIT THE WRITTEN INSTALLATION PLAN 15 DAYS BEFORE ANY CONDUIT OR DRAINAGE STRUCTURE WORK BEGINS.
3. ALL PROPOSED STORM SEWER MANHOLES SHALL BE PER DETAILS 1&2, SHEET C2.2.
4. ALL CATCH BASINS SHALL BE 2'X2' PRE-CAST BASINS WITH EJCDC 5250 FRAME AND M3 GRATE

ISSUE DATE: 02/28/2020 — SCALE: N.T.S. — CTR INT.: -
SURVEYED BY: — CHECKED BY: KJB
DRAWN BY: COM, DSW — APPROVED BY: MJB

REV	DATE	DESCRIPTION	DWN BY	DES. BY	CHK. BY	APP. BY

Diversified Engineering Inc.
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Phone: (330) 364-4531
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WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY GERMANTOWN, WI

SHEET TITLE: STORM SEWER NOTES & TYPICAL DETAILS

SHEET NO: C2.5

JOB NO: ENG-1465

Z:\Jobs Files\ENGINEERING\Dwg\1465 WM Maintenance Facility, WI (Electrical Permit Plan Revisions)\Plan Set\C2.5 WM Maintenance Facility Plan Set.dwg, 2/28/2020 8:37 AM

GENERAL NOTES:

A. *STREET SWEEPING: Streets directly adjacent to construction entrances and receiving traffic from the development area shall be cleaned daily to remove sediment tracked off-site.*

B. *INTERNAL INSPECTION AND MAINTENANCE: All controls on the development shall be inspected at least once every seven (7) calendar days and within 24 hours after any storm event greater than one-half (0.5) inch of rain per 24 hour period by the Owner.*

C. *SEEDING AND MULCHING: All disturbed areas shall be permanently seeded upon completion of grading activities.*

D. *All erosion and sediment control BMPs shown on plan are for reference and are to be field verified as required to meet, at minimum, all local, state, and federal regulations governing such operations.*

EROSION AND SEDIMENT CONTROL BASIC PRINCIPLES:

1. *Minimize open area by phasing or sequencing construction and preserving existing vegetation where possible.*
2. *Divert storm water away from disturbed or exposed areas when possible.*
3. *Install BMPs to control erosion and sediment and manage storm water.*
4. *Inspect the site regularly and properly maintain BMPs, especially after rainstorms.*
5. *Revise the plan as site conditions change during construction and improve the plans if BMPs are not effectively controlling erosion and sediment.*
6. *Keep the construction site clean by putting trash in trash cans, keeping storage bins covered, and preventing or removing excess sediment on roads and other impervious surfaces.*

NORTH

Scale: 1 in. = 60 ft.

0' 60' 120' 180'

Graphic Scale

LEGEND:

- *Drainage Area*
- *Longest Flow Path*
- *Overland Flow Path*
- *Wetland Boundary 25' Offset, per CSM performed by CQM, Inc.*

Ex. Wetland Boundary
25' Offset Limits
Per CQM, Inc.

DRAINAGE AREA
SUB-BASIN II
~4.66 ACRES

FEMA PANEL 55131C0379D
100-Year Flood Plain

Ex. Wetland Boundary
Per CQM, Inc.

DITCH II
LINED W/ NAG DS150
AVG. SLOPE =3.42%

OFFICE
60' x 96'
5,760 SF
FFE = 794.00

TRUCK MAINTENANCE
240' x 100'
24,000 SF
FFE = 794.00

L.F.P. SUB-BASIN II

COUNTY LINE ROAD - C.T.H. 'Q'

L.F.P. SUB-BASIN I

DITCH I
LINED W/ NAG DS150
AVG. SLOPE =2.80%

DRAINAGE AREA
SUB-BASIN I ~ 10.53 ACRES

EXISTING SURFACE WATER
FLOW LINES
(OFF-SITE)

FEMA PANEL 55131C0379D
100-Year Flood Plain

Ex. Nor-X-Way Centerline
Per CQM, Inc.

Ex. Nor-X-Way
Centerline 75' Offset
Per CQM, Inc.

Ex. Wetland Boundary
Per CQM, Inc.

DITCH III
LINED W/ NAG DS150
AVG. SLOPE =1.42%

Ex. Wetland Boundary
25' Offset Limits
Per CQM, Inc.

DRAINAGE AREA
SUB-BASIN III
~10.17 ACRES

100 YR STORM
OVERLAND FLOW PATH

L.F.P. SUB-BASIN III

STORM WATER MANAGEMENT DRAINAGE MAP

Scale: 1" = 60'

ISSUE DATE	07/28/2020
SURVEYED BY	CQM
DRAWN BY	DSW
SCALE	1" = 60'
CHECKED BY	KJB
APPROVED BY	MJB
CTR INT.	2"

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

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WASTE MANAGEMENT

PROJECT: *TRUCK MAINTENANCE FACILITY*
GERMANTOWN, WI

SHEET TITLE: *STORM WATER MANAGEMENT*
DRAINAGE MAP

SHEET NO:

C3.0

JOB NO:
ENG-1465

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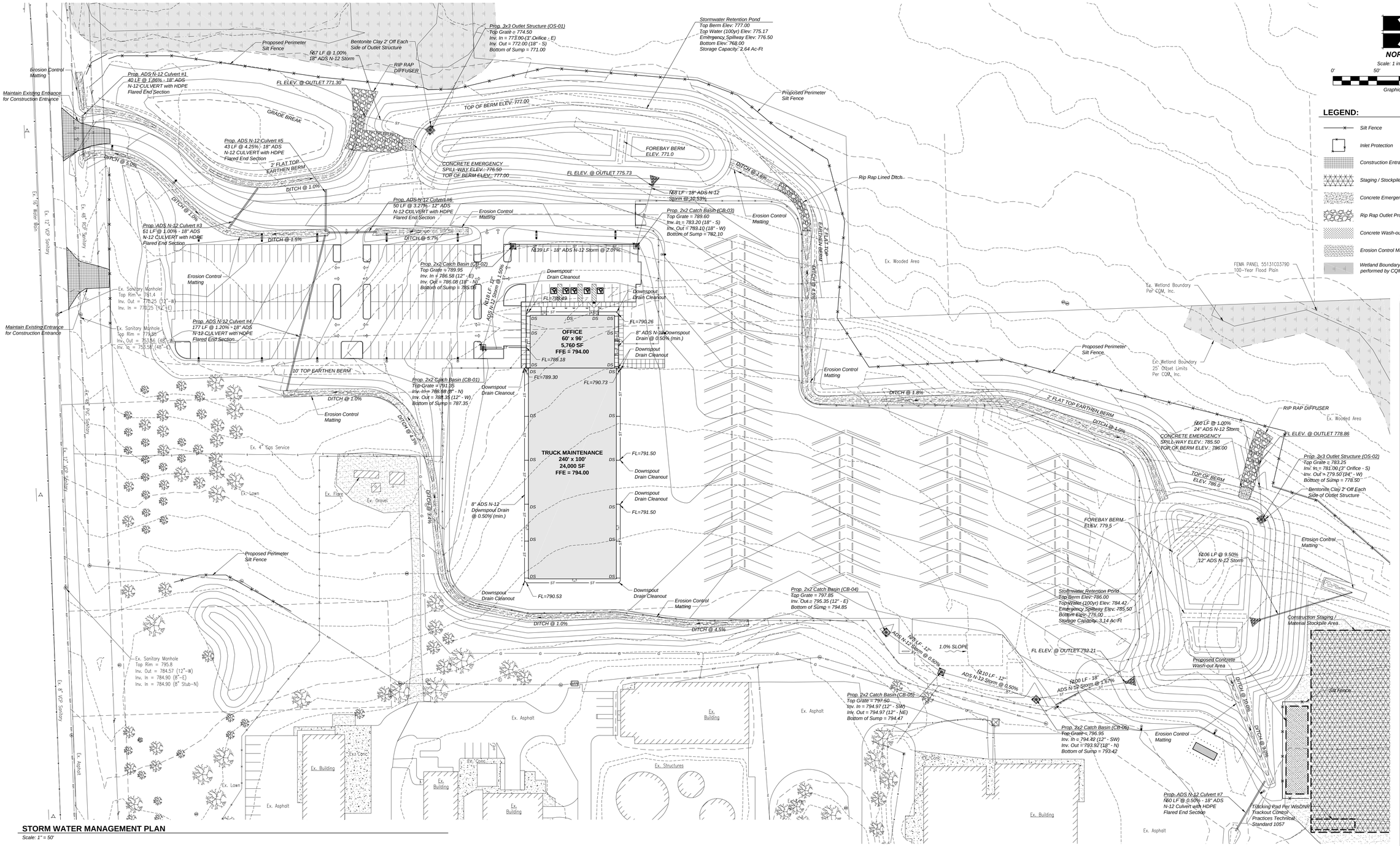

STORM WATER MANAGEMENT PLAN

Scale: 1" = 50'

GENERAL NOTES:

A. *STREET SWEEPING: Streets directly adjacent to construction entrances and receiving traffic from the development area shall be cleaned daily to remove sediment tracked off-site.*

B. *INTERNAL INSPECTION AND MAINTENANCE: All controls on the development shall be inspected at least once every seven (7) calendar days and within 24 hours after any storm event greater than one-half (0.5) inch of rain per 24 hour period by the Owner.*

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5. *Revise the plan as site conditions change during construction and improve the plans if BMPs are not effectively controlling erosion and sediment.*
6. *Keep the construction site clean by putting trash in trash cans, keeping storage bins covered, and preventing or removing excess sediment on roads and other impervious surfaces.*

ISSUE DATE	02/26/2020
SURVEYED BY	CQM
DRAWN BY	LSW
CTR INT.	2"
SCALE	1" = 50'
CHECKED BY	KJB
APPROVED BY	MJB

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

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Web: www.dei-eng.com

WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY GERMANTOWN, WI

SHEET TITLE: STORM WATER MANAGEMENT PLAN

SHEET NO: C3.1

JOB NO: ENG-1465

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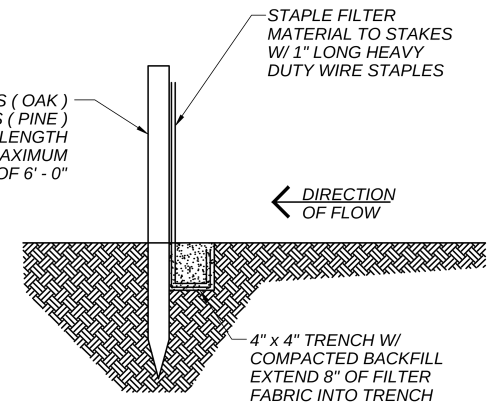
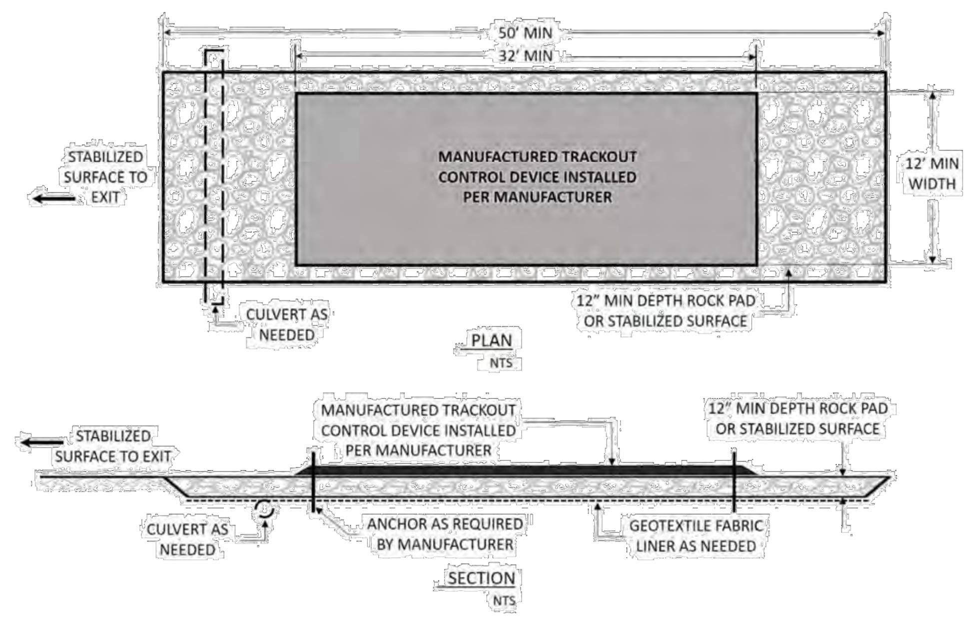


SILT FENCING SHALL BE EXTRA STRENGTH SYNTHETIC FILTER FABRIC HAVING A MINIMUM FLOW RATE OF 0.3 GAL/S.F./MIN.. AND SHALL CONTAIN ULTRAVIOLET RAY INHIBITORS AND STABILIZERS TO PROVIDE A MIN. OF 6-MONTHS OF EXPECTED USEABLE LIFE AT A TEMPERATURE RANGE OF 0 DEG. F. TO 120 DEG. F.

HEIGHT OF THE SILT FENCE SHALL BE A MINIMUM OF 16" ABOVE ORIGINAL GROUND SURFACE AND SHALL NOT EXCEED 34" ABOVE GROUND ELEVATION.

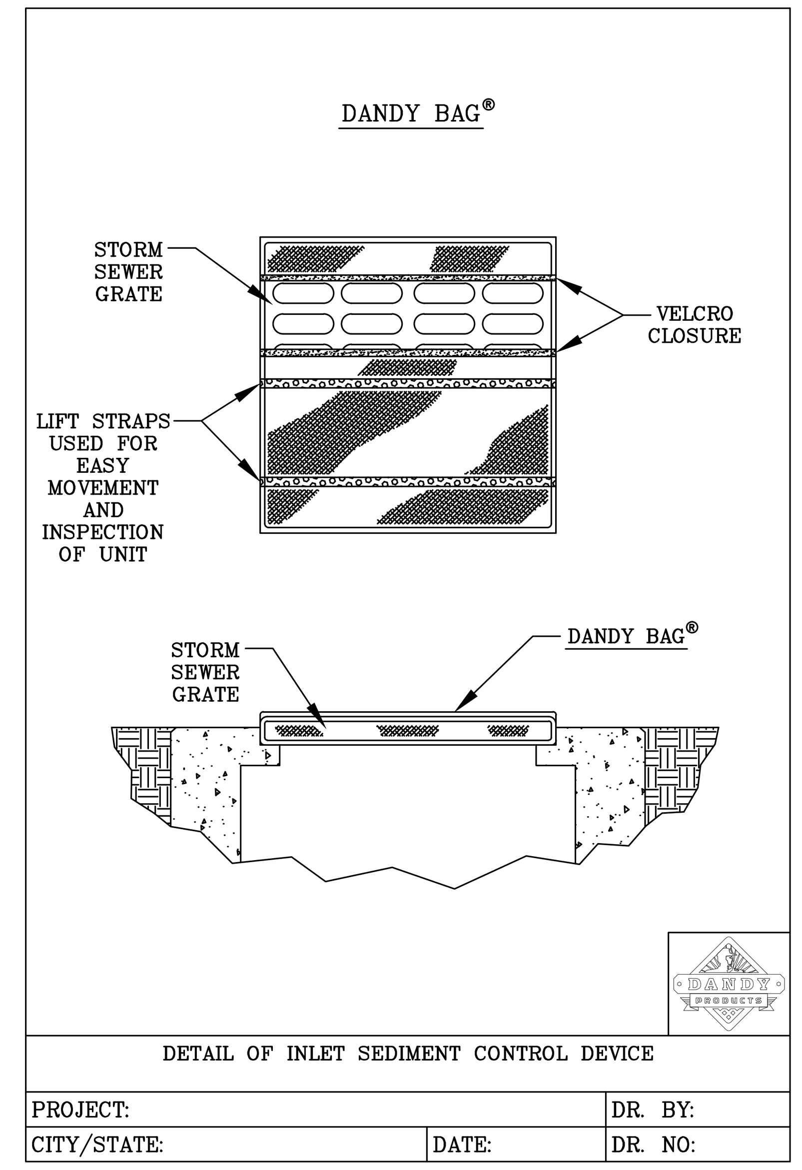
SILT FENCE

DETAIL 1 / C3.2
SCALE: NOT TO SCALE



WISCONSIN DNR STANDARD TRACKOUT CONTROL PRACTICES 1057

DETAIL 2 / C3.2
SCALE: NOT TO SCALE



DANDY BAG INLET PROTECTION

DETAIL 3 / C3.2
SCALE: NOT TO SCALE

STORM WATER MANAGEMENT NOTES:

GENERAL:

1. CONSTRUCTION MUST COMPLY WITH ALL LOCAL EROSION AND SEDIMENT CONTROL.

2. CONTRACTOR IS RESPONSIBLE TO ENSURE THAT THE SEDIMENT CONTROL PLAN IS IMPLEMENTED AND INSPECTED DURING THE CONSTRUCTION PHASE IN ACCORDANCE WITH THE ALL LOCAL, STATE, AND FEDERAL REGULATION GOVERNING SUCH OPERATIONS.

3. FAILURE TO IMPLEMENT THESE METHODS AND PRACTICES DESCRIBED CAN RESULT IN PENALTIES.

4. A COPY OF THE STORM WATER POLLUTION PREVENTION PLAN AND THE CONSTRUCTION DRAWINGS FOR THE PROSPECT ARE REQUIRED TO REMAIN AT ALL TIMES ON THE CONSTRUCTION SITE.

5. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY ADDITIONAL SEDIMENTATION CONTROL PRACTICES THAT MAY OCCUR DURING THE CONSTRUCTION ACTIVITY. IT WILL BE THE ENGINEERS DISCRETION FOR ADDITIONAL SEDIMENTATION CONTROL AND THE RESPONSIBILITY OF THE CONTRACTOR TO IMPLEMENT ALL SEDIMENTATION CONTROL PRACTICES.

6. WHEREVER PRACTICAL, IT IS RECOMMENDED THAT THE FINAL SITE GRADING BE ACCOMPLISHED AS SOON AS POSSIBLE. IMMEDIATELY AFTER THE FINAL GRADING IS COMPLETED, THE AREA SHALL BE PERMANENTLY SEEDED AND MULCHED.

7. PROVIDE INLET PROTECTION FOR ALL EXISTING CATCH BASINS DURING CONSTRUCTION. THERE MAY BE EXISTING CATCH BASINS NOT SHOWN ON THESE PLANS.

10. DISTURBED AREAS WHICH WILL REMAIN UNWORKED FOR A PERIOD OF 21 DAYS OR GREATER SHALL BE STABILIZED WITH SEEDING AND MULCHING OR OTHER APPROVED EQUAL.

REGULATIONS:

11. NO SOLID OR LIQUID WASTE SHOULD BE DISCHARGED INTO STORM WATER RUNOFF.

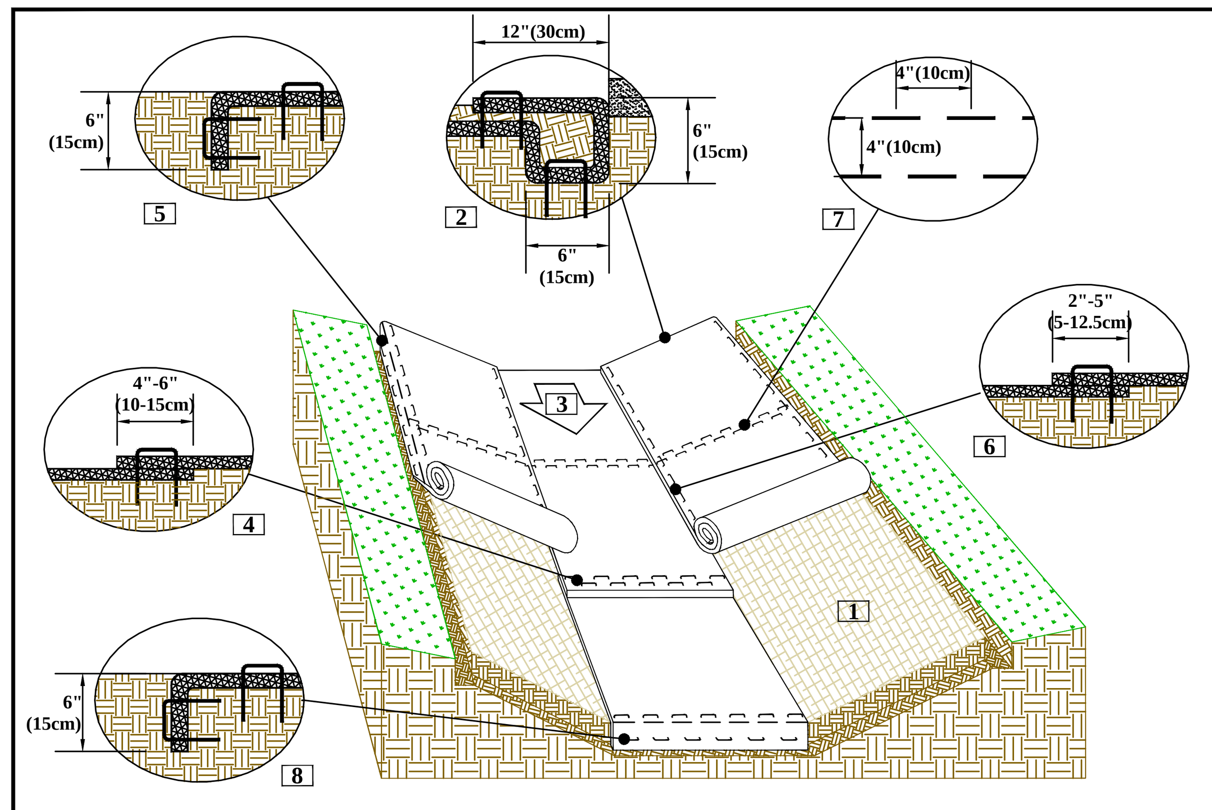
12. OFF-SITE TRACKING OF SEDIMENTS SHALL BE MINIMIZED.

13. MUST SHOW COMPLIANCE WITH LOCAL WASTE DISPOSAL, SANITARY AND HEALTH REGULATIONS.

MAINTENANCE AND INSPECTION:

14. PERMANENT RECORDS OF MAINTENANCE AND INSPECTION MUST BE MAINTAINED A MINIMUM OF ONCE EVERY 7 DAYS AND AFTER STORM EVENTS GREATER THAN 0.5 INCH IN A 24 HOUR PERIOD.

15. NAME OF INSPECTOR, MAJOR OBSERVATIONS, DATE OF RECORDS MUST BE MAINTAINED FOR 3 YEARS AFTER NOTICE OF INTENT.



CRITICAL POINTS
A. Overlaps and Seams
B. Projected Water Line
C. Channel Bottom/Side Slope Vertices

NOTES:
*Horizontal staple spacing should be altered if necessary to allow staples to secure the critical points along the channel surface.

**In loose soil conditions, the use of staple or stake lengths greater than 6"(15cm) may be necessary to properly secure the RECP's.

Drawing Not To Scale

CHANNEL INSTALLATION DETAIL

1. Prepare soil before installing rolled erosion control products (RECPs), including any necessary application of lime, fertilizer, and seed.
2. Begin at the top of the channel by anchoring the RECPs in a 6"(15cm) deep X 6"(15cm) wide trench with approximately 12"(30cm) of RECPs extended beyond the up-slope portion of the trench. Use ShoreMax mat at the channel/culvert outlet as supplemental scour protection as needed. Anchor the RECPs with a row of staples/stakes approximately 12"(30cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12"(30cm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes spaced approximately 12" apart across the width of the RECPs.
3. Roll center RECPs in direction of water flow in bottom of channel. RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide.
4. Place consecutive RECPs end-over-end (Shingle style) with a 4"-6" overlap. Use a double row of staples staggered 4" apart and 4" on center to secure RECPs.
5. Full length edge of RECPs at top of side slopes must be anchored with a row of staples/stakes approximately 12"(30cm) apart in a 6"(15cm) deep X 6"(15cm) wide trench. Backfill and compact the trench after stapling.
6. Adjacent RECPs must be overlapped approximately 2"-5" (5-12.5cm) (Depending on RECPs type) and stapled.
7. In high flow channel applications a staple check slot is recommended at 30 to 40 foot (9 -12m) intervals. Use a double row of staples staggered 4"(10cm) apart and 4"(10cm) on center over entire width of the channel.
8. The terminal end of the RECPs must be anchored with a row of staples/stakes approximately 12" (30cm) apart in a 6"(15cm) deep X 6"(15cm) wide trench. Backfill and compact the trench after stapling.

NORTH AMERICAN GREEN
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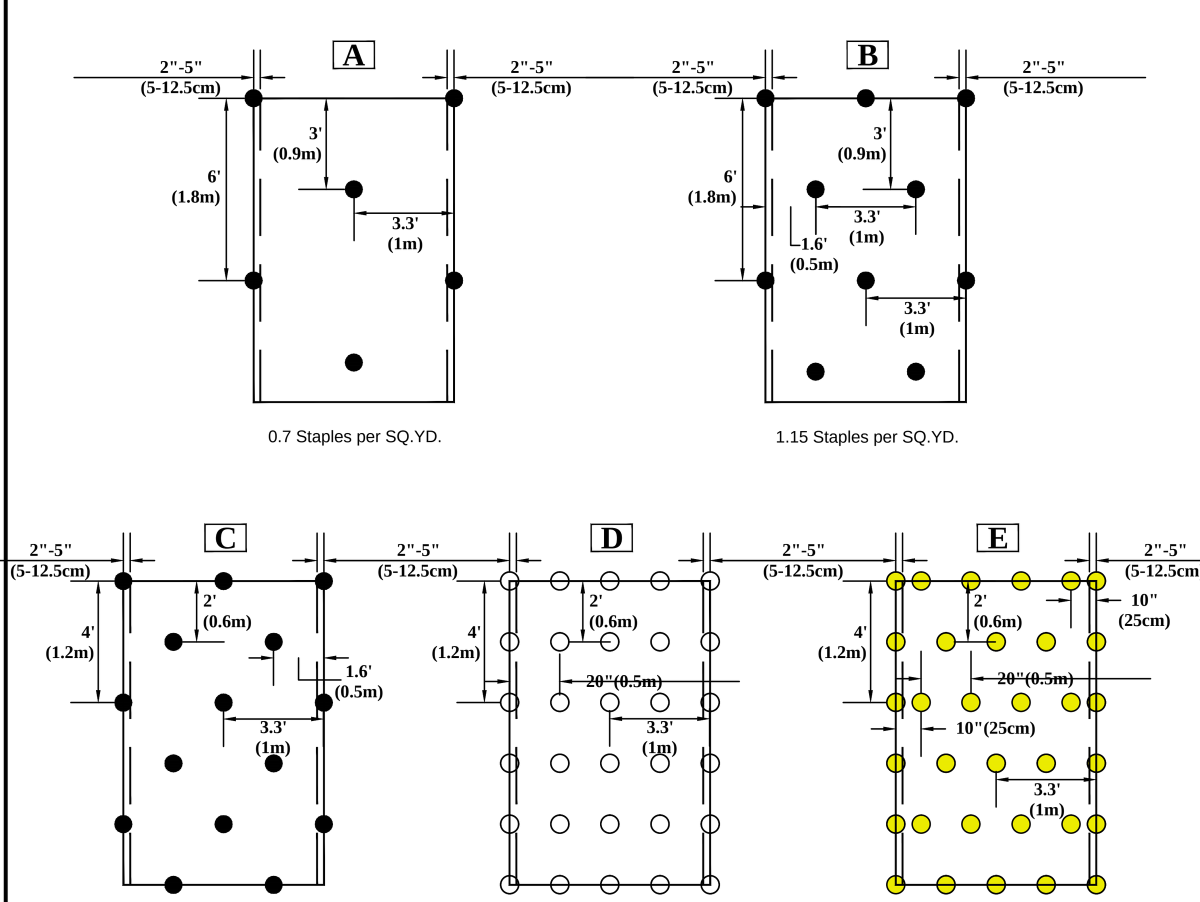
Poseyville, IN 47633 www.nagreen.com

Disclaimer:
The information presented herein is general design information only. For specific applications, consult an independent professional for further design guidance.

Drawn on: 5-4-17



STAPLE PATTERN GUIDE

- 4:1 Slopes (A)
- 3:1 Slopes (B)
- 2:1 Slopes (C)
- 1:1 & Steeper Slopes (D)
- Medium/High Flow Channel (D)
- High Flow Channel And Shoreline (E)

NOTES:
* Use ECMDS® for more accurate staple pattern selection.

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Drawn on: 5-4-17

Drawing Not To Scale

EROSION CONTROL MATTING CHANNEL INSTALLATION & STAPLE PATTERN

DETAIL 4 / C3.2
SCALE: NOT TO SCALE

ROLLMAX™
ROLLED EROSION CONTROL

Specification Sheet – EroNet™ DS150™ Erosion Control Blanket

DESCRIPTION

The ultra short-term double net erosion control blanket shall be a machine-produced mat of 100% agricultural straw with a functional longevity of up to 2 months. (NOTE: functional longevity may vary depending upon climatic conditions, soil, geographical location, and elevation). The blanket shall be of consistent thickness with the straw evenly distributed over the entire area of the mat. The blanket shall be covered on the top and bottom sides with a polypropylene netting having an approximate 0.50 x 0.50 (1.27 x 1.27 cm) mesh with photodegradable accelerators to provide breakdown of the netting within approximately 60 days, depending upon geographical location and elevation. The blanket shall be sewn together on 1.50 inch (3.81 cm) centers with degradable thread. The blanket shall be manufactured with a colored thread stitched along both outer edges (approximately 2-5 inches [5-12.5 cm] from the edge) as an overlap guide for adjacent mats.

The DS150 shall meet Type 1.D specification requirements established by the Erosion Control Technology Council (ECTC) and Federal Highway Administration's (FHWA) FP-03 Section 713.17

Material Content		
Matrix	100% Straw Fiber	0.5 lbs/sq yd (0.27 kg/sm)
Netting	Top and bottom nets, lightweight photodegradable with photo accelerators	1.5 lb/1000 sq ft (0.73 g/sm)
Thread	Degradable	

Standard Roll Sizes			
Width	6.67 (2.03 m)	8.0 ft (2.4 m)	16 ft (4.87 m)
Length	108 ft (32.92 m)	112 ft (34.14 m)	112 ft (34.14 m)
Weight ± 10%	40 lbs (18.14 kg)	50 lbs (22.68 kg)	100 lbs (45.36 kg)
Area	80 sq yd (66.9 sm)	100 sq yd (83.61 sm)	200 sq yd (167.22 sm)

Index Property	Test Method	Typical
Thickness	ASTM D6525	0.35 in. (8.89 mm)
Resiliency	ECTC Guidelines	80.5%
Water Absorbency	ASTM D1117	423%
Mass/Unit Area	ASTM 6475	9.25 oz/sy (314.5 g/sm)
Swell	ECTC Guidelines	15%
Smolder Resistance	ECTC Guidelines	Yes
Stiffness	ASTM D1388	6.06 oz-in
Light Penetration	ASTM D6567	5.6%
Tensile Strength - MD	ASTM D6818	201.6 lbs/ft (2.99 kN/m)
Elongation - MD	ASTM D6818	28.9%
Tensile Strength - TD	ASTM D6818	72.0 lbs/ft (1.07 kN/m)
Elongation - TD	ASTM D6818	27.7%
Biomass Improvement	ASTM 7322	283%

Design Permissible Shear Stress	
Unvegetated Shear Stress	1.75 psf (84 Pa)
Unvegetated Velocity	6.00 fps (1.83 m/s)

Slope Design Data: C Factors			
	Slope Gradients (S)		
Slope Length (L)	≤ 3:1	3:1 – 2:1	≥ 2:1
≤ 20 ft (6 m)	0.004	0.106	N/A
20-50 ft	0.062	0.118	N/A
≥ 50 ft (15.2 m)	0.12	0.180	N/A

Roughness Coefficients – Unveg.	
Flow Depth	Manning's n
≤ 0.50 ft (0.15 m)	0.055
0.50 – 2.0 ft	0.055-0.021
≥ 2.0 ft (0.60 m)	0.021

NORTH AMERICAN GREEN®
North American Green
5401 St. Wendel-Cynthiana Road
Poseyville, Indiana 47633

nagreen.com
800-772-2040

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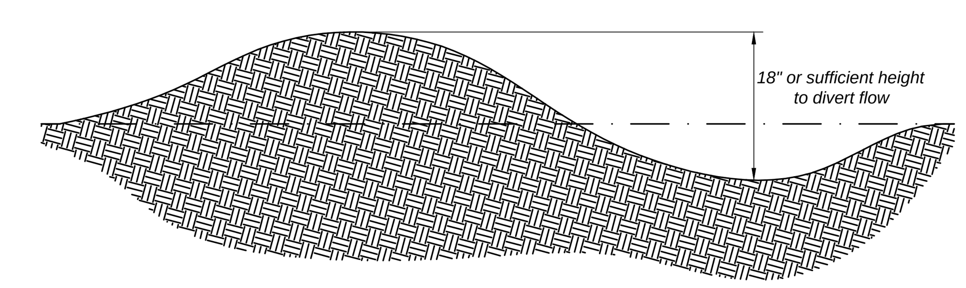
EROSION CONTROL MATTING CHANNEL SPECIFICATION SHEET

DETAIL 5 / C3.2
SCALE: NOT TO SCALE

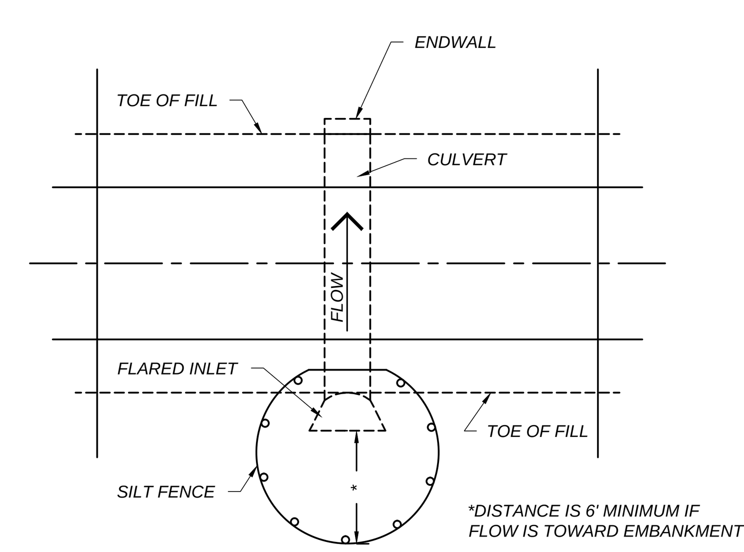


Diversion Dike Notes:

1. The minimum water bar dimensions shall be:
   Top width of berm/dike - 2 feet minimum.
   Height/depth - 18 inches unless otherwise noted on plans
   Side Slopes - Sufficiently flat to accommodate the expected traffic.
2. The field location shall be adjusted as needed to provide a stabilized safe outlet.
3. The diverted runoff shall be directed onto an undisturbed vegetative area.
4. Diversions/dikes shall be compacted by traversing with equipment during construction.
5. The water bars shall be angled slightly downslope across the centerline of the travel lane.
6. Seed and Straw disturbance area around installed diversion immediately following installation.
7. Sediment accumulations reaching $\frac{1}{2}$ the height of the diversion shall be placed and stabilized in topsoil stockpiles.

TYPICAL DIVERSION DIKE

DETAIL 6 / C3.2
SCALE: NOT TO SCALE



CULVERT INLET PROTECTION

DETAIL 7 / C3.2
SCALE: NOT TO SCALE

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WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY GERMANTOWN, WI

SHEET TITLE: SWM NOTES & TYPICAL DETAILS

SHEET NO: **C3.2**

JOB NO: ENG-1465

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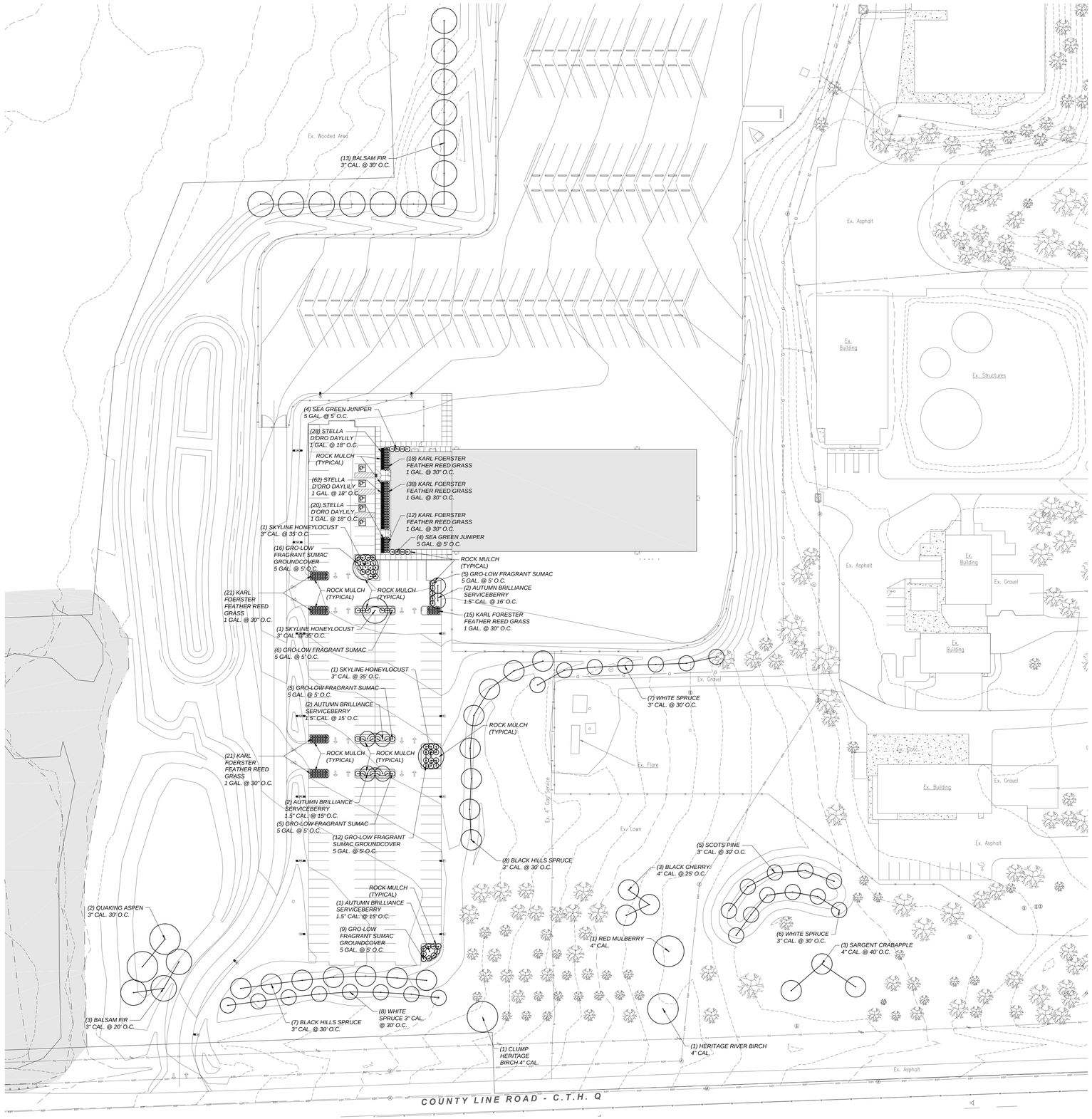

SITE LANDSCAPING PLAN

Scale: 1" = 50'

NORTH

Scale: 1 in. = 50 ft.

0' 50' 100' 150'

Graphic Scale

GENERAL NOTES:

1. *Verify all conditions and dimensions shown on the plans at the site prior to commencement of work. Notify landscape architect of an discrepancies. Contractor shall notify utility companies and verify the exact location of utility easements and all utilities in the field prior to commencement of excavation or construction activities.*
2. *All work shall conform to the Village of Germantown and S.U.D.A.S. standards unless noted otherwise.*
3. *Underground utilities shown are for information only, locations have not been verified. Contractor shall contact Wisconsin One-Call and verify location of existing underground utilities before commencing any excavation to avoid damage. The contractor shall be responsible for repair of an damage caused by construction activities. Exercise extreme care in excavating and working around existing site features and utilities. Verify location and condition of all utilities. Field adjust plant locations so as to avoid conflicts with utilities.*
4. *Verify plant counts. If quantities in planting schedule vary from landscape plan graphic, graphic shall prevail.*
5. *Locate plant material by measuring off of the drawing to the nearest 6" and stake where trees will be located. The Landscape Architect will review prior to planting.*
6. *Align and equally space in all directions tree, shrub and perennials designated per these drawing and typical details.*
7. *Backfill soil (planting soil) for tree pits shall consist of a mixture of two parts top soil and one part compost. Remove soil excavated from tree planting area and dispose of off site.*
8. *Remove existing topsoil and stockpile on site; topsoil to be incorporated into soils at a later date.*
9. *Finish grade of planter areas shall be 3 inches below adjacent curb or structure to allow for 3" of mulch depth.*
10. *All landscape beds shall be edged with DURAEDGE 5"x⅛" steel lawn edging as manufacturing by the J.D. Russell Company (800-888-9709) or approved equal. Edging shall be hot rolled steel with an electrostatically applied powder coat surface paint, black in color.*
11. *New trees shall meet the minimum standards of ANSI Z60.1, Latest Edition. Plants shall be freshly dug or well-established in container as applicable; not root-bound in the container. Trees with broken or unidentifiable leader, broken or mushroomed balls, lopsided growth, or weak open structure (in the opinion of the landscape architect) will not be acceptable.*
12. *The contractor shall submit at least one nursery photograph of each type of tree species for approval by the landscape architect prior to shipping and installation. Most species are matched so the specimens must have consistent branching heights and habits within species. The landscape architect will use the submitted photographs as a standard of comparison for each tree species installed on site.*
13. *Wood mulch for tree rings and where indicated on the plan shall be 3" deep, composed of cedar or cypress wood of uniform color and long, fibrous nature (2-4 inches in length). Do not use walnut. Do not use chips. Apply pre-emergence herbicide over the top of all wood mulch. Mulch rings around new trees shall be minimum 6' in diameter. Thoroughly water mulched areas, rake to a smooth finished surface.*
14. *Planting beds next to the building and parking lot islands shall be 3" deep washed river rock mulch over weed barrier fabric. Fabric shall be a woven polypropylene, 3.5 to 4.0 ounce products. Apply pre-emergence herbicide over the top of all rock mulch.*
15. *All plants shall be maintained and watered by the contractor through substantial completion.*
16. *No trees, bushes, or vegetation existing on site to remain.*

	QTY	COMMON NAME	BOTANICAL NAME	CAL (IN.)	CONT
TREES					
	5	SCOTS PINE	PINUS SYLVESTRIS	3"	B&B
	22	WHITE SPRUCE	PICEA GLAUCA	3"	B&B
	3	SARGENT CRABAPPLE	MALUS SARGENTII	4"	B&B
	2	HERITAGE RIVE BIRCH (CLUMP)	BETULA NIGRA 'CULLY'	4"	B&B
	1	RED MULBERRY	MORUS RUBRA	4"	B&B
	3	BLACK CHEERY	PRUNUS SEROTINA	4"	B&B
	16	BLACK HILLS SPRUCE	PICEA GLAUCA VAR. DENS	3"	B&B
	16	BALSAM FIR	ABIES BALSAMEA	3"	B&B
	2	QUAKING ASPEN	POPULUS TREMULOIDES	3"	B&B
	2	THORNLESS HONEYLOCUST "SKYLINE"	GLEDITSIA TRIACANTHOS VAR. INERMIS	3"	B&B
	6	AUTUMN BRILLIANCE SERVICEBERRY	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'	1.5"	B&B
SHRUBS					
	37	GRO-LOW FRAGRANT SUMAC	RHUS AROMATICA 'GRO-LOW'		5 GAL.
	8	SEA GREEN JUNIPER	PUNIPERUS X PFITZERIANA 'SEA GREEN'		5 GAL.
PERENNIALS					
	162	KARL FOERSTER FEATHER REED GRASS	CALAMAGROSTIS X ACULTIFLORA 'KARL FOERSTER'		1 GAL.
	110	STELLA D'ORO DAYLILY	HEMEROCALLIS 'STELLA DE ORO'		1 GAL.

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WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI

SHEET TITLE: SITE LANDSCAPING PLAN

SHEET NO: **L1.0**

JOB NO: ENG-1465

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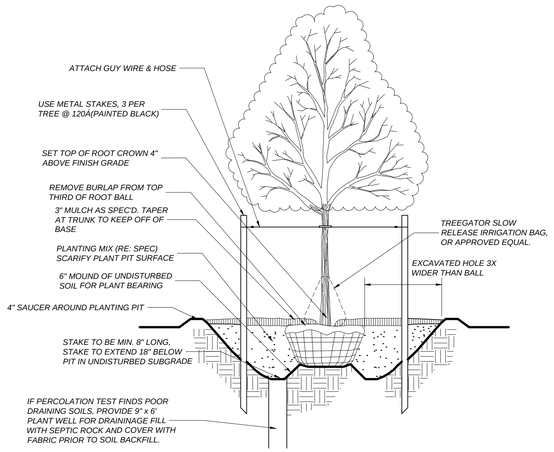

TYPICAL TREE PLANTING DETAIL

DETAIL 1 / L2.0

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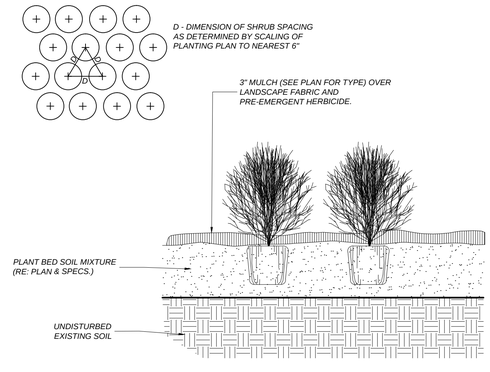
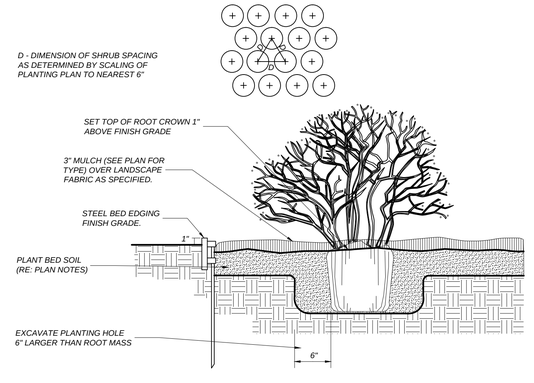


TYPICAL PERENNIAL PLANTING DETAIL

DETAIL 2 / L2.0

SCALE: NOT TO SCALE



TYPICAL SHRUB PLANTING DETAIL

DETAIL 3 / L2.0

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WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI

SHEET TITLE: LANDSCAPEING DETAILS

SHEET NO: L2.0

JOB NO: ENG-1465

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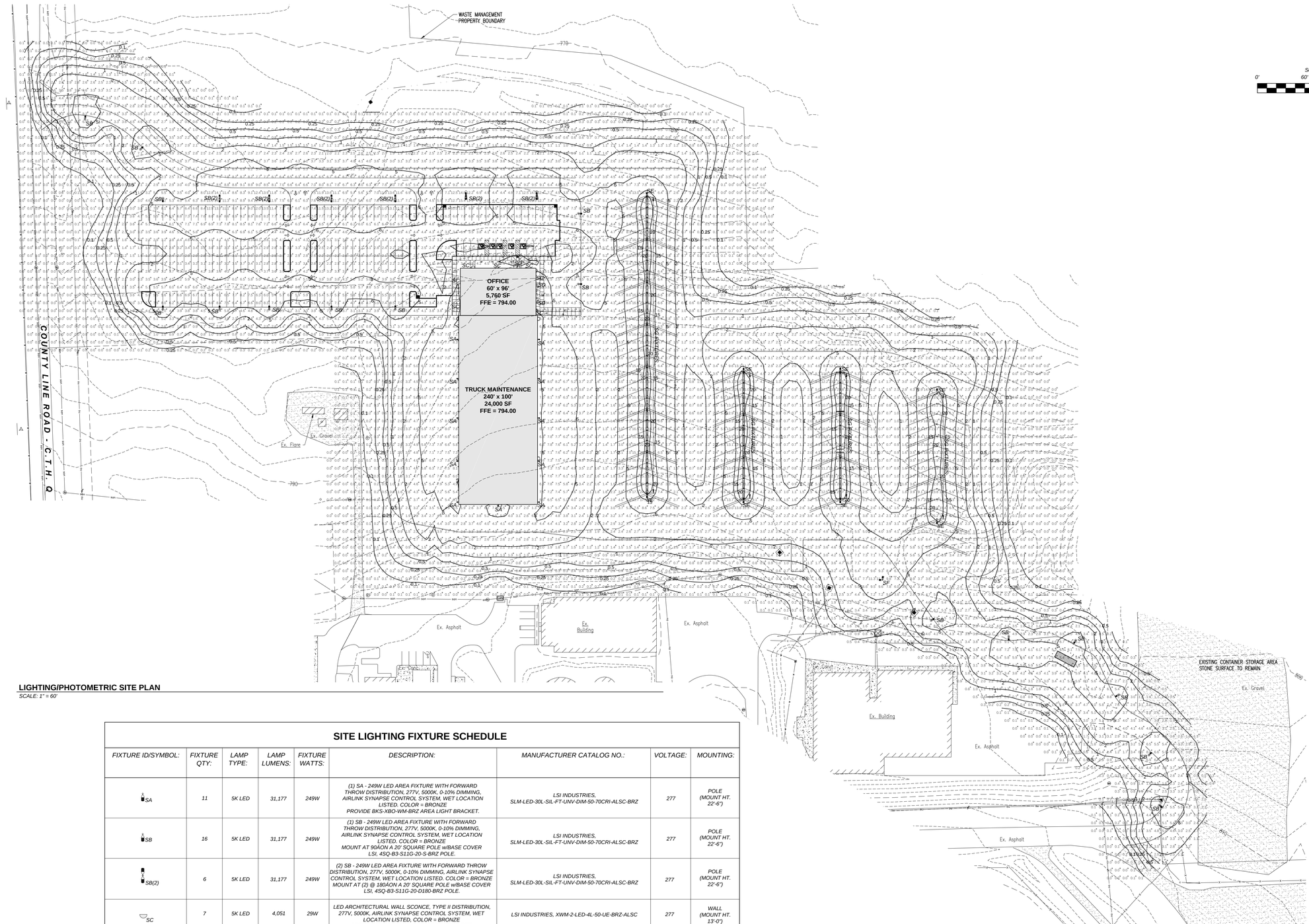

NORTH

Scale: 1 in. = 60 ft.

0' 60' 120' 180'

Graphic Scale

LIGHTING/PHOTOMETRIC SITE PLAN

SCALE: 1" = 60'

SITE LIGHTING FIXTURE SCHEDULE

FIXTURE ID/SYMBOL:	FIXTURE QTY:	LAMP TYPE:	LAMP LUMENS:	FIXTURE WATTS:	DESCRIPTION:	MANUFACTURER CATALOG NO.:	VOLTAGE:	MOUNTING:
SA	11	5K LED	31,177	249W	(1) SA - 249W LED AREA FIXTURE WITH FORWARD THROW DISTRIBUTION, 277V, 5000K, 0-10% DIMMING, AIRLINK SYNAPSE CONTROL SYSTEM, WET LOCATION LISTED. COLOR = BRONZE PROVIDE BKS-XBO-WM-BRZ AREA LIGHT BRACKET.	LSI INDUSTRIES, SLM-LED-30L-SIL-FT-UNV-DIM-50-70CRI-ALSC-BRZ	277	POLE (MOUNT HT. 22'-6")
SB	16	5K LED	31,177	249W	(1) SB - 249W LED AREA FIXTURE WITH FORWARD THROW DISTRIBUTION, 277V, 5000K, 0-10% DIMMING, AIRLINK SYNAPSE CONTROL SYSTEM, WET LOCATION LISTED. COLOR = BRONZE MOUNT AT 90AON A 20' SQUARE POLE w/BASE COVER LSI, 4SQ-B3-S11G-20-5-BRZ POLE.	LSI INDUSTRIES, SLM-LED-30L-SIL-FT-UNV-DIM-50-70CRI-ALSC-BRZ	277	POLE (MOUNT HT. 22'-6")
SB(2)	6	5K LED	31,177	249W	(2) SB - 249W LED AREA FIXTURE WITH FORWARD THROW DISTRIBUTION, 277V, 5000K, 0-10% DIMMING, AIRLINK SYNAPSE CONTROL SYSTEM, WET LOCATION LISTED. COLOR = BRONZE MOUNT AT (2) @ 180AON A 20' SQUARE POLE w/BASE COVER LSI, 4SQ-B3-S11G-20-D180-BRZ POLE.	LSI INDUSTRIES, SLM-LED-30L-SIL-FT-UNV-DIM-50-70CRI-ALSC-BRZ	277	POLE (MOUNT HT. 22'-6")
SC	7	5K LED	4,051	29W	LED ARCHITECTURAL WALL SCONCE, TYPE II DISTRIBUTION, 277V, 5000K, AIRLINK SYNAPSE CONTROL SYSTEM, WET LOCATION LISTED. COLOR = BRONZE PROVIDE XWM-SW-BLK SURFACE WIRING BOX.	LSI INDUSTRIES, XWM-2-LED-4L-50-UE-BRZ-ALSC	277	WALL (MOUNT HT. 13'-0")
SD	3	5K LED	5,240	37W	ROUND LED LUMINAIRE, 5000K LED, EDGE LIT, TYPE V WIDE DISTRIBUTION, 277V, DIM TO 10% DRIVER, AIRLINK SYNAPSE WIRELESS DIGITAL CONTROLLER. COLOR = BRONZE	LSI INDUSTRIES, EXN-D-EGLED-5L-T5W-UNV-DIM-50-70CRI-ALSC-BRZ	277	SURFACE (MOUNT HT. 8'-6")
SE	8	5K LED	31,177	249W	(1) SE - 249W LED AREA FIXTURE WITH FORWARD THROW DISTRIBUTION, 277V, 5000K, 0-10% DIMMING, WET LOCATION LISTED. COLOR = BRONZE	LSI INDUSTRIES, SLM-LED-30L-SIL-FT-UNV-DIM-50-70CRI-BRZ	277	POLE (MOUNT HT. 22'-6")
SF	1	5K LED	32,700	249W	(2) @ 90A LED AREA LUMINAIRE, LSI SLM SERIES, WITH FT (FORWARD THROW) DISTRIBUTION, 277V, WET LISTED, COLOR=BRONZE. MOUNT AT 90AON 20' ROUND TAPERED ALUMINUM POLE RTP8S-A156-20-D90-BLK.	LSI, SLM-LED-30L-SIL-FT-UNV-DIM-50-70CRI-BLK	277	POLE (MOUNT HT. 22'-6")
SG	68	5K LED	10,500	74W	LED SURFACE MOUNT, STANDARD SYMMETRIC DISTRIBUTION, 277V, 5000K, WET LOCATION LISTED, COLOR = WHITE	LSI, CRUS-SC-LED-LW-50-UE-WHT	277	SURFACE MOUNT ON TRUSS (NI3'-0")

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WASTE MANAGEMENT

PROJECT: *TRUCK MAINTENANCE FACILITY GERMANTOWN, WI*

SHEET TITLE: *PROPOSED LIGHTING/PHOTOMETRIC SITE PLAN*

SHEET NO: **X1.0**

JOB NO: ENG-1465

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NORTH

Scale: 1 in. = 50 ft.

0' 50' 100' 150'

Graphic Scale

LEGEND:

- Proposed Fence Removal
- Proposed Chain Link Fence

REMOVE EXISTING FENCE LINE

PROPOSED SITE SECURITY FENCE SEE DETAIL 3, SHEET C2.1

OFFICE
60' x 96'
5,760 SF
FFE = 794.00

TRUCK MAINTENANCE
240' x 100'
24,000 SF
FFE = 794.00

Ex. Wooded Area

FEMA PANEL 55131C0379D
100-Year Flood Plain

Ex. Wetland Boundary
Per CQM, Inc.

Ex. Wetland Boundary
25' Offset Limits
Per CQM, Inc.

Ex. Sanitary Manhole
Top Rim = 781.4
Inv. Out = 770.25 (12"-W)
Inv. In = 770.25 (12"-E)

Ex. Sanitary Manhole
Top Rim = 779.85
Inv. Out = 753.56 (48"-E)
Inv. In = 753.58 (48"-E)

Ex. Sanitary Manhole
Top Rim = 795.8
Inv. Out = 784.57 (12"-W)
Inv. In = 784.90 (8"-E)
Inv. In = 784.90 (8" Stub-N)

Ex. 16" Water Main
Ex. 12" WSP Sanitary
Ex. 48" RCP Sanitary
Ex. 4" Gas Service
Ex. Lawn
Ex. Flare
Ex. Gravel
Ex. 8" VSP Sanitary
Ex. Asphalt
Ex. Building
Ex. Conc.
Ex. Structures
Ex. Fence
Ex. Aspahlt

TIE-IN TO EXISTING FENCE LINE

SITE FENCING PLAN

Scale: 1" = 50'

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WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI

SHEET TITLE: SITE FENCING EXHIBIT

SHEET NO: X1.1

JOB NO: ENG-1465

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NORTH

Scale: 1 in. = 50 ft.

0' 50' 100' 150'

Graphic Scale

OFFICE
60' x 96'
5,760 SF
FFE = 794.00

TRUCK MAINTENANCE
240' x 100'
24,000 SF
FFE = 794.00

PROPOSED SNOW DROP LOCATION

AVOID SNOW DROP IN DRAINAGE AREA

Ex. Wooded Area

FEMA PANEL 55131C0379D
100-Year Flood Plain

Ex. Wetland Boundary
Per COM, Inc.

Ex. Wetland Boundary
25' Offset Limits
Per COM, Inc.

Ex. Sanitary Manhole
Top Rim = 781.4
Inv. Out = 770.25 (12"-W)
Inv. In = 770.25 (12"-E)

Ex. Sanitary Manhole
Top Rim = 779.86
Inv. Out = 753.56 (48"-S)
Inv. In = 753.58 (48"-E)

Ex. Sanitary Manhole
Top Rim = 795.6
Inv. Out = 784.57 (12"-W)
Inv. In = 784.90 (8"-E)
Inv. In = 784.90 (8" Stub-N)

Ex. 48" RCP Sanitary

Ex. 18" Water Main

Ex. 12" CPP Storm

Ex. 8" VCP Sanitary

Ex. 4" Gas Service

Ex. Fence

Ex. Gravel

Ex. Lawn

Ex. Asphalt

Ex. Building

Ex. Structures

Ex. Concr.

Ex. Shed

Ex. Pole Barn

Ex. Canopy

Ex. Fuel Island

Ex. Fuel Tanks

SNOW REMOVAL PLAN

Scale: 1" = 50'

ISSUE DATE	02/28/2020
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WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI

SHEET TITLE: SITE SNOW REMOVAL EXHIBIT

SHEET NO: X1.2

JOB NO: ENG-1465

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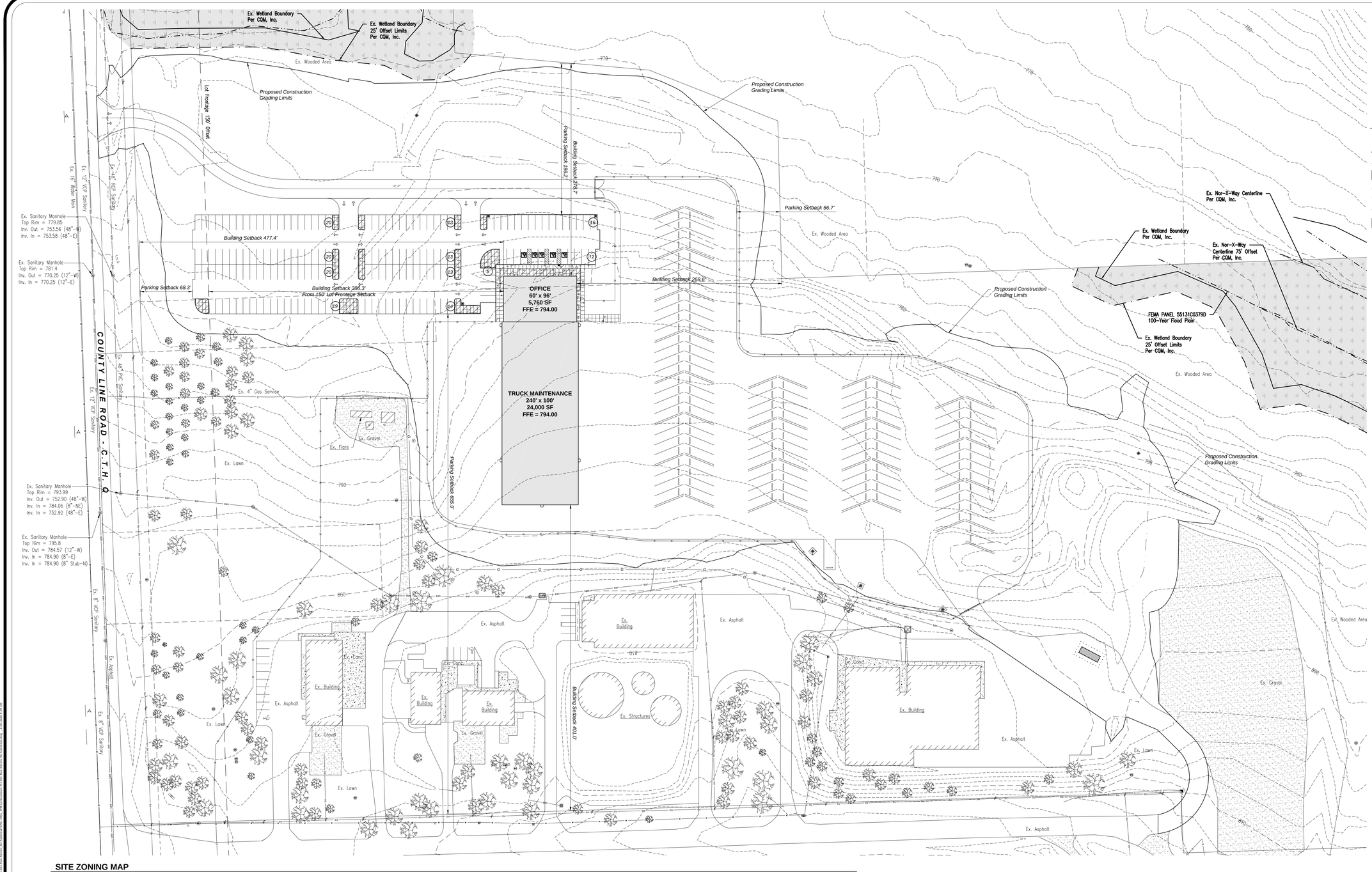

SITE ZONING MAP

Scale: 1" = 60'

NORTH

Scale: 1 in. = 60 ft.

0' 60' 120' 180'

Graphic Scale

LEGEND:

- (8) *Proposed Parking Space Count Indicator*
- *Proposed Construction Grading Limits*
- *Wetland Boundary, per CSM performed by CQM, Inc.*
- *Wetland Boundary 25' Offset, per CSM performed by CQM, Inc.*
- *Nor-X-Way Centerline, per CSM performed by CQM, Inc.*
- *Nor-X-Way 75' offset, per CSM performed by CQM, Inc.*
- *FEMA Flood Zone AE - Map Number 55131C0379D, per CSM performed by CQM, Inc.*
- *Proposed Landscaping Area, See Site Landscaping Plan for further coordination*

BOUNDARY NOTE: Lots to be combined. Public hearing for discontinuing the 66' public right of way is scheduled for Monday, March 16, 2020, at 7p.m.

LOT COVERAGE NOTES:

Lot square footage total:	*1,994,793 S.F.*
Impervious surface percentage:	*26.0%*
Green space percentage:	*74.0%*
Percent permitted (over/under):	*under 48.0%*

**NOTE: Proposed Coverage includes existing development on the parcel where applicable.*

PARKING BREAKDOWN

Total Parking Spaces (Public) = 160
Total Parking Spaces (Handicap) = 5
Typical Parking Space Dimension: 9' x 20' (Unless otherwise noted)

SETBACK NOTES:

Required Front yard Setback:	*30'*
Required Side yard Setback:	*25'*
Required Rear yard Setback:	*25'*
Required Lot Frontage Setback:	*150'*

PARKING CALCULATIONS:

- Professional Office Space:
Office Area: 5,760 S.F.
Office Employees: 132 Persons

Required parking one space per 200 S.F. + 1/2 space per employee
- 5,760 S.F. / 200 S.F. = 29 Spaces
- 132 Persons / 2 = 66 Spaces

- Total Required Office Spaces = 95 Spaces

- Auto Repair Space:
Auto Repair Area: 24,000 S.F.
Auto Repair Employees: 12 Persons

Required parking one space per 250 S.F. + 1 space per employee
- 24,000 S.F. / 250 S.F. = 96 Spaces
- 12 Persons = 12 Spaces

- Total Required Auto Repair Spaces = 108 Spaces

Required Spaces:
Total required spaces = 203 Spaces per code

Provided Spaces:
160 Standard Spaces
5 Accessible Spaces
165 Total Spaces Provided

NOTE: Total anticipated employee count is 154 persons.

ISSUE DATE 02/28/2020 | SCALE 1" = 60' | CTR INT. 2"
SURVEYED BY | CQM | CHECKED BY | KJB
DRAWN BY | ESW | APPROVED BY | MJB

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

Diversified Engineering Inc.
CONSULTING ENGINEERS & SURVEYORS
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NEW PHILADELPHIA, OH. 44663
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WASTE MANAGEMENT

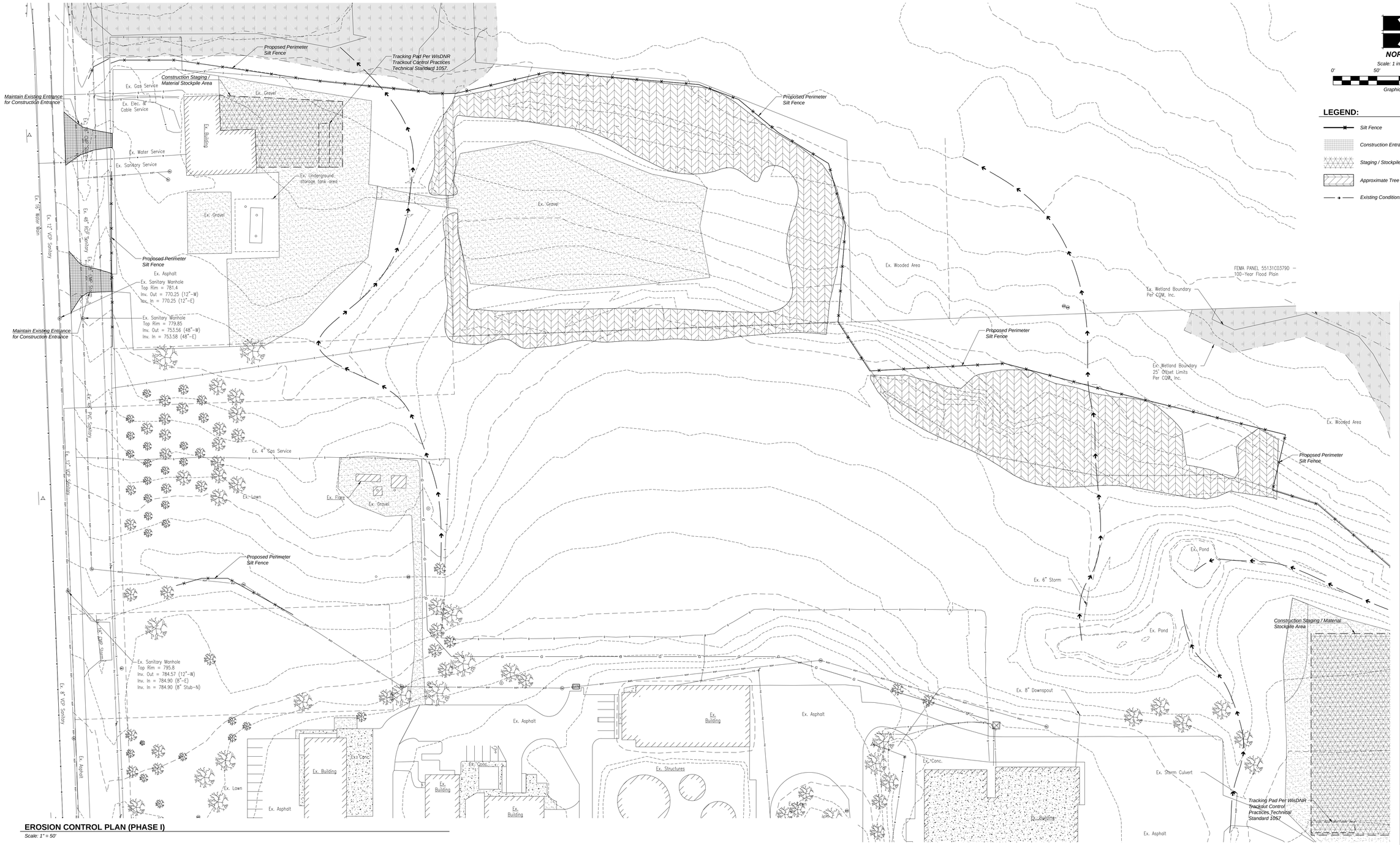
PROJECT: *TRUCK MAINTENANCE FACILITY*
GERMANTOWN, WI

SHEET TITLE: *SITE ZONING MAP*

SHEET NO: **X1.3**

JOB NO: ENG-1465

C:\Data Files\ENGINEERING\2020-045 MW Germantown Exits - WI (Waiting 2 Acres)\Commercial Prelim Site Plans\Site Plans\Site Zoning Map - 2-28-2020 8:39 AM



EROSION CONTROL PLAN (PHASE I)

Scale: 1" = 50'

GENERAL NOTES:

A. *STREET SWEEPING: Streets directly adjacent to construction entrances and receiving traffic from the development area shall be cleaned daily to remove sediment tracked off-site.*

B. *INTERNAL INSPECTION AND MAINTENANCE: All controls on the development shall be inspected at least once every seven (7) calendar days and within 24 hours after any storm event greater than one-half (0.5) inch of rain per 24 hour period by the Owner.*

C. *SEEDING AND MULCHING: All disturbed areas shall be permanently seeded upon completion of grading activities.*

D. *All erosion and sediment control BMPs shown on plan are for reference and are to be field verified as required to meet, at minimum, all local, state, and federal regulations governing such operations.*

EROSION AND SEDIMENT CONTROL BASIC PRINCIPLES:

1. *Minimize open area by phasing or sequencing construction and preserving existing vegetation where possible.*
2. *Divert storm water away from disturbed or exposed areas when possible.*
3. *Install BMPs to control erosion and sediment and manage storm water.*
4. *Inspect the site regularly and properly maintain BMPs, especially after rainstorms.*
5. *Revise the plan as site conditions change during construction and improve the plans if BMPs are not effectively controlling erosion and sediment.*
6. *Keep the construction site clean by putting trash in trash cans, keeping storage bins covered, and preventing or removing excess sediment on roads and other impervious surfaces.*

CONSTRUCTION SEQUENCING NOTES (PHASE I):

1. *Utilize / maintain existing site entrances as construction entrances.*
2. *Establish construction staging areas / tracking pads.*
3. *Install perimeter silt fence.*
4. *Clearing and grubbing.*
5. *Minor demolition, fences, gates, etc.*

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

ISSUE DATE 02/26/2020 | SCALE 1" = 50' | CTR INT. 2"
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WASTE MANAGEMENT

PROJECT: *TRUCK MAINTENANCE FACILITY GERMANTOWN, WI*

SHEET TITLE: *EROSION CONTROL PLAN (PHASE I)*

SHEET NO: **X2.0**

JOB NO: ENG-1465

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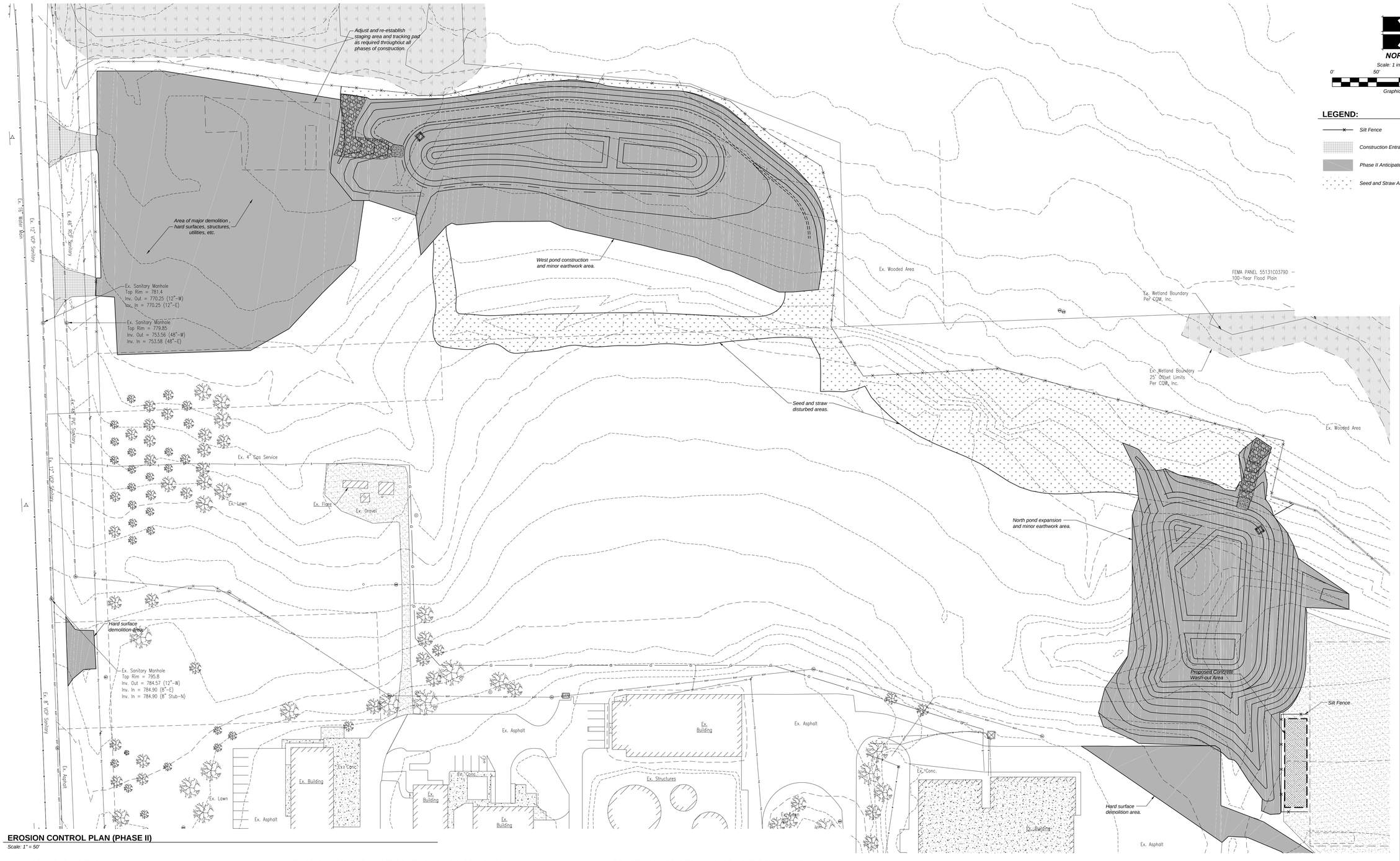

LEGEND:

- Silt Fence
- Construction Entrance
- Phase II Anticipated Active Work Area
- Seed and Straw Areas

EROSION CONTROL PLAN (PHASE II)

Scale: 1" = 50'

GENERAL NOTES:

A. *STREET SWEEPING: Streets directly adjacent to construction entrances and receiving traffic from the development area shall be cleaned daily to remove sediment tracked off-site.*

B. *INTERNAL INSPECTION AND MAINTENANCE: All controls on the development shall be inspected at least once every seven (7) calendar days and within 24 hours after any storm event greater than one-half (0.5) inch of rain per 24 hour period by the Owner.*

C. *SEEDING AND MULCHING: All disturbed areas shall be permanently seeded upon completion of grading activities.*

D. *All erosion and sediment control BMPs shown on plan are for reference and are to be field verified as required to meet, at minimum, all local, state, and federal regulations governing such operations.*

EROSION AND SEDIMENT CONTROL BASIC PRINCIPLES:

1. *Minimize open area by phasing or sequencing construction and preserving existing vegetation where possible.*
2. *Divert storm water away from disturbed or exposed areas when possible.*
3. *Install BMPs to control erosion and sediment and manage storm water.*
4. *Inspect the site regularly and properly maintain BMPs, especially after rainstorms.*
5. *Revise the plan as site conditions change during construction and improve the plans if BMPs are not effectively controlling erosion and sediment.*
6. *Keep the construction site clean by putting trash in trash cans, keeping storage bins covered, and preventing or removing excess sediment on roads and other impervious surfaces.*

CONSTRUCTION SEQUENCING NOTES (PHASE II):

1. *West retention pond construction and north retention pond expansion.*
2. *Major demolition, hard surfaces, structures, utilities, etc.*
3. *Minor earthwork.*
4. *Seed and straw disturbed areas.*

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

ISSUE DATE 02/26/2020
SURVEYED BY CDM
DRAWN BY DSW
SCALE 1" = 50'
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APPROVED BY
CTR INT: K/B M/B
2"

Diversified Engineering Inc.
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WASTE MANAGEMENT

PROJECT: *TRUCK MAINTENANCE FACILITY GERMANTOWN, WI*

SHEET TITLE: *EROSION CONTROL PLAN (PHASE II)*

SHEET NO: **X2.1**

JOB NO: ENG-1465

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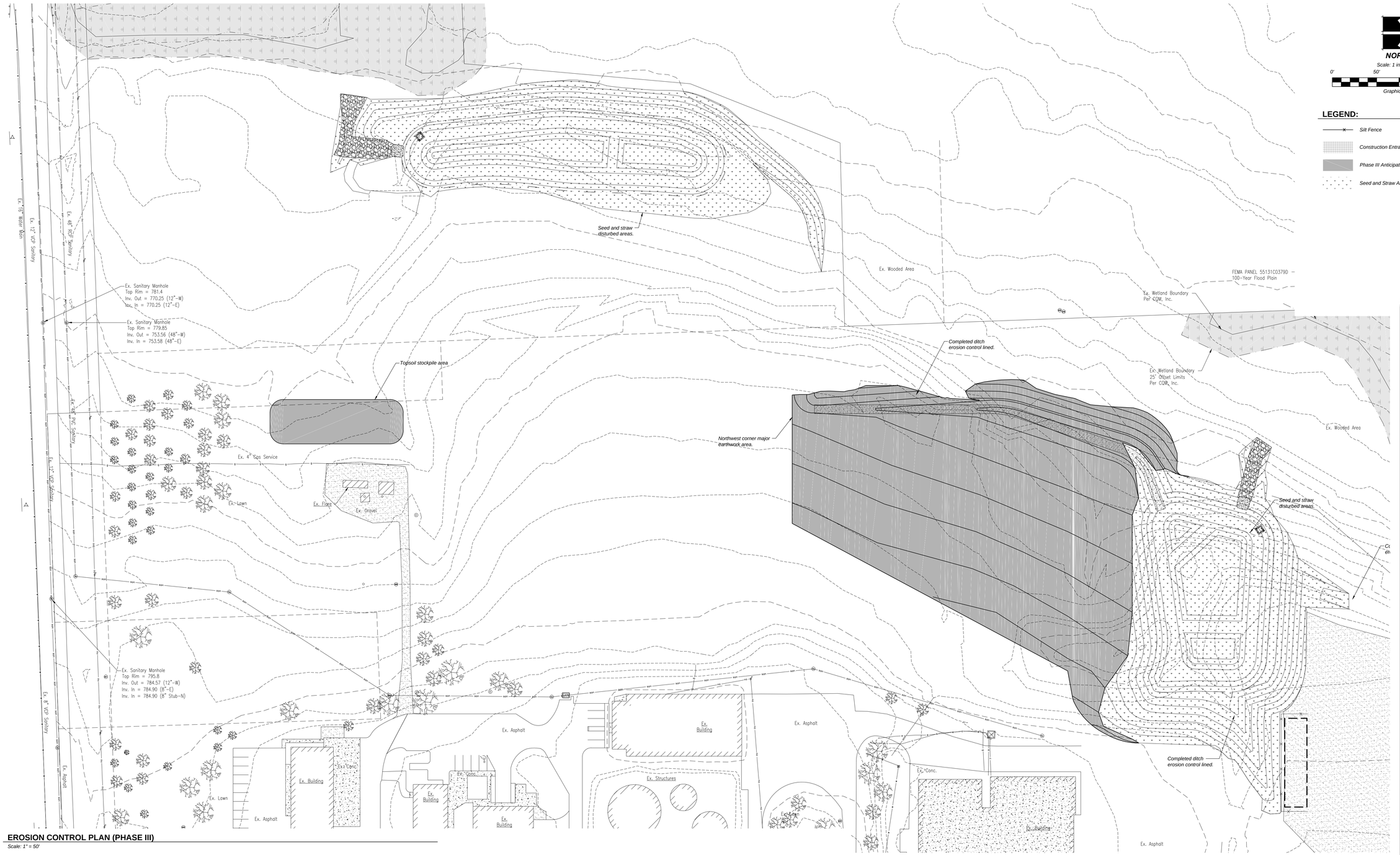

EROSION CONTROL PLAN (PHASE III)

Scale: 1" = 50'

GENERAL NOTES:

A. *STREET SWEEPING: Streets directly adjacent to construction entrances and receiving traffic from the development area shall be cleaned daily to remove sediment tracked off-site.*

B. *INTERNAL INSPECTION AND MAINTENANCE: All controls on the development shall be inspected at least once every seven (7) calendar days and within 24 hours after any storm event greater than one-half (0.5) inch of rain per 24 hour period by the Owner.*

C. *SEEDING AND MULCHING: All disturbed areas shall be permanently seeded upon completion of grading activities.*

D. *All erosion and sediment control BMPs shown on plan are for reference and are to be field verified as required to meet, at minimum, all local, state, and federal regulations governing such operations.*

EROSION AND SEDIMENT CONTROL BASIC PRINCIPLES:

1. *Minimize open area by phasing or sequencing construction and preserving existing vegetation where possible.*
2. *Divert storm water away from disturbed or exposed areas when possible.*
3. *Install BMPs to control erosion and sediment and manage storm water.*
4. *Inspect the site regularly and properly maintain BMPs, especially after rainstorms.*
5. *Revise the plan as site conditions change during construction and improve the plans if BMPs are not effectively controlling erosion and sediment.*
6. *Keep the construction site clean by putting trash in trash cans, keeping storage bins covered, and preventing or removing excess sediment on roads and other impervious surfaces.*

CONSTRUCTION SEQUENCING NOTES (PHASE III):

1. *Field located and construct temporary erosion control BMPs, as required.*
2. *Begin topsoil stripping and stockpiling.*
3. *Begin major earthwork on the northwest portion of the site.*
4. *Seed and straw disturbed areas.*

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

ISSUE DATE: 02/28/2020
SURVEYED BY: CDM
DRAWN BY: DSW
SCALE: 1" = 50'
CHECKED BY: KJB
APPROVED BY: MJB
CTR INT: 2"

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WASTE MANAGEMENT

PROJECT: *TRUCK MAINTENANCE FACILITY GERMANTOWN, WI*

SHEET TITLE: *EROSION CONTROL PLAN (PHASE III)*

SHEET NO: **X2.2**

JOB NO: ENG-1465

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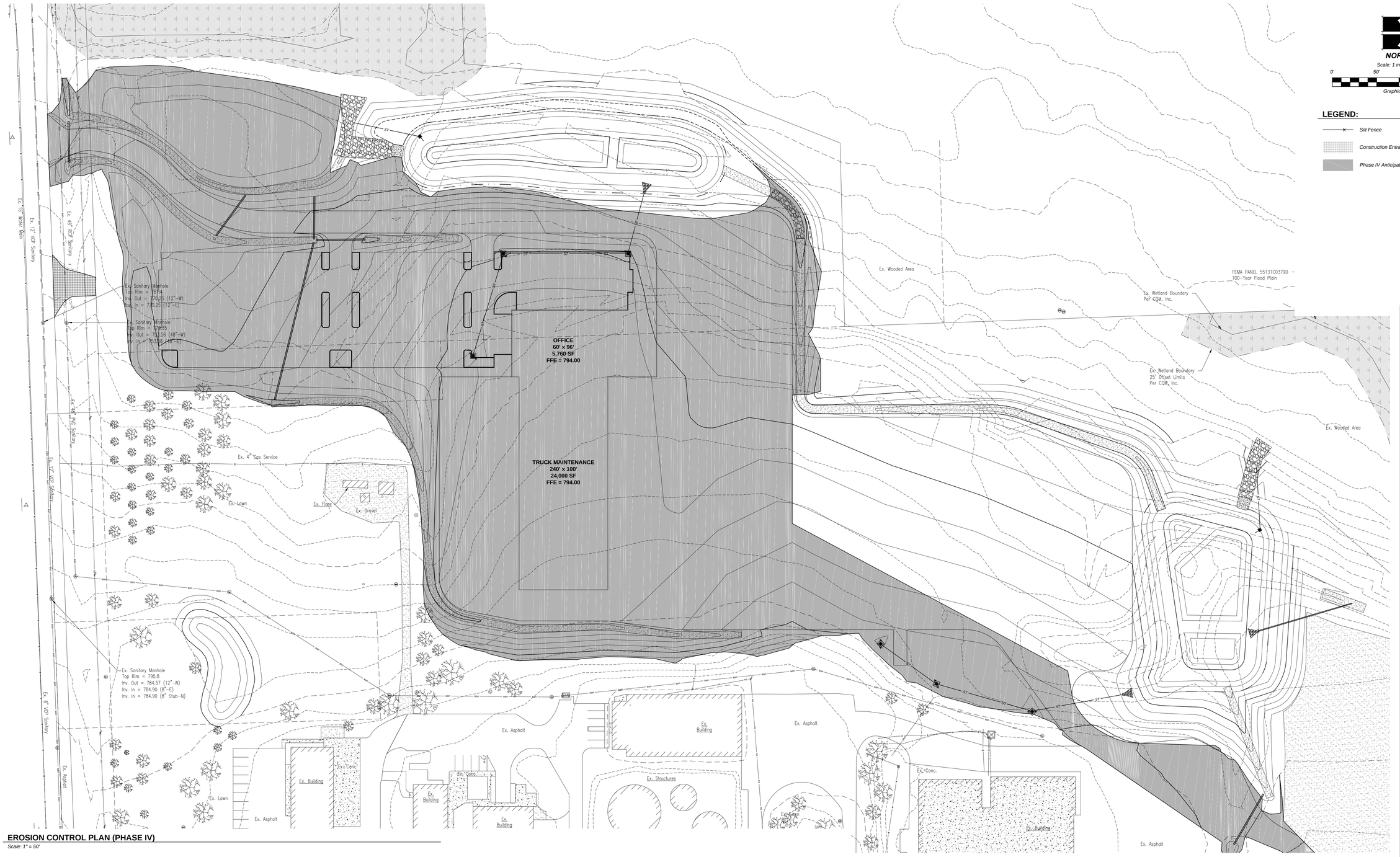

EROSION CONTROL PLAN (PHASE IV)

Scale: 1" = 50'

GENERAL NOTES:

A. *STREET SWEEPING: Streets directly adjacent to construction entrances and receiving traffic from the development area shall be cleaned daily to remove sediment tracked off-site.*

B. *INTERNAL INSPECTION AND MAINTENANCE: All controls on the development shall be inspected at least once every seven (7) calendar days and within 24 hours after any storm event greater than one-half (0.5) inch of rain per 24 hour period by the Owner.*

C. *SEEDING AND MULCHING: All disturbed areas shall be permanently seeded upon completion of grading activities.*

D. *All erosion and sediment control BMPs shown on plan are for reference and are to be field verified as required to meet, at minimum, all local, state, and federal regulations governing such operations.*

EROSION AND SEDIMENT CONTROL BASIC PRINCIPLES:

1. *Minimize open area by phasing or sequencing construction and preserving existing vegetation where possible.*
2. *Divert storm water away from disturbed or exposed areas when possible.*
3. *Install BMPs to control erosion and sediment and manage storm water.*
4. *Inspect the site regularly and properly maintain BMPs, especially after rainstorms.*
5. *Revise the plan as site conditions change during construction and improve the plans if BMPs are not effectively controlling erosion and sediment.*
6. *Keep the construction site clean by putting trash in trash cans, keeping storage bins covered, and preventing or removing excess sediment on roads and other impervious surfaces.*

CONSTRUCTION SEQUENCING NOTES (PHASE IV):

1. *Complete remaining ditches / berms and install storm water structures.*
2. *Grade building pad.*
3. *Re-spread topsoil on completed slopes and seed and straw.*

ISSUE DATE 02/26/2020 | SCALE 1" = 50' | CTR INT: 2'
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WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI

SHEET TITLE: EROSION CONTROL PLAN
(PHASE IV)

SHEET NO: X2.3

JOB NO: ENG-1465

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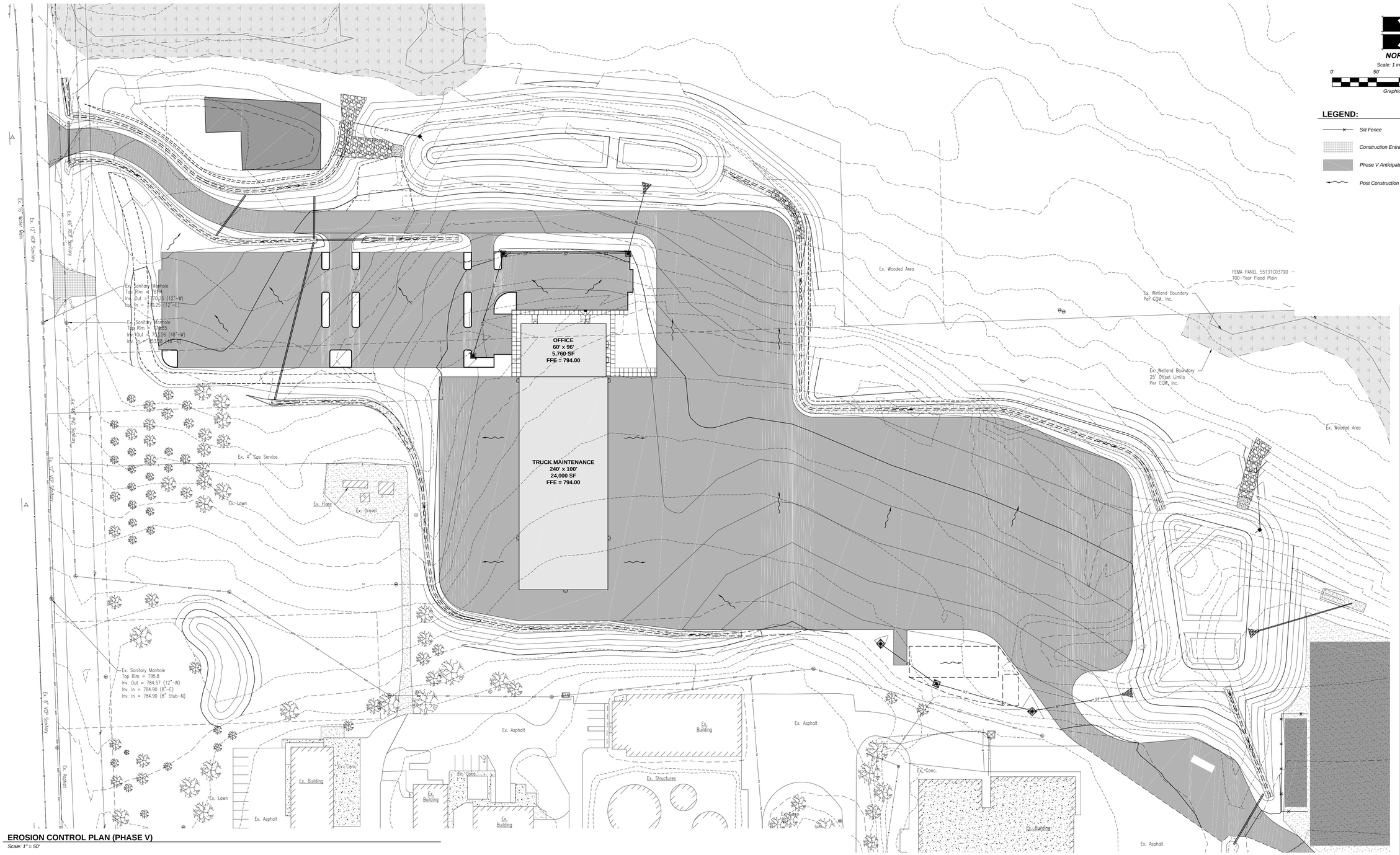

EROSION CONTROL PLAN (PHASE V)

Scale: 1" = 50'

GENERAL NOTES:

A. *STREET SWEEPING: Streets directly adjacent to construction entrances and receiving traffic from the development area shall be cleaned daily to remove sediment tracked off-site.*

B. *INTERNAL INSPECTION AND MAINTENANCE: All controls on the development shall be inspected at least once every seven (7) calendar days and within 24 hours after any storm event greater than one-half (0.5) inch of rain per 24 hour period by the Owner.*

C. *SEEDING AND MULCHING: All disturbed areas shall be permanently seeded upon completion of grading activities.*

D. *All erosion and sediment control BMPs shown on plan are for reference and are to be field verified as required to meet, at minimum, all local, state, and federal regulations governing such operations.*

EROSION AND SEDIMENT CONTROL BASIC PRINCIPLES:

1. *Minimize open area by phasing or sequencing construction and preserving existing vegetation where possible.*
2. *Divert storm water away from disturbed or exposed areas when possible.*
3. *Install BMPs to control erosion and sediment and manage storm water.*
4. *Inspect the site regularly and properly maintain BMPs, especially after rainstorms.*
5. *Revise the plan as site conditions change during construction and improve the plans if BMPs are not effectively controlling erosion and sediment.*
6. *Keep the construction site clean by putting trash in trash cans, keeping storage bins covered, and preventing or removing excess sediment on roads and other impervious surfaces.*

CONSTRUCTION SEQUENCING NOTES (PHASE V):

1. *Building Construction.*
2. *Final grading and hard surfacing.*
3. *Complete topsoil re-spread on remaining slopes and seed and straw.*
4. *Reclaim staging areas and east construction entrance.*

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

ISSUE DATE 02/26/2020 | SCALE 1" = 50' | CTR INT. 2"
SURVEYED BY CDM | CHECKED BY KJB
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Diversified Engineering Inc.
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WASTE MANAGEMENT

PROJECT: *TRUCK MAINTENANCE FACILITY GERMANTOWN, WI*

SHEET TITLE: *EROSION CONTROL PLAN (PHASE V)*

SHEET NO: **X2.4**

JOB NO: ENG-1465

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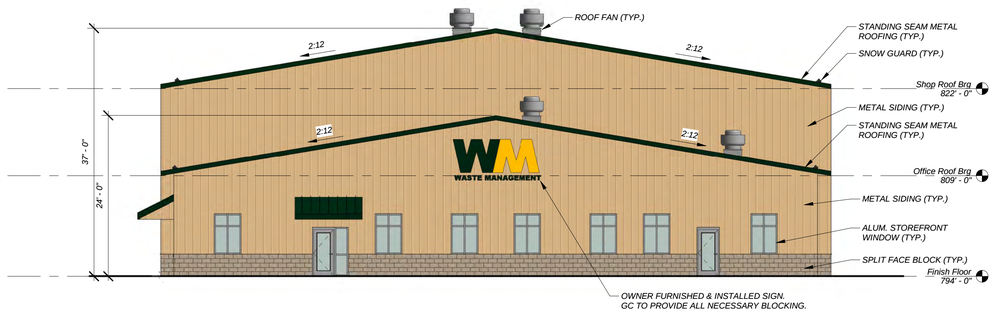
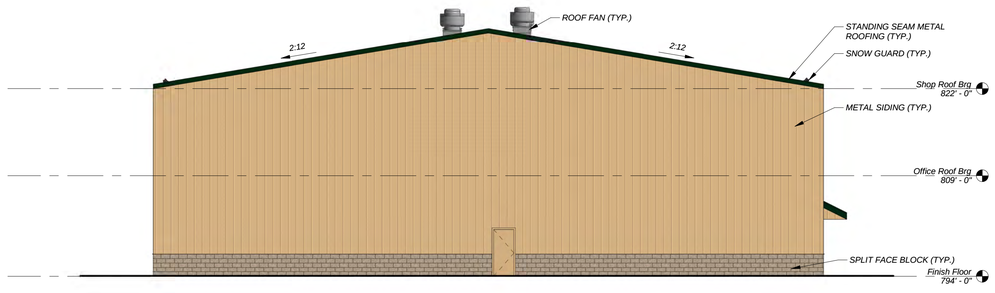


1 East Exterior Elevation
3/32" = 1'-0"



2 West Exterior Elevation
3/32" = 1'-0"

3 North Exterior Elevation
3/32" = 1'-0"

4 South Exterior Elevation
3/32" = 1'-0"

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ISSUE DATE 02/28/20 SCALE 3/32" = 1'-0" CTR INT.
SURVEYED BY N/A CHECKED BY BWS
DRAWN BY CRM APPROVED BY NJB

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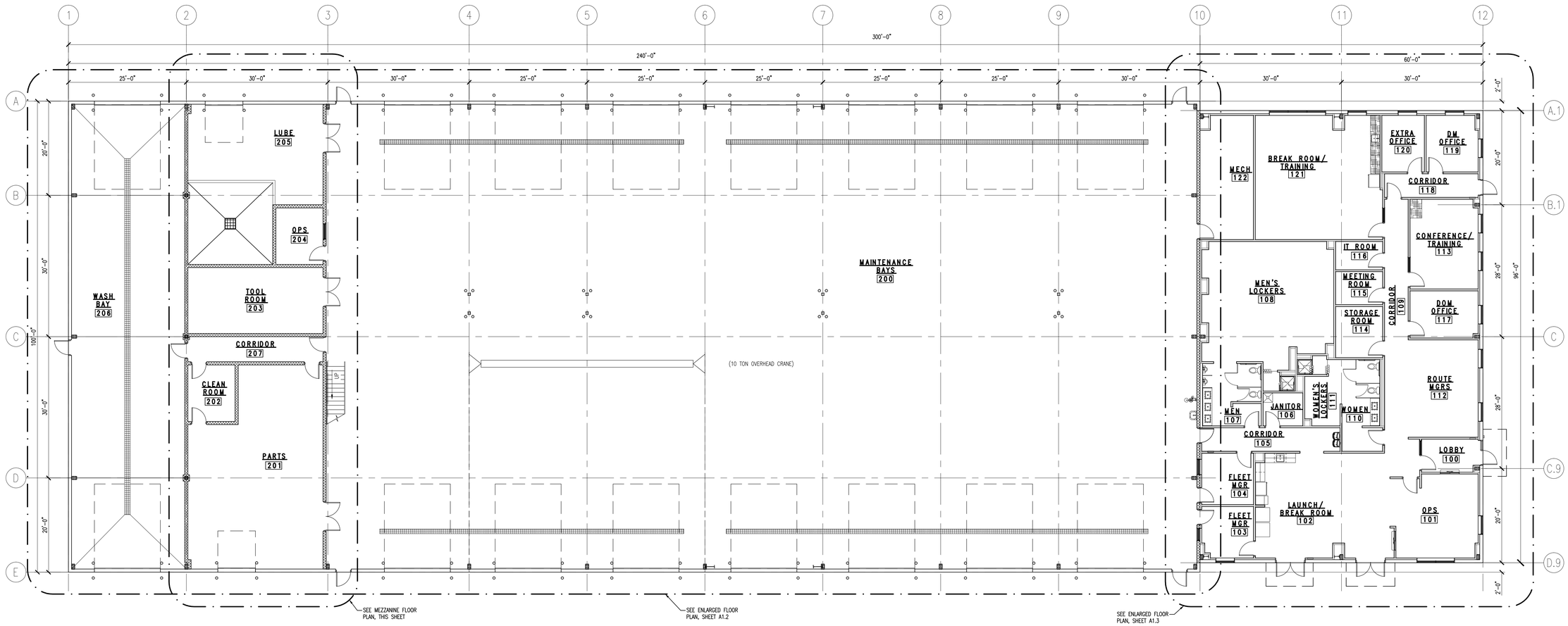
Web: www.div-eng.com

WASTE MANAGEMENT

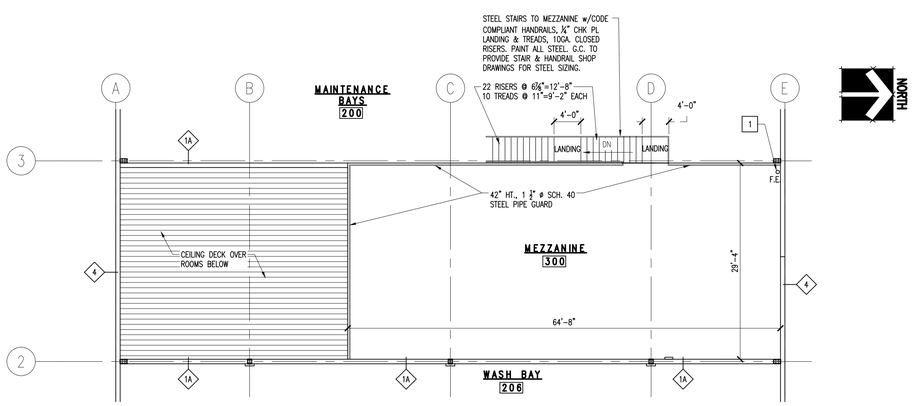
PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI

SHEET TITLE: EXTERIOR ELEVATIONS

SHEET NO: A1.0



1 OVERALL FLOOR PLAN
SCALE: 3/32" = 1'-0"



2 MEZZANINE FLOOR PLAN
SCALE: 3/32" = 1'-0"

GENERAL NOTES:

1.) ALL WORK MUST BE IN STRICT COMPLIANCE WITH THE INTERNATIONAL BUILDING CODE (IBC) – 2015.

2.) ICC A117.1 – 2009 ACCESSIBLE AND USABLE, BUILDING AND FACILITIES.

3.) EXIT DOORS SHALL MEET IBC 1010.1.9 & 1010.1.10.

4.) THE BUILDING WILL BE EQUIPPED WITH AN AUTOMATIC FIRE SUPPRESSION SYSTEM THROUGHOUT.

5.) DIMENSIONS ARE FROM FACE OF FINISHED WALL OR CMU TO FACE OF FINISHED WALL OR CMU (UNLESS OTHERWISE NOTED).

CODED NOTES: ☐

1.) SURFACE-MOUNTED FIRE EXTINGUISHER – "COSMIC" 20# ABC FIRE EXTINGUISHER w/WALL BRACKET.

SQUARE FOOTAGE BY ROOM (NET)

ROOM NO.	ROOM ID.	SQ. FOOTAGE	ROOM NO.	ROOM ID.	SQ. FOOTAGE
100	LOBBY	84	116	IT ROOM	60
101	OPS	317	117	DOM OFFICE	144
102	LAUNCH/BREAK ROOM	626	118	COORIDOR	99
103	FLEET MGR	117	119	DM OFFICE	130
104	FLEET MGR	120	120	EXTRA OFFICE	108
105	CORRIDOR	147	121	BREAK ROOM/TRAINING	695
106	JANITOR	59	122	MECH	292
107	MEN	165	200	MAINTENANCE BAYS	18,220
108	MEN'S LOCKERS	711	201	PARTS	1,107
109	CORRIDOR	308	202	CLEAN ROOM	120
110	WOMEN	158	203	TOOL ROOM	401
111	WOMEN'S LOCKERS	109	204	OPS	120
112	ROUTE MGRS	307	205	LUBE	840
113	CONFERENCE/TRAINING	275	206	WASH BAY	2,368
114	STORAGE ROOM	108	300	MEZZANINE	1,897
115	MEETING ROOM	70			

SQUARE FOOTAGE TABULATION

OVERALL SQUARE FOOTAGE (GROSS)

OFFICE/ADMINISTRATION	= 5,760 SF
MAINTENANCE SHOP/WASH BAY	= 24,000 SF
MEZZANINE	= 1,897 SF
CANOPY & AWNINGS	= 150 SF
TOTAL	= 31,765 SF

NORTH

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

ISSUE DATE: 02/28/2020
SURVEYED BY: CQM
DRAWN BY:
SCALE: 3/32" = 1'-0"
CHECKED BY:
APPROVED BY:
CTR INT.
NJB
NJB

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PROJECT: WASTE MANAGEMENT
TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI

SHEET TITLE: OVERALL FLOOR PLAN

SHEET NO: A1.1

JOB NO: ENG-1465

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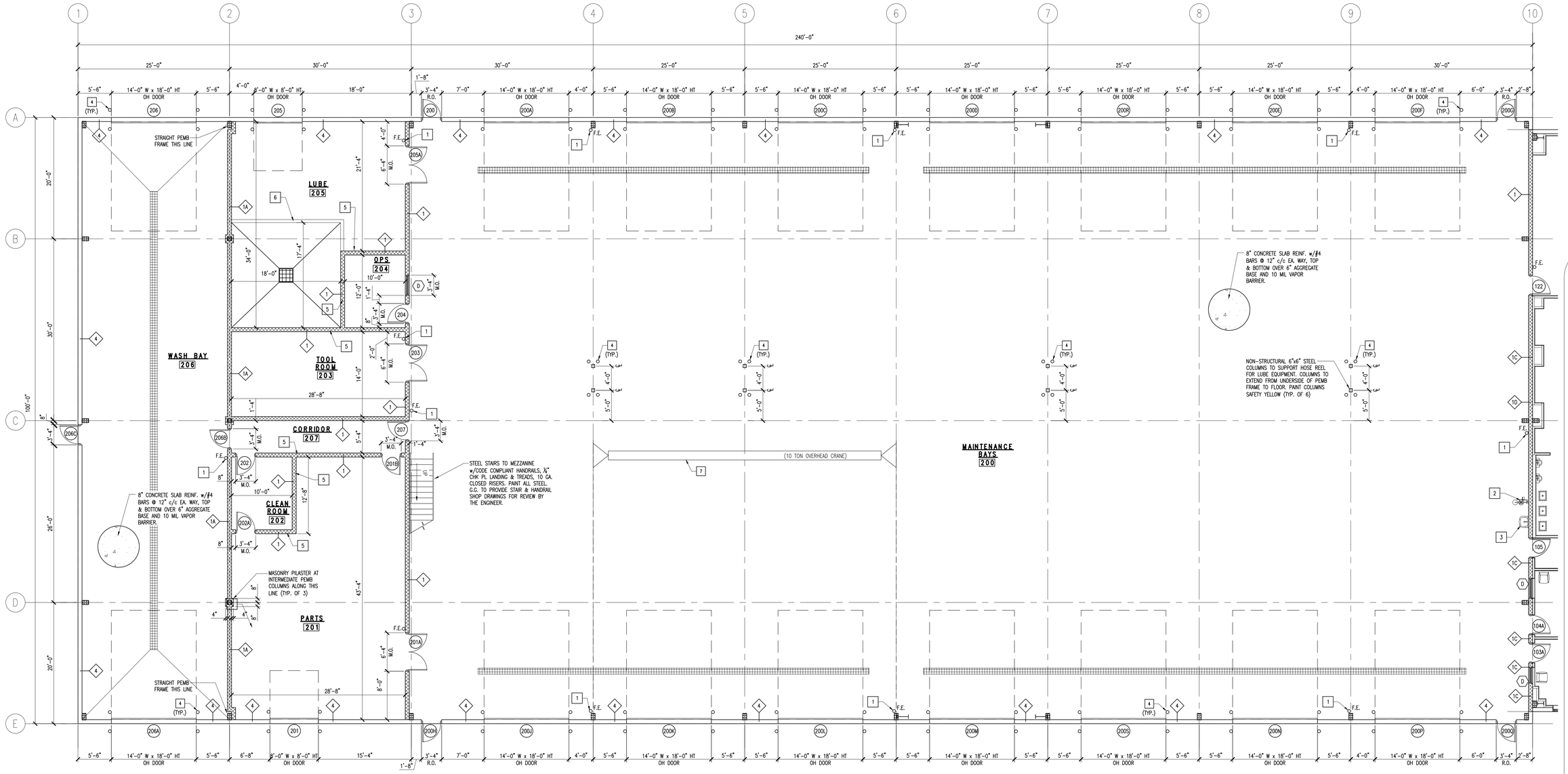

1 ENLARGED FLOOR PLAN
SCALE: 1/8" = 1'-0"

GENERAL NOTES:

1.) ALL WORK MUST BE IN STRICT COMPLIANCE WITH THE INTERNATIONAL BUILDING CODE (IBC) – 2015.

2.) ICC A117.1 – 2009 ACCESSIBLE AND USABLE, BUILDING AND FACILITIES.

3.) EXIT DOORS SHALL MEET IBC 1010.1.9 & 1010.1.10.

4.) THE BUILDING WILL BE EQUIPPED WITH AN AUTOMATIC FIRE SUPPRESSION SYSTEM THROUGHOUT.

5.) DIMENSIONS ARE FROM FACE OF FINISHED WALL OR CMU TO FACE OF FINISHED WALL OR CMU (UNLESS OTHERWISE NOTED).

6.) BULLNOSE ALL CMU CORNERS WHEN EXPOSED.

CODED NOTES: ☐

1.) SURFACE-MOUNTED FIRE EXTINGUISHER – "COSMIC" 20# ABC FIRE EXTINGUISHER w/WALL BRACKET.

2.) WALL MOUNTED EMERGENCY SHOWER w/EYE/FACE WASH STATION, SEE PLUMBING DRAWINGS.

3.) WALL MOUNTED SERVICE SINK, SEE PLUMBING DRAWINGS.

4.) 6" DIA. STEEL PIPE BOLLARD FILLED WITH CONCRETE, PAINTED YELLOW (TYP.), SEE DETAIL 3 ON SHEET A4.0.

5.) MASONRY WALL TIGHT TO MEZZANINE/CEILING DECK ABOVE.

6.) 6" HT. CONCRETE CURB FOR LUBE STORAGE CONTAINMENT.

7.) OVERHEAD 10 TON CRANE TO BE PROVIDED BY THE OWNER. THE G.C. SHALL COORDINATE INSTALLATION OF EQUIPMENT NEAR THE CRANE WITH THE OWNER AND/OR OWNER'S REPRESENTATIVE. THE G.C. SHALL PROVIDE COORDINATION DRAWINGS FOR EQUIPMENT BEING INSTALLED NEAR THE CRANE FOR REVIEW BY THE ENGINEER.

WALL TYPES LEGEND:

(SEE FINISH SCHEDULE FOR FINISHES)

* DIMENSIONS ARE FROM FACE OF FINISHED WALL OR CMU TO FACE OF FINISHED WALL OR CMU (UNLESS OTHERWISE NOTED).

1	8" CMU PAINTED
1A	8" CMU PAINTED UP TO 13'-4" AFF. PEMB METAL GIRTS w/METAL LINER PANEL ABV. MASONRY TO CEILING.
1C	8" CMU PAINTED AND 3⅝" METAL STUDS @ 16" O.C. w/⅝" GYP. BOARD.
1D	8" CMU PAINTED AND 3⅝" METAL STUDS @ 16" O.C. w/⅝" M.R. GYP. BOARD.
4	PEMB METAL GRITS w/8" SPLIT FACE CMU UP TO 3'-4" AFF (FOAMED-IN-PLACE INSULATION IN EMPTY CORES), METAL EXTERIOR SIDING AND INTERIOR METAL LINER PANEL.

ISSUE DATE 02/28/2020 SCALE 1/8" = 1'-0" CTR INT.
SURVEYED BY CQM CHECKED BY NJB
DRAWN BY APPROVED BY NJB

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

Diversified Engineering Inc.
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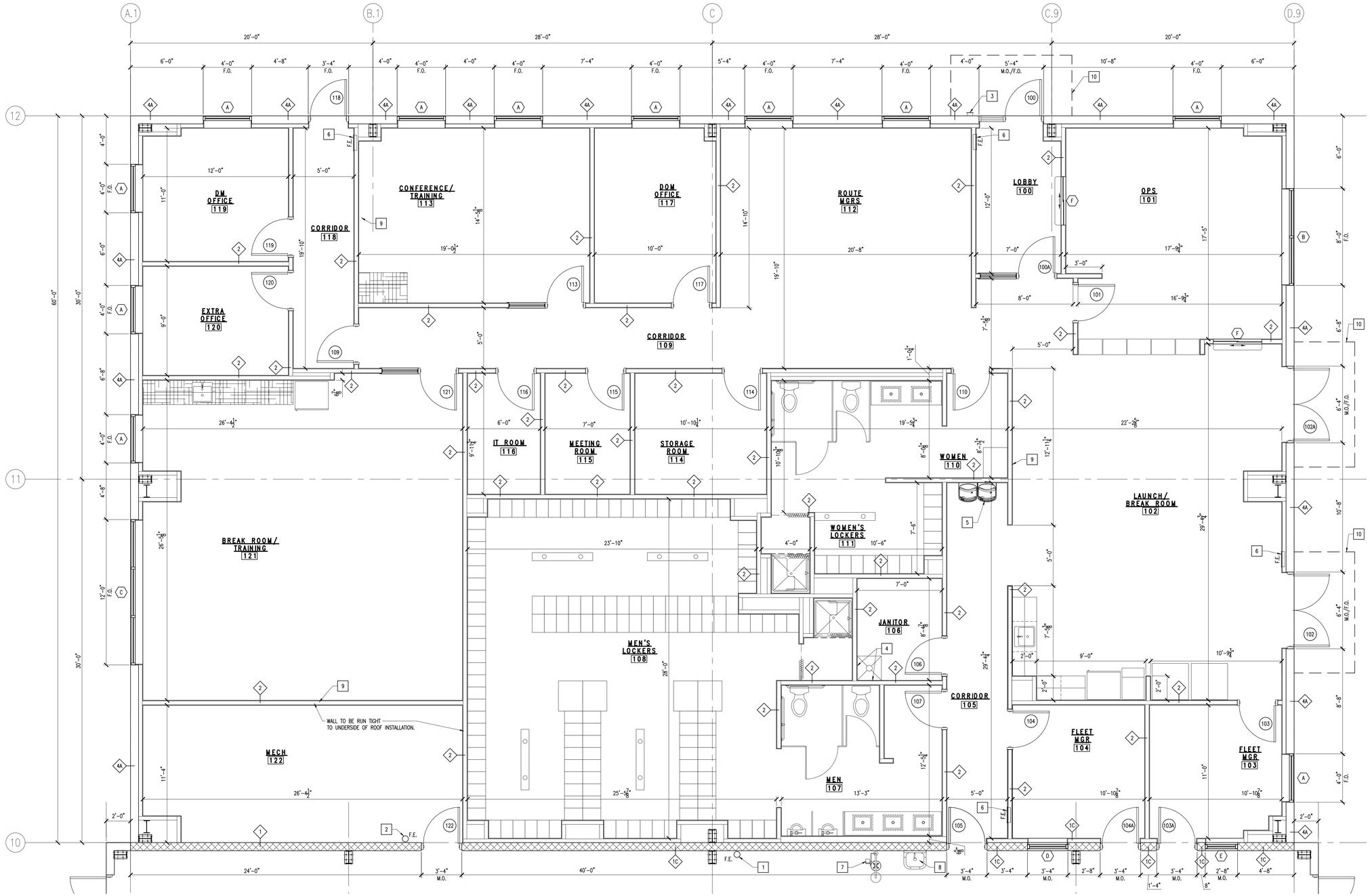
WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI

SHEET TITLE: ENLARGED FLOOR PLAN (MAINTENANCE BAYS)

SHEET NO: A1.2

JOB NO: ENG-1465



1 ENLARGED FLOOR PLAN
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1.) ALL WORK MUST BE IN STRICT COMPLIANCE WITH THE INTERNATIONAL BUILDING CODE (IBC) – 2015.

2.) ICC A117.1 – 2009 ACCESSIBLE AND USABLE, BUILDING AND FACILITIES.

3.) EXIT DOORS SHALL MEET IBC 1010.1.9 & 1010.1.10.

4.) THE BUILDING WILL BE EQUIPPED WITH AN AUTOMATIC FIRE SUPPRESSION SYSTEM THROUGHOUT.

5.) DIMENSIONS ARE FROM FACE OF FINISHED WALL OR CMU TO FACE OF FINISHED WALL OR CMU (UNLESS OTHERWISE NOTED).

6.) BULLNOSE ALL CMU CORNERS WHEN EXPOSED.

7.) FRAMING AROUND PEMB FRAMES SHALL BE FIELD VERIFIED AND ADJUSTED AS NECESSARY.

CODED NOTES: ☐

1.) SURFACE-MOUNTED FIRE EXTINGUISHER – "COSMIC" 20# ABC FIRE EXTINGUISHER w/WALL BRACKET.

2.) SURFACE-MOUNTED FIRE EXTINGUISHER – "COSMIC" 10# ABC FIRE EXTINGUISHER w/WALL BRACKET.

3.) "KNOX-BOX" 3200 SERIES, SURFACE MOUNTED, HINGED DOOR.

4.) FRP PANELS AT MOP BASIN. 48" HT x 12" BEYOND EDGE OF MOP BASIN.

5.) BI-LEVEL, BARRIER FREE, ADA COMPLIANT WATER COOLER, WALL MOUNTED BY PLUMBING CONTRACTOR.

6.) RECESSED FIRE EXTINGUISHER – "J.L. IND." PANORAMA 3015-Q-48 FLAT TRIM, IDENTITY H-WHITE AND RED SCORED BREAKOUT PANEL WITH LOCK MECHANISM AND "COSMIC" 10# ABC FIRE EXTINGUISHER.

7.) WALL MOUNTED EMERGENCY SHOWER w/EYE/FACE WASH STATION, SEE PLUMBING DRAWINGS.

8.) WALL MOUNTED SERVICE SINK, SEE PLUMBING DRAWINGS.

9.) PROVIDE BLOCKING FOR TV MONITOR – COORDINATE MONITOR SIZE W/OWNER.

10.) CANOPY LINE ABOVE.

WALL TYPES LEGEND:

(SEE FINISH SCHEDULE FOR FINISHES)

* DIMENSIONS ARE FROM FACE OF FINISHED WALL OR CMU TO FACE OF FINISHED WALL OR CMU (UNLESS OTHERWISE NOTED).

1 — 8" CMU PAINTED

1C — 8" CMU PAINTED AND 3⅝" METAL STUDS @ 16" O.C. w/⅝" GYP. BOARD.

2 — 3⅝" METAL STUDS @ 16" O.C. w/⅜" SOUNDS BATTS AND ⅝" GYP. BOARD ON EACH SIDE. ⅝" M.R. GYP. BOARD WILL OCCUR IN ALL SHOWER COMPARTMENTS.

4A — PEMB METAL GRITS w/8" SPLIT FACE CMU UP TO 3'-4" AFF (FOAMED-IN-PLACE INSULATION IN EMPTY CORES), METAL EXTERIOR SIDING AND 3⅝" METAL STUD @ 16" O.C. w/⅝" GYP. BOARD ON INSIDE (SEE FINISH SCHEDULE).

NORTH

ISSUE DATE 02/28/2020 SCALE 1/4" = 1'-0" CTR INT.
SURVEYED BY COM CHECKED BY KJB
DRAWN BY APPROVED BY MJB

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

Diversified Engineering Inc.
CONSULTING ENGINEERS & SURVEYORS
175 RAY AVENUE, N.E.
NEW PHILADELPHIA, OH 44663
Phone: (330) 364-1631
Fax: (330) 364-1633
e-mail: dei@dei-eng.com
Web: www.dei-eng.com

WASTE MANAGEMENT

PROJECT: TRUCK MAINTENANCE FACILITY
GERMANTOWN, WI

SHEET TITLE: ENLARGED FLOOR PLAN (OFFICE)

SHEET NO: A1.3

JOB NO: ENG-1465

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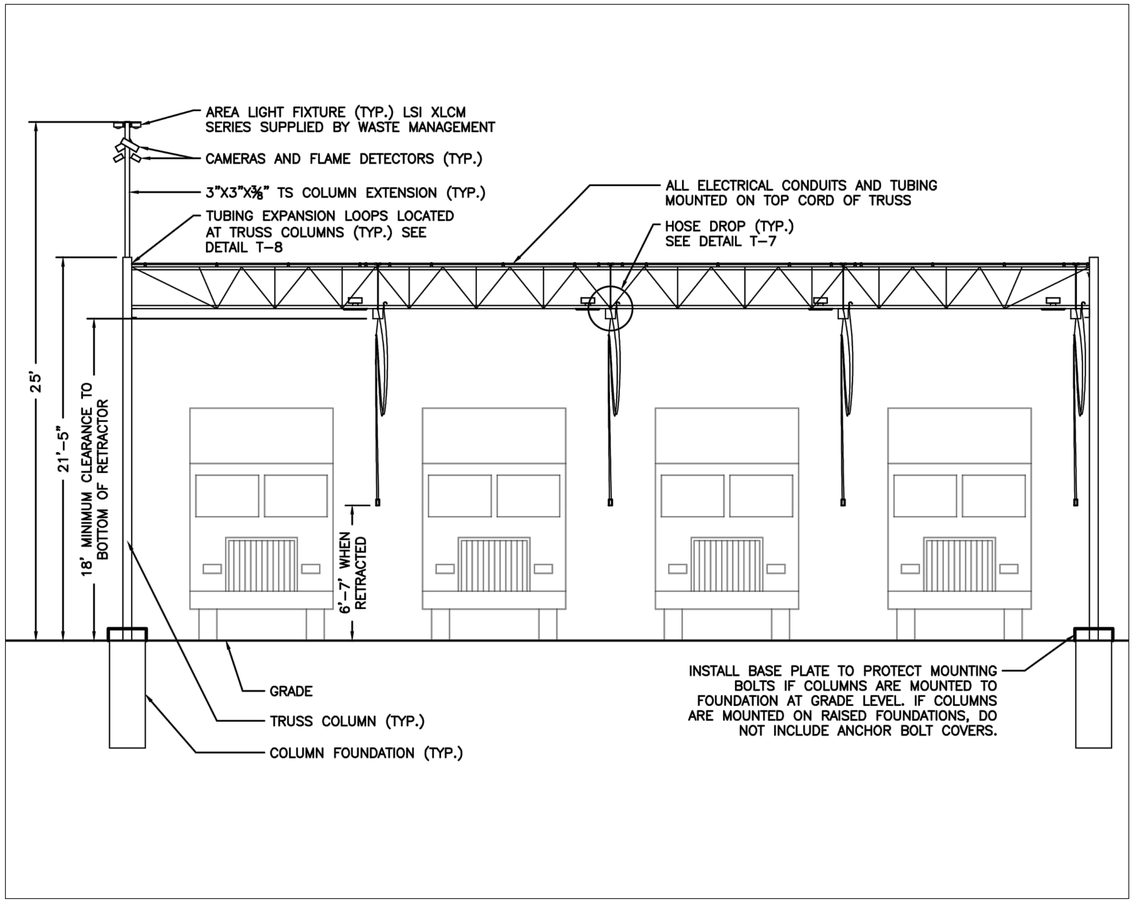

TYPICAL CNG TRUSS

DETAIL 1 / A1.2

SCALE: NOT TO SCALE

ISSUE DATE 02/28/2020 SCALE NO SCALE CTR INT: -
SURVEYED BY COM CHECKED BY BWS/KJB
DRAWN BY CRM/LDB APPROVED BY MJB

REV	DATE	DESCRIPTION	DWN BY	DES BY	CHK BY	APP BY

Diversified Engineering Inc.
CONSULTING ENGINEERS & SURVEYORS
175 RAY AVENUE, N.E.
NEW PHILADELPHIA, OH 44663
Phone: (330) 364-5831
Fax: (330) 364-5851
e-mail: dei@dei-eng.com
Web: www.dei-eng.com

WASTE MANAGEMENT

PROJECT: *TRUCK MAINTENANCE FACILITY GERMANTOWN, WI*

SHEET TITLE: *CNG TRUSS STRUCTURE TYPICAL DETAIL*

SHEET NO: **A1.4**

JOB NO: ENG-1465

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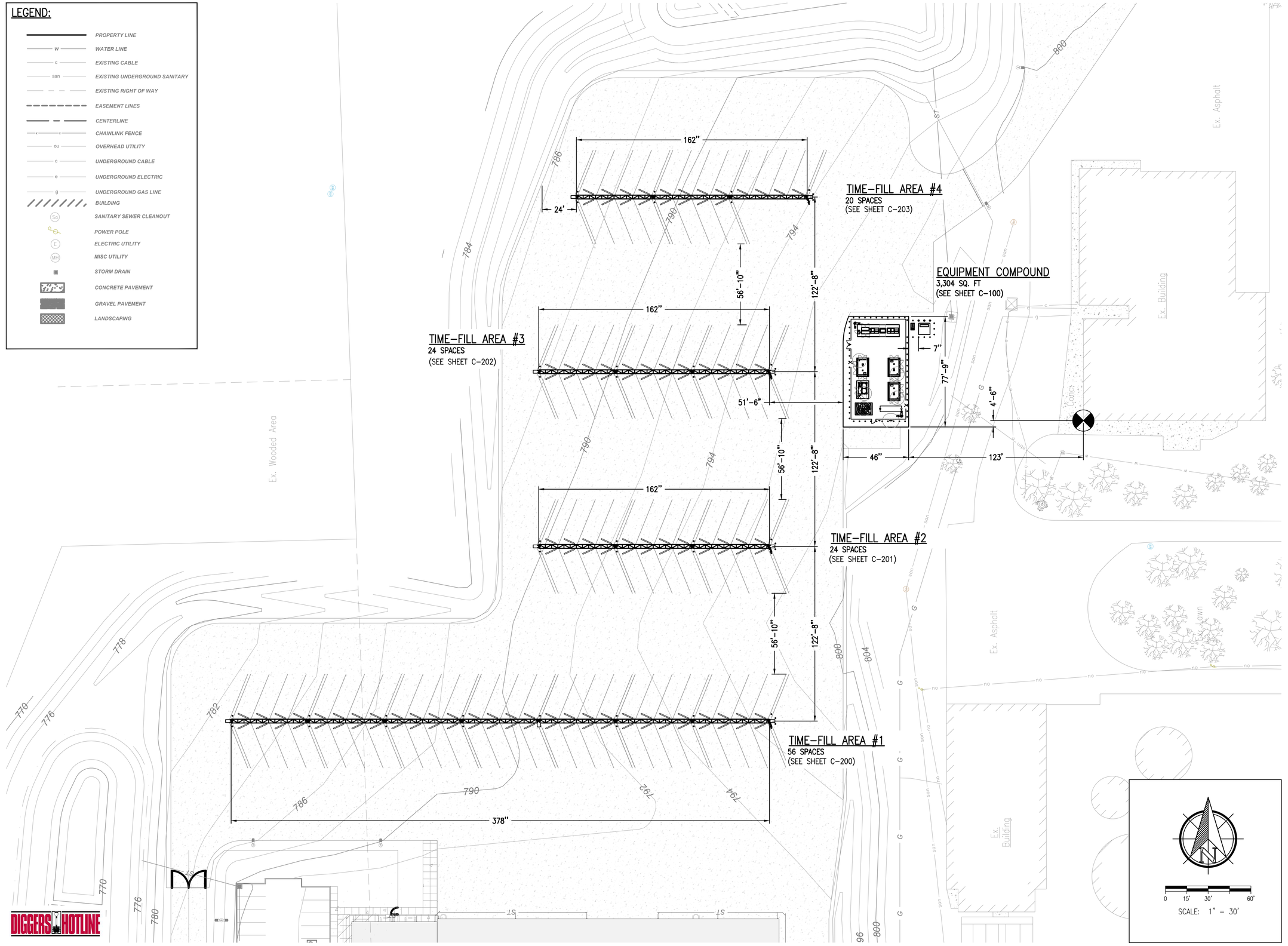
LEGEND:

- PROPERTY LINE
- W — WATER LINE
- c — EXISTING CABLE
- san — EXISTING UNDERGROUND SANITARY
- EXISTING RIGHT OF WAY
- EASEMENT LINES
- CENTERLINE
- CHAINLINK FENCE
- ou — OVERHEAD UTILITY
- c — UNDERGROUND CABLE
- e — UNDERGROUND ELECTRIC
- g — UNDERGROUND GAS LINE
- BUILDING
- Sa — SANITARY SEWER CLEANOUT
- POWER POLE
- E — ELECTRIC UTILITY
- MH — MISC UTILITY
- STORM DRAIN
- CONCRETE PAVEMENT
- GRAVEL PAVEMENT
- LANDSCAPING



DIGGERS HOTLINE

OWNER
WASTE MANAGEMENT
N96W13600 COUNTY LINE RD
GERMANTOWN, WI 53022
MATHEW MCGURN
906-235-9560

GENERAL CONTRACTOR:
TRUSTAR ENERGY
JEFF LUCERO (CA LIC # 942661)
10225 PHILADELPHIA CT.
RANCHO CUCAMONGA, CA. 91730
(909) 793-3700

TruStar Energy

WASTE MANAGEMENT

N96W13600 COUNTY LINE ROAD
GERMANTOWN, WI 53022
CNG FUEL FACILITY

Katahdin Environmental
3553 CAMINO MIRA COSTA, SUITE E
SAN CLEMENTE, CA 92672

REVISIONS

No.	DATE	BY	REMARK

GENERAL – SITE PLAN

DRAWN: SBR
CHECKED: SRR
DATE: 17/04/2020
SCALE: AS SHOWN
JOB NO: 20003

G–200

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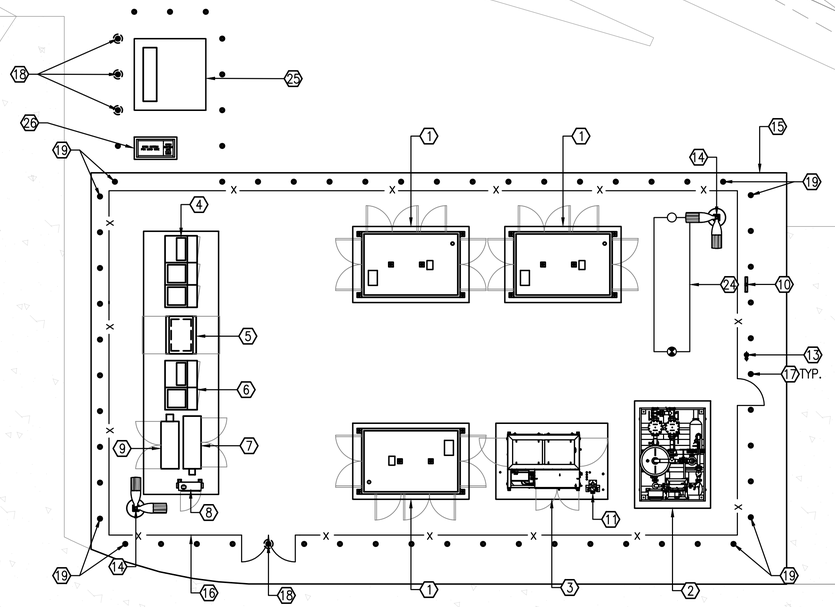
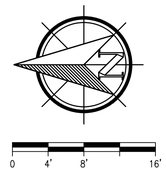


EQUIPMENT COMPOUND – PLAN VIEW

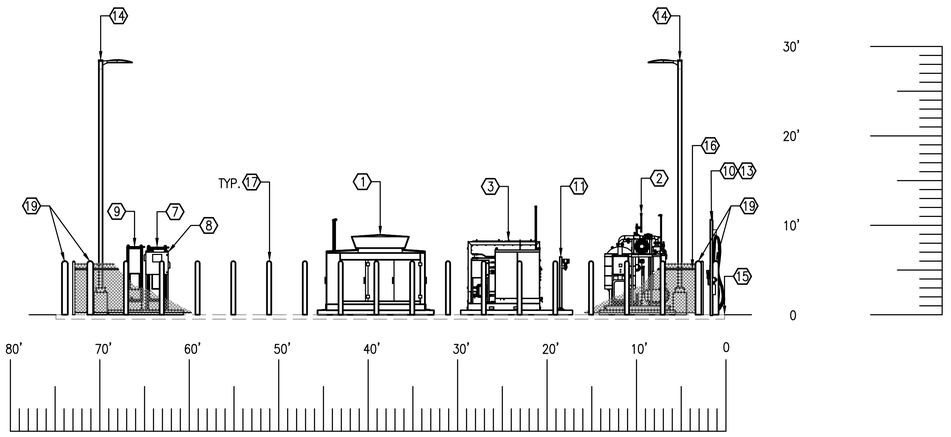


SCALE: 1" = 8'

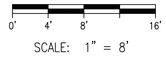
EQUIPMENT LIST:

1. ANGI NG300 COMPRESSOR (QTY. 3)
2. CNG DRYER GD-036-S-M-460-150-4
3. TRUSTAR DE-FUELING SYSTEM
4. SERVICE ENTRANCE RATED SWITCHBOARD – 1600 AMP
5. 300 KVA XMFR
6. SWITCHBOARD 800 AMP
7. TRIPLE MOTOR STARTER PANEL – 1200A
8. TRUSTAR COMMUNICATIONS PANEL
9. WASTE MANAGEMENT COMM. PANEL
10. DE-FUELING/DIRECT FILL POST
11. FLOW METER
12. FILTER STAND (WM SPEC)
13. EMERGENCY SHUT-DOWN SWITCH W/ FIRE EXTINGUISHER
14. 29' DUAL HEAD LED LIGHT *
15. 4" HOUSEKEEPING PAD
16. 6' CHAIN LINK FENCE
17. 6" FIXED BOLLARD
18. 6" REMOVEABLE BOLLARD
19. 8" FIXED BOLLARD
20. TIME-FILL TRUSS*
21. CAISSON FOR TRUSS*
22. TRUSS COLUMN EXTENSION W/ LIGHT & FLAME DETECTOR*
23. WHEEL STOP*
24. UTILITY GAS METER SET ASSEMBLY
25. UTILITY TRANSFORMER
26. CT CABINET & METER

* SEE SHEET C-200 THRU 204



EQUIPMENT COMPOUND – WEST ELEVATION



SCALE: 1" = 8'

DIGGERS HOTLINE

OWNER
WASTE MANAGEMENT
N96W13600 COUNTY LINE RD
GERMANTOWN, WI 53022
MATHEW MCGURN
906-235-9560

GENERAL CONTRACTOR:
TRUSTAR ENERGY
JEFF LUCERO (CA LIC # 942661)
10225 PHILADELPHIA CT.
RANCHO CUCAMONGA, CA. 91730
(909) 793-3700

TruStar Energy

WASTE MANAGEMENT

N96W13600 COUNTY LINE ROAD
GERMANTOWN, WI 53022

CNG FUEL FACILITY

Katahdin Environmental
3553 CAMINO MIRA COSTA, SUITE E
SAN CLEMENTE, CA 92672

REVISIONS

No.	DATE	BY	REMARK

CIVIL – EQUIPMENT AREA

DRAWN: SBR
CHECKED: SRR
DATE: 14/04/2020
SCALE: AS SHOWN
JOB NO: 20003

C-100

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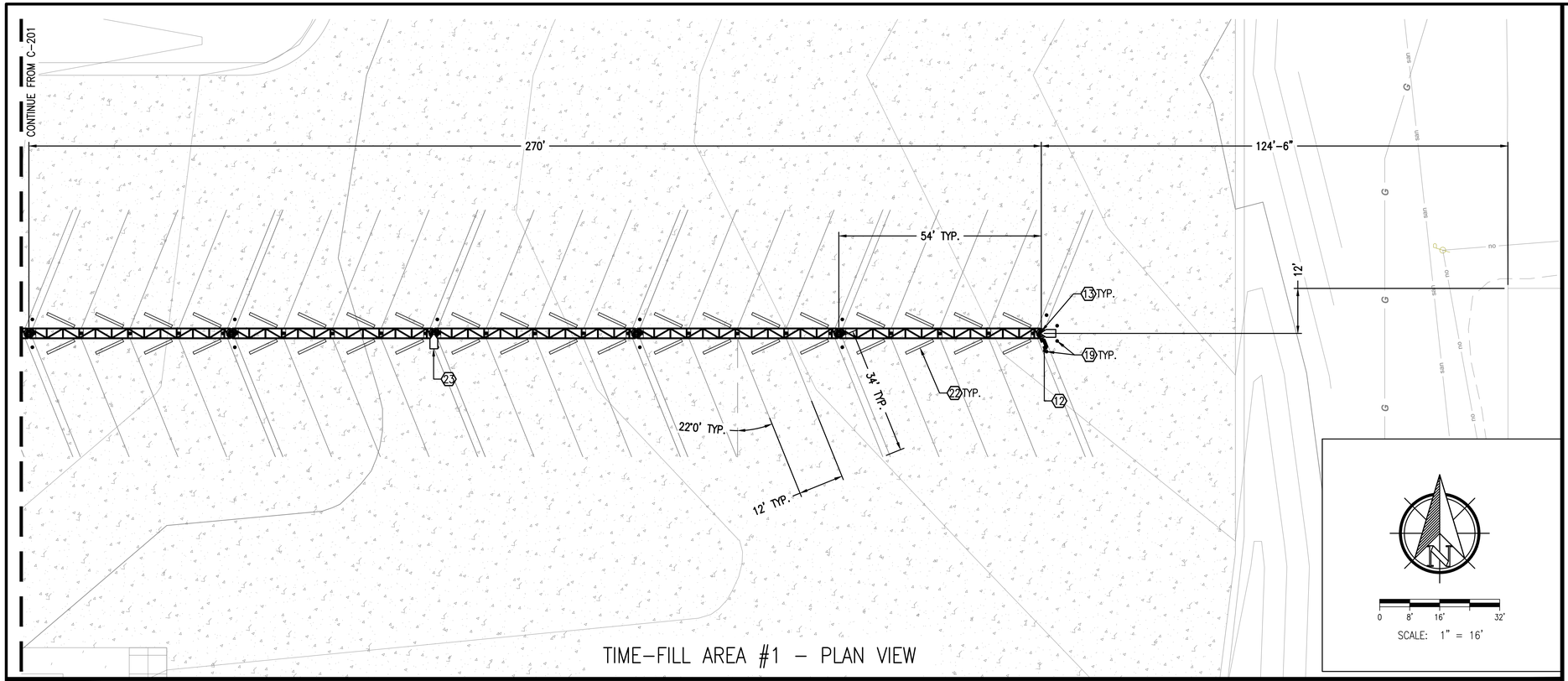


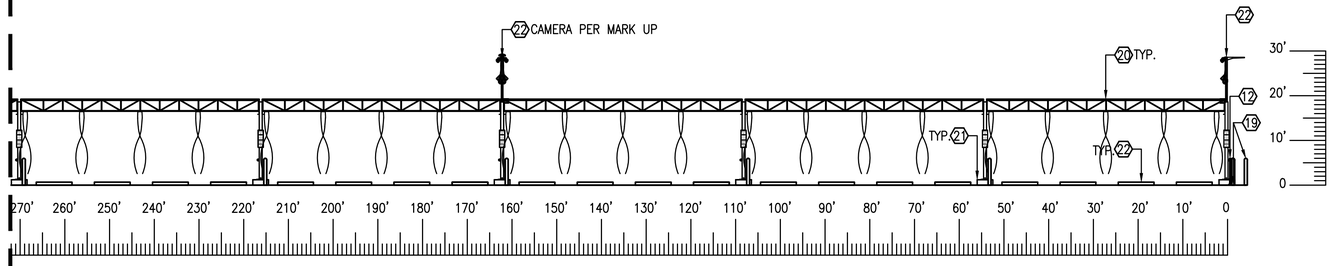
TIME-FILL AREA #1 - PLAN VIEW

SCALE: 1" = 16'

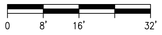
EQUIPMENT LIST:

1. ANGI NG300 COMPRESSOR (QTY. 3)*
2. CNG DRYER GD-036-S-M-460-150-4*
3. TRUSTAR DE-FUELING SYSTEM*
4. SERVICE ENTRANCE RATED SWITCHBOARD - 1600 AMP*
5. 300 KVA XMFR*
6. SWITCHBOARD 800 AMP*
7. TRIPLE MOTOR STARTER PANEL - 1200A*
8. TRUSTAR COMMUNICATIONS PANEL*
9. WASTE MANAGEMENT COMM. PANEL*
10. DE-FUELING/DIRECT FILL POST*
11. FLOW METER*
12. FILTER STAND (WM SPEC)
13. EMERGENCY SHUT-DOWN SWITCH W/ FIRE EXTINGUISHER
14. 29' DUAL HEAD LED LIGHT*
15. 4" HOUSEKEEPING PAD*
16. 6' CHAIN LINK FENCE*
17. 6" FIXED BOLLARD*
18. 6" REMOVEABLE BOLLARD*
19. 8" FIXED BOLLARD
20. TIME-FILL TRUSS
21. CAISSON FOR TRUSS
22. TRUSS COLUMN EXTENSION W/ LIGHT FLAME DETECTOR & CAMERA
23. WHEEL STOP
24. UTILITY GAS METER SET ASSEMBLY*
25. UTILITY TRANSFORMER*
26. CT CABINET & METER*

* SEE SHEET C-100



TIME-FILL AREA - SOUTH ELEVATION



SCALE: 1" = 16'

DIGGERS HOTLINE

OWNER
WASTE MANAGEMENT
N96W13600 COUNTY LINE RD
GERMANTOWN, WI 53022
MATHEW MCGURN
906-235-9560

GENERAL CONTRACTOR:
TRUSTAR ENERGY
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TruStar Energy

WASTE MANAGEMENT

N96W13600 COUNTY LINE ROAD
GERMANTOWN, WI 53022

CNG FUEL FACILITY

Katahdin Environmental

3553 CAMINO MIRA COSTA, SUITE E
SAN CLEMENTE, CA 92672

REVISIONS

No.	DATE	BY	REMARK

CIVIL - TIME-FILL AREA

DRAWN: SBR
CHECKED: SRR
DATE: 14/04/2020
SCALE: AS SHOWN
JOB NO: 20003

C-200

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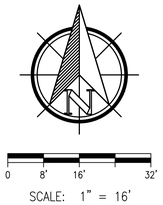
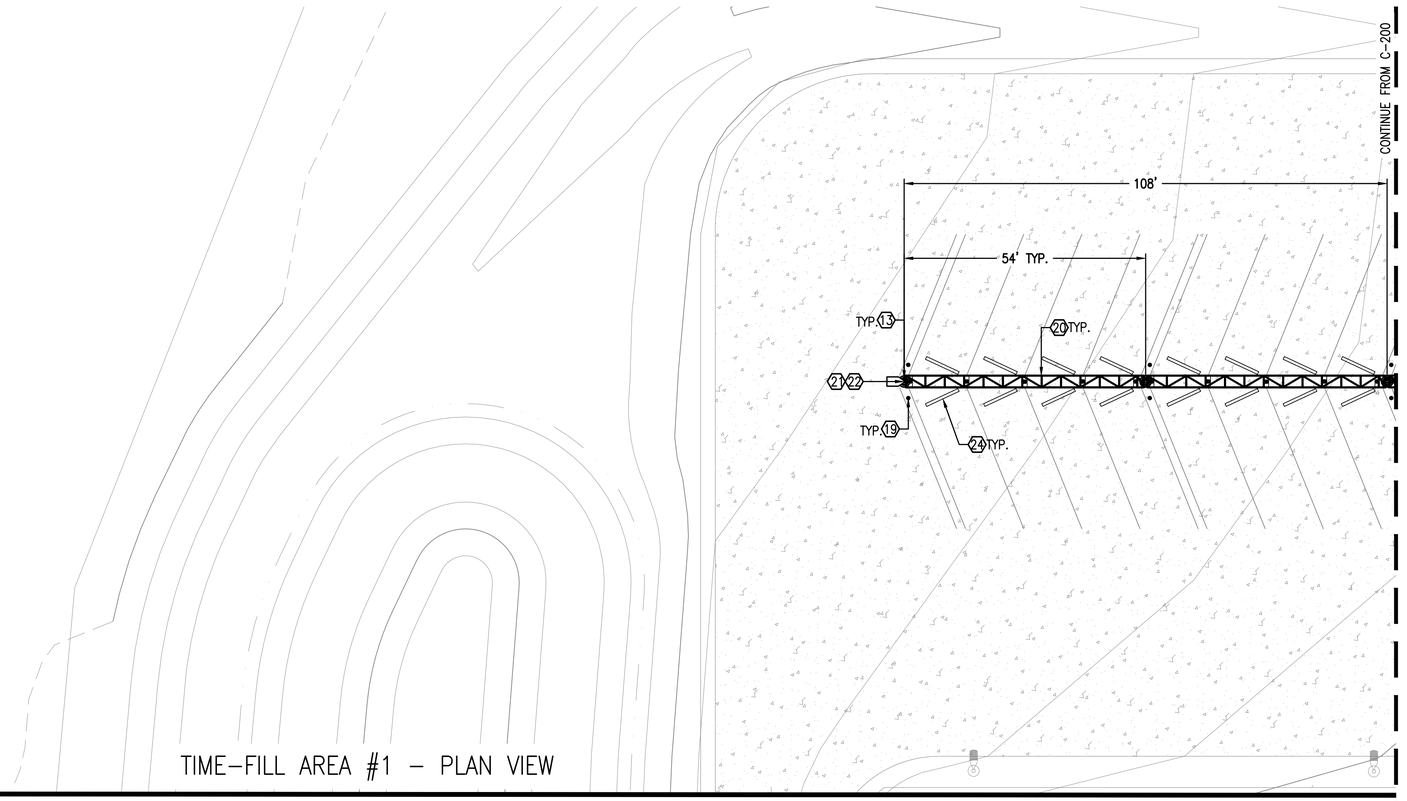
EQUIPMENT LIST:

1. ANGI NG300 COMPRESSOR (QTY. 3)*
2. CNG DRYER GD-036-S-M-460-150-4*
3. TRUSTAR DE-FUELING SYSTEM*
4. SERVICE ENTRANCE RATED SWITCHBOARD - 1600 AMP*
5. 300 KVA XMFR*
6. SWITCHBOARD 800 AMP*
7. TRIPLE MOTOR STARTER PANEL - 1200A*
8. TRUSTAR COMMUNICATIONS PANEL*
9. WASTE MANAGEMENT COMM. PANEL*
10. DE-FUELING/DIRECT FILL POST*
11. FLOW METER*
12. FILTER STAND (WM SPEC)*
13. EMERGENCY SHUT-DOWN SWITCH W/ FIRE EXTINGUISHER
14. 29' DUAL HEAD LED LIGHT*
15. 4" HOUSEKEEPING PAD*
16. 6' CHAIN LINK FENCE*
17. 6" FIXED BOLLARD*
18. 6" REMOVEABLE BOLLARD*
19. 8" FIXED BOLLARD
20. TIME-FILL TRUSS
21. CAISSON FOR TRUSS
22. TRUSS COLUMN EXTENSION W/ LIGHT FLAME DETECTOR & CAMERA
23. WHEEL STOP
24. UTILITY GAS METER SET ASSEMBLY*
25. UTILITY TRANSFORMER*
26. CT CABINET & METER*

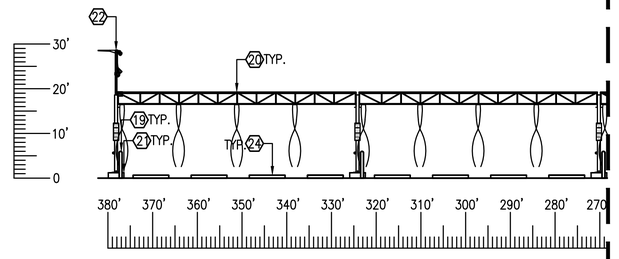
* SEE SHEET C-100

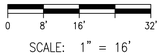


SCALE: 1" = 16'



TIME-FILL AREA #1 - PLAN VIEW





SCALE: 1" = 16'

TIME-FILL AREA #2 - SOUTH ELEVATION

DIGGERS HOTLINE

OWNER
WASTE MANAGEMENT
N96W13600 COUNTY LINE RD
GERMANTOWN, WI 53022
MATHEW MCGURN
906-235-9560

GENERAL CONTRACTOR:
TRUSTAR ENERGY
JEFF LUCERO (CA LIC # 942661)
10225 PHILADELPHIA CT.
RANCHO CUCAMONGA, CA. 91730
(909) 793-3700

TruStar Energy

WASTE MANAGEMENT

N96W13600 COUNTY LINE ROAD
GERMANTOWN, WI 53022

CNG FUEL FACILITY

Katahdin Environmental
3553 CAMINO MIRA COSTA, SUITE E
SAN CLEMENTE, CA 92672

REVISIONS			
No.	DATE	BY	REMARK

CIVIL - TIME-FILL AREA

DRAWN:	SBR
CHECKED:	SRR
DATE:	14/04/2020
SCALE:	AS SHOWN
JOB NO:	20003

C-201

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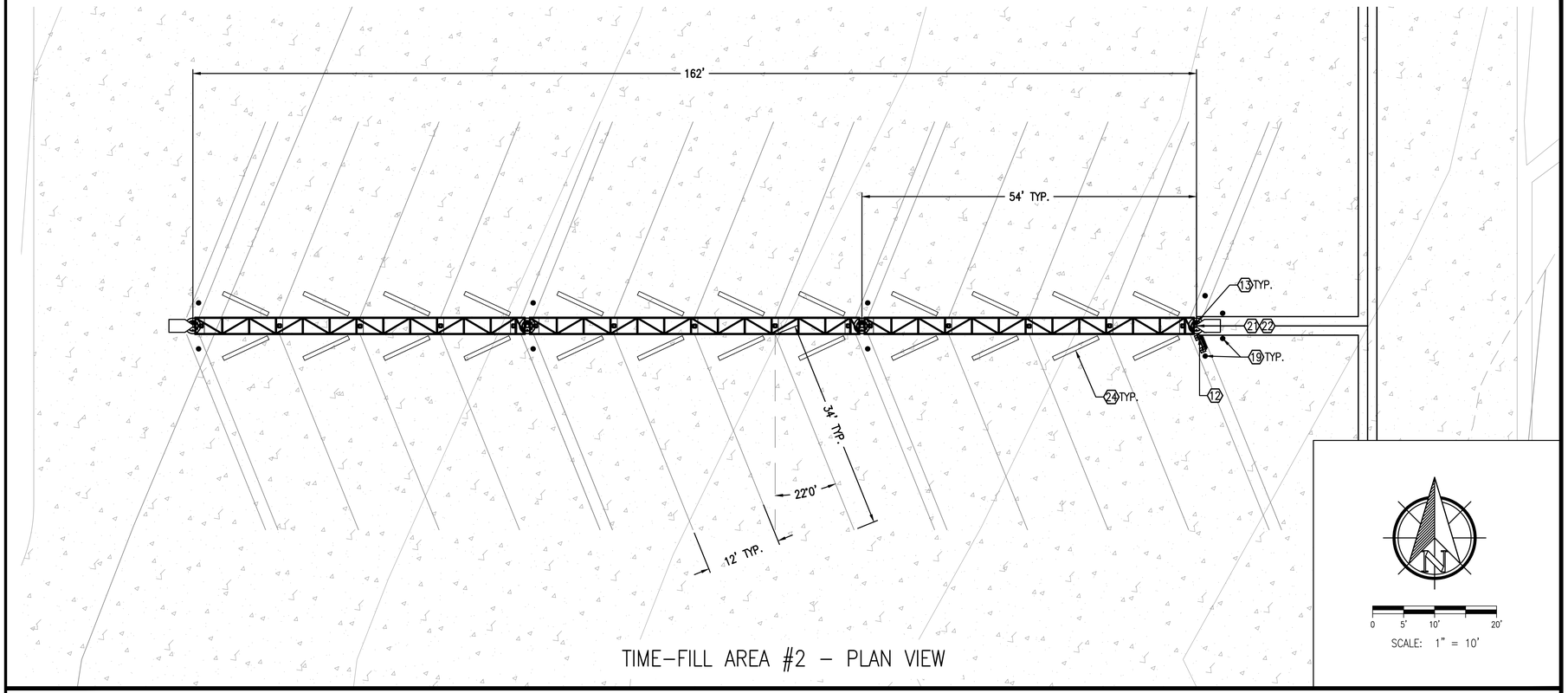
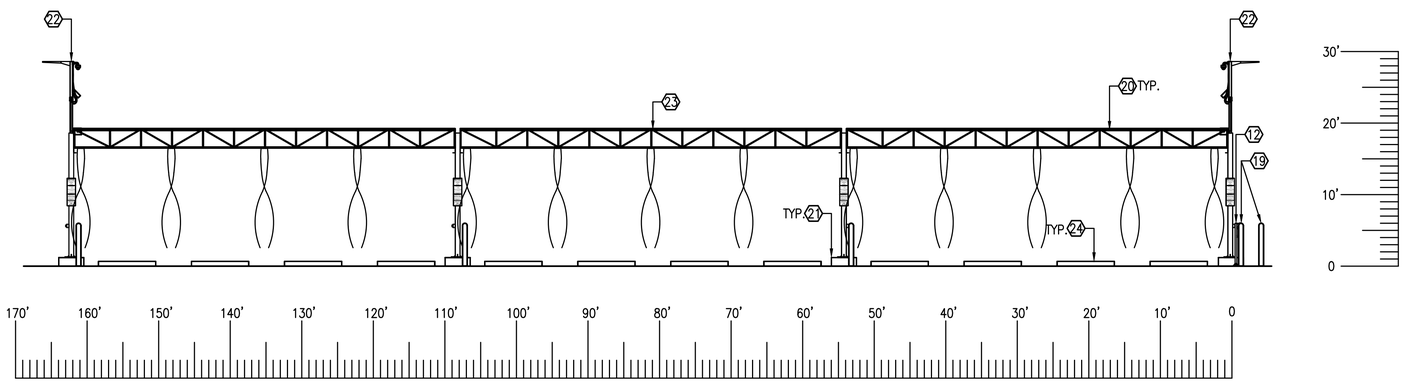


TIME-FILL AREA #2 - PLAN VIEW



TIME-FILL AREA - SOUTH ELEVATION

EQUIPMENT LIST:

1. ANGI NG300 COMPRESSOR (QTY. 3)*
2. CNG DRYER GD-036-S-M-460-150-4*
3. TRUSTAR DE-FUELING SYSTEM*
4. SERVICE ENTRANCE RATED SWITCHBOARD - 1600 AMP*
5. 300 KVA XMFR*
6. SWITCHBOARD 800 AMP*
7. TRIPLE MOTOR STARTER PANEL - 1200A*
8. TRUSTAR COMMUNICATIONS PANEL*
9. WASTE MANAGEMENT COMM. PANEL*
10. DE-FUELING/DIRECT FILL POST*
11. FLOW METER*
12. FILTER STAND (WM SPEC)
13. EMERGENCY SHUT-DOWN SWITCH W/ FIRE EXTINGUISHER
14. 29' DUAL HEAD LED LIGHT*
15. 4" HOUSEKEEPING PAD*
16. 6' CHAIN LINK FENCE*
17. 6" FIXED BOLLARD*
18. 6" REMOVEABLE BOLLARD*
19. 8" FIXED BOLLARD
20. TIME-FILL TRUSS
21. CAISSON FOR TRUSS
22. TRUSS COLUMN EXTENSION W/ LIGHT FLAME DETECTOR & CAMERA
23. WHEEL STOP
24. UTILITY GAS METER SET ASSEMBLY*
25. UTILITY TRANSFORMER*
26. CT CABINET & METER*

* SEE SHEET C-100

OWNER
WASTE MANAGEMENT
N96W13600 COUNTY LINE RD
GERMANTOWN, WI 53022
MATHEW MCGURN
906-235-9560

GENERAL CONTRACTOR:
TRUSTAR ENERGY
JEFF LUCERO (CA LIC # 942661)
10225 PHILADELPHIA CT.
RANCHO CUCAMONGA, CA. 91730
(909) 793-3700

TruStar Energy

WASTE MANAGEMENT

N96W13600 COUNTY LINE ROAD
GERMANTOWN, WI 53022

CNG FUEL FACILITY

Katahdin Environmental
3553 CAMINO MIRA COSTA, SUITE E
SAN CLEMENTE, CA 92672

REVISIONS			
No.	DATE	BY	REMARK

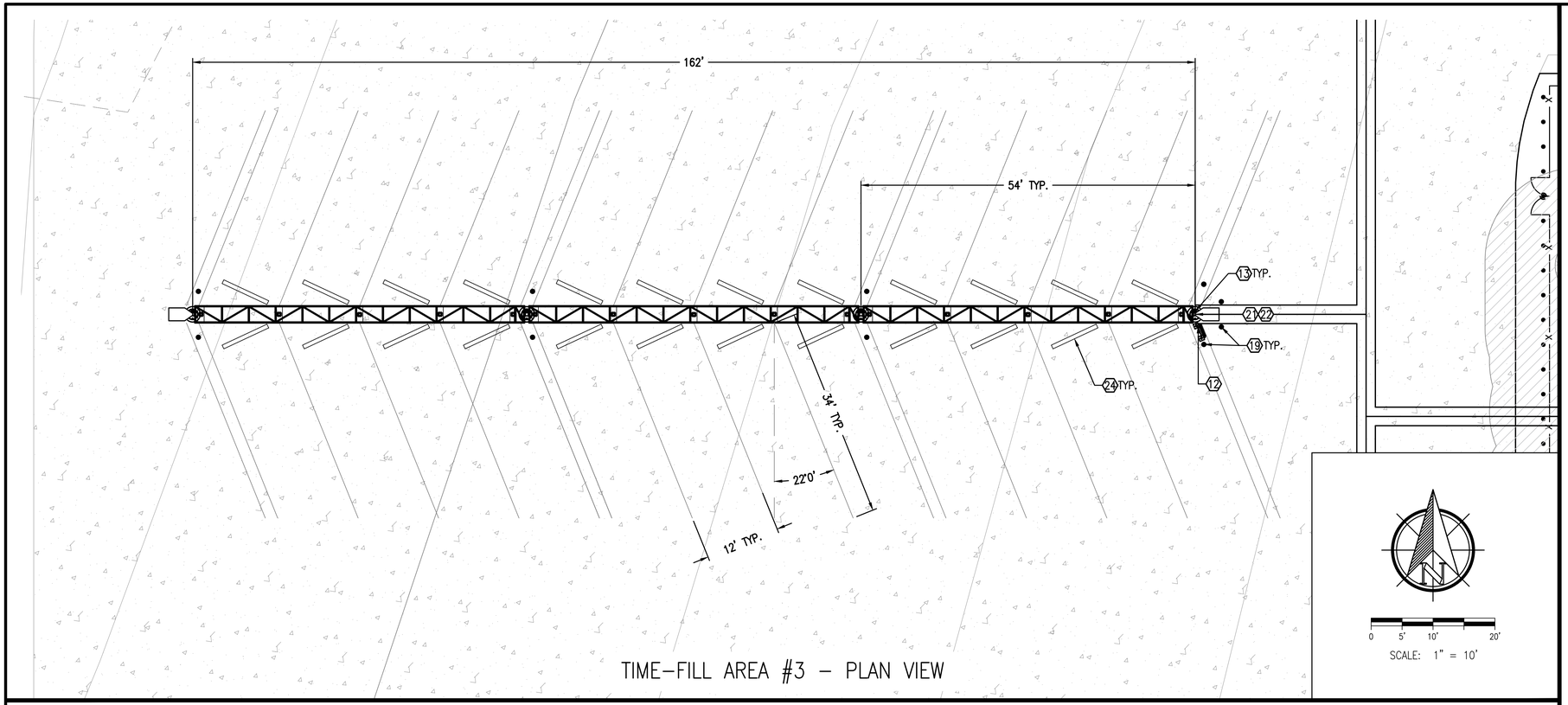
CIVIL - TIME FILL AREA

DRAWN:	SBR
CHECKED:	SRR
DATE:	14/04/2020
SCALE:	AS SHOWN
JOB NO:	20003

C-202

DIGGERS HOTLINE

Z:\Projects\2020\20-003 - WM Germantown - Germantown, WI\Engineering\Working Folder\003.1 C-200 - CIVIL - TIME-FILL(FAST-FILL) AREA.dwg 04/14/20 3:59pm



TIME-FILL AREA #3 - PLAN VIEW

0 5' 10' 20'

SCALE: 1" = 10'

EQUIPMENT LIST:

1. ANGI NG300 COMPRESSOR (QTY. 3)*
2. CNG DRYER GD-036-S-M-460-150-4*
3. TRUSTAR DE-FUELING SYSTEM*
4. SERVICE ENTRANCE RATED SWITCHBOARD - 1600 AMP*
5. 300 KVA XMFR*
6. SWITCHBOARD 800 AMP*
7. TRIPLE MOTOR STARTER PANEL - 1200A*
8. TRUSTAR COMMUNICATIONS PANEL*
9. WASTE MANAGEMENT COMM. PANEL*
10. DE-FUELING/DIRECT FILL POST*
11. FLOW METER*
12. FILTER STAND (WM SPEC)
13. EMERGENCY SHUT-DOWN SWITCH W/ FIRE EXTINGUISHER
14. 29' DUAL HEAD LED LIGHT*
15. 4" HOUSEKEEPING PAD*
16. 6' CHAIN LINK FENCE*
17. 6" FIXED BOLLARD*
18. 6" REMOVEABLE BOLLARD*
19. 8" FIXED BOLLARD
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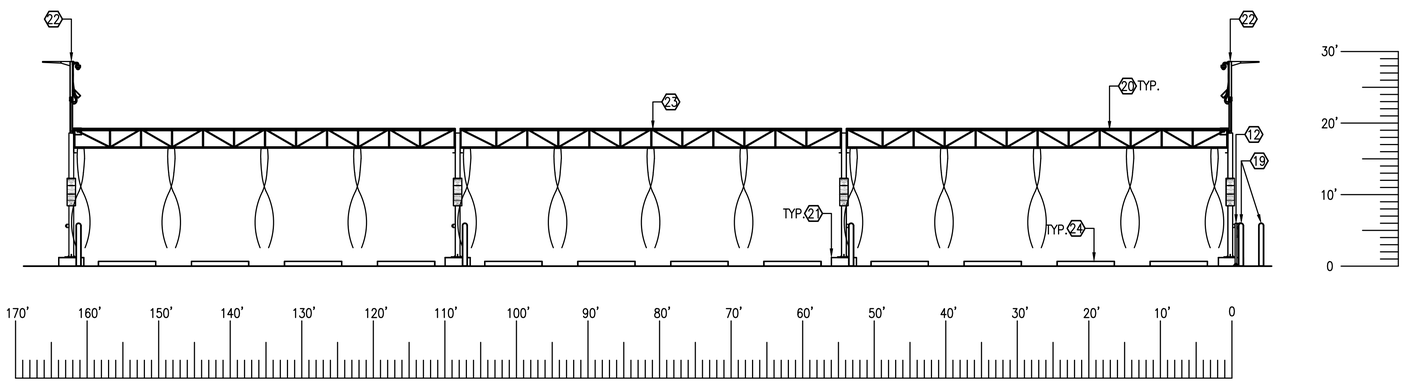
21. CAISSON FOR TRUSS
22. TRUSS COLUMN EXTENSION W/ LIGHT FLAME DETECTOR & CAMERA
23. WHEEL STOP
24. UTILITY GAS METER SET ASSEMBLY*
25. UTILITY TRANSFORMER*
26. CT CABINET & METER*

* SEE SHEET C-100



0 5' 10' 20'

SCALE: 1" = 10'

TIME-FILL AREA - SOUTH ELEVATION

DIGGERS HOTLINE

OWNER
WASTE MANAGEMENT
N96W13600 COUNTY LINE RD
GERMANTOWN, WI 53022
MATHEW MCGURN
906-235-9560

GENERAL CONTRACTOR:
TRUSTAR ENERGY
JEFF LUCERO (CA LIC # 942661)
10225 PHILADELPHIA CT.
RANCHO CUCAMONGA, CA. 91730
(909) 793-3700

TruStar Energy

WASTE MANAGEMENT

N96W13600 COUNTY LINE ROAD
GERMANTOWN, WI 53022

CNG FUEL FACILITY

Katahdin Environmental

3553 CAMINO MIRA COSTA, SUITE E
SAN CLEMENTE, CA 92672

REVISIONS			
No.	DATE	BY	REMARK

CIVIL - TIME FILL AREA

DRAWN:	SBR
CHECKED:	SRR
DATE:	14/04/2020
SCALE:	AS SHOWN
JOB NO:	20003

C-203

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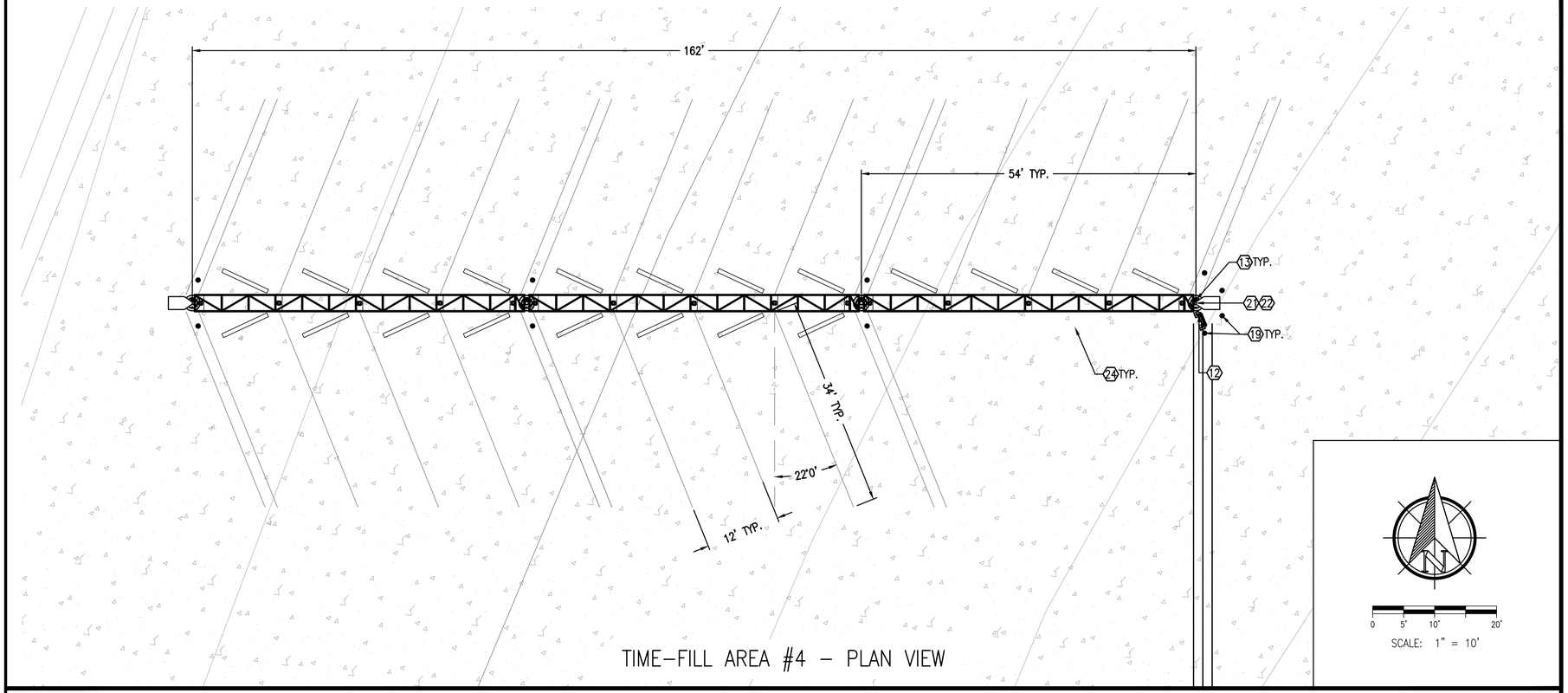


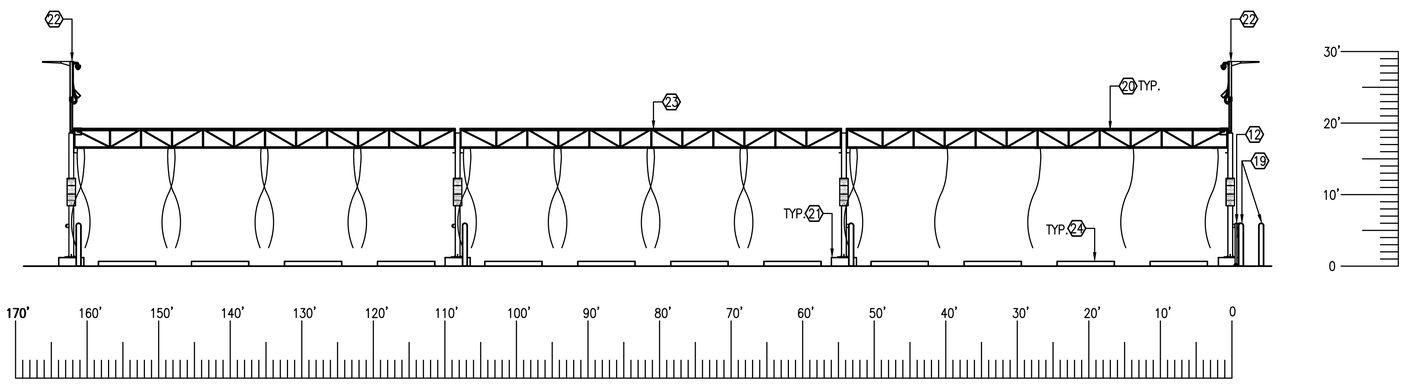
TIME-FILL AREA #4 - PLAN VIEW

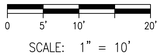
SCALE: 1" = 10'

EQUIPMENT LIST:

1. ANGI NG300 COMPRESSOR (QTY. 3)*
2. CNG DRYER GD-036-S-M-460-150-4*
3. TRUSTAR DE-FUELING SYSTEM*
4. SERVICE ENTRANCE RATED SWITCHBOARD - 1600 AMP*
5. 300 KVA XMFR*
6. SWITCHBOARD 800 AMP*
7. TRIPLE MOTOR STARTER PANEL - 1200A*
8. TRUSTAR COMMUNICATIONS PANEL*
9. WASTE MANAGEMENT COMM. PANEL*
10. DE-FUELING/DIRECT FILL POST*
11. FLOW METER*
12. FILTER STAND (WM SPEC)
13. EMERGENCY SHUT-DOWN SWITCH W/ FIRE EXTINGUISHER
14. 29' DUAL HEAD LED LIGHT*
15. 4" HOUSEKEEPING PAD*
16. 6' CHAIN LINK FENCE*
17. 6" FIXED BOLLARD*
18. 6" REMOVEABLE BOLLARD*
19. 8" FIXED BOLLARD
20. TIME-FILL TRUSS
21. CAISSON FOR TRUSS
22. TRUSS COLUMN EXTENSION W/ LIGHT FLAME DETECTOR & CAMERA
23. WHEEL STOP
24. UTILITY GAS METER SET ASSEMBLY*
25. UTILITY TRANSFORMER*
26. CT CABINET & METER*

* SEE SHEET C-100





SCALE: 1" = 10'

TIME-FILL AREA - SOUTH ELEVATION

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REVISIONS			
No.	DATE	BY	REMARK

CIVIL - TIME FILL AREA

DRAWN:	SBR
CHECKED:	SRR
DATE:	14/04/2020
SCALE:	AS SHOWN
JOB NO:	20003

C-204

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REZONING, CONDITIONAL USE PERMIT APPLICATIONS & SITE PLAN REVIEW

5/11/20 Plan Commission Meeting

Menard Inc.

Village Planner Report **Germantown, Wisconsin**

Summary

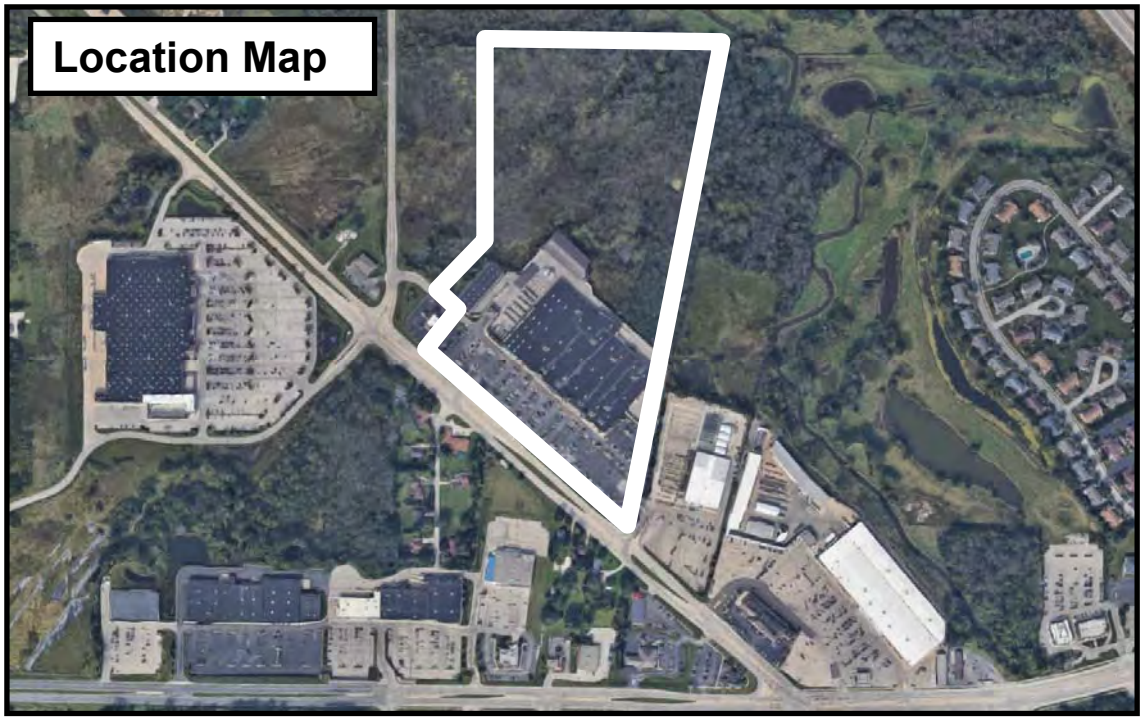
Tyler Edwards, agent for Menard Inc., property owner, has submitted Rezoning, Conditional Use Permit, and Site Development and Building Plan applications in support of a proposed storage yard expansion, warehouse addition, building addition & exterior remodeling to the existing home improvement and retail store located on a 34.8-acre parcel at W186 N9754 Appleton Avenue.

Location: W186 N9754 Appleton Avenue

Property Owner: Menard Inc.
5101 Menard Drive
Eau Claire, WI

Current Zoning: B-2: Community Business

Adjacent Land Uses		Zoning
North	Agricultural/Commercial	A-1
South	Commercial/Residential	B-1/B-3/Rs-3
East	Commercial (Stein's)	B-1
West	Commercial (Wal-Mart & bank)	B-1



Background

Tyler Edwards, agent for Menard Inc., property owner, has submitted Rezoning, Conditional Use Permit, and Site Development and Building Plan applications in support of a proposed storage yard expansion, warehouse addition, building addition and exterior remodeling to the existing home improvement and retail store located at W186 N9754 Appleton Avenue. As discussed in the October, 2019 project description letter, the proposed improvements are intended to update the retail store in terms of the space needed to provide the type and quantity of products and amenities that other Menards stores across the country provide.

The Germantown Menards home improvement & retail store was originally approved in 2002 (with the store opening in 2003) after various prerequisite approvals were granted over a 3-year period from 1999 to 2002. A certified survey map (CSM) to combine parcels and rezoning approvals were granted in 1999. Two (2) separate conditional use permits were granted in 2001: CUP#7-2001 for a retail store up to 162,570 sqft in area and CUP#8-2001 for an enclosed storage yard 3.8 acres in area. Final site development and building plan approval was granted in June, 2002. The only change made to the original store requiring Plan Commission approval was the garden center remodeling in June, 2007.

Details of the various improvements currently proposed and the approvals required are detailed below.

Proposal: Site Development & Building Plans

As presented in the detailed site plans and other supporting information, the Menards expansion includes the following improvements:

- Storage yard area expansion from 2.6 to 3.85 acres (113,853 to 167,610 sqft)
    - Expand area on north, east and south sides of retail building
    - Remove/replace 14' high wood perimeter yard (privacy) fence
    - Fill 39,833 sqft (.914 acres) of wetland
    - Fill portions of existing storm water basin (north of & outside storage yard)
    - Install two (2) Stormtech sub-surface storm water retention/detention chamber systems (under pavement in storage yard)

- Storage yard warehouse expansion to 51,736 sqft
    - Existing warehouse #1 reduced to 7,621 sqft
    - Existing warehouse #2 reduced to 18,691 sqft
    - New warehouse connecting #1 to #2 with additional 25,424 sqft

- Storage yard access gate/canopy relocation & expansion (from northwest to southeast side of building)
    - Relocate canopy & add 3rd controlled access gate for "order pickup"
    - Install new 14' wood wall or wrought iron fence (alternative) between south side of building and "new" access gate/canopy
    - convert "old" existing storage yard gate/canopy access to single-lane emergency access only (to provide 360^0 accessibility for Fire/EMS services)

- Parking lot reconfiguration
    - Remove islands and (83) parking stalls near shared access driveway w/ Stein's Garden Center to accommodate expanded storage yard & "new" relocated access gate
    - Remove islands and add (13) parking stalls near "old" existing storage yard access gate
    - Net reduction of (70) parking stalls from (531) to (461) stalls (almost all stalls to be removed are currently located in less-used, remote location south of store)

- Retail building expansion (10,445 sqft addition; 169,283 sqft total)
    - Enclose portions of the existing garden center and receiving area located in rear (north) side of store into 8,269 sqft of heated "special order" storage and pick-up area, and, 2,176 sqft of additional unheated garden center storage area

Access & Parking. The Menards property will continue to be served by three (3) driveways: the primary driveway to/from Appleton Ave; a driveway shared with Stein's Garden Center further south along Appleton Ave; and a driveway shared with Waterstone Bank to/from Maple road. As summarized above, the storage yard expansion and access gate/canopy relocation will result in a net decrease of (70) parking stalls from (531) to (461). Menards indicates that this reduction in parking stalls will not impact the operation because of the increase in online orders & in-vehicle pick-up, as well as, the typical distribution of contractor (weekday-daytime) vs. homeowner (weekend-evening) customer traffic.

Storm Water Management. A total of approximately 17.87 acres (51.4%) of impervious area is proposed with the storage yard pavement expansion, warehouse expansion and retail building additions on the 34.8-acre site leaving 48.6% in open space. The site is currently served by one (1) storm water basin north of the enclosed storage yard and one (1) Stormtech sub-surface retention/detention chamber systems under the existing parking lot south of the retail building. Due to a reduction in the size of the existing storm water basin and increase in impervious area resulting from the storage yard expansion, warehouse expansion and building addition, two (2) additional Stormtech sub-surface chamber systems will be installed under the pavement in the expanded storage yard (see sheet C1.3).

Landscaping. Landscaping changes are limited to the relocation of existing and installation of new deciduous and evergreen trees & shrubs from the parking lot islands and foundation plantings where the "old" storage yard access/gate canopy will be removed, and, where the "new" gate/canopy will be constructed.

Lighting. Exterior lighting changes include replacing existing 400W metal-halide pole-mounted and building-mounted fixtures with 200W LED cut-off fixtures in the parking lot and storage yard areas, as well as, new 200W LED cut-off fixtures in the expanded storage yard and warehouse areas.

Signage. No new or additional signage is proposed.

Proposal: Rezoning (Wetland Fill & Shoreland-Wetland)

Like the original site development, the proposed storage yard expansion requires the filling of wetlands located on the north side of the property. As shown in the Wetland Permit application submitted to the Wis DNR and U.S. Army Corp (ACOE), on various sheets in the plan set, the area north and west of the enclosed storage yard contains a significant area of wetland and floodplain (including a 1.54-acre wetland restoration area constructed by Menards to compensate for the .77 acre wetland fill approved for the original development). The proposed storage yard expansion impacts an additional total of 39,833 sqft (.914 acres) of wetland north/west and adjacent to the existing storage yard enclosure.

Menards has obtained both WisDNR and ACOE approval to fill .914 acres of fresh wet meadow wetland. However, because the amount of wetland fill is greater than 10,000 sqft, wetland compensatory mitigation is required by the DNR under the DNR's permitting authority. To that end, Menards was required to provide compensation in the form of purchasing credits from the Wisconsin wetland Conservation Trust (WWCT) program in the southwestern Lake Michigan Service Area. Menards was required to compensate the filled wetland at a mitigation ratio of 1.45 to 1 (1.45 x .914 acres = 1.32 credits). Menards completed the purchase of 1.32 credits in March, 2019 to satisfy the WisDNR's wetland fill "mitigation compensation" requirement.

Consequently, Menards is requesting that, since the .914 acres of filled wetland is no longer "eligible" to be included in the Village's Shoreland-Wetland Zoning District, it should be removed from the Village's Shoreland-Wetland District by rezoning.

Proposal: Conditional Use Permit (CUP)

Because the Village requires a 25' setback from all delineated wetlands under the Village's Shoreland-Wetland Zoning Code, Menards has included in their conditional use permit (CUP) application a request for an exemption from the requirement to provide and maintain a 25' setback from the new boundary of the wetland after the approved fill has taken place (which would effectively allow the expanded storage yard enclosure to be installed at or up to the new wetland boundary resulting from the approved wetland fill and NOT maintaining a 25' setback). Consequently, no plan to mitigate the requested encroachment into the 25' setback area has been proposed.

In addition to the CUP requirement for development encroaching into the 25' wetland setback, Menards is requesting that the two existing CUP's (CUP#7-2001 and CUP#8-2001) be amended to reflect the increased size of the retail building and increased size of the enclosed storage yard.

Staff Comments

Wetland Fill & Shoreland-Wetland Rezoning

Staff agrees that, with respect to the Village's Shoreland-Wetland Zoning Code, the .914 acres of filled wetland is no longer "eligible" to be included in the Shoreland-Wetland Zoning District and, therefore, can/should be removed by rezoning. The underlying B-2: Community Business Zoning District will remain unchanged as it applies to the entire 34.8-acre parcel. A legal description of the fill area is needed and should be prepared and submitted to the Village.

25' Wetland Setback CUP

Although the Village's Shoreland-Wetland Code requires a 25' setback from all DNR-approved delineated wetlands (regardless of size or location), the Village does allow development within the 25' setback with a CUP. Section 24.04 of the Code permits development in the required setback to provide additional buffering and/or other compensation for the affected area at a 1:1 ratio for "horizontal" development and a 2:1 ratio for "vertical" development (example: impervious surface or a grade change greater than 3' height).

In the Menards case, because the WisDNR has approved filling a portion of the wetland up to a point abutting the expanded storage yard enclosure, requiring Menards to provide a minimum 25' setback around the remaining wetland would necessitate that Menards first fill an additional amount of wetland between the proposed storage yard expansion and a point 25' away. Moreover, with no other non-wetland or "upland" area available adjacent to the remaining wetland on the Menards property, there's no place for the type of wetland vegetation/buffer enhancements that the Village typically requires when approving 25' wetland setback CUP's under similar circumstances. For that reason, the only other form of compensation the Village has required of other property owners in situations like this has been to require the removal of invasive species from the actual wetland in an amount equal to the amount of development encroachment. As discussed above, in 2003, Menards has already constructed a compensatory mitigation area consisting of 1.54-acres of floodplain forest restoration (at a 2:1 ratio for .77 acres of filled wetland). For these reasons, Staff is of the opinion that no further compensation should be required for the proposed development encroachment within the now non-existent 25' setback area. If something more is recommended by the Plan Commission, Staff recommends a commensurate amount of invasive species removal from the remaining wetland areas north of the expanded storage yard enclosure.

Amendments to CUP #7-2001 and #8-2001

As a matter of procedure and because of the specific language contained in the previous CUP's granted to Menards, both CUP #7-2001 and #8-2001 should be amended to reflect the specific storage yard expansion and retail building addition.

As indicated in CUP#7-2001 (copy enclosed), the retail building was originally approved for up to 162,570 total sqft *(NOTE: in the B-2 Zoning District, any retail building 50,000 sqft or greater requires a CUP)*. As a result of the proposed building expansion, the approved area should be increased to 169,300 sqft with an additional warehouse area of 51,750 sqft consistent with the proposed facility expansion.

As indicated in CUP#8-2001 (copy enclosed), the enclosed storage yard was originally approved for an area of 3.8 acres. As a result of the proposed storage yard expansion this area should be increased to 3.85 acres *(NOTE: it is unclear why CUP#8-2001 was granted for 3.8 acres at a time when the enclosed storage yard was only proposed to be 2.6 acres).*

Planning & Zoning

As shown on various sheets in the site plan set, the proposed storage yard and warehouse expansions are erroneously shown as encroaching into the 100-year floodplain. While a portion of the Menards property is located within the 100-year floodplain, that area is located further north and away from the proposed development expansion. The floodplain line shown on the site plans is actually the 500-year floodplain line (Zone "X" as presented on the FEMA FIRM maps adopted by the Village for this area as part of the Village's Floodplain Zoning Code). Because the Village does not regulate land within the 500-year floodplain (most communities do not), no restrictions or limitations contained in the Village's Floodplain Zoning Code apply to the Menards proposal.

Finally, the proposed relocation of the storage yard access gate & canopy from the northwest to the southeast side of the retail building also includes the construction of a wall or fence between the existing building and the gate/canopy structure. Menards is proposing to install either a: (1) 14' high wood "privacy" fence/wall that is the same as that already installed around other portions of the storage yard; or (2) wrought iron fencing mounted on a concrete base… the same as some sections already installed near the "old' existing access gate. Menards has indicated that they will install whatever alternative the Village prefers.

Because the area on the inside of the proposed wall or fence is intended to be used for additional storage of product and materials, including the installation of the same rack-mounted shelving that already exists within the storage yard, Staff recommends that the 14' high wood privacy fence/wall be installed provided that sufficient landscaping is also installed on the outside of the wall (as shown on the landscape plan), and, that the wall is continually maintained so as to not become dilapidated or a visual eyesore (as a result of staining, mold, etc.).

Inspection Services

Inspection Services has indicated that the submission of state-approved plans will be required prior to issuing a building permit along with the required $20,000 occupancy bond.

Public Works Department/Engineering

The Public Works Department has identified a number of technical issues and plan corrections (see November 19, 2019 review memo from Public Works Director, Larry Ratayczak) that will need to be addressed in a revised plan set and/or supplemental information submitted for review and approval by the Public Works/Engineering prior to issuance of a building permit.

NOTE: Revised plans and supplemental information addressing these issues (February 24, 2020 letter from Menards) were submitted and are currently being reviewed by staff. We do not anticipate having a revised staff review completed before the May 11 Plan Commission meeting. Therefore, conditional approval is recommended subject to addressing all the issues and items in the November 19, 2019 staff review memo and any subsequent issues that are either outstanding or result from that subsequent staff review.

Utilities
Comments included in Public Works Department/Engineering review letter.

Fire Department/Police Department
All of the Fire Department's initial plan review comments and concerns have been addressed with the revised plan set, including the retention & conversion of the existing storage yard access gate as an emergency only access to provide 360^0 perimeter access for Fire/EMS equipment and staff.

Village Forester
The Village Forester recommends the following alternatives to the proposed landscape plan:

1. With respect to the new landscape border I and recommending substituting "Autumn Fantasy Maple" for the "Autumn Blaze Maple" and substituting "Little Princess Spirea" for "Anthony Waterer".

VILLAGE STAFF RECOMMENDATION
Rezoning Application

APPROVE the request to rezone and remove 39,833 sqft (.914 acres) of filled wetland from the Shoreland-Wetland Zoning District as shown in the detailed site plans subject to one (1) condition:

1. Menards shall provide a legal description of the wetland fill area to Village staff prior to scheduling the rezoning application for Village Board review.

VILLAGE STAFF RECOMMENDATION
Conditional Use Permit: 25' Wetland Setback

APPROVE a Conditional Use Permit to allow development within the 25' wetland setback area pursuant to Section 24.04 of the Shoreland-Wetland Zoning Code as presented in the revised Site Plan set dated March 5, 2020 (Sheet C1.3).

VILLAGE STAFF RECOMMENDATION
Conditional Use Permit: Amendment to CUP#7-2001

APPROVE a revision to Conditional Use Permit (CUP) #7-2001 to increase the size of retail building to 169,300 sqft with an additional warehouse area of 51,750 sqft consistent with the proposed facility expansion presented in the Site Plan set dated March 5, 2020 (Sheet C1.3).

VILLAGE STAFF RECOMMENDATION

Conditional Use Permit: Amendment to CUP #8-2001

APPROVE a revision to Conditional Use Permit (CUP) #8-2001 to increase the size of the enclosed storage yard to 3.85 acres as shown in the Site Plan set dated March 5, 2020 (Sheet C1.3).

VILLAGE STAFF RECOMMENDATION

Site Development & Building Plans ("Site Plans")

APPROVE the site development and building plans for the proposed storage yard expansion, warehouse addition, building addition & exterior remodeling to the existing Menards home improvement and retail store located at W186 N9754 Appleton Avenue subject to the following conditions:

1. This approval is subject to all the conditions and requirements set forth herein and adopted by the Plan Commission. Approval is granted for the site development and building plan set dated as set forth below unless superseded by subsequent plan sheets approved by the Village Planner pursuant to revisions required herein and/or by the Plan Commission:
   Landscaping & Lighting Plans dated October 15, 2019
   Architecture & Building Elevation Plans dated October 3, 2019
   Engineering Plans dated February 24 & March 5, 2020
2. All landscaping, screening, grading, paving, storm water management, utility and other improvements that are not fire-safety related as shown on the approved site plans shall be installed as proposed prior to issuance of an occupancy permit unless a cash bond or letter of credit in an amount equal to 120 percent of the estimated installation and material costs reviewed and approved by the Village is submitted to the Village as necessary to ensure that installation of the proposed features and improvements will be completed within one (1) year after issuance of the occupancy permit.
3. All exterior doors (except primary entrance) shall be clearly marked with reflective 5" or larger letters/numbers to aid emergency personnel access as required by the Police Department.
4. All technical issues and plan corrections identified by the Public Works Department/Village Engineer in the November 11, 2019 review letter, including final approval of the engineering plans and stormwater management report, shall be addressed and reflected in revised plans and/or supplemental information reviewed and approved by the Public Works Department prior to issuance of a building permit (excluding "early start" site clearing and footing/foundation work approved by the Village and/or WI DSPS).
5. State approved plans and a $20,000 occupancy bond are required by the Building Inspection Department as part of the building permit application.
6. Relocation of the storage yard access gate/canopy to the southeast side of the retail building requires the construction of a wall or fence between the existing building and the gate/canopy structure. Menards shall install the same 14' high wood "privacy" fence/wall that is installed around other portions of the storage yard. Menards shall be responsible for the installation and ongoing maintenance of the approved landscaping along the outside of the wall to ensure the appearance of the fence/wall does not become dilapidated or a visual eyesore (as a result of staining, mold, etc.).

Engineering Department Memorandum

To : Jeffrey W. Retzlaff, AICP, Planning Director/Zoning Administrator

From : Lawrence Ratayczak, P.E., Director of Public Works

Date : November 11, 2019

Re : Menards Site Plan Review

Items Reviewed:

1. Civil Plan Set C1.0 – C1.8 (12 pages) Dated: 10-09-2019
2. Stormwater Management Report

General Comments:

1. Please respond to each item below. **A written response addressing each item shall be included in your submittal**.
2. The submitted plans have been reviewed for general conformance with State and Village design guidelines. The electronic copies of the plans are blurry and difficult to read. This review is limited to the information provided. Additional comments could arise as a result of the plan completion and modifications. The items listed below will need to be fully resolved before the Engineering Dept. can recommend a formal approval of the plans and permit for construction.
3. This project will require a WRAPP/NOI from the DNR. Please submit a copy of the approved permit prior to final approval.
4. The project will require DSPS plumbing system review and approval. Please provide a copy of the DSPS approval prior to engineering approval
5. As-builts prepared to Village standards shall be prepared and provided to the Village post-construction (for all applicable items).
6. A professional engineer's original seal is to be affixed, signed and dated on the final set of construction plans.
7. Contact Ryan Ehlerding, 262-250-4723 for a utility permit.
8. As a guide to the review response: Items in *italics* are resolved or acknowledged, items in regular font are to be addressed yet, items in **Bold** are additional feedback to remaining original comment.

C-1.3 Site Plan

1. In general the site plan at 50 scale is difficult to review. Recommend providing additional plans at a smaller scale to ease reviews and construction.
2. New warehouse building appears to be in the floodplain. Please provide additional information on the flood elevation, building elevation, and compensatory storage volumes.
3. Add a site data table to the plans showing disturbance area and additional impervious area

C-1.4 Grading Plan

1. Electronic copy of the plan is blurry and difficult to read. For future submittals please provide legible electronic copies.
2. Provide additional details on the concrete drainage channel around the ware house building. Whats the purpose of the concrete channel?
3. Provide detailed retaining wall elevations

C-1.5 Erosion Control Plan

1. Add late season stabilization requirements to the plans.
2. Add a construction sequence to the plans.
3. Silt fence appears to stop short of the wetland. Please ensure the wetland areas is protected by silt fence.

C-1.6 Utility Plan

1. Two Village owned hydrants are shown for relocation. Please satisfy the comments below.
    - Where are the hydrants being moved to?
    - Will we be able to adequately flush our hydrants without disturbing or damaging materials or Menard infrastructure once the hydrants are relocated?
    - Add “any new water main used for relocating of hydrants will be C900”.
    - Swab and chlorinate hydrant lead before reconnection.
    - Add “include rerouting tracer wire per hydrant branch detail”.
    - Any Sleeves used for tying new pipe to old will be a HYMAX GRIP coupling.
    - Once Hydrant is pulled the utility will be called to verify its integrity before relocation. 262-253-8254 (office)
    - Water Utility will be the ones to operate the system valves. We will want a two day notice for water shut downs.
    - Provide photo documentation of hydrant relocates during open cut and reconnection phase of work to the water utility.
    - Once backfilled the Hydrants must be pressure tested by opening lead to system pressure and checked for leaks. Verify onsite with the Water Utility.
    - We will need the plan to reflect construction notes with any new laying lengths.
    - GPS new hydrant and valve locations.
    - Changes to our GIS will be paid for by Menards.
    - Survey and add to plan view new easement description.
    - Add Hydrant branch profile view to the construction plan set-Attached.

C-1.8 Site Details

1. Add tracking pad detail

2. Revise inlet protection detail to include round style grates.

Stormwater management plan

1. Provide additional details on the ADS systems on the construction plans. Show the system layout, access locations, outlet control structure, system elevation etc.
2. Stormtech systems are open bottom systems and considered infiltration systems. Provide soil borings in the locations of the system and provide information on the seasonal high groundwater and bedrock (if applicable) at the system locations. DSPS infiltration system review and approval of the systems is required.
3. Stormwater management plan in incomplete and does not contain enough information to review. Please provide a stormwater management plan for the site with a narrative describing the site modifications, existing site conditions, and how the site meets today's requirements. Include drainage exhibits showing the existing conditions and proposed conditions.

MENARD, INC.

February 24, 2020

RE: Menards Expansion Engineering Response Letter

Dear Mr. Ratayczak,

Menard, Inc. and Cedar Corporation have reviewed your 11/11/19 review letter and we are providing the revised plans and attached reports to address the review comments.

General Comments

1. This letter is being submitted as a written response to the comments.
2. The revised site plans have been altered to be easier to read. If you have additional problems viewing the plans please let me know and I would be happy to try another method to make the plans easier to read.
3. Menards plans to apply for the WRAPP/NOI permit from the DNR prior to applying for any building permits. The DNR permit application will be submitted after the public hearings with the Village have been completed.
4. Menards will submit the final plans to DSPS for approval after the public hearing process has been completed and when the engineering revisions are approved by the Village.
5. Menards will provide as-built plans pose-construction as requested.
6. The revised plans have been stamped and sealed.
7. A utility permit will be requested prior to construction.
8. Noted.

C-1.3 Site Plan

1. The plans were revised to be easier to read. However if there are specific details that need to be magnified please let me know and we can submit additional pages in a larger form.
2. The expansion of the yard is outside of the 100 year floodplain.
3. The site data table has been added to the plans.

C-1.4 Grading Plan

1. The electronic copy of the plans has been cleaned up to be easier to read.
2. The concrete channels have been added to the plans to prevent discharge of stormwater from the roof of the warehouse into the wetlands before it is treated via the underground detention system.
3. The elevation of the walls have been noted on the plans.

C-1.5 Erosion Control Plan

1. The late season stabilization requirements have been added to the plans.
2. The construction sequence is noted on the plans.
3. The silt fence has been extended to protect all of the wetland area.

5101 MENARD DRIVE EAU CLAIRE, WI 54703-9625 PHONE (715) 876-5911 FAX (715) 876-2868

MENARD, INC.

C-1.6 Utility Plan

1. Both hydrants that are being relocated are only moving a few feet. The hydrant on the north end of the yard is being moved further north to match the new fence line. The hydrant on the north corner of the building is being moved further north to be outside of the building footprint.

- The Village will be able to access and flush any hydrants without disturbing the Menards store operation.
- C900 will be used on new water main.
- Hydrant will be swabbed and chlorinated as noted
- The new hydrant details are on page C-1.8

C-1.8 Site Details

1. Tracking pad detail was added to the plans.
2. Inlet protection has been shown around the grates.

Stormwater Management Plan

1. The ADS is shown on the construction plans and detailed on the attached ADS sheets.
2. The soil boring report has been included in this submittal.
3. A revised stormwater management plan has been submitted.

Sincerely,
Menard, Inc.

Tyler Edwards
Real Estate Representative
Menard, Inc. 5101 Menard Drive Eau Claire, WI 54703
O: 715.876.2143 C: 715.579.6699 tedwards@menard-inc.com

MENARD, INC.

October 4, 2019

RE: Menard, Inc. Site Plan Review Application

Dear Members of the Planning Commission,

Menard, Inc. is submitting a site plan review application for the expansion of the Germantown Menards store. The proposed expansion will allow the Menards store the space needed to grow and add the materials, storage space, and amenities that all Menards stores across the country now have. This project primarily involves the expansion of the yard area and warehouse building within the yard and further described in the letter below.

The Menards yard will grow from 2.6 acres to 3.9 acres to allow four exterior changes to the property. One of those changes involves adding heated storage space between the loading dock and the garden center. This storage space will hold the orders for guests that order materials online and pick them up at the store. The elevations submitted with this application show the finish materials of green steel to match the existing building. This area is contained behind the store building and within the yard in a way that is not visible from outside the Menards yard.

There is an existing warehouse building in the northwest corner of the yard and that building is being extended to become a 50,317 sq ft building. The exterior finish of that building will match the existing building. The elevation plan for that has been included with this submittal. This will continue to be a drive through covered material storage building.

The yard fence surrounding the expanded yard will be a replacement of the existing 14 foot tall treated wood fence on the north side of the yard. The fencing facing west and the parking lot will be the same black wrought iron fence found on the site today.

The yard gate is being relocated to the south side of the property. Yard gates at all Menards stores are being expanded to add a 2nd entrance lane for online order pickups. Guests scan a barcode from their order and enter the yard to pick up their materials without waiting for the gate guard to let them in. the program allows guests to pick up their orders without parking. This lessens the parking needs at the store when guests no longer have to park in a space in the lot and get out to pick up their materials. This part of the project will reduce the number of parking stall by 75 spaces. 13 spaces will be created on the north end of the lot where the drive for the yard gate used to be. Overall the existing parking 531 stalls will be reduced to 461 parking stalls. Please note that this reduction will not have any adverse impact on available parking stalls at Menards. As a reference I have included a list of new store locations and the number of parking stalls that were provided. Because half of Menards traffic is contractors that shop during the daytime hours and the other half is home owners that shop on nights and weekends the demand at a Menards is about half of a general retailer or grocery store that tends to see the bulk of its traffic at one time in the evening and on weekends.

A portion of the stormwater pond is being filled with the yard expansion and the existing underground stormwater treatment area will be expanded to accommodate the additional stormwater runoff. The new underground detention will be placed in the parking lot and in the yard area in front of the new warehouse building. The Army Corps of Engineers and the Wisconsin DNR have already issued wetland fill permits for the expansion project. The project being submitted is the expansion plan that has the smallest impact on the wetlands while still expanding the Menards store to fit our needs.

5101 MENARD DRIVE EAU CLAIRE, WI 54703-9625 PHONE (715) 876-5911 FAX (715) 876-2868

MENARD, INC.

Menards appreciates your consideration of this request to expand the store and serve the community long into the future. If you have any questions during your review please let me know. Thank you.

Sincerely,
Menard, Inc.

Tyler Edwards
Real Estate Representative
Menard, Inc. 5101 Menard Drive Eau Claire, WI 54703
O: 715.876.2143 C: 715.579.6699 tedwards@menard-inc.com

MENARD, INC.

October 4, 2019

RE: Menard, Inc. Conditional Use Permit Application

Dear Members of the Planning Commission,

Menard, Inc. is submitting a conditional use permit application for the Germantown Menards store. Menards is in the process of updating and remodeling all Menards stores across the country to make sure that older stores offer the same services, products, and shopping experience as the new stores. In the competitive retail environment of today it is essential to invest in the store locations to remain successful.

The Menards store has operated in this location since it opened in 2003 and since that time there have been a couple of remodels and the proposed project is the next project that will expand the store into a store that matches all new Menards locations. This project will not change the purpose behind a Menards store. There will generally be the same number of employees, the same number of guests visiting the store and overall the same look to the store and yard.

There are three parts to the expansion of the yard and outdoor storage area. The first is an expansion of the overall footprint of the yard area. The yard will be increasing in size from 2.6 acres to 3.9 acres. This increase will allow the Germantown Menards to accommodate the second and third parts of this expansion and allow the creation of space to carry the same amount of materials that other Menards stores carry. The boundary of the yard will be expanded to the north and to the east. Menards has obtained wetland fill permits from both the DNR and the Army Corps for that expansion into the wetland area.

The second part of this project will be the expansion of the warehouse building. Along the north edge of the yard is a cold storage warehouse building that is not large enough to carry the full catalog of Menards materials. This building will be expanded to the east to create a 50,317 sq ft covered storage building. The exterior finish materials on the warehouse addition will match the existing warehouse building. Expanding the warehouse building will allow Menards to carry more materials and keep more materials onsite at any time to prevent running out or sending guests to other store locations to get what they need.

The third part of this yard expansion project is the relocation of the yard gate. Today the gate is located on the north side of the building between the garden center and the warehouse. This is not a good place to direct all of the heavy truck traffic for safety reasons. The garden center and warehouse is where the most people are walking around in the yard and all of the nearby heavy truck traffic can be dangerous. To fix that the gate will be relocated to the south side of the yard. The gate itself will be constructed using the same finish materials found on the existing gate. One additional entrance lane is being added to the gate for online order pickups. This is an automated entrance lane that allows guests to scan a barcode from their order and pick up their materials without waiting for the gate guard to let them in. There is a section of parking that will be removed as part of this project. Those 75 spaces are the least used spaces because they are tucked away from the front doors of the store. There is an access easement between Menards and the neighbor for use of the drive that connects the gate to Appleton Ave.

5101 MENARD DRIVE EAU CLAIRE, WI 54703-9625 PHONE (715) 876-5911 FAX (715) 876-2868

MENARD, INC.

Menards does have a second CUP related to the size of the building. The existing Menards store is over 50,000 sq ft which requires a CUP in the ordinance. Menards will be adding a new overhang between the loading dock and garden center. This space will be heated storage space used to store online orders for guest pickup. The guest can enter through the order pickup lane at the new gate and pick up their order at this new section of the store. The exterior finishes of the building will match the existing building and those elevations are included in the submittal materials.

Thank you for your consideration of this request and the continued investment in the Germantown Menards store to ensure it is a successful part of the community long into the future. If you have any questions on the application and project please feel free to contact me directly.

Sincerely,
Menard, Inc.

Tyler Edwards
Real Estate Representative
Menard, Inc. 5101 Menard Drive Eau Claire, WI 54703
O: 715.876.2143 C: 715.579.6699 tedwards@menard-inc.com

MENARD, INC.

May 8, 2020

RE: Menards CUP Application

Dear Mr. Retzlaff,

Menard, Inc. is requesting that as part of the Germantown Menards expansion CUP application the requirements for a 25' wetland setback from Section 24.04 of the Shoreland-Wetland Code ordinance is waived. The Menards store was originally constructed without any setbacks to the wetlands to minimize wetland fill. Adhering to the 25' setback requirement would require filling additional natural wetland area which is not in the best interest of Menards or the Village. The DNR and Army Corps wetland fill permits have been designed to minimize the impact to the existing wetlands and Menards has made sure that requirement was followed my minimizing the expansion area to only what is needed. Menards is also requesting relief from the requirement to add compensation for the affected area as there is onsite compensatory mitigation already and Menards paid the DNR for offsite mitigation of nearby wetlands for this expansion project as part of the approved wetland fill permit. If there are additional questions on this request please let me know. Thanks you.

Sincerely,
Menard, Inc.

Tyler Edwards
Real Estate Representative
Menard, Inc. 5101 Menard Drive Eau Claire, WI 54703
O: 715.876.2143 C: 715.579.6699 tedwards@menard-inc.com

Village of Germantown ...Willkommen

Fee must accompany application
- ☐ $700 Minor Addition
- ☐ $1,240 Construction <10,000 SF
- ☐ $2,095 Construction 10,000 SF to 50,000
- ☐ $3,460 Industrial Construction >50,000 SF
- ☐ $3,460 Commercial Construction >50,000
- ☐ $200 Plan Commission Consultation
- ☐ $125 Fire Department Plan Review

PAID _____ DATE _____

SITE PLAN REVIEW APPLICATION

Pursuant to Section 17.43 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 APPLICANT OR AGENT

Menard, Inc.
Tyler Edwards - Real Estate Rep
5101 Menard Dr
Eau Claire WI 54703

Phone (715) 876-2143
E-Mail tedwards@menard-inc.com

PROPERTY OWNER

Menard, Inc.
5101 Menard Dr
Eau Claire WI 54703

Phone (715) 876-2143
E-Mail tedwards@menard-inc.com

2 PROPERTY ADDRESS

W186N9754 Appleton Ave

3 NEIGHBORING USES – Specify name and type of use, e.g. Enviro Tech – Industrial, Smith – Residential, etc.

North	South	East	West
Vacant wetland	Commercial / Residential	Commercial - Stein Gardens	Vacant wetland

4 READ AND INITIAL THE FOLLOWING:

X I am aware of the Village of Germantown ordinance requiring fire sprinklers in most new construction.

X I understand that all new development is subject to Impact and/or Connection Fees that must be paid before building permits will be issued.

X I understand that an incomplete application will be withdrawn from the Plan Commission agenda and that all resubmissions to the Plan Commission are subject to a new application fee.

5 SIGNATURES – ALL APPLICATION MUST BE SIGNED BY OWNER!

_____
Applicant Date

10/15/19
Owner Real Estate Rep Menard, Inc. Date

Village of Germantown ...Willkommen

Fee must accompany application

☐ **$1460** Paid _____ Date_____

CONDITIONAL USE PERMIT APPLICATION

Pursuant to Section 17.42 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 APPLICANT OR AGENT

Menard, Inc.
Tyler Edwards - Real Estate Rep
5101 Menard Dr
Eau Claire WI 54703
Phone (715) 876-2143
Fax ( )
E-Mail tedwards@menard-inc.com

PROPERTY OWNER

Menard, Inc.
5101 Menard Dr
Eau Claire WI 54703
Phone (715) 876-2143

2 TO WHOM SHOULD THE PERMIT BE ISSUED?

Menard, Inc - owner

3 PROPERTY ADDRESS

W186N9754 Appleton Ave

TAX KEY NUMBER

GTNV_233963

4 DESCRIPTION OF EXISTING OPERATION

Briefly describe the use as it exists today, including use, size, number of employees, hours of operation, etc. If this permit involves new construction, describe the current status of the property, e.g. "vacant." Use additional pages as necessary.

Please see attached letter

5 DESCRIPTION OF PROPOSED OPERATION

Write the name of the proposed conditional use exactly as it appears in the Municipal Code.

Section 17.29 (3)(e) + Section 17.29 (3)(r)

Describe the proposed use, including size, number of employees, hours of operation and extent of any new construction/alterations.

Please see attached letter

METES AND BOUNDS LEGAL DESCRIPTION OF PROPERTY — REQUIRED

6

Attach pages as necessary.

SUPPORTING DOCUMENTATION:

7

- ☑ Site plan and elevations for new construction (can be conceptual)
- ☑ Photos of existing use and/or proposed use operating elsewhere
- ☑ Engineering Plans
- ☐ _____

READ AND INITIAL THE FOLLOWING:

8

X I understand that the Village is under no obligation to issue a Conditional Use Permit and will do so only if the applicant successfully demonstrates that the proposed use is harmonious with the neighborhood and the long range goals of the Village.

X I will notify the Village if <u>any</u> aspect of the conditional use changes. I understand that failure to do so may result in the revocation of the CUP.

X I understand that a Conditional Use Permit is valid only if the conditions and restrictions of the permit are met. I understand that failure to comply with any aspect of the permit may result in revocation.

SIGNATURES — ALL APPLICATIONS MUST BE SIGNED BY OWNER!

9

_____ _____

Applicant Date

[signature] 10/5/19

Owner Real Estate Rep Menard, Inc. Date

Village of Germantown ...Willkommen

FEES MUST BE PAID AT TIME OF APPLICATION

$200 Plan Commission Consultation
$1,085 Rezoning
$1,240 PDD < 5 acres
$2,095 PDD 5-20 acre site
$3,460 PDD > 20 acre site

Date Paid: _____ Received by: _____

REZONING & PDD APPLICATION

Pursuant to Section 17.51 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 **APPLICANT OR AGENT**

Menard, Inc.
Tyler Edwards - Real Estate Rep
5101 Menard Drive
Eau Claire WI 54703
Phone (715) 876 2143
E-Mail tedwards@menard-inc.com

PROPERTY OWNER

Menard, Inc.
5101 Menard Dr.ve
Eau Claire WI 54703

Phone (715) 876-2143
E-Mail tedwards@menard-inc.com

2 **PROPERTY ADDRESS OR GENERAL LOCATION** | **TAX KEY NUMBER**

W186N9754 Appleton Ave | GTNV-333963

3 **REZONING REQUEST**

FROM	TO
Shoreland/wetland	B2

4 **METES AND BOUNDS LEGAL DESCRIPTION OF PROPERTY – REQUIRED**

Attach pages as necessary

Description to be submitted
Please see Site Plan for general location

5 PURPOSE OF REZONING REQUEST

Briefly describe why the applicant is rezoning the property. Include a description of the proposed use, including any new construction and number of employees, if applicable.

Rezone wetland space to B2 as Part of the Menards expansion Project. The .414 acres will be filled as approved by the DNR and ACOE Permits.

6 SUPPORTING DOCUMENTATION:

☐ Plat of Survey (1:100)

☐ Site Plan and elevations for new construction (can be conceptual)

7 READ AND INITIAL THE FOLLOWING:

X I understand that the Village is under no obligation to rezone property and that density and lot coverages provided in the Zoning Code are maximums. Actual build out will depend on myriad factors including topography and other natural conditions, surrounding neighborhood context and the detailed design of a project.

X I understand that Village Staff, Plan Commission and/or Village Board may request additional information to properly evaluate this request and failure to provide such information may in itself by sufficient cause to deny the petition.

X I am aware that this rezoning shall go into effect immediately upon the final approval of the Village Board and its execution of the rezoning ordinance

X I understand that Village Staff is required to post one or more signs along the street frontage of and/or on the property subject of this application that indicate to nearby property owners and the general public that a public hearing of my application will be held before the Village Plan Commission and/or Village Board prior to action taken on this application; I hereby grant Village Staff permission to enter onto the property for the expressed purpose of installing said sign(s) provided Village Staff is responsible for installing, maintaining and removing said signs in a reasonable manner and time frame.

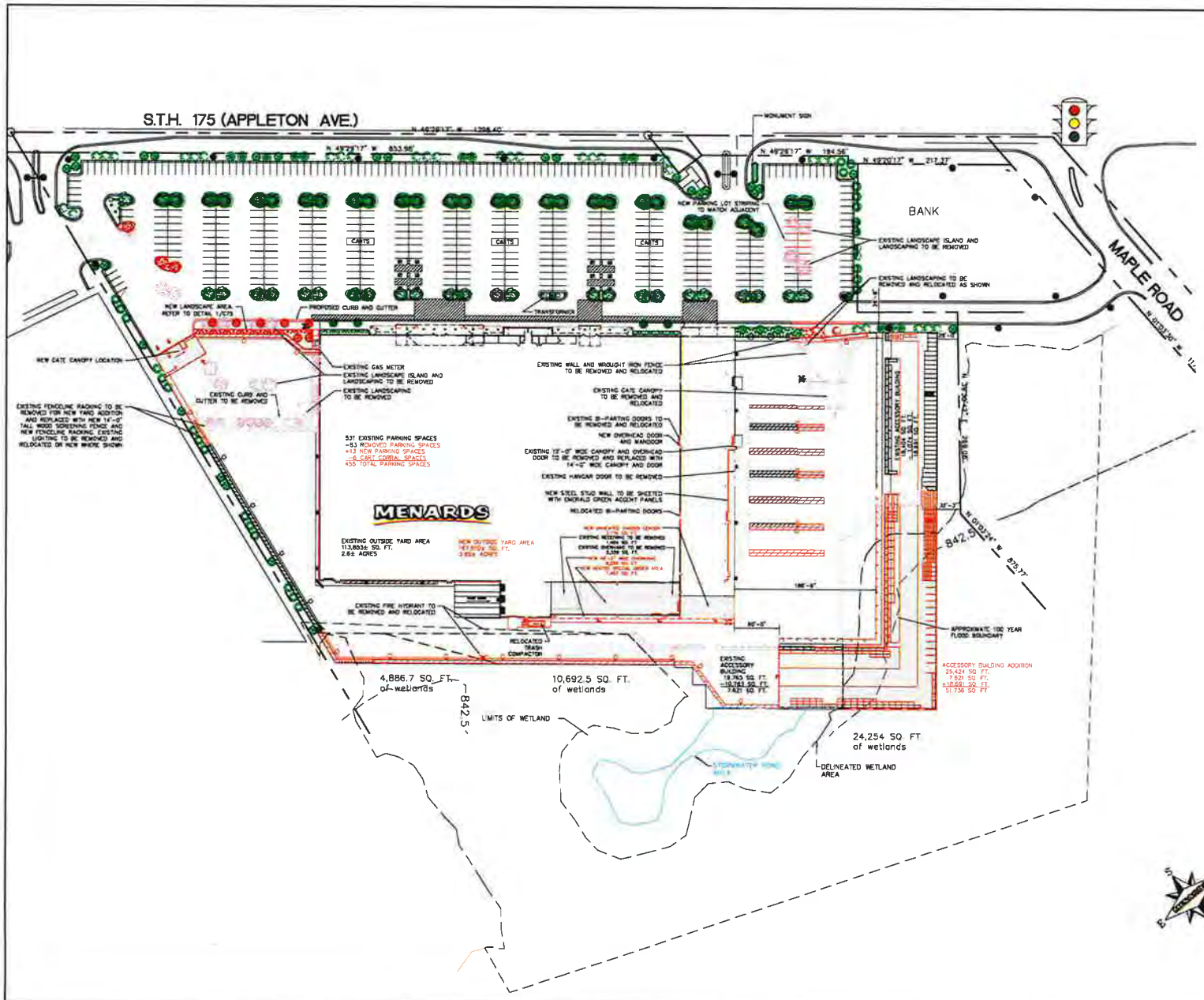
8 SIGNATURES – ALL APPLICATIONS MUST BE SIGNED BY OWNER!

Applicant Date

Owner 5/7/20 Date

Real Estate Rep

Menard, Inc.



ELECTRICAL LEGEND

●	15	K1TBL WASHINGTON LUMINAIRE C/W #1 FINIAL AND K5/K9 CAPITAL 150W METAL HALIDE PULSE START BALLAST
○	3	EXISTING K1TBL WASHINGTON LUMINAIRE C/W #1 FINIAL AND K5/K9 CAPITAL 75W TO REMAIN
○	2	EXISTING K1TBL WASHINGTON LUMINAIRE C/W #1 FINIAL AND K5/K9 CAPITAL 75W TO BE REMOVED AND RELOCATED
●—●	2	(2) K1TBL WASHINGTON LUMINAIRE C/W #1 FINIAL AND K5/K9 CAPITAL 150W METAL HALIDE PULSE START BALLAST
□—□	15	EXISTING 800W 277V M.H. CUTOFF LUMINAIRE PARKING LOT LIGHTING ON 25'-0" TALL POLES TO REMAIN
	2	EXISTING 800W 277V M.H. CUTOFF LUMINAIRE PARKING LOT LIGHTING 25'-0" TALL POLES TO BE REMOVED OR RELOCATED
□—□	1	RELOCATED 800W 277V M.H. CUTOFF LUMINAIRE PARKING LOT LIGHTING ON 25'-0" TALL POLE TO MATCH EXISTING
■	18	400W 277V M.H. CUTOFF LUMINAIRE BUILDING LIGHTS
	4	EXISTING 400W 277V M.H. CUTOFF LUMINAIRE BUILDING LIGHTS TO BE REMOVED AND RELOCATED
◪	5 RELOCATED 1 NEW	RELOCATED OR NEW 400W 277V M.H. CUTOFF LUMINAIRE BUILDING LIGHTS TO MATCH EXISTING
—□	16	400W 277V M.H. CUTOFF LUMINAIRE YARD LIGHTS
	4	EXISTING 400W 277V M.H. CUTOFF LUMINAIRE YARD LIGHTS TO BE REMOVED AND RELOCATED
—□	19	RELOCATED OR NEW 400W 277V M.H. CUTOFF LUMINAIRE YARD LIGHTS TO MATCH EXISTING
□	17	175W CANOPY LIGHTS

LANDSCAPE LEGEND

SYMBOL	SCIENTIFIC, COMMON NAME	QUANTITY
	EXISTING ACER SACCHRUM 'LEGACY', 'LEGACY' MAPLE	28
	EXISTING ACER SACCHRUM 'LEGACY', 'LEGACY' MAPLE TO BE REMOVED	8 REMOVED 3 TRANSPLANTED
	EXISTING ACER X FREEMANII 'AUTUMN BLAZE', 'AUTUMN BLAZE' RED MAPLE TO REMAIN	39
	EXISTING ACER X FREEMANII 'AUTUMN BLAZE', 'AUTUMN BLAZE' RED MAPLE TO BE REMOVED	9 TRANSPLANTED 1 NEW
	EXISTING MALUS ANGERINA, WHITE FLOWERING CRABAPPLE TO BE REMOVED	31
	EXISTING MALUS ANGERINA, WHITE FLOWERING CRABAPPLE TO BE EITHER REMOVED OR TRANSPLANTED	5 REMOVED 2 TRANSPLANTED
	EXISTING CELTIS OCCIDENTALIS, COMMON HACKBERRY TO REMAIN	28
	EXISTING CELTIS OCCIDENTALIS, COMMON HACKBERRY TO BE REMOVED	8
	EXISTING PINUS NIGRA, 'AUSTRIAN PINE' TO REMAIN	24
	EXISTING THUJA ACCIDENTALIS NIGRA, DARK GREEN ARBORVITAE TO REMAIN	2
	EXISTING RHUS AROMATICA 'GRO-LOW', 'GRO-LOW' DWARF FRAGRANT SUMAC TO REMAIN	8
	EXISTING CUPRESSUS, SIBERIAN CYPRESS TO REMAIN	98
	EXISTING CUPRESSUS, SIBERIAN CYPRESS TO BE REMOVED	27
	EXISTING SPIRAEA JAPONICA 'ANTHONY WATERER', 'ANTHONY WATERER' SPIREA TO REMAIN	41
	EXISTING SPIRAEA JAPONICA 'ANTHONY WATERER', 'ANTHONY WATERER' SPIREA TO BE TRANSPLANTED	34 TRANSPLANTED OR NEW
	EXISTING COTONEASTER APICULATUS, CRANBERRY COTONEASTER TO REMAIN	15
	EXISTING COTONEASTER APICULATUS, CRANBERRY COTONEASTER TO BE TRANSPLANTED	10 TRANSPLANTED OR NEW
	EXISTING VIBURNUM LANTANA MOHICAN, MOHICAN WAYFARING SHRUB TO REMAIN	12
	EXISTING VIBURNUM LANTANA MOHICAN, MOHICAN WAYFARING SHRUB TO BE REMOVED	7
	EXISTING JUNIPERUS HORIZONTALIS BAR HARBOR, 'BAR HARBOR' JUNIPER TO REMAIN	143
	EXISTING JUNIPERUS HORIZONTALIS BAR HARBOR, 'BAR HARBOR' JUNIPER TO BE TRANSPLANTED	28 TRANSPLANTED OR NEW
	EXISTING JUNIPERUS PFITZERANA 'COMPACT PFITZER', 'COMPACT PFITZER' JUNIPER TO REMAIN	6

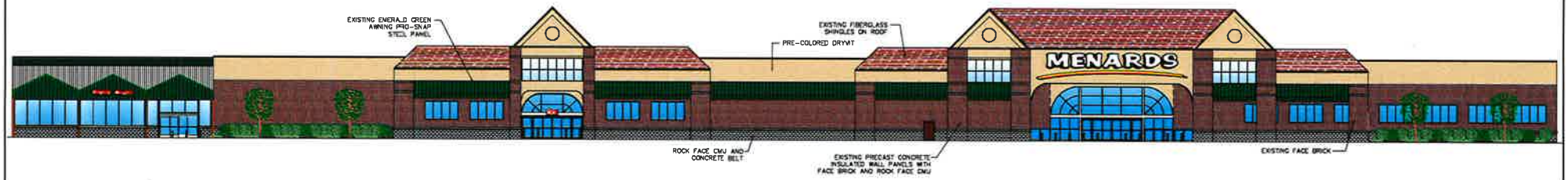
Tyler Edwards
Real Estate Representative
Menard, Inc.
5101 Menard Drive
Eau Claire, Wisconsin 54703

MENARDS

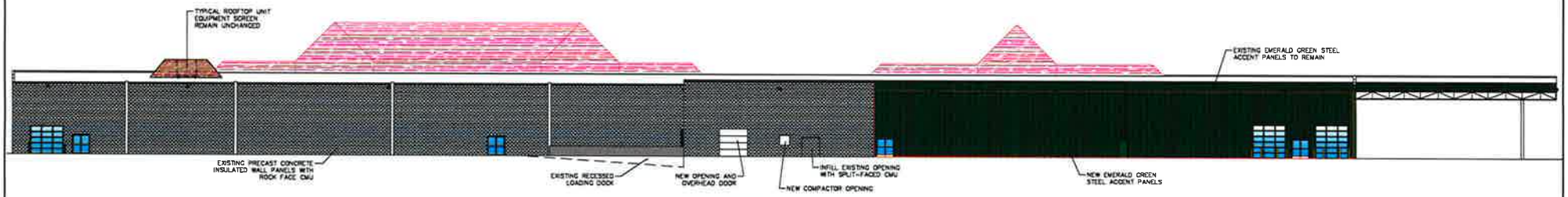
Germantown, Wisconsin
Menards Site Plan
October 15, 2019
Scale: 1" = 50'-0"

CT1

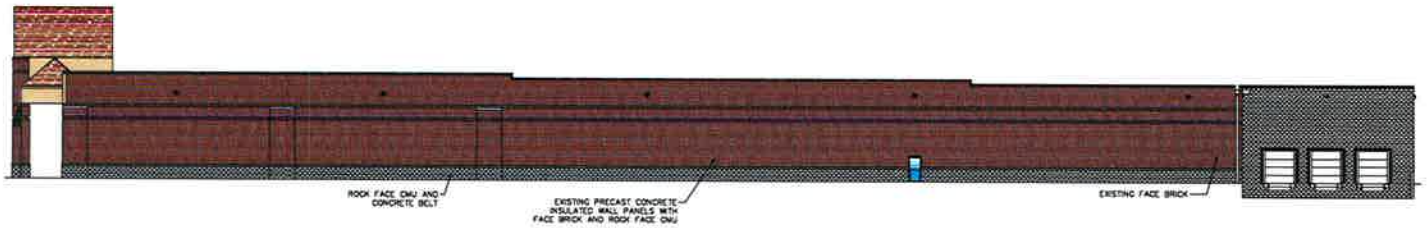
Path and File Name: F:\Designs\Projs-sites\A-2002 SITES\GERMANTOWN_Future REMODEL\City Approval Drawings_Germantown_Site_REMODEL.dwg Date Plotted: October 15, 2019



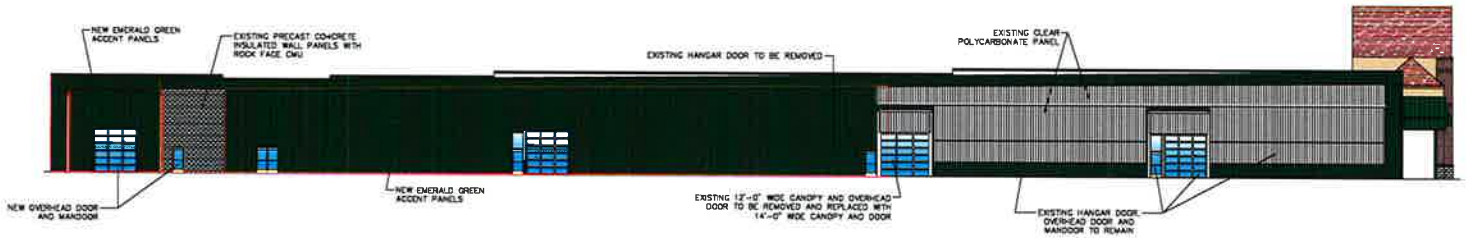
1 – EXISTING FRONT ELEVATION (TO REMAIN UNCHANGED)



2 – PROPOSED REAR ELEVATION



3 – EXISTING SIDE ELEVATION (TO REMAIN UNCHANGED)



4 – PROPOSED SIDE ELEVATION

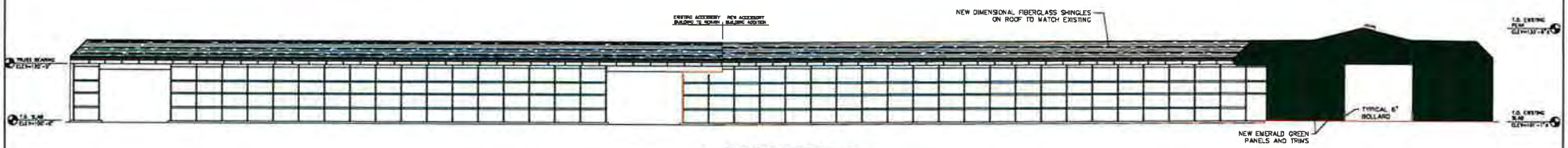
MENARDS

Tyler Edwards
Real Estate Representative
Menard, Inc.
5101 Menard Drive
Eau Claire, Wisconsin 54703

Germantown, Wisconsin
Building Elevations
October 3, 2019
Scale: 1/16" = 1'-0"

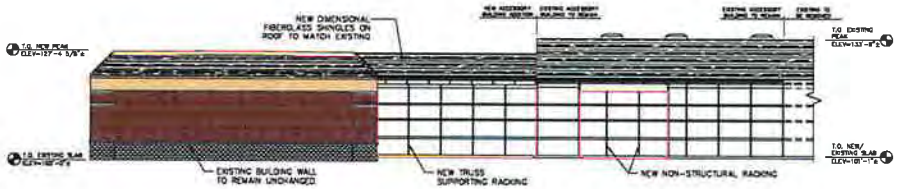
CT2

Path and File Name: P:\Designs\Proto3-sites\A-2002 SITES\GERMANTOWN_Future REMODEL\City Approval Drawings_Germantown_Site_REMODEL.dwg Date Plotted: October 11, 2019

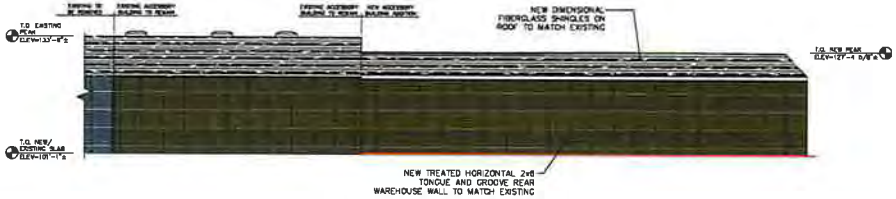


1 – PROPOSED FRONT ELEVATION

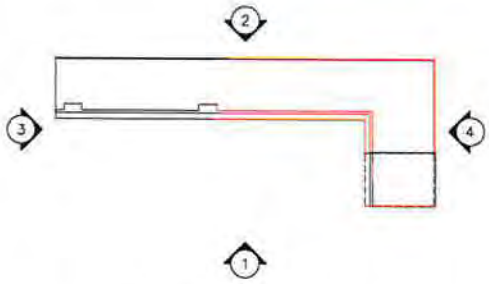
2 – PROPOSED REAR ELEVATION



3 – PROPOSED SIDE ELEVATION



4 – PROPOSED SIDE ELEVATION



PROPOSED ACCESSORY BUILDING PLAN
NO SCALE

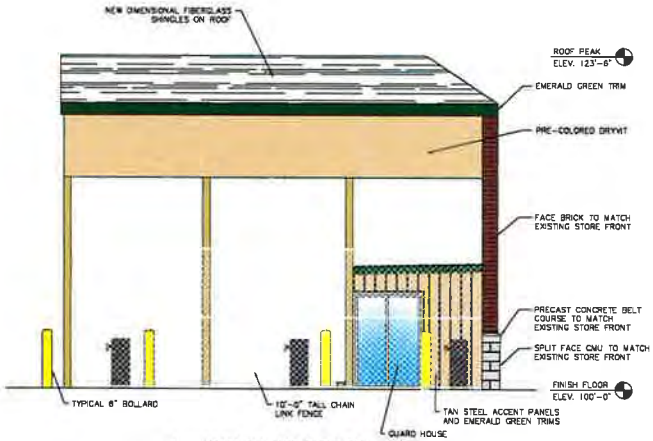
Tyler Edwards
Real Estate Representative
Menard, Inc.
5101 Menard Drive
Eau Claire, Wisconsin 54703

MENARDS

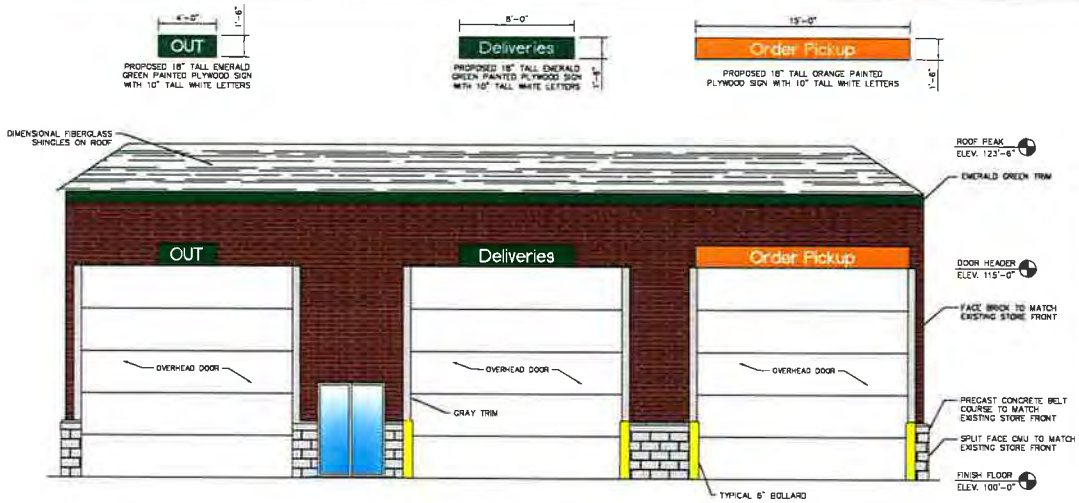
Germantown, Wisconsin
Accessory Building Elevations
October 3, 2019
Scale: 1/16" = 1'-0"

CT3

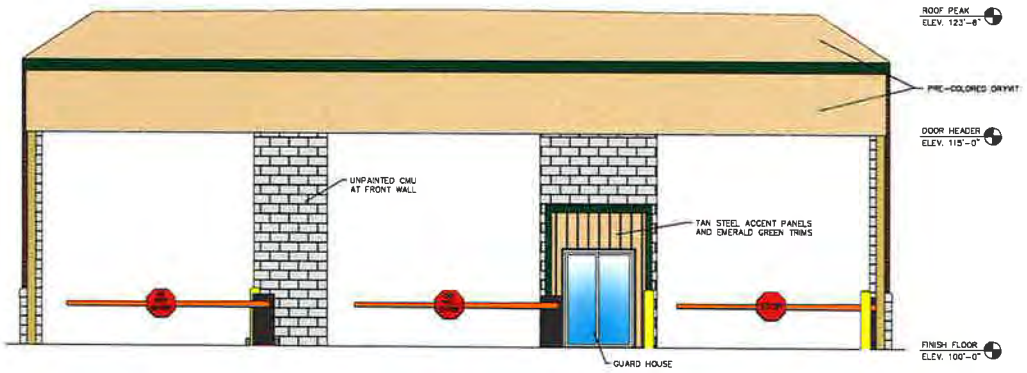
Path and File Name: F:\Designair\Proto5-sites\A-2002 SITES\GERMANTOWN_Future REMODEL\City Approval Drawings_Germantown_Site_REMODEL.dwg Date Plotted: October 11, 2019



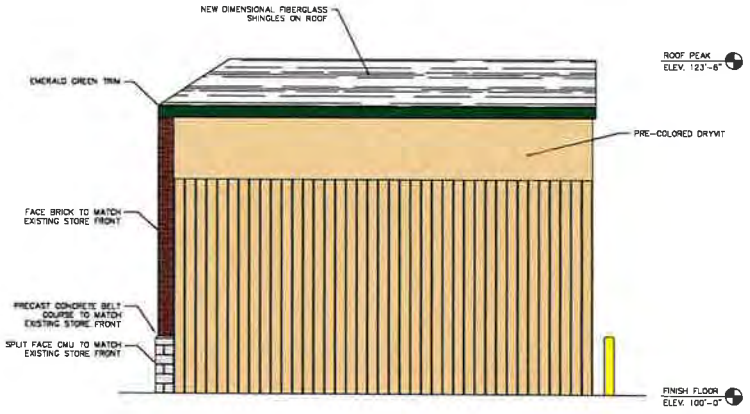
1 – PROPOSED SIDE ELEVATION



2 – PROPOSED FRONT ELEVATION



3 – PROPOSED REAR ELEVATION



4 – PROPOSED SIDE ELEVATION

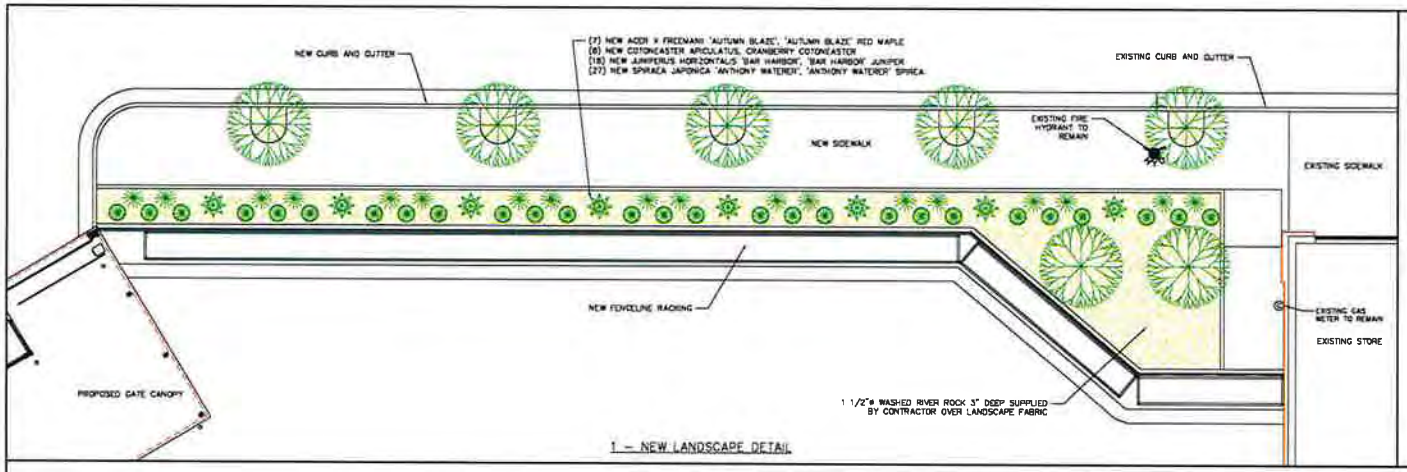
MENARDS

Tyler Edwards
Real Estate Representative
Menard, Inc.
5101 Menard Drive
Eau Claire, Wisconsin 54703

Germantown, Wisconsin
Gate Canopy Elevations
October 3, 2019
Scale: 1/4" = 1'-0"

CT4

Path and File Name: F:\Designav\Proto5-sites\A-2002 SITES\GERMANTOWN_Future REMODEL\City Approval Drawings_Germantown_Site_REMODEL.dwg Date Plotted: October 11, 2019



1 – NEW LANDSCAPE DETAIL

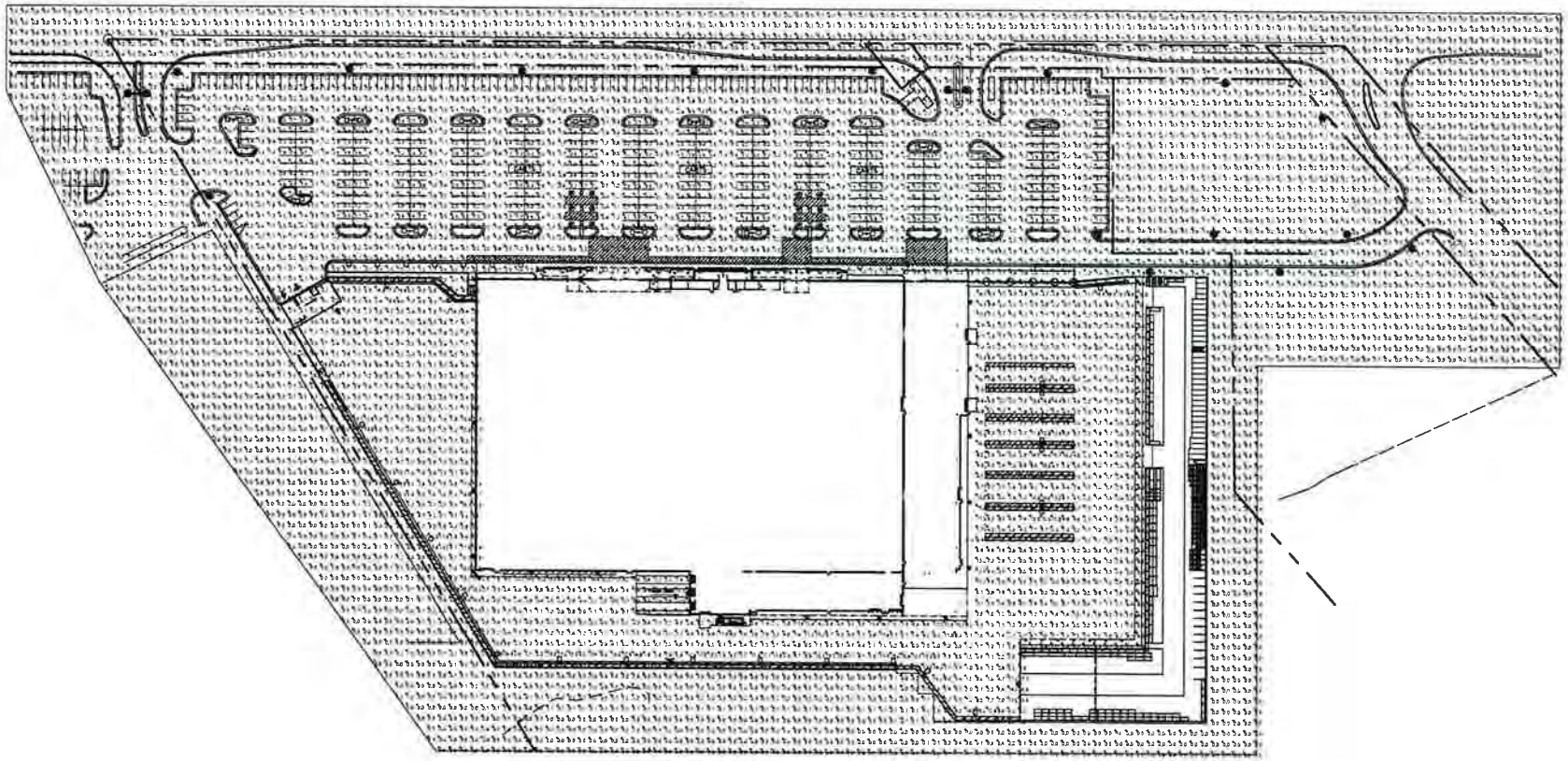
Tyler Edwards
Real Estate Representative
Menard, Inc.
5101 Menard Drive
Eau Claire, Wisconsin 54703

MENARDS

Germantown, Wisconsin
Detail Sheet
October 15, 2019
Scale: as shown

CT5

Path and File Name: F:\Designdv\Proto5-sites\A-2002 SITES\GERMANTOWN_Future REMODEL\City Approval Drawings_Germantown_Site_REMODEL.dwg Date Plotted: October 15, 2019



ELECTRICAL LEGEND		
●	13	870BL WASHINGTON LUMINAIRE C/W #1 FINIAL AND KS/K9 CAPITAL 150W METAL HALIDE PULSE START BALLAST
○	5	870BL WASHINGTON LUMINARE C/W #1 FINIAL AND KS/K9 CAPITAL 70W
●—●	2	(2) 870BL WASHINGTON LUMINAIRE C/W #1 FINIAL AND KS/K9 CAPITAL 150W METAL HALIDE PULSE START BALLAST
□—○—□	15	200W 277V MH CUTOFF LUMINAIRE PARKING LOT LIGHTING ON 25'-0" TALL POLES
■	11	200W 277V LED CUTOFF LUMINAIRE BUILDING LIGHTS
■	5	NEW 200W 277V LED CUTOFF LUMINAIRE BUILDING LIGHTS
—□	4	EXISTING 400W 277V M.H. CUTOFF LUMINAIRE YARD LIGHTS TO BE REPLACED WITH NEW 200W 277V LED CUTOFF LUMINAIRE YARD LIGHT
—□	13	NEW 200W 277V LED CUTOFF LUMINAIRE YARD LIGHTS
□—□	13	NEW (2) 200W 277V LED CUTOFF LUMINAIRE YARD LIGHTS MOUNTED ON 25'-0" TALL POLES
□	17	175W CANOPY LIGHTS (STONE CANOPY)
□	30	60 WATT LED 277V SOFFIT LIGHTS (WAREHOUSE OVERHANG)

STATISTICS							
DESCRIPTION	SYMBOL	AVG	MAX	MIN	MAX/MIN	AVG/MIN	
CALC ZONE 1	+	4.7	10.1	1.0	10.1	4.7	

Tyler Edwards
Real Estate Representative
Menard, Inc.
5101 Menard Drive
Eau Claire, Wisconsin 54703

MENARDS

Germantown, Wisconsin
Menards Site Plan
October 15, 2019
Scale: 1" = 50'-0"

CT6

Path and File Name: F:\Designdiv\Proto5-alias\A-2002 SITES\GERMANTOWN_Future REMODEL\City Approval Drawings\CT6 Photometric Plan.dwg

Date Plotted: October 16, 2019

Google Earth

Google Earth
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SITE AND BUILDING ADDITION

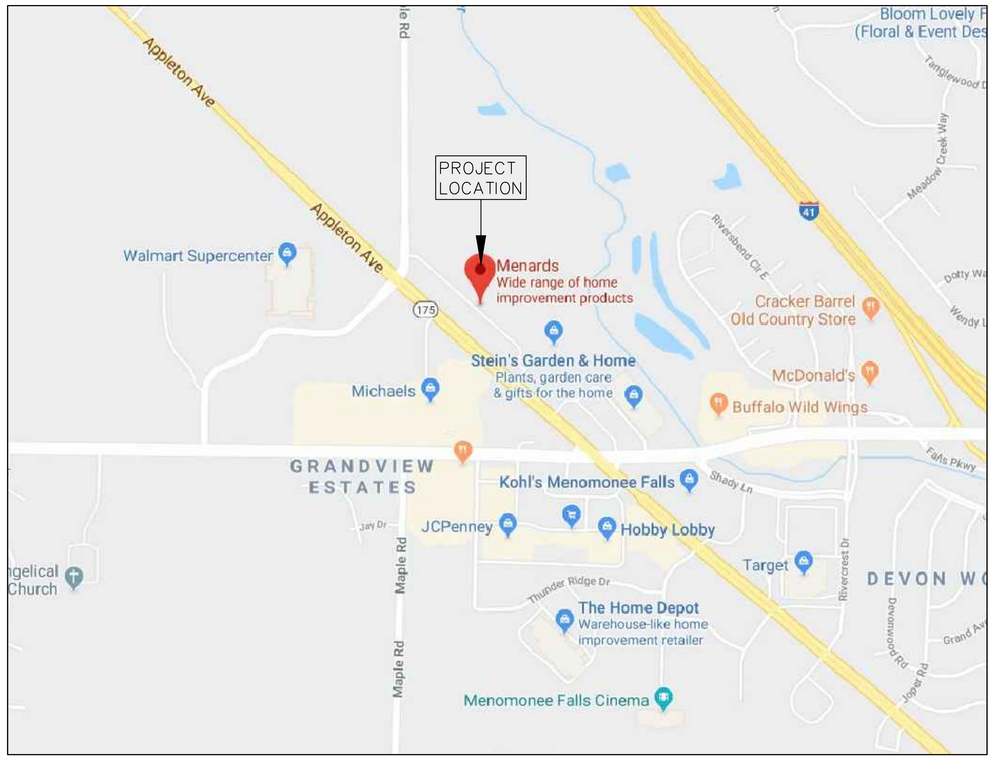
MENARDS, CITY GERMANTOWN

W186N9754 APPLETON AVENUE

GERMANTOWN, WI 53022

OWNER:
MENARD Inc.
5101 MENARD DRIVE
EAU CLAIRE, WI 54703
715-876-2532

WISCONSIN
WASHINGTON COUNTY



LOCATION MAP
NO SCALE

CIVIL INDEX

SHEET	SHEET DESCRIPTION
C1.0	TITLE SHEET
C1.1	EXISTING SITE CONDITIONS
C1.2	REMOVAL PLAN
C1.3	SITE PLAN
C1.4	GRADING PLAN
C1.5	EROSION CONTROL PLAN
C1.6	SITE DETAILS
C1.7	SITE DETAILS
1-6	MENARDS EXPANSION SYSTEM # 1
1-6	MENARDS EXPANSION SYSTEM # 2

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Dial 811 or (800) 242-8511
www.DiggersHotline.com

WISCONSIN
RUSSELL P KIVINIEMI
E-28657
EAU CLAIRE WI
PROFESSIONAL ENGINEER
4/24/2020

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY PERSONAL DIRECTION AND CONTROL AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WISCONSIN.

JOB NO.
1403-81
BOOK NO.
N/A
DRAWN BY
D B
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R K
DATE
DEC. 2019
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604 Wilson Avenue
Menomonie, Wisconsin 54751
715-235-9081
800-472-7372
FAX 715-235-2727
www.cedarcorp.com

SITE AND BUILDING ADDITION
MENARDS, CITY GERMANTOWN
W186N9754 APPLETON AVENUE
GERMANTOWN, WI 53022

SHEET NO.
C1.0

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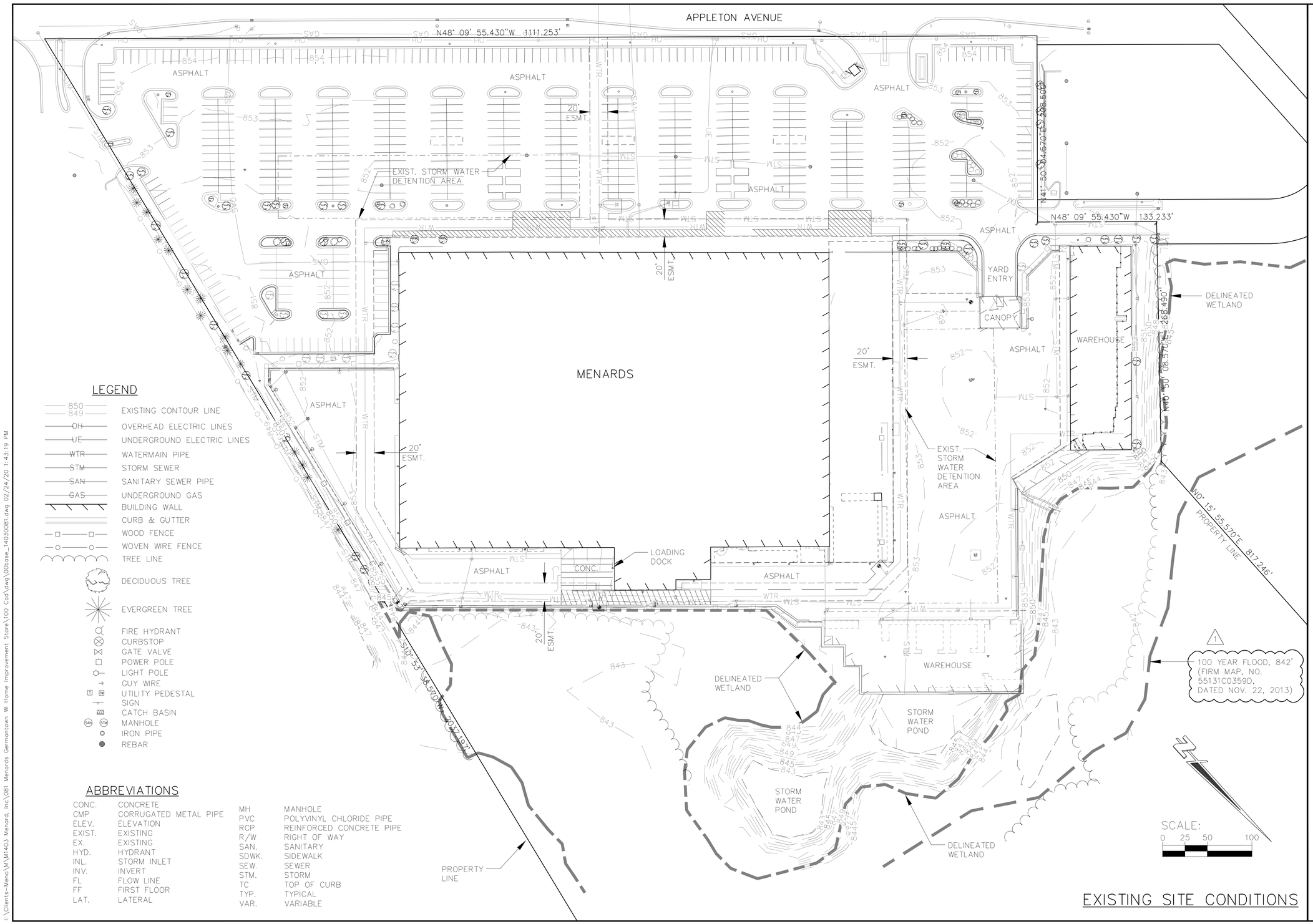

LEGEND

850 / 849	EXISTING CONTOUR LINE
OH	OVERHEAD ELECTRIC LINES
UE	UNDERGROUND ELECTRIC LINES
WTR	WATERMAIN PIPE
STM	STORM SEWER
SAN	SANITARY SEWER PIPE
GAS	UNDERGROUND GAS
	BUILDING WALL
	CURB & GUTTER
	WOOD FENCE
	WOVEN WIRE FENCE
	TREE LINE
	DECIDUOUS TREE
	EVERGREEN TREE
	FIRE HYDRANT
	CURBSTOP
	GATE VALVE
	POWER POLE
	LIGHT POLE
	GUY WIRE
	UTILITY PEDESTAL
	SIGN
	CATCH BASIN
SAN STM	MANHOLE
	IRON PIPE
	REBAR

ABBREVIATIONS

CONC.	CONCRETE	MH	MANHOLE
CMP	CORRUGATED METAL PIPE	PVC	POLYVINYL CHLORIDE PIPE
ELEV.	ELEVATION	RCP	REINFORCED CONCRETE PIPE
EXIST.	EXISTING	R/W	RIGHT OF WAY
EX.	EXISTING	SAN.	SANITARY
HYD.	HYDRANT	SDWK.	SIDEWALK
INL.	STORM INLET	SEW.	SEWER
INV.	INVERT	STM.	STORM
FL	FLOW LINE	TC	TOP OF CURB
FF	FIRST FLOOR	TYP.	TYPICAL
LAT.	LATERAL	VAR.	VARIABLE

EXISTING SITE CONDITIONS

JOB NO.	1430-81
BOOK NO.	N/A
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DATE	DEC. 2019
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FAX 715-235-2727
W61N497 Washington Ave.
Cedarburg, WI 53012
262-204-2360
FAX 262-375-2688

SITE AND BUILDING ADDITION

MENARDS, CITY GERMANTOWN
W186N9754 APPLETON AVENUE
GERMANTOWN, WI 53022

SHEET NO.
C1.1

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APPLETON AVENUE

MENARDS

REMOVE CURB & GUTTER & LANDSCAPING

REMOVE LIGHT, POLE & BASE, SALVAGE LIGHT & POLE TO OWNER

REMOVE STRIPING SEE SITE PLAN

SAWCUT, TYP.

23'

97'±

146'±

REMOVE ASPHALT, TYP.

REMOVE CURB & GUTTER

REMOVE CURB & GUTTER & LANDSCAPING

163'±

REMOVE LIGHT, POLE & BASE, SALVAGE LIGHT & POLE TO OWNER

INLET STRUCTURES, CASTINGS & FRAMES, TO REMAIN, ADJUST RIM ELEV'S., SEE UTILITY PLAN

25'±

INLET STRUCTURE TO REMAIN, REPLACE CASTING & FRAME, SEE UTILITY PLAN

SALVAGE INLET STRUCTURE, CASTING & FRAME, REMOVE 6'± OF 12" STM. PIPE, SEE UTILITY PLAN

INLET TO REMAIN

INLET TO REMAIN

SAWCUT, TYP.

REMOVE & REPLACE CONC. SIDEWALK, ASPHALT & BASE IN KIND AS REQ'D FOR ROOF DRAIN PIPE INSTALLATION, SEE UTILITY PLAN

SAWCUT, TYP.

REMOVE CURB & GUTTER & LANDSCAPING

151'±

REMOVE LIGHT, POLE & BASE, SALVAGE LIGHT & POLE TO OWNER

REMOVE FENCE, SHELVING CONC., CURB, SALVAGE FENCE & SHELVING

INLET STRUCTURES, CASTINGS & FRAMES TO REMAIN, SEE UTILITY PLAN

SALVAGE HYD. & VALVE, REINSTALL, SEE UTILITY PLAN

INLET STRUCTURES, CASTINGS & FRAMES TO REMAIN, SEE UTILITY PLAN

476'±

CLEARING & GRUBBING LIMITS

REMOVE FENCE, SHELVING CONC., CURB & CONC. RETAINING WALL, SALVAGE FENCE & SHELVING

DELINEATED WETLAND

REMOVE CURB ISLANDS & LANDSCAPING

SAWCUT, TYP. REMOVE & REPLACE ASPHALT & BASE AS REQ'D.

103'±

23'±

REMOVE CURB & GUTTER, CONC. WALL, FENCE & LANDSCAPING

REMOVE ENTRY YARD CANOPY GATE & EQUIP.

SAWCUT, TYP.

REMOVE LIGHT, POLE & BASE, SALVAGE LIGHT & POLE TO OWNER

REMOVE WAREHOUSE & CONC. SLAB

REMOVE FENCE, SHELVING CONC., CURB, SALVAGE FENCE & SHELVING

REMOVE LIGHT, POLE & BASE, SALVAGE LIGHT & POLE TO OWNER, TYP.

SAWCUT, TYP.

SEE ARCH. PLANS FOR ADDITIONAL REMOVALS

124'±

100 YEAR FLOOD

CLEARING & GRUBBING LIMITS

REMOVE WAREHOUSE & CONC. SLAB

183'± WALL TO REMAIN

SALVAGE INLET STRUCTURE, CASTING & FRAME, SEE UTILITY PLAN

SCALE: 0 25 50 100

NOTES:

* ALL DEMOLITION MATERIAL SHALL BE REMOVED FROM THE SITE & DISPOSED OF OFF SITE AS PER CITY & STATE REQUIREMENTS UNLESS OTHERWISE NOTED.
* ANY REMOVALS OR RELOCATIONS REQUIRED FOR CONSTRUCTION, NOT SHOWN SHALL BE CONSIDERED INCIDENTAL TO THE DEMOLITION COSTS, FIELD VERIFY.
* THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL EXIST. UTILITIES. REMOVE, ABANDON, RELOCATE EXIST. UTILITIES AS REQUIRED. ALL UNDERGROUND UTILITIES MAY NOT BE SHOWN, FIELD VERIFY W/ DIGGERS HOTLINE & OWNER.
* SEE MENARDS ARCHITECTURAL PLANS FOR ADDITIONAL REMOVALS.

REMOVAL PLAN

JOB NO.	1430-81
BOOK NO.	N/A
DRAWN BY	D B
CHECKED BY	R K
DATE	DEC. 2019
REVISIONS	1 FEB. 24, 20 2 MAR. 5, 20
REFERENCE FILE	
DRAWING FILE	00base_14030081.dwg

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FAX 608-249-2688

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Cedarburg, WI 53012
262-375-4853
FAX 262-375-2688

SITE AND BUILDING ADDITION
MENARDS, CITY GERMANTOWN
W186N9754 APPLETON AVENUE
GERMANTOWN, WI 53022

SHEET NO. C1.2

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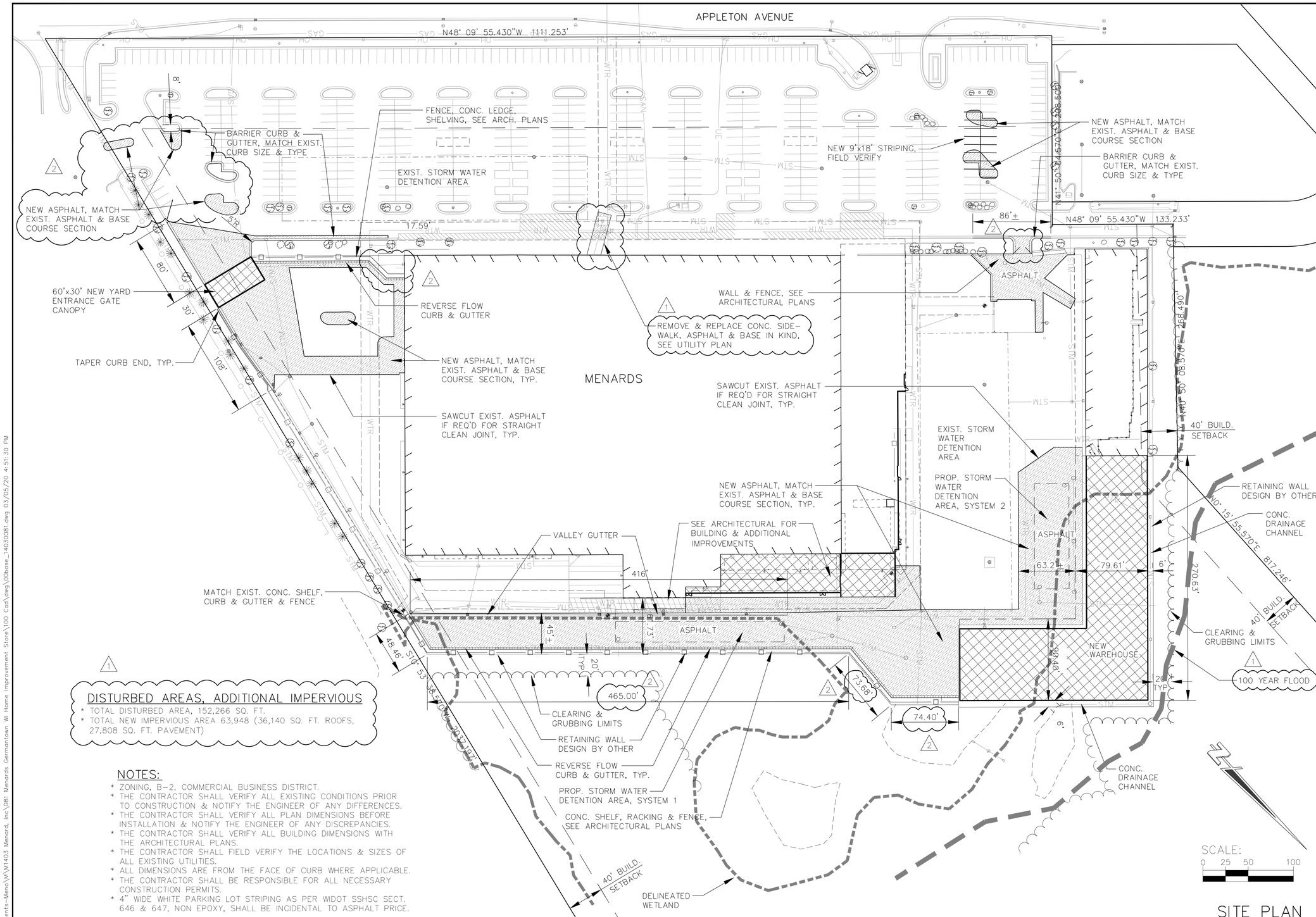

SITE PLAN

DISTURBED AREAS, ADDITIONAL IMPERVIOUS

* TOTAL DISTURBED AREA, 152,266 SQ. FT.
* TOTAL NEW IMPERVIOUS AREA 63,948 (36,140 SQ. FT. ROOFS, 27,808 SQ. FT. PAVEMENT)

NOTES:

* ZONING, B-2, COMMERCIAL BUSINESS DISTRICT.
* THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION & NOTIFY THE ENGINEER OF ANY DIFFERENCES.
* THE CONTRACTOR SHALL VERIFY ALL PLAN DIMENSIONS BEFORE INSTALLATION & NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
* THE CONTRACTOR SHALL VERIFY ALL BUILDING DIMENSIONS WITH THE ARCHITECTURAL PLANS.
* THE CONTRACTOR SHALL FIELD VERIFY THE LOCATIONS & SIZES OF ALL EXISTING UTILITIES.
* ALL DIMENSIONS ARE FROM THE FACE OF CURB WHERE APPLICABLE.
* THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CONSTRUCTION PERMITS.
* 4" WIDE WHITE PARKING LOT STRIPING AS PER WIDOT SSHSC SECT. 646 & 647, NON EPOXY, SHALL BE INCIDENTAL TO ASPHALT PRICE.

JOB NO.	1430-81
BOOK NO.	N/A
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SITE AND BUILDING ADDITION

MENARDS, CITY GERMANTOWN
W186N9754 APPLETON AVENUE
GERMANTOWN, WI 53022

SHEET NO.
C1.3

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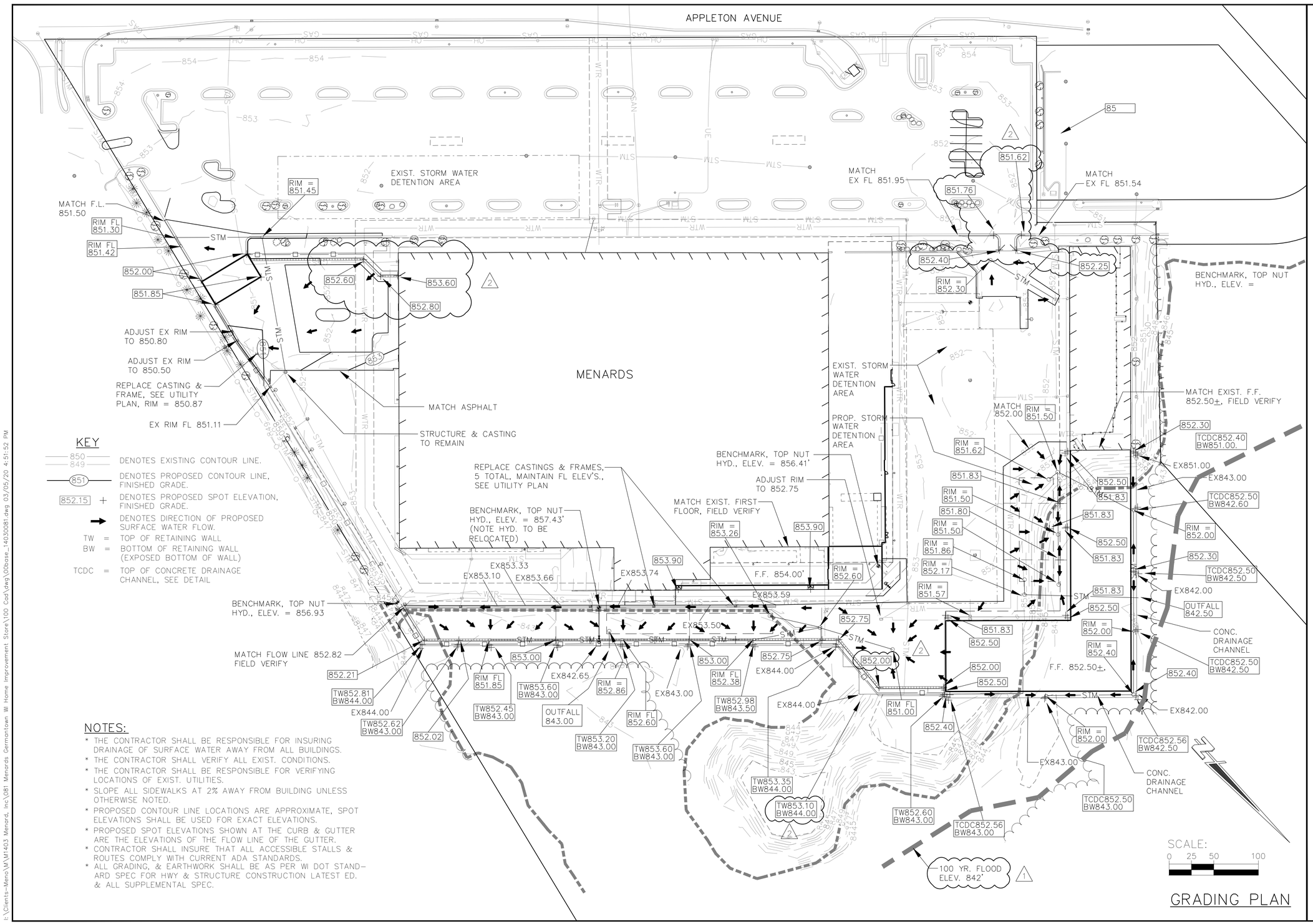

KEY

- 850 / 849 — DENOTES EXISTING CONTOUR LINE.
- (851) — DENOTES PROPOSED CONTOUR LINE, FINISHED GRADE.
- 852.15 + — DENOTES PROPOSED SPOT ELEVATION, FINISHED GRADE.
- → — DENOTES DIRECTION OF PROPOSED SURFACE WATER FLOW.
- TW = TOP OF RETAINING WALL
- BW = BOTTOM OF RETAINING WALL (EXPOSED BOTTOM OF WALL)
- TCDC = TOP OF CONCRETE DRAINAGE CHANNEL, SEE DETAIL

NOTES:

* THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSURING DRAINAGE OF SURFACE WATER AWAY FROM ALL BUILDINGS.
* THE CONTRACTOR SHALL VERIFY ALL EXIST. CONDITIONS.
* THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING LOCATIONS OF EXIST. UTILITIES.
* SLOPE ALL SIDEWALKS AT 2% AWAY FROM BUILDING UNLESS OTHERWISE NOTED.
* PROPOSED CONTOUR LINE LOCATIONS ARE APPROXIMATE, SPOT ELEVATIONS SHALL BE USED FOR EXACT ELEVATIONS.
* PROPOSED SPOT ELEVATIONS SHOWN AT THE CURB & GUTTER ARE THE ELEVATIONS OF THE FLOW LINE OF THE GUTTER.
* CONTRACTOR SHALL INSURE THAT ALL ACCESSIBLE STALLS & ROUTES COMPLY WITH CURRENT ADA STANDARDS.
* ALL GRADING, & EARTHWORK SHALL BE AS PER WI DOT STAND-ARD SPEC FOR HWY & STRUCTURE CONSTRUCTION LATEST ED. & ALL SUPPLEMENTAL SPEC.

GRADING PLAN

JOB NO.	1430-81
BOOK NO.	N/A
DRAWN BY	D B
CHECKED BY	R K
DATE	DEC. 2019
REVISIONS	1 FEB. 24, 20
	2 MAR. 5, 20
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604 Wilson Ave. Menomonie, WI 54751 (715) 235-2727 FAX 715-235-2727

SITE AND BUILDING ADDITION

MENARDS, CITY GERMANTOWN
W186N9754 APPLETON AVENUE
GERMANTOWN, WI 53022

SHEET NO.
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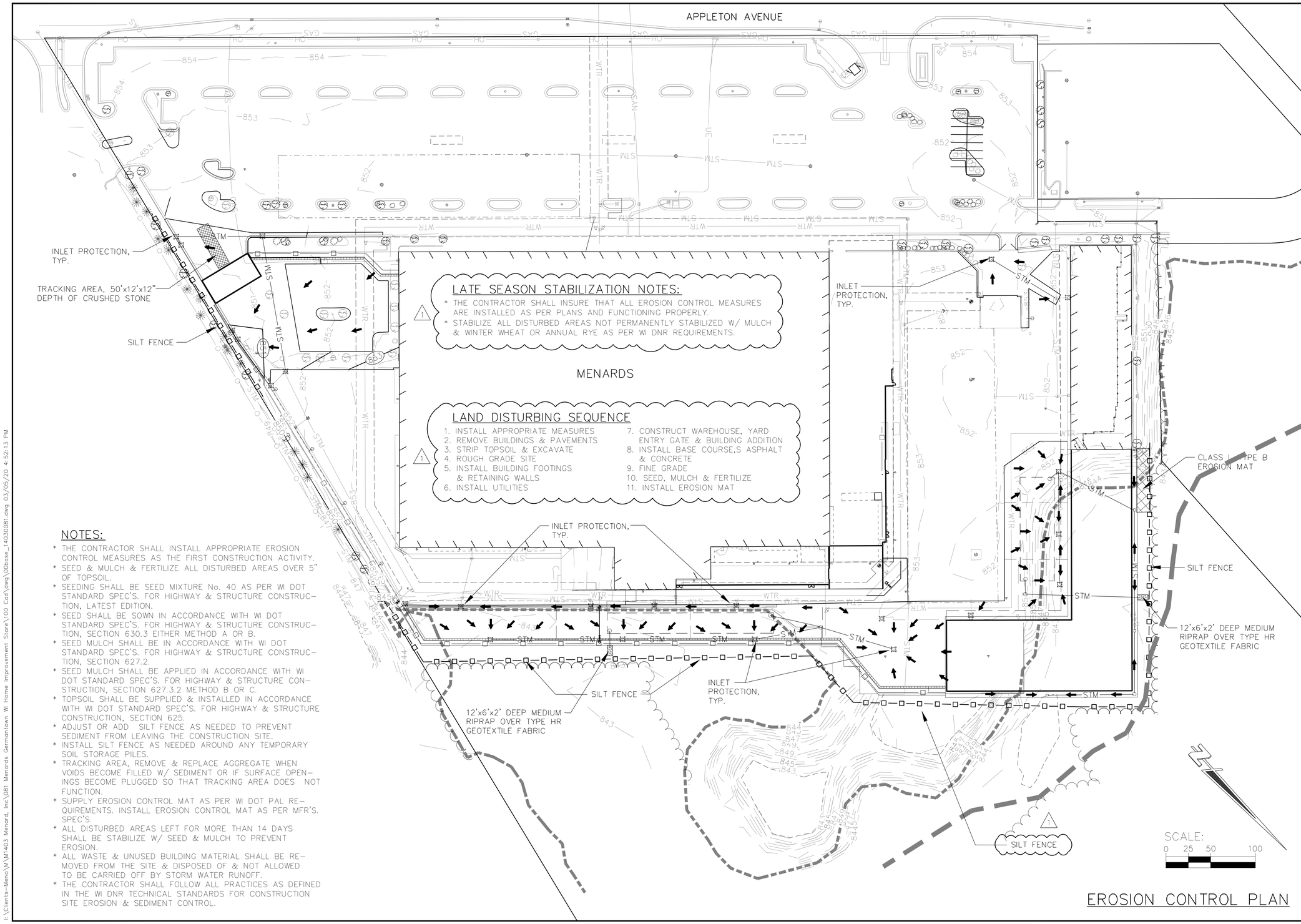

LATE SEASON STABILIZATION NOTES:

1

* THE CONTRACTOR SHALL INSURE THAT ALL EROSION CONTROL MEASURES ARE INSTALLED AS PER PLANS AND FUNCTIONING PROPERLY.
* STABILIZE ALL DISTURBED AREAS NOT PERMANENTLY STABILIZED W/ MULCH & WINTER WHEAT OR ANNUAL RYE AS PER WI DNR REQUIREMENTS.

LAND DISTURBING SEQUENCE

1

1. INSTALL APPROPRIATE MEASURES
2. REMOVE BUILDINGS & PAVEMENTS
3. STRIP TOPSOIL & EXCAVATE
4. ROUGH GRADE SITE
5. INSTALL BUILDING FOOTINGS & RETAINING WALLS
6. INSTALL UTILITIES
7. CONSTRUCT WAREHOUSE, YARD ENTRY GATE & BUILDING ADDITION
8. INSTALL BASE COURSE,S ASPHALT & CONCRETE
9. FINE GRADE
10. SEED, MULCH & FERTILIZE
11. INSTALL EROSION MAT

NOTES:

* THE CONTRACTOR SHALL INSTALL APPROPRIATE EROSION CONTROL MEASURES AS THE FIRST CONSTRUCTION ACTIVITY.
* SEED & MULCH & FERTILIZE ALL DISTURBED AREAS OVER 5" OF TOPSOIL.
* SEEDING SHALL BE SEED MIXTURE No. 40 AS PER WI DOT STANDARD SPEC'S. FOR HIGHWAY & STRUCTURE CONSTRUCTION, LATEST EDITION.
* SEED SHALL BE SOWN IN ACCORDANCE WITH WI DOT STANDARD SPEC'S. FOR HIGHWAY & STRUCTURE CONSTRUCTION, SECTION 630.3 EITHER METHOD A OR B.
* SEED MULCH SHALL BE IN ACCORDANCE WITH WI DOT STANDARD SPEC'S. FOR HIGHWAY & STRUCTURE CONSTRUCTION, SECTION 627.2.
* SEED MULCH SHALL BE APPLIED IN ACCORDANCE WITH WI DOT STANDARD SPEC'S. FOR HIGHWAY & STRUCTURE CONSTRUCTION, SECTION 627.3.2 METHOD B OR C.
* TOPSOIL SHALL BE SUPPLIED & INSTALLED IN ACCORDANCE WITH WI DOT STANDARD SPEC'S. FOR HIGHWAY & STRUCTURE CONSTRUCTION, SECTION 625.
* ADJUST OR ADD SILT FENCE AS NEEDED TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION SITE.
* INSTALL SILT FENCE AS NEEDED AROUND ANY TEMPORARY SOIL STORAGE PILES.
* TRACKING AREA, REMOVE & REPLACE AGGREGATE WHEN VOIDS BECOME FILLED W/ SEDIMENT OR IF SURFACE OPENINGS BECOME PLUGGED SO THAT TRACKING AREA DOES NOT FUNCTION.
* SUPPLY EROSION CONTROL MAT AS PER WI DOT PAL REQUIREMENTS. INSTALL EROSION CONTROL MAT AS PER MFR'S. SPEC'S.
* ALL DISTURBED AREAS LEFT FOR MORE THAN 14 DAYS SHALL BE STABILIZE W/ SEED & MULCH TO PREVENT EROSION.
* ALL WASTE & UNUSED BUILDING MATERIAL SHALL BE REMOVED FROM THE SITE & DISPOSED OF & NOT ALLOWED TO BE CARRIED OFF BY STORM WATER RUNOFF.
* THE CONTRACTOR SHALL FOLLOW ALL PRACTICES AS DEFINED IN THE WI DNR TECHNICAL STANDARDS FOR CONSTRUCTION SITE EROSION & SEDIMENT CONTROL.

EROSION CONTROL PLAN

JOB NO.	1430-81
BOOK NO.	N/A
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CHECKED BY	R K
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SITE AND BUILDING ADDITION
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W186N9754 APPLETON AVENUE
GERMANTOWN, WI 53022

SHEET NO.
C1.5

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APPLETON AVENUE

STM. STRUCTURE NUMBERS

STM. INLET # 1
RIM = 851.45
INV. = 847.51

95'-15" @ 0.50%

EXIST. STORM WATER
DETENTION AREA

EXIST. STM. MH
RIM = 853.06
INV. = 844.63
FIELD VERIFY

STM. INLET # 2
RIM = 851.30
INV. = 847.99

8'-12" @ 0.50%

STM. INLET # 3
RIM = 851.42
INV. = 848.03

CUT-IN-TO
EXIST. STM. MH
INV. = 848.00
FIELD VERIFY

37' ROOF DRAIN PIPE, SIZE
& DESIGN BY OTHER

152'-18" @ 0.50%

ADJUST EX RIM
FL TO 850.80

ADJUST EX RIM
FL TO 850.50

REPLACE EXIST CASTING &
FRAME W/ NEENAH R-3290-A
CASTING & FRAME, ADJUST
RIM TO 850.87

MENARDS

CUT-IN-TO EXIST. STM.
STM INLET
INV. = 846.75

EX RIM FL 851.11
INLET TO REMAIN

EX RIM FL 851.61
INLET TO REMAIN

RELOCATE EXIST. HYD., GATE VALVE, TEE & BOLLARDS, REROUTE
8" WATER PIPE, INSTALL 66' ±, 8" C900 WATER PIPE, FIELD
VERIFY, COORDINATE W/ PROJ. MNG., SEE SHEET C1.8

ADJUST RIM TO 852.75

PLUG DIP STUB, TURN
OF VALVE TO NE

56'-15" @ 0.60%

REPLACE EXIST CASTING &
FRAME W/ NEENAH R-3290-A
CASTING & FRAME, MAINTAIN
EXIST FLOW LINE ELEVATIONS

STM. MH # 3
RIM = 853.26
INV. = 847.12

RELOCATE HYD., VALVE & BOL-
LARDS 39' NE ADD 6" C900 AS REQ'D.
FIELD VERIFY, SEE SHEET C1.8

StormTech SYSTEM 1

STM. INLET # 4
RIM = 851.85
INV. = 848.85

145'-12" @ 0.30%

OUTFALL
843.00

19'-12"
@ 12.63%

STM. MH # 1
RIM = 852.86
INV. = 845.40

STM. INLET # 5
RIM = 852.60
INV. = 848.41

STM. INLET # 6
RIM = 852.38
INV. = 847.83

73'-12" @ 0.50%

STM. MH # 2
RIM = 852.60
INV. = 847.46

145'-12"
@ 0.40%

85'-12"
@ 0.50%

STM. INLET # 7
RIM = 851.00
INV. = 847.88

EXIST. STORM WATER
DETENTION AREA

83'-12"
@ 0.50%

STM. INLET # 12
RIM = 852.30
INV. = 848.80

CUT-IN-TO
EXIST. STM. MH
INV. = 847.54

STM. MH # 11
RIM = 851.50
INV. = 847.32

12'-15" @ 1.60%

STM. MH # 7
RIM = 851.62
INV. = 847.12

69'-12" @ 0.65%

STM. INLET # 13
RIM = 851.50
INV. = 847.77

56'-12" @ 0.40%

STM. MH # 6
RIM = 851.86
INV. = 844.31

16'-12" @ 1.27%

STM. MH # 5
RIM = 852.17
INV. = 844.10

StormTech SYSTEM 2

127'-12" @ 1.27%

RELOCATE EXIST. CASTING
AND STM. STRUCTURE 3'
SOUTHWEST RIM = 851.57,
INVERT = 848.90, FIELD
VERRIFY

EX INV. 843.17

93'-12" HDPE @ 0.70%

STM. INLET # 10
RIM = 852.00
INV. = 847.98

STM. INLET # 14
RIM = 851.50
INV. = 848.00

133'-12" HDPE
@ 0.60%

OUTFALL
842.50

STM. INLET # 9
RIM = 852.00
INV. = 848.78

69'-12" HDPE @ 0.50%

STM. MH # 4
RIM = 852.00
INV. = 849.12

96'-12" HDPE @ 0.40%

STM. INLET # 8
RIM = 852.00
INV. = 849.50

1

* WATER PIPE SHALL BE C900.
* SWAB & CHLORINATE HYD. LEAD BEFORE RECONNECTION.
* REROUTE TRACER WIRE PER DETAIL.
* SLEEVES USED FOR TYING NEW WATER PIPE TO OLD SHALL E HYMAX GRIP COUPLING.
* WHEN HYD. IS REMOVED THE CITY UTILITY SHALL BE CALLED TO VERIFY ITS INTEGRITY BEFORE REINSTALLATION, CALL 262-253-8254.
* WATER UTILITY SHALL BE THE ONES TO OPERATE THE SYSTEM VALVES. CALL MIN. 2 DAYS IN ADVANCE, 262-253-8254.
* PROVIDE PHOTO DOCUMENTATION OF HYD. RELOCATION DURING OPEN CUT RECONNECTION. 253-8254.
* AFTER HYD'S. ARE INSTALLED COORDINATE PRESSURE TEXT W/ CITY, COORDINATE W/ WATER UTILITY.
* CONTRACTOR SHALL GPS NEW HTD. LOCATIONS. GPS CHANGES SHALL BE PAID BY MENARDS.

SCALE:
0 25 50 100

UTILITY PLAN

NOTES:

* CONTRACTOR SHALL LOCATE ALL EXIST. UTILITIES IN & AROUND CONSTRUCTION AREA.
* CONTRACTOR SHALL FIELD VERIFY DEPTHS, LOCATIONS & SIZES OF ALL EXIST. UTILITIES, LOCATIONS ARE APPROXIMATE.
* 12 & 15" STORM SEWER PIPE SHALL BE REINFORCED CONCRETE, CLASS 5 UNLESS OTHERWISE NOTED.
* HDPE STORM SEWER PIPE SHALL BE DUAL-WALLED POLY-ETHYLENE PIPE W/ SMOOTH INTERIOR WALLS MEETING AASHTO REQ. TYPE S PIPE & M 294 & ASTM F 667 FOR HDPE PIPE.
* IF THE WATERMAIN OR WATER LATERAL PIPE CROSSING A SEWER PIPE IS BELOW THE SEWER PIPE, THERE SHALL BE AN 18" MIN. SEPARATION, IF THE WATER PIPE IS ABOVE THE SEWER PIPE, THERE SHALL BE A 12" MIN. SEPARATION.
* CONTRACTOR SHALL VERIFY LOCATIONS & ELEVATIONS FOR ALL UTILITY CROSSINGS (EXIST. & PROP.) TO ELIMINATE POSSIBLE CONFLICTS. REPORT ANY CONFLICTS TO ARCHITECT IMMEDIATELY.
* ALL ELECTRIC, TELEPHONE & GAS SERVICE LINES SHALL BE CONSTRUCTED TO THE APPROPRIATE UTILITY CO. SPECS. LOCATIONS SHALL BE COORDINATED W/ APPROPRIATE UTILITY CO.
* ALL UTILITIES SHALL BE INSTALLED ACCORDING TO STATE & LOCAL REQUIREMENTS, WI DOT STANDARD SPEC FOR HWY & STRUCTURE CONSTRUCTION LATEST ED. & ALL SUPPLEMENTALS & STANDARD SPEC FOR SEWER & WATER CONST. IN WI LATEST ED. INCLUDING ALL ADDENDUMS & REVISIONS.
* INSTALL TRAFFIC CONTROL & TEMP. DETOUR AS PER MUTCD & MUNICIPALITIES REQUIREMENTS.
* THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL APPLICABLE LOCAL & STATE PERMITS AND PERMITS FEES.
* WHEN WORKING ON AN EXISTING INLET OR MANHOLE THE CONTRACTOR SHALL ASSURE THAT THE INLET OR MANHOLE IS COMPLETELY SEALED TO PREVENT LEAKAGE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REQUIRED REPAIRS TO THE EXISTING INLETS OR MANHOLES IF REQUIRED.
* CONTRACTOR SHALL MAINTAIN A MIN. OF 6' COVER OVER TOP OF WATER PIPES.
* CONTRACTOR SHALL COORDINATE UTILITY REMOVALS & RELOCATIONS WITH PROJECT MANAGER.

JOB NO.	1430-81
BOOK NO.	N/A
DRAWN BY	D B
CHECKED BY	R K
DATE	DEC. 2019
REVISIONS	1 FEB. 24, 20
REFERENCE FILE	
DRAWING FILE	00base_14030081.dwg

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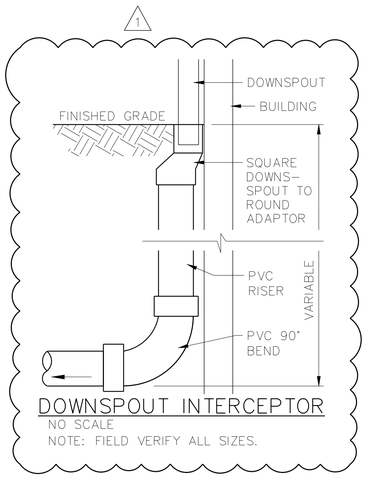
1695 Bellevue Street, Green Bay, WI 54311, (920) 491-9020, FAX 920-491-9020
604 Wilson Ave, Menomonie, WI 54751, (715) 235-2727, FAX 715-235-2727

SITE AND BUILDING ADDITION
MENARDS, CITY GERMANTOWN
W186N9754 APPLETON AVENUE
GERMANTOWN, WI 53022

SHEET NO.
C1.6

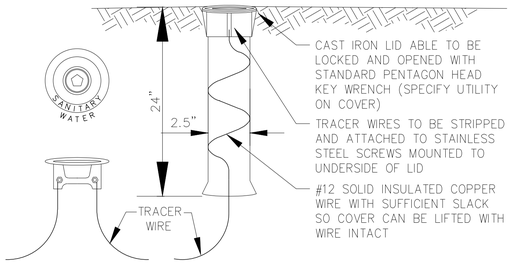
I:\Clients-Mens\MWI\403 Menard, Inc\081 Menards Germantown WI Home Improvement Store\100 Cad\dwg\00base_14030081.dwg 03/05/20 4:52:46 PM



DOWNSPOUT INTERCEPTOR

NO SCALE

NOTE: FIELD VERIFY ALL SIZES.

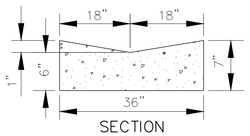


TRACER WIRE ACCESS BOX

NO SCALE

TRACER WIRE & ACCESS BOX NOTES

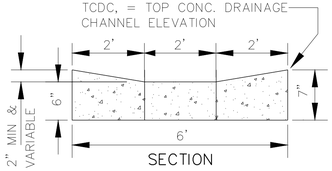
* TRACER WIRE SHALL BE ATTACHED TO ALL PLASTIC PIPE EVERY 10 FT. & AT EVERY BEND.
* SPLICES IN TRACER WIRE SHALL BE MADE W/ SPLIT BOLT OR COMPRESSION-TYPE CONNECTORS. ALL SPLICES SHALL BE WATER PROOF.
* TRACER WIRE SHALL HAVE ACCESS POINTS TO GRADE AT A MIN. OF EVERY 300' W/ VAULTS, CLEANOUTS, MANHOLES, VALVE BOXES OR OTHER COVERED ACCESS.
* TRACER WIRE AND ACCESS BOX SHALL BE SUPPLIED AND INSTALLED AS PER WI COMM. 82.30(11)(h) LOCATING REQUIREMENTS.



SECTION

CONCRETE VALLEY GUTTER IN ASPHALT

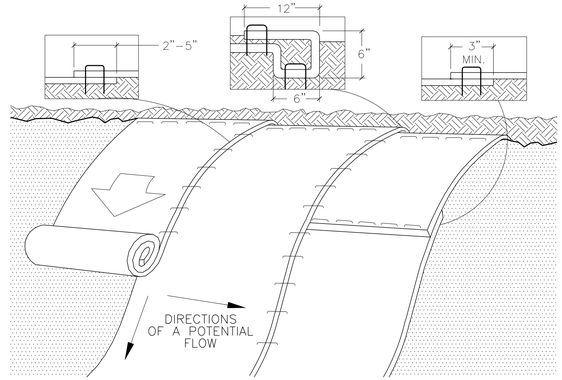
NO SCALE



SECTION

CONCRETE DRAINAGE CHANNEL ALONG BUILDING

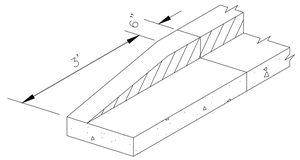
NO SCALE



* PREPARE SOIL BEFORE INSTALLING ROLLED EROSION CONTROL MAT, INCLUDING GRADING, TOPSOIL, SEED & FERTILIZER.
* BEGIN AT TOP OF SLOPE, BY ANCHORING MAT IN TRENCH, INSTALL STAPLES 12" APART, SEE DETAIL.
* ROLL MAT DOWN SLOPE AS SHOWN. FASTEN MAT TO SOIL SURFACE W/ STAPLES. STAPLE PATTERN GUIDE BY MFR.
* OVERLAP MAT AS PER MFRS. SPEC.
* NORTH AMERICAN GREEN, USA 1-800-772-2040, www.nagreen.com.

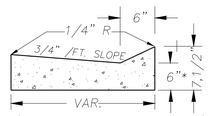
EROSION CONTROL MAT DETAIL

NO SCALE

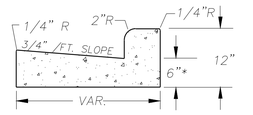


CURB & GUTTER END TAPER SECTION

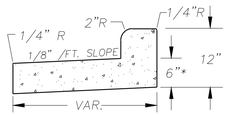
NO SCALE



(DRIVEWAY CURB & GUTTER)



(BARRIER CURB & GUTTER)



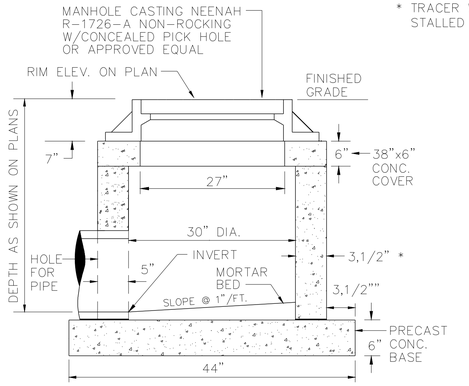
REVERSE FLOW CURB & GUTTER

NOTES:

* *THE BOTTOM OF THE CURB AND GUTTER MAY BE CONSTRUCTED EITHER LEVEL OR PARALLEL TO THE SLOPE OF THE SUBGRADE OR BASE COURSE. PROVIDING A 6" MIN. DEPTH GUTTER THICKNESS IS MAINTAINED.*
* *INSTALL CURB & GUTTER ON 6" DEPTH OF COMPACTED AGGREGATE BASE.*
* *THE NEW CURB & GUTTER @ THE EXISTING STREETS SHALL MEET & EQUAL EXISTING CURB & GUTTER.*

24" CURB & GUTTER

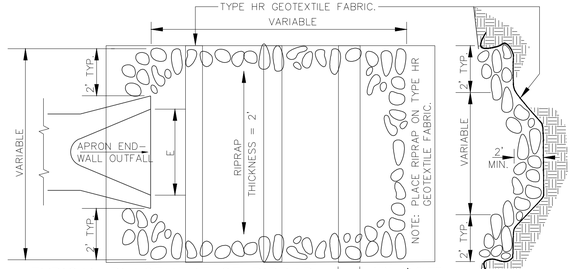
NO SCALE



STORM MANHOLE # 4,5

NO SCALE

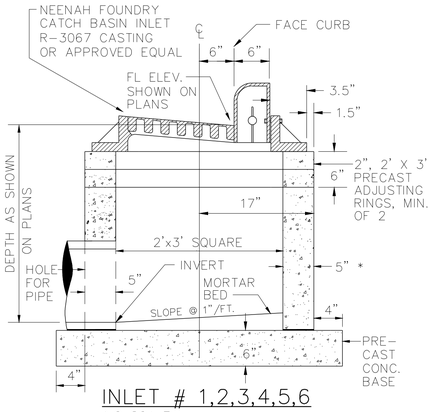
* 6" MIN. THICKNESS FOR NONREINFORCED CONC. WALL OR WHEN USING CONCRETE BLOCK



TYPICAL PLACEMENT OF RIPRAP AT CULVERT DISCHARGE

NO SCALE

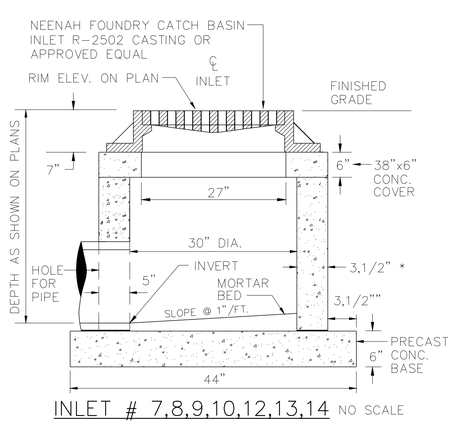
NOTES: * RIPRAP & GEOTEXTILE FABRIC SHALL BE SUPPLIED & INSTALLED AS PER WI DOT STANDARD SPEC'S. FOR HIGHWAY & STRUCTURE CONSTRUCTION.
* TIE APRON ENDWALL & LAST 2 PIPE SECTIONS TOGETHER, MIN. 2 TIES PER SECTION.
* INSTALL APRON ENDWALLS AT ALL PIPE OUTFALLS.



INLET # 1,2,3,4,5,6

NO SCALE

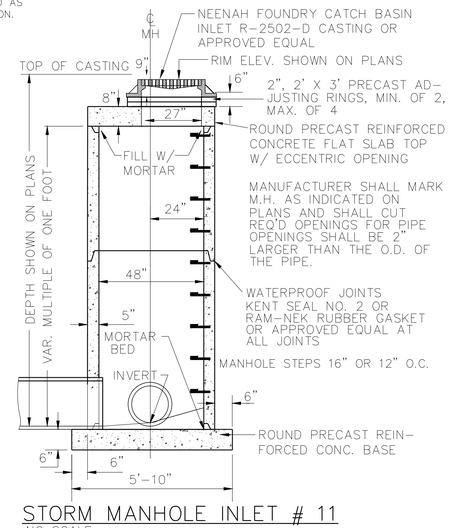
* 6" MIN. THICKNESS FOR NONREINFORCED CONC. WALL OR WHEN USING CONCRETE BLOCK



INLET # 7,8,9,10,12,13,14

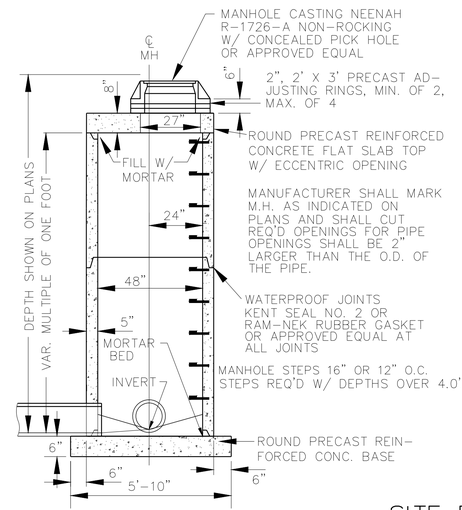
NO SCALE

* 6" MIN. THICKNESS FOR NONREINFORCED CONC. WALL OR WHEN USING CONCRETE BLOCK



STORM MANHOLE INLET # 11

NO SCALE



STORM MANHOLE # 1,2,3,6,7

NO SCALE

SITE DETAILS

STM. STRUCTURE NUMBERS

JOB NO.	1430-81
BOOK NO.	N/A
DRAWN BY	D B
CHECKED BY	R K
DATE	DEC. 2019
REVISIONS	1 FEB. 24, 20
REFERENCE FILE	
DRAWING FILE	00base_14030081.dwg

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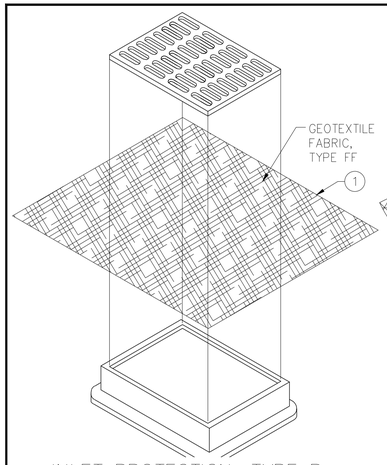
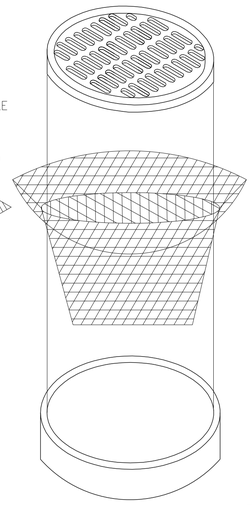
SITE AND BUILDING ADDITION
MENARDS, CITY GERMANTOWN
W186N9754 APPLETON AVENUE
GERMANTOWN, WI 53022

SHEET NO.
C1.7

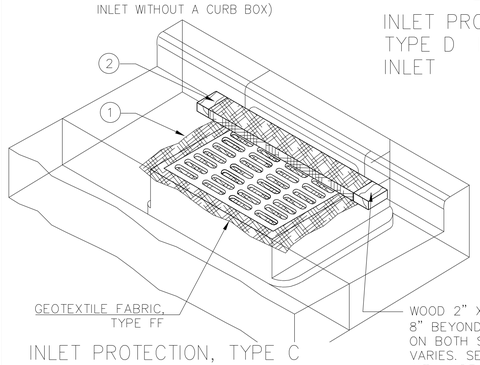
I:\Clients-Mena\WI\WI1403 Menard, Inc\081 Menards Germantown WI Home Improvement Store\100 Cad\dwg\00base_14030081.dwg 02/24/20 1:45:48 PM



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



INLET PROTECTION, TYPE D ROUND INLET



INLET PROTECTION, TYPE C

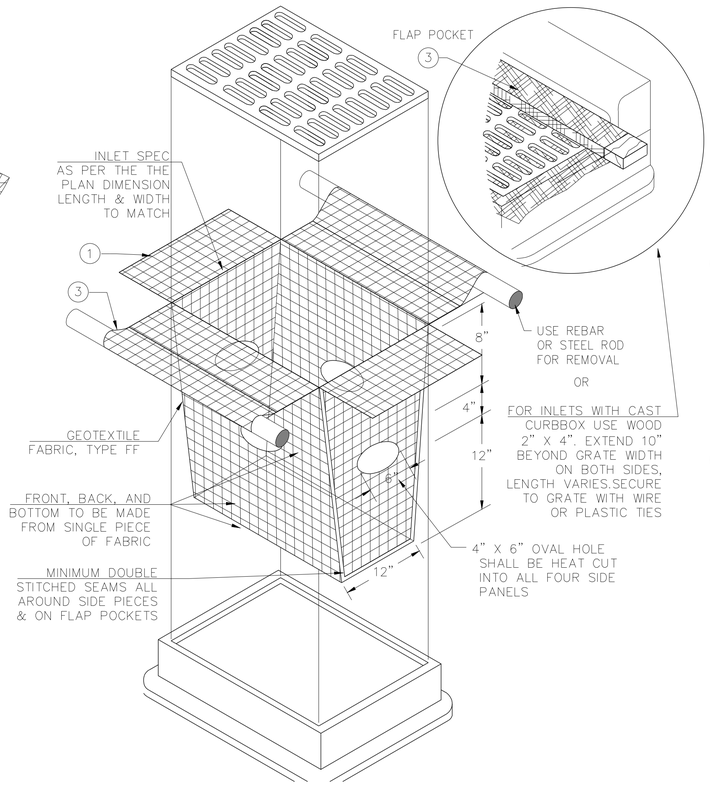
INSTALLATION NOTES

TYPE B & C

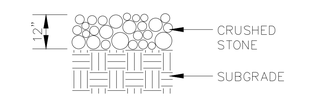
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.
THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

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 WALL 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.



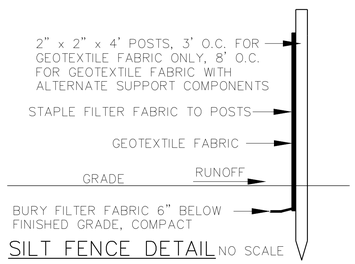
INLET PROTECTION, TYPE D
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE (2))



TRACKING AREA NO SCALE

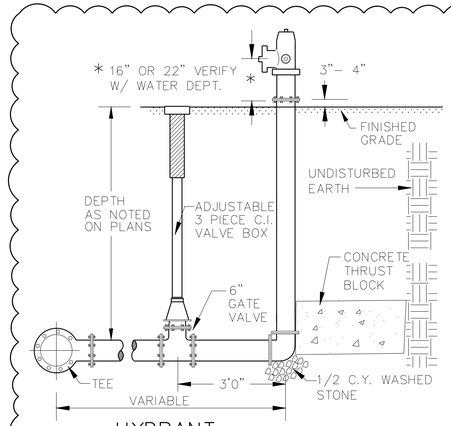
NOTES: * SUPPLY CRUSHED STONE AS PER WI DNR STANDARD, 1057, TRACKOUT CONTROL PRACTICES.

* REMOVE & REPLACE STONE WHEN VOIDS BECOME FILLED W/ SEDIMENT OR IF SURFACE OPENINGS BECOME PLUGGED SO THAT TRACKING AREA DOES NOT FUNCTION.

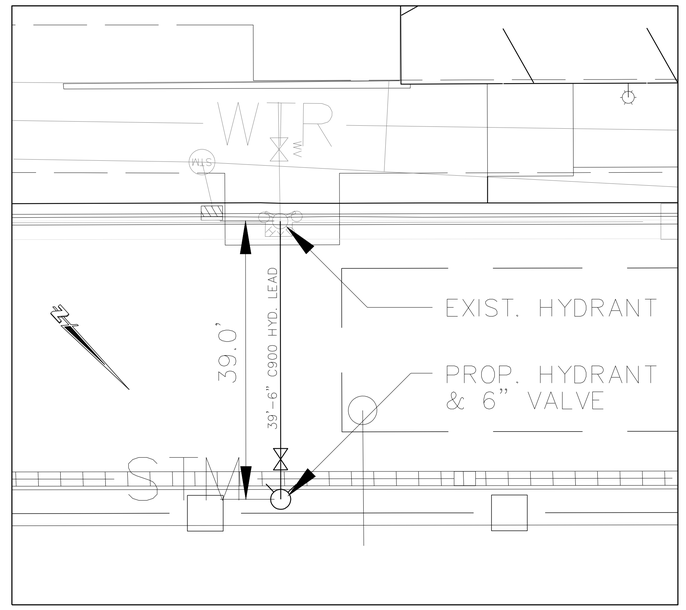


SILT FENCE DETAIL NO SCALE

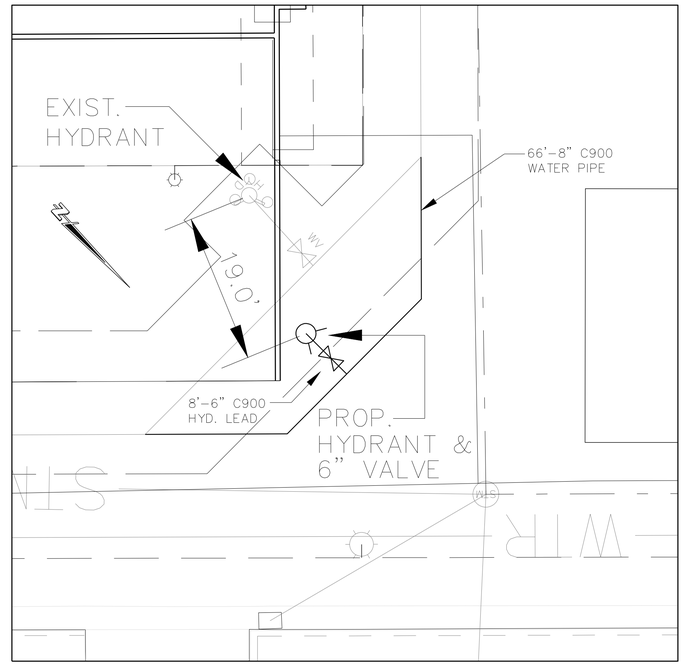
NOTES:
* SILT FENCE SHALL BE SUPPLIED & INSTALLED AS PER THE WI DOT STANDARD SPECIFICATIONS FOR HIGHWAY & STRUCTURE CONSTRUCTION.



HYDRANT NO SCALE



HYDRANT RELOCATION, SOUTHEAST NO SCALE



HYDRANT RELOCATION, NORTH NO SCALE

SITE DETAILS

JOB NO. 1430–81
BOOK NO. N/A
DRAWN BY D B
CHECKED BY R K
DATE DEC. 2019
REVISIONS 1 FEB. 24, 20
REFERENCE FILE
DRAWING FILE 00base_14030081.dwg

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SITE AND BUILDING ADDITION
MENARDS, CITY GERMANTOWN
W186N9754 APPLETON AVENUE
GERMANTOWN, WI 53022

SHEET NO.
C1.8

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PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	EPM NAME EPM NUMBER EPM EMAIL
ADS SALES REP	SALES NAME SALES NUMBER SALES EMAIL
PROJECT NO.	

ADVANCED DRAINAGE SYSTEMS, INC.

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MENARDS EXPANSION SYSTEM #1

GERMANTOWN, WI

MC-3500 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-3500.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-3500 CHAMBER SYSTEM

1. STORMTECH MC-3500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR AN EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM - 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
9. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
10. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
11. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-3500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-3500 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

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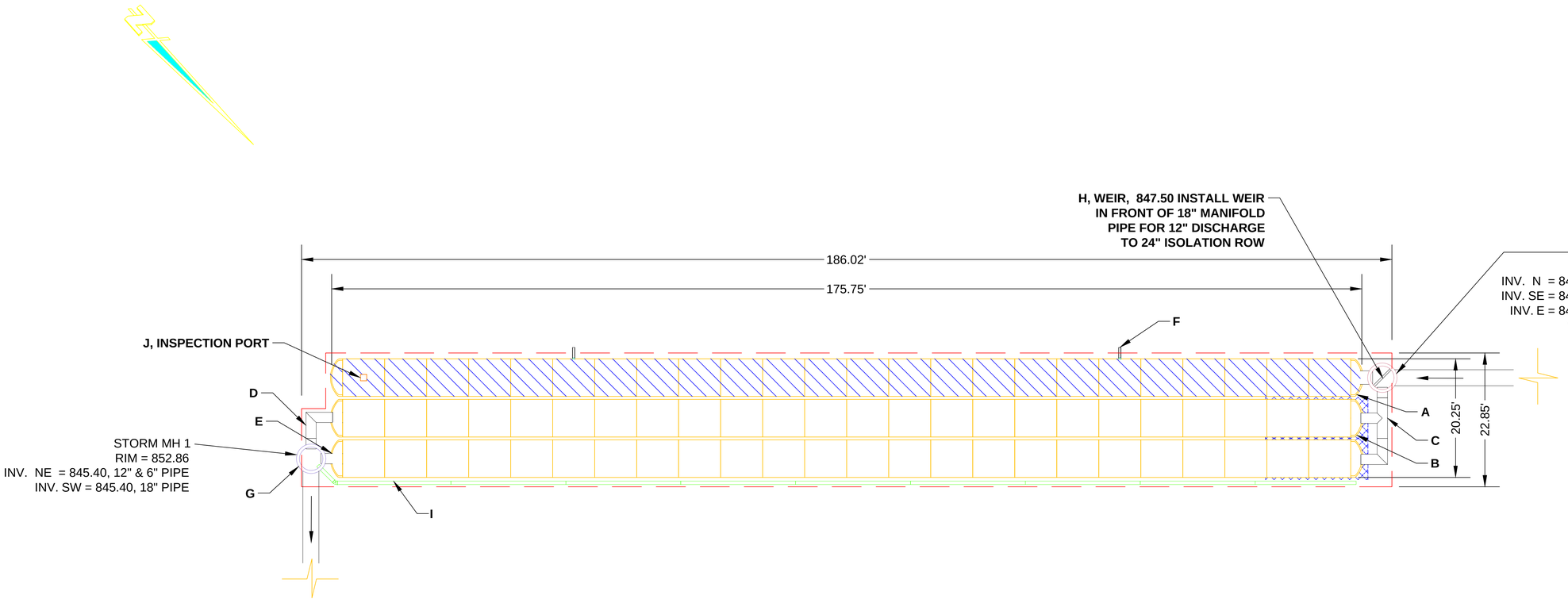
PROPOSED LAYOUT		PROPOSED ELEVATIONS	
72	STORMTECH MC-3500 CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	857.00
6	STORMTECH MC-3500 END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	851.50
12	STONE ABOVE (in)	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	850.50
9	STONE BELOW (in)	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	850.50
40	% STONE VOID	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	850.50
14066	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)	TOP OF STONE:	850.00
		TOP OF MC-3500 CHAMBER:	849.00
		4" INSERTA TEE INVERT:	845.75
		24" ISOLATOR ROW INVERT:	845.42
4211	SYSTEM AREA (SF)	18" x 18" BOTTOM MANIFOLD INVERT:	845.40
417.73	SYSTEM PERIMETER (ft)	18" x 18" BOTTOM MANIFOLD INVERT:	845.40
		18" BOTTOM CONNECTION INVERT:	845.40
		BOTTOM OF MC-3500 CHAMBER:	845.25
		UNDERDRAIN INVERT:	844.50
		BOTTOM OF STONE:	844.50

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED END CAP	A	24" BOTTOM CORED END CAP/TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR ROWS	2.06"	
PREFABRICATED END CAP	B	18" BOTTOM CORED END CAP/TYP OF ALL 18" BOTTOM CONNECTIONS	1.77"	
MANIFOLD	C	18" X 18" BOTTOM, ADS N-12	1.77"	
MANIFOLD	D	18" X 18" BOTTOM, ADS N-12	1.77"	
PIPE CONNECTION	E	18" BOTTOM CONNECTION	1.77"	
INSERTA TEE	F	4" DIAMETER	6.00"	
CONCRETE STRUCTURE	G	OCS (DESIGN BY ENGINEER / PROVIDED BY OTHERS)		8.0 CFS OUT
CONCRETE STRUCTURE W/WEIR	H	(DESIGN BY ENGINEER / PROVIDED BY OTHERS)		11.0 CFS IN
UNDERDRAIN	I	6" ADS N-12 DUAL WALL PERFORATED HDPE UNDERDRAIN		
INSPECTION PORT	J	4" SEE DETAIL		



ISOLATOR ROW
(SEE DETAIL)

PLACE MINIMUM 17.50' OF ADS GEOSYNTHETICS 315WTM WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH SHEET #7 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
- NOT FOR CONSTRUCTION

SYSTEM #1

MENARDS EXPANSION SYSTEM #1
GERMANTOWN, WI

DRAWN: JB
CHECKED: N/A
DATE:
PROJECT #:

REV	DRW	CHK	DESCRIPTION
2/24/20			info added

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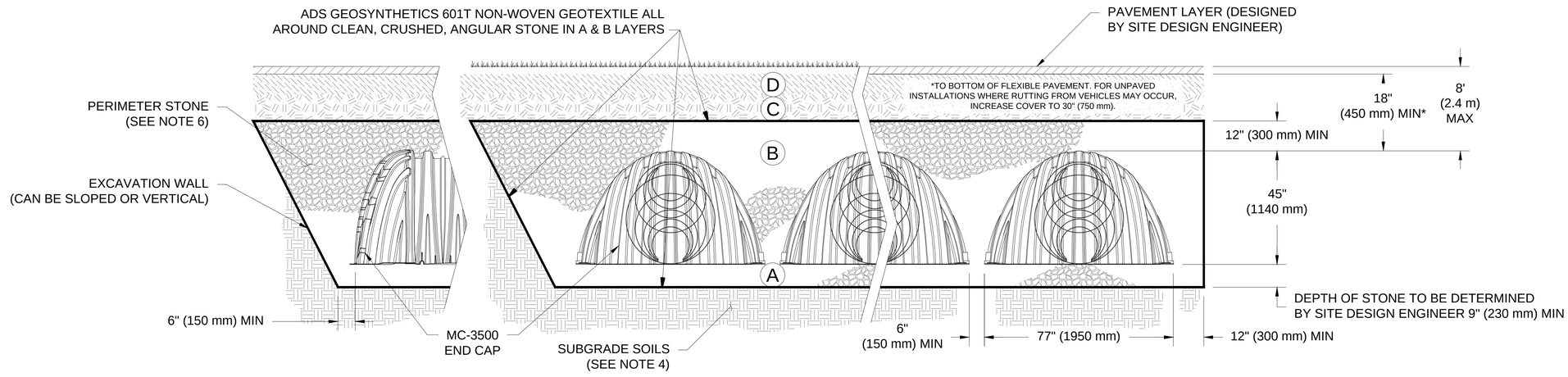
ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
2. MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

SYSTEM #1

MENARDS EXPANSION SYSTEM #1
GERMANTOWN, WI
DRAWN: JB
CHECKED: N/A
DATE:
PROJECT #:

REV	DRW	CHK	DESCRIPTION

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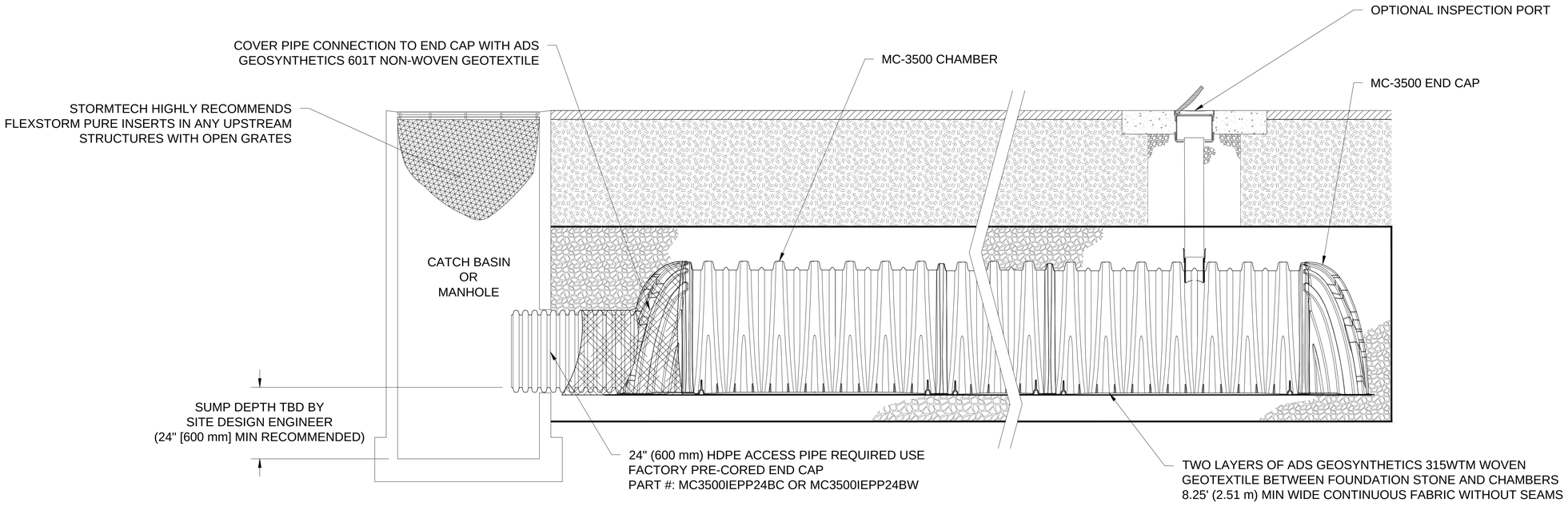


MC-3500 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

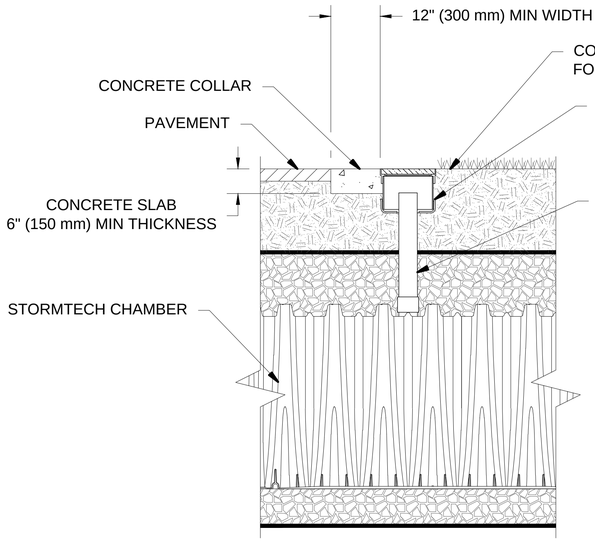
STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

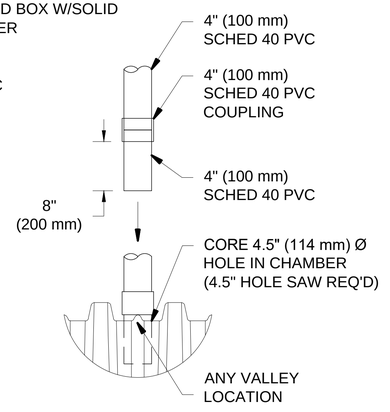
1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.

2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTES:
1. INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.
2. ALL SCHEDULE 40 FITTINGS TO BE SOLVENT CEMENTED (4" PVC NOT PROVIDED BY ADS).

4" PVC INSPECTION PORT DETAIL
NTS



CONNECTION DETAIL
NTS

SYSTEM #1

MENARDS EXPANSION SYSTEM #1
GERMANTOWN, WI

DATE:
DRAWN: JB
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REV	DRW	CHK	DESCRIPTION

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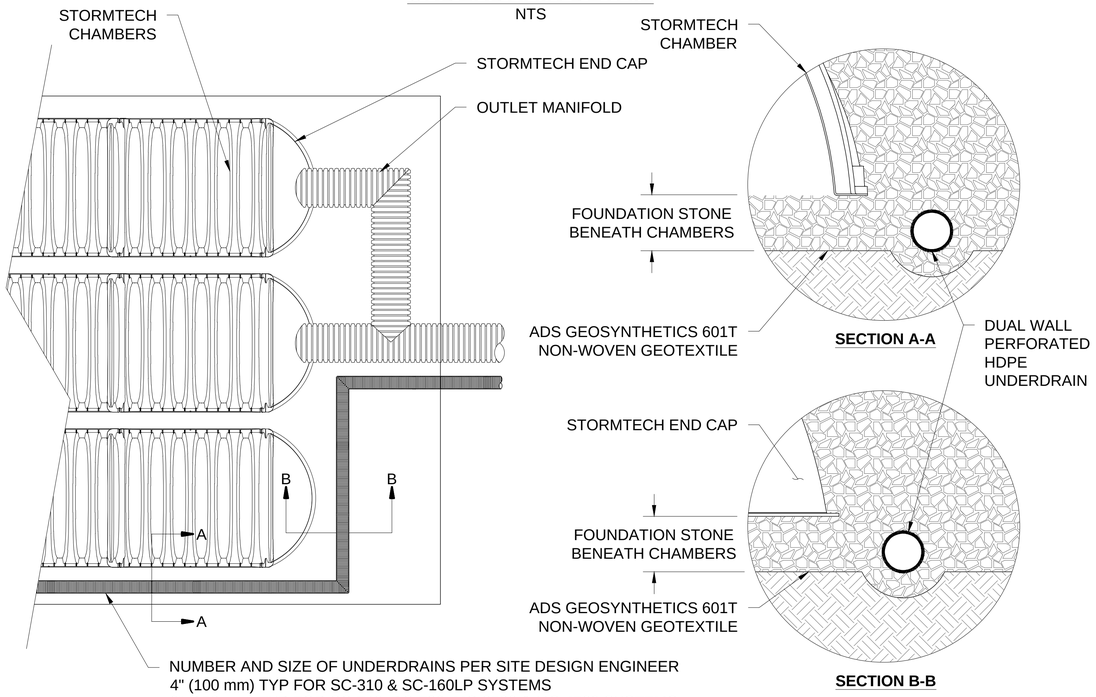
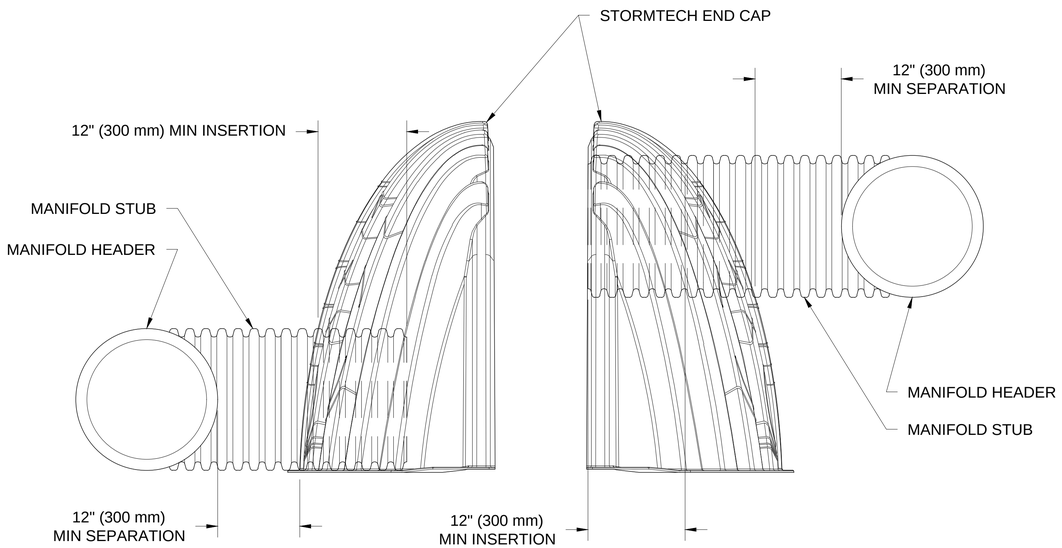
UNDERDRAIN DETAIL

NTS



MC-SERIES END CAP INSERTION DETAIL

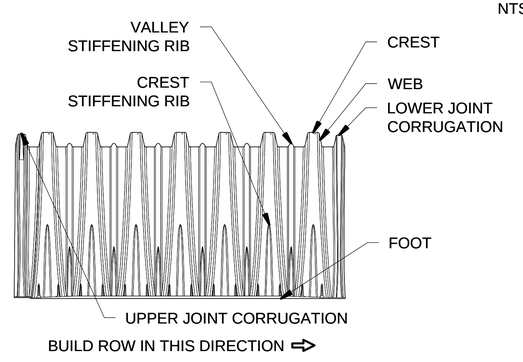
NTS

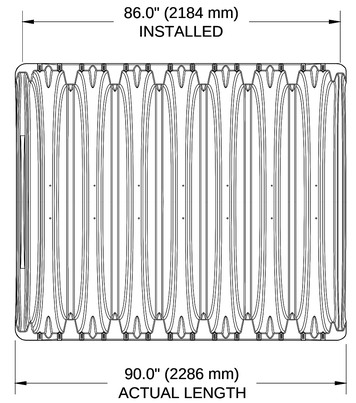


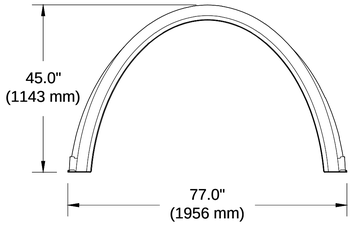
NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

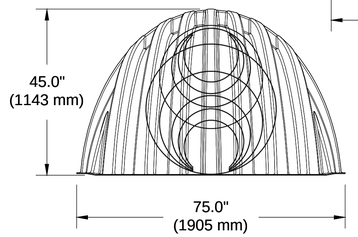
MC-3500 TECHNICAL SPECIFICATION

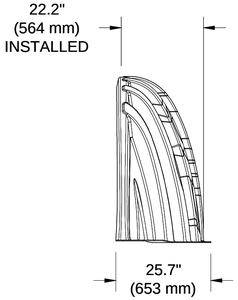
NTS











NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 86.0"	(1956 mm X 1143 mm X 2184 mm)
CHAMBER STORAGE	109.9 CUBIC FEET	(3.11 m³)
MINIMUM INSTALLED STORAGE*	175.0 CUBIC FEET	(4.96 m³)
WEIGHT	134 lbs.	(60.8 kg)

NOMINAL END CAP SPECIFICATIONS

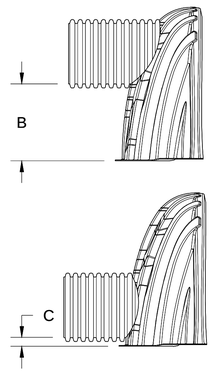
SIZE (W X H X INSTALLED LENGTH)	75.0" X 45.0" X 22.2"	(1905 mm X 1143 mm X 564 mm)
END CAP STORAGE	14.9 CUBIC FEET	(0.42 m³)
MINIMUM INSTALLED STORAGE*	45.1 CUBIC FEET	(1.28 m³)
WEIGHT	49 lbs.	(22.2 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION, 6" SPACING BETWEEN CHAMBERS, 6" (152 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A WELDED CROWN PLATE END WITH "C"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500IEPP06B		---	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	---
MC3500IEPP08B		---	0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	---
MC3500IEPP10B		---	0.93" (24 mm)
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)	---
MC3500IEPP12B		---	1.35" (34 mm)
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)	---
MC3500IEPP15B		---	1.50" (38 mm)
MC3500IEPP18TC	18" (450 mm)	20.03" (509 mm)	---
MC3500IEPP18TW			
MC3500IEPP18BC		---	1.77" (45 mm)
MC3500IEPP18BW			
MC3500IEPP24TC	24" (600 mm)	14.48" (368 mm)	---
MC3500IEPP24TW			
MC3500IEPP24BC		---	2.06" (52 mm)
MC3500IEPP24BW			
MC3500IEPP30BC	30" (750 mm)	---	2.75" (70 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

SYSTEM #1

MENARDS EXPANSION SYSTEM #1
GERMANTOWN, WI

DATE: DRAWN: JB
PROJECT #: CHECKED: N/A

REV	DRW	CHK	DESCRIPTION

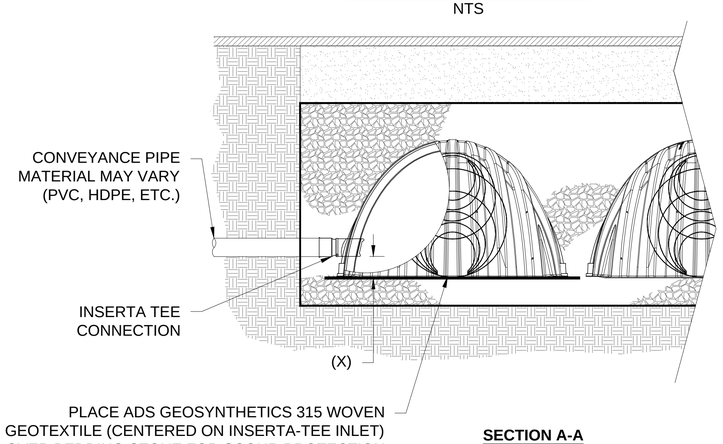
StormTech®
Detention•Retention•Water Quality
70 INWOOD ROAD, SUITE 3 | ROCKY HILL | CT | 06067
860-529-8188 |888-892-2694 | WWW.STORMTECH.COM

ADS®
ADVANCED DRAINAGE SYSTEMS, INC.
4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

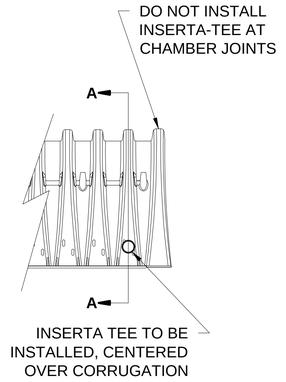
THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER OR OTHER PROJECT REPRESENTATIVE. THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

INSERTA TEE DETAIL

NTS



SECTION A-A



SIDE VIEW

CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

NOTE:
PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.

SYSTEM #1

MENARDS EXPANSION SYSTEM #1
GERMANTOWN, WI

DATE: | DRAWN: JB | CHECKED: N/A | PROJECT #:

REV	DRW	CHK	DESCRIPTION

INSERTA TEE | PO BOX 714
CORNELIUS, OR 97116
PH:(503) 357-2110 FAX:(503) 359-5417
SALES@INSERTATEE.COM

4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473
ADVANCED DRAINAGE SYSTEMS, INC.

THIS DRAWING HAS BEEN PREPARED BASED ON INFORMATION PROVIDED TO ADS UNDER THE DIRECTION OF THE SITE DESIGN ENGINEER SHALL REVIEW THIS DRAWING PRIOR TO CONSTRUCTION. IT IS THE ULTIMATE RESPONSIBILITY OF THE SITE DESIGN ENGINEER TO ENSURE THAT THE PRODUCT(S) DEPICTED AND ALL ASSOCIATED DETAILS MEET ALL APPLICABLE LAWS, REGULATIONS, AND PROJECT REQUIREMENTS.

PROJECT INFORMATION	
ENGINEERED PRODUCT MANAGER	EPM NAME EPM NUMBER EPM EMAIL
ADS SALES REP	SALES NAME SALES NUMBER SALES EMAIL
PROJECT NO.	

ADVANCED DRAINAGE SYSTEMS, INC.

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MENARDS EXPANSION SYSTEM #2

GERMANTOWN, WI

MC-4500 STORMTECH CHAMBER SPECIFICATIONS

1. CHAMBERS SHALL BE STORMTECH MC-4500.
2. CHAMBERS SHALL BE ARCH-SHAPED AND SHALL BE MANUFACTURED FROM VIRGIN, IMPACT-MODIFIED POLYPROPYLENE COPOLYMERS.
3. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101.
4. CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORTS THAT WOULD IMPEDE FLOW OR LIMIT ACCESS FOR INSPECTION.
5. THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL, AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12, ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCES.
6. CHAMBERS SHALL BE DESIGNED, TESTED AND ALLOWABLE LOAD CONFIGURATIONS DETERMINED IN ACCORDANCE WITH ASTM F2787, "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". LOAD CONFIGURATIONS SHALL INCLUDE: 1) INSTANTANEOUS (<1 MIN) AASHTO DESIGN TRUCK LIVE LOAD ON MINIMUM COVER 2) MAXIMUM PERMANENT (75-YR) COVER LOAD AND 3) ALLOWABLE COVER WITH PARKED (1-WEEK) AASHTO DESIGN TRUCK.
7. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.
8. ONLY CHAMBERS THAT ARE APPROVED BY THE SITE DESIGN ENGINEER WILL BE ALLOWED. UPON REQUEST BY THE SITE DESIGN ENGINEER OR OWNER, THE CHAMBER MANUFACTURER SHALL SUBMIT A STRUCTURAL EVALUATION FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE AS FOLLOWS:
   - THE STRUCTURAL EVALUATION SHALL BE SEALED BY A REGISTERED PROFESSIONAL ENGINEER.
   - THE STRUCTURAL EVALUATION SHALL DEMONSTRATE THAT THE SAFETY FACTORS ARE GREATER THAN OR EQUAL TO 1.95 FOR DEAD LOAD AND 1.75 FOR LIVE LOAD, THE MINIMUM REQUIRED BY ASTM F2787 AND BY SECTIONS 3 AND 12.12 OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS FOR THERMOPLASTIC PIPE.
   - THE TEST DERIVED CREEP MODULUS AS SPECIFIED IN ASTM F2418 SHALL BE USED FOR PERMANENT DEAD LOAD DESIGN EXCEPT THAT IT SHALL BE THE 75-YEAR MODULUS USED FOR DESIGN.
9. CHAMBERS AND END CAPS SHALL BE PRODUCED AT AN ISO 9001 CERTIFIED MANUFACTURING FACILITY.

IMPORTANT - NOTES FOR THE BIDDING AND INSTALLATION OF MC-4500 CHAMBER SYSTEM

1. STORMTECH MC-4500 CHAMBERS SHALL NOT BE INSTALLED UNTIL THE MANUFACTURER'S REPRESENTATIVE HAS COMPLETED A PRE-CONSTRUCTION MEETING WITH THE INSTALLERS.
2. STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. CHAMBERS ARE NOT TO BE BACKFILLED WITH A DOZER OR EXCAVATOR SITUATED OVER THE CHAMBERS. STORMTECH RECOMMENDS 3 BACKFILL METHODS:
   - STONESHOOTER LOCATED OFF THE CHAMBER BED.
   - BACKFILL AS ROWS ARE BUILT USING AN EXCAVATOR ON THE FOUNDATION STONE OR SUBGRADE.
   - BACKFILL FROM OUTSIDE THE EXCAVATION USING A LONG BOOM HOE OR EXCAVATOR.
4. THE FOUNDATION STONE SHALL BE LEVELED AND COMPACTED PRIOR TO PLACING CHAMBERS.
5. JOINTS BETWEEN CHAMBERS SHALL BE PROPERLY SEATED PRIOR TO PLACING STONE.
6. MAINTAIN MINIMUM 9" (230 mm) SPACING BETWEEN THE CHAMBER ROWS.
7. INLET AND OUTLET MANIFOLDS MUST BE INSERTED A MINIMUM OF 12" (300 mm) INTO CHAMBER END CAPS.
8. EMBEDMENT STONE SURROUNDING CHAMBERS MUST BE A CLEAN, CRUSHED, ANGULAR STONE MEETING THE AASHTO M43 DESIGNATION OF #3 OR #4.
9. STONE SHALL BE BROUGHT UP EVENLY AROUND CHAMBERS SO AS NOT TO DISTORT THE CHAMBER SHAPE. STONE DEPTHS SHOULD NEVER DIFFER BY MORE THAN 12" (300 mm) BETWEEN ADJACENT CHAMBER ROWS.
10. STONE MUST BE PLACED ON THE TOP CENTER OF THE CHAMBER TO ANCHOR THE CHAMBERS IN PLACE AND PRESERVE ROW SPACING.
11. THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIAL BEARING CAPACITIES TO THE SITE DESIGN ENGINEER.
12. ADS RECOMMENDS THE USE OF "FLEXSTORM CATCH IT" INSERTS DURING CONSTRUCTION FOR ALL INLETS TO PROTECT THE SUBSURFACE STORMWATER MANAGEMENT SYSTEM FROM CONSTRUCTION SITE RUNOFF.

NOTES FOR CONSTRUCTION EQUIPMENT

1. STORMTECH MC-4500 CHAMBERS SHALL BE INSTALLED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
2. THE USE OF EQUIPMENT OVER MC-4500 CHAMBERS IS LIMITED:
   - NO EQUIPMENT IS ALLOWED ON BARE CHAMBERS.
   - NO RUBBER TIRED LOADER, DUMP TRUCK, OR EXCAVATORS ARE ALLOWED UNTIL PROPER FILL DEPTHS ARE REACHED IN ACCORDANCE WITH THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
   - WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT CAN BE FOUND IN THE "STORMTECH MC-3500/MC-4500 CONSTRUCTION GUIDE".
3. FULL 36" (900 mm) OF STABILIZED COVER MATERIALS OVER THE CHAMBERS IS REQUIRED FOR DUMP TRUCK TRAVEL OR DUMPING.

USE OF A DOZER TO PUSH EMBEDMENT STONE BETWEEN THE ROWS OF CHAMBERS MAY CAUSE DAMAGE TO CHAMBERS AND IS NOT AN ACCEPTABLE BACKFILL METHOD. ANY CHAMBERS DAMAGED BY USING THE "DUMP AND PUSH" METHOD ARE NOT COVERED UNDER THE STORMTECH STANDARD WARRANTY.

CONTACT STORMTECH AT 1-888-892-2694 WITH ANY QUESTIONS ON INSTALLATION REQUIREMENTS OR WEIGHT LIMITS FOR CONSTRUCTION EQUIPMENT.

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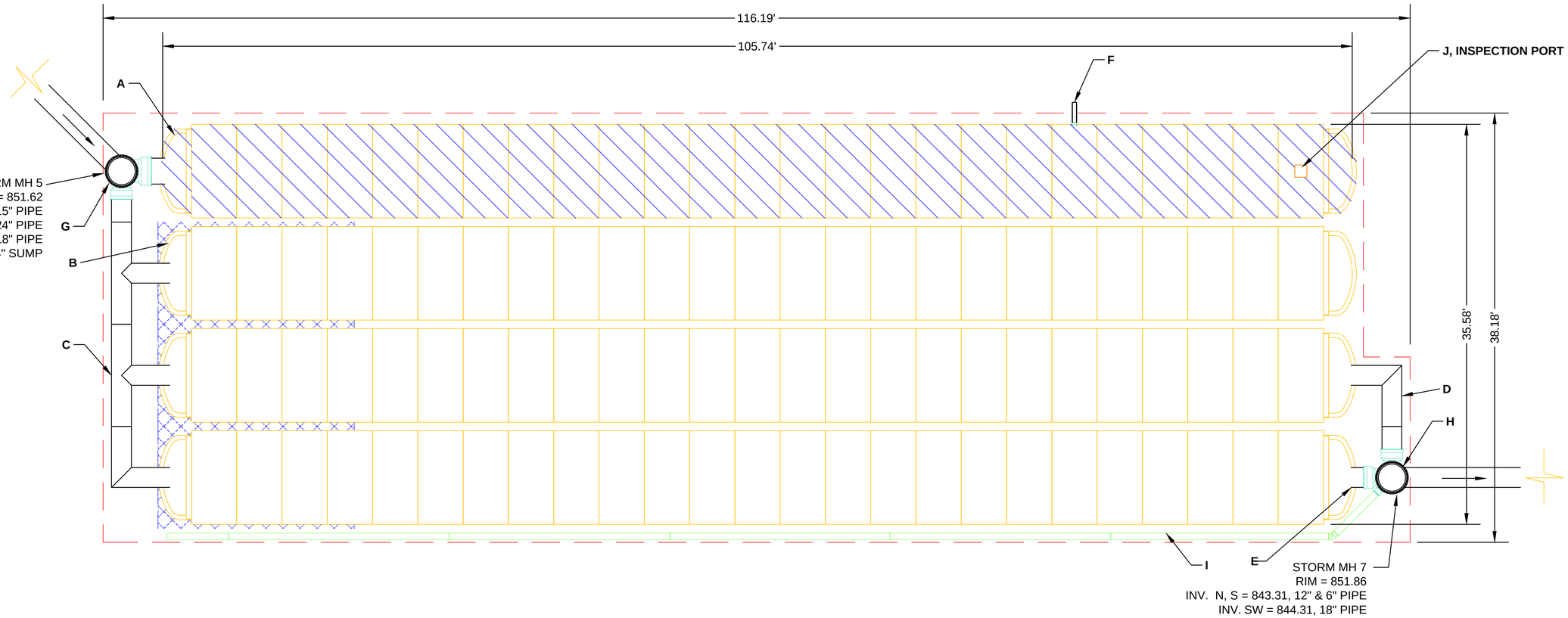
PROPOSED LAYOUT		PROPOSED ELEVATIONS	
100	STORMTECH MC-4500 CHAMBERS	MAXIMUM ALLOWABLE GRADE (TOP OF PAVEMENT/UNPAVED):	856.15
8	STORMTECH MC-4500 END CAPS	MINIMUM ALLOWABLE GRADE (UNPAVED WITH TRAFFIC):	851.65
12	STONE ABOVE (in)	MINIMUM ALLOWABLE GRADE (UNPAVED NO TRAFFIC):	851.15
9	STONE BELOW (in)	MINIMUM ALLOWABLE GRADE (TOP OF RIGID CONCRETE PAVEMENT):	851.15
40	% STONE VOID	MINIMUM ALLOWABLE GRADE (BASE OF FLEXIBLE PAVEMENT):	851.15
18295	INSTALLED SYSTEM VOLUME (CF) (PERIMETER STONE INCLUDED) (COVER STONE INCLUDED) (BASE STONE INCLUDED)	TOP OF STONE:	850.15
		TOP OF MC-4500 CHAMBER:	849.15
		4" INSERTA TEE INVERT:	844.82
		24" ISOLATOR ROW INVERT:	844.34
4346	SYSTEM AREA (SF)	18" x 18" BOTTOM MANIFOLD INVERT:	844.31
308.75	SYSTEM PERIMETER (ft)	18" x 18" BOTTOM MANIFOLD INVERT:	844.31
		18" BOTTOM CONNECTION INVERT:	844.31
		BOTTOM OF MC-4500 CHAMBER:	844.15
		UNDERDRAIN INVERT:	843.40
		BOTTOM OF STONE:	843.40

*INVERT ABOVE BASE OF CHAMBER

PART TYPE	ITEM ON LAYOUT	DESCRIPTION	INVERT*	MAX FLOW
PREFABRICATED END CAP	A	24" BOTTOM CORED END CAP/TYP OF ALL 24" BOTTOM CONNECTIONS AND ISOLATOR ROWS	2.26"	
PREFABRICATED END CAP	B	18" BOTTOM CORED END CAP/TYP OF ALL 18" BOTTOM CONNECTIONS	29.37"	
MANIFOLD	C	18" X 18" BOTTOM, ADS N-12	1.97"	
MANIFOLD	D	18" X 18" BOTTOM, ADS N-12	1.97"	
PIPE CONNECTION	E	18" BOTTOM CONNECTION	1.97"	
INSERTA TEE	F	4" DIAMETER	8.00"	
NYLOPLAST (INLET W/ ISO ROW)	G	30" DIAMETER (24" SUMP MIN)		16.5 CFS IN
NYLOPLAST (OUTLET)	H	30" DIAMETER (DESIGN BY ENGINEER)		8.0 CFS OUT
UNDERDRAIN	I	6" ADS N-12 DUAL WALL PERFORATED HDPE UNDERDRAIN		
INSPECTION PORT	J	4" SEE DETAIL		



ISOLATOR ROW
(SEE DETAIL)

PLACE MINIMUM 17.50' OF ADS GEOSYNTHETICS 315WTM WOVEN GEOTEXTILE OVER BEDDING STONE AND UNDERNEATH CHAMBER FEET FOR SCOUR PROTECTION AT ALL CHAMBER INLET ROWS

BED LIMITS

NOTES

- MANIFOLD SIZE TO BE DETERMINED BY SITE DESIGN ENGINEER. SEE TECH SHEET #7 FOR MANIFOLD SIZING GUIDANCE.
- DUE TO THE ADAPTATION OF THIS CHAMBER SYSTEM TO SPECIFIC SITE AND DESIGN CONSTRAINTS, IT MAY BE NECESSARY TO CUT AND COUPLE ADDITIONAL PIPE TO STANDARD MANIFOLD COMPONENTS IN THE FIELD.
- THE SITE DESIGN ENGINEER MUST REVIEW ELEVATIONS AND IF NECESSARY ADJUST GRADING TO ENSURE THE CHAMBER COVER REQUIREMENTS ARE MET.
- THIS CHAMBER SYSTEM WAS DESIGNED WITHOUT SITE-SPECIFIC INFORMATION ON SOIL CONDITIONS OR BEARING CAPACITY. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR DETERMINING THE SUITABILITY OF THE SOIL AND PROVIDING THE BEARING CAPACITY OF THE INSITU SOILS. THE BASE STONE DEPTH MAY BE INCREASED OR DECREASED ONCE THIS INFORMATION IS PROVIDED.
- NOT FOR CONSTRUCTION

SYSTEM #2

MENARDS EXPANSION SYSTEM #2
GERMANTOWN, WI

DRAWN: JB
CHECKED: N/A
DATE:
PROJECT #:

REV	DRW	CHK	DESCRIPTION
2/24/20			info added

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860-529-8188 888-892-2694 | WWW.STORMTECH.COM

ADS®
ADVANCED DRAINAGE SYSTEMS, INC.
4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

20'
10'
0

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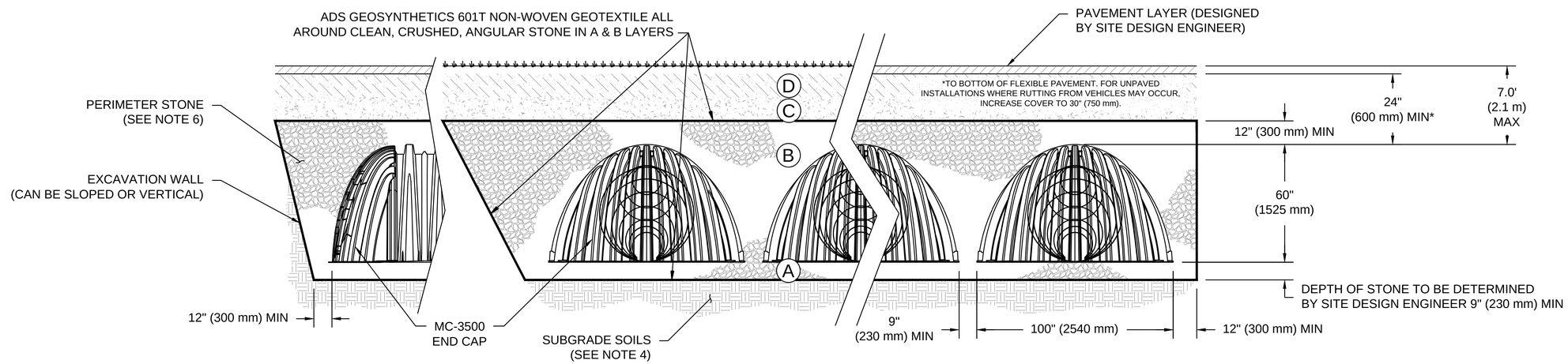
ACCEPTABLE FILL MATERIALS: STORMTECH MC-4500 CHAMBER SYSTEMS

MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
D	**FINAL FILL:** FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
C	**INITIAL FILL:** FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE ('B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145[1] A-1, A-2-4, A-3 OR AASHTO M43[1] 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
B	**EMBEDMENT STONE:** FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE ('A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	NO COMPACTION REQUIRED.
A	**FOUNDATION STONE:** FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE	AASHTO M43[1] 3, 4	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.[2,3]

PLEASE NOTE:
1. THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
2. STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
3. WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
4. ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.



NOTES:

1. CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418-16a, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 60x101
2. MC-4500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
3. THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
4. PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
5. REQUIREMENTS FOR HANDLING AND INSTALLATION:
   - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
   - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
   - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT AS DEFINED IN SECTION 6.2.8 OF ASTM F2418 SHALL BE GREATER THAN OR EQUAL TO 500 LBS/IN/IN. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.

SYSTEM #2

MENARDS EXPANSION SYSTEM #2
GERMANTOWN, WI
DRAWN: JB
CHECKED: N/A
DATE:
PROJECT #:

REV	DRW	CHK	DESCRIPTION

StormTech®
Detention•Retention•Water Quality
70 INWOOD ROAD, SUITE 3 | ROCKY HILL | CT | 06067
860-529-8188 |888-892-2694 | WWW.STORMTECH.COM

ADS®
ADVANCED DRAINAGE SYSTEMS, INC.
4640 TRUEMAN BLVD
HILLIARD, OH 43026
1-800-733-7473

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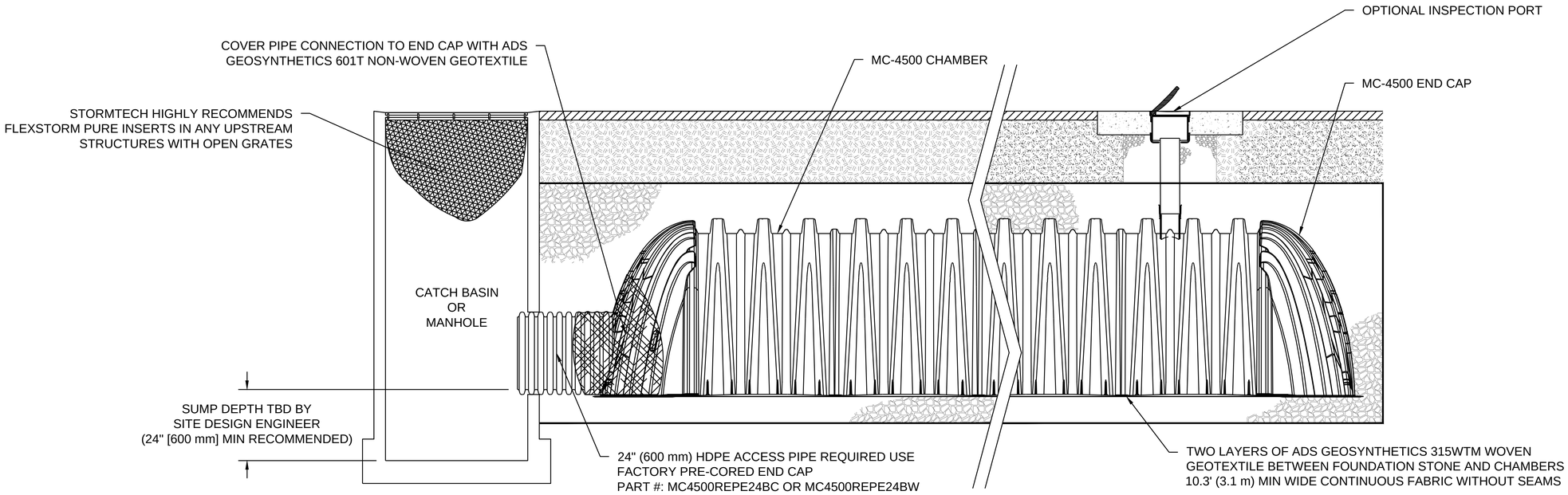


MC-4500 ISOLATOR ROW DETAIL
NTS

INSPECTION & MAINTENANCE

STEP 1) INSPECT ISOLATOR ROW FOR SEDIMENT
- A. INSPECTION PORTS (IF PRESENT)
  - A.1. REMOVE/OPEN LID ON NYLOPLAST INLINE DRAIN
  - A.2. REMOVE AND CLEAN FLEXSTORM FILTER IF INSTALLED
  - A.3. USING A FLASHLIGHT AND STADIA ROD, MEASURE DEPTH OF SEDIMENT AND RECORD ON MAINTENANCE LOG
  - A.4. LOWER A CAMERA INTO ISOLATOR ROW FOR VISUAL INSPECTION OF SEDIMENT LEVELS (OPTIONAL)
  - A.5. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.
- B. ALL ISOLATOR ROWS
  - B.1. REMOVE COVER FROM STRUCTURE AT UPSTREAM END OF ISOLATOR ROW
  - B.2. USING A FLASHLIGHT, INSPECT DOWN THE ISOLATOR ROW THROUGH OUTLET PIPE
    - i) MIRRORS ON POLES OR CAMERAS MAY BE USED TO AVOID A CONFINED SPACE ENTRY
    - ii) FOLLOW OSHA REGULATIONS FOR CONFINED SPACE ENTRY IF ENTERING MANHOLE
  - B.3. IF SEDIMENT IS AT, OR ABOVE, 3" (80 mm) PROCEED TO STEP 2. IF NOT, PROCEED TO STEP 3.

STEP 2) CLEAN OUT ISOLATOR ROW USING THE JETVAC PROCESS
- A. A FIXED CULVERT CLEANING NOZZLE WITH REAR FACING SPREAD OF 45" (1.1 m) OR MORE IS PREFERRED
- B. APPLY MULTIPLE PASSES OF JETVAC UNTIL BACKFLUSH WATER IS CLEAN
- C. VACUUM STRUCTURE SUMP AS REQUIRED

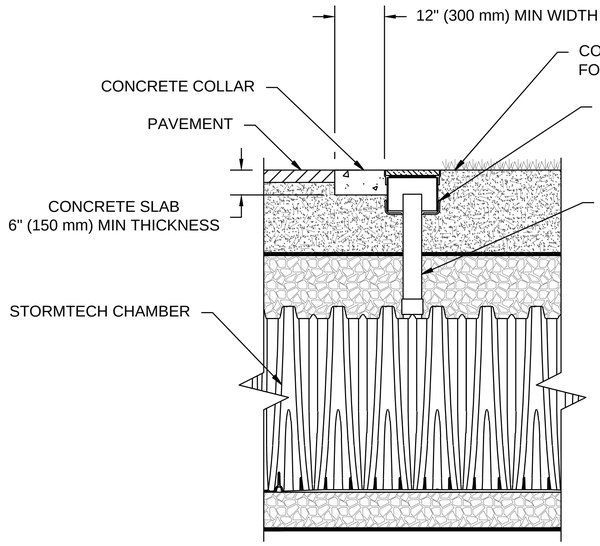
STEP 3) REPLACE ALL COVERS, GRATES, FILTERS, AND LIDS; RECORD OBSERVATIONS AND ACTIONS.

STEP 4) INSPECT AND CLEAN BASINS AND MANHOLES UPSTREAM OF THE STORMTECH SYSTEM.

NOTES

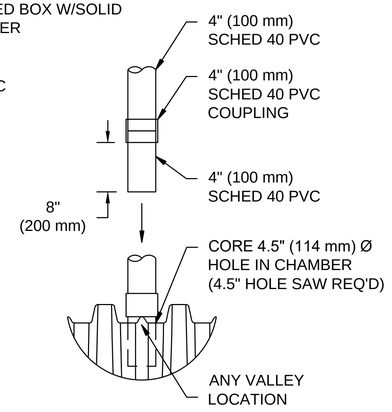
1. INSPECT EVERY 6 MONTHS DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS.

2. CONDUCT JETTING AND VACTORING ANNUALLY OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.



NOTES:
1. INSPECTION PORTS MAY BE CONNECTED THROUGH ANY CHAMBER CORRUGATION VALLEY.
2. ALL SCHEDULE 40 FITTINGS TO BE SOLVENT CEMENTED (4" PVC NOT PROVIDED BY ADS).

4" PVC INSPECTION PORT DETAIL
NTS



CONNECTION DETAIL
NTS

SYSTEM #2

MENARDS EXPANSION SYSTEM #2
GERMANTOWN, WI
DATE: DRAWN: JB
PROJECT #: CHECKED: N/A

REV	DRW	CHK	DESCRIPTION

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860-529-8188 |888-892-2694 | WWW.STORMTECH.COM

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1-800-733-7473

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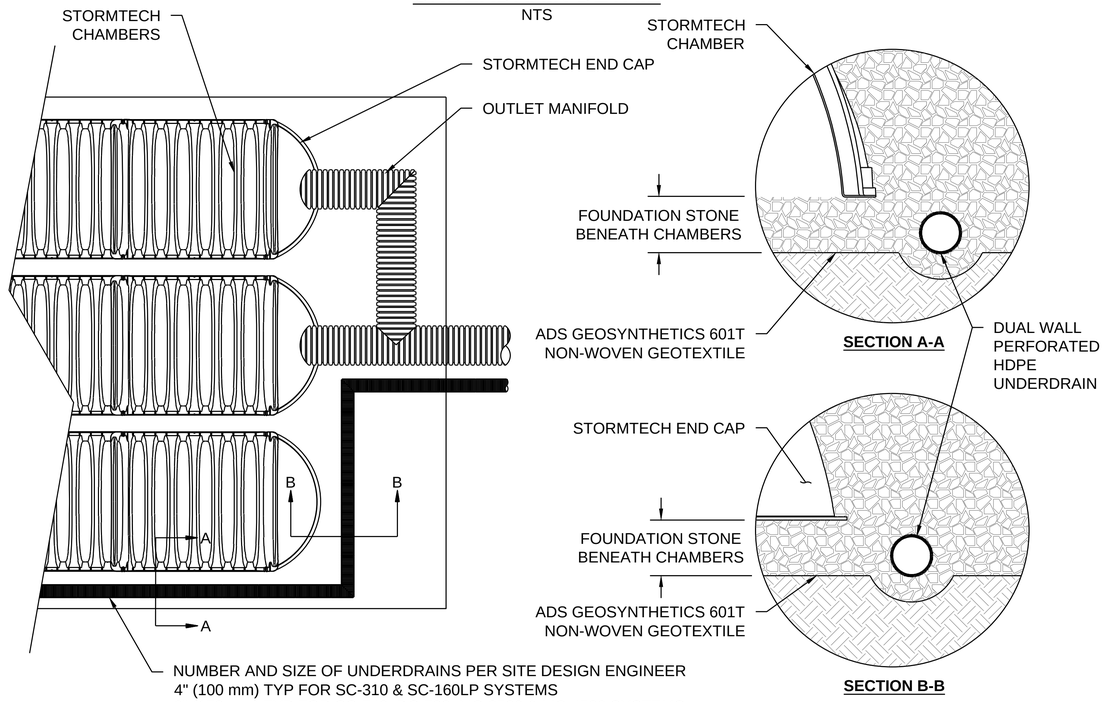
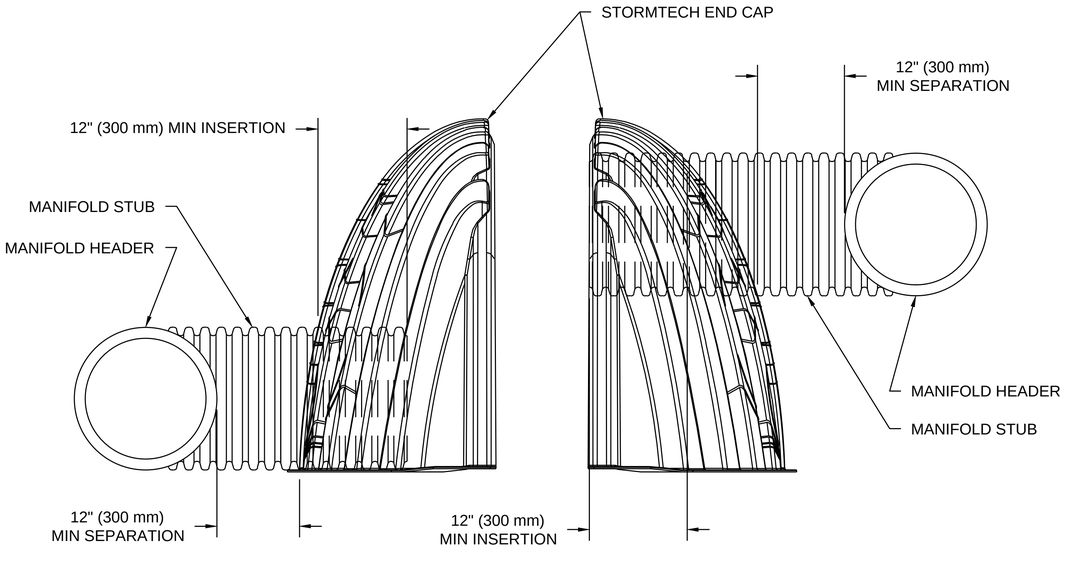
UNDERDRAIN DETAIL

NTS



MC-SERIES END CAP INSERTION DETAIL

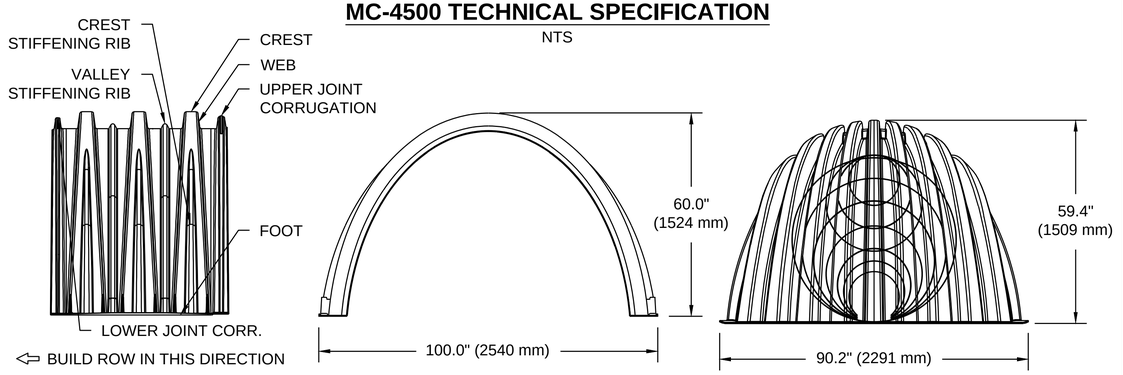
NTS



NOTE: MANIFOLD STUB MUST BE LAID HORIZONTAL FOR A PROPER FIT IN END CAP OPENING.

MC-4500 TECHNICAL SPECIFICATION

NTS



NOMINAL CHAMBER SPECIFICATIONS

SIZE (W X H X INSTALLED LENGTH)	100.0" X 60.0" X 48.3"	(2540 mm X 1524 mm X 1227 mm)
CHAMBER STORAGE	106.5 CUBIC FEET	(3.01 m³)
MINIMUM INSTALLED STORAGE*	162.6 CUBIC FEET	(4.60 m³)
WEIGHT	130.0 lbs.	(59.0 kg)

NOMINAL END CAP SPECIFICATIONS

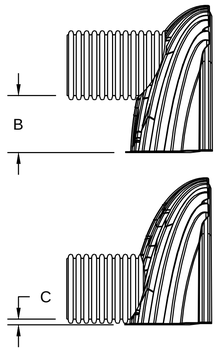
SIZE (W X H X INSTALLED LENGTH)	90.2" X 59.4" X 30.7"	(2291 mm X 1509 mm X 781 mm)
END CAP STORAGE	35.7 CUBIC FEET	(1.01 m³)
MINIMUM INSTALLED STORAGE*	108.7 CUBIC FEET	(3.08 m³)
WEIGHT	135.0 lbs.	(61.2 kg)

*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION AND BETWEEN CHAMBERS, 12" (305 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY.

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A WELDED CROWN PLATE END WITH "C"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC4500REPE06T	6" (150 mm)	42.54" (1.081 m)	---
MC4500REPE06B		---	0.86" (22 mm)
MC4500REPE08T	8" (200 mm)	40.50" (1.029 m)	---
MC4500REPE08B		---	1.01" (26 mm)
MC4500REPE10T	10" (250 mm)	38.37" (975 mm)	---
MC4500REPE10B		---	1.33" (34 mm)
MC4500REPE12T	12" (300 mm)	35.69" (907 mm)	---
MC4500REPE12B		---	1.55" (39 mm)
MC4500REPE15T	15" (375 mm)	32.72" (831 mm)	---
MC4500REPE15B		---	1.70" (43 mm)
MC4500REPE18TC	18" (450 mm)	29.36" (746 mm)	---
MC4500REPE18TW			
MC4500REPE18BC		---	1.97" (50 mm)
MC4500REPE18BW			
MC4500REPE24TC	24" (600 mm)	23.05" (585 mm)	---
MC4500REPE24TW			
MC4500REPE24BC		---	2.26" (57 mm)
MC4500REPE24BW			
MC4500REPE30BC	30" (750 mm)	---	2.95" (75 mm)
MC4500REPE36BC	36" (900 mm)	---	3.25" (83 mm)
MC4500REPE42BC	42" (1050 mm)	---	3.55" (90 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL



CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-4500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

SYSTEM #2

MENARDS EXPANSION SYSTEM #2
GERMANTOWN, WI

DATE: DRAWN: JB
PROJECT #: CHECKED: N/A

REV	DRW	CHK	DESCRIPTION

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860-529-8188 |888-892-2694 | WWW.STORMTECH.COM

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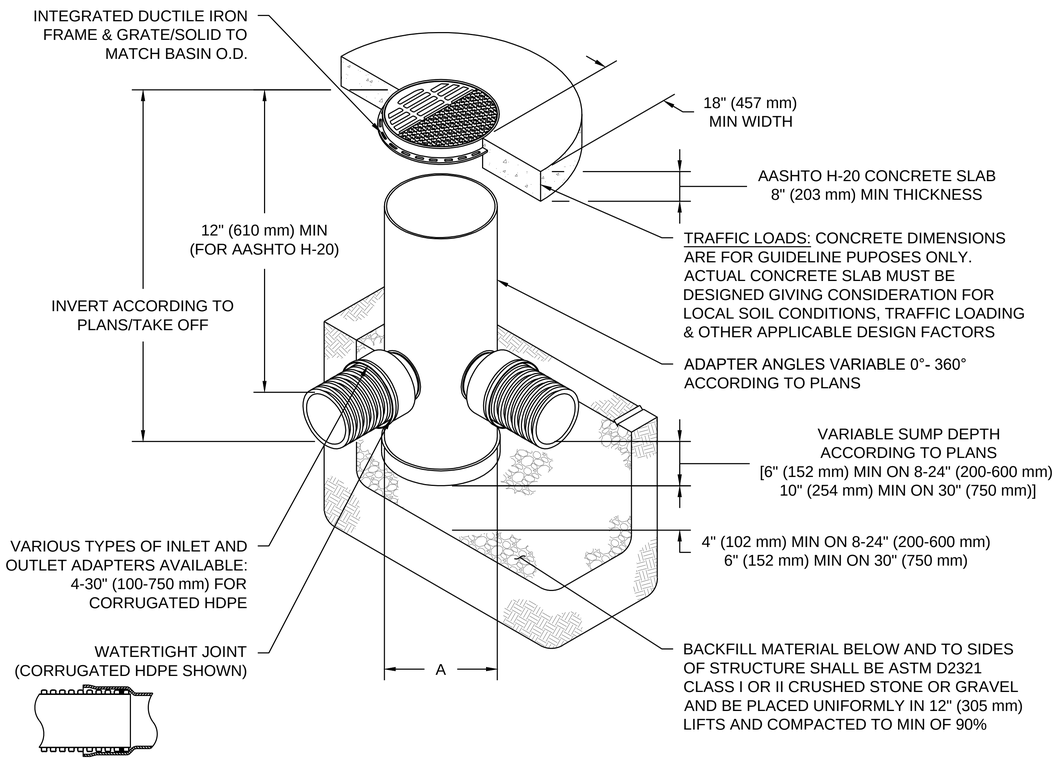
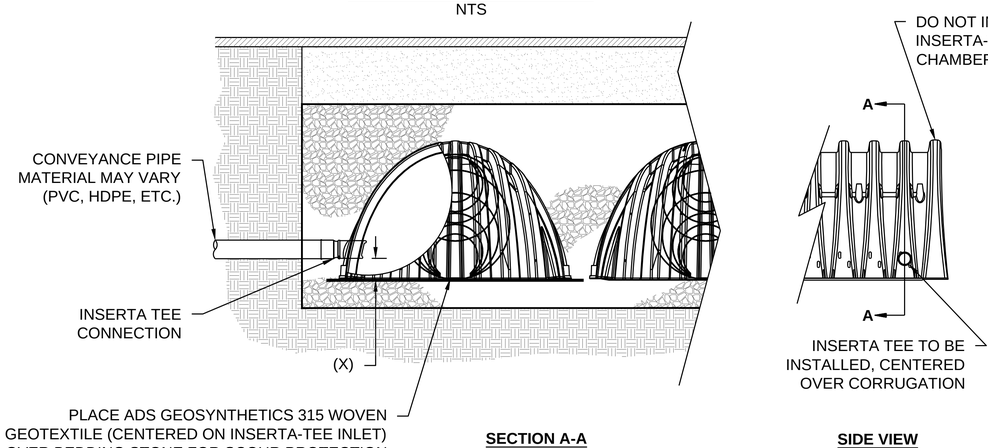
NYLOPLAST DRAIN BASIN

NTS



INSERTA TEE DETAIL

NTS



SECTION A-A

SIDE VIEW

NOTE:
PART NUMBERS WILL VARY BASED ON INLET PIPE MATERIALS. CONTACT STORMTECH FOR MORE INFORMATION.

CHAMBER	MAX DIAMETER OF INSERTA TEE	HEIGHT FROM BASE OF CHAMBER (X)
SC-310	6" (150 mm)	4" (100 mm)
SC-740	10" (250 mm)	4" (100 mm)
DC-780	10" (250 mm)	4" (100 mm)
MC-3500	12" (300 mm)	6" (150 mm)
MC-4500	12" (300 mm)	8" (200 mm)
INSERTA TEE FITTINGS AVAILABLE FOR SDR 26, SDR 35, SCH 40 IPS GASKETED & SOLVENT WELD, N-12, HP STORM, C-900 OR DUCTILE IRON		

NOTES

1. 8-30" (200-750 mm) GRATES/SOLID COVERS SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
2. 12-30" (300-750 mm) FRAMES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05
3. DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS
4. DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS & HANCOR DUAL WALL) & SDR 35 PVC
5. FOR COMPLETE DESIGN AND PRODUCT INFORMATION: **WWW.NYLOPLAST-US.COM**
6. TO ORDER CALL: **800-821-6710**

A	PART #	GRATE/SOLID COVER OPTIONS		
8" (200 mm)	2808AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
10" (250 mm)	2810AG	PEDESTRIAN LIGHT DUTY	STANDARD LIGHT DUTY	SOLID LIGHT DUTY
12" (300 mm)	2812AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
15" (375 mm)	2815AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
18" (450 mm)	2818AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
24" (600 mm)	2824AG	PEDESTRIAN AASHTO H-10	STANDARD AASHTO H-20	SOLID AASHTO H-20
30" (750 mm)	2830AG	PEDESTRIAN AASHTO H-20	STANDARD AASHTO H-20	SOLID AASHTO H-20

SYSTEM #2

MENARDS EXPANSION SYSTEM #2
GERMANTOWN, WI

DATE: DRAWN: JB
PROJECT #: CHECKED: N/A

REV	DRW	CHK	DESCRIPTION

3130 VERONA AVE
BUFORD, GA 30518
PHN (770) 932-2443
FAX (770) 932-2490
www.nyloplast-us.com

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HILLIARD, OH 43026
1-800-733-7473

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EASEMENT AGREEMENT

Document Number

Document Title

DOC#: 856000

Recorded
MAY 16, 2000 AT 03:35PM

DOROTHY C. GONNERING
REGISTER OF DEEDS
WASHINGTON COUNTY, WI
Fee Amount: $28.00

Recording Area

28-10

Name and Return Address

ALAN MARCUVITZ
700 N WATER ST #1500
MILWAUKEE WI 53202

Parcel Identification Number (PIN)

This information must be completed by submitter: *document title, name & return address, and PIN (if required). Other information such as the granting clauses, legal description, etc. may be placed on this first page of the document or may be placed on additional pages of the document. Note: Use of this cover page adds one page to your document and $2.00 to the recording fee. Wisconsin Statutes, 59.517. WRDA 2/96*

DOC#: 856000

EASEMENT AGREEMENT

THIS EASEMENT AGREEMENT (hereinafter referred to as the "Agreement"), made this 13 day of March, 2000, by and between L&D INVESTMENT CO., a Wisconsin partnership (hereinafter referred to as "L&D") and the ESTATE OF ALFRIEDA C. ROGERS, an estate pending in the Washington County, Wisconsin Circuit Court, as File No. 96-IN-153 (hereinafter referred to as "Rogers").

WITNESSETH:

WHEREAS, Rogers is the owner of certain real estate situated in the Village of Germantown, Washington County, Wisconsin, as more particularly described on EXHIBIT "A" attached hereto and incorporated herein by reference (the "Rogers Parcel"); and

WHEREAS, L&D is the owner of certain real estate located adjacent to the Rogers Parcel, which real estate is also situated in the Village of Germantown, Washington County, Wisconsin, as more particularly described on EXHIBIT "B" attached hereto and incorporated herein by reference (the "L&D Parcel"); and

WHEREAS, Rogers and L&D mutually desire to grant to the other certain easements for ingress and egress to and from their respective parcels and to set forth in detail their respective rights and obligations with respect to the use and maintenance of such easements, all in accordance with the terms and conditions hereinafter set forth;

NOW, THEREFORE, for and in consideration of the premises, the mutual covenants and promises contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. L&D hereby grants and conveys to Rogers a permanent, perpetual and non-exclusive easement for vehicular and pedestrian ingress and egress on, over and across that portion of the L&D Parcel equal to 6,464 square feet, as further described in EXHIBIT "C" attached hereto and made a part hereof.

2. Rogers hereby grants and conveys to L&D a permanent, perpetual and non-exclusive easement for vehicular and pedestrian ingress and egress on, over and across that portion of the Rogers Parcel equal to 6,145 square feet, as further described on EXHIBIT "C" attached hereto and made a part hereof.

3. The adjacent easements hereinabove granted together form a driveway approximately 45 feet in width, the location of which is set forth on said EXHIBIT "C."

4. It is understood and agreed by the parties hereto that each easement granted herein is a non-exclusive easement and that each grantor party reserves the right to use its easement area for ingress and egress to and from the balance of such grantor party's parcel.

5. L&D shall be responsible for the construction of the improvements within the area depicted in Exhibit "C." If Rogers conveys its parcel to anyone within six months of the date of this document, the party to whom the Rogers parcel is conveyed shall thereupon reimburse L&D in the amount of $ 15,000. If there is no such conveyance, the obligation to reimburse L&D shall be null and void.

6. L&D shall also be responsible for the repair, replacement and maintenance, including snow removal of the area depicted in Exhibit "C." If and when the Rogers parcel is developed with one or more commercial uses, Rogers shall thereafter pay 50% of such costs each calendar quarter. Such amount shall be paid by Rogers to L&D, within 15 days after delivery of said bill. Fulfillment of the foregoing obligations by L&D shall not unreasonably interfere with

the rights of Rogers hereunder. Upon the failure of L&D to perform any of its obligations hereunder, and after reasonable notice to L&D, Rogers shall have the right to perform or cause to be performed the necessary repairs, replacements, and maintenance and to bill L&D for its allocable share of the full cost thereof. The party performing, or causing to be performed, the foregoing procedures shall substantiate to the other party, by means of invoices or other documentation, the costs incurred. Further, the party performing or causing to be performed such procedures shall indemnify and defend the other party from claims or suits arising from such activities. The responsibility of the party performing or causing such activities to be performed shall also be responsible for prompt and complete restoration.

7. Each party warrants and represents that it shall not construct any buildings or improvements over any portion of the easements so as not to interfere with the use of the same as herein provided and that the surface of the easements shall at all times be in such condition as to permit ingress and egress of trucks, trailers and automobiles. In connection therewith, each of the parties agrees to pay for any damages arising from its negligent use of the easements granted herein.

8. The rights and privileges granted herein shall accrue to the benefit of and be appurtenant to the parcel of each grantor and run with such party's parcel. The easements and rights granted herein shall constitute permanent, perpetual encumbrances on the parcel of each grantor. The rights, privileges and obligations hereunder shall inure to the benefit of and be binding upon the parties hereto, their successors and assigns.

Either party may enforce this instrument by appropriate action and, should it prevail in such litigation, that party shall be entitled to recover as part of its costs reasonable attorney's fees.

9. The address for notices to Rogers is c/o Harold L. Rogers, Personal Representative, 15 Windsor Court, Streamwood, Illinois 60107, and the address for notices to L&D is c/o Jack Stein, 5400 South 27th Street, Milwaukee, Wisconsin 53221. Either party may give written notice of change of address to the other party. All notices shall be sent by U.S. Mail to the address provided for and shall be deemed given when deposited in the mail.

10. None of the foregoing shall (i) unduly restrict or interfere with the rights of the respective parties hereto as granted herein, (ii) require the dedication of any further portion of the parcel of either party, or (iii) impose any cost or expense on either party except as provided hereinabove. In the event any action by the Village of Germantown, Washington County, or State of Wisconsin shall require widening, relocation or otherwise have an impact on the easements provided herein, the parties shall equitably share of the costs incurred, as a result thereof.

11. L&D and Rogers may terminate this instrument only by jointly executing and recording a mutual release in recordable form, whereupon all rights, duties, and liabilities hereby created shall terminate.

IN WITNESS WHEREOF, the parties hereto have executed this instrument as of the day and year first set forth above.

L&D INVESTMENT CO., a partnership

By: _____
Jack Stein, Attorney in Fact

ESTATE OF ALFRIEDA C. ROGERS

By: _____
Harold L. Rogers
Personal Representative

STATE OF WISCONSIN)
) ss
COUNTY OF MILWAUKEE)

Personally came before me this 13 day of March, 2000, L&D Investment Co., by Jack Stein, Attorney-in-fact for its partners, to me known to be the person who executed the foregoing instrument and acknowledged that he executed the same as such.

NOTARY PUBLIC ALAN MARCUVITZ STATE OF WISCONSIN

Alan Marcuvitz
Notary Public, State of Wisconsin
My commission (is) ~~(exp.)~~ permanent

STATE OF WISCONSIN)
) ss
COUNTY OF WASHINGTON)

Personally came before me this 13th day of March, 2000, Harold L. Rogers, personal representative of the Estate of Alfrieda C. Rogers, to me known to be the person who executed the foregoing instrument and acknowledged that he executed the same as such.

NOTARY PUBLIC ROBERT L. WILKINS STATE OF WISCONSIN

Robert L. Wilkins
Notary Public, State of Wisconsin
My commission (is) ~~(exp.)~~ permanent

This instrument was drafted by and following recording should be returned to Attorney Sherwin C. Peltin, Weiss Berzowski Brady & Donahue LLP, 700 North Water Street, Suite 1500, Milwaukee, WI 53202.

DOC#: 856000

National Survey & Engineering

16745 West Bluemound Road, Suite 200
Brookfield, Wisconsin 53005-5938
Phone 414-781-1000
Fax 414-781-8466
Website www.nsae.com

SITEBALANCE

EXHIBIT A

THAT PART OF THE SOUTHWEST 1/4 OF SECTION 33, TOWN 9 NORTH, RANGE 22 EAST, TOWN OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN, BOUNDED AND DESCRIBED AS FOLLOWS:

COMMENCING AT THE WEST 1/4 CORNER, SECTION 33, TOWN 9 NORTH, RANGE 22 EAST; THENCE NORTH 89°55' EAST ON THE WEST 1/4 LINE OF SAID SECTION 1182.00 FEET TO THE POINT OF BEGINNING OF THIS DESCRIPTION; THENCE CONTINUING NORTH 89°55' EAST 204.00 FEET; THENCE SOUTH 10°28' WEST 2109.90 FEET; THENCE NORTH 48°28' WEST ON CENTER LINE OF STATE TRUNK HIGHWAY 175, 200.85 FEET; THENCE NORTH 09°38' EAST 1969.08 FEET TO THE POINT OF BEGINNING.

PREPARED BY:	ERIC R STURM
DATE:	JANUARY 14, 2000
SURVEY NO.:	5152853

W:\5152853\EXHIBIT-A

DOC#: 856000

National Survey & Engineering

16745 West Bluemound Road, Suite 200
Brookfield, Wisconsin 53005-5938
Phone 414-781-1000
Fax 414-781-8466
Website www.nsae.com

SITEBALANCE

EXHIBIT B

THAT PART OF THE SOUTHWEST 1/4 OF SECTION 33, TOWN 9 NORTH, RANGE 22 EAST, TOWN OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN, BOUNDED AND DESCRIBED AS FOLLOWS:

COMMENCING AT A POINT IN THE CENTER LINE OF THE MENOMONEE RIVER WHERE THE EAST AND WEST QUARTER LINE OF SECTION 33 CROSSES THE SAME (BEING 25.00 CHAINS EAST OF THE WEST QUARTER STONE OF SAID SECTION); THENCE WEST ALONG SAID QUARTER SECTION LINE, 4.00 CHAINS (BEING THE NORTHEAST CORNER OF FORMER PETER RUDOLPH LANDS); THENCE SOUTH 10-3/4 DEGREES WEST (ALONG SAID PETER RUDOLPH EAST LINE) TO A STAKE SET 13.50 CHAINS EAST OF THE SOUTHWEST CORNER OF SAID SECTION 33 AND ON THE SECTIONS AND COUNTY LINE; THENCE EAST ALONG SAID SECTION AND COUNTY LINE 4.50 CHAINS; THENCE NORTH 14° EAST 22.45 CHAINS TO A STAKE ON THE SOUTHWEST SIDE OF THE MENOMONEE RIVER; THENCE NORTH AND EAST TO THE CENTER OF SAID RIVER, 25 LINKS; THENCE NORTHERLY ALONG THE CENTER OF SAID RIVER TO THE PLACE OF BEGINNING.

EXCEPTING THEREFROM THAT PORTION THEREOF HERETOFORE CONVEYED TO KENNETH DUEHRING AND ELIZABETH DUEHRING, HIS WIFE, AS DESCRIBED BY DEED RECORDED IN THE WASHINGTON COUNTY REGISTRY IN VOLUME 341 OF RECORDS ON PAGE 435, AS DOCUMENT NO. 252890.

PREPARED BY:	ERIC R STURM
DATE:	JANUARY 14, 2000
SURVEY NO.:	5152853

W:\5152853\EXHIBIT-B

DOC#: 856000

National Survey & Engineering

16745 West Bluemound Road, Suite 200
Brookfield, Wisconsin 53005-5938
Phone 262-781-1000
Fax 262-781-8466
Website www.nsae.com

Exhibit C/1

INGRESS AND EGRESS EASEMENT
FOR THE BENEFIT OF ROGERS

SITUATED ON WEST APPLETON AVENUE, VILLAGE OF GERMANTOWN, WISCONSIN

PART OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 33, TOWN 9 NORTH, RANGE 20 EAST, IN THE VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN.
COMMENCING AT THE SOUTHEAST CORNER OF THE SOUTHWEST 1/4 OF SAID SECTION 33; THENCE SOUTH 89°20'48" WEST ALONG THE SOUTH LINE OF SAID SOUTHWEST 1/4 SECTION 1002.80 FEET TO A POINT ON THE CENTERLINE OF WEST APPLETON AVENUE; THENCE NORTH 49°53'22" WEST ALONG THE CENTERLINE OF WEST APPLETON AVENUE 868.30 FEET TO A POINT; THENCE NORTH 09°33'19" EAST 69.68 FEET TO A POINT ON THE NORTH LINE OF WEST APPLETON AVENUE AND THE POINT OF BEGINNING OF THE LANDS TO BE DESCRIBED; THENCE NORTH 09°33'19" EAST 182.05 FEET TO A POINT; THENCE SOUTH 77°09'43" EAST 45.59 FEET TO A POINT; THENCE SOUTH 13°00'57" WEST 121.40 FEET TO A POINT; THENCE SOUTH 39°54'39" WEST 44.68 FEET TO A POINT; THENCE SOUTHWESTERLY 29.45 FEET ALONG THE ARC OF A CURVE WHOSE CENTER LIES TO THE SOUTHEAST, WHOSE RADIUS IS 30.00 FEET AND WHOSE CHORD BEARS SOUTH 11°47'20" WEST 28.28 FEET TO A POINT ON THE NORTH RIGHT OF WAY LINE OF WEST APPLETON AVENUE; THENCE NORTH 49°53'22" WEST 16.84 FEET TO THE POINT OF BEGINNING.
SAID LAND CONTAINS 6,464 SQUARE FEET.

INGRESS AND EGRESS EASEMENT
FOR THE BENEFIT OF L & D INVESTMENT COMPANY (STEINS)

SITUATED ON WEST APPLETON AVENUE, VILLAGE OF GERMANTOWN, WISCONSIN

PART OF THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 33, TOWN 9 NORTH, RANGE 20 EAST, IN THE VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN.
COMMENCING AT THE SOUTHEAST CORNER OF THE SOUTHWEST 1/4 OF SAID SECTION 33; THENCE SOUTH 89°20'48" WEST ALONG THE SOUTH LINE OF SAID SOUTHWEST 1/4 SECTION 1002.80 FEET TO POINT ON THE CENTERLINE OF WEST APPLETON AVENUE; THENCE NORTH 49°53'22" WEST ALONG THE CENTERLINE OF WEST APPLETON AVENUE 868.30 FEET TO A POINT; THENCE NORTH 09°33'19" EAST 38.32 FEET TO THE NORTH LINE OF WEST APPLETON AVENUE AND THE POINT OF BEGINNING OF SAID LANDS TO BE DESCRIBED; THENCE NORTH 49°53'22" WEST ALONG SAID NORTH LINE 199.85 FEET TO A POINT; THENCE SOUTH 64°31'55" EAST 87.03 FEET TO A POINT; THENCE SOUTH 49°53'24" EAST 25.21 FEET TO A POINT; THENCE NORTHEASTERLY 47.12 FEET ALONG THE ARC OF A CURVE WHOSE CENTER LIES TO THE NORTHEAST, WHOSE RADIUS IS 30.00 FEET AND WHOSE CHORD BEARS NORTH 85°06'36" EAST 42.43 FEET TO A POINT; THENCE NORTH 40°06'36" EAST 29.92 FEET TO A POINT; THENCE NORTH 12°48'58" EAST 112.55 FEET TO A POINT; THENCE SOUTH 77°09'43" EAST 4.01 FEET TO A POINT; THENCE SOUTH 09°33'19" WEST 213.40 FEET TO THE POINT OF BEGINNING.
SAID LAND CONTAINS 6,145 SQUARE FEET

PREPARED BY: ERIC R. STURM
DATE: MARCH 8, 2000
SURVEY NO.: 152853

SITEBALANCE

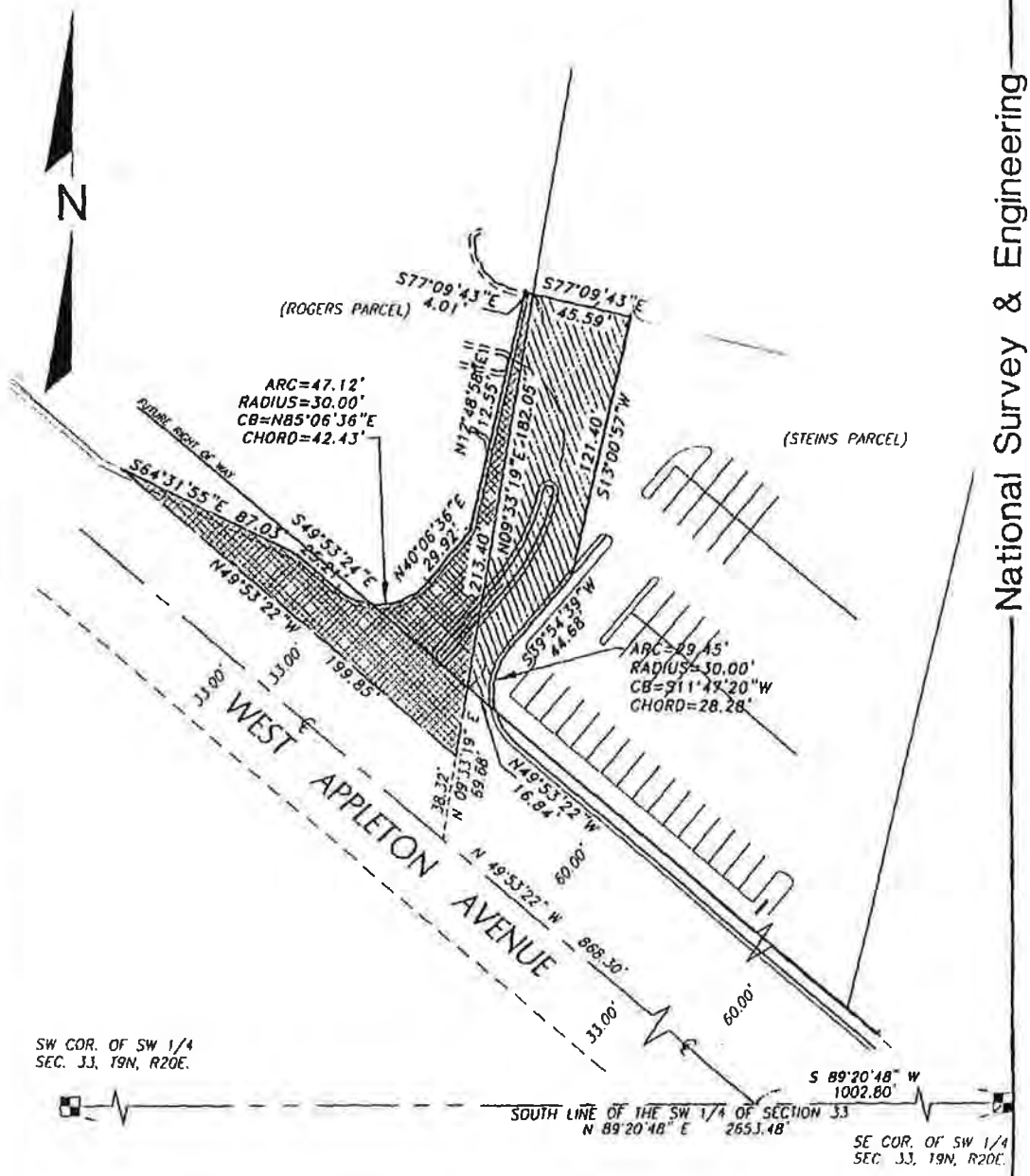
DOC#: 856000

EASEMENT EXHIBIT "C" /2

SITUATED ON WEST APPLETON AVENUE, VILLAGE OF GERMANTOWN, WISCONSIN.

MARCH 8, 2000

NSE NO 5152853



GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)

1 inch = 60 ft.

INDICATES INGRESS AND EGRESS EASEMENT FOR THE BENEFIT OF L & D INVESTMENT CO. (STEINS) AREA =1,817 SQ. FT.

INDICATES INGRESS AND EGRESS EASEMENT FOR THE BENEFIT OF ROGERS AREA =5,770 SQ. FT.

National Survey & Engineering

Telephone 262-781-1000
Facsimile 262-781-8466
18745 W. Bluemound Road
Suite 200
Brookfield, WI 53005-5938
www.nase.com

NSE NO. 5152853\SPED0460 - ERS

National Survey & Engineering

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
141 NW Barstow, Room 180
Waukesha, WI 53188

Tony Evers, Governor
Preston D. Cole, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

June 10, 2019

IP-SE-2019-67-00209

Tyler Edwards
Menard Inc.
5101 Menard Drive
Eau Claire, WI 54703

Dear Mr. Edwards:

The Department has completed review of your proposal. We have determined that your project meets state standards. Enclosed is your state wetland permit which approves your project and lists the conditions which must be followed. Please read your permit carefully so that you are fully aware of what is expected of you.

Your enclosed state water quality certification confirms the state certification necessary for proceeding under an approval pursuant to a federal permit issued by the Army Corps of Engineers.

Please note you are required to submit photographs of the completed project within 7 days after you've finished construction. This helps both of us to document the completion of the project and compliance with the permit conditions.

Your next step will be to notify me of the date on which you plan to start construction and again after your project is complete.

If you have any questions about your permit, please call me at (262) 574-2136 or email Erin.Cox@wisconsin.gov.

Sincerely,

Erin Cox
Water Management Specialist

cc: U.S. Army Corps of Engineers
Washington County
Josie Lathrop and Tom Nedland, Mitigation Coordinators
Bob Lee, Conservation Warden
Michelle Scott, Supervisor
Kyle Brockman, Wisconsin Environmental Restorations LLC

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

Wetland Individual Permit
IP-SE-2019-67-00209

Tyler Edwards is hereby granted under Section 281.36, Wisconsin Statutes, and 33 U.S.C.S §1341 (CWA §401) a permit for wetland fill or disturbance near near the Menomonee River and unnamed stream (WBIC 5034130), in the Village of Germantown, Washington County, also described as being in the NW1/4 of the SW1/4 of Section 33, Township 09 North, Range 20 East, subject to the following conditions:

PERMIT

1. You must notify Erin Cox at phone (262) 574-2136 or email Erin.Cox@wisconsin.gov before starting the discharge and again not more than 5 days after the discharge is complete.

2. You must complete the discharge as described on or before 06/10/2022. If you will not complete the discharge by this date, you must submit a written request for an extension prior to the expiration date of the permit. Your request must identify the requested extension date and the reason for the extension. A permit extension may be granted, for good cause, by the Department. You may not begin or continue construction after the original permit expiration date unless the Department grants a new permit or permit extension in writing.

3. This permit does not authorize any work other than what you specifically describe in your application and plans dated January 17th, 2019, and as modified by the conditions of this permit. If you wish to alter the project or permit conditions, you must first obtain written approval of the Department.

4. You are responsible for obtaining any permit or approval that may be required for your project by local zoning ordinances and by the U.S. Army Corps of Engineers before starting your project.

5. Upon reasonable notice, you shall allow access to your project site during reasonable hours to any Department employee who is investigating the project's construction, operation, maintenance or permit compliance.

6. The Department may modify or revoke this permit if the project is not completed according to the terms of the permit, or if the Department determines the activity results in significant adverse impact to wetland functional values, in significant adverse impact to water quality, or in other significant adverse environmental consequences.

7. You must post a copy of this permit at a conspicuous location on the project site, for at least five days prior to construction, and remaining at least five days after construction. You must also have a copy of the permit and approved plan available at the project site at all times until the project is complete.

8. Your acceptance of this permit and efforts to begin work on this project signify that you have read, understood and agreed to follow all conditions of this permit.

9. You must submit a series of photographs to the Department, within one week of completion of work on the site. The photographs must be taken from different vantage points and depict all work authorized by this permit.

10. You, your agent, and any involved contractors or consultants may be considered a party to the violation pursuant to Section 281.36 (13), Wis. Stats., for any violations of Section 281.36, Wisconsin Statutes, or this permit.

11. Construction shall be accomplished in such a manner as to minimize erosion and siltation into surface waters. Erosion control measures (such as silt fence and straw bales) must meet or exceed the technical standards of ch. NR 151, Wis. Adm. Code. The technical standards are found at: http://dnr.wi.gov/topic/stormwater/standards/const_standards.html .

12. Authorization hereby granted by the Department is transferable to any person upon prior written approval of the transfer by the Department.

13. All equipment used for the project including but not limited to tracked vehicles, barges, boats, hoses, sheet pile and pumps shall be de-contaminated for invasive and exotic viruses and species prior to use and after use.

    The following steps must be taken *every time* you move your equipment to avoid transporting invasive and exotic viruses and species. To the extent practicable, equipment and gear used on infested waters shall not be used on other non-infested waters.

    1. **Inspect and remove** aquatic plants, animals, and mud from your equipment.

    2. **Drain all water** from your equipment that comes in contact with infested waters, including but not limited to tracked vehicles, barges, boats, hoses, sheet pile and pumps.

    3. **Dispose** of aquatic plants, animals in the trash. Never release or transfer aquatic plants, animals or water from one waterbody to another.

    4. **Wash your equipment** with hot (>140° F) and/or high pressure water,

       - OR -

       Allow your equipment to **dry thoroughly for 5 days**.

FINDINGS OF FACT

1. Tyler Edwards has filed an application for a permit for wetland fill/disturbance near the Menomonee River and unnamed stream (WBIC 5034130), in the Village of Germantown, Washington County, also described as being in the NW1/4 of the SW1/4 of Section 33, Township 09 North, Range 20 East.

2. The project will consist of an expansion to the existing Menard Inc. Germantown Store. The discharge will affect a total of 0.9140 acres of wetland, since the discharged material will cover 0.914 acres of wetland.

3. The applicant proposed to compensate for wetland losses through mitigation. The Department evaluated the wetland mitigation proposal and determined that mitigation credits could fulfill the compensation requirement. The mitigation plan proposed to purchase 1.32 credits from the WWCT program at the required 1.45:1 mitigation ratio. The credits were debited on March 19th

and an Affidavit of Credit Purchase was submitted to the Department certifying the debit and fulfilling the compensation requirement.

4. No practicable alternative exists which would avoid adverse impacts to wetlands, and the project will result in the least environmentally damaging practicable alternative taking into consideration practicable alternatives that avoid wetland impacts. Taking no action towards an expansion would have a negative impact on the Menards future business. The current layout could be utilized, but the existing store could not accept or store a larger volume of product in the future. This could cause a loss of future profit, and loss of potential customers to online retailers that have the desired stock readily available. A different parcel was explored as an option but would also have potential wetland impacts associated with it and would be much closer to the Menominee River. Different alternative layouts on existing Menards property were also explored but involved larger amounts of wetland impact or would cause greater operational and construction difficulties.

5. All practicable measures to minimize adverse impacts to the functional values of the wetland have been taken. The layout that causes the least amount of wetland impacts overall is the layout that has been pursued for this permit.

6. The proposed project will not result in significant adverse impacts to wetland functional values, significant impacts to water quality, or other significant adverse environmental consequences.

7. The direct impact of the proposed project to wetland functional values is 0.914 acres of permanent wetland fill.

8. If similar projects are pursued in this area, the result would be reduced natural areas for plant and animal communities, reduced water quality protection, and reduced groundwater integrity.

9. There are no significant secondary impacts expected to result from this project as proposed.

10. A net negative environmental impact would result from this project.

11. The Department has completed an investigation of the project site and has evaluated the project as described in the application and plans.

12. The Department of Natural Resources has determined that the agency's review of the proposed project constitutes an equivalent analysis action under s. NR 150.20(2), Wis. Adm. Code. The Department has considered the impacts on the human environment, alternatives to the proposed projects and has provided opportunities for public disclosure and comment. The Department has completed all procedural requirements of s. 1.11(2)(c), Wis. Stats., and NR 150, Wis. Adm. Code for this project.

13. The Department of Natural Resources has completed all procedural requirements and the project as permitted will comply with all applicable requirements of Sections 281.36, and 281.37, Wisconsin Statutes and Chapters NR 103, 299, 350, and 353 of the Wisconsin Administrative Code.

The applicant was responsible for fulfilling the procedural requirements for publication of notices under s. 281.36(3p)(d)1m., Stats, Stats., and was responsible for publication of the notice of pending application under s. 281.36(3p)(d)1m., Stats. or the notice of public informational hearing under s. 281.36(3p)(d)1m., Stats., or both. Section 281.36(3p)(d)1m., Stats., provides that if no public hearing is held, the Department must issue its decision within 30 days of the 30-day public comment period, and if

a public hearing is held, the Department must issue its decision within 20 days after the 10-day period for public comment after the public hearing. Section 281.36(3p)(d)1m., Stats, requires the Department to consider the date on which the department publishes a notice on its web site as the date of notice.

CONCLUSIONS OF LAW

1. The Department has authority under the above indicated Statutes and Administrative Codes, to issue a permit for the construction and maintenance of this project.

NOTICE OF APPEAL RIGHTS

If you believe that you have a right to challenge this decision, you should know that the Wisconsin statutes and administrative rules establish time periods within which requests to review Department decisions shall be filed. For judicial review of a decision pursuant to sections 227.52 and 227.53, Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to file your petition with the appropriate circuit court and serve the petition on the Department. Such a petition for judicial review shall name the Department of Natural Resources as the respondent.

To request a contested case hearing of any individual permit decision pursuant to section 281.36.(3q), Wis. Stats., you have 30 days after the decision is mailed, or otherwise served by the Department, to serve a petition for hearing on the Secretary of the Department of Natural Resources, P.O. Box 7921, Madison, WI, 53707-7921. The petition shall be in writing, shall be dated and signed by the petitioner, and shall include as an attachment a copy of the decision for which administrative review is sought. If you are not the applicant, you must simultaneously provide a copy of the petition to the applicant. If you wish to request a stay of the project, you must provide information, as outlined below, to show that a stay is necessary to prevent significant adverse impacts or irreversible harm to the environment. If you are not the permit applicant, you must provide a copy of the petition to the permit applicant at the same time that you serve the petition on the Department.

The filing of a request for a contested case hearing is not a prerequisite for judicial review and does <u>not</u> extend the 30-day period for filing a petition for judicial review.

A request for contested case hearing must meet the requirements of section 281.36 (3q), Wis. Stats., and section NR 2.03, Wis. Adm. Code, and if the petitioner is not the applicant, the petition must include the following information:

1. A description of the objection that is sufficiently specific to allow the department to determine which provisions of this section may be violated if the proposed discharge under the wetland individual permit is allowed to proceed.
2. A description of the facts supporting the petition that is sufficiently specific to determine how the petitioner believes the discharge, as proposed, may result in a violation of the provisions of this section.
3. A commitment by the petitioner to appear at the administrative hearing and present information supporting the petitioner's objection.
4. If the petition contains a request for a stay of the project, the petition must also include information showing that a stay is necessary to prevent significant adverse impacts or irreversible harm to the environment.

Dated at Waukesha Service Center, Wisconsin on June 10th, 2019.

STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES
For the Secretary

By _____

Erin Cox
Water Management Specialist

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, ST. PAUL DISTRICT
180 FIFTH STREET EAST, SUITE 700
ST. PAUL, MN 55101-1678

July 12, 2019

Regulatory File No. MVP-2019-00231-RJH

Tyler Edwards
Menard Inc.
5101 Menard Drive
Eau Claire, Wisconsin 54703

Dear Mr. Edwards:

This letter concerns your request for Department of the Army authorization to discharge dredged and fill material into 0.91 acre of wetlands adjacent to the Menomonee River for the purpose of constructing a warehouse and lumber yard associated with the expansion of the Menards-Germantown Store. The project site is in Section 33, Township 09 North, Range 20 East, Washington County, Wisconsin.

The discharge of dredged or fill material proposed within waters of the United States is authorized under the provisions of Letter of Permission LOP-06-WI, provided the work complies with the enclosed General Conditions and is constructed in accordance with the enclosed drawings labeled MVP-2019-00231-RJH, pages 1 of 2 through pages 2 of 2, which are hereby incorporated as part of this Letter of Permission.

The authorization is subject to the following special condition:

1. To compensate for unavoidable adverse impacts to 0.91 acre of fresh wet meadow wetlands, you shall purchase 1.32 advanced credits from the WI Wetland Conservation Trust (WWCT) SW Lake Michigan Service Area prior to conducting any authorized work. The credits purchased on March 19, 2019 fulfill this compensation requirement.

This Letter of Permission is issued under the provisions of Section 404 of the Clean Water Act (33 U.S.C. 1344). The time limit for completing this authorized work ends three years from the date of this letter. This Federal authorization does not obviate the need to obtain other Federal, state or local authorizations required by law.

This letter constitutes an initial proffered permit for your project. Also enclosed is a Notification of Administrative Appeal Options and Process (NAP) fact sheet and Request for Appeal (RFA) form which provides information regarding your right to object to these determinations.

If you object to the terms or conditions of this initial proffered permit, please see Section I-A, complete Section II of the RFA, and submit it to the **District Engineer** in accordance with 33 CFR 331. Your objections to the initial proffered permit must be received by the **St. Paul District Office** within 60 days of the date of the NAP or you will forfeit your right to challenge the terms or conditions of the permit.

Before accepting the RFA, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR 331.5, and that it has been received by the District or Division Office within 60 days of the date of the NAP. It is not necessary to submit an RFA form to the Corps District or Division Office if you do not object to the initial proffered permit enclosed with this letter.

If you have any questions, please contact Ryan Huber in our Green Bay office at (651) 290-5859 or Ryan.J.Huber@usace.army.mil. In any correspondence or inquiries, please refer to the Regulatory file number shown above.

Sincerely,

for Karl D. Jansen
Colonel, Corps of Engineers
District Engineer

Enclosure(s)

cc:
WDNR- Erin Cox
Wisconsin Environmental Restorations LLC- Kyle Brockman

Legend

- AOI
- Waterbodies
- Watercourses
- Roads

PROJECT ADDRESS:
W186N9754 APPLETON AVENUE, GERMANTOWN, WI 53022

PROJECT PLSS:
SW 1/4 SEC 33, TWP 9N, RNG 20E

EXHIBIT A

Wisconsin Environmental Restorations LLC
PO Box 99
Strum, WI 54770
Office (715) 695-3254
www.wisconsinenvironmental.com

Notes:

FIGURE/PHOTO DESCRIPTION:
LOCATION MAP

CLIENT/PROJECT:
MENARD INC. - GERMANTOWN FACILITY EXPANSION

CREATED BY:
KBROCKMAN

MANAGER:
NHAUS

FIELD DATA COLLECTED BY:
WER

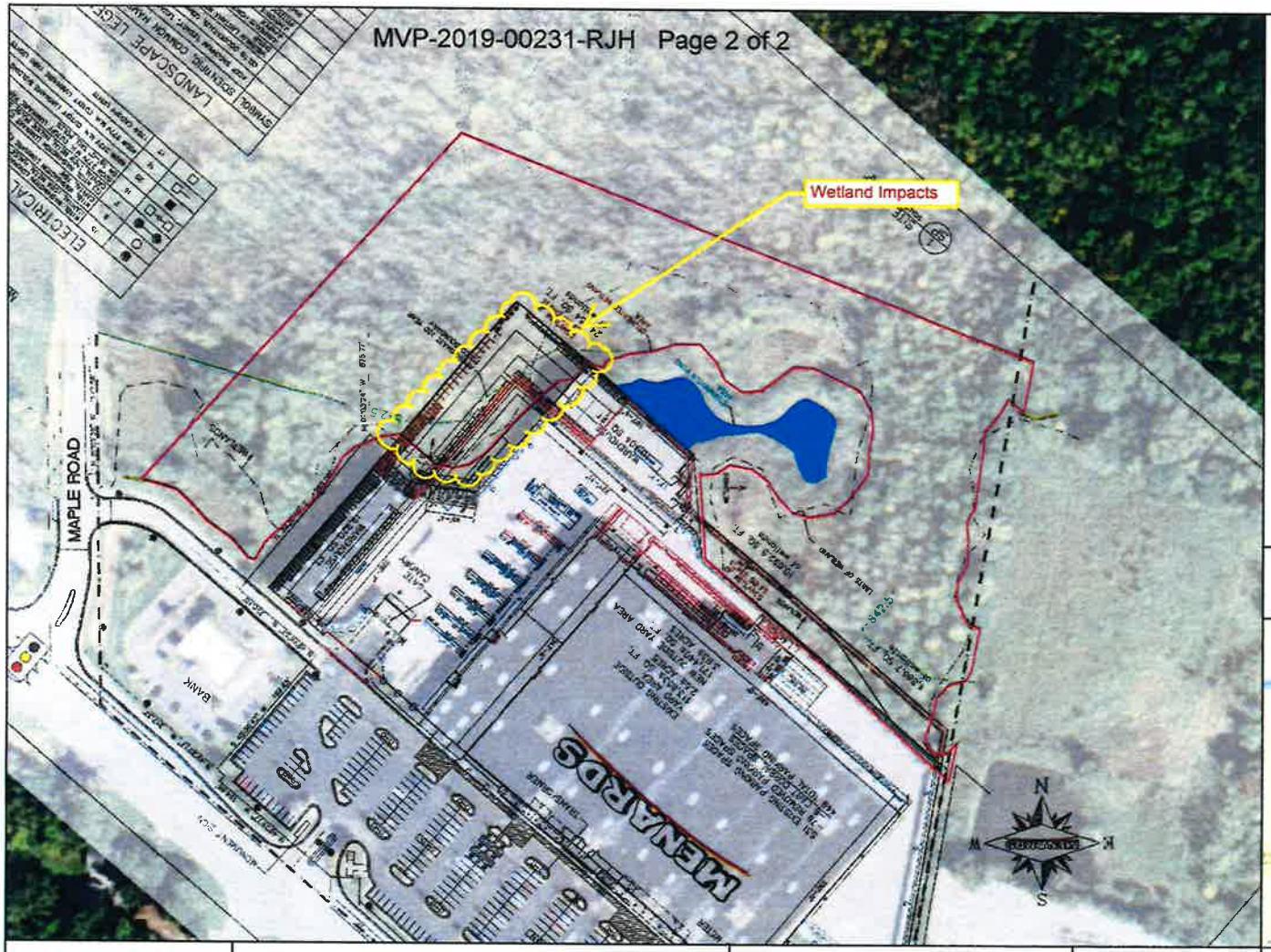
0 75 150 300 450 600 Feet

SHEET OF
SCALE (11 x 17): 1 in = 250 feet
SOURCE DATA: WER, (insert data sources)
PROJECTION: Transverse Mercator
COORDINATE SYSTEM: NAD 1983 UTM Zone 15N

PROJECT NO.
WER 126.0002.4

DATE:
11/2/2018

WER



Legend

- Delineated Wetland
- Storm Water Pond

PROJECT ADDRESS:
W186N9754 APPLETON AVENUE, GERMANTOWN, WI 53022

PROJECT PLSS:
SW 1/4 SEC 33, TWP 9N, RNG 20E

EXHIBIT A

Wisconsin Environmental Restorations LLC
PO Box 99
Strum, WI 54770
Office (715) 695-3254
www.wisconsinenvironmental.com

Notes:

FIGURE/PHOTO DESCRIPTION:
SITE PLAN OVERLAY

CLIENT/PROJECT:
MENARD INC. - GERMANTOWN FACILITY EXPANSION

CREATED BY:
KBROCKMAN

MANAGER:
NHAUS

FIELD DATA COLLECTED BY:
WER

0 40 80 160 240 320 Feet

SHEET OF
SCALE (11 x 17): 1 in = 136.23 feet
SOURCE DATA: WER, (insert data sources)
PROJECTION: Transverse Mercator
COORDINATE SYSTEM: NAD 1983 2011 WISCRS Washington Feet

PROJECT NO.
WER 126.0002.4

DATE:
3/26/2019

WER

NOTIFICATION OF ADMINISTRATIVE APPEAL OPTIONS AND PROCESS AND REQUEST FOR APPEAL			
Applicant: Tyler Edwards- Menard Inc	**File No.: MVP-2019-00231-RJH**	**Date:** JUL 1 2 2019	
Attached is:			See Section below
X	INITIAL PROFFERED PERMIT (Standard Permit or Letter of permission)		A
	PROFFERED PERMIT (Standard Permit or Letter of permission)		B
	PERMIT DENIAL		C
	APPROVED JURISDICTIONAL DETERMINATION		D
	PRELIMINARY JURISDICTIONAL DETERMINATION		E

SECTION I - The following identifies your rights and options regarding an administrative appeal of the above decision. Additional information may be found at http://usace.army.mil/inet/functions/cw/cecwo/reg or Corps regulations at 33 CFR Part 331.

A: INITIAL PROFFERED PERMIT: You may accept or object to the permit.

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- OBJECT: If you object to the permit (Standard or LOP) because of certain terms and conditions therein, you may request that the permit be modified accordingly. You must complete Section II of this form and return the form to the district engineer. Your objections must be received by the district engineer within 60 days of the date of this notice, or you will forfeit your right to appeal the permit in the future. Upon receipt of your letter, the district engineer will evaluate your objections and may: (a) modify the permit to address all of your concerns, (b) modify the permit to address some of your objections, or (c) not modify the permit having determined that the permit should be issued as previously written. After evaluating your objections, the district engineer will send you a proffered permit for your reconsideration, as indicated in Section B below.

B: PROFFERED PERMIT: You may accept or appeal the permit

- ACCEPT: If you received a Standard Permit, you may sign the permit document and return it to the district engineer for final authorization. If you received a Letter of Permission (LOP), you may accept the LOP and your work is authorized. Your signature on the Standard Permit or acceptance of the LOP means that you accept the permit in its entirety, and waive all rights to appeal the permit, including its terms and conditions, and approved jurisdictional determinations associated with the permit.
- APPEAL: If you choose to decline the proffered permit (Standard or LOP) because of certain terms and conditions therein, you may appeal the declined permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

C: PERMIT DENIAL: You may appeal the denial of a permit under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

D: APPROVED JURISDICTIONAL DETERMINATION: You may accept or appeal the approved JD or provide new information.

- ACCEPT: You do not need to notify the Corps to accept an approved JD. Failure to notify the Corps within 60 days of the date of this notice, means that you accept the approved JD in its entirety, and waive all rights to appeal the approved JD.
- APPEAL: If you disagree with the approved JD, you may appeal the approved JD under the Corps of Engineers Administrative Appeal Process by completing Section II of this form and sending the form to the division engineer. This form must be received by the division engineer within 60 days of the date of this notice.

E: PRELIMINARY JURISDICTIONAL DETERMINATION: You do not need to respond to the Corps regarding the preliminary JD. The Preliminary JD is not appealable. If you wish, you may request an approved JD (which may be appealed), by contacting the Corps district for further instruction. Also you may provide new information for further consideration by the Corps to reevaluate the JD.

SECTION II - REQUEST FOR APPEAL or OBJECTIONS TO AN INITIAL PROFFERED PERMIT

REASONS FOR APPEAL OR OBJECTIONS: (Describe your reasons for appealing the decision or your objections to an initial proffered permit in clear concise statements. You may attach additional information to this form to clarify where your reasons or objections are addressed in the administrative record.)

ADDITIONAL INFORMATION: The appeal is limited to a review of the administrative record, the Corps memorandum for the record of the appeal conference or meeting, and any supplemental information that the review officer has determined is needed to clarify the administrative record. Neither the appellant nor the Corps may add new information or analyses to the record. However, you may provide additional information to clarify the location of information that is already in the administrative record.

POINT OF CONTACT FOR QUESTIONS OR INFORMATION:

If you have questions regarding this decision and/or the appeal process you may contact:	If you only have questions regarding the appeal process you may also contact the Division Engineer through:
U.S Army Corps of Engineers Attn: Ryan Huber 211 North Broadway Street Ste. 221 Green Bay, Wisconsin 54303-2757	Administrative Appeals Review Officer Mississippi Valley Division P.O. Box 80 (1400 Walnut Street) Vicksburg, MS 39181-0080 601-634-5820 FAX: 601-634-5816

RIGHT OF ENTRY: Your signature below grants the right of entry to Corps of Engineers personnel, and any government consultants, to conduct investigations of the project site during the course of the appeal process. You will be provided a 15 day notice of any site investigation, and will have the opportunity to participate in all site investigations.

	Date:	Telephone number:
_____ Signature of appellant or agent.		

LOP-06-WI CONDITIONS

GENERAL INFORMATION

Persons proposing to do work should note that, in ALL cases, LOP-06-WI requires that adverse impacts to water and wetland resources be avoided and minimized TO THE MAXIMUM EXTENT PRACTICABLE. Also, activities that would adversely affect Federal or State endangered plant or animal species or certain cultural or archaeological resources, or that would impair reserved Native American tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights, are not eligible for authorization under LOP-06-WI.

DEPARTMENT OF THE ARMY PERMIT GENERAL CONDITIONS

1. The time limit for completing work authorized by an LOP ends three years after the date of the Corps' authorization letter. If you find that you need more time to complete the authorized activity, submit your request for a time extension to the Corps for consideration at least three months before the expiration date is reached.

2. You must maintain the authorized activity in good condition and in conformance with the terms and conditions of this permit. You are not relieved of this requirement if you abandon the permitted activity, although you may make a good faith transfer to a third party. Should you wish to cease to maintain the authorized activity or should you desire to abandon it without a good faith transfer, you must obtain a modification of this permit from this office, which may require restoration of the area.

3. If you discover any previously unknown historic or archaeological remains while accomplishing the authorized activity you must immediately stop work and notify this office of what you have found. We will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.

5. If a conditioned water quality certification has been issued for your project, you must comply with the conditions specified in the certification as special conditions to the LOP-06-WI authorization. A copy of the certification will be attached to the LOP-06-WI authorization if it contains such conditions.

6. You must allow representatives from this office to inspect the authorized activity at any time deemed necessary to ensure that it is being or has been accomplished in accordance with the terms and conditions of LOP-06-WI.

Further Information.

1. Congressional Authorities: You have been authorized to undertake the activity described above pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344).

2. Limits of this authorization.
   a. This LOP does not obviate the need to obtain other Federal, state, or local authorizations required by law.
   b. This LOP does not grant any property rights or exclusive privileges.
   c. This LOP does not authorize any injury to the property or rights of others.
   d. This LOP does not authorize interference with any existing or proposed Federal project.

3. Limits of Federal Liability. In authorizing work, the Federal Government does not assume any liability, including but not limited to the following:
   a. Damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes.
   b. Damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the United States in the public interest.

LOP-06-WI CONDITIONS

c. Damages to persons, property, or to other permitted or unpermitted activities or structures caused by the activity authorized by this permit.

d. Design or construction deficiencies associated with the permitted work.

e. Damage claims associated with any future modification, suspension, or revocation of this permit.

4. Reliance on Applicant's Data: The determination of this office that issuance of this permit is not contrary to the public interest was made in reliance on the information you provided.

5. Reevaluation of Permit Decision. This office may reevaluate its decision on this permit at any time the circumstances warrant. Circumstances that could require a reevaluation include, but are not limited to, the following:

a. You fail to comply with the terms and conditions of this permit.

b. The information provided by you in support of your permit application proves to have been false, incomplete, or inaccurate (see 4 above).

c. Significant new information surfaces which this office did not consider in reaching the original public interest decision. Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost.

6. Extensions. General condition 1., above, establishes a time limit for the completion of the activity authorized by this permit. Unless there are circumstances requiring either a prompt completion of the authorized activity or a reevaluation of the public interest decision, the Corps will normally give favorable consideration to a request for an extension of this time limit.

OTHER INFORMATION

1. **FEDERAL TRUST RESPONSIBILITY TO INDIAN TRIBES**. Projects the District finds to have potential to affect tribal interests will be coordinated with the appropriate Indian Tribal governments. The Tribe's views and the Federal trust responsibility will be considered in the District's evaluation. Throughout the state, including the treaty-ceded territories, the District review of all provisional LOP projects which impact more than 10,000 square feet of wetland/water area will include coordination with any potentially affected tribe(s). The District will provide, by facsimile transmission, project notifications to the concerned tribe(s) for a 30-day review period. The views of the tribe(s) will be considered in the District's evaluation of the activity and in the District's determination of whether the activity is in compliance with LOP-06-WI Standard Condition 18 that prohibits activities, or their operation, that may impinge or abrogate treaty rights, including, but not limited to, reserved treaty fishing and hunting rights.

2. **PROJECT-SPECIFIC LOP-06-WI CONDITIONS**. The District evaluation will identify any need for project-specific special conditions and require such conditions to minimize adverse project impacts and/or protect the public interest.

3. **FORM AND CONFIRMATION OF AUTHORIZATION**. Every LOP-06-WI authorization will be confirmed in writing by the St. Paul District via a

LOP-06-WI CONDITIONS

letter of authorization to the project Applicant or authorized agent. The letter will identify any required special conditions.

4. **FEDERAL AND STATE ENDANGERED SPECIES AND CULTURAL RESOURCES**. LOP-06-WI does not affect the Corps responsibility to insure that all Section 404 authorizations comply with Section 7 of the Federal Endangered Species Act, s. 29.604, Wisconsin Statutes and Section 106 of the National Historic Preservation Act. No Corps permit will be granted for projects found not to comply with these Acts.

5. **GRANDFATHER PROVISION**. Regulated work for commenced activities that was authorized under the LOP provisions of GP/LOP-98-WI continues to be authorized under the terms of the original authorization

6. **MODIFICATION OF PROCEDURES**. The St. Paul District has authority to modify, revoke, or suspend these procedures at any time it determines that circumstances concerning the public interest warrant such action.

STATE SECTION 401 CERTIFICATION. CONDITIONS AND LIMITATIONS OF SECTION 401 CERTIFICATION OF LOP-06-WI.

I. General Conditions

1. The applicant shall allow the WDNR reasonable entry and access to the discharge site to inspect the proposed discharge for compliance with this certification and applicable laws and to inspect permitted discharges for compliance with this certification and applicable laws.

2. If any conditions of this certification are found to be invalid or unenforceable, certification for all activities to which that condition applies is denied.

3. The following activities are not eligible for certification under this water quality certification action for LOP-06-WI.

A. Activities likely to jeopardize the continued existence of a state designated threatened or endangered species or a species proposed for such designation or which is likely to destroy or adversely modify the habitat of such species.
B. Activities that result in adverse impacts to fishery spawning habitat or adversely affect avifauna breeding areas or substantially disrupt the movement of those species that normally migrate from open water to upland or vice versa (i.e. amphibians, reptiles and mammals).
C. Activities detrimental to waters of the state, including wetlands, that would adversely affect designated areas of special natural resource interest as defined in NR 103.04, Wis. Adm. Code.
D. Activities, individually or cumulatively, detrimental to waters of the state, including wetlands, that would further the substantial degradation of designated impaired waters of the state.

4. Applicants seeking authorization under the LOP-06-WI (Letter of Permission procedures) shall complete a Joint State/Federal Permit Application and submit two copies to each, the appropriate local COE office and the local WDNR Water Management Specialist. Applications for water quality certification must be complete as determined by the WDNR. Please note an application fee is required for state water quality certification activities identified under Section II below.

II. Water Quality Certification

1. The WDNR grants water quality certification for projects that satisfy all applicable conditions of LOP-06-WI subject to the **General Conditions** above, and:

2. The applicant receives written confirmation from the department that their proposed activity(s) is consistent with the requirements of NR 299 Water Quality Certification, Wis. Adm.

Code, and the Department confirms that the applicant has adequately demonstrated that no other practicable alternative exists which would not adversely impact wetlands and would not result in other significant adverse environmental consequences and the Department confirms that the activity is consistent with the requirements of NR 103.08, Wis. Adm. Code.
NOTE: If additional information is needed, or if heavy snow or ice cover prevents WDNR from completing their review, the normal processing time for confirming activities eligible for authorization under this certification may be extended (by written notice from WDNR to the applicant.)

WISCONSIN COASTAL MANAGEMETN PROGRAM (WCMP) CONDITIONS.

The WCMP's Federal consistency determination for LOP-06-WI provides that no LOP-06-WI authorization for an activity taking place in coastal wetlands identified as ridge and swale complexes and/or wetlands adjacent to the Mink River, Door County, and the Kakagon and Bad Rivers, Ashland County will be valid unless and until a Federal consistency determination is granted or waived by the WCMP. This requirement therefore is incorporated as a permit condition of LOP-06-WI. Applicants will be notified of this condition in the District's LOP provisional authorization for projects in these areas.

Professional Service Industries, Inc.
821 Corporate Court, Waukesha, WI 53189
Phone: (262) 521-2125
Fax: (262) 521-2471

February 1, 2020

Menard, Inc.
501 Menard Drive
Eau Claire, Wisconsin 54703

Mr. Tyler Edwards
Real Estate Representative

SUBJECT: Preliminary Subsurface Exploration and Site Feasibility Evaluation
Proposed Menards Germantown Expansion
W186 N9754 Appleton Avenue
Germantown, Wisconsin
PSI Project No. 00522495

Dear Mr. Edwards:

The preliminary subsurface exploration and site feasibility evaluation for the referenced project has been completed. An electronic copy of the report is being provided via email. Hard copies can be issued upon request. After you have had the opportunity of reading the report, please call at any time with any questions or comments you may have. Professional Service Industries, Inc. (PSI), an Intertek Company, appreciates the opportunity to be of service on this project and looks forward to continuing as your geotechnical consultant during the design and construction phases, as well as your upcoming projects.

Sincerely,

PROFESSIONAL SERVICE INDUSTRIES, INC.

Stephan M. Regenfuss
Project Geologist
Geotechnical Services

Bradley J. Broback, P.E.
Department Manager
Geotechnical Services

TABLE OF CONTENTS

	PAGE
Introduction	**1**
• General	
• Purpose	
• Scope	
• Authorization	
Site and Project Description	**1**
• Site Features	
• Project Description	
Exploration and Laboratory Procedures	**2**
• Scope Summary	
• Field Exploration	
• Laboratory Physical Testing	
Description of Subsurface Conditions	**4**
• General	
• Soil Conditions	
• Groundwater Observations	
Evaluation and Recommendations	**5**
• General Development Considerations	
• Site Preparation	
• Preliminary Foundation Recommendations	
• General Retaining Wall Recommendations	
Construction Considerations	**12**
• Groundwater Control	
• Excavations and Site Drainage	
• Seismic Design Considerations	
Stormwater Management Area Considerations	**13**
Preliminary Pavement Design Recommendations	**15**
General Comments	**16**
Appendix (in order of appearance)	
• Boring Location Plan	
• Soil Boring Logs	
• Soil Evaluation - Storm Forms	
• USDA Classification Charts	
• General Notes	

INTRODUCTION

General

This report presents the results of the preliminary subsurface exploration and site feasibility evaluation for the proposed expansion at Menards Germantown in Germantown, Wisconsin. The work was performed for Menard, Inc. at the request of Mr. Tyler Edwards.

Purpose

The purpose of this preliminary study was to evaluate the subsurface conditions at specific boring locations on the site, and to provide subsurface information for general site feasibility and preliminary design planning. A comprehensive foundation evaluation and recommendations for specific structures were beyond the scope of this preliminary site evaluation but are recommended as part of design planning.

Scope

The scope of services included a site reconnaissance, the subsurface exploration, a determination of soil characteristics by field and laboratory testing, and an evaluation of the data obtained. The scope of the field work, including the number, depth and locations of the borings, was determined by the client. Borings were originally requested to the northwest and northeast of the existing retaining wall. However, due to existing trees and water in these areas, these boring locations were not accessible at this time. Therefore, the exploration was limited to the existing parking lot areas to the south of the retaining wall.

Authorization

The description of services and authorization to perform this subsurface exploration and evaluation were in the form of a signed Professional Service Agreement (dated December 13, 2019) and proposal (PSI Proposal No. 297597, dated December 13, 2019). The general conditions for the performance of the work were referenced in the proposal. This report has been prepared on behalf of, and exclusively for the use of Menard, Inc. The information contained in this report may not be relied upon by any other parties without the express written consent of PSI, and acceptance by such parties of PSI's General Conditions.

SITE AND PROJECT DESCRIPTION

Site Features

The project site is located at the existing Menards store, at W186 N9754 Appleton Avenue, in Germantown, Wisconsin. At the time of the exploration, the overall site was occupied by the existing asphalt-paved outside yard area, outdoor accessory buildings and main store building. The north side of the project area consists of an existing approximately 10 feet high retaining wall which retains the drive area and existing accessory buildings above adjacent wetlands

and forested land to the north. The southwest side of the site consisted of the store parking lot and the southeast side consisted of an asphalt paved outside yard area.

Project Description

Based on information provided by the client, it is understood that the proposed project will consist of an expansion of the outside yard area to the northwest and northeast, including new pavement areas and an addition to the existing accessory buildings. The expansion will extend beyond the existing retaining wall to the north into the area below the wall. As such, it is estimated that significant grading as well as a new retaining wall will be necessary to accommodate the new construction. The accessory building perimeter wall along the northwest and northeast sides will likely act as a retaining wall in most areas. The foundation for the expanded accessory building is estimated to be placed at frost depth within new structural fill or down at the existing grade on the northwest and northeast sides where the new retaining wall will be present. The proposed project also includes an expansion to the existing below grade stormwater management area.

The type, height, and bearing grade of any new retaining walls; and the bottom elevation, size, and type of stormwater management expansion area have not been provided. No other design details of the project such as planned grades or foundation types have been provided.

This preliminary exploration has been commissioned to evaluate the subsurface conditions across the existing pavement of the subject site and to provide subsurface information for general site feasibility and preliminary design planning for the proposed development. However, no borings were performed to the north of the existing retaining wall at the bottom side of the wall. Additional borings or test pit excavations are necessary and recommended below the retaining wall to the north to evaluate the soil conditions in this area and provide subsequent recommendations. In addition, when finished floor, foundation, and other elevations are determined, and an additional exploration has been performed, PSI must be provided an opportunity to review this and determine if a redirection or re-evaluation of recommendations contained herein is warranted.

EXPLORATION AND LABORATORY PROCEDURES

Scope Summary

The field and laboratory data utilized in the evaluation of the subsurface materials was obtained by drilling exploratory test borings, securing soil samples by the split-spoon sampling method, and subjecting the samples to laboratory testing.

With respect to the stormwater management areas, the field and laboratory work for classification of the subgrade soils was performed to provide information for use by the basin design personnel when considering requirements of Chapter NR151 of the Wisconsin Administrative Code, and of WDNR Technical Standard 1002, “Site Evaluation for Stormwater

Infiltration" guidelines. The design of the proposed stormwater management area was beyond the scope of services for this project.

Field Exploration

Three (3) soil borings were performed for this project to a planned depth of about 20 feet below existing grade. The number, depth, and locations of the borings were determined by the client. The borings were performed in the outside paved yard area directly to the northeast and northwest of the existing building. It was originally requested to perform the borings in the wetland and forested area within the footprint of the proposed expanded outside yard area. However, due to access constraints, this was not possible with PSI's drilling equipment. The borings were located in the field by the drill crew utilizing conventional taping procedures referenced to existing site features. They are estimated to be accurate to within several feet. The surface elevations shown on the logs were determined by the drill crew utilizing conventional leveling techniques and are estimated to be accurate to within several feet. The asphalt surface at the fire hydrant at the north corner of the store building was utilized as a benchmark and was given a reference elevation of EL. 100.

The soil test borings were performed with a truck-mounted rotary drilling rig utilizing continuous flight hollow stem augers to advance the holes. Representative samples were obtained by the Standard Penetration Test (SPT) method using split-spoon sampling in general accordance with ASTM D-1586 procedures. Samples were generally secured at 2-foot intervals to the end of the borings. The standard penetration value (N) is defined as the number of blows of a 140-pound hammer, falling thirty (30) inches, required to advance the split-spoon sampler one (1) foot into the soil. The sampler is lowered to the bottom of the drill hole and the number of blows recorded for each of the three (3) successive increments of six (6) inches penetration. The "N" value is obtained by adding the second and third incremental numbers. The SPT provides a means of estimating the relative density of granular soils and comparative consistency of cohesive soils, thereby providing a method of evaluating the relative strength and compressibility characteristics of the subsoils.

The SPT samples were transferred to clean glass jars immediately after retrieval and returned to the laboratory upon completion of the field operations. Samples will be discarded unless other instructions are received. The soil samples were visually classified by a soils engineer in general accordance with the Unified Soil Classification System (ASTM D-2488-75), as well as by the USDA Textural Soil Classification system for evaluation of the subsoils for use in stormwater management. A description of the subsurface conditions encountered at each boring location is shown on the enclosed Soil Boring Logs. After completion of the borings, the auger holes were backfilled with bentonite chips and the surface was patched with asphalt.

A copy of the Soil Boring Logs and Boring Location Plan are enclosed in the Appendix. The soil stratification shown on the logs represents the approximate soil conditions in the actual boring locations at the time of the exploration. The terms and symbols used on the logs are described in the General Notes found in the Appendix.

Laboratory Physical Testing

Soil samples obtained from the exploration were visually classified in the laboratory, and subjected to testing, which included moisture content determinations. Selected cohesive soil samples were tested in unconfined compression with a calibrated hand penetrometer to aid in evaluating the soil strength characteristics. The values of strength tests performed on soil samples obtained by the Standard Penetration Test Method (SPT) are considered approximate, recognizing that the SPT method provides a representative but somewhat disturbed soil sample.

The laboratory testing was performed in general accordance with the respective ASTM methods, as applicable, and the results are shown on the boring logs in the Appendix.

DESCRIPTION OF SUBSURFACE CONDITIONS

General

A description of the subsurface conditions encountered at the test boring locations is shown on the Soil Boring Logs. The lines of demarcation shown on the logs represent approximate boundaries between the various soil classifications. It must be recognized that the soil descriptions are considered representative estimates for the specific test hole locations, but that variations may occur between and beyond the sampling intervals and boring locations. Soil depths, topsoil, and layer thicknesses, and demarcation lines utilized for preconstruction planning should not be expected to yield exact and final quantities. A summary of the major soil profile components is described in the following paragraphs.

Soil Conditions

The surface materials present at the borings consisted of about 5 to 6 inches of asphalt pavement underlain by about 6 inches of aggregate base material consisting of sand and gravel.

Below the pavement sections at the borings, fill materials consisting of brown lean clay or sandy clay with gravel, silty sand and gravel, or fine sand were encountered extending to depths of 7 to 11 feet (EL. 93.8 to EL. 84.3) below existing grade. The cohesive fill soils were soft to very hard in consistency, with estimated unconfined compressive strengths ranging from about 1.25 to 2.75 tons per square foot (tsf). The granular fill soils were loose to dense, with N-values ranging from about 5 to 48 bpf.

The fill materials encountered at the borings were classified as such based on their varied visual characteristics and composition. However, it must be recognized that in the absence of foreign substances and/or debris within the soil samples obtained, it is difficult to distinguish between natural soils and clean soil fill.

Natural silt, sandy silt, fine sand, and sandy/lean clay soils were encountered below the fill, extending to the boring termination depths. The native granular soils were loose to dense in relative density with N-values ranging from about 5 to 31 bpf. The natural cohesive soils were very stiff in consistency with estimated unconfined compressive strengths ranging from about 2.5 to 3 tsf.

The foregoing discussion of soil conditions on this site represents a generalized soil profile as determined at the test boring locations. A more detailed description and supporting data for each test location can be found on the individual Soil Boring Logs.

Groundwater Observations

Groundwater was encountered during auger advancement in all borings, at depths ranging from 11 to 13 feet (EL. 87.8 to EL. 84.3) below the ground surface. Upon completion and removal of the augers, groundwater was present at boring B-3 above the caved soils at a depth of about 15 feet (EL. 85.8).

The groundwater observations reported herein are considered approximate. It must be recognized that groundwater levels fluctuate with time due to variations in seasonal precipitation, lateral drainage conditions, and soil permeability characteristics. Longer term monitoring would be required to better evaluate groundwater levels on this site.

EVALUATION AND RECOMMENDATIONS

General Development Considerations

In view of the subsurface conditions encountered in the test borings, together with the development grades estimated, conventional spread footings founded on new structural fill or suitable bearing natural materials can used to support the proposed structures. However, it should be noted that the soil conditions beyond the existing retaining wall are unknown and could vary dramatically from the conditions encountered in the borings. Additional test pits or borings must be performed in the area north of the retaining wall to evaluate the subsurface conditions in these areas to help determine the necessary measures to properly develop this area to support the proposed construction. However, major difficulty with preparation of the subgrade is anticipated in low lying wetland areas. Thick topsoil, subgrade instability, and comprehensive groundwater control measures will likely be encountered.

A discussion of the preliminary foundation, floor slab, pavement, and stormwater management area design parameters are included in the following sections.

Site Preparation

The presence of organic topsoil and vegetation in the subgrade can adversely affect the serviceability of structural fills, foundations, floor slabs, pavements, and other structures placed

upon them. All topsoil, vegetation, trees, roots and other organic matter must be stripped from the areas of proposed fill and other structures.

Topsoil depths may increase substantially within and encroaching upon wetland areas. It is generally recommended that development within wetland areas not be performed due to the typical presence of highly organic soils and shallow groundwater. If such development is contemplated, special permits will likely be required from the Army Corps of Engineers, the WDNR, or other government agencies.

Comprehensive dewatering with the use of well points or a series of sumps, along with high capacity pumps will likely be necessary in the wetland area in order to properly prepare the subgrade for structural fill placement. Care must be taken during any dewatering to prevent possible settlement of adjacent structures due to rapid and/or severe drawdown related effects. Major difficulty is anticipated in this area, in creating a stable subgrade necessary for proper structural fill placement. A specialty dewatering firm should be consulted to provide the appropriate measures necessary for dewatering.

Where the new construction extends beyond the existing retaining wall, the retaining wall, along with any loose, soft, wet, or otherwise unsuitable backfill must also be removed to expose suitable natural soils. The existing slope must then be properly benched to create a suitable bond between the existing fill soils and the new structural fill. Where undermining of the existing pavement, utilities, and building is a concern, the existing retaining wall could be removed to a minimum depth of 2 feet below planned finished grade, to help retain the existing structures. The removal to a minimum depth of 2 feet below subgrade is recommended to help provide a more uniform subgrade condition. It should be noted however, that where the retaining wall is left in-place, it may create obstructions during utility installation.

After stripping the topsoil and prior to the placement of new fill which may be placed to raise grades, the subgrade must be thoroughly proofrolled to detect unstable, yielding soils, which must be removed or improved by appropriate preparation and compaction techniques. Proofrolling should consist of overlapping passes in a perpendicular grid pattern of a fully-loaded tandem-axle dump truck, or other equipment of similar size and weight. However, care must be used on this site to avoid disturbing the near surface fine-grained soils during the proofrolling, especially during periods of precipitation or spring thaw. Proofrolling with rubber tired equipment may be preferable, but should be performed in consultation with the geotechnical engineer at the time of construction. **Major subgrade instability is anticipated in the existing wetlands areas to the north of the existing retaining wall and may be encountered in other areas of the site as well, at least on an isolated basis.** When encountered, unstable soils must be improved in place (if possible) or removed and replaced. Scarification, drying and recompaction of wet soils or removal and replacement with suitable fill, are two methods, which can be considered, but this must be determined by the soils engineer at the time of construction. Low areas may then be raised to the planned grades with suitable properly compacted fill. It must be recognized that the silt and lean clay soils present on the site are highly moisture sensitive, and substantial difficulty with subgrade preparation can be expected if the soils are wet during construction. In the wetland area, over-excavation

along with the placement of a geogrid and coarse aggregate crushed stone (such as breaker run materials) will likely be necessary.

Cohesive soils are considered highly moisture sensitive and subject to substantial softening. Therefore, equipment and worker traffic must be kept to a minimum on subgrade bearing surfaces, especially during periods of precipitation or following spring thaw. Some difficulty with subgrade preparation can be expected in wet or cold weather conditions. Removal of unsuitable portions of the near surface soils and replacement with structural fill may be required, on at least an isolated basis, especially if earthwork is not carried out during periods of relatively warm, dry weather, which provide more favorable conditions for drying of these soils. Any soft zones, which cannot be improved by scarification and aeration, must be removed and replaced with compacted structural fill, such as clean crushed stone, possibly in conjunction with the use of a geotextile fabric. Lime and fly ash modification are two additional remedial measures which can be considered. However, this must only be performed at the direction and under the supervision of the geotechnical engineer. A proper mix design must be performed prior to the performance of any modification. Substantial construction delays and difficulty with subgrade stabilization should be expected during periods of wet and/or cool weather. Consideration should be given to installing construction roads to reduce disturbance to the sensitive subgrade soils.

Every effort must be made to keep excavations dry. If construction proceeds during wet weather, some additional overexcavation may be necessary. If weather permits, the soil could be dried and recompacted. A crushed stone working mat, possibly in conjunction with a geotextile fabric may also be feasible to help stabilize subgrades. Site grading runoff should be directed to catch basins, so that the potential for the softening of the foundation, floor slab, and pavement subgrade soils is reduced.

Where the removal of unsuitable bearing material is performed beneath proposed footings, the excavation must extend laterally beyond the perimeter of the foundation for a distance at least equal to the thickness of the fill below the footing bottom. This general guideline also applies to instances where a raised structural fill pad is constructed to achieve a bearing elevation greater than existing grades. The influence zone of footing stresses can be represented as an imaginary 45° line extending downward and outward from the footing bottom. All fill placed within this zone after cutting to firm soil must be properly engineered, from the bottom of the cut, up to the planned subgrade elevation.

If site grades are raised in excess of 2 feet, the first lift of new fill must be placed so as to extend a minimum lateral distance of 5 feet beyond the planned top building pad dimension (for fills less than 5 feet in thickness), or for a distance equal to at least 1 foot laterally beyond the top pad dimension for every foot of fill thickness (for fills greater than 5 feet in depth). Subsequent lifts can then be placed on an approximate 1H:1V slope back up to the planned top perimeter dimension of the pad. Proper moisture control is essential to reduce the amount of compactive effort necessary to achieve the desired densities.

When a firm and stable subgrade is established, low areas may be raised to planned grades with properly compacted structural fill. Any new fill should be a clean granular soil, such as

those materials meeting the gradations outlined in Section 209 or 305 of the State of Wisconsin Standard Specification for Highway and Structure Construction. If fine-grained soils, such as those encountered on site, with high silt or clay content are used, they should generally be placed over large open areas, where conditions are more favorable for the proper placement and compaction of such materials. It must be recognized that high silt or clay content materials are difficult to compact when placed at moisture contents beyond a few percent of their optimum moisture content. In addition, the near surface soils across the site are considered moisture sensitive; therefore, some difficulty with subgrade preparation should be expected, especially if they become wet during construction. Where fill depths are less than 10 feet, fill must be placed in layers of not more than nine (9) inches in thickness, at moisture contents at or near optimum, and be compacted to a minimum density of 95 percent of the maximum dry density as determined by ASTM designation D-698. Where fill depths are greater than 10 feet, fill must be compacted to a minimum of 98 percent of the maximum dry density as determined by the Standard Proctor (ASTM D-698) to help reduce the amount of settlement resulting from the self-weight of the fill materials. Silt, clay, and wet granular soils are not suitable for reuse as compacted fill in trenches, or adjacent to retaining walls.

Proper moisture control is essential to reduce the amount of compactive effort necessary to achieve the desired densities. This is especially true of clayey soils, where scarification and aeration may be required to achieve near-optimum moisture levels prior to compaction. A sheepsfoot roller is generally required for compaction of clayey soils, whereas a vibratory smooth drum roller is preferred for granular material. Small hand-operated compactors should be used in confined areas; granular fills are generally more readily compacted to the required densities in such applications.

It is recommended that well-graded granular soils be utilized as backfill in new utility trenches and alongside below grade walls and retaining walls to reduce the potential for consolidation and settlement of the fill. All fill soils must be placed and compacted under engineering controlled conditions, to provide suitable support for overlaying structures, and pavements. Additional guidance can be provided at the time of construction in the selection process for grade-raising fill and trench backfill.

The selection of fill materials for various applications should be done in consultation with the soils engineer. Similarly, the evaluation of the subgrade and placement and compaction of fill for structural applications should be monitored and tested by a qualified representative of the soils engineer.

Preliminary Foundation Recommendations

The following is a general overview of the subsurface conditions for the site, as it relates to foundation evaluation, and can be used in preliminary site planning.

The foundation for the expanded accessory building is estimated to be placed at frost depth within new structural fill or down at the existing grade on the northwest and northeast sides where the retaining wall is present. However, no planned foundation bearing grades have been provided. New retaining walls are anticipated to the east as well, where the pavement will be

extended northeast. The proposed accessory building addition and retaining walls may be supported by conventional spread foundation systems, bearing on suitable naturally occurring soils, or upon properly prepared new structural fill. Spread and continuous wall footings bearing upon suitable natural soils similar to those encountered within the soil borings, or upon compacted structural fill, may be designed for a net allowable soil bearing pressure of 2,000 to 3,000 psf, depending upon bearing grade. However, due to the possibility of varying conditions between the borings and the locations of new foundations, the actual bearing capacity must be determined at each foundation member subgrade during construction by a representative of the geotechnical engineer. At least some isolated undercutting of lower strength natural soils will likely be necessary to utilize the allowable bearing capacity. Additional exploration with test pits or borings must be performed beyond the existing retaining wall to the north to evaluate the soils in this area. The subsurface conditions in this area may vary significantly from those encountered in the borings performed in this preliminary exploration. Upon completion of this additional exploration, and provision of structural plans, a redirection or re-evaluation of the recommendations herein may be necessary.

Very moist to wet lean clay or silt soils may be encountered at the footing bearing elevations, especially within the natural soils in the wetland areas. These soils are susceptible to a substantial loss in strength when the confining effect of the overburden is removed. A significantly softened subgrade may develop. To stabilize and protect these soils during construction, where the lean clay and silt soils are in a very moist condition, undercutting on the order of about 12 to 18 inches and the placement a crushed stone working mat (along with a geogrid where necessary) can be performed to establish a stable bearing grade. The need for over-excavation and placement of a protective mat of clean crushed stone should be determined by a representative of the geotechnical engineer at the time of construction.

Where new foundations are planned adjacent to existing foundations, the effects of overlapping soil stresses must be considered. The net allowable soil bearing pressure of must not be exceeded. It should be noted that backfill materials may be encountered within existing utility trenches and adjacent to existing foundation walls. Over-excavation of unsuitable trench backfill and replacement with structural fill may be necessary for proper foundation support. All foundations must bear upon suitable natural soils or properly placed and compacted structural fill.

Excavations must be performed with caution and utilize methods which will prevent undermining of existing foundations and destabilizing the existing structure. Any new foundations should be stepped to match the bearing elevation of existing foundations to avoid lateral loading of existing walls, and bear on suitable natural soils or structural fill. The use of properly designed shoring and bracing or sheet piling, or underpinning of the existing foundations, must be used as necessary to properly protect buildings, pavement, sidewalks, utilities, and other structures, especially if excavation is performed within the influence zone of existing foundations. This must be performed by an experienced specialty contractor. Additionally, if sheet piling or other bracing is planned to be installed using driving or vibratory techniques, extreme care must be used during installation to avoid damaging existing buildings, utilities, and other structures.

The suitability of the existing soils for support of the proposed foundation must be determined by testing by a qualified geotechnical engineer during construction, utilizing static cone penetrometer tests or dynamic cone penetrometer tests for cohesive and granular soils, respectively. Soft, loose, or otherwise unsuitable materials, not disclosed by the borings, may be encountered in the foundation excavations at the bearing elevation. If unsuitable existing soil is present, it must be removed throughout a zone extending one foot laterally for each two feet removed below the foundation, on either side of the planned footing. The over-excavated area must be backfilled with structural compacted fill.

All perimeter footings must be placed at a depth of at least four (4) feet (or deeper if required by local code or in accordance with customary practice) below the finished exterior grade for frost protection. All footings must be protected from the effects of frost if construction is carried out during winter months. Interior footings not subject to frost action may be placed at a shallower depth of at least eighteen (18) inches below the floor slab, provided they bear on suitable natural soils or engineered fills.

It is recommended that the footings supporting individual columns have a minimum dimension of 30 inches, and continuous footings have a minimum width of 24 inches, even if the maximum recommended allowable bearing pressure is not fully utilized. In order to minimize the effects of any slight differential movement that may occur due to variations in the character of the supporting soils and any variations in seasonal moisture contents, it is recommended that all foundations be suitably reinforced to make them as rigid as needed.

General Retaining Wall Recommendations

Walls with unbalanced backfill levels on opposite sides such as retaining walls, must be designed to resist lateral earth pressures. Earth pressures will be influenced by the structural design of the walls, conditions of wall restraint, methods of construction and/or compaction, and the strength of the materials being restrained. Lateral earth pressure is developed from the soils present within a wedge-shaped geometry formed by the vertical below-grade wall and an imaginary line extending up and away from the bottom of the wall at an approximate 45° angle. The lateral earth pressures are determined by multiplying the vertical applied pressure by the appropriate lateral earth pressure coefficient K. Walls that are permitted to rotate and deflect at the top can be designed for the active lateral earth pressure condition using K_a. Passive pressure can be determined using K_p, with a factor of safety of 2.0. Recommended parameters for use in the retaining wall design where imported select materials are used as backfill are shown in the following table.

MATERIAL TYPE	DRAINED FRICTION ANGLE (ϕ')	TOTAL UNIT WEIGHT (PCF)
1. Well-Graded, Well-Draining Granular Soils	35°	135
2. Clean Crushed Stone (such as No.1 or No.2 Crushed Limestone)	32°	115
PARAMETERS SPECIFIC TO SOIL TYPE	**1**	**2**
Coefficient of Active Pressure (K_a)	0.27	0.31
Coefficient of Passive Pressure (K_p)	3.69	3.25
Coefficient of At-Rest Pressure (K_o)	0.43	0.47

Notes: [1] Ultimate passive pressure typically requires large strains to be fully mobilized, therefore, PSI recommends using 50% or less of the

ultimate passive pressure to limit the strain on the structure.
[2] Earth pressure coefficients valid for level backfill conditions with no surcharge.

If surface loads are placed near the walls, such as foundation or traffic loads, the walls should be designed to resist an additional uniform lateral load of one-half of the vertical surface loads. An "equivalent fluid" pressure can be obtained from the above chart by multiplying the appropriate K-factor times the total unit weight of the soil. This applies to unsaturated conditions only. If a saturated "equivalent fluid" pressure is needed, the effective unit weight (total unit weight minus unit weight of water) should be multiplied times the appropriate K-factor and the unit weight of water added to that resultant. However, it is recommended that the retaining walls be designed with drainage where possible to relieve the hydrostatic pressure.

Passive resistance should be neglected to a depth of four feet below exterior grade due to seasonal softening from freeze-thaw. Where materials other than those indicated above are used for backfilling, revised coefficients may be necessary. Where several soil types are present within a lateral distance from the wall equal to the height of the wall (based on the 45° angle extending up and out from the bottom of the wall), a weighted average of these various materials must be calculated to determine the lateral pressure on the walls.

Wall structural backfill is recommended to consist of well-draining granular soils with a free-draining layer directly adjacent to the wall, as described below. The backfill materials must be placed in layers that are less than eight inches (measured loose) and at a moisture content within three percent of the optimum moisture content determined by the Standard Proctor compaction test (ASTM D698). The backfill material should be compacted to a minimum of 95 percent of the maximum dry density as determined by the Standard Proctor test.

In order to intercept groundwater and limit lateral earth pressures, free draining (less than 5 percent fines) gravel or crushed stone backfill is recommended to be placed as a drainage course directly adjacent to the walls for a minimum width of 12 inches. The gravel or crushed stone backfill should have less than five percent passing the No. 200 sieve and a maximum particle size less than three inches. If a material with a fines content greater than 5 percent is used within this 12-inch width adjacent to the wall, water-related and structural problems may develop, and the walls will have to be designed for an undrained condition which will result in higher lateral pressures on the wall due to the added hydrostatic pressure. A one-foot-thick layer of relatively impervious clay is recommended to be placed above the backfill that will be exposed to precipitation to minimize surface water infiltration. In addition, the ground surface should be sloped to drain surface water away from the structures.

Drain tiles should be placed behind the walls near the bottom, but above the static groundwater or perched water level. The drain tile should have a minimum diameter of four inches and should be wrapped with an appropriate filter fabric. Drainage pipes should be surrounded by clean gravel and should be discharged to an appropriate area of the site. A procedure should be used to discharge water from the collecting point, which would not allow reverse flow into the system.

The wall design should include the influence of any traffic surcharge at the top of the wall due

to the adjacent parking/drive areas. Heavy equipment should not operate within a distance closer than the exposed height of the wall to prevent lateral pressures more than those provided.

CONSTRUCTION CONSIDERATIONS

Groundwater Control

Groundwater was encountered during auger advancement in all borings, at depths ranging from 11 to 13 feet (EL. 87.8 to EL. 84.3) below the ground surface. Upon completion and removal of the augers, groundwater was present at boring B-3 above the caved soils at a depth of about 15 feet (EL. 85.8). On the basis of the observations in the borings and the standing water within the wetland area to the north of the existing retaining wall encountered during the exploration, and the estimated footing bearing elevations, major difficulty with groundwater is expected during excavation work on this site. If excavations extend only a few inches or so below the groundwater, filtered sump pumps or other conventional means may suffice to control the groundwater. However, for deeper excavations, or for substantial perched zones, prolonged dewatering with a series of sumps or well points and high capacity sump pumps, or other more comprehensive means may be necessary to facilitate construction. Care must be taken during any dewatering to prevent possible settlement of adjacent structures due to rapid and/or severe drawdown related effects. A specialty dewatering firm should be consulted to provide the appropriate measures necessary for dewatering.

Since the foundation materials are subject to softening when exposed to free moisture, every effort should be made to keep excavations dry. Discharge water from roof drains should be directed away from the building, and the site grading direct runoff to catch basins, so that the potential for the softening of the foundation and pavement subgrade soils is reduced.

Seasonal variations in precipitation, site drainage conditions, and other factors can cause groundwater to be present in the upper soils at other times, including during construction.

Excavations and Site Drainage

Sloping, shoring or bracing of the excavation sidewalls will be necessary. Excavating may be difficult due to the instability of vertical slopes, and will therefore require a flattening of trench sides, or some other means of protection, to facilitate construction and to protect life and property. Substantial sloughing and caving should be expected within unprotected excavations. The degree of excavation instability problems is dependent upon the depth and length of time that excavations remain open, excavation bank slopes, water levels and the effectiveness of any dewatering systems. However, severe instability may occur within granular or soft clay soils, especially encroaching upon and extending below the groundwater or perched zones. All excavation work must be performed in accordance with OSHA and local building code requirements.

All excavations must be performed with caution and utilize methods which will prevent undermining or destabilization of existing slopes, buildings, utilities, pavements, sidewalks or other structures. This is especially critical in areas where the existing retaining wall may be removed. The use of a properly designed shoring and bracing, sheet piling, or underpinning system must be utilized as necessary to adequately protect buildings, utilities, pavements, and other structures. This must be performed by an experienced specialty contractor. Additionally, extreme care must be used during the installation of any bracing system, especially those using driven or vibratory methods, in order to avoid damaging existing buildings, utilities, and other structures. Consideration should be given to the performance of video and/or photographic documentation of the condition of nearby buildings, utilities, and other structures prior to installation.

Where undermining of the existing pavement, utilities, and building is a concern, the existing retaining wall could be removed to a minimum depth of 2 feet below planned finished grade, to help retain the existing structures. The removal to a minimum depth of 2 feet below subgrade is recommended to help provide a more uniform subgrade condition. It should be noted however, that where the retaining walls are left in-place, they may create obstructions during utility installation.

It is mandated that excavations be constructed in accordance with current Occupational Safety and Health Administration (OSHA) guidelines to protect workers and others during construction. PSI recommends that these regulations be strictly enforced; otherwise, workers could be in danger and the owner(s) and the contractor(s) could be liable for substantial penalties. The contractor is solely responsible for designing and constructing stable, temporary excavations and should shore, slope, or bench the sides of the excavations as required to maintain stability of both the excavation sides and bottom. The contractor’s “responsible person”, as defined in 29 CFR Part 1926, should evaluate the soil exposed in the excavations as part of the contractor's safety procedures. In no case should slope height, slope inclination, or excavation depth, including utility trench excavation depth, exceed those specified in local, state, and federal safety regulations. PSI is providing this information solely as a service to our client. PSI does not assume responsibility for construction site safety or the contractor’s or other parties’ compliance with local, state, and federal safety or other regulations.

Seismic Design Considerations

The on-site natural soils are considered to meet the criteria for Site Class D in accordance with Table 1613.5.2 of the International Building Code-2015.

STORMWATER MANAGEMENT AREA CONSIDERATIONS

As requested by the client, the subgrade soils encountered at the boring locations have been visually classified in general accordance with the USDA textural soil classification system. They consisted of sandy clay loam (scl), silt loam (sil), loamy sand (ls), silty clay (sic), and silty clay loam (sicl). Groundwater was encountered during auger advancement in all borings, at depths ranging from 11 to 13 feet (EL. 87.8 to EL. 84.3) below the ground surface. Upon

completion and removal of the augers, groundwater was present at boring B-3 above the caved soils at a depth of about 15 feet (EL. 85.8).

With regard to the above soil and groundwater conditions encountered at the borings, NR 151.124(4)(c)1 and 2 – *Infiltration rate exemptions* indicates that infiltration practices located in an area where the infiltration rate of the soil measured at the proposed bottom of the infiltration system is less than 0.6 inches per hour using a scientifically credible field test method; or an area where the least permeable soil horizon to 5 feet below the proposed bottom of the infiltration system using the USDA method of soils analysis consists of sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay or clay may be credited toward meeting the requirements, but the decision to infiltrate under these conditions is optional. In addition, NR 151.124(4)(b)1 – *Separation distances* indicates that infiltration practices shall be located so that the characteristics of the soil and the separation distance between the bottom of the infiltration system and the elevation of seasonal high groundwater or the top of bedrock are in accordance with the following Table (reproduced from NR 151.124):

Table 3. Separation Distances and Soil Characteristics

Source Area	**Separation Distance**	**Soil Characteristics**
Industrial, Commercial, Institutional Parking Lots and Roads	5 feet or more	Filtering Layer*
Residential Arterial Roads	5 feet or more	Filtering Layer*
Roofs Draining to Surface Infiltration Practices	1 foot or more	Native or Engineered Soil with Particles Finer than Coarse Sand
Roofs Draining to Surface Infiltration Practices	Not Applicable	
All Other Impervious Source Areas	3 feet or more	Filtering Layer*

*Defined in NR 151.002(14r) as a “soil that has at least a 3-foot deep layer with at least 20 percent fines; or at least a 5-foot deep layer with at least 10 percent fines; or an engineered soil with an equivalent level of protection as determined by the regulatory authority for the site.”

The information shown above is a selected excerpt from NR151 that is intended only as general guidance for considering stormwater management in conjunction with the encountered subsurface conditions at the borings. Basin design must be performed by a qualified and experienced firm. In addition, the entirety of Chapter NR151 of the Wisconsin Administrative Code, the Site Evaluation for Stormwater Infiltration (1002) document, and other applicable references; along with appropriate state, local or other municipal requirements must be consulted as part of site-specific stormwater design.

Stormwater management basins are not recommended to be placed in close proximity to basements or other below grade structures. Proper and careful consideration of soils and

subsurface conditions must be given during site and design planning, and extreme care must be exercised during construction. Lateral migration of water may result in substantially increased sump pump activity and can quickly overcome the ability of such pumps to maintain a desirable water level, resulting in significant flooding. The potential for such conditions to occur can greatly increase when basement floors are below the elevation of basin bottoms and/or when basins are placed in close proximity to structures (strongly not recommended). In addition, the presence of granular or other generally permeable soils, which is typically necessary in the areas of structures for utility backfill, alongside basement walls, or within other development excavations/trenches can act as extensive migration channels to rapidly carry large volumes of water from basins and into nearby basements. Building codes or municipal regulations may require that basement floor elevations be a specified distance above the water level of nearby basins or other stormwater features. It is therefore recommended that the design engineer (or other appropriate representative) review applicable municipal or other regulatory requirements and verify the design normal and design high water elevations of stormwater basins/features with respect to planned basement slab elevations.

PRELIMINARY PAVEMENT DESIGN RECOMMENDATIONS

The new pavements for this project will include yard areas and drive lanes where truck traffic will be present. Additionally, it is estimated that substantial fill placement will be required along the northwest and northeast portions of the project. Therefore, the existing surficial soils encountered at the borings may not be indicative of the actual pavement subgrade soils.

However, the near surface subgrade soils encountered within the borings predominantly consisted of lean or sandy clay. It is therefore anticipated that at least some of the pavement subgrade soils will consist of these clay soils. The clayey subgrade soils have been assigned an estimated visual classification of A-6 by the AASHTO classification method. They are generally rated as poor for pavement subgrade support due to their moderate to high frost susceptibility, poor drainage characteristics, and moderate to high susceptibility to strength loss when exposed to free water. Provided that the subgrade soils are prepared as outlined in the Site Preparation and Grading section of this report, the in-place subgrade soils and any new structural fill can be used for standard flexible or rigid pavement construction.

Analysis of the visual soil classifications has been made in estimating pertinent subgrade design coefficients as described in the Wisconsin Soils Manual for Pavement Design. Based on the soils encountered, and with proper subgrade preparation and drainage, the following pavement subgrade design parameters are recommended for the pavement section design. However, if soils with support characteristics different from the estimated clay materials are encountered or are used to raise grades in new pavement areas, revised coefficients will need to be provided.

PAVEMENT SUBGRADE DESIGN COEFFICIENTS

AASHTO Soil Classification	A-6
Design Frost Index	F-3
Design Group Index	14
Soil Support Value	4.0
Estimated Subgrade Modulus (k)	125 pci

These values are representative of the cohesive soils, which are the poorer soils present across this site. Some variations may be encountered and should be expected due to the widely spaced borings. In order to use the above values, all new fill used to raise low areas or replace unsuitable material must have pavement support characteristics that are equal to or better than the existing soils. The final design should be performed by a qualified engineer based on the intended pavement use, anticipated loading and subgrade conditions, and desired service life.

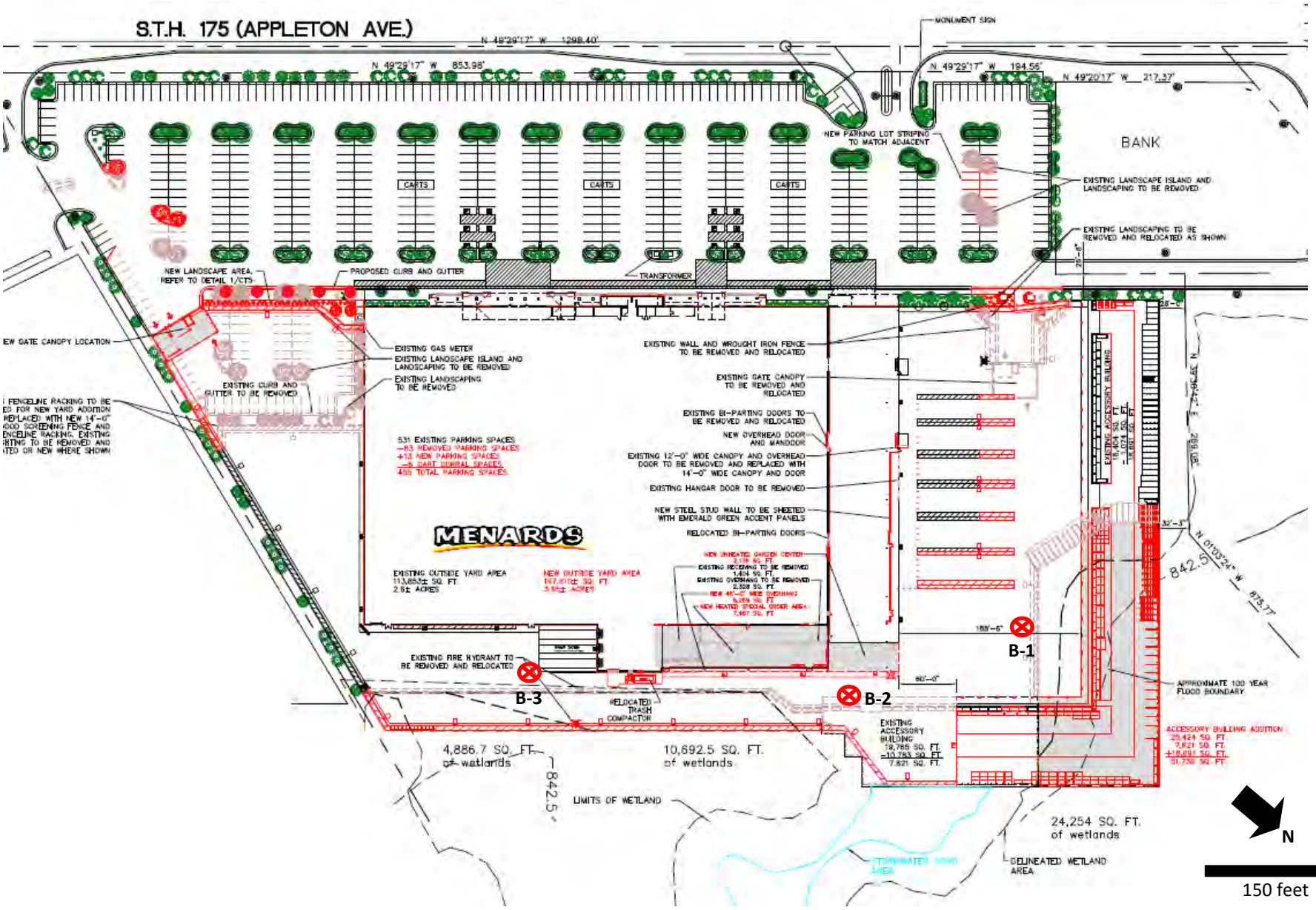
The subject site is located in an area that experiences annual freezing cycles and the subgrade soils encountered have been classified as highly susceptible to frost action when free water is present. In order to reduce the potential for frost action, it will be necessary to control surface runoff and water seepage, because complete removal and replacement of the frost susceptible subgrade soils is not considered economically feasible. It is recommended that underdrains be placed within the subgrade, just below the granular base, to help reduce the potential for trapping water within the aggregate base layer. Sufficient drain tiles extending radially outward an adequate distance from each interior catch basin must be installed. In addition, drain tiles should extend along curb lines, up the slope from curb inlets. The drain tile should be directly connected to the storm sewer manholes or catch basins (if permissible by local municipal or other applicable code). The drain tile should consist of perforated PVC pipe of adequate diameter placed beneath the base layer, extending a sufficient distance into the subgrade. The pipe should be surrounded by appropriately sized clean stone, with the pipe and stone being wrapped with a geotextile filter fabric to reduce the potential for soils to migrating into and obstruct the pipe. It is also recommended that roof drains be connected to the stormwater collection system to minimize the potential for this water to enter the base and subgrade.

GENERAL COMMENTS

This geotechnical exploration and foundation evaluation has been prepared to aid in the evaluation of the foundation conditions on this site. The recommendations presented herein are based on the available soil information and the design information provided. Any changes in the design information or building locations should be brought to the attention of the soils engineer to determine if modifications in the recommendations are required. The final design plans and specifications should also be reviewed by the soils engineer to determine that the recommendations presented herein have been interpreted and implemented as intended.

This geotechnical study has been conducted in a manner consistent with that level of care ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. The findings, recommendations and opinions contained herein have been promulgated in accordance with generally accepted practice in the fields of foundation engineering, soils mechanics, and engineering geology. No other representations expressed or implied, and no warranty or guarantee is included or intended in this report.

It is recommended that the earthwork and foundation operations be monitored by the soils engineer, to test and evaluate the bearing capacities, and the selection, placement and compaction of controlled fills.



intertek psi	Proposed Menards Germantown Expansion N168 W 9754 Appleton Avenue Germantown, Wisconsin	SCALE: 1 inch = 150 feet (approx.)
		DATE: 1/24/2020
	FIGURE 1: BORING LOCATION PLAN	PROJECT NUMBER: 00522495

BORING B-01

DATE STARTED:	1/9/20	**DRILL COMPANY:**	PSI, Inc.
DATE COMPLETED:	1/9/20	**DRILLER:** TE	**LOGGED BY:** NC
COMPLETION DEPTH	20.0 ft	**DRILL RIG:**	Truck-Mounted - Rig #431
BENCHMARK:	N/A	**DRILLING METHOD:**	Hollow Stem Auger
ELEVATION:	95.3 ft	**SAMPLING METHOD:**	2-in SS
LATITUDE:		**HAMMER TYPE:**	Automatic
LONGITUDE:		**EFFICIENCY**	N/A
STATION: N/A	**OFFSET:** N/A	**REVIEWED BY:**	
REMARKS:			

Water

While Drilling	11 feet
Upon Completion	Not Obsvd
Delay	N/A

BORING LOCATION:

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft ◎ × Moisture ◪ PL ✚ LL (0, 25, 50) STRENGTH, tsf ▲ Qu ✳ Qp (0, 2.0, 4.0)	Additional Remarks
95	0					Asphalt (5"± Thick)	ASPH		1	×	
						Base Course, Grayish Brown Silty Sand With Gravel, Damp (6"± Thick)	BASE				
				1	2	Fill, Light Brown Sandy Clay With Gravel, Moist		9-5-5-4 N=10	8	◎	
				2	6			3-2-2-3 N=4	19	◎ ✳×	
90	5			3	7		FILL	2-2-4-0 N=6	23	◎ × ✳	
				4	2			3-5-6-8 N=11	9	◎ ×	
85	10			5	2			4-3-4-4 N=7	14	◎ ×	
						Grayish Brown Silt, Wet					
				6	9		ML	1-2-3-4 N=5	23	×	
						Brown Fine Sand, Wet					
				7	0		SP	2-3-5-13 N=8	18	×	
80	15					Gray Silt, Wet					
				8	5		ML	10-8-6-7 N=14	20	◎ ×	
				9	8			1-2-5-6 N=7	18	◎ ×	
						Very Pale Brown Very Fine Sandy Clay, Wet					
				10	0		CL	2-4-6-7 N=10	22	◎ × ✳	Q_t = 2.5 tsf
	20					End of Boring at 20'					
						Cave-In at 9'					

intertek psi

Professional Service Industries, Inc.
821 Corporate Court, Suite 100
Waukesha, WI 53189
Telephone: (262) 521-2125

PROJECT NO.: 00522495
PROJECT: Menards Store Expansion
LOCATION: W186N9754 Appleton Ave.
Germantown, WI 53022
Washington County

The stratification lines represent approximate boundaries. The transition may be gradual.

BORING B-02

DATE STARTED:	1/9/20	**DRILL COMPANY:**	PSI, Inc.
DATE COMPLETED:	1/9/20	**DRILLER:**	TE **LOGGED BY:** NC
COMPLETION DEPTH	20.0 ft	**DRILL RIG:**	Truck-Mounted - Rig #431
BENCHMARK:	N/A	**DRILLING METHOD:**	Hollow Stem Auger
ELEVATION:	97.6 ft	**SAMPLING METHOD:**	2-in SS
LATITUDE:		**HAMMER TYPE:**	Automatic
LONGITUDE:		**EFFICIENCY**	N/A
STATION:	N/A **OFFSET:** N/A	**REVIEWED BY:**	
REMARKS:			

Water

While Drilling	11 feet
Upon Completion	Not Obsvd
Delay	N/A

BORING LOCATION:

Elevation (feet)	Depth, (feet)	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %
	0			Asphalt (6"± Thick)	ASPH		4
				Base Course, Light Brown Silty Sand With Gravel, Damp (6"± Thick)	BASE		
95		1	12	Fill, Brown Lean Clay With Gravel and Concrete Pieces, Moist	FILL	9-15-13-13 N=28	10
				Fill, Light Brown Fine Sand, Moist			
		2	8			7-21-20-14 N=41	7
	5	3	10			5-4-4-2 N=8	6
90		4	10		FILL	2-2-3-5 N=5	14
	10	5	5			3-3-5-6 N=8	11
				Light Brownish Gray Silt With Fine Sand, Wet			
85		6	0			12-7-3-4 N=10	
					ML		
		7	9			7-6-6-9 N=12	15
	15			Brown to Gray Silty Fine Sand, Wet			
		8	8			14-10-12-9 N=22	19
80					SM		
		9	7			3-4-5-6 N=9	19
		10	6	Bluish Gray Silt, With Gravel, Moist	ML	5-9-22-17 N=31	8
	20			End of Boring at 20'			
				Cave-In at 10'			

STANDARD PENETRATION TEST DATA
N in blows/ft ◎
× Moisture ◪ PL ✚ LL
0 25 50
STRENGTH, tsf
▲ Qu ✳ Qp
0 2.0 4.0

Additional Remarks

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Waukesha, WI 53189
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PROJECT: Menards Store Expansion
LOCATION: W186N9754 Appleton Ave.
Germantown, WI 53022
Washington County

The stratification lines represent approximate boundaries. The transition may be gradual.

BORING B-03

DATE STARTED:	1/9/20	**DRILL COMPANY:**	PSI, Inc.
DATE COMPLETED:	1/9/20	**DRILLER:** TE	**LOGGED BY:** NC
COMPLETION DEPTH	20.0 ft	**DRILL RIG:**	Truck-Mounted - Rig #431
BENCHMARK:	N/A	**DRILLING METHOD:**	Hollow Stem Auger
ELEVATION:	100.8 ft	**SAMPLING METHOD:**	2-in SS
LATITUDE:		**HAMMER TYPE:**	Automatic
LONGITUDE:		**EFFICIENCY**	N/A
STATION: N/A	**OFFSET:** N/A	**REVIEWED BY:**	
REMARKS:			

Water

While Drilling	13 feet
Upon Completion	15 feet
Delay	N/A

BORING LOCATION:

Elevation (feet)	Depth, (feet)	Graphic Log	Sample Type	Sample No.	Recovery (inches)	MATERIAL DESCRIPTION	USCS Classification	SPT Blows per 6-inch (SS)	Moisture, %	STANDARD PENETRATION TEST DATA N in blows/ft ◎ × Moisture ◪ PL ✚ LL (0, 25, 50) STRENGTH, tsf ▲ Qu ✳ Qp (0, 2.0, 4.0)	Additional Remarks
	0					Asphalt (6"± Thick)	ASPH		4		
100						Base Course (6"± Thick), Light Brown Silty Sand With Gravel, Moist	BASE				
				1	7	Fill, Yellowish Brown Silty Sand With Gravel, Moist	FILL	14-26-22-48 N=48	5		
				2	2	Fill, Yellowish Brown Sandy Lean Clay, Wet	FILL	50/0"	16		
	5			3	10	Fill, Light Brown Fine Sand, Moist	FILL	16-14-12-12 N=26	7		
95				4	8	Gray Lean Clay, Moist		5-2-4-7 N=6	19		
	10			5	0		CL	5-5-6-6 N=11			
90				6	4			3-4-4-4 N=8	19		
				7	18	Light Gray Silt, Wet	ML	2-3-5-9 N=8	18		
	15			8	0	Light Brown Fine Sand, Trace Gravel, Wet	SM	9-8-12-14 N=20	15		
85				9	14	Gray Silt, Wet	ML	3-5-7-9 N=12	20		
				10	5			2-8-7-12 N=15	19		
	20					End of Boring at 20'					
						Cave-In at 17'					

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Washington County

The stratification lines represent approximate boundaries. The transition may be gradual.

Wisconsin Department of Safety and Professional Services
Division of Safety and Buildings

SOIL EVALUATION - STORM

In accordance with SPS 382.365 and 385, Wis. Adm. Code

Attach complete site plan on paper not less than 8 ½ x 11 inches in size. Plan must include, but not be limited to: vertical and horizontal reference point (BM), direction and percent slope, scale or dimensions, north arrow, and BM referenced to nearest road.

Please print all information

Personal information you provide may be used for secondary purposes (Privacy Law, s. 15.04 (1) (m).

County	**Washington**
Parcel I.D.	**333963**
Reviewed by	Date

Property Owner **Menard Inc**				Property Location **Govt. Lot ¼ SW ¼ S 33 T9 N20 E**	
Property Owner's Mailing Address **4777 Menard Drive**				Lot # 1	Block # 	CSM# **5517**
City **Eau Claire**	State **WI**	Zip Code **54703**	Phone Number ( )	☐ City ☒ Village ☐ Town **Germantown**	Nearest Road W186N9754 Appleton Ave

Drainage area _____ ☐ sq. ft. ☐ acres
Optional:

Test Site Suitable for (check all that apply)

☐ Irrigation ☐ Bioretention trench ☐ Trench(es)
☐ Rain garden ☐ Infiltration Pond ☐ Reuse
☐ infiltration trench ☐ Retention Pond ☐ Other _____

Hydraulic Application Test Method:

☒ Morphological Evaluation
☐ Double-Ring Infiltrometer
☐ Other (specify)
_____

Soil Moisture
Date of Soil Borings: 1/9/2020

USDA-NRCS WETS Value:

☐ Dry = 1
☐ Normal = 2
☒ Wet = 3

1 Obs. #

☒Boring B-01
☐Pit

Ground surface elev: 95.3 ft.

Depth to limiting factor: 132 in.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.**	% Fines**,[1]	Table 2 Infiltration Rate Inches/Hr
1	0-12	Pavement								-
2	12-132	10YR 5/6		scl[1]	0	mfi	-	15-35	20-55	0.11[2]
3	132-156	10Y 5/2		sil	1, m, abk	mfi	-	0	50-100	0.13
4	156-180	10YR 5/4		lfs	0	ml	-	0	10-30	0.50
5	180-204	10YR 5/2		sil	2, m, abk	mvfr	-	0	50-100	0.13
6	204-228	10YR 5/1		sil	2, m, abk	mvfr	-	0	50-100	0.13
7	228-240	7.5YR 4/4		sic	2, m, abk	mfi	-	0	80-100	0.07

2 Obs. #

☒Boring B-02
☐Pit

Ground surface elev: 97.6 ft.

Depth to limiting factor: 132 in.

Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.**	% Fines**,[1]	Table 2 Infiltration Rate Inches/Hr
1	0-12	Pavement								-
2	12-36	10YR 4/3		scl[1]	0	mfi	-	15-35	20-55	0.11[2]
3	36-132	10YR 6/3		fls[1]	0	ml	-	0	10-30	1.63[2]
4	132-156	10YR 6/2		sicl	0	ml	-	0	80-100	0.04
5	156-180	10YR 5/4		lfs	0	ml	-	0	15-55	0.50
6	180-228	10YR 5/2		lfs	0	ml	-	0	15-55	0.50
7	228-240	10YR 4/1		sil	0	mfi	-	0	50-100	0.13

Wisconsin Department of Safety and Professional Services
Division of Safety and Buildings

SOIL EVALUATION - STORM

In accordance with SPS 382.365 and 385, Wis. Adm. Code

3	Obs. #	☒Boring B-03 ☐Pit	Ground surface elev: 100.8 ft.	Depth to limiting factor: 84 in.

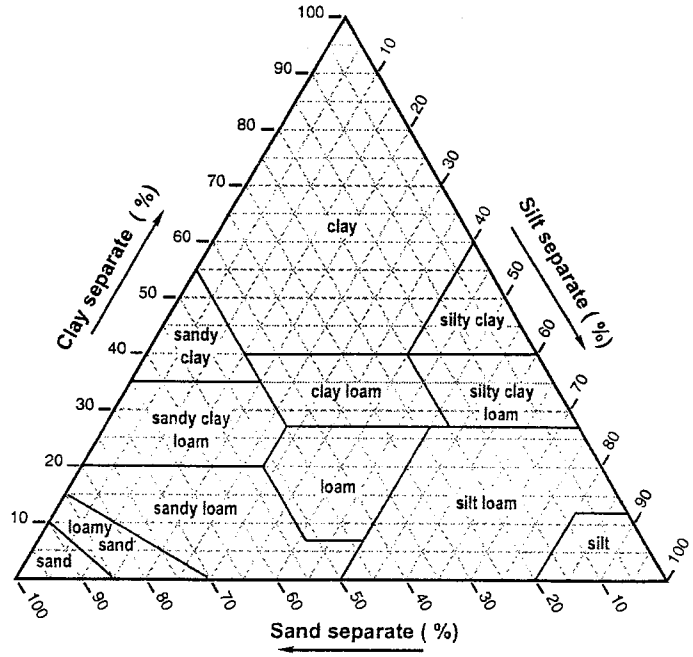
Horizon	Depth in.	Dominant Color Munsell	Redox Description Qu. Sz. Cont. Color	Texture	Structure Gr. Sz. Sh.	Consistence	Boundary	% Rock Frag.**	% Fines**,[1]	Table 2 Infiltration Rate Inches/Hr
1	0-12	Pavement								-
2	12-36	10YR 5/4		sl	0	mvfr	-	15-35	15-55	0.50[2]
3	36-60	10YR 5/4		sicl	0	mfi	-	0	80-100	0.04[2]
4	60-84	10YR 6/4		lfs	0	ml	-	0	15-55	0.50[2]
5	84-156	GLEY 2 4/1		sic	1, m, abk	mfi	-	0	80-100	0.07
6	156-180	10YR 6/4		sil	1, m, abk	mfr	-	0	50-100	0.13
7	180-204	10YR 5/4		ls	0	mfi	-	0	15-55	1.63
8	204-240	10YR 6/2		sicl	1, m, abk	mfi	-	0	80-100	0.04

** Estimated based upon the visual classification and not based upon laboratory testing
[1] Fill soils
[2] Actual infiltration rates of fill soils may vary significantly from Table 2 estimated values due to inherent variability in the composition and density of fill materials

CST/PSS Name (Please Print)	Signature	WI-CST Number
Bradley J. Broback, P.E.	Bradley J. Broback	1411511
Address	**Date Evaluation Conducted**	**Telephone Number**
821 Corporate Court, Waukesha, Wisconsin 53189		262-521-2125

Texture Triangle:

Fine Earth Texture Classes (——)



TEXTURE MODIFIERS - Conventions for using "Rock Fragment Texture Modifiers" and for using textural adjectives that convey the "% volume" ranges for **Rock Fragments - Size and Quantity**.

Fragment Content % By Volume	Rock Fragment Modifier Usage
< 15	No texture adjective is used (noun only; e.g., *loam*).
15 to < 35	Use adjective for appropriate size; e.g., *gravelly*.
35 to < 60	Use "very" with the appropriate size adjective; e.g., *very gravelly*.
60 to < 90	Use "extremely" with the appropriate size adjective; e.g., *extremely gravelly*.
≥ 90	No adjective or modifier. If ≤ 10% fine earth, use the appropriate noun for the dominant size class; e.g., *gravel*. Use **Terms in Lieu of Texture**.

(SOIL) TEXTURE

This is the numerical proportion (percent by weight) of sand, silt, and clay in a soil. Sand, silt, and clay content is estimated in the field by hand (or quantitatively measured in the office/lab by hydrometer or pipette) and then placed within the texture triangle to determine **Texture Class**. Estimate the **Texture Class**; e.g., *sandy loam*; or **Subclass**; e.g., *fine sandy loam* of the fine earth (≤ 2 mm) fraction, or choose a **Term in Lieu of Texture**; e.g., *gravel.* If appropriate, use a **Textural Class Modifier**; e.g., *gravelly silt loam.*

NOTE: **Soil Texture** encompasses only the fine earth fraction (≤ 2 mm). **Particle Size Distribution** (PSD) encompasses the whole soil, including both the fine earth fraction (≤ 2 mm; weight %) and rock fragments (> 2 mm; volume %).

TEXTURE CLASS

Texture Class or Subclass	Code	
	Conv.	NASIS
Coarse Sand	cos	COS
Sand	s	S
Fine Sand	fs	FS
Very Fine Sand	vfs	VFS
Loamy Coarse Sand	lcos	LCOS
Loamy Sand	ls	LS
Loamy Fine Sand	lfs	LFS
Loamy Very Fine Sand	lvfs	LVFS
Coarse Sandy Loam	cosl	COSL
Sandy Loam	sl	SL
Fine Sandy Loam	fsl	FSL
Very Fine Sandy Loam	vfsl	VFSL
Loam	l	L
Silt Loam	sil	SIL
Silt	si	SI
Sandy Clay Loam	scl	SCL
Clay Loam	cl	CL
Silty Clay Loam	sicl	SICL
Sandy Clay	sc	SC
Silty Clay	sic	SIC
Clay	c	C

TEXTURE MODIFIERS - *(adjectives)*

ROCK FRAGMENTS: Size & Quantity [1]	Code		Criteria: Percent (By Volume) of Total Rock Fragments and Dominated By (*name size*): [1]
	Conv.	PDP/ NASIS	
ROCK FRAGMENTS (> 2 mm; ≥ Strongly Cemented)			
Gravelly	GR	GR	≥ 15% but < 35% gravel
Fine Gravelly	FGR	GRF	≥15% but < 35% fine gravel
Medium Gravelly	MGR	GRM	≥15% but < 35% med. gravel
Coarse Gravelly	CGR	GRC	≥ 15% but < 35% coarse gravel
Very Gravelly	VGR	GRV	≥ 35% but < 60% gravel
Extremely Gravelly	XGR	GRX	≥ 60% but < 90% gravel
Cobbly	CB	CB	≥ 15% but < 35% cobbles
Very Cobbly	VCB	CBV	≥ 35% but < 60% cobbles
Extremely Cobbly	XCB	CBX	≥ 60% but < 90% cobbles
Stony	ST	ST	≥ 15% but < 35% stones
Very Stony	VST	STV	≥ 35% but < 60% stones
Extremely Stony	XST	STX	≥ 60% but < 90% stones
Bouldery	BY	BY	≥ 15% but < 35% boulders
Very Bouldery	VBY	BYV	≥ 35% but < 60% boulders
Extremely Bouldery	XBY	BYX	≥ 60% but < 90% boulders
Channery	CN	CN	≥ 15% but < 35% channers
Very Channery	VCN	CNV	≥ 35% but < 60% channers
Extremely Channery	XCN	CNX	≥ 60% but < 90% channers
Flaggy	FL	FL	≥ 15% but < 35% flagstones
Very Flaggy	VFL	FLV	≥ 35% but < 60% flagstones
Extremely Flaggy	XFL	FLX	≥ 60% but < 90% flagstones
PARAROCK FRAGMENTS (> 2 mm; < Strongly Cemented) [2, 3]			
Parabouldery	PBY	PBY	(same criteria as bouldery)
Very Parabouldery	VPBY	PBYV	(same criteria as very bouldery)
Extr. Parabouldery	XPBY	PBYX	(same criteria as ext. bouldery)
etc.	etc.	etc.	(same criteria as non-para)

[1] The "Quantity" modifier (e.g., *very*) is based on the total rock fragment content. The "Size" modifier (e.g., *cobbly*) is independently based on the largest, dominant fragment size. For a mixture of sizes (e.g., *gravel and stones*), a smaller size–class is named only if its quantity (%) sufficiently exceeds that of a larger size–class. For field texture determination, a smaller size-class must exceed 2 times the quantity (vol. %) of a larger size class before it is named (e.g., 30% gravel and 14% stones = *very gravelly*, but 20% gravel and 14% stones = *stony*). For more explicit naming criteria see NSSH-Part 618, Exhibit 618.11(Soil Survey Staff, 2001b).

GENERAL NOTES

SAMPLE IDENTIFICATION

The Unified Soil Classification System (USCS), AASHTO 1988 and ASTM designations D2487 and D-2488 are used to identify the encountered materials unless otherwise noted. Coarse-grained soils are defined as having more than 50% of their dry weight retained on a #200 sieve (0.075mm); they are described as: boulders, cobbles, gravel or sand. Fine-grained soils have less than 50% of their dry weight retained on a #200 sieve; they are defined as silts or clay depending on their Atterberg Limit attributes. Major constituents may be added as modifiers and minor constituents may be added according to the relative proportions based on grain size.

DRILLING AND SAMPLING SYMBOLS

SFA: Solid Flight Auger - typically 4" diameter flights, except where noted.
HSA: Hollow Stem Auger - typically 3¼" or 4¼ I.D. openings, except where noted.
M.R.: Mud Rotary - Uses a rotary head with Bentonite or Polymer Slurry
R.C.: Diamond Bit Core Sampler
H.A.: Hand Auger
P.A.: Power Auger - Handheld motorized auger

SS: Split-Spoon - 1 3/8" I.D., 2" O.D., except where noted.
ST: Shelby Tube - 3" O.D., except where noted.
RC: Rock Core
TC: Texas Cone
BS: Bulk Sample
PM: Pressuremeter
CPT-U: Cone Penetrometer Testing with Pore-Pressure Readings

SOIL PROPERTY SYMBOLS

N: Standard "N" penetration: Blows per foot of a 140 pound hammer falling 30 inches on a 2-inch O.D. Split-Spoon.
N_{60}: A "N" penetration value corrected to an equivalent 60% hammer energy transfer efficiency (ETR)
Q_u: Unconfined compressive strength, TSF
Q_p: Pocket penetrometer value, unconfined compressive strength, TSF
w%: Moisture/water content, %
LL: Liquid Limit, %
PL: Plastic Limit, %
PI: Plasticity Index = (LL-PL),%
DD: Dry unit weight, pcf
▼,▽,▼ Apparent groundwater level at time noted

RELATIVE DENSITY OF COARSE-GRAINED SOILS

Relative Density	N - Blows/foot
Very Loose	0 - 4
Loose	4 - 10
Medium Dense	10 - 30
Dense	30 - 50
Very Dense	50 - 80
Extremely Dense	80+

ANGULARITY OF COARSE-GRAINED PARTICLES

Description	Criteria
Angular:	Particles have sharp edges and relatively plane sides with unpolished surfaces
Subangular:	Particles are similar to angular description, but have rounded edges
Subrounded:	Particles have nearly plane sides, but have well-rounded corners and edges
Rounded:	Particles have smoothly curved sides and no edges

GRAIN-SIZE TERMINOLOGY

Component	Size Range
Boulders:	Over 300 mm (>12 in.)
Cobbles:	75 mm to 300 mm (3 in. to 12 in.)
Coarse-Grained Gravel:	19 mm to 75 mm (¾ in. to 3 in.)
Fine-Grained Gravel:	4.75 mm to 19 mm (No.4 to ¾ in.)
Coarse-Grained Sand:	2 mm to 4.75 mm (No.10 to No.4)
Medium-Grained Sand:	0.42 mm to 2 mm (No.40 to No.10)
Fine-Grained Sand:	0.075 mm to 0.42 mm (No. 200 to No.40)
Silt:	0.005 mm to 0.075 mm
Clay:	<0.005 mm

PARTICLE SHAPE

Description	Criteria
Flat:	Particles with width/thickness ratio > 3
Elongated:	Particles with length/width ratio > 3
Flat & Elongated:	Particles meet criteria for both flat and elongated

RELATIVE PROPORTIONS OF FINES

Descriptive Term	% Dry Weight
Trace:	< 5%
With:	5% to 12%
Modifier:	>12%

GENERAL NOTES

(Continued)

CONSISTENCY OF FINE-GRAINED SOILS

Q_U - TSF	N - Blows/foot	Consistency
0 - 0.25	0 - 2	Very Soft
0.25 - 0.50	2 - 4	Soft
0.50 - 1.00	4 - 8	Firm (Medium Stiff)
1.00 - 2.00	8 - 15	Stiff
2.00 - 4.00	15 - 30	Very Stiff
4.00 - 8.00	30 - 50	Hard
8.00+	50+	Very Hard

MOISTURE CONDITION DESCRIPTION

Description	Criteria
Dry:	Absence of moisture, dusty, dry to the touch
Moist:	Damp but no visible water
Wet:	Visible free water, usually soil is below water table

RELATIVE PROPORTIONS OF SAND AND GRAVEL

Descriptive Term	% Dry Weight
Trace:	< 15%
With:	15% to 30%
Modifier:	>30%

STRUCTURE DESCRIPTION

Description	Criteria
Stratified:	Alternating layers of varying material or color with layers at least ¼-inch (6 mm) thick
Laminated:	Alternating layers of varying material or color with layers less than ¼-inch (6 mm) thick
Fissured:	Breaks along definite planes of fracture with little resistance to fracturing
Slickensided:	Fracture planes appear polished or glossy, sometimes striated
Blocky:	Cohesive soil that can be broken down into small angular lumps which resist further breakdown
Lensed:	Inclusion of small pockets of different soils
Layer:	Inclusion greater than 3 inches thick (75 mm)
Seam:	Inclusion 1/8-inch to 3 inches (3 to 75 mm) thick extending through the sample
Parting:	Inclusion less than 1/8-inch (3 mm) thick

SCALE OF RELATIVE ROCK HARDNESS

Q_U - TSF	Consistency
2.5 - 10	Extremely Soft
10 - 50	Very Soft
50 - 250	Soft
250 - 525	Medium Hard
525 - 1,050	Moderately Hard
1,050 - 2,600	Hard
>2,600	Very Hard

ROCK BEDDING THICKNESSES

Description	Criteria
Very Thick Bedded	Greater than 3-foot (>1.0 m)
Thick Bedded	1-foot to 3-foot (0.3 m to 1.0 m)
Medium Bedded	4-inch to 1-foot (0.1 m to 0.3 m)
Thin Bedded	1¼-inch to 4-inch (30 mm to 100 mm)
Very Thin Bedded	½-inch to 1¼-inch (10 mm to 30 mm)
Thickly Laminated	1/8-inch to ½-inch (3 mm to 10 mm)
Thinly Laminated	1/8-inch or less "paper thin" (<3 mm)

ROCK VOIDS

Voids	Void Diameter
Pit	<6 mm (<0.25 in)
Vug	6 mm to 50 mm (0.25 in to 2 in)
Cavity	50 mm to 600 mm (2 in to 24 in)
Cave	>600 mm (>24 in)

GRAIN-SIZED TERMINOLOGY

(Typically Sedimentary Rock)

Component	Size Range
Very Coarse Grained	>4.76 mm
Coarse Grained	2.0 mm - 4.76 mm
Medium Grained	0.42 mm - 2.0 mm
Fine Grained	0.075 mm - 0.42 mm
Very Fine Grained	<0.075 mm

ROCK QUALITY DESCRIPTION

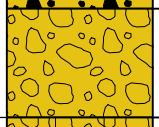
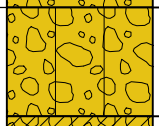
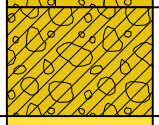
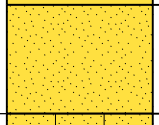
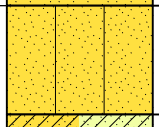
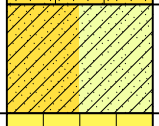
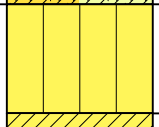
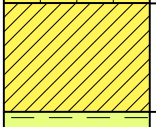
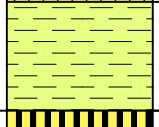
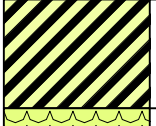
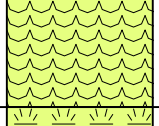
Rock Mass Description	RQD Value
Excellent	90 -100
Good	75 - 90
Fair	50 - 75
Poor	25 -50
Very Poor	Less than 25

DEGREE OF WEATHERING

Slightly Weathered:	Rock generally fresh, joints stained and discoloration extends into rock up to 25 mm (1 in), open joints may contain clay, core rings under hammer impact.
Weathered:	Rock mass is decomposed 50% or less, significant portions of the rock show discoloration and weathering effects, cores cannot be broken by hand or scraped by knife.
Highly Weathered:	Rock mass is more than 50% decomposed, complete discoloration of rock fabric, core may be extremely broken and gives clunk sound when struck by hammer, may be shaved with a knife.

SOIL CLASSIFICATION CHART

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE	GRAVEL AND GRAVELLY SOILS MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

intertek psi

STORMWATER MANAGEMENT PLAN REPORT

Menards Germantown- Yard Expansion

Village of Germantown, WI

Washington County

Located at: W186N9754 Appleton Ave

October 2019

PREPARED BY:

CEDAR CORPORATIO

604 WILSON AVENUE

MENOMONIE, WI 54751

(715)-235-9081

Table of Contents

Introduction:.....3
Site Description:.....3
Existing Stormwater Runoff Analysis:.....3
Site Improvements:.....3
Proposed Stormwater Runoff Analysis:.....4
WisDNR Requirements:.....4

Appendix

Appendix A- Existing Site Conditions

Appendix B- NRCS Soil Report

Appendix C- Pre-Developed HydroCAD Report

Appendix D- Existing HydroCAD Report

Appendix E- Proposed HydroCAD Report

Appendix F- WinSLAMM Summary

Introduction:

Menards Germantown Store is a commercial home improvement store located at W186N9754 Appleton Ave, Germantown, WI. The site consists of mainly impervious pavement parking lots, and an impervious warehouse and holding yard. Menards is proposing an expansion to its current site which will also include an expansion to the existing stormwater holding facilities. Currently the site is split into two stormwater holding facilities, one facility is located off of the southeast corner of the building and another is located to the northwest of the building within the existing yard.

Site Description:

The Menards Store is constructed on approximately 34 acres. The existing stormwater facilities serves the impervious area of the site which equates to approximately 16.5 acres of impervious area. See **Appendix A** for the existing site conditions and drainage areas from a previously submitted stormwater report. All of the stormwater from the existing parking lot is directed and treated in the stormwater holding tank located in the parking lot. Well the runoff from the building and all of the other impervious areas is directed to the second stormwater holding tanks located under the existing holding yard. The existing soils around the site where found to be primarily silt loam soils. See **Appendix B** for the NRCS Soils Report.

Existing Stormwater Runoff Analysis:

Stormwater runoff of the existing project site was evaluated with HydroCAD v10.0 stormwater modeling software. The table below summarizes existing stormwater runoff amounts from the stormwater drainage ares for the 1-year, 2-year, 10-year, 25-year, and 100-year storm events. The HydroCAD report for the pre-developed site can be seen below in **Appendix C** and the existing site conditions HydroCAD report can also be found in **Appendix D.**

Storm Event	1-year	2-year	10-year	25-year	100-year
Rainfall Amount (in)	2.35"	2.65"	3.82"	4.73"	6.41"
Existing Runoff (cfs)	1.91	2.28	3.29	4.03	30.61
Pre-developed Runoff (cfs)	17.52	21.91	40.24	55.34	83.57

Table 1 – Existing Stormwater Runoff Rates (Cubic Feet per Second)

Site Improvements:

The proposed project is construction of a warehouse addition, building additions, and yard expansion behind and existing Menards Store, in Germantown, WI. Construction activities will include demolition and removals of existing structures and pavement, earthwork, grading, utility installation, asphalt paving, curb and gutter, sidewalk, stormwater pond construction, and building construction. The site will be 50% impervious.

Proposed Stormwater Runoff Analysis:

The proposed site will be split into 4 different drainage areas. The existing pavement parking lot located in front of the store will drain to the existing storm sewer holding system and discharge into the second storm sewer holding system. The second drainage area consist of the existing yard, the existing building and some paved parking areas within the site. The second area will drain into the second stormwater holding system and be discharged from there. The second storm sewer holding system was designed to provide rate control for the existing site. The third drainage area includes the warehouse addition and some of the pavement additions located to the northwest of the existing building along with approximately 20,350 square feet of the existing second drainage area will be directed to the third drainage system, lessening the load on the second system. And the fourth area will be the new pavement that is located to the north of the existing loading dock. Both of the new systems will be produced by ADS Stromtech and will be installed under the proposed expansion and will meet both rate control and provide water quality for the addition. Details of the proposed systems can be found attached to the plans. The table below shows the runoff amounts for the proposed site compared to the pre-developed site. The HydroCAD report for this evaluation can also be found in **Appendix E**.

Storm Event	**1-year**	**2-year**	**10-year**	**25-year**	**100-year**
Rainfall Amount (in)	2.35"	2.65"	3.82"	4.73"	6.41"
Pre-developed Runoff (cfs)	17.52	21.91	40.24	55.34	83.57
Proposed Runoff (cfs)	1.95	2.32	3.32	4.08	48.37

Table 2 – Proposed Stormwater Runoff Rates

Stormwater runoff quality of the proposed project site was evaluated with WinSLAMM v10.3.4 model. The findings of this evaluation can be found in **Appendix F** and are summarized in Table 3 below.

	Load (lbs)	Removed (lbs)	Discharge (lbs)	Removal Efficiency (%)
Menards Germantown Expansion	798.90	478.00	320.90	56.55

Table 3 – Proposed Stormwater Water Quality Results

WisDNR Requirements:

Sections NR 151.122 to 151.128 outline post construction performance standards for the project. The Village of Germantowns Stormwater Management Requirements, and the Milwaukee Metropolitan Sewerage District requirements have also been consulted. The following standards have been addressed:

WisDNR NR 151.122 requires 40% TSS removal for a "Re-Development" site. As stated Table 3, above, the proposed stormwater holding system will provide 59.93 % TSS removal for the proposed menards expansion area.

WisDNR NR 151.123 requires proposed peak discharge rates to be less than or equal to existing peak discharge rates for the 1- and 2-year storm events. As stated in Table 2, above, the proposed stormwater holding system will reduce the peak discharge rates from the 1-year, 2-year, 10-year, 50-year, and 100-year storm events. And meet the MMSD requirements for discharge of the 2-year and 100-year event.

WisDNR NR 151.124 requires infiltration of the post-construction site. For moderate imperviousness, the post construction site shall infiltrate atleast 75% of the infiltration volume of the predevelopment infiltration volume. No more than 2 percent of the post construction site is required to meet this requirement.

Appendix A

GERMANTOWN MENARDS SITE
DRAINAGE REPORT

CLIENT:
MENARDS

PREPARED BY:
TEC DESIGN, INC.
5828 ARNDT LANE
EAU CLAIRE, WI 54701

APRIL 2001
(Revised June 14, 2001)
(Revised July 25, 2001)
(Revised February 7, 2002)
(Revised June 6, 2002)
(Revised February 6, 2003)
(Revised March 12, 2003)

INDEX

Index	i
Stormwater Requirements and Methodology	1
Stormwater Detention Design	1
Summary	2
Appendix A	
Pre-developed Drainage Basin Map	A-1
Post-developed Drainage Basin Map	A-2
Appendix B'	
Pre-developed Drainage Diagram	B-1
Pre-developed – 2-year Recurrence Calculations	B-2
Pre-developed – 100-year Recurrence Calculations	B-3
Post-developed Drainage Diagram	B-4
Post-developed – 2-year Recurrence Calculations	B-5
Post-developed – 100-year Recurrence Calculations	B-11
Pond 1 Volume Calculations	B-17
Pond 1 Stage-Discharge Curve	B-19
Pond 2 Volume Calculations	B-20
Pond 2 Stage-Discharge Curve	B-24

STORMWATER REQUIREMENTS AND METHODOLOGY

The Menards site being developed has to satisfy stringent stormwater detention requirements. Per the Milwaukee Metropolitan Sewerage District (MMSD), the post-developed release rate from the site may not exceed 0.15 cfs/acre during the 2-year storm event. During the 100-year storm event, the release rate must not exceed 0.50 cfs/acre. A detention pond with an outlet control structure will be used to control the peak flows that are discharged from the site. HydroCad (Version 6) Stormwater Modeling System was utilized for modeling of the stormwater management for this site.

STORMWATER DETENTION DESIGN

Using HydroCad modeling it was determined that post-developed peak flows for the 2-year and 100-year storm event are 41.9 cfs and 107.1 cfs, respectively. Per the requirements of the MMSD, the peak flows must be reduced to 0.15 cfs/acre for the 2-year storm event and 0.50 cfs/acre for the 100-year storm event. The proposed Menards site is 16.6 acres. The allowable release rates for the 2-year and 100-year storm events are 2.5 cfs and 7.9 cfs, respectively. Based on the post-developed peak inflows and the allowable outflows, a considerable storage volume will be required to reduce the peak flows to the allowable. Due to constraints with availability of land for the required detention pond and existing subsurface conditions, combined detention facilities composed of underground storage and the traditional detention pond has been proposed for the Menards site.

The volume of the traditional detention pond and the underground storage system (consisting of 60-inch diameter storm pipe), referred to as Pond 2, were calculated on

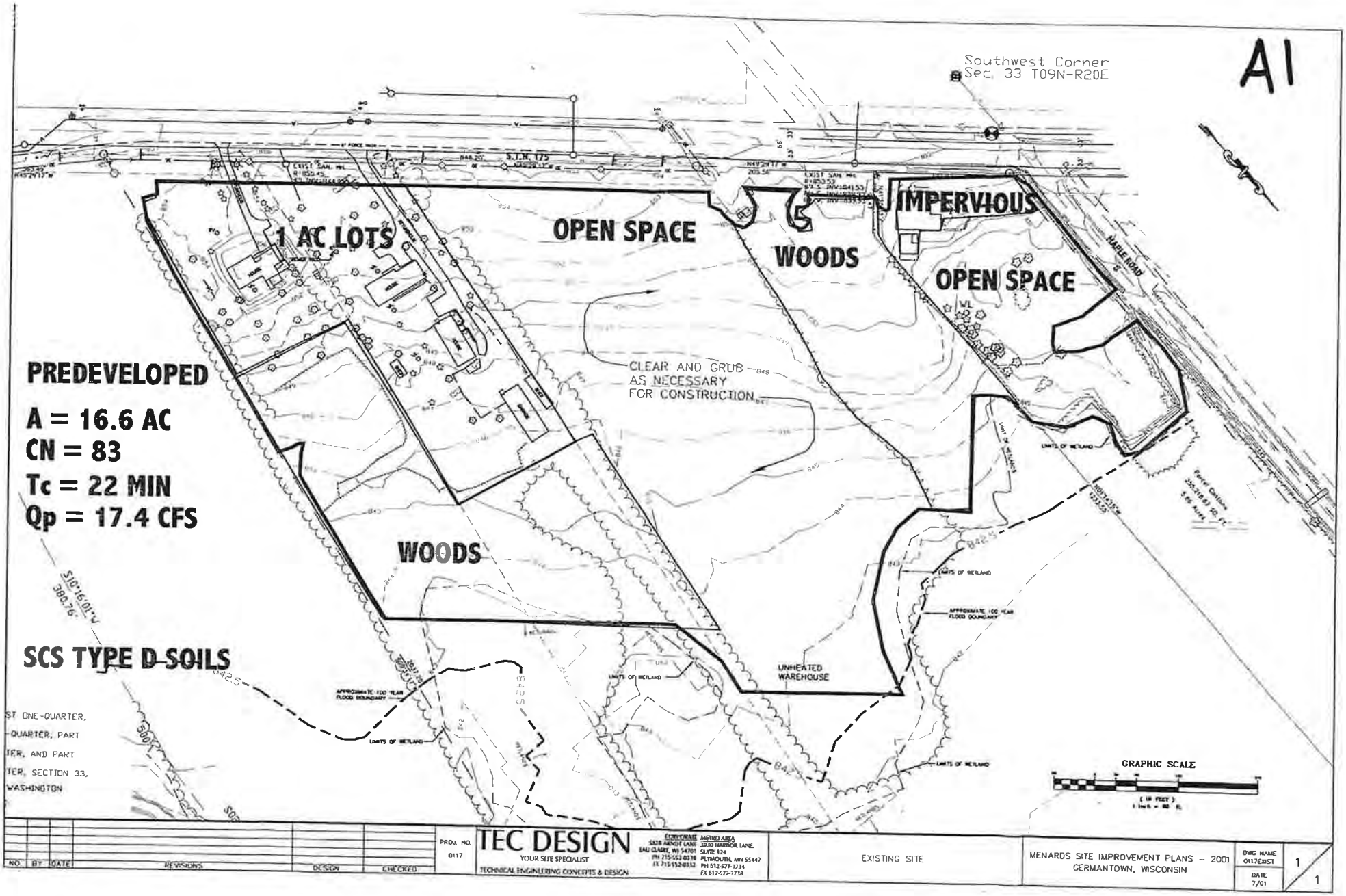
Page B-20. The volume of the combined system was considered to be inadequate to control the post-developed inflow and release at the required rates. Therefore a preliminary pond, referred to as Pond 1, was designed to reduce the peak-developed flows from the upper portion of the site. This pond will be an underground system consisting of a series of 48-inch diameter storm pipe. The peak discharge from this stormwater detention facility will be conveyed to the combination detention facility where the peak post-developed inflows will be reduced to the required release rates.

Two (2) 2-stage outlet structures, with a 4.5-inch and a 5.75-inch orifices cored into a 6-inch thick concrete divider within a storm manhole, were designed to control release rates from the stormwater detention facility. The 2-year post-developed peak inflow was routed through the detention pond system. The peak outflow during this event is 2.5 cfs, which is equal to the allowable 2.5 cfs. The 100-year post-developed peak inflow was routed through the detention pond system. The peak outflow during this event is 7.9 cfs, which is less than the allowable 8.3 cfs. The highwater level during the 100-year storm event was determined to be 848.75. This will allow for a freeboard depth of 0.95 feet.

SUMMARY

The stormwater requirements of the City of Germantown have been met through creative stormwater management practices. The system will achieve the stormwater management objectives set forth in Germantown's ordinances.

APPENDIX 'A'



NO.	BY	DATE	REVISIONS	DESIGN	CHECKED

PROJ. NO. 0117

TEC DESIGN
YOUR SITE SPECIALIST
TECHNICAL ENGINEERING CONCEPTS & DESIGN

CORPORATE
5828 ABNOT LANE
EAU CLAIRE, WI 54701
PH 715-552-0316
FX 715-552-0332

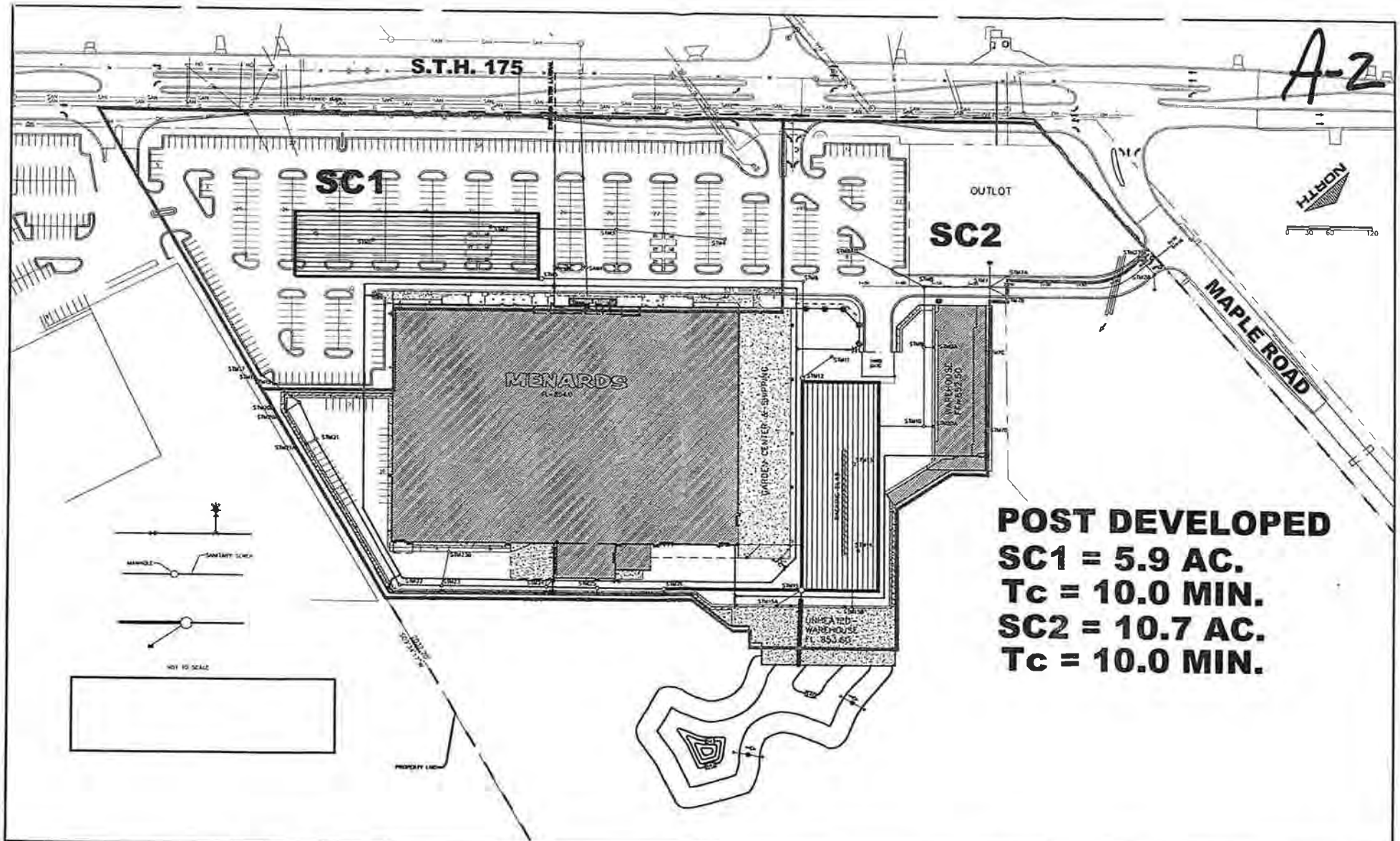
METRO AREA
3930 HARBOR LANE
SUITE 124
PLYMOUTH, MN 55447
PH 612-577-3734
FX 612-577-3738

EXISTING SITE

MENARDS SITE IMPROVEMENT PLANS – 2001
GERMANTOWN, WISCONSIN

DWG NAME 0117EXIST
DATE 7/01
1 / 1

A-2



NO	DATE	REVISIONS	DRAFTED	DESIGNED	CHECKED
2	3/03	UPDATED UNDER GROUND STORM STORAGE AREA #2	RJR	RJR	RJR
1	02/21	MOVED POND	MJE	RJR	

PROJ. NO 0117

TEC DESIGN
YOUR SITE SPECIALIST
TECHNICAL ENGINEERING CONCEPTS & DESIGN
5828 ARNDT LANE
EAU CLAIRE, WI 54701
PH 715-552-0308
FX 715-552-0312
EMAIL TEC@TECDESIGNINC.COM

POST DEV SITE PLAN

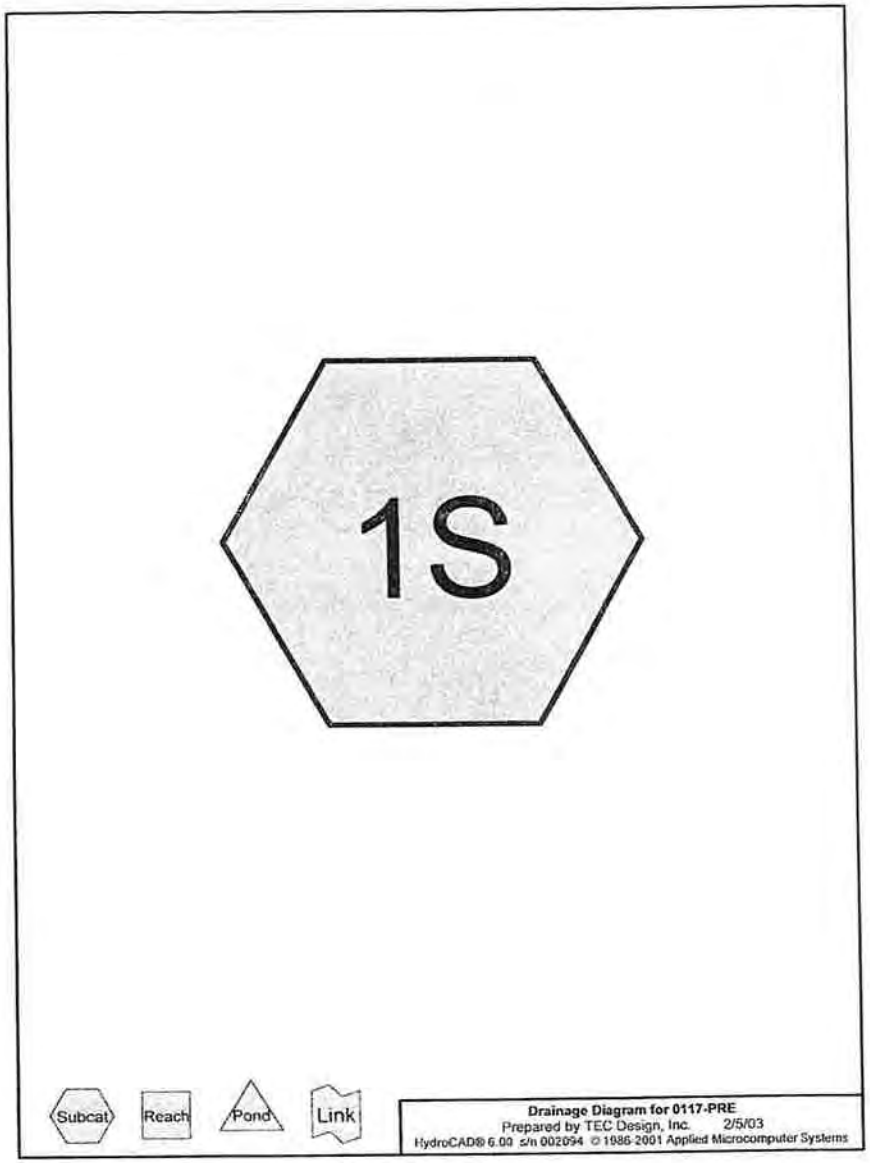
MENARDS SITE IMPROVEMENT PLANS-2002
GERMANTOWN, WISCONSIN

DWG NAME 0117
DATE 03/03

1 / 1

APPENDIX 'B'

PRE-DEVELOPED


1S
Subcat
Reach
Pond
Link
Drainage Diagram for 0117-PRE
Prepared by TEC Design, Inc. 2/5/03
HydroCAD® 6.00 s/n 002094 © 1986-2001 Applied Microcomputer Systems

Subcatchment 1S: SC1

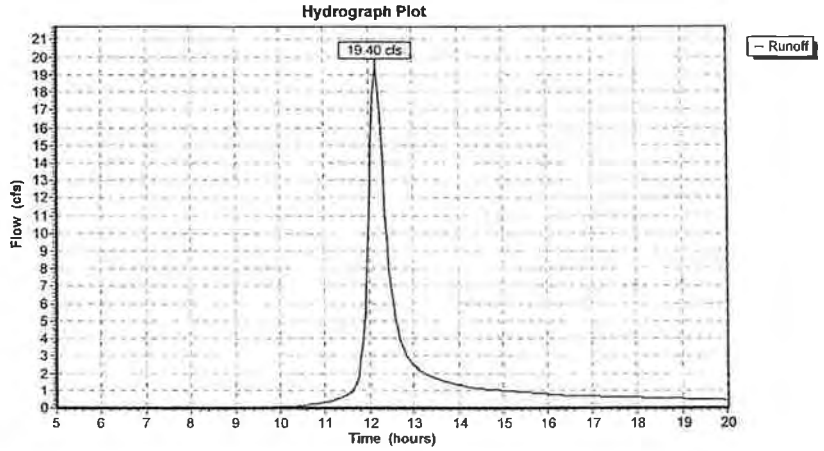
Runoff = 19.40 cfs @ 12.16 hrs, Volume= 1.423 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr Rainfall=2.60"

Area (ac)	CN	Description
3.000	84	1 acre lots, 20% imp, HSG D
8.200	84	50-75% Grass cover, Fair, HSG D
5.100	79	Woods, Fair, HSG D
0.300	98	Paved parking & roofs
16.600	83	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.9	300	0.0220	0.3		**Sheet Flow, Sheet Flow** n= 0.100 P2= 2.70"
4.2	500	0.0150	2.0		**Shallow Concentrated Flow, Shallow** Unpaved Kv= 16.1 fps
22.1	800	Total			

Subcatchment 1S: SC1



Subcatchment 1S: SC1

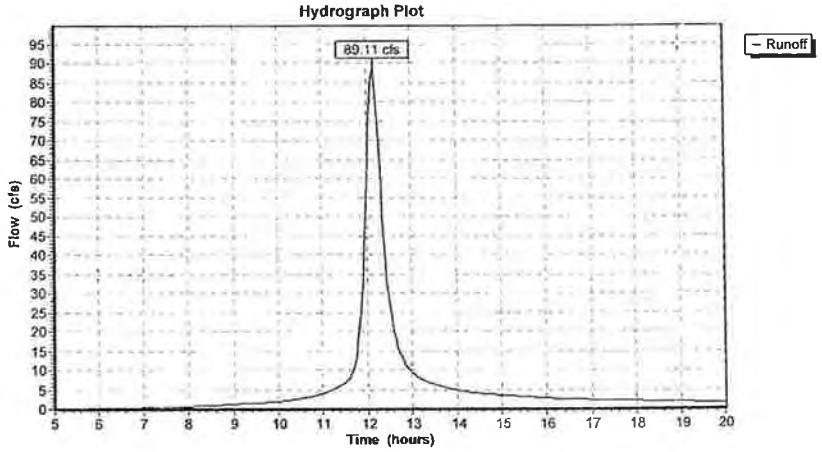
Runoff = 89.11 cfs @ 12.15 hrs, Volume= 6.725 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr Rainfall=7.20"

Area (ac)	CN	Description
3.000	84	1 acre lots, 20% imp, HSG D
8.200	84	50-75% Grass cover, Fair, HSG D
5.100	79	Woods, Fair, HSG D
0.300	98	Paved parking & roofs
16.600	83	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
17.9	300	0.0220	0.3		**Sheet Flow, Sheet Flow** n= 0.100 P2= 2.70"
4.2	500	0.0150	2.0		**Shallow Concentrated Flow, Shallow** Unpaved Kv= 16.1 fps
22.1	800	Total			

Subcatchment 1S: SC1



POST-DEVELOPED

Subcatchment 1S: SC1

Runoff = 18.99 cfs @ 12.01 hrs, Volume= 1.165 af

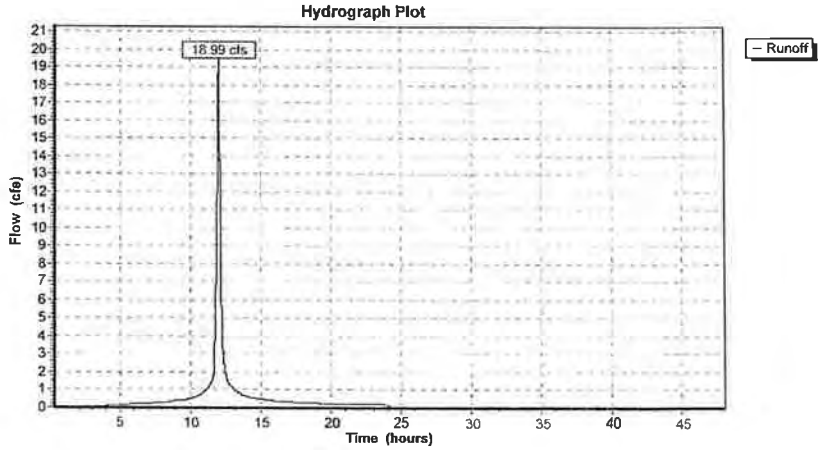
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.25-48.00 hrs, dt= 0.01 hrs
Type II 24-hr Rainfall=2.60"

Area (ac)	CN	Description
5.900	98	Paved parking & roofs

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Base Time**

Subcatchment 1S: SC1

Hydrograph Plot



Pond 1P: Pond 1

Inflow	=	18.99 cfs @	12.01 hrs,	Volume=	1.165 af
Outflow	=	8.95 cfs @	12.10 hrs,	Volume=	1.165 af, Atten= 53%, Lag= 5.6 min
Primary	=	8.95 cfs @	12.10 hrs,	Volume=	1.165 af

Routing by Sim-Route method, Time Span= 0.25-48.00 hrs, dt= 0.01 hrs

Peak Elev= 846.22' Storage= 13,234 cf
Plug-Flow detention time= 52.6 min calculated for 1.165 af (100% of inflow)

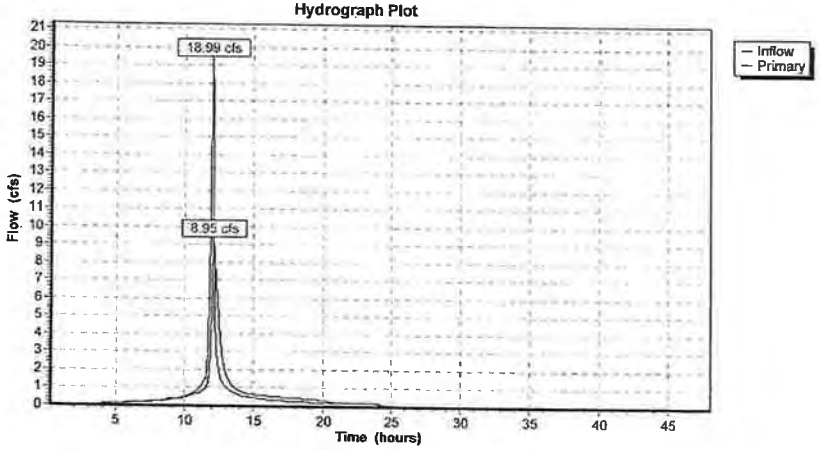
Elevation (feet)	Cum Store (cubic-feet)
844.60	0
845.00	944
846.00	9,801
847.00	25,165
848.00	40,550
849.00	50,084
849.41	50,491

Primary OutFlow (Dynamic Tailwater)
↑—1=Culvert

#	Routing	Invert	Outlet Devices
1	Primary	844.60'	**24.0" x 514.0' long Culvert** RCP, sq.cut end projecting, Ke= 0.500 Outlet Invert= 843.47' S= 0.0022 '/' n= 0.010 Cc= 0.900

Pond 1P: Pond 1

Hydrograph Plot



Subcatchment 2S: SC2

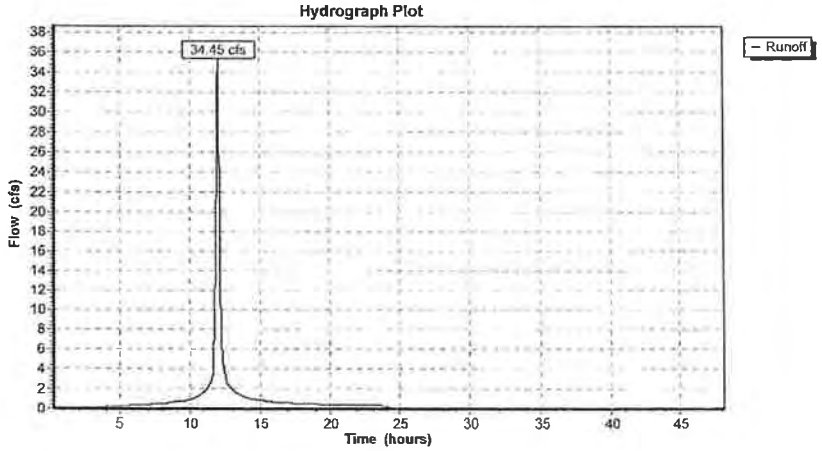
Runoff = 34.45 cfs @ 12.01 hrs, Volume= 2.113 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.25-48.00 hrs, dt= 0.01 hrs
Type II 24-hr Rainfall=2.60"

Area (ac)	CN	Description
9.400	98	Paved parking & roofs
1.300	95	Urban commercial, 85% imp, HSG D
10.700	98	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Base Time**

Subcatchment 2S: SC2



Pond 2P: Pond 2

Inflow	=	41.91 cfs @	12.01 hrs, Volume=	3.278 af
Outflow	=	2.49 cfs @	13.52 hrs, Volume=	3.304 af, Atten= 94%, Lag= 90.5 min
Primary	=	2.49 cfs @	13.52 hrs, Volume=	3.304 af

Routing by Sim-Route method, Time Span= 0.25-48.00 hrs, dt= 0.01 hrs

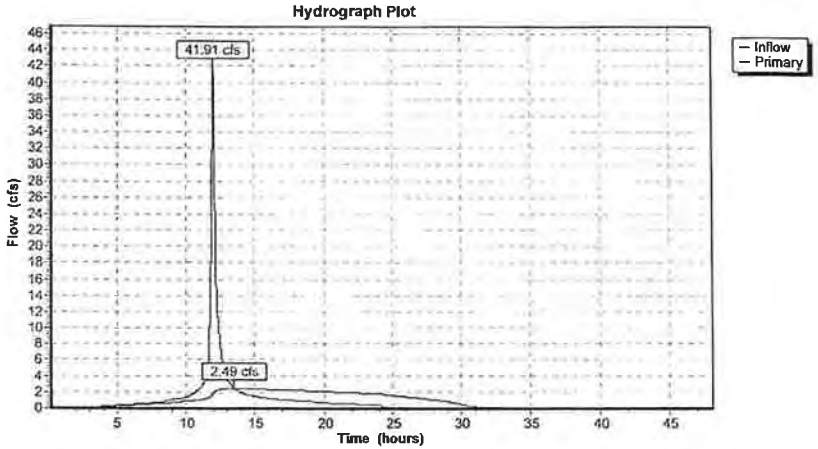
Peak Elev= 845.39' Storage= 73,283 cf
Plug-Flow detention time= (not calculated: outflow precedes inflow)

Elevation (feet)	Cum.Store (cubic-feet)
842.50	0
843.00	5,579
844.00	25,375
845.00	58,382
846.00	96,687
847.00	136,565
848.00	173,130
849.00	199,843
850.00	226,720

Primary OutFlow (Dynamic Tailwater)
- 1=Orifice/Grate
- 2=Orifice/Grate

#	Routing	Invert	Outlet Devices
1	Primary	842.42'	**4.5" Vert. Orifice/Grate X 2.00** C= 0.820
2	Primary	845.30'	**5.8" Vert. Orifice/Grate X 2.00** C= 0.820

Pond 2P: Pond 2



Subcatchment 1S: SC1

Runoff = 53.46 cfs @ 12.01 hrs, Volume= 3.422 af

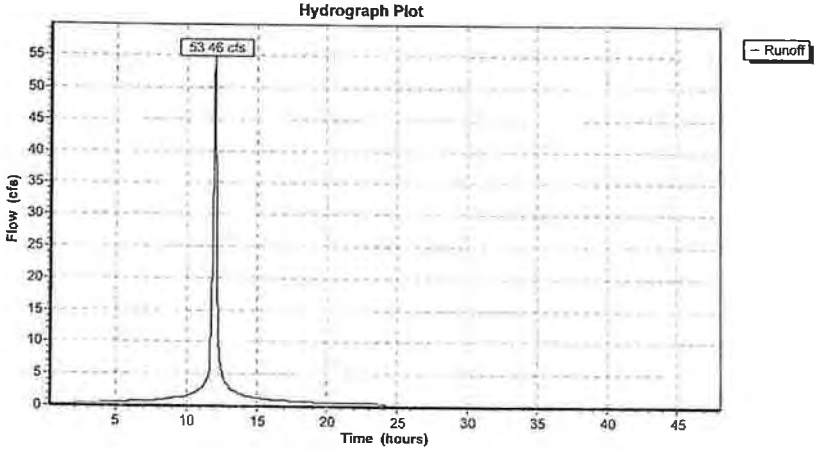
Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.25-48.00 hrs, dt= 0.01 hrs
Type II 24-hr Rainfall=7.20"

Area (ac)	CN	Description
5.900	98	Paved parking & roofs

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Base Time**

Subcatchment 1S: SC1

Hydrograph Plot



Pond 1P: Pond 1

Inflow	=	53.46 cfs @	12.01 hrs, Volume=	3.422 af
Outflow	=	11.16 cfs @	12.14 hrs, Volume=	3.422 af, Atten= 79%, Lag= 7.6 min
Primary	=	11.16 cfs @	12.14 hrs, Volume=	3.422 af

Routing by Sim-Route method, Time Span= 0.25-48.00 hrs, dt= 0.01 hrs

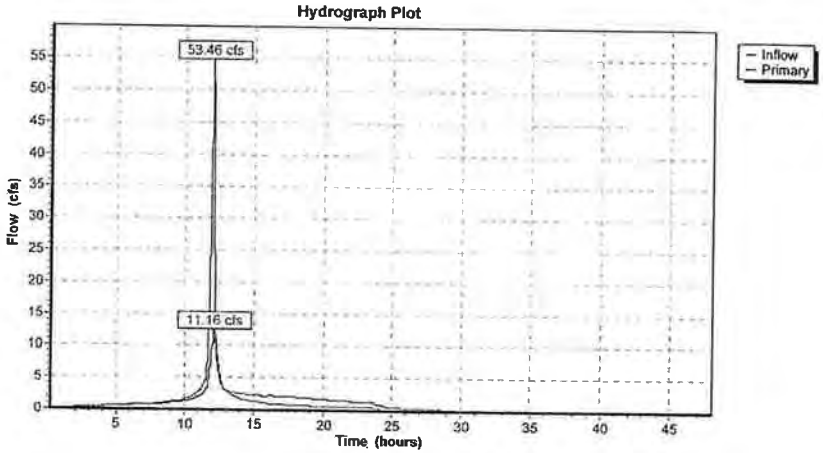
Peak Elev= 848.92' Storage= 49,325 cf
Plug-Flow detention time= 164.9 min calculated for 3.422 af (100% of inflow)

Elevation (feet)	Cum.Store (cubic-feet)
844.60	0
845.00	944
846.00	9,801
847.00	25,165
848.00	40,550
849.00	50,084
849.41	50,491

Primary OutFlow (Dynamic Tailwater)
↑1=Culvert

#	Routing	Invert	Outlet Devices
1	Primary	844.60'	**24.0" x 514.0' long Culvert** RCP, sq.cut end projecting, Ke= 0.500 Outlet Invert= 843.47' S= 0.0022 '/' n= 0.010 Cc= 0.900

Pond 1P: Pond 1



Subcatchment 2S: SC2

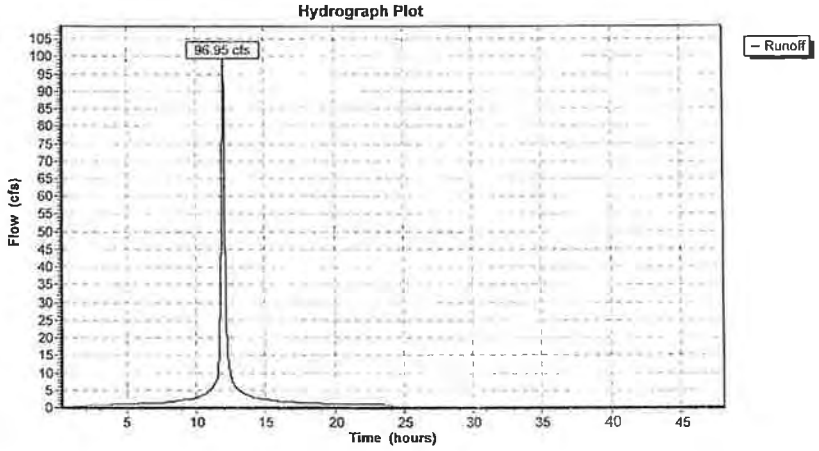
Runoff = 96.95 cfs @ 12.01 hrs, Volume= 6.207 af

Runoff by SCS TR-20 method, UH=SCS, Time Span= 0.25-48.00 hrs, dt= 0.01 hrs
Type II 24-hr Rainfall=7.20"

Area (ac)	CN	Description
9.400	98	Paved parking & roofs
1.300	95	Urban commercial, 85% imp, HSG D
10.700	98	Weighted Average

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					**Direct Entry, Base Time**

Subcatchment 2S: SC2



Pond 2P: Pond 2

Inflow = 107.12 cfs @ 12.01 hrs, Volume= 9.628 af
Outflow = 7.93 cfs @ 13.08 hrs, Volume= 9 638 af, Atten= 93%, Lag= 64.1 min
Primary = 7.93 cfs @ 13 08 hrs, Volume= 9.638 af

Routing by Sim-Route method, Time Span= 0.25-48.00 hrs, dt= 0.01 hrs

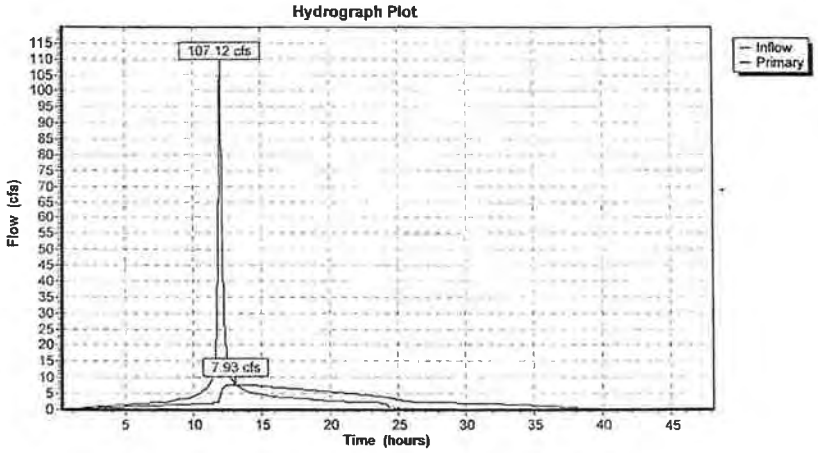
Peak Elev= 848.75' Storage= 193,195 cf
Plug-Flow detention time= (not calculated: outflow precedes inflow)

Elevation (feet)	Cum.Store (cubic-feet)
842.50	0
843.00	5,579
844.00	25,375
845.00	58,382
846.00	96,687
847.00	136,565
848.00	173,130
849.00	199,843
850.00	226,720

Primary OutFlow (Dynamic Tailwater)
1=Orifice/Grate
2=Orifice/Grate

#	Routing	Invert	Outlet Devices
1	Primary	842.42'	**4.5" Vert. Orifice/Grate X 2.00** C= 0.820
2	Primary	845.30'	**5.8" Vert. Orifice/Grate X 2.00** C= 0.820

Pond 2P: Pond 2



PIPE DETERMINATION - POND 1

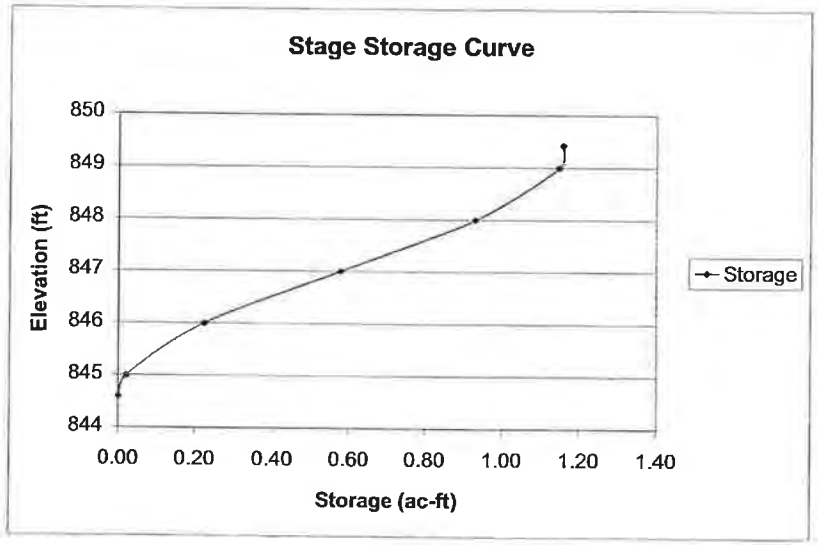
Dia (ft)	4
Area (sq ft)	12.56
N pipes	201.0
L (ft)	20.00
volume(ft^3)	50491.20
ac-ft	1.16

STAGE	D1	D2	Dave	d/D	a/A	Vfull	Vpipe	Vac-ft
844.6	0	0						0.00
845	0.4	0	0.2	0.05	0.01869	50491.20	943.7	0.02
846	1.4	0.59	0.995	0.24875	0.194128	50491.20	9801.7	0.23
847	2.4	1.59	1.995	0.49875	0.498408	50491.20	25165.2	0.58
848	3.4	2.59	2.995	0.74875	0.803118	50491.20	40550.4	0.93
849	4	3.59	3.795	0.94875	0.991935	50491.20	50084.0	1.15
849.41	4	4	4	1	1	50491.20	50491.2	1.16

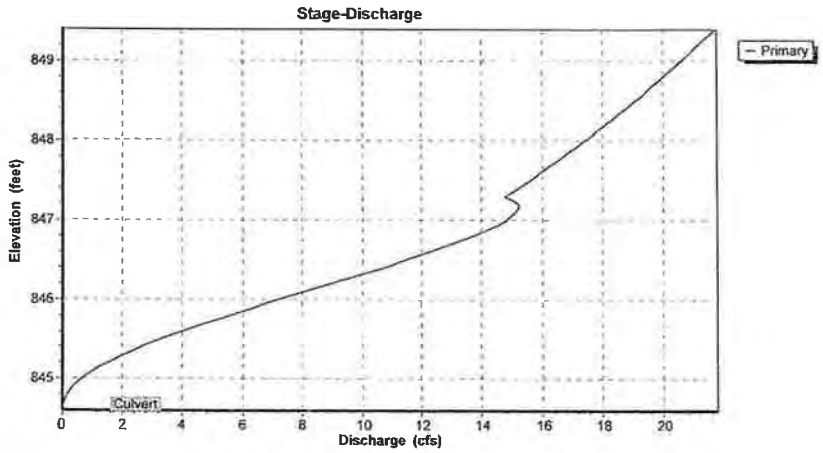
Project:	Germantown Menards (Underground 1)
Client:	Menards, Inc
Date:	6/6/2002 (Revised 3-12-03)
By:	JDH

Stage-Storage Curve Pond 1

	Elevation ft	Area sq ft	Ave Pond Area	Incremental Depth	Incremental Volume	Total Vol (ft^3)	Total Vol (ac-ft)
->	844.6					0	0.00
			0	0.4	0		
->	845					943	0.02
			0	1	0		
->	846					9801	0.23
			0	1	0		
->	847					25165	0.58
			0	1	0		
->	848					40550	0.93
			0	1	0		
->	849					50084	1.15
			0	0.41	0		
->	849.41					50491	1.16



Pond 1P: Pond 1



PIPE DETERMINATION - POND 2

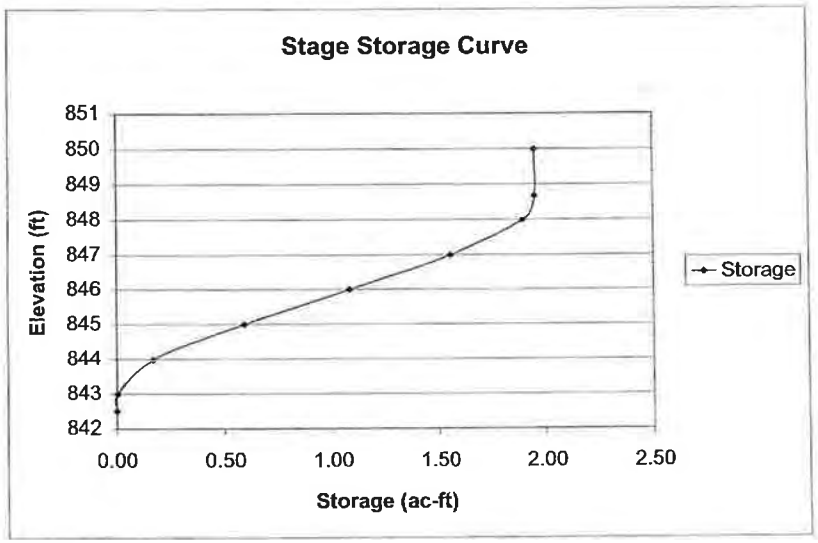
Dia (ft)	5
Area (sq ft)	19.63
N pipes	216.8
L (ft)	20.00
volume(ft^3)	85074.38
ac-ft	1.95

STAGE	D1	D2	Dave	d/D	a/A	Vfull	Vpipe	Vpond	Vtotal	Vac-ft
842.5	0	0						0	0	0.0
843	0.1	0	0.05	0.01	0.00169	85074.38	143.8	5435	5578.8	0.1
844	1.1	0.33	0.715	0.143	0.087766	85074.38	7466.6	17908	25374.6	0.6
845	2.1	1.33	1.715	0.343	0.30344	85074.38	25815.0	32567	58382.0	1.3
846	3.1	2.33	2.715	0.543	0.554684	85074.38	47189.4	49498	96687.4	2.2
847	4.1	3.33	3.715	0.743	0.796742	85074.38	67782.3	68783	136565.3	3.1
848	5	4.33	4.665	0.933	0.971144	85074.38	82619.5	90510	173129.5	4.0
848.67	5	5	5	1	1	85074.38	85074.4	114769	199843.4	4.6
849	5	5	5	1	1	85074.38	85074.4	141646	226720.4	5.2

Project:	Germantown Menards (Underground)
Client:	Menards, Inc.
Date:	6/6/2002 (Revised 3-12-03)
By:	JDH

Stage-Storage Curve - Underground 2

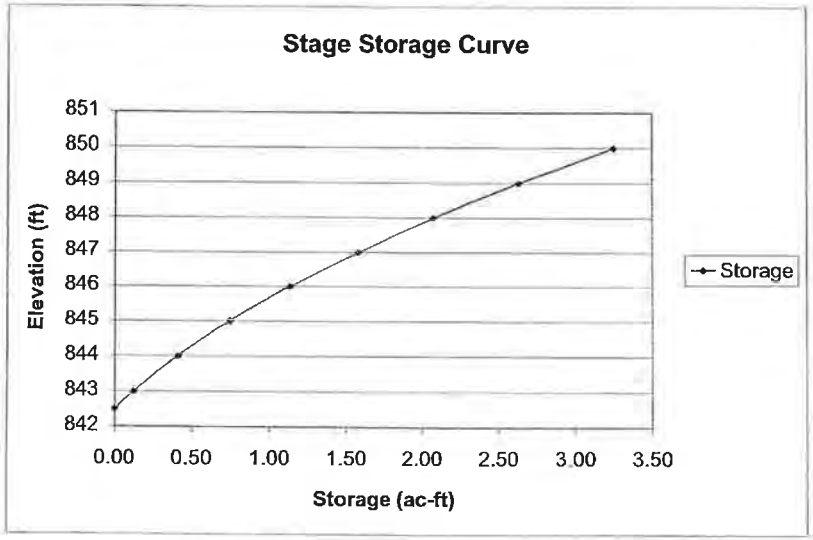
Elevation ft	Area sq ft	Ave Pond Area	Incremental Depth	Incremental Volume	Total Vol (ft^3)	Total Vol (ac-ft)
842.5					0	0.00
		0	0.5	0		
843					144	0.00
		0	1	0		
844					7467	0.17
		0	1	0		
845					25815	0.59
		0	1	0		
846					47189	1.08
		0	1	0		
847					67782	1.56
		0	1	0		
848					82620	1.90
		0	0.67	0		
848.67					85075	1.95
		0	1.33	0		
850					85075	1.95



Project:	Germantown Menards (Surface Pond)
Client:	Menards, Inc
Date:	3/23/2001
By:	SCK

Stage-Storage Curve (Pond)

	Elevation ft	Area sq ft	Ave Pond Area	Incremental Depth	Incremental Volume	Total Vol (ft^3)	Total Vol (ac-ft)
→	842.5	10351				0	0.00
			10889.5	0.5	5434.75		
→	843	11388				5435	0.12
			12473	1	12473		
→	844	13558				17908	0.41
			14659	1	14659		
→	845	15760				32567	0.75
			16931.5	1	16931.5		
→	846	18103				49498	1.14
			19285	1	19285		
→	847	20467				68783	1.58
			21726.5	1	21726.5		
→	848	22986				90510	2.08
			24259.5	1	24259.5		
→	849	25533				114769	2.63
			26876.5	1	26876.5		
	850	28220				141646	3.25



Appendix B

Soil Map—Washington County, Wisconsin

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Washington County, Wisconsin
Survey Area Data: Version 18, Sep 12, 2018

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

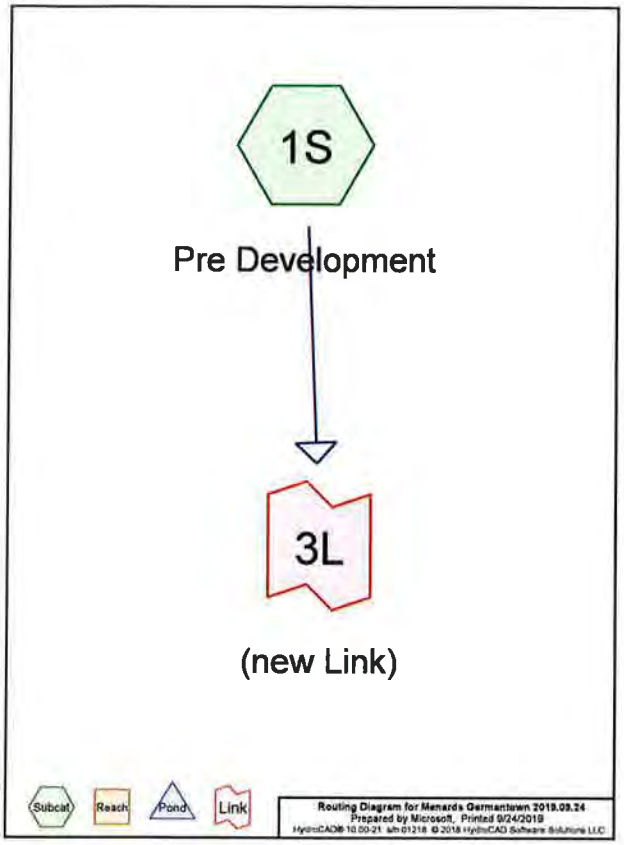
Date(s) aerial images were photographed: Apr 29, 2011—Sep 22, 2014

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
Cw	Colwood silt loam, 0 to 2 percent slopes	0.6	3.0%
KwB	Knowles silt loam, 1 to 6 percent slopes	0.1	0.5%
MtA	Mequon silt loam, 1 to 3 percent slopes	0.9	4.4%
OuB	Ozaukee silt loam, high carbonate substratum, 2 to 6 percent slopes	5.8	30.0%
Ph	Pella silt loam, 0 to 2 percent slopes	0.1	0.3%
Sm	Sebewa silt loam, 0 to 2 percent slopes	12.0	61.7%
Totals for Area of Interest		**19.5**	**100.0%**

Appendix C



Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
3.000	84	1 acre lots, 20% imp, HSG D (1S)
9.500	84	50-75% Grass cover, Fair, HSG D (1S)
0.300	98	Paved parking, HSG D (1S)
5.100	79	Woods, Fair, HSG D (1S)
17.900	83	TOTAL AREA

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
17.900	HSG D	1S
0.000	Other	
17.900		TOTAL AREA

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	3.000	0.000	3.000	1 acre lots, 20% Imp	1S
0.000	0.000	0.000	9.500	0.000	9.500	50-75% Grass cover, Fair	1S
0.000	0.000	0.000	0.300	0.000	0.300	Paved parking	1S
0.000	0.000	0.000	5.100	0.000	5.100	Woods, Fair	1S
0.000	0.000	0.000	17.900	0.000	17.900	TOTAL AREA	

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Pre Development Runoff Area=17.900 ac 5.03% Impervious Runoff Depth>0.94"
Flow Length=800' Tc=22.1 min CN=83 Runoff=17.52 cfs 1.406 af

Link 3L: (new Link) Inflow=17.52 cfs 1.406 af
Primary=17.52 cfs 1.406 af

Total Runoff Area = 17.900 ac Runoff Volume = 1.406 af Average Runoff Depth = 0.94"
94.97% Pervious = 17.000 ac 5.03% Impervious = 0.900 ac

Summary for Subcatchment 1S: Pre Development

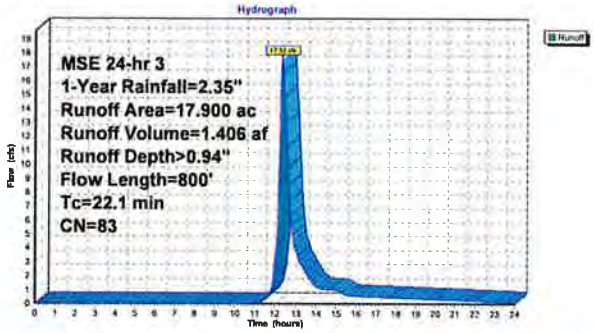
Runoff = 17.52 cfs @ 12.34 hrs, Volume= 1.406 af, Depth> 0.94"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1-Year Rainfall=2.35"

Area (ac)	CN	Description
3.000	84	1 acre lots, 20% Imp, HSG D
9.500	84	50-75% Grass cover, Fair, HSG D
5.100	79	Woods, Fair, HSG D
0.300	98	Paved parking, HSG D
17.900	83	Weighted Average
17.000		94.97% Pervious Area
0.900		5.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.1	800		0.60		Direct Entry,

Subcatchment 1S: Pre Development

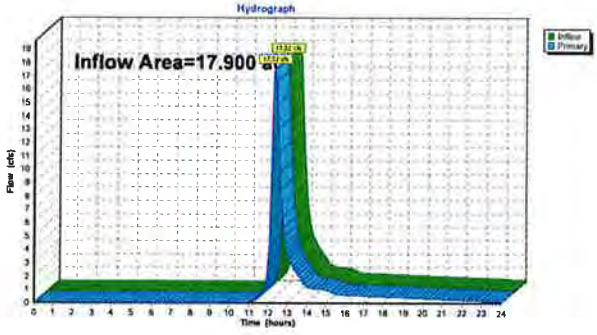


Summary for Link 3L: (new Link)

Inflow Area = 17.900 ac, 5.03% Impervious, Inflow Depth > 0.94" for 1-Year event
Inflow = 17.52 cfs @ 12.34 hrs, Volume= 1.406 af
Primary = 17.52 cfs @ 12.34 hrs, Volume= 1.406 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 3L: (new Link)



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Pre Development Runoff Area=17.900 ac 5.03% Impervious Runoff Depth>1.17"
Flow Length=800' Tc=22.1 min CN=83 Runoff=21.91 cfs 1.743 af

Link 3L: (new Link) Inflow=21.91 cfs 1.743 af
Primary=21.91 cfs 1.743 af

Total Runoff Area = 17.900 ac Runoff Volume = 1.743 af Average Runoff Depth = 1.17"
94.97% Pervious = 17.000 ac 5.03% Impervious = 0.900 ac

Summary for Subcatchment 1S: Pre Development

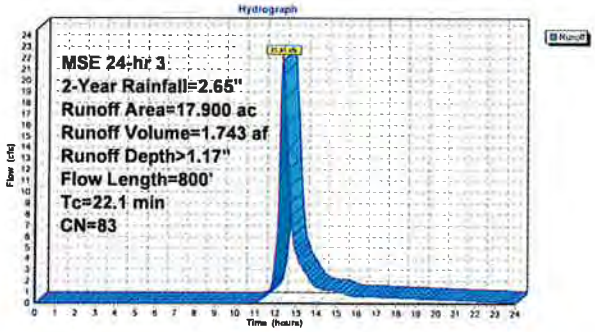
Runoff = 21.91 cfs @ 12.33 hrs, Volume= 1.743 af, Depth> 1.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2-Year Rainfall=2.65"

Area (ac)	CN	Description
3.000	84	1 acre lots, 20% imp, HSG D
9.500	84	50-75% Grass cover, Fair, HSG D
5.100	79	Woods, Fair, HSG D
0.300	98	Paved parking, HSG D
17.900	83	Weighted Average
17.000		94.97% Pervious Area
0.900		5.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.1	800		0.60		Direct Entry,

Subcatchment 1S: Pre Development

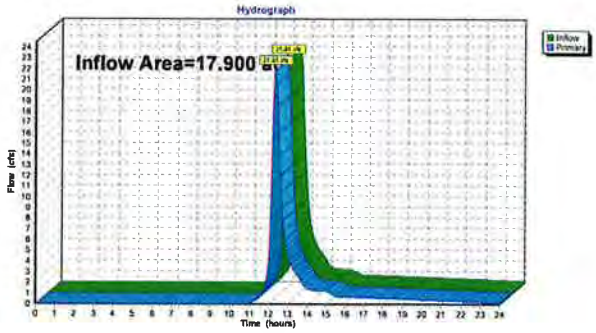


Summary for Link 3L: (new Link)

Inflow Area = 17.900 ac, 5.03% Impervious, Inflow Depth > 1.17" for 2-Year event
Inflow = 21.91 cfs @ 12.33 hrs, Volume= 1.743 af
Primary = 21.91 cfs @ 12.33 hrs, Volume= 1.743 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 3L: (new Link)



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Pre Development Runoff Area=17.900 ac 5.03% Impervious Runoff Depth>2.13"
Flow Length=800' Tc=22.1 min CN=83 Runoff=40.24 cfs 3.174 af

Link 3L: (new Link) Inflow=40.24 cfs 3.174 af
Primary=40.24 cfs 3.174 af

Total Runoff Area = 17.900 ac Runoff Volume = 3.174 af Average Runoff Depth = 2.13"
94.97% Pervious = 17.000 ac 5.03% Impervious = 0.900 ac

Summary for Subcatchment 1S: Pre Development

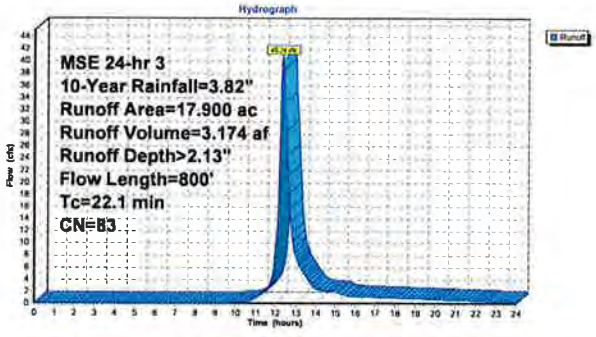
Runoff = 40.24 cfs @ 12.33 hrs, Volume= 3.174 af, Depth> 2.13"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10-Year Rainfall=3.82"

Area (ac)	CN	Description
3.000	84	1 acre lots, 20% imp, HSG D
9.500	84	50-75% Grass cover, Fair, HSG D
5.100	79	Woods, Fair, HSG D
0.300	98	Paved parking, HSG D
17.900	83	Weighted Average
17.000		94.97% Pervious Area
0.900		5.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.1	800		0.60		Direct Entry,

Subcatchment 1S: Pre Development

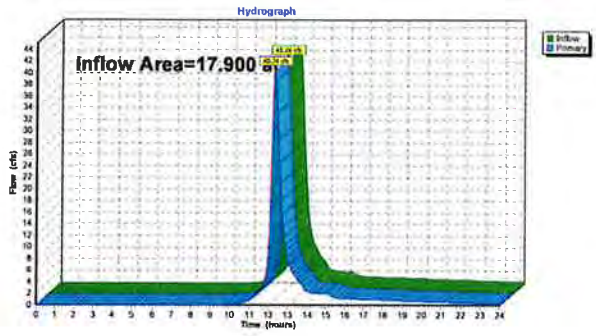


Summary for Link 3L: (new Link)

Inflow Area = 17.900 ac, 5.03% Impervious, Inflow Depth > 2.13" for 10-Year event
Inflow = 40.24 cfs @ 12.33 hrs, Volume= 3.174 af
Primary = 40.24 cfs @ 12.33 hrs, Volume= 3.174 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 3L: (new Link)



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment1S: Pre Development Runoff Area=17.900 ac 5.03% Impervious Runoff Depth>2.93"
Flow Length=800' Tc=22.1 min CN=83 Runoff=55.34 cfs 4.366 af

Link 3L: (new Link) Inflow=55.34 cfs 4.366 af
Primary=55.34 cfs 4.366 af

Total Runoff Area = 17.900 ac Runoff Volume = 4.366 af Average Runoff Depth = 2.93"
94.97% Pervious = 17.000 ac 5.03% Impervious = 0.900 ac

Summary for Subcatchment 1S: Pre Development

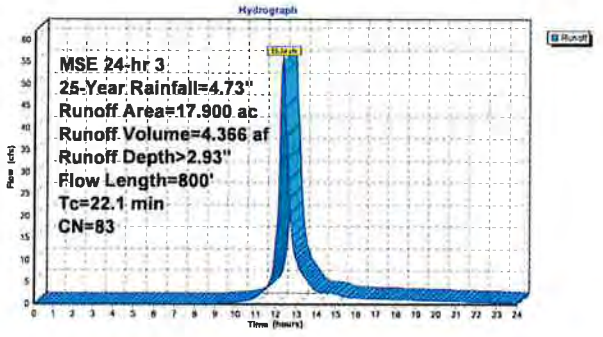
Runoff = 55.34 cfs @ 12.32 hrs, Volume= 4.366 af, Depth> 2.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 25-Year Rainfall=4.73"

Area (ac)	CN	Description
3.000	84	1 acre lots, 20% Imp, HSG D
9.500	84	50-75% Grass cover, Fair, HSG D
5.100	79	Woods, Fair, HSG D
0.300	98	Paved parking, HSG D
17.900	83	Weighted Average
17.000		94.97% Pervious Area
0.900		5.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.1	800		0.60		Direct Entry,

Subcatchment 1S: Pre Development

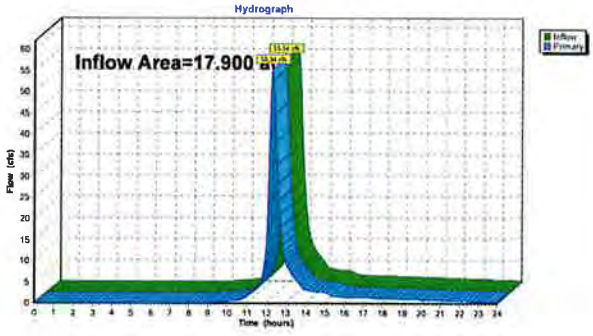


Summary for Link 3L: (new Link)

Inflow Area = 17.900 ac, 5.03% Impervious, Inflow Depth > 2.93" for 25-Year event
Inflow = 55.34 cfs @ 12.32 hrs, Volume= 4.366 af
Primary = 55.34 cfs @ 12.32 hrs, Volume= 4.366 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 3L: (new Link)



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Pre Development Runoff Area=17.900 ac 5.03% Impervious Runoff Depth>4.47"
Flow Length=800' Tc=22.1 min CN=83 Runoff=83.57 cfs 6.664 af

Link 3L: (new Link) Inflow=83.57 cfs 6.664 af
Primary=83.57 cfs 6.664 af

Total Runoff Area = 17.900 ac Runoff Volume = 6.664 af Average Runoff Depth = 4.47"
94.97% Pervious = 17.000 ac 5.03% Impervious = 0.900 ac

Summary for Subcatchment 1S: Pre Development

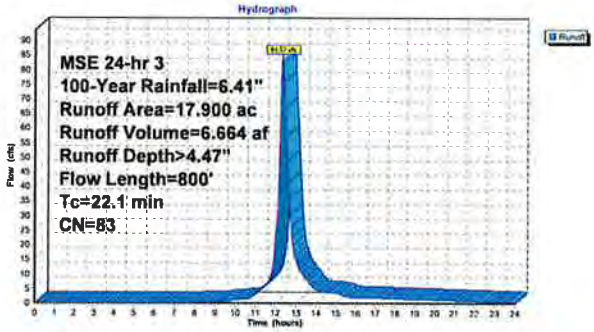
Runoff = 83.57 cfs @ 12.32 hrs, Volume= 6.664 af, Depth> 4.47"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-Year Rainfall=6.41"

Area (ac)	CN	Description
3.000	84	1 acre lots, 20% Imp, HSG D
9.500	84	50-75% Grass cover, Fair, HSG D
5.100	79	Woods, Fair, HSG D
0.300	98	Paved parking, HSG D
17.900	83	Weighted Average
17.000		94.97% Pervious Area
0.900		5.03% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
22.1	800		0.60		Direct Entry,

Subcatchment 1S: Pre Development

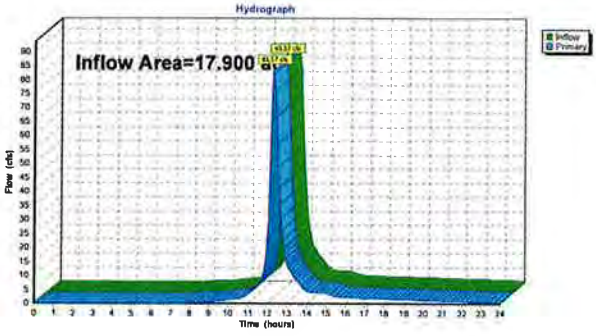


Summary for Link 3L: (new Link)

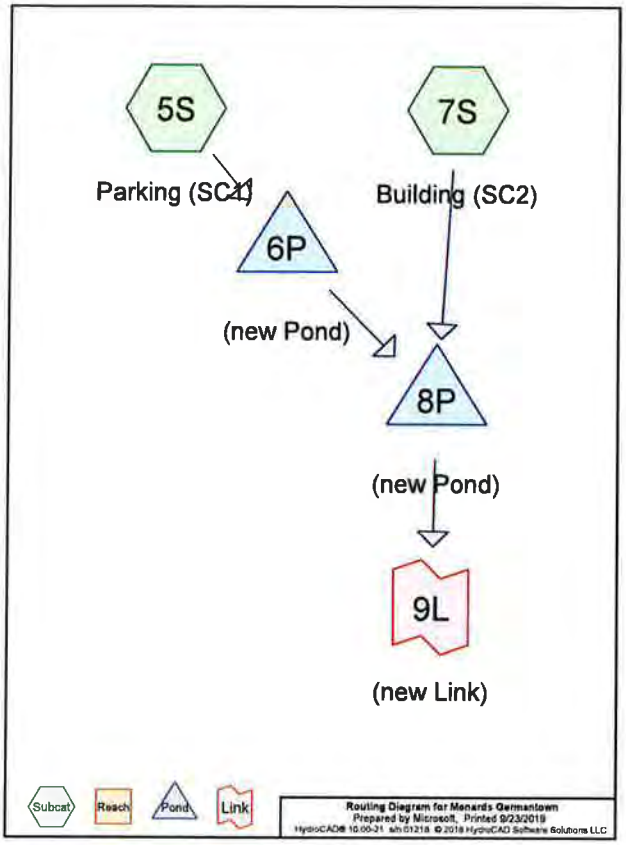
Inflow Area = 17.900 ac, 5.03% Impervious, Inflow Depth > 4.47" for 100-Year event
Inflow = 83.57 cfs @ 12.32 hrs, Volume= 6.664 af
Primary = 83.57 cfs @ 12.32 hrs, Volume= 6.664 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 3L: (new Link)



Appendix D



Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.300	84	50-75% Grass cover, Fair, HSG D (7S)
15.300	98	Paved parking, HSG D (5S, 7S)
1.300	95	Urban commercial, 85% imp, HSG D (7S)
17.900	**97**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
17.900	HSG D	5S, 7S
0.000	Other	
17.900		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	1.300	0.000	1.300	50-75% Grass cover, Fair	7S
0.000	0.000	0.000	15.300	0.000	15.300	Paved parking	5S, 7S
0.000	0.000	0.000	1.300	0.000	1.300	Urban commercial, 85% imp	7S
0.000	**0.000**	**0.000**	**17.900**	**0.000**	**17.900**	**TOTAL AREA**	

Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	6P	844.60	843.47	514.0	0.0022	0.010	24.0	0.0	0.0

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment5S: Parking (SC1) Runoff Area=5.900 ac 100.00% Impervious Runoff Depth>2.12"
Tc=10.0 min CN=98 Runoff=16.99 cfs 1.043 af

Subcatchment7S: Building (SC2) Runoff Area=12.000 ac 87.54% Impervious Runoff Depth>1.91"
Tc=10.0 min CN=96 Runoff=32.71 cfs 1.914 af

Pond 6P: (new Pond) Peak Elev=846.15' Storage=12,136 cf Inflow=16.99 cfs 1.043 af
24.0" Round Culvert n=0.010 L=514.0' S=0.0022 '/' Outflow=8.50 cfs 1.036 af

Pond 8P: (new Pond) Peak Elev=845.80' Storage=88,856 cf Inflow=39.59 cfs 2.950 af
Outflow=1.91 cfs 1.567 af

Link 9L: (new Link) Inflow=1.91 cfs 1.567 af
Primary=1.91 cfs 1.567 af

Total Runoff Area = 17.900 ac Runoff Volume = 2.957 af Average Runoff Depth = 1.98"
8.35% Pervious = 1.495 ac 91.65% Impervious = 16.405 ac

Summary for Subcatchment 5S: Parking (SC1)

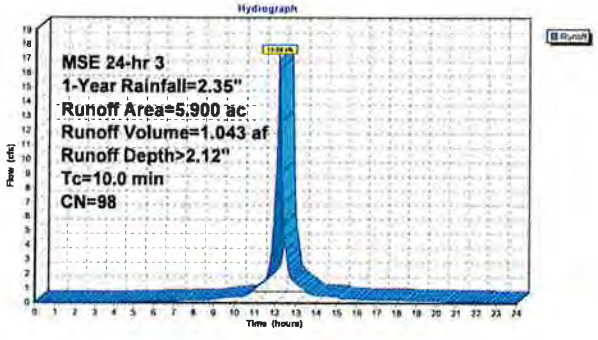
Runoff = 16.99 cfs @ 12.17 hrs, Volume= 1.043 af, Depth> 2.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1-Year Rainfall=2.35"

Area (ac)	CN	Description
5.900	98	Paved parking, HSG D
5.900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 5S: Parking (SC1)



Summary for Subcatchment 7S: Building (SC2)

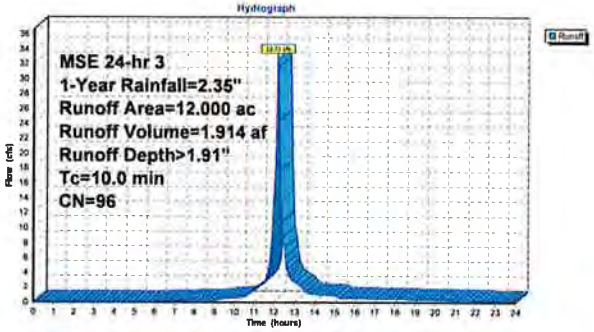
Runoff = 32.71 cfs @ 12.17 hrs, Volume= 1.914 af, Depth> 1.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1-Year Rainfall=2.35"

Area (ac)	CN	Description
9.400	98	Paved parking, HSG D
1.300	95	Urban commercial, 85% Imp, HSG D
1.300	84	50-75% Grass cover, Fair, HSG D
12.000	96	Weighted Average
1.495		12.46% Pervious Area
10.505		87.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 7S: Building (SC2)



Summary for Pond 6P: (new Pond)

Inflow Area = 5.900 ac,100.00% Impervious, Inflow Depth > 2.12" for 1-Year event
Inflow = 16.99 cfs @ 12.17 hrs, Volume= 1.043 af
Outflow = 8.50 cfs @ 12.32 hrs, Volume= 1.036 af, Atten= 50%, Lag= 8.8 min
Primary = 8.50 cfs @ 12.32 hrs, Volume= 1.036 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 846.15' @ 12.32 hrs Surf.Area= 0 sf Storage= 12,136 cf

Plug-Flow detention time= 29.4 min calculated for 1.034 af (99% of inflow)
Center-of-Mass det. time= 25.6 min (786.3 - 760.7)

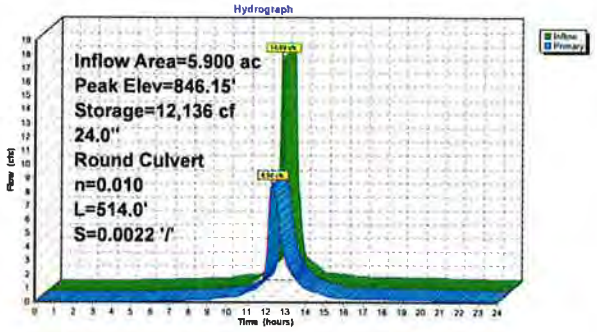
Volume	Invert	Avail.Storage	Storage Description
#1	844.60'	50,491 cf	**Custom Stage Data**Listed below

Elevation (feet)	Cum.Store (cubic-feet)
844.60	0
845.00	944
846.00	9,801
847.00	25,165
848.00	40,550
849.00	50,084
849.41	50,491

Device	Routing	Invert	Outlet Devices
#1	Primary	844.60'	**24.0" Round Culvert** L= 514.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 844.60' / 843.47' S= 0.0022 '/' Cc= 0.900 n= 0.010, Flow Area= 3.14 sf

Primary OutFlow Max=8.47 cfs @ 12.32 hrs HW=846.15' (Free Discharge)
└**1=Culvert** (Barrel Controls 8.47 cfs @ 4.48 fps)

Pond 6P: (new Pond)



Summary for Pond 8P: (new Pond)

[81] Warning: Exceeded Pond 6P by 0.86' @ 15.50 hrs

Inflow Area = 17.900 ac, 91.65% Impervious, Inflow Depth > 1.98" for 1-Year event
Inflow = 39.59 cfs @ 12.18 hrs, Volume= 2.950 af
Outflow = 1.91 cfs @ 14.18 hrs, Volume= 1.567 af, Atten= 95%, Lag= 120.3 min
Primary = 1.91 cfs @ 14.19 hrs, Volume= 1.567 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 845.80' @ 14.19 hrs Surf.Area= 0 sf Storage= 88,856 cf

Plug-Flow detention time= 318.0 min calculated for 1.564 af (53% of inflow)
Center-of-Mass det. time= 235.9 min (1,015.2 - 779.3)

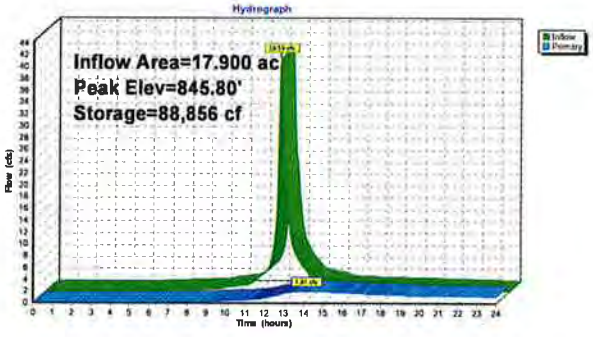
Volume	Invert	Avail.Storage	Storage Description
#1	842.50'	226,720 cf	**Custom Stage Data**Listed below

Elevation (feet)	Cum.Store (cubic-feet)
842.50	0
843.00	5,579
844.00	25,375
845.00	58,382
846.00	96,687
847.00	136,565
848.00	173,130
849.00	199,843
850.00	226,720

Device	Routing	Invert	Outlet Devices
#1	Primary	842.42'	**4.5" Vert. Orifice/Grate** C= 0.620
#2	Primary	845.30'	**5.8" Vert. Orifice/Grate** C= 0.620

Primary OutFlow Max=1.91 cfs @ 14.19 hrs HW=845.80' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 1.30 cfs @ 11.75 fps)
└**2=Orifice/Grate** (Orifice Controls 0.61 cfs @ 3.32 fps)

Pond 8P: (new Pond)

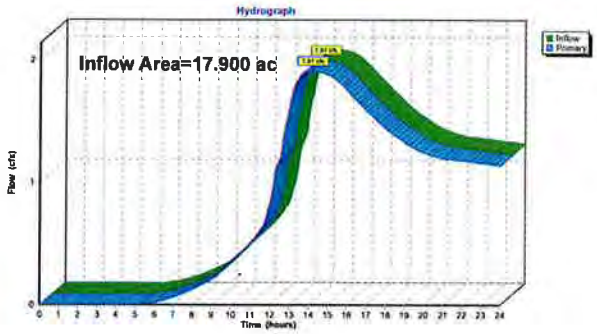


Summary for Link 9L: (new Link)

Inflow Area = 17.900 ac, 91.65% Impervious, Inflow Depth > 1.05" for 1-Year event
Inflow = 1.91 cfs @ 14.18 hrs, Volume= 1.567 af
Primary = 1.91 cfs @ 14.19 hrs, Volume= 1.567 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 9L: (new Link)



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment5S: Parking (SC1) Runoff Area=5.900 ac 100.00% Impervious Runoff Depth>2.42"
Tc=10.0 min CN=98 Runoff=19.25 cfs 1.189 af

Subcatchment7S: Building (SC2) Runoff Area=12.000 ac 87.54% Impervious Runoff Depth>2.21"
Tc=10.0 min CN=96 Runoff=37.40 cfs 2.207 af

Pond 6P: (new Pond) Peak Elev=846.26' Storage=13,786 cf Inflow=19.25 cfs 1.189 af
24.0" Round Culvert n=0.010 L=514.0' S=0.0022 '/' Outflow=9.44 cfs 1.182 af

Pond 8P: (new Pond) Peak Elev=846.12' Storage=101,390 cf Inflow=45.06 cfs 3.390 af
Outflow=2.28 cfs 1.869 af

Link 9L: (new Link) Inflow=2.28 cfs 1.869 af
Primary=2.28 cfs 1.869 af

Total Runoff Area = 17.900 ac Runoff Volume = 3.397 af Average Runoff Depth = 2.28"
8.35% Pervious = 1.495 ac 91.65% Impervious = 16.405 ac

Summary for Subcatchment 5S: Parking (SC1)

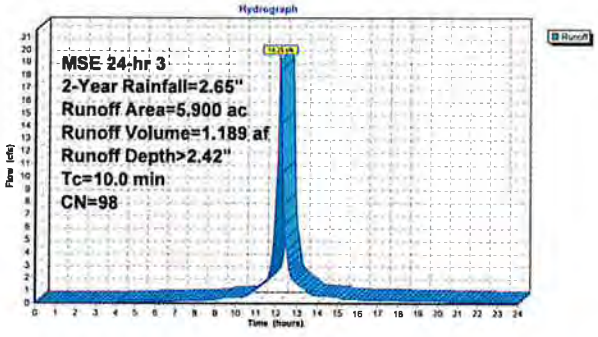
Runoff = 19.25 cfs @ 12.17 hrs, Volume= 1.189 af, Depth> 2.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2-Year Rainfall=2.65"

Area (ac)	CN	Description
5.900	98	Paved parking, HSG D
5.900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 5S: Parking (SC1)



Summary for Subcatchment 7S: Building (SC2)

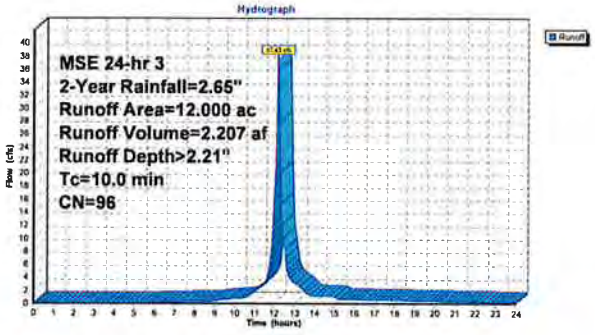
Runoff = 37.40 cfs @ 12.17 hrs, Volume= 2.207 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2-Year Rainfall=2.65"

Area (ac)	CN	Description
9.400	98	Paved parking, HSG D
1.300	85	Urban commercial, 85% imp, HSG D
1.300	84	50-75% Grass cover, Fair, HSG D
12.000	96	Weighted Average
1.495		12.46% Pervious Area
10.505		87.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 7S: Building (SC2)



Summary for Pond 6P: (new Pond)

Inflow Area = 5.900 ac,100.00% Impervious, Inflow Depth > 2.42" for 2-Year event
Inflow = 19.25 cfs @ 12.17 hrs, Volume= 1.189 af
Outflow = 9.44 cfs @ 12.32 hrs, Volume= 1.182 af, Atten= 51%, Lag= 9.0 min
Primary = 9.44 cfs @ 12.32 hrs, Volume= 1.182 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 846.26' @ 12.32 hrs Surf.Area= 0 sf Storage= 13,786 cf

Plug-Flow detention time= 28.9 min calculated for 1.180 af (98% of inflow)
Center-of-Mass det. time= 25.3 min (783.8 - 758.5)

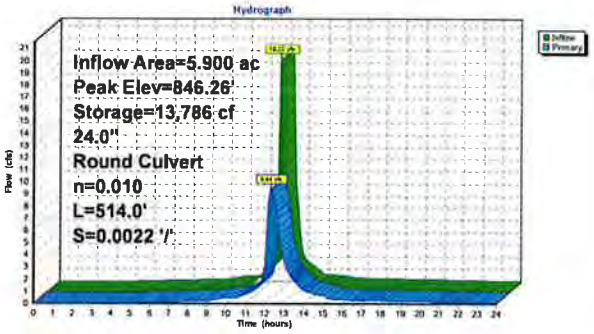
Volume	Invert	Avail.Storage	Storage Description
#1	844.60'	50,491 cf	**Custom Stage Data**Listed below

Elevation (feet)	Cum.Store (cubic-feet)
844.60	0
845.00	944
846.00	9,801
847.00	25,165
848.00	40,550
849.00	50,084
849.41	50,491

Device	Routing	Invert	Outlet Devices
#1	Primary	844.60'	**24.0" Round Culvert** L= 514.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 844.60' / 843.47' S= 0.0022 '/' Cc= 0.900 n= 0.010, Flow Area= 3.14 sf

Primary OutFlow Max=9.40 cfs @ 12.32 hrs HW=846.25' (Free Discharge)
└1=**Culvert** (Barrel Controls 9.40 cfs @ 4.59 fps)

Pond 6P: (new Pond)



Summary for Pond 8P: (new Pond)

[81] Warning: Exceeded Pond 6P by 1.14' @ 15.50 hrs

Inflow Area = 17.900 ac, 91.65% Impervious, Inflow Depth > 2.27" for 2-Year event
Inflow = 45.06 cfs @ 12.18 hrs, Volume= 3.390 af
Outflow = 2.28 cfs @ 14.03 hrs, Volume= 1.869 af, Atten= 95%, Lag= 111.1 min
Primary = 2.28 cfs @ 14.03 hrs, Volume= 1.869 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 846.12' @ 14.03 hrs Surf.Area= 0 sf Storage= 101,390 cf

Plug-Flow detention time= 311.2 min calculated for 1.865 af (55% of inflow)
Center-of-Mass det. time= 230.3 min (1,006.9 - 776.7)

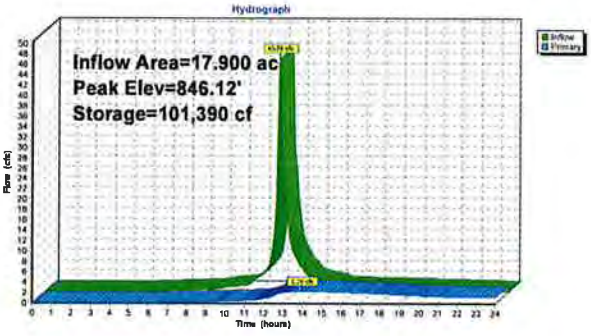
Volume	Invert	Avail.Storage	Storage Description
#1	842.50'	226,720 cf	**Custom Stage Data**Listed below

Elevation (feet)	Cum.Store (cubic-feet)
842.50	0
843.00	5,579
844.00	25,375
845.00	58,382
846.00	96,687
847.00	136,565
848.00	173,130
849.00	199,843
850.00	226,720

Device	Routing	Invert	Outlet Devices
#1	Primary	842.42'	**4.5" Vert. Orifice/Grate** C= 0.820
#2	Primary	845.30'	**5.8" Vert. Orifice/Grate** C= 0.820

Primary OutFlow Max=2.28 cfs @ 14.03 hrs HW=846.12' (Free Discharge)
├1=**Orifice/Grate** (Orifice Controls 1.36 cfs @ 12.33 fps)
└2=**Orifice/Grate** (Orifice Controls 0.92 cfs @ 5.00 fps)

Pond 8P: (new Pond)

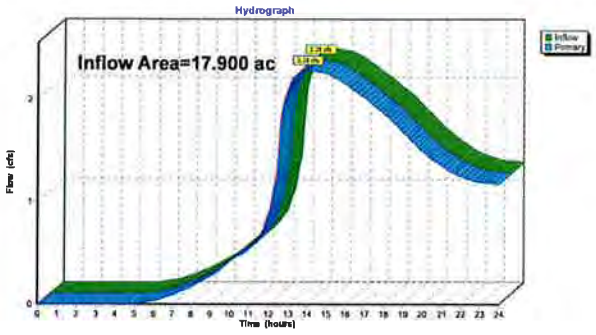


Summary for Link 9L: (new Link)

Inflow Area = 17.900 ac, 91.65% Impervious, Inflow Depth > 1.25" for 2-Year event
Inflow = 2.28 cfs @ 14.03 hrs, Volume= 1.869 af
Primary = 2.28 cfs @ 14.03 hrs, Volume= 1.869 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 9L: (new Link)



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 5S: Parking (SC1) Runoff Area=5.900 ac 100.00% Impervious Runoff Depth>3.58"
Tc=10.0 min CN=98 Runoff=28.00 cfs 1.762 af

Subcatchment 7S: Building (SC2) Runoff Area=12.000 ac 87.54% Impervious Runoff Depth>3.36"
Tc=10.0 min CN=96 Runoff=55.53 cfs 3.360 af

Pond 6P: (new Pond) Peak Elev=846.69' Storage=20,353 cf Inflow=28.00 cfs 1.762 af
24.0" Round Culvert n=0.010 L=514.0' S=0.0022 '/' Outflow=12.93 cfs 1.754 af

Pond 8P: (new Pond) Peak Elev=847.48' Storage=154,141 cf Inflow=65.82 cfs 5.115 af
Outflow=3.29 cfs 3.002 af

Link 9L: (new Link) Inflow=3.29 cfs 3.002 af
Primary=3.29 cfs 3.002 af

Total Runoff Area = 17.900 ac Runoff Volume = 5.123 af Average Runoff Depth = 3.43"
8.35% Pervious = 1.495 ac 91.65% Impervious = 16.405 ac

Summary for Subcatchment 5S: Parking (SC1)

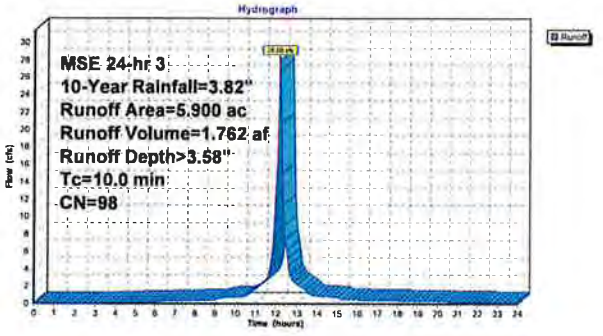
Runoff = 28.00 cfs @ 12.17 hrs, Volume= 1.762 af, Depth> 3.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10-Year Rainfall=3.82"

Area (ac)	CN	Description
5.900	98	Paved parking, HSG D
5.900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 5S: Parking (SC1)



Summary for Subcatchment 7S: Building (SC2)

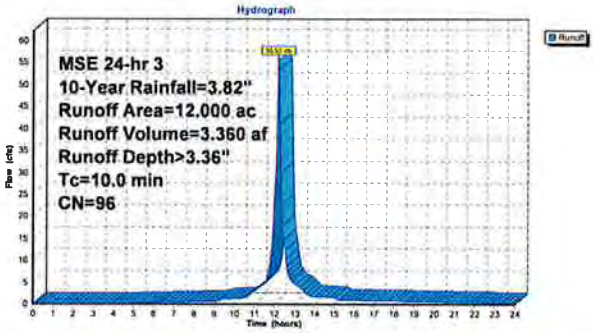
Runoff = 55.53 cfs @ 12.17 hrs, Volume= 3.360 af, Depth> 3.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10-Year Rainfall=3.82"

Area (ac)	CN	Description
9.400	98	Paved parking, HSG D
1.300	85	Urban commercial, 85% Imp, HSG D
1.300	84	50-75% Grass cover, Fair, HSG D
12.000	96	Weighted Average
1.495		12.46% Pervious Area
10.505		87.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 7S: Building (SC2)



Summary for Pond 6P: (new Pond)

Inflow Area = 5.900 ac,100.00% Impervious, Inflow Depth > 3.58" for 10-Year event
Inflow = 28.00 cfs @ 12.17 hrs, Volume= 1.762 af
Outflow = 12.93 cfs @ 12.33 hrs, Volume= 1.754 af, Atten= 54%, Lag= 9.6 min
Primary = 12.93 cfs @ 12.33 hrs, Volume= 1.754 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 846.69' @ 12.33 hrs Surf.Area= 0 sf Storage= 20,353 cf

Plug-Flow detention time= 27.8 min calculated for 1.754 af (100% of inflow)
Center-of-Mass det. time= 24.9 min (777.3 - 752.5)

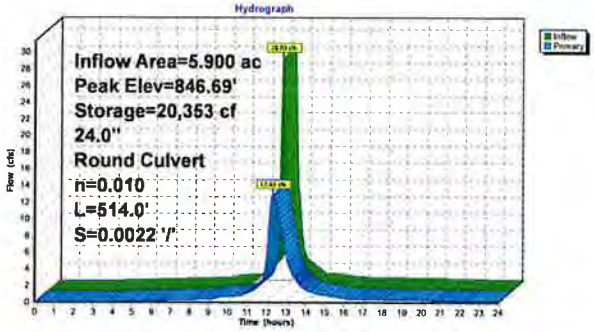
Volume	Invert	Avail.Storage	Storage Description
#1	844.60'	50,491 cf	**Custom Stage Data**Listed below

Elevation (feet)	Cum.Store (cubic-feet)
844.60	0
845.00	944
846.00	9,801
847.00	25,165
848.00	40,550
849.00	50,084
849.41	50,491

Device	Routing	Invert	Outlet Devices
#1	Primary	844.60'	**24.0" Round Culvert** L= 514.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 844.60' / 843.47' S= 0.0022 '/' Cc= 0.900 n= 0.010, Flow Area= 3.14 sf

Primary OutFlow Max=12.80 cfs @ 12.33 hrs HW=846.68' (Free Discharge)
└**1=Culvert** (Barrel Controls 12.80 cfs @ 4.90 fps)

Pond 6P: (new Pond)



Summary for Pond 8P: (new Pond)

[81] Warning: Exceeded Pond 6P by 2.36' @ 14.85 hrs

Inflow Area = 17.900 ac, 91.65% Impervious, Inflow Depth > 3.43" for 10-Year event
Inflow = 65.82 cfs @ 12.18 hrs, Volume= 5.115 af
Outflow = 3.29 cfs @ 13.98 hrs, Volume= 3.002 af, Atten= 95%, Lag= 108.1 min
Primary = 3.29 cfs @ 13.98 hrs, Volume= 3.002 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 847.48' @ 13.98 hrs Surf.Area= 0 sf Storage= 154,141 cf

Plug-Flow detention time= 331.7 min calculated for 2.995 af (59% of inflow)
Center-of-Mass det. time= 252.2 min (1,021.5 - 769.3)

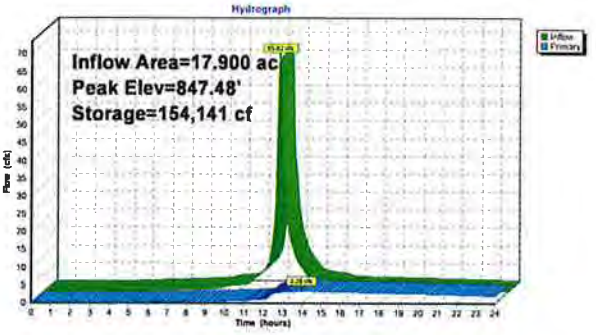
Volume	Invert	Avail.Storage	Storage Description
#1	842.50'	226,720 cf	**Custom Stage Data**Listed below

Elevation (feet)	Cum.Store (cubic-feet)
842.50	0
843.00	5,579
844.00	25,375
845.00	58,382
846.00	96,687
847.00	136,565
848.00	173,130
849.00	199,843
850.00	226,720

Device	Routing	Invert	Outlet Devices
#1	Primary	842.42'	**4.5" Vert. Orifice/Grate** C= 0.820
#2	Primary	845.30'	**5.8" Vert. Orifice/Grate** C= 0.820

Primary OutFlow Max=3.29 cfs @ 13.98 hrs HW=847.48' (Free Discharge)
├**1=Orifice/Grate** (Orifice Controls 1.60 cfs @ 14.53 fps)
└**2=Orifice/Grate** (Orifice Controls 1.68 cfs @ 9.16 fps)

Pond 8P: (new Pond)

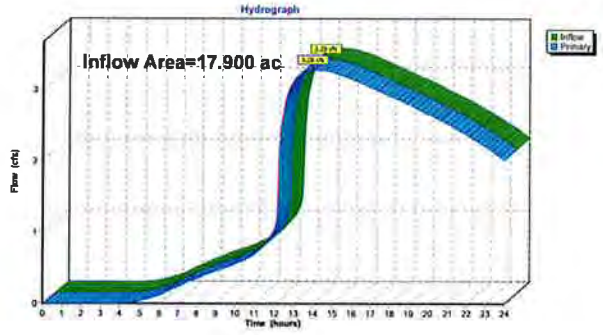


Summary for Link 9L: (new Link)

Inflow Area = 17.900 ac, 91.65% Impervious, Inflow Depth > 2.01" for 10-Year event
Inflow = 3.29 cfs @ 13.98 hrs, Volume= 3.002 af
Primary = 3.29 cfs @ 13.98 hrs, Volume= 3.002 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 9L: (new Link)



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment5S: Parking (SC1) Runoff Area=5.900 ac 100.00% Impervious Runoff Depth>4.49"
Tc=10.0 min CN=98 Runoff=34.78 cfs 2.209 af

Subcatchment7S: Building (SC2) Runoff Area=12.000 ac 87.54% Impervious Runoff Depth>4.26"
Tc=10.0 min CN=96 Runoff=69.51 cfs 4.263 af

Pond 6P: (new Pond) Peak Elev=847.04' Storage=25,815 cf Inflow=34.78 cfs 2.209 af
24.0" Round Culvert n=0.010 L=514.0' S=0.0022 '/' Outflow=14.98 cfs 2.200 af

Pond 8P: (new Pond) Peak Elev=848.88' Storage=196,600 cf Inflow=81.73 cfs 6.462 af
Outflow=4.03 cfs 3.711 af

Link 9L: (new Link) Inflow=4.03 cfs 3.711 af
Primary=4.03 cfs 3.711 af

Total Runoff Area = 17.900 ac Runoff Volume = 6.471 af Average Runoff Depth = 4.34"
8.35% Pervious = 1.495 ac 91.65% Impervious = 16.405 ac

Summary for Subcatchment 5S: Parking (SC1)

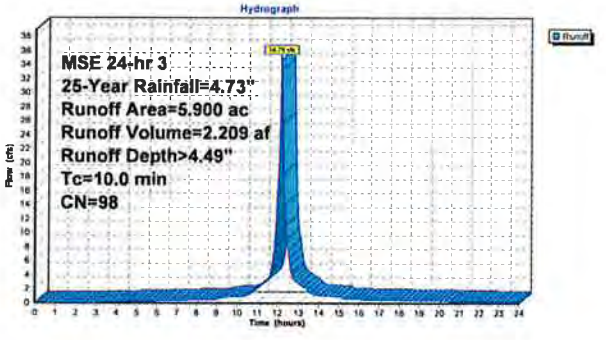
Runoff = 34.78 cfs @ 12.17 hrs, Volume= 2.209 af, Depth> 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 25-Year Rainfall=4.73"

Area (ac)	CN	Description
5.900	98	Paved parking, HSG D
5.900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 5S: Parking (SC1)



Summary for Subcatchment 7S: Building (SC2)

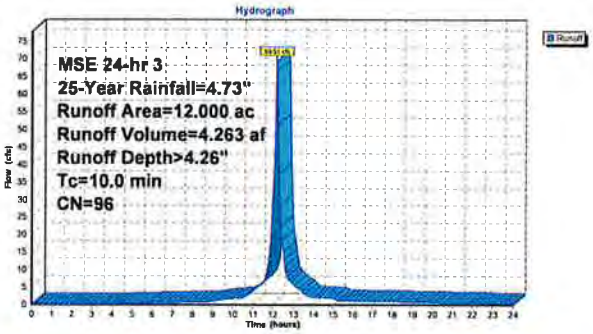
Runoff = 69.51 cfs @ 12.17 hrs, Volume= 4.263 af, Depth> 4.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 25-Year Rainfall=4.73"

Area (ac)	CN	Description
9.400	98	Paved parking, HSG D
1.300	85	Urban commercial, 85% imp, HSG D
1.300	84	50-75% Grass cover, Fair, HSG D
12.000	96	Weighted Average
1.495		12.46% Pervious Area
10.505		87.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 7S: Building (SC2)



Summary for Pond 6P: (new Pond)

Inflow Area = 5.900 ac,100.00% Impervious, Inflow Depth > 4.49" for 25-Year event
Inflow = 34.78 cfs @ 12.17 hrs, Volume= 2.209 af
Outflow = 14.98 cfs @ 12.34 hrs, Volume= 2.200 af, Atten= 57%, Lag= 10.4 min
Primary = 14.98 cfs @ 12.34 hrs, Volume= 2.200 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 847.04' @ 12.34 hrs Surf.Area= 0 sf Storage= 25,815 cf

Plug-Flow detention time= 27.7 min calculated for 2.200 af (100% of inflow)
Center-of-Mass det. time= 25.1 min (774.5 - 749.4)

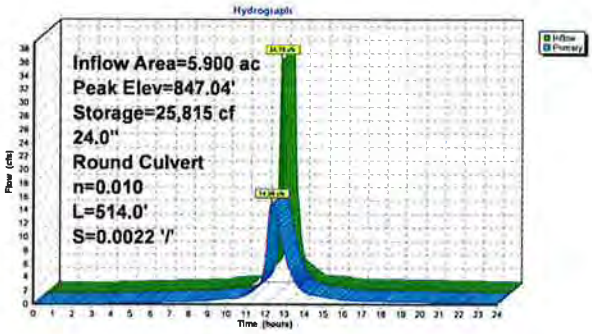
Volume	Invert	Avail.Storage	Storage Description
#1	844.60'	50,491 cf	**Custom Stage Data**Listed below

Elevation (feet)	Cum.Store (cubic-feet)
844.60	0
845.00	944
846.00	9,801
847.00	25,165
848.00	40,550
849.00	50,084
849.41	50,491

Device	Routing	Invert	Outlet Devices
#1	Primary	844.60'	**24.0" Round Culvert** L= 514.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 844.60' / 843.47' S= 0.0022 '/' Cc= 0.900 n= 0.010, Flow Area= 3.14 sf

Primary OutFlow Max=14.98 cfs @ 12.34 hrs HW=847.04' (Free Discharge)
└1=**Culvert** (Barrel Controls 14.98 cfs @ 4.97 fps)

Pond 6P: (new Pond)



Summary for Pond 8P: (new Pond)

[81] Warning: Exceeded Pond 6P by 3.69' @ 14.65 hrs

Inflow Area = 17.900 ac, 91.65% Impervious, Inflow Depth > 4.33" for 25-Year event
Inflow = 81.73 cfs @ 12.18 hrs, Volume= 6.462 af
Outflow = 4.03 cfs @ 13.99 hrs, Volume= 3.711 af, Atten= 95%, Lag= 108.6 min
Primary = 4.03 cfs @ 13.99 hrs, Volume= 3.711 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 848.88' @ 13.99 hrs Surf.Area= 0 sf Storage= 196,600 cf

Plug-Flow detention time= 339.1 min calculated for 3.703 af (57% of inflow)
Center-of-Mass det. time= 257.1 min (1,022.7 - 765.6)

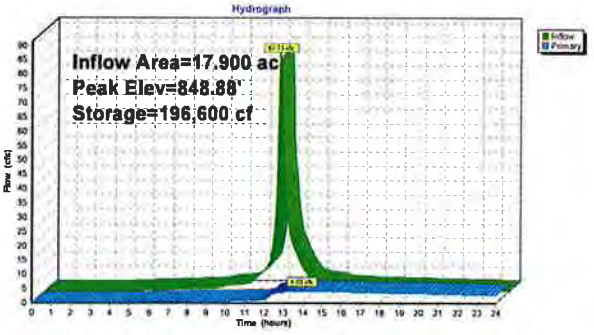
Volume	Invert	Avail.Storage	Storage Description
#1	842.50'	226,720 cf	**Custom Stage Data**Listed below

Elevation (feet)	Cum.Store (cubic-feet)
842.50	0
843.00	5,579
844.00	25,375
845.00	58,382
846.00	96,687
847.00	136,565
848.00	173,130
849.00	199,843
850.00	226,720

Device	Routing	Invert	Outlet Devices
#1	Primary	842.42'	**4.5" Vert. Orifice/Grate** C= 0.820
#2	Primary	845.30'	**5.8" Vert. Orifice/Grate** C= 0.820

Primary OutFlow Max=4.03 cfs @ 13.99 hrs HW=848.88' (Free Discharge)
└1=**Orifice/Grate** (Orifice Controls 1.82 cfs @ 16.48 fps)
└2=**Orifice/Grate** (Orifice Controls 2.21 cfs @ 12.02 fps)

Pond 8P: (new Pond)

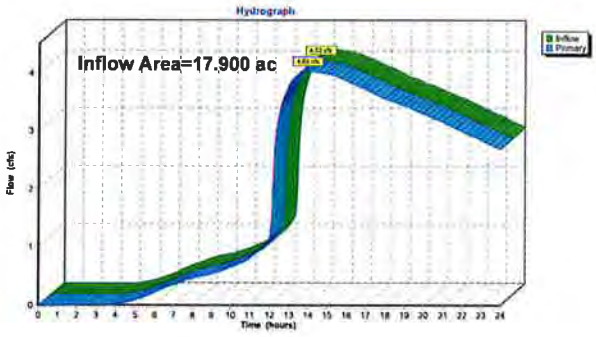


Summary for Link 9L: (new Link)

Inflow Area = 17.900 ac, 91.65% Impervious, Inflow Depth > 2.49" for 25-Year event
Inflow = 4.03 cfs @ 13.99 hrs, Volume= 3.711 af
Primary = 4.03 cfs @ 13.99 hrs, Volume= 3.711 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 9L: (new Link)



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment5S: Parking (SC1) Runoff Area=5.900 ac 100.00% Impervious Runoff Depth>6.17"
Tc=10.0 min CN=98 Runoff=47.26 cfs 3.033 af

Subcatchment7S: Building (SC2) Runoff Area=12.000 ac 87.54% Impervious Runoff Depth>5.93"
Tc=10.0 min CN=96 Runoff=95.15 cfs 5.933 af

Pond 6P: (new Pond) Peak Elev=847.82' Storage=37,735 cf Inflow=47.26 cfs 3.033 af
24.0" Round Culvert n=0.010 L=514.0' S=0.0022 '/' Outflow=16.79 cfs 3.023 af

Pond 8P: (new Pond) Peak Elev=1,077.72' Storage=226,720 cf Inflow=110.01 cfs 8.956 af
Outflow=30.61 cfs 5.585 af

Link 9L: (new Link) Inflow=30.61 cfs 5.585 af
Primary=30.61 cfs 5.585 af

Total Runoff Area = 17.900 ac Runoff Volume = 8.967 af Average Runoff Depth = 6.01"
8.35% Pervious = 1.495 ac 91.65% Impervious = 16.405 ac

Summary for Subcatchment 5S: Parking (SC1)

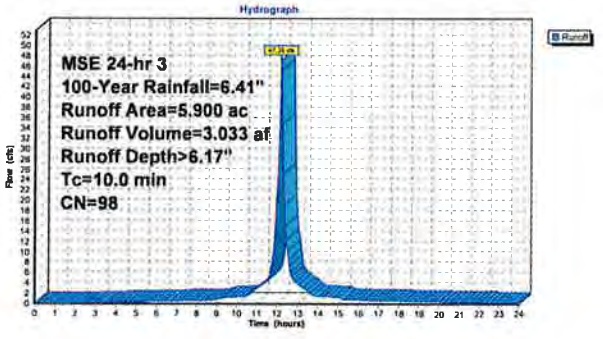
Runoff = 47.26 cfs @ 12.17 hrs, Volume= 3.033 af, Depth> 6.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-Year Rainfall=6.41"

Area (ac)	CN	Description
5.900	98	Paved parking, HSG D
5.900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 5S: Parking (SC1)



Summary for Subcatchment 7S: Building (SC2)

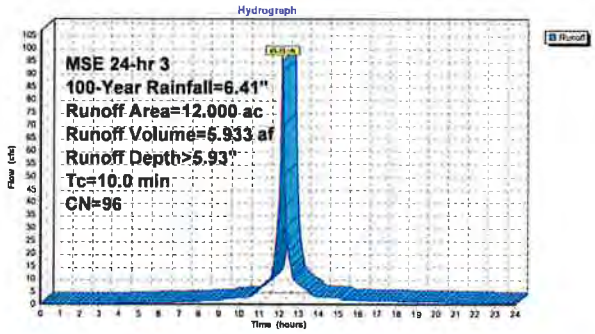
Runoff = 95.15 cfs @ 12.17 hrs, Volume= 5.933 af, Depth> 5.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-Year Rainfall=6.41"

Area (ac)	CN	Description
9.400	98	Paved parking, HSG D
1.300	85	Urban commercial, 85% imp, HSG D
1.300	84	50-75% Grass cover, Fair, HSG D
12.000	96	Weighted Average
1.495		12.46% Pervious Area
10.505		87.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 7S: Building (SC2)



Summary for Pond 6P: (new Pond)

Inflow Area = 5.900 ac,100.00% Impervious, Inflow Depth > 6.17" for 100-Year event
Inflow = 47.26 cfs @ 12.17 hrs, Volume= 3.033 af
Outflow = 16.79 cfs @ 12.38 hrs, Volume= 3.023 af, Atten= 64%, Lag= 12.6 min
Primary = 16.79 cfs @ 12.38 hrs, Volume= 3.023 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 847.82' @ 12.38 hrs Surf.Area= 0 sf Storage= 37,735 cf

Plug-Flow detention time= 29.3 min calculated for 3.017 af (99% of inflow)
Center-of-Mass det. time= 27.2 min (772.7 - 745.5)

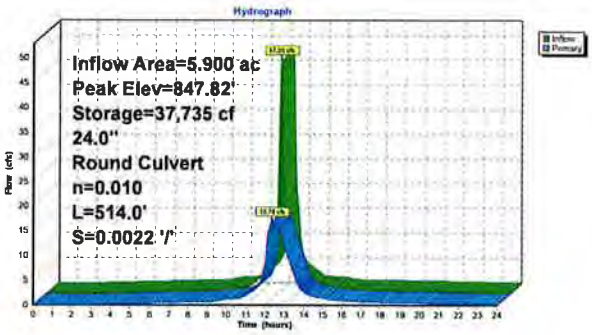
Volume	Invert	Avail.Storage	Storage Description
#1	844.60'	50,491 cf	**Custom Stage Data**Listed below

Elevation (feet)	Cum.Store (cubic-feet)
844.60	0
845.00	944
846.00	9,801
847.00	25,165
848.00	40,550
849.00	50,084
849.41	50,491

Device	Routing	Invert	Outlet Devices
#1	Primary	844.60'	**24.0" Round Culvert** L= 514.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 844.60' / 843.47' S= 0.0022 '/' Cc= 0.900 n= 0.010, Flow Area= 3.14 sf

Primary OutFlow Max=16.78 cfs @ 12.38 hrs HW=847.81' (Free Discharge)
└**1=Culvert** (Barrel Controls 16.78 cfs @ 5.34 fps)

Pond 6P: (new Pond)



Summary for Pond 8P: (new Pond)

[93] Warning: Storage range exceeded by 227.72'
[85] Warning: Oscillations may require smaller dt or Finer Routing (severity=15)
[81] Warning: Exceeded Pond 6P by 219.03' @ 12.65 hrs

Inflow Area = 17.900 ac, 91.65% Impervious, Inflow Depth > 6.00" for 100-Year event
Inflow = 110.01 cfs @ 12.17 hrs, Volume= 8.956 af
Outflow = 30.61 cfs @ 12.67 hrs, Volume= 5.585 af, Atten= 72%, Lag= 29.8 min
Primary = 30.61 cfs @ 12.67 hrs, Volume= 5.585 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 1,077.72' @ 12.66 hrs Surf.Area= 0 sf Storage= 226,720 cf

Plug-Flow detention time= 282.4 min calculated for 5.573 af (62% of inflow)
Center-of-Mass det. time= 203.8 min (965.1 - 761.4)

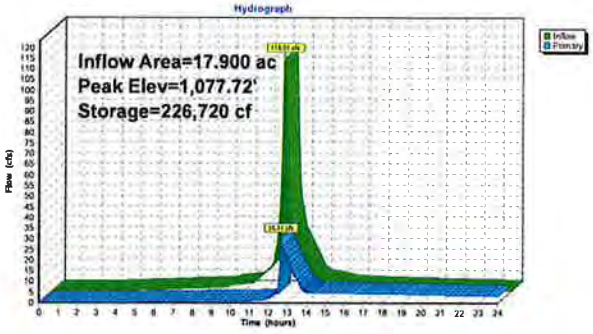
Volume	Invert	Avail.Storage	Storage Description
#1	842.50'	226,720 cf	**Custom Stage Data**Listed below

Elevation (feet)	Cum.Store (cubic-feet)
842.50	0
843.00	5,579
844.00	25,375
845.00	58,382
846.00	96,687
847.00	136,565
848.00	173,130
849.00	199,843
850.00	226,720

Device	Routing	Invert	Outlet Devices
#1	Primary	842.42'	**4.5" Vert. Orifice/Grate** C= 0.820
#2	Primary	845.30'	**5.8" Vert. Orifice/Grate** C= 0.820

Primary OutFlow Max=27.43 cfs @ 12.67 hrs HW=1,045.51' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 10.35 cfs @ 93.74 fps)
└**2=Orifice/Grate** (Orifice Controls 17.07 cfs @ 93.06 fps)

Pond 8P: (new Pond)

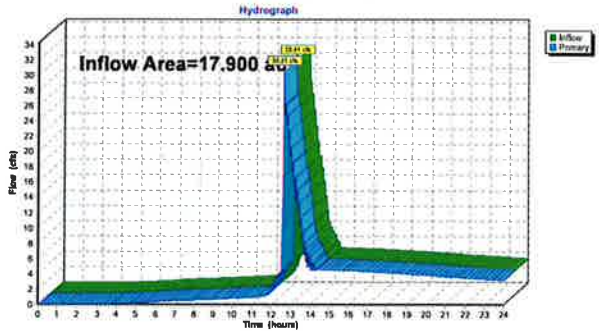


Summary for Link 9L: (new Link)

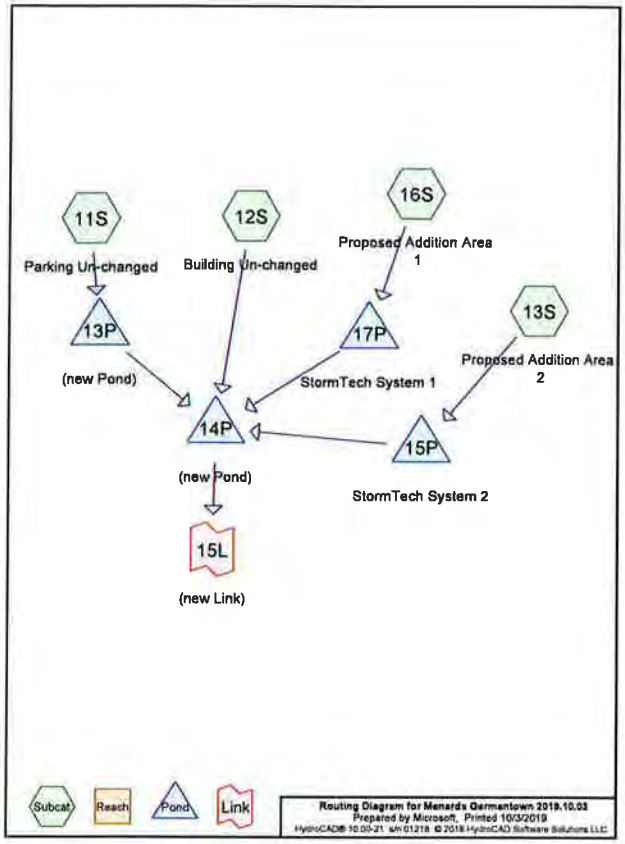
Inflow Area = 17.900 ac, 91.65% Impervious, Inflow Depth > 3.74" for 100-Year event
Inflow = 30.61 cfs @ 12.67 hrs, Volume= 5.585 af
Primary = 30.61 cfs @ 12.67 hrs, Volume= 5.585 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 9L: (new Link)



Appendix E



Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
1.300	84	50-75% Grass cover, Fair, HSG D (12S)
16.400	98	Paved parking, HSG D (11S, 12S, 13S, 16S)
0.734	98	Roofs, HSG D (13S)
1.300	95	Urban commercial, 85% imp, HSG D (12S)
19.734	**97**	**TOTAL AREA**

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
19.734	HSG D	11S, 12S, 13S, 16S
0.000	Other	
19.734		**TOTAL AREA**

Ground Covers (selected nodes)

HSG-A (acres)	HSG-B (acres)	HSG-C (acres)	HSG-D (acres)	Other (acres)	Total (acres)	Ground Cover	Subcatchment Numbers
0.000	0.000	0.000	1.300	0.000	1.300	50-75% Grass cover, Fair	12S
0.000	0.000	0.000	16.400	0.000	16.400	Paved parking	11S, 12S, 13S, 16S
0.000	0.000	0.000	0.734	0.000	0.734	Roofs	13S
0.000	0.000	0.000	1.300	0.000	1.300	Urban commercial, 85% imp	12S
0.000	**0.000**	**0.000**	**19.734**	**0.000**	**19.734**	**TOTAL AREA**	

Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	13P	844.60	843.47	514.0	0.0022	0.010	24.0	0.0	0.0
2	15P	0.00	-1.00	10.0	0.1000	0.012	12.0	0.0	0.0
3	17P	0.00	-1.00	10.0	0.1000	0.012	12.0	0.0	0.0

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment11S: Parking Un-changed Runoff Area=5.900 ac 100.00% Impervious Runoff Depth>2.12"
Tc=10.0 min CN=98 Runoff=16.99 cfs 1.043 af

Subcatchment12S: Building Un-changed Runoff Area=12.000 ac 87.54% Impervious Runoff Depth>1.91"
Tc=10.0 min CN=96 Runoff=32.71 cfs 1.914 af

Subcatchment13S: Proposed Addition Runoff Area=1.052 ac 100.00% Impervious Runoff Depth>2.12"
Tc=10.0 min CN=98 Runoff=3.03 cfs 0.186 af

Subcatchment16S: Proposed Addition Runoff Area=0.782 ac 100.00% Impervious Runoff Depth>2.12"
Tc=10.0 min CN=98 Runoff=2.25 cfs 0.138 af

Pond 13P: (new Pond) Peak Elev=846.15' Storage=12,136 cf Inflow=16.99 cfs 1.043 af
24.0" Round Culvert n=0.010 L=514.0' S=0.0022 '/' Outflow=8.50 cfs 1.036 af

Pond 14P: (new Pond) Peak Elev=845.83' Storage=90,261 cf Inflow=39.71 cfs 3.124 af
Outflow=1.95 cfs 1.636 af

Pond 15P: StormTech System 2 Peak Elev=2.15' Storage=0.138 af Inflow=3.03 cfs 0.186 af
Outflow=0.13 cfs 0.106 af

Pond 17P: StormTech System 1 Peak Elev=1.74' Storage=0.105 af Inflow=2.25 cfs 0.138 af
Outflow=0.09 cfs 0.069 af

Link 15L: (new Link) Inflow=1.95 cfs 1.636 af
Primary=1.95 cfs 1.636 af

Total Runoff Area = 19.734 ac Runoff Volume = 3.281 af Average Runoff Depth = 1.99"
7.58% Pervious = 1.495 ac 92.42% Impervious = 18.239 ac

Summary for Subcatchment 11S: Parking Un-changed

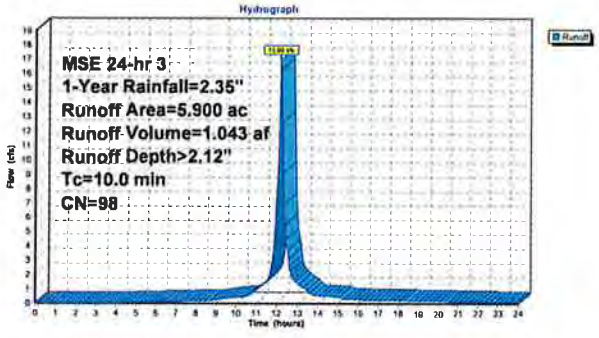
Runoff = 16.99 cfs @ 12.17 hrs, Volume= 1.043 af, Depth> 2.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1-Year Rainfall=2.35"

Area (ac)	CN	Description
5.900	98	Paved parking, HSG D
5.900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 11S: Parking Un-changed



Summary for Subcatchment 12S: Building Un-changed

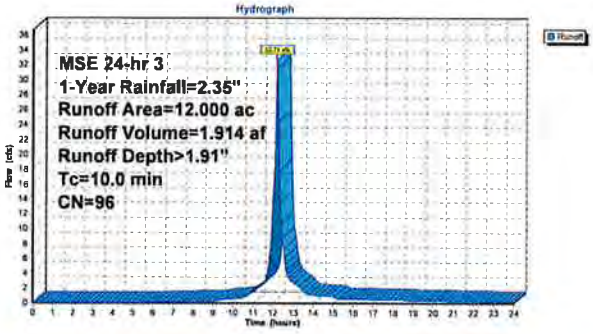
Runoff = 32.71 cfs @ 12.17 hrs, Volume= 1.914 af, Depth> 1.91"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1-Year Rainfall=2.35"

Area (ac)	CN	Description
9.400	98	Paved parking, HSG D
1.300	85	Urban commercial, 85% imp, HSG D
1.300	84	50-75% Grass cover, Fair, HSG D
12.000	96	Weighted Average
1.495		12.46% Pervious Area
10.505		87.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 12S: Building Un-changed



Summary for Subcatchment 13S: Proposed Addition Area 2

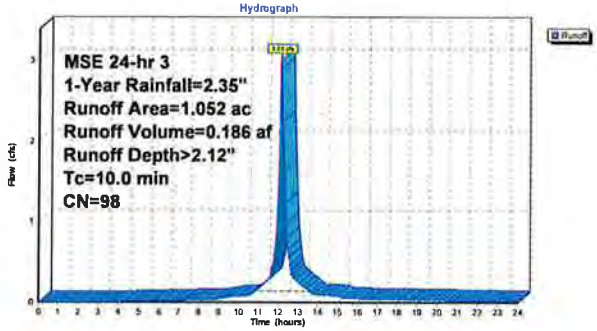
Runoff = 3.03 cfs @ 12.17 hrs, Volume= 0.186 af, Depth> 2.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1-Year Rainfall=2.35"

Area (ac)	CN	Description
0.318	98	Paved parking, HSG D
0.734	98	Roofs, HSG D
1.052	98	Weighted Average
1.052		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 13S: Proposed Addition Area 2



Summary for Subcatchment 16S: Proposed Addition Area 1

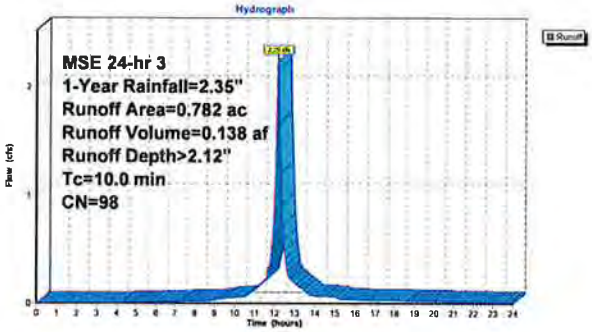
Runoff = 2.25 cfs @ 12.17 hrs, Volume= 0.138 af, Depth> 2.12"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 1-Year Rainfall=2.35"

Area (ac)	CN	Description
0.782	98	Paved parking, HSG D
0.782		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 16S: Proposed Addition Area 1



Summary for Pond 13P: (new Pond)

Inflow Area = 5.900 ac,100.00% Impervious, Inflow Depth > 2.12" for 1-Year event
Inflow = 16.89 cfs @ 12.17 hrs, Volume= 1.043 af
Outflow = 8.50 cfs @ 12.32 hrs, Volume= 1.036 af, Atten= 50%, Lag= 8.8 min
Primary = 8.50 cfs @ 12.32 hrs, Volume= 1.036 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 846.15' @ 12.32 hrs Surf.Area= 0 sf Storage= 12,136 cf

Plug-Flow detention time= 29.4 min calculated for 1.034 af (99% of inflow)
Center-of-Mass det. time= 25.6 min (786.3 - 760.7)

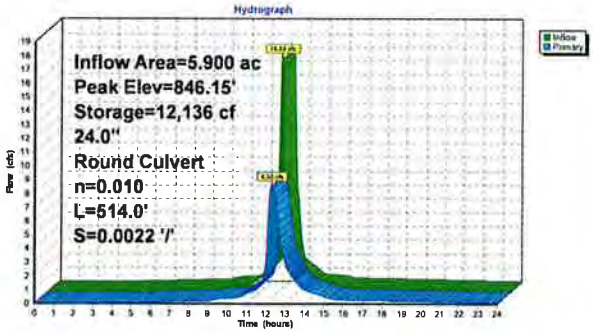
Volume	Invert	Avail.Storage	Storage Description
#1	844.60'	50,491 cf	**Custom Stage Data**Listed below

Elevation (feet)	Cum.Store (cubic-feet)
844.60	0
845.00	944
846.00	9,801
847.00	25,165
848.00	40,550
849.00	50,084
849.41	50,491

Device	Routing	Invert	Outlet Devices
#1	Primary	844.60'	**24.0" Round Culvert** L= 514.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 844.60' / 843.47' S= 0.0022 '/' Cc= 0.900 n= 0.010, Flow Area= 3.14 sf

Primary OutFlow Max=8.47 cfs @ 12.32 hrs HW=846.15' (Free Discharge)
↑**1=Culvert** (Barrel Controls 8.47 cfs @ 4.48 fps)

Pond 13P: (new Pond)



Summary for Pond 14P: (new Pond)

[81] Warning: Exceeded Pond 13P by 0.91' @ 15.55 hrs
[81] Warning: Exceeded Pond 15P by 843.78' @ 22.10 hrs
[81] Warning: Exceeded Pond 17P by 844.11' @ 14.90 hrs

Inflow Area = 18.734 ac, 92.42% Impervious, Inflow Depth > 1.90" for 1-Year event
Inflow = 39.71 cfs @ 12.18 hrs, Volume= 3.124 af
Outflow = 1.95 cfs @ 14.44 hrs, Volume= 1.636 af, Atten= 95%, Lag= 135.8 min
Primary = 1.95 cfs @ 14.44 hrs, Volume= 1.636 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 845.83' @ 14.44 hrs Surf.Area= 0 sf Storage= 90,261 cf

Plug-Flow detention time= 319.6 min calculated for 1.636 af (52% of inflow)
Center-of-Mass det. time= 223.3 min (1,017.9 - 794.6)

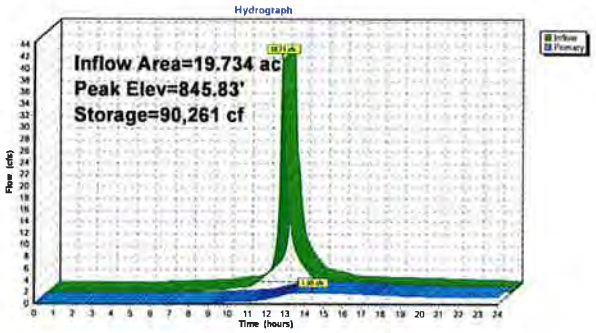
Volume	Invert	Avail.Storage	Storage Description
#1	842.50'	226,720 cf	**Custom Stage Data**Listed below

Elevation (feet)	Cum.Store (cubic-feet)
842.50	0
843.00	5,579
844.00	25,375
845.00	58,382
846.00	96,687
847.00	136,565
848.00	173,130
849.00	199,843
850.00	226,720

Device	Routing	Invert	Outlet Devices
#1	Primary	842.42'	**4.5" Vert. Orifice/Grate** C= 0.820
#2	Primary	845.30'	**5.8" Vert. Orifice/Grate** C= 0.820

Primary OutFlow Max=1.96 cfs @ 14.44 hrs HW=845.83' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 1.31 cfs @ 11.82 fps)
└**2=Orifice/Grate** (Orifice Controls 0.65 cfs @ 3.55 fps)

Pond 14P: (new Pond)



Summary for Pond 15P: StormTech System 2

Inflow Area = 1.052 ac,100.00% Impervious, Inflow Depth > 2.12" for 1-Year event
Inflow = 3.03 cfs @ 12.17 hrs, Volume= 0.186 af
Outflow = 0.13 cfs @ 13.62 hrs, Volume= 0.106 af, Atten= 96%, Lag= 86.7 min
Primary = 0.13 cfs @ 13.62 hrs, Volume= 0.106 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 2.15' @ 13.62 hrs Surf.Area= 0.093 ac Storage= 0.138 af

Plug-Flow detention time= 369.7 min calculated for 0.106 af (57% of inflow)
Center-of-Mass det. time= 290.8 min (1,051.5 - 760.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.151 af	**37.58'W x 107.74'L x 6.75'H Field A** 0.627 af Overall - 0.251 af Embedded = 0.376 af x 40.0% Voids
#2A	0.75'	0.251 af	**ADS_StormTech MC-4500 +Cap**x 100 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 4 Rows of 25 Chambers Cap Storage= +35.7 cf x 2 x 4 rows = 285.6 cf
		0.402 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**12.0" Round Culvert** L= 10.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 0.00' / -1.00' S= 0.1000 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	1.00'	**2.2" Vert. Orifice/Grate** C= 0.600
#3	Device 1	6.25'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.13 cfs @ 13.62 hrs HW=2.15' (Free Discharge)
└**1=Culvert** (Passes 0.13 cfs of 6.08 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 0.13 cfs @ 4.96 fps)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 15P: StormTech System 2 - Chamber Wizard Field A

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap volume)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= +35.7 cf x 2 x 4 rows = 285.6 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

25 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 105.74' Row Length +12.0" End Stone x 2 = 107.74' Base Length
4 Rows x 100.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 37.58' Base Width
9.0" Base + 60.0" Chamber Height + 12.0" Cover = 6.75' Field Height

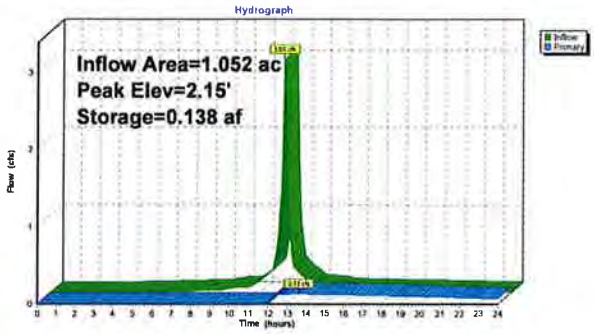
100 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 4 Rows = 10,934.6 cf Chamber Storage

27,332.7 cf Field - 10,934.6 cf Chambers = 16,398.1 cf Stone x 40.0% Voids = 6,559.2 cf Stone Storage

Chamber Storage + Stone Storage = 17,493.9 cf = 0.402 af
Overall Storage Efficiency = 64.0%
Overall System Size = 107.74' x 37.58' x 6.75'

100 Chambers
1,012.3 cy Field
607.3 cy Stone

Pond 15P: StormTech System 2



Summary for Pond 17P: StormTech System 1

Inflow Area = 0.782 ac,100.00% Impervious, Inflow Depth > 2.12" for 1-Year event
Inflow = 2.25 cfs @ 12.17 hrs, Volume= 0.138 af
Outflow = 0.09 cfs @ 13.67 hrs, Volume= 0.069 af, Atten= 96%, Lag= 90.0 min
Primary = 0.09 cfs @ 13.67 hrs, Volume= 0.069 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 1.74' @ 13.67 hrs Surf.Area= 0.093 ac Storage= 0.105 af

Plug-Flow detention time= 379.9 min calculated for 0.069 af (50% of inflow)
Center-of-Mass det. time= 294.1 min (1,054.8 - 760.7)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.131 af	**22.75'W x 177.78'L x 5.50'H Field A** 0.511 af Overall - 0.184 af Embedded = 0.327 af x 40.0% Voids
#2A	0.75'	0.184 af	**ADS_StormTech MC-3500 d +Capx** 72 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 3 Rows of 24 Chambers Cap Storage= +14.9 cf x 2 x 3 rows = 89.4 cf
		0.315 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**12.0" Round Culvert** L= 10.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 0.00' / -1.00' S= 0.1000 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	1.00'	**2.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	5.25'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.09 cfs @ 13.67 hrs HW=1.74' (Free Discharge)
└**1=Culvert** (Passes 0.09 cfs of 5.26 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 0.09 cfs @ 3.90 fps)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 17P: StormTech System 1 - Chamber Wizard Field A

Chamber Model = ADS_StormTechMC-3500 d +Cap (ADS StormTech®MC-3500 d rev 03/14 with Cap volume)
Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf
Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap
Cap Storage= +14.9 cf x 2 x 3 rows = 89.4 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

24 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 175.78' Row Length +12.0" End Stone x 2 = 177.78' Base Length
3 Rows x 77.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 22.75' Base Width
9.0" Base + 45.0" Chamber Height + 12.0" Cover = 5.50' Field Height

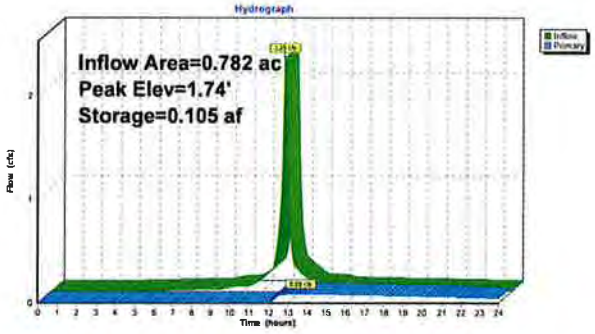
72 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 3 Rows = 8,005.9 cf Chamber Storage

22,244.7 cf Field - 8,005.9 cf Chambers = 14,238.8 cf Stone x 40.0% Voids = 5,695.5 cf Stone Storage

Chamber Storage + Stone Storage = 13,701.5 cf = 0.315 af
Overall Storage Efficiency = 61.6%
Overall System Size = 177.78' x 22.75' x 5.50'

72 Chambers
823.9 cy Field
527.4 cy Stone

Pond 17P: StormTech System 1

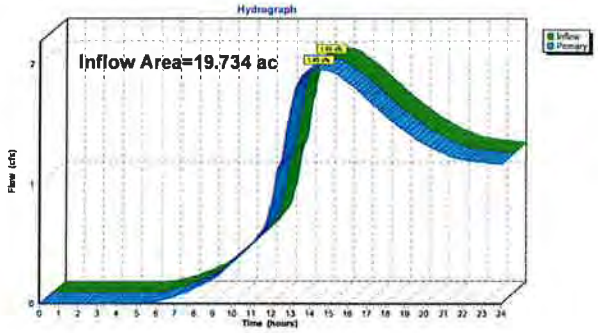


Summary for Link 15L: (new Link)

Inflow Area = 19.734 ac, 92.42% Impervious, Inflow Depth > 0.99" for 1-Year event
Inflow = 1.95 cfs @ 14.44 hrs, Volume= 1.636 af
Primary = 1.95 cfs @ 14.44 hrs, Volume= 1.636 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 15L: (new Link)



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment11S: Parking Un-changed Runoff Area=5.900 ac 100.00% Impervious Runoff Depth>2.42"
Tc=10.0 min CN=98 Runoff=19.25 cfs 1.189 af

Subcatchment12S: Building Un-changed Runoff Area=12.000 ac 87.54% Impervious Runoff Depth>2.21"
Tc=10.0 min CN=96 Runoff=37.40 cfs 2.207 af

Subcatchment13S: Proposed Addition Runoff Area=1.052 ac 100.00% Impervious Runoff Depth>2.42"
Tc=10.0 min CN=98 Runoff=3.43 cfs 0.212 af

Subcatchment16S: Proposed Addition Runoff Area=0.782 ac 100.00% Impervious Runoff Depth>2.42"
Tc=10.0 min CN=98 Runoff=2.55 cfs 0.158 af

Pond 13P: (new Pond) Peak Elev=846.26' Storage=13,786 cf Inflow=19.25 cfs 1.189 af
24.0" Round Culvert n=0.010 L=514.0' S=0.0022 '/' Outflow=9.44 cfs 1.182 af

Pond 14P: (new Pond) Peak Elev=846.16' Storage=102,939 cf Inflow=45.21 cfs 3.591 af
Outflow=2.32 cfs 1.966 af

Pond 15P: StormTech System 2 Peak Elev=2.41' Storage=0.158 af Inflow=3.43 cfs 0.212 af
Outflow=0.15 cfs 0.121 af

Pond 17P: StormTech System 1 Peak Elev=1.93' Storage=0.119 af Inflow=2.55 cfs 0.158 af
Outflow=0.10 cfs 0.080 af

Link 15L: (new Link) Inflow=2.32 cfs 1.966 af
Primary=2.32 cfs 1.966 af

Total Runoff Area = 19.734 ac Runoff Volume = 3.766 af Average Runoff Depth = 2.29"
7.58% Pervious = 1.495 ac 92.42% Impervious = 18.239 ac

Summary for Subcatchment 11S: Parking Un-changed

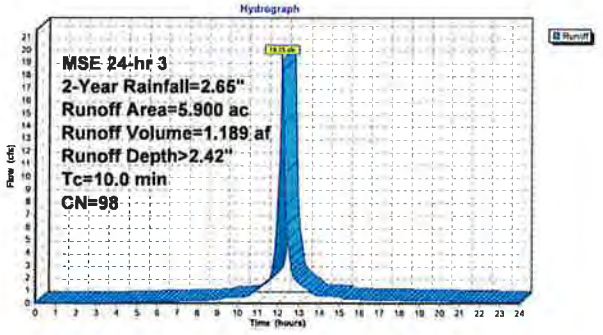
Runoff = 19.25 cfs @ 12.17 hrs, Volume= 1.189 af, Depth> 2.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2-Year Rainfall=2.65"

Area (ac)	CN	Description
5.900	98	Paved parking, HSG D
5.900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 11S: Parking Un-changed



Summary for Subcatchment 12S: Building Un-changed

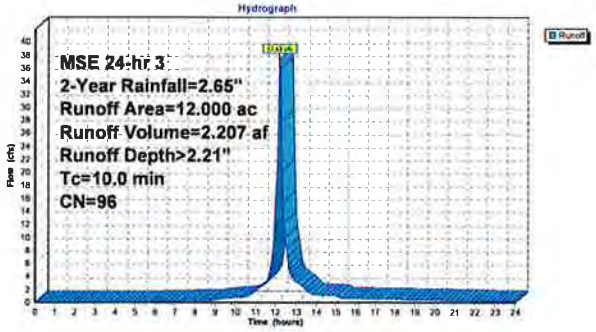
Runoff = 37.40 cfs @ 12.17 hrs, Volume= 2.207 af, Depth> 2.21"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2-Year Rainfall=2.65"

Area (ac)	CN	Description
9.400	98	Paved parking, HSG D
1.300	85	Urban commercial, 85% imp, HSG D
1.300	84	50-75% Grass cover, Fair, HSG D
12.000	96	Weighted Average
1.495		12.46% Pervious Area
10.505		87.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 12S: Building Un-changed



Summary for Subcatchment 13S: Proposed Addition Area 2

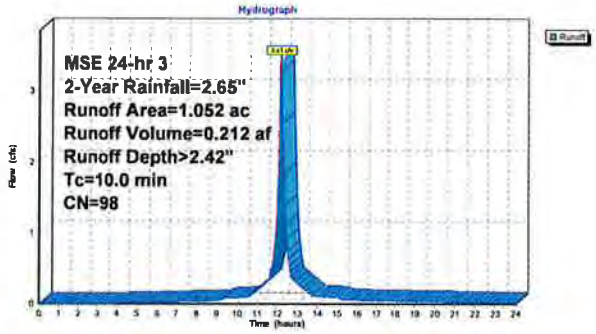
Runoff = 3.43 cfs @ 12.17 hrs, Volume= 0.212 af, Depth> 2.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2-Year Rainfall=2.65"

Area (ac)	CN	Description
0.318	98	Paved parking, HSG D
0.734	98	Roofs, HSG D
1.052	98	Weighted Average
1.052		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 13S: Proposed Addition Area 2



Summary for Subcatchment 16S: Proposed Addition Area 1

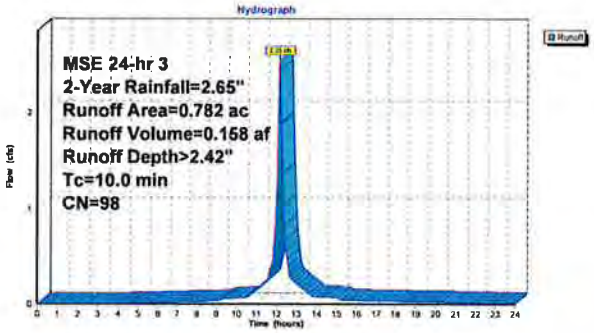
Runoff = 2.55 cfs @ 12.17 hrs, Volume= 0.158 af, Depth> 2.42"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 2-Year Rainfall=2.65"

Area (ac)	CN	Description
0.782	98	Paved parking, HSG D
0.782		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 16S: Proposed Addition Area 1



Summary for Pond 13P: (new Pond)

Inflow Area = 5.900 ac,100.00% Impervious, Inflow Depth > 2.42" for 2-Year event
Inflow = 19.25 cfs @ 12.17 hrs, Volume= 1.189 af
Outflow = 9.44 cfs @ 12.32 hrs, Volume= 1.182 af, Atten= 51%, Lag= 9.0 min
Primary = 9.44 cfs @ 12.32 hrs, Volume= 1.182 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 846.26' @ 12.32 hrs Surf.Area= 0 sf Storage= 13,786 cf

Plug-Flow detention time= 28.9 min calculated for 1.180 af (99% of inflow)
Center-of-Mass det. time= 25.3 min (783.8 - 758.5)

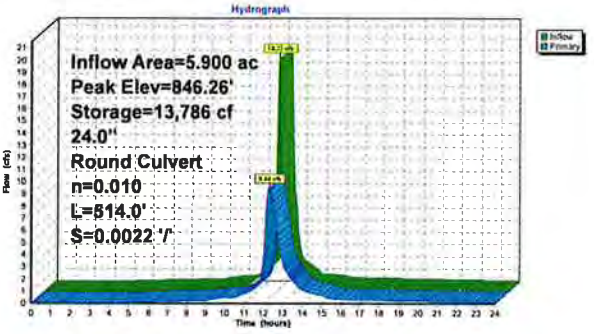
Volume	Invert	Avail.Storage	Storage Description
#1	844.60'	50,491 cf	**Custom Stage Data**Listed below

Elevation (feet)	Cum.Store (cubic-feet)
844.60	0
845.00	944
846.00	9,801
847.00	25,165
848.00	40,550
849.00	50,084
849.41	50,491

Device	Routing	Invert	Outlet Devices
#1	Primary	844.60'	**24.0" Round Culvert** L= 514.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 844.60' / 843.47' S= 0.0022 '/' Cc= 0.900 n= 0.010, Flow Area= 3.14 sf

Primary OutFlow Max=9.40 cfs @ 12.32 hrs HW=846.25' (Free Discharge)
↳1=Culvert (Barrel Controls 9.40 cfs @ 4.59 fps)

Pond 13P: (new Pond)



Summary for Pond 14P: (new Pond)

[81] Warning: Exceeded Pond 13P by 1.20' @ 15.55 hrs
[81] Warning: Exceeded Pond 15P by 843.80' @ 15.45 hrs
[81] Warning: Exceeded Pond 17P by 844.24' @ 14.85 hrs

Inflow Area = 19.734 ac, 92.42% Impervious, Inflow Depth > 2.18" for 2-Year event
Inflow = 45.21 cfs @ 12.18 hrs, Volume= 3.591 af
Outflow = 2.32 cfs @ 14.25 hrs, Volume= 1.966 af, Atten= 95%, Lag= 124.5 min
Primary = 2.32 cfs @ 14.25 hrs, Volume= 1.966 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 846.16' @ 14.25 hrs Surf.Area= 0 sf Storage= 102,939 cf

Plug-Flow detention time= 315.8 min calculated for 1.961 af (55% of inflow)
Center-of-Mass det. time= 221.7 min (1,014.0 - 792.3)

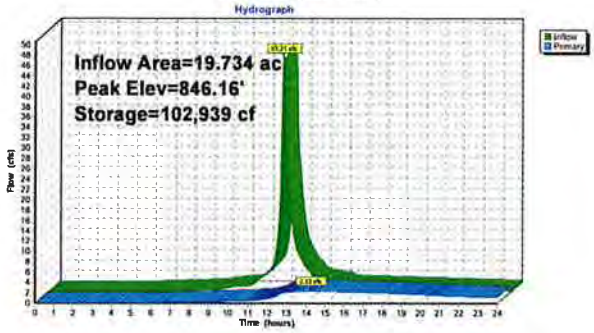
Volume	Invert	Avail.Storage	Storage Description
#1	842.50'	226,720 cf	**Custom Stage Data**Listed below

Elevation (feet)	Cum.Store (cubic-feet)
842.50	0
843.00	5,579
844.00	25,375
845.00	58,382
846.00	96,687
847.00	136,565
848.00	173,130
849.00	199,843
850.00	226,720

Device	Routing	Invert	Outlet Devices
#1	Primary	842.42'	**4.5" Vert. Orifice/Grate** C= 0.820
#2	Primary	845.30'	**5.8" Vert. Orifice/Grate** C= 0.820

Primary OutFlow Max=2.32 cfs @ 14.25 hrs HW=846.16' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 1.37 cfs @ 12.40 fps)
└**2=Orifice/Grate** (Orifice Controls 0.95 cfs @ 5.16 fps)

Pond 14P: (new Pond)



Summary for Pond 15P: StormTech System 2

Inflow Area = 1.052 ac,100.00% Impervious, Inflow Depth > 2.42" for 2-Year event
Inflow = 3.43 cfs @ 12.17 hrs, Volume= 0.212 af
Outflow = 0.15 cfs @ 13.62 hrs, Volume= 0.121 af, Atten= 96%, Lag= 87.1 min
Primary = 0.15 cfs @ 13.62 hrs, Volume= 0.121 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 2.41' @ 13.62 hrs Surf.Area= 0.093 ac Storage= 0.158 af

Plug-Flow detention time= 375.1 min calculated for 0.121 af (57% of inflow)
Center-of-Mass det. time= 295.5 min (1,054.0 - 758.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.151 af	**37.58'W x 107.74'L x 6.75'H Field A** 0.627 af Overall - 0.251 af Embedded = 0.376 af x 40.0% Voids
#2A	0.75'	0.251 af	**ADS_StormTech MC-4500 +Cap** x 100 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 4 Rows of 25 Chambers Cap Storage= +35.7 cf x 2 x 4 rows = 285.6 cf
		0.402 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**12.0" Round Culvert** L= 10.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 0.00' / -1.00' S= 0.1000 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	1.00'	**2.2" Vert. Orifice/Grate** C= 0.600
#3	Device 1	6.25'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.15 cfs @ 13.62 hrs HW=2.41' (Free Discharge)
└**1=Culvert** (Passes 0.15 cfs of 6.54 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 0.15 cfs @ 5.53 fps)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 15P: StormTech System 2 - Chamber Wizard Field A

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech® MC-4500 with cap volume)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= +35.7 cf x 2 x 4 rows = 285.6 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

25 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 105.74' Row Length +12.0" End Stone x 2 = 107.74' Base Length
4 Rows x 100.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 37.58' Base Width
9.0" Base + 60.0" Chamber Height + 12.0" Cover = 6.75' Field Height

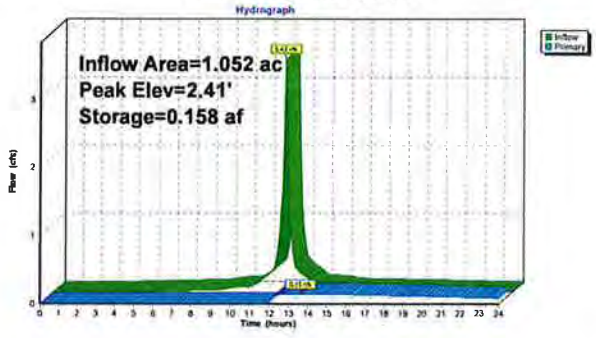
100 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 4 Rows = 10,934.6 cf Chamber Storage

27,332.7 cf Field - 10,934.6 cf Chambers = 16,398.1 cf Stone x 40.0% Voids = 6,559.2 cf Stone Storage

Chamber Storage + Stone Storage = 17,493.9 cf = 0.402 af
Overall Storage Efficiency = 64.0%
Overall System Size = 107.74' x 37.58' x 6.75'

100 Chambers
1,012.3 cy Field
607.3 cy Stone

Pond 15P: StormTech System 2



Summary for Pond 17P: StormTech System 1

Inflow Area = 0.782 ac,100.00% Impervious, Inflow Depth > 2.42" for 2-Year event
Inflow = 2.55 cfs @ 12.17 hrs, Volume= 0.158 af
Outflow = 0.10 cfs @ 13.67 hrs, Volume= 0.080 af, Atten= 96%, Lag= 89.9 min
Primary = 0.10 cfs @ 13.67 hrs, Volume= 0.080 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 1.93' @ 13.67 hrs Surf.Area= 0.093 ac Storage= 0.119 af

Plug-Flow detention time= 385.3 min calculated for 0.080 af (51% of inflow)
Center-of-Mass det. time= 299.0 min (1,057.5 - 758.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.131 af	**22.75'W x 177.78'L x 5.50'H Field A** 0.511 af Overall - 0.184 af Embedded = 0.327 af x 40.0% Voids
#2A	0.75'	0.184 af	**ADS_StormTech MC-3500 d +Cap**x 72 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 3 Rows of 24 Chambers Cap Storage= +14.9 cf x 2 x 3 rows = 89.4 cf
		0.315 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**12.0" Round Culvert** L= 10.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 0.00' / -1.00' S= 0.1000 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	1.00'	**2.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	5.25'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.10 cfs @ 13.67 hrs HW=1.93' (Free Discharge)
└1=Culvert (Passes 0.10 cfs of 5.66 cfs potential flow)
├2=Orifice/Grate (Orifice Controls 0.10 cfs @ 4.44 fps)
└3=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 17P: StormTech System 1 - Chamber Wizard Field A

Chamber Model = ADS_StormTechMC-3500 d +Cap (ADS StormTech®MC-3500 d rev 03/14 with Cap volume)
Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf
Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap
Cap Storage= +14.9 cf x 2 x 3 rows = 89.4 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

24 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 175.78' Row Length +12.0" End Stone x 2 = 177.78' Base Length
3 Rows x 77.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 22.75' Base Width
9.0" Base + 45.0" Chamber Height + 12.0" Cover = 5.50' Field Height

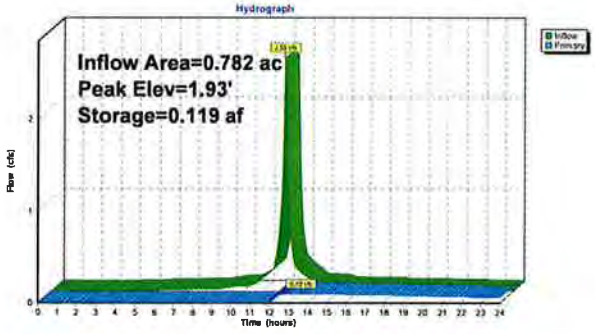
72 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 3 Rows = 8,005.9 cf Chamber Storage

22,244.7 cf Field - 8,005.9 cf Chambers = 14,238.8 cf Stone x 40.0% Voids = 5,695.5 cf Stone Storage

Chamber Storage + Stone Storage = 13,701.5 cf = 0.315 af
Overall Storage Efficiency = 61.6%
Overall System Size = 177.78' x 22.75' x 5.50'

72 Chambers
823.9 cy Field
527.4 cy Stone

Pond 17P: StormTech System 1

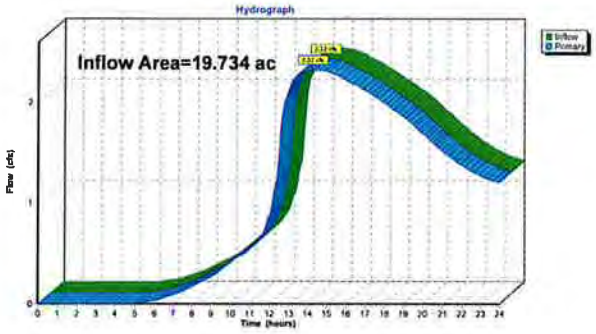


Summary for Link 15L: (new Link)

Inflow Area = 19.734 ac, 92.42% Impervious, Inflow Depth > 1.20" for 2-Year event
Inflow = 2.32 cfs @ 14.25 hrs, Volume= 1.966 af
Primary = 2.32 cfs @ 14.25 hrs, Volume= 1.966 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 15L: (new Link)



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment11S: Parking Un-changed Runoff Area=5.900 ac 100.00% Impervious Runoff Depth>3.58"
Tc=10.0 min CN=98 Runoff=28.00 cfs 1.762 af

Subcatchment12S: Building Un-changed Runoff Area=12.000 ac 87.54% Impervious Runoff Depth>3.36"
Tc=10.0 min CN=96 Runoff=55.53 cfs 3.360 af

Subcatchment13S: Proposed Addition Runoff Area=1.052 ac 100.00% Impervious Runoff Depth>3.58"
Tc=10.0 min CN=98 Runoff=4.99 cfs 0.314 af

Subcatchment16S: Proposed Addition Runoff Area=0.782 ac 100.00% Impervious Runoff Depth>3.58"
Tc=10.0 min CN=98 Runoff=3.71 cfs 0.234 af

Pond 13P: (new Pond) Peak Elev=846.69' Storage=20,353 cf Inflow=28.00 cfs 1.762 af
24.0" Round Culvert n=0.010 L=514.0' S=0.0022 '/' Outflow=12.93 cfs 1.754 af

Pond 14P: (new Pond) Peak Elev=847.54' Storage=156,418 cf Inflow=66.05 cfs 5.405 af
Outflow=3.32 cfs 3.105 af

Pond 15P: StormTech System 2 Peak Elev=3.47' Storage=0.235 af Inflow=4.99 cfs 0.314 af
Outflow=0.20 cfs 0.172 af

Pond 17P: StormTech System 1 Peak Elev=2.73' Storage=0.177 af Inflow=3.71 cfs 0.234 af
Outflow=0.13 cfs 0.118 af

Link 15L: (new Link) Inflow=3.32 cfs 3.105 af
Primary=3.32 cfs 3.105 af

Total Runoff Area = 19.734 ac Runoff Volume = 5.670 af Average Runoff Depth = 3.45"
7.58% Pervious = 1.495 ac 92.42% Impervious = 18.239 ac

Summary for Subcatchment 11S: Parking Un-changed

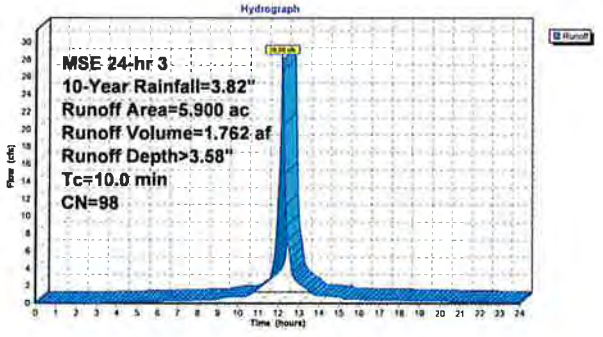
Runoff = 28.00 cfs @ 12.17 hrs, Volume= 1.762 af, Depth> 3.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10-Year Rainfall=3.82"

Area (ac)	CN	Description
5.900	98	Paved parking, HSG D
5.900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 11S: Parking Un-changed



Summary for Subcatchment 12S: Building Un-changed

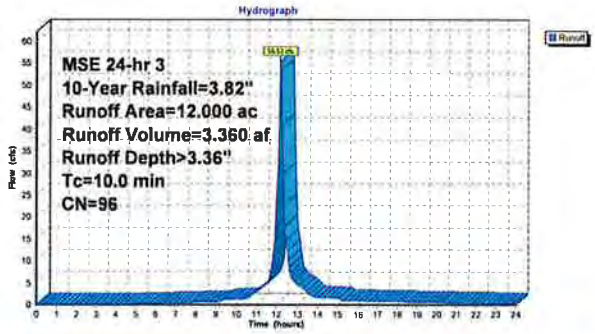
Runoff = 55.53 cfs @ 12.17 hrs, Volume= 3.360 af, Depth> 3.36"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10-Year Rainfall=3.82"

Area (ac)	CN	Description
9.400	98	Paved parking, HSG D
1.300	85	Urban commercial, 85% imp, HSG D
1.300	84	50-75% Grass cover, Fair, HSG D
12.000	96	Weighted Average
1.495		12.46% Pervious Area
10.505		87.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 12S: Building Un-changed



Summary for Subcatchment 13S: Proposed Addition Area 2

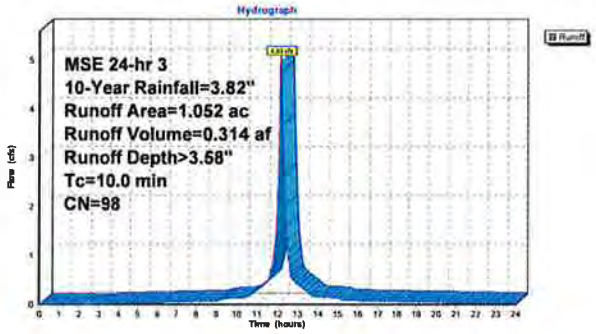
Runoff = 4.99 cfs @ 12.17 hrs, Volume= 0.314 af, Depth> 3.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10-Year Rainfall=3.82"

Area (ac)	CN	Description
0.318	98	Paved parking, HSG D
0.734	98	Roofs, HSG D
1.052	98	Weighted Average
1.052		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 13S: Proposed Addition Area 2



Summary for Subcatchment 16S: Proposed Addition Area 1

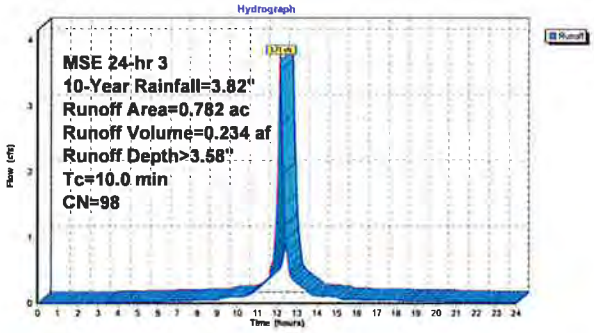
Runoff = 3.71 cfs @ 12.17 hrs, Volume= 0.234 af, Depth> 3.58"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 10-Year Rainfall=3.82"

Area (ac)	CN	Description
0.782	98	Paved parking, HSG D
0.782		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 16S: Proposed Addition Area 1



Summary for Pond 13P: (new Pond)

Inflow Area = 5.900 ac,100.00% Impervious, Inflow Depth > 3.58" for 10-Year event
Inflow = 28.00 cfs @ 12.17 hrs, Volume= 1.762 af
Outflow = 12.93 cfs @ 12.33 hrs, Volume= 1.754 af, Atten= 54%, Lag= 9.6 min
Primary = 12.93 cfs @ 12.33 hrs, Volume= 1.754 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 846.69' @ 12.33 hrs Surf.Area= 0 sf Storage= 20,353 cf

Plug-Flow detention time= 27.8 min calculated for 1.754 af (100% of inflow)
Center-of-Mass det. time= 24.9 min (777.3 - 752.5)

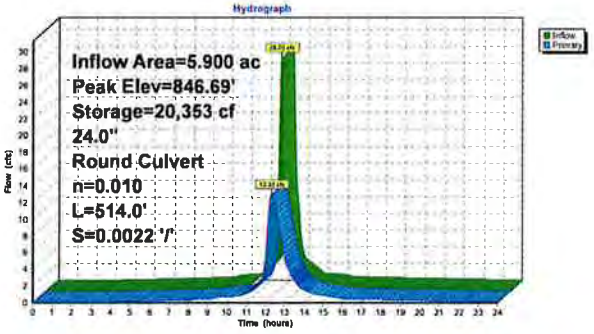
Volume	Invert	Avail.Storage	Storage Description
#1	844.60'	50,491 cf	**Custom Stage Data**Listed below

Elevation (feet)	Cum.Store (cubic-feet)
844.60	0
845.00	844
846.00	8,801
847.00	25,165
848.00	40,550
849.00	50,084
849.41	50,491

Device	Routing	Invert	Outlet Devices
#1	Primary	844.60'	**24.0" Round Culvert** L= 514.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 844.60' / 843.47' S= 0.0022 '/' Cc= 0.900 n= 0.010, Flow Area= 3.14 sf

Primary OutFlow Max=12.90 cfs @ 12.33 hrs HW=846.68' (Free Discharge)
↳**1=Culvert** (Barrel Controls 12.90 cfs @ 4.90 fps)

Pond 13P: (new Pond)



Summary for Pond 14P: (new Pond)

[81] Warning: Exceeded Pond 13P by 2.46' @ 15.80 hrs
[81] Warning: Exceeded Pond 15P by 844.13' @ 15.40 hrs
[81] Warning: Exceeded Pond 17P by 844.83' @ 14.60 hrs

Inflow Area = 19.734 ac, 92.42% Impervious, Inflow Depth > 3.28" for 10-Year event
Inflow = 66.05 cfs @ 12.18 hrs, Volume= 5.405 af
Outflow = 3.32 cfs @ 14.18 hrs, Volume= 3.105 af, Atten= 95%, Lag= 120.5 min
Primary = 3.32 cfs @ 14.18 hrs, Volume= 3.105 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 847.54' @ 14.18 hrs Surf.Area= 0 sf Storage= 156,418 cf

Plug-Flow detention time= 336.5 min calculated for 3.105 af (57% of inflow)
Center-of-Mass det. time= 242.7 min (1,027.5 - 784.8)

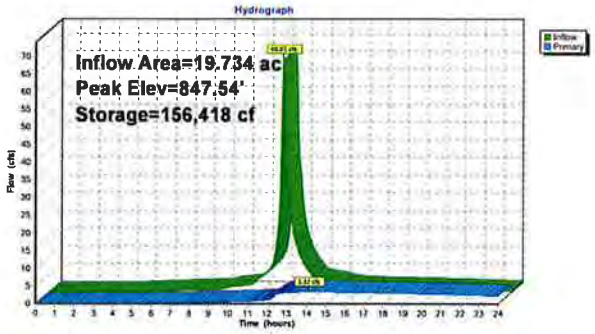
Volume	Invert	Avail.Storage	Storage Description
#1	842.50'	226,720 cf	**Custom Stage Data**Listed below

Elevation (feet)	Cum.Store (cubic-feet)
842.50	0
843.00	5,579
844.00	25,375
845.00	58,382
846.00	96,687
847.00	136,565
848.00	173,130
849.00	199,843
850.00	226,720

Device	Routing	Invert	Outlet Devices
#1	Primary	842.42'	**4.5" Vert. Orifice/Grate** C= 0.820
#2	Primary	845.30'	**5.8" Vert. Orifice/Grate** C= 0.620

Primary OutFlow Max=3.32 cfs @ 14.18 hrs HW=847.54' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 1.61 cfs @ 14.62 fps)
└**2=Orifice/Grate** (Orifice Controls 1.71 cfs @ 9.31 fps)

Pond 14P: (new Pond)



Summary for Pond 15P: StormTech System 2

Inflow Area = 1.052 ac,100.00% Impervious, Inflow Depth > 3.58" for 10-Year event
Inflow = 4.99 cfs @ 12.17 hrs, Volume= 0.314 af
Outflow = 0.20 cfs @ 13.65 hrs, Volume= 0.172 af, Atten= 96%, Lag= 89.0 min
Primary = 0.20 cfs @ 13.65 hrs, Volume= 0.172 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 3.47' @ 13.65 hrs Surf.Area= 0.093 ac Storage= 0.235 af

Plug-Flow detention time= 388.5 min calculated for 0.172 af (55% of inflow)
Center-of-Mass det. time= 304.2 min (1,056.7 - 752.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.151 af	**37.58'W x 107.74'L x 6.75'H Field A** 0.627 af Overall - 0.251 af Embedded = 0.376 af x 40.0% Voids
#2A	0.75'	0.251 af	**ADS_StormTech MC-4500 +Cap**x 100 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 4 Rows of 25 Chambers Cap Storage= +35.7 cf x 2 x 4 rows = 285.6 cf
		0.402 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**12.0" Round Culvert** L= 10.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 0.00' / -1.00' S= 0.1000 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	1.00'	**2.2" Vert. Orifice/Grate** C= 0.600
#3	Device 1	6.25'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.20 cfs @ 13.65 hrs HW=3.47' (Free Discharge)
└**1=Culvert** (Passes 0.20 cfs of 8.15 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 0.20 cfs @ 7.42 fps)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 15P: StormTech System 2 - Chamber Wizard Field A

Chamber Model = ADS_StormTechMC-4500 +Cap (ADS StormTech®MC-4500 with cap volume)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= +35.7 cf x 2 x 4 rows = 285.6 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

25 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 105.74' Row Length +12.0" End Stone x 2 = 107.74' Base Length
4 Rows x 100.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 37.58' Base Width
9.0" Base + 60.0" Chamber Height + 12.0" Cover = 6.75' Field Height

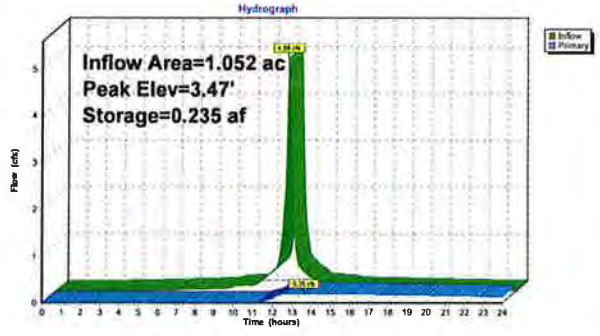
100 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 4 Rows = 10,934.6 cf Chamber Storage

27,332.7 cf Field - 10,934.6 cf Chambers = 16,398.1 cf Stone x 40.0% Voids = 6,559.2 cf Stone Storage

Chamber Storage + Stone Storage = 17,493.9 cf = 0.402 af
Overall Storage Efficiency = 64.0%
Overall System Size = 107.74' x 37.58' x 6.75'

100 Chambers
1,012.3 cy Field
607.3 cy Stone

Pond 15P: StormTech System 2



Summary for Pond 17P: StormTech System 1

Inflow Area = 0.782 ac,100.00% Impervious, Inflow Depth > 3.58" for 10-Year event
Inflow = 3.71 cfs @ 12.17 hrs, Volume= 0.234 af
Outflow = 0.13 cfs @ 13.69 hrs, Volume= 0.118 af, Atten= 96%, Lag= 91.0 min
Primary = 0.13 cfs @ 13.69 hrs, Volume= 0.118 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 2.73' @ 13.69 hrs Surf.Area= 0.093 ac Storage= 0.177 af

Plug-Flow detention time= 398.4 min calculated for 0.118 af (50% of inflow)
Center-of-Mass det. time= 309.3 min (1,061.8 - 752.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.131 af	**22.75'W x 177.78'L x 5.50'H Field A** 0.511 af Overall - 0.184 af Embedded = 0.327 af x 40.0% Voids
#2A	0.75'	0.184 af	**ADS_StormTech MC-3500 d +Cap x 72** Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 3 Rows of 24 Chambers Cap Storage= +14.9 cf x 2 x 3 rows = 89.4 cf
		0.315 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**12.0" Round Culvert** L= 10.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 0.00' / -1.00' S= 0.1000 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	1.00'	**2.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	5.25'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.13 cfs @ 13.69 hrs HW=2.73' (Free Discharge)
└1=**Culvert** (Passes 0.13 cfs of 7.07 cfs potential flow)
├2=**Orifice/Grate** (Orifice Controls 0.13 cfs @ 6.19 fps)
└3=**Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 17P: StormTech System 1 - Chamber Wizard Field A

Chamber Model = ADS_StormTechMC-3500 d +Cap (ADS StormTech®MC-3500 d rev 03/14 with Cap volume)
Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf
Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap
Cap Storage= +14.9 cf x 2 x 3 rows = 89.4 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

24 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 175.78' Row Length +12.0" End Stone x 2 = 177.78' Base Length
3 Rows x 77.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 22.75' Base Width
9.0" Base + 45.0" Chamber Height + 12.0" Cover = 5.50' Field Height

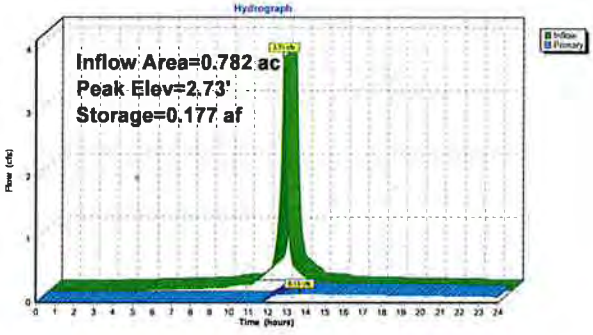
72 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 3 Rows = 8,005.9 cf Chamber Storage

22,244.7 cf Field - 8,005.9 cf Chambers = 14,238.8 cf Stone x 40.0% Voids = 5,695.5 cf Stone Storage

Chamber Storage + Stone Storage = 13,701.5 cf = 0.315 af
Overall Storage Efficiency = 61.6%
Overall System Size = 177.78' x 22.75' x 5.50'

72 Chambers
823.9 cy Field
527.4 cy Stone

Pond 17P: StormTech System 1

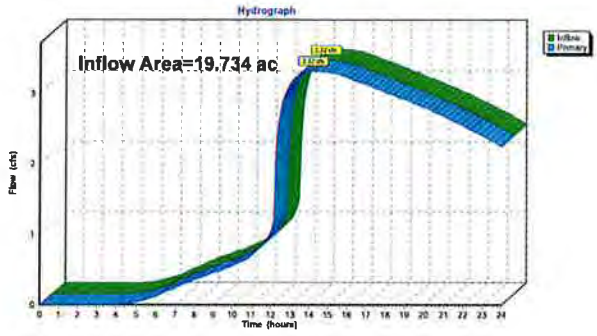


Summary for Link 15L: (new Link)

Inflow Area = 19.734 ac, 92.42% Impervious, Inflow Depth > 1.89" for 10-Year event
Inflow = 3.32 cfs @ 14.18 hrs, Volume= 3.105 af
Primary = 3.32 cfs @ 14.18 hrs, Volume= 3.105 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 15L: (new Link)



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment11S: Parking Un-changed Runoff Area=5.900 ac 100.00% Impervious Runoff Depth>4.49"
Tc=10.0 min CN=98 Runoff=34.78 cfs 2.209 af

Subcatchment12S: Building Un-changed Runoff Area=12.000 ac 87.54% Impervious Runoff Depth>4.26"
Tc=10.0 min CN=96 Runoff=69.51 cfs 4.263 af

Subcatchment13S: Proposed Addition Runoff Area=1.052 ac 100.00% Impervious Runoff Depth>4.49"
Tc=10.0 min CN=98 Runoff=6.20 cfs 0.394 af

Subcatchment16S: Proposed Addition Runoff Area=0.782 ac 100.00% Impervious Runoff Depth>4.49"
Tc=10.0 min CN=98 Runoff=4.61 cfs 0.293 af

Pond 13P: (new Pond) Peak Elev=847.04' Storage=25,815 cf Inflow=34.78 cfs 2.209 af
24.0" Round Culvert n=0.010 L=514.0' S=0.0022 '/' Outflow=14.98 cfs 2.200 af

Pond 14P: (new Pond) Peak Elev=848.98' Storage=189,421 cf Inflow=82.01 cfs 6.814 af
Outflow=4.08 cfs 3.821 af

Pond 15P: StormTech System 2 Peak Elev=4.37' Storage=0.285 af Inflow=6.20 cfs 0.394 af
Outflow=0.23 cfs 0.208 af

Pond 17P: StormTech System 1 Peak Elev=3.42' Storage=0.223 af Inflow=4.61 cfs 0.293 af
Outflow=0.16 cfs 0.144 af

Link 15L: (new Link) Inflow=4.08 cfs 3.821 af
Primary=4.08 cfs 3.821 af

Total Runoff Area = 19.734 ac Runoff Volume = 7.158 af Average Runoff Depth = 4.35"
7.58% Pervious = 1.495 ac 92.42% Impervious = 18.239 ac

Summary for Subcatchment 11S: Parking Un-changed

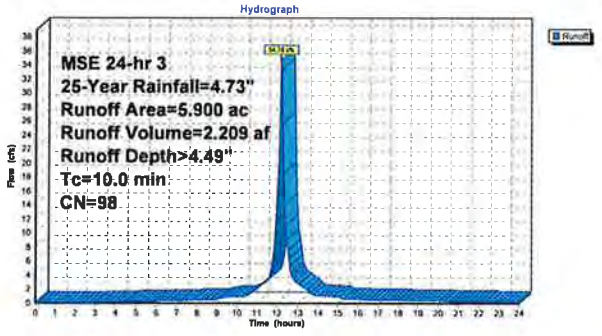
Runoff = 34.78 cfs @ 12.17 hrs, Volume= 2.209 af, Depth> 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 25-Year Rainfall=4.73"

Area (ac)	CN	Description
5.900	98	Paved parking, HSG D
5.900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 11S: Parking Un-changed



Summary for Subcatchment 12S: Building Un-changed

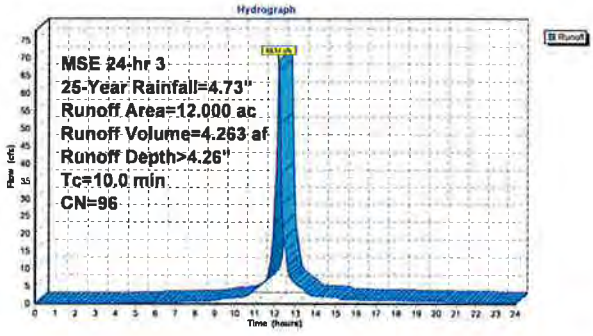
Runoff = 69.51 cfs @ 12.17 hrs, Volume= 4.263 af, Depth> 4.26"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 25-Year Rainfall=4.73"

Area (ac)	CN	Description
9.400	98	Paved parking, HSG D
1.300	85	Urban commercial, 85% imp, HSG D
1.300	84	50-75% Grass cover, Fair, HSG D
12.000	96	Weighted Average
1.495		12.46% Pervious Area
10.505		87.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 12S: Building Un-changed



Summary for Subcatchment 13S: Proposed Addition Area 2

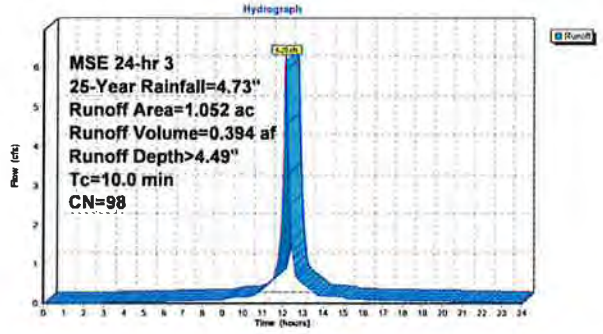
Runoff = 6.20 cfs @ 12.17 hrs, Volume= 0.394 af, Depth> 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 25-Year Rainfall=4.73"

Area (ac)	CN	Description
0.318	98	Paved parking, HSG D
0.734	98	Roofs, HSG D
1.052	98	Weighted Average
1.052		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 13S: Proposed Addition Area 2



Summary for Subcatchment 16S: Proposed Addition Area 1

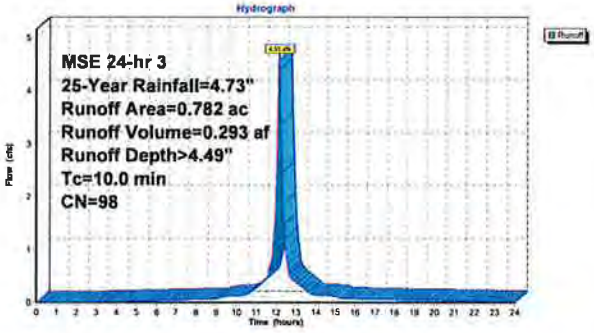
Runoff = 4.61 cfs @ 12.17 hrs, Volume= 0.293 af, Depth> 4.49"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 25-Year Rainfall=4.73"

Area (ac)	CN	Description
0.782	98	Paved parking, HSG D
0.782		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 16S: Proposed Addition Area 1



Summary for Pond 13P: (new Pond)

Inflow Area = 5.900 ac,100.00% Impervious, Inflow Depth > 4.49" for 25-Year event
Inflow = 34.78 cfs @ 12.17 hrs, Volume= 2.209 af
Outflow = 14.98 cfs @ 12.34 hrs, Volume= 2.200 af, Atten= 57%, Lag= 10.4 min
Primary = 14.98 cfs @ 12.34 hrs, Volume= 2.200 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 847.04' @ 12.34 hrs Surf.Area= 0 sf Storage= 25,815 cf

Plug-Flow detention time= 27.7 min calculated for 2.200 af (100% of inflow)
Center-of-Mass det. time= 25.1 min (774.5 - 749.4)

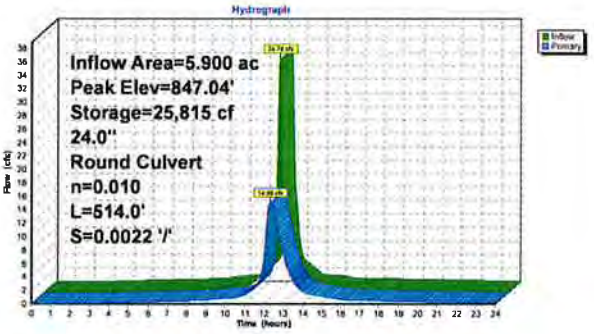
Volume	Invert	Avail.Storage	Storage Description
#1	844.60'	50,491 cf	**Custom Stage Data**Listed below

Elevation (feet)	Cum.Store (cubic-feet)
844.60	0
845.00	944
846.00	9,601
847.00	25,165
848.00	40,550
849.00	50,084
849.41	50,491

Device	Routing	Invert	Outlet Devices
#1	Primary	844.60'	**24.0" Round Culvert** L= 514.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 844.60' / 843.47' S= 0.0022 '/' Cc= 0.900 n= 0.010, Flow Area= 3.14 sf

Primary OutFlow Max=14.98 cfs @ 12.34 hrs HW=847.04' (Free Discharge)
└**1=Culvert** (Barrel Controls 14.98 cfs @ 4.97 fps)

Pond 13P: (new Pond)



Summary for Pond 14P: (new Pond)

[81] Warning: Exceeded Pond 13P by 3.83' @ 14.85 hrs
[81] Warning: Exceeded Pond 15P by 844.65' @ 14.75 hrs
[81] Warning: Exceeded Pond 17P by 845.58' @ 14.40 hrs

Inflow Area = 19.734 ac, 92.42% Impervious, Inflow Depth > 4.14" for 25-Year event
Inflow = 82.01 cfs @ 12.18 hrs, Volume= 6.814 af
Outflow = 4.08 cfs @ 14.17 hrs, Volume= 3.821 af, Atten= 95%, Lag= 119.8 min
Primary = 4.08 cfs @ 14.17 hrs, Volume= 3.821 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 848.98' @ 14.17 hrs Surf.Area= 0 sf Storage= 199,421 cf

Plug-Flow detention time= 341.8 min calculated for 3.813 af (56% of inflow)
Center-of-Mass det. time= 246.4 min (1,027.1 - 780.6)

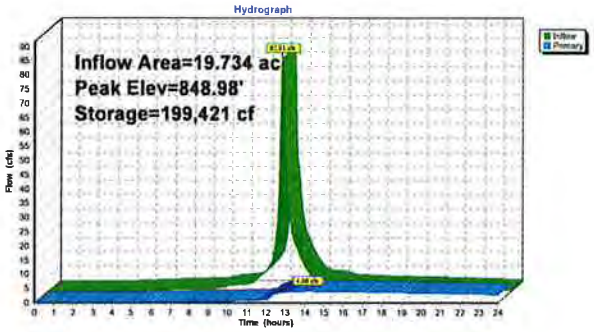
Volume	Invert	Avail.Storage	Storage Description
#1	842.50'	226,720 cf	**Custom Stage Data**Listed below

Elevation (feet)	Cum.Store (cubic-feet)
842.50	0
843.00	5,579
844.00	25,375
845.00	58,382
846.00	96,687
847.00	136,565
848.00	173,130
849.00	199,843
850.00	226,720

Device	Routing	Invert	Outlet Devices
#1	Primary	842.42'	**4.5" Vert. Orifice/Grate** C= 0.820
#2	Primary	845.30'	**5.8" Vert. Orifice/Grate** C= 0.820

Primary OutFlow Max=4.08 cfs @ 14.17 hrs HW=848.98' (Free Discharge)
1=Orifice/Grate (Orifice Controls 1.84 cfs @ 16.62 fps)
2=Orifice/Grate (Orifice Controls 2.24 cfs @ 12.21 fps)

Pond 14P: (new Pond)



Summary for Pond 15P: StormTech System 2

Inflow Area = 1.052 ac,100.00% Impervious, Inflow Depth > 4.49" for 25-Year event
Inflow = 6.20 cfs @ 12.17 hrs, Volume= 0.394 af
Outflow = 0.23 cfs @ 13.67 hrs, Volume= 0.208 af, Atten= 96%, Lag= 90.2 min
Primary = 0.23 cfs @ 13.67 hrs, Volume= 0.208 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 4.37' @ 13.67 hrs Surf.Area= 0.093 ac Storage= 0.295 af

Plug-Flow detention time= 393.5 min calculated for 0.207 af (53% of inflow)
Center-of-Mass det. time= 305.6 min (1,055.0 - 749.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.151 af	**37.58'W x 107.74'L x 6.75'H Field A** 0.627 af Overall - 0.251 af Embedded = 0.376 af x 40.0% Voids
#2A	0.75'	0.251 af	**ADS_StormTech MC-4500 +Cap** x 100 Inside #1 Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 4 Rows of 25 Chambers Cap Storage= +35.7 cf x 2 x 4 rows = 285.6 cf
		0.402 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**12.0" Round Culvert** L= 10.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 0.00' / -1.00' S= 0.1000 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	1.00'	**2.2" Vert. Orifice/Grate** C= 0.600
#3	Device 1	6.25'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.23 cfs @ 13.67 hrs HW=4.37' (Free Discharge)
1=Culvert (Passes 0.23 cfs of 9.30 cfs potential flow)
2=Orifice/Grate (Orifice Controls 0.23 cfs @ 8.72 fps)
3=Sharp-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 15P: StormTech System 2 - Chamber Wizard Field A

Chamber Model = ADS_StormTech MC-4500 +Cap (ADS StormTech® MC-4500 with cap volume)
Effective Size= 90.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= +35.7 cf x 2 x 4 rows = 285.6 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

25 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 105.74' Row Length +12.0" End Stone x 2 = 107.74' Base Length
4 Rows x 100.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 37.58' Base Width
9.0" Base + 60.0" Chamber Height + 12.0" Cover = 6.75' Field Height

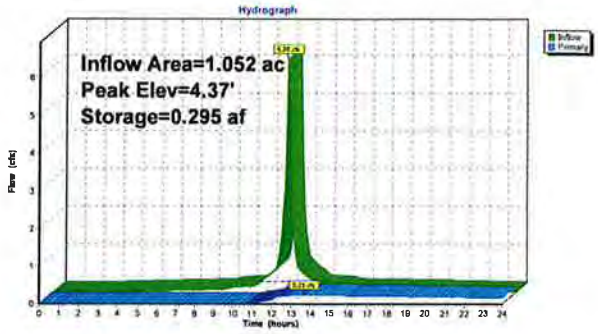
100 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 4 Rows = 10,934.6 cf Chamber Storage

27,332.7 cf Field - 10,934.6 cf Chambers = 16,398.1 cf Stone x 40.0% Voids = 6,559.2 cf Stone Storage

Chamber Storage + Stone Storage = 17,493.8 cf = 0.402 af
Overall Storage Efficiency = 64.0%
Overall System Size = 107.74' x 37.58' x 6.75'

100 Chambers
1,012.3 cy Field
607.3 cy Stone

Pond 15P: StormTech System 2



Summary for Pond 17P: StormTech System 1

Inflow Area = 0.782 ac,100.00% Impervious, Inflow Depth > 4.49" for 25-Year event
Inflow = 4.61 cfs @ 12.17 hrs, Volume= 0.293 af
Outflow = 0.16 cfs @ 13.71 hrs, Volume= 0.144 af, Atten= 97%, Lag= 92.4 min
Primary = 0.16 cfs @ 13.71 hrs, Volume= 0.144 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 3.42' @ 13.71 hrs Surf.Area= 0.093 ac Storage= 0.223 af

Plug-Flow detention time= 404.8 min calculated for 0.144 af (49% of inflow)
Center-of-Mass det. time= 311.8 min (1,061.2 - 749.4)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.131 af	**22.75'W x 177.78'L x 5.50'H Field A** 0.511 af Overall - 0.184 af Embedded = 0.327 af x 40.0% Voids
#2A	0.75'	0.184 af	**ADS_StormTech MC-3500 d +Capx 72** Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 3 Rows of 24 Chambers Cap Storage= +14.9 cf x 2 x 3 rows = 89.4 cf
		0.315 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**12.0" Round Culvert** L= 10.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 0.00' / -1.00' S= 0.1000 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	1.00'	**2.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	5.25'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.16 cfs @ 13.71 hrs HW=3.42' (Free Discharge)
└**1=Culvert** (Passes 0.16 cfs of 8.07 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 0.16 cfs @ 7.36 fps)
└**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 17P: StormTech System 1 - Chamber Wizard Field A

Chamber Model = ADS_StormTechMC-3500 d +Cap (ADS StormTech®MC-3500 d rev 03/14 with Cap volume)
Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf
Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap
Cap Storage= +14.9 cf x 2 x 3 rows = 89.4 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

24 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 175.78' Row Length +12.0" End Stone x 2 = 177.78' Base Length
3 Rows x 77.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 22.75' Base Width
9.0" Base + 45.0" Chamber Height + 12.0" Cover = 5.50' Field Height

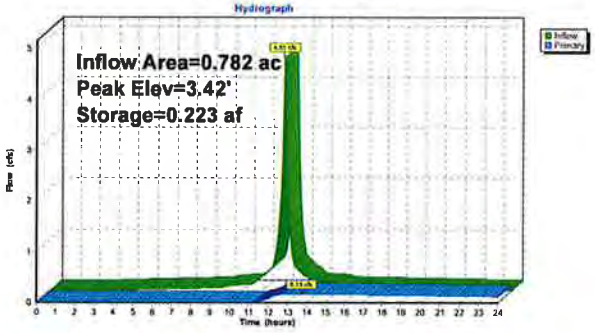
72 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 3 Rows = 8,005.9 cf Chamber Storage

22,244.7 cf Field - 8,005.9 cf Chambers = 14,238.8 cf Stone x 40.0% Voids = 5,695.5 cf Stone Storage

Chamber Storage + Stone Storage = 13,701.5 cf = 0.315 af
Overall Storage Efficiency = 61.6%
Overall System Size = 177.78' x 22.75' x 5.50'

72 Chambers
823.9 cy Field
527.4 cy Stone

Pond 17P: StormTech System 1

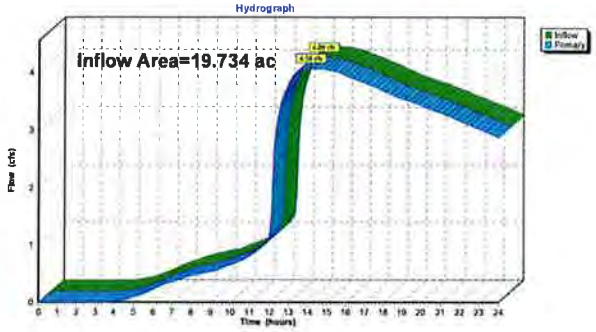


Summary for Link 15L: (new Link)

Inflow Area = 19.734 ac, 92.42% Impervious, Inflow Depth > 2.32" for 25-Year event
Inflow = 4.08 cfs @ 14.17 hrs, Volume= 3.821 af
Primary = 4.08 cfs @ 14.17 hrs, Volume= 3.821 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 15L: (new Link)



Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment11S: Parking Un-changed Runoff Area=5.900 ac 100.00% Impervious Runoff Depth>6.17"
Tc=10.0 min CN=98 Runoff=47.26 cfs 3.033 af

Subcatchment12S: Building Un-changed Runoff Area=12.000 ac 87.54% Impervious Runoff Depth>5.93"
Tc=10.0 min CN=96 Runoff=95.15 cfs 5.933 af

Subcatchment13S: Proposed Addition Runoff Area=1.052 ac 100.00% Impervious Runoff Depth>6.17"
Tc=10.0 min CN=98 Runoff=8.43 cfs 0.541 af

Subcatchment16S: Proposed Addition Runoff Area=0.782 ac 100.00% Impervious Runoff Depth>6.17"
Tc=10.0 min CN=98 Runoff=6.26 cfs 0.402 af

Pond 13P: (new Pond) Peak Elev=847.82' Storage=37,735 cf Inflow=47.26 cfs 3.033 af
24.0" Round Culvert n=0.010 L=514.0' S=0.0022 '/' Outflow=16.79 cfs 3.023 af

Pond 14P: (new Pond) Peak Elev=1,469.66' Storage=226,720 cf Inflow=110.35 cfs 9.433 af
Outflow=48.37 cfs 5.811 af

Pond 15P: StormTech System 2 Peak Elev=6.36' Storage=0.387 af Inflow=8.43 cfs 0.541 af
Outflow=0.68 cfs 0.285 af

Pond 17P: StormTech System 1 Peak Elev=5.24' Storage=0.305 af Inflow=6.26 cfs 0.402 af
Outflow=0.21 cfs 0.191 af

Link 15L: (new Link) Inflow=48.37 cfs 5.811 af
Primary=48.37 cfs 5.811 af

Total Runoff Area = 19.734 ac Runoff Volume = 9.909 af Average Runoff Depth = 6.03"
7.58% Pervious = 1.495 ac 92.42% Impervious = 18.239 ac

Summary for Subcatchment 11S: Parking Un-changed

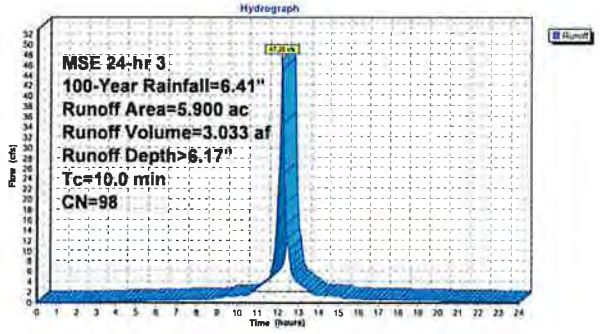
Runoff = 47.26 cfs @ 12.17 hrs, Volume= 3.033 af, Depth> 6.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-Year Rainfall=6.41"

Area (ac)	CN	Description
5.900	98	Paved parking, HSG D
5.900		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 11S: Parking Un-changed



Summary for Subcatchment 12S: Building Un-changed

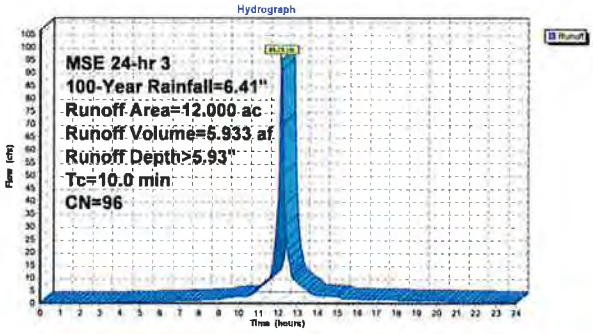
Runoff = 95.15 cfs @ 12.17 hrs, Volume= 5.933 af, Depth> 5.93"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-Year Rainfall=6.41"

Area (ac)	CN	Description
9.400	98	Paved parking, HSG D
1.300	85	Urban commercial, 85% Imp, HSG D
1.300	84	50-75% Grass cover, Fair, HSG D
12.000	96	Weighted Average
1.495		12.46% Pervious Area
10.505		87.54% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 12S: Building Un-changed



Summary for Subcatchment 13S: Proposed Addition Area 2

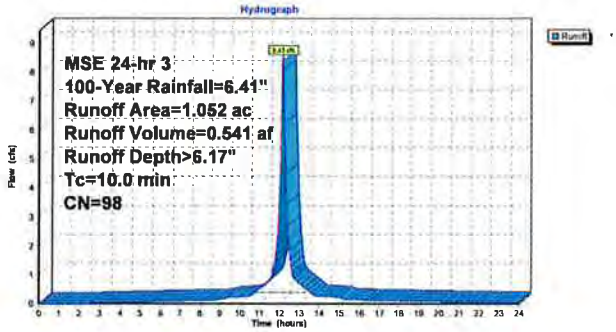
Runoff = 6.43 cfs @ 12.17 hrs, Volume= 0.541 af, Depth> 6.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-Year Rainfall=6.41"

Area (ac)	CN	Description
0.318	98	Paved parking, HSG D
0.734	98	Roofs, HSG D
1.052	98	Weighted Average
1.052		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 13S: Proposed Addition Area 2



Summary for Subcatchment 16S: Proposed Addition Area 1

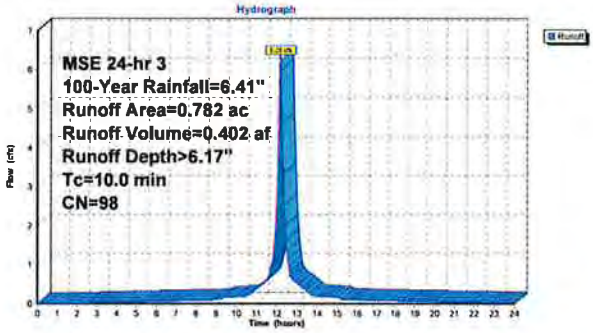
Runoff = 6.26 cfs @ 12.17 hrs, Volume= 0.402 af, Depth> 6.17"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
MSE 24-hr 3 100-Year Rainfall=6.41"

Area (ac)	CN	Description
0.782	98	Paved parking, HSG D
0.782		100.00% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
10.0					Direct Entry,

Subcatchment 16S: Proposed Addition Area 1



Summary for Pond 13P: (new Pond)

Inflow Area = 5.900 ac,100.00% Impervious, Inflow Depth > 6.17" for 100-Year event
Inflow = 47.26 cfs @ 12.17 hrs, Volume= 3.033 af
Outflow = 16.79 cfs @ 12.38 hrs, Volume= 3.023 af, Atten= 64%, Lag= 12.6 min
Primary = 16.79 cfs @ 12.38 hrs, Volume= 3.023 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 847.82' @ 12.38 hrs Surf.Area= 0 sf Storage= 37,735 cf

Plug-Flow detention time= 29.3 min calculated for 3.017 af (99% of inflow)
Center-of-Mass det. time= 27.2 min (772.7 - 745.5)

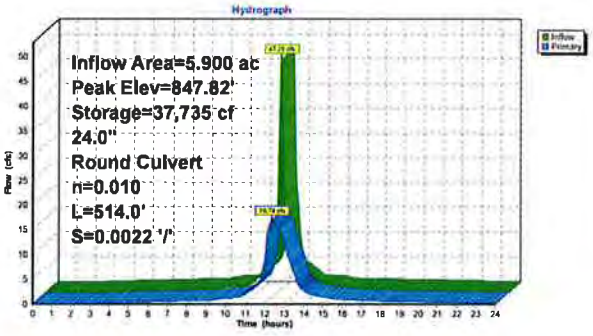
Volume	Invert	Avail.Storage	Storage Description
#1	844.60'	50,491 cf	**Custom Stage Data**Listed below

Elevation (feet)	Cum.Store (cubic-feet)
844.60	0
845.00	844
846.00	9,801
847.00	25,165
848.00	40,550
849.00	50,084
849.41	50,491

Device	Routing	Invert	Outlet Devices
#1	Primary	844.60'	**24.0" Round Culvert** L= 514.0' RCP, sq.cut end projecting, Ke= 0.500 Inlet / Outlet Invert= 844.60' / 843.47' S= 0.0022 '/' Cc= 0.900 n= 0.010, Flow Area= 3.14 sf

Primary OutFlow Max=16.78 cfs @ 12.38 hrs HW=847.81' (Free Discharge)
└**1=Culvert** (Barrel Controls 16.78 cfs @ 5.34 fps)

Pond 13P: (new Pond)



Summary for Pond 14P: (new Pond)

[93] Warning: Storage range exceeded by 619.66'
[85] Warning: Oscillations may require smaller dt or Finer Routing (severity=19)
[81] Warning: Exceeded Pond 13P by 622.22' @ 12.65 hrs
[81] Warning: Exceeded Pond 15P by 1,463.61' @ 12.65 hrs
[81] Warning: Exceeded Pond 17P by 1,465.00' @ 12.65 hrs

Inflow Area = 19.734 ac, 92.42% Impervious, Inflow Depth > 5.74" for 100-Year event
Inflow = 110.35 cfs @ 12.17 hrs, Volume= 9.433 af
Outflow = 48.37 cfs @ 12.65 hrs, Volume= 5.811 af, Atten= 56%, Lag= 28.8 min
Primary = 48.37 cfs @ 12.65 hrs, Volume= 5.811 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 1,469.66' @ 12.65 hrs Surf.Area= 0 sf Storage= 226,720 cf

Plug-Flow detention time= 279.7 min calculated for 5.799 af (61% of inflow)
Center-of-Mass det. time= 189.7 min (965.0 - 775.3)

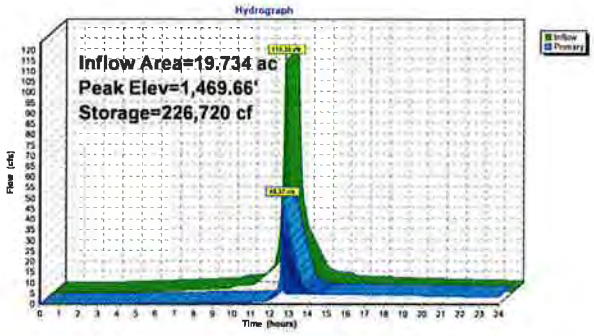
Volume	Invert	Avail.Storage	Storage Description
#1	842.50'	226,720 cf	**Custom Stage Data**Listed below

Elevation (feet)	Cum.Store (cubic-feet)
842.50	0
843.00	5,579
844.00	25,375
845.00	58,382
846.00	96,687
847.00	136,565
848.00	173,130
849.00	199,843
850.00	226,720

Device	Routing	Invert	Outlet Devices
#1	Primary	842.42'	**4.5" Vert. Orifice/Grate** C= 0.820
#2	Primary	845.30'	**5.8" Vert. Orifice/Grate** C= 0.820

Primary OutFlow Max=48.14 cfs @ 12.65 hrs HW=1,463.93' (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 18.12 cfs @ 164.03 fps)
└**2=Orifice/Grate** (Orifice Controls 30.02 cfs @ 163.64 fps)

Pond 14P: (new Pond)



Summary for Pond 15P: StormTech System 2

Inflow Area = 1.052 ac,100.00% Impervious, Inflow Depth > 6.17" for 100-Year event
Inflow = 8.43 cfs @ 12.17 hrs, Volume= 0.541 af
Outflow = 0.68 cfs @ 13.06 hrs, Volume= 0.285 af, Atten= 92%, Lag= 53.3 min
Primary = 0.68 cfs @ 13.06 hrs, Volume= 0.285 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 6.36' @ 13.06 hrs Surf.Area= 0.093 ac Storage= 0.387 af

Plug-Flow detention time= 372.5 min calculated for 0.285 af (53% of inflow)
Center-of-Mass det. time= 281.8 min (1,027.3 - 745.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.151 af	**37.58'W x 107.74'L x 6.75'H Field A** 0.627 af Overall - 0.251 af Embedded = 0.376 af x 40.0% Voids
#2A	0.75'	0.251 af	**ADS_StormTech MC-4500 +Cap** x 100 Inside #1 Effective Size= 80.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap 4 Rows of 25 Chambers Cap Storage= +35.7 cf x 2 x 4 rows = 285.6 cf
		0.402 af	**Total Available Storage**

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**12.0" Round Culvert** L= 10.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 0.00' / -1.00' S= 0.1000 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	1.00'	**2.2" Vert. Orifice/Grate** C= 0.600
#3	Device 1	6.25'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.67 cfs @ 13.06 hrs HW=6.36' (Free Discharge)
└**1=Culvert** (Passes 0.67 cfs of 11.45 cfs potential flow)
└**2=Orifice/Grate** (Orifice Controls 0.29 cfs @ 11.06 fps)
└**3=Sharp-Crested Rectangular Weir** (Weir Controls 0.37 cfs @ 1.10 fps)

Pond 15P: StormTech System 2 - Chamber Wizard Field A

Chamber Model = ADS_StormTechMC-4500+Cap (ADS StormTech®MC-4500 with cap volume)
Effective Size= 80.4"W x 60.0"H => 26.46 sf x 4.03'L = 106.5 cf
Overall Size= 100.0"W x 60.0"H x 4.33'L with 0.31' Overlap
Cap Storage= +35.7 cf x 2 x 4 rows = 285.6 cf

100.0" Wide + 9.0" Spacing = 109.0" C-C Row Spacing

25 Chambers/Row x 4.02' Long +2.56' Cap Length x 2 = 105.74' Row Length +12.0" End Stone x 2 = 107.74' Base Length
4 Rows x 100.0" Wide + 9.0" Spacing x 3 + 12.0" Side Stone x 2 = 37.58' Base Width
9.0" Base + 60.0" Chamber Height + 12.0" Cover = 6.75' Field Height

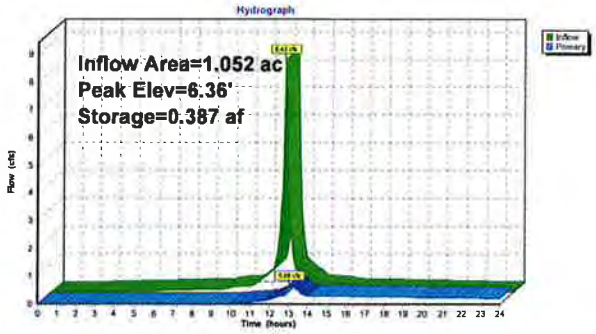
100 Chambers x 106.5 cf + 35.7 cf Cap Volume x 2 x 4 Rows = 10,934.6 cf Chamber Storage

27,332.7 cf Field - 10,934.6 cf Chambers = 16,398.1 cf Stone x 40.0% Voids = 6,559.2 cf Stone Storage

Chamber Storage + Stone Storage = 17,493.9 cf = 0.402 af
Overall Storage Efficiency = 64.0%
Overall System Size = 107.74' x 37.58' x 6.75'

100 Chambers
1,012.3 cy Field
607.3 cy Stone

Pond 15P: StormTech System 2



Summary for Pond 17P: StormTech System 1

Inflow Area = 0.782 ac,100.00% Impervious, Inflow Depth > 6.17" for 100-Year event
Inflow = 6.26 cfs @ 12.17 hrs, Volume= 0.402 af
Outflow = 0.21 cfs @ 13.72 hrs, Volume= 0.191 af, Atten= 97%, Lag= 93.0 min
Primary = 0.21 cfs @ 13.72 hrs, Volume= 0.191 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 5.24' @ 13.72 hrs Surf.Area= 0.093 ac Storage= 0.305 af

Plug-Flow detention time= 407.0 min calculated for 0.191 af (48% of inflow)
Center-of-Mass det. time= 308.1 min (1,053.7 - 745.5)

Volume	Invert	Avail.Storage	Storage Description
#1A	0.00'	0.131 af	**22.75'W x 177.78'L x 5.50'H Field A** 0.511 af Overall - 0.184 af Embedded = 0.327 af x 40.0% Voids
#2A	0.75'	0.184 af	**ADS_StormTech MC-3500 d +Cap**x 72 Inside #1 Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap 3 Rows of 24 Chambers Cap Storage= +14.9 cf x 2 x 3 rows = 89.4 cf
		0.315 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Primary	0.00'	**12.0" Round Culvert** L= 10.0' RCP, groove end projecting, Ke= 0.200 Inlet / Outlet Invert= 0.00' / -1.00' S= 0.1000 '/' Cc= 0.900 n= 0.012, Flow Area= 0.79 sf
#2	Device 1	1.00'	**2.0" Vert. Orifice/Grate** C= 0.600
#3	Device 1	5.25'	**3.0' long Sharp-Crested Rectangular Weir** 2 End Contraction(s)

Primary OutFlow Max=0.21 cfs @ 13.72 hrs HW=5.24' (Free Discharge)
↳**1=Culvert** (Passes 0.21 cfs of 10.30 cfs potential flow)
↳**2=Orifice/Grate** (Orifice Controls 0.21 cfs @ 9.82 fps)
↳**3=Sharp-Crested Rectangular Weir** (Controls 0.00 cfs)

Pond 17P: StormTech System 1 - Chamber Wizard Field A

Chamber Model = ADS_StormTechMC-3500 d +Cap (ADS StormTech®MC-3500 d rev 03/14 with Cap volume)
Effective Size= 70.4"W x 45.0"H => 15.33 sf x 7.17'L = 110.0 cf
Overall Size= 77.0"W x 45.0"H x 7.50'L with 0.33' Overlap
Cap Storage= +14.9 cf x 2 x 3 rows = 89.4 cf

77.0" Wide + 9.0" Spacing = 86.0" C-C Row Spacing

24 Chambers/Row x 7.17' Long +1.85' Cap Length x 2 = 175.78' Row Length +12.0" End Stone x 2 = 177.78' Base Length
3 Rows x 77.0" Wide + 9.0" Spacing x 2 + 12.0" Side Stone x 2 = 22.75' Base Width
9.0" Base + 45.0" Chamber Height + 12.0" Cover = 5.50' Field Height

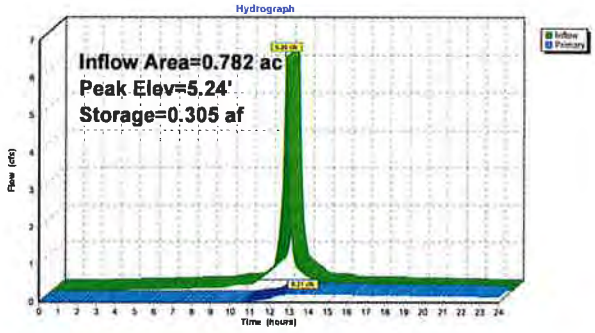
72 Chambers x 110.0 cf + 14.9 cf Cap Volume x 2 x 3 Rows = 8,005.9 cf Chamber Storage

22,244.7 cf Field - 8,005.9 cf Chambers = 14,238.8 cf Stone x 40.0% Voids = 5,695.5 cf Stone Storage

Chamber Storage + Stone Storage = 13,701.5 cf = 0.315 af
Overall Storage Efficiency = 61.6%
Overall System Size = 177.78' x 22.75' x 5.50'

72 Chambers
823.9 cy Field
527.4 cy Stone

Pond 17P: StormTech System 1

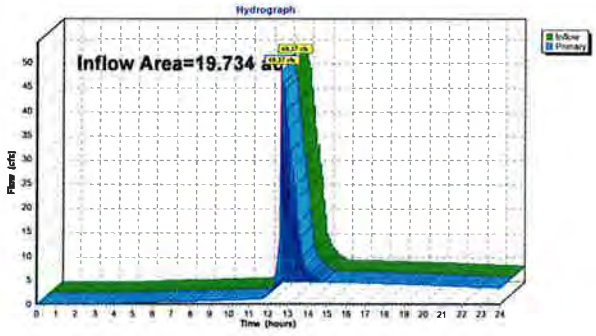


Summary for Link 15L: (new Link)

Inflow Area = 19.734 ac, 92.42% Impervious, Inflow Depth > 3.53" for 100-Year event
Inflow = 48.37 cfs @ 12.65 hrs, Volume= 5.811 af
Primary = 48.37 cfs @ 12.65 hrs, Volume= 5.811 af, Atten= 0%, Lag= 0.0 min

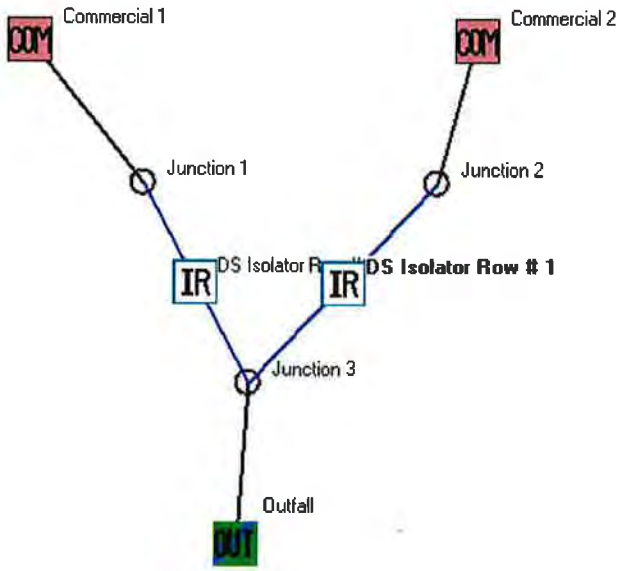
Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 15L: (new Link)



Appendix F

WinSLAMM Model



File Name:

C:\Users\Brandon Whipple\Desktop\WinSLAMM\Germantown Menards.mdb

Outfall Output Summary

	Runoff Volume (cu. ft.)	Percent Runoff Reduction	Runoff Coefficient (Rv)	Particulate Solids Conc (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of All Land Uses without Controls	142378		0.67	89.88	798.9	
Outfall Total with Controls	142755	-0.26 %	0.67	38.94	347.1	56.55 %
Current File Output: Annualized Total After Outfall Controls	143147	Years in Model Run:	1.00		348.0	

Print Output Summary to .csv File

Print Output Summary to Text File

Print Output Summary to Printer

Total Area Modeled (ac): 1.834

Total Control Practice Costs

Capital Cost	N/A
Land Cost	N/A
Annual Maintenance Cost	N/A
Present Value of All Costs	N/A
Annualized Value of All Costs	N/A

Perform Outfall Flow Duration Curve Calculations

Receiving Water Impacts Due To Stormwater Runoff

(CWP Impervious Cover Model)

	Calculated Rv	Approximate Urban Stream Classification
Without Controls	0.67	Poor
With Controls	0.67	Poor

INPUT DATA:
Data file name: C:\Users\jbrunoehler\Documents\StormTech\Projects\Menards - Germantown\Menards Germantown 2019.09.30.mdb
WinSLAMM Version 10.4.102
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Apply Street Delivery Files to Adjust the After Event Load Street Dirt Mass Balance: False
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Source Area PSD and Peak to Average Flow Ratio File: C:\WinSLAMM Files\NURP Source Area PSD Files.csv
Cost Data file name:
Seed for random number generator: -42
Study period starting date: 01/01/81 Study period ending date: 12/31/81
Start of Winter Season: 12/02 End of Winter Season: 03/12
Date: 10-02-2019 Time: 22:30:13
Site information:

LU# 1 - Commercial: Commercial 1 Total area (ac): 0.782
13 - Paved Parking 1: 0.782 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

LU# 2 - Commercial: Commercial 2 Total area (ac): 1.052
1 - Roofs 1: 0.734 ac. Flat Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz
13 - Paved Parking 1: 0.318 ac. Connected Source Area PSD File: C:\WinSLAMM Files\NURP.cpz

Control Practice 1: Isolator Row CP# 1 (DS) - DS Isolator Row # 1
Total available system length (ft) = 185
Total available system width (ft) = 24
Available height from chamber base to surface (ft) = 7.00
Number of isolator rows = 1
Native soil infiltration rate (in/hr) = 0.00

Assumed stone porosity () = 0.40
Sizing option: Use all available area
Selected Chamber Information
Chamber type: MC-3500
Chamber height (in): 45.00
Chamber width (in): 86.00
Chamber segment length (in): 86.00
Final storage volume (cf): 13800.4
Number of rows: 3
Row length (ft): 174.0
Total system length (ft): 516.0
Total system width (ft): 21.5
Number of chambers: 72
Overflow weir invert elevation (ft) = 5.50
Orifice 1 invert elevation (ft) = 0.00
Orifice 1 diameter (ft) = 0.20
Orifice 2 invert elevation (ft) = 0.00
Orifice 2 diameter (ft) = 0.00

Control Practice 2: Isolator Row CP# 2 (DS) - DS Isolator Row # 2
Total available system length (ft) = 110
Total available system width (ft) = 40
Available height from chamber base to surface (ft) = 7.00
Number of isolator rows = 1
Native soil infiltration rate (in/hr) = 0.00
Assumed stone porosity () = 0.40
Sizing option: Use all available area
Selected Chamber Information
Chamber type: MC-4500
Chamber height (in): 60.00
Chamber width (in): 109.00
Chamber segment length (in): 48.30
Final storage volume (cf): 17070
Number of rows: 4
Row length (ft): 102.1
Total system length (ft): 402.5
Total system width (ft): 36.3
Number of chambers: 100
Overflow weir invert elevation (ft) = 5.50
Orifice 1 invert elevation (ft) = 0.00
Orifice 1 diameter (ft) = 0.20
Orifice 2 invert elevation (ft) = 0.00
Orifice 2 diameter (ft) = 0.00

OUTPUT DATA:

SLAMM for Windows Version 10.4.102
(c) Copyright Robert Pitt and John Voorhees 2012
All Rights Reserved

Data file name: C:\Users\jbrunoehler\Documents\StormTech\Projects\Menards - Germantown\Menards Germantown 2019.09.30.mdb
Data file description:
Rain file name: C:\WinSLAMM Files\Rain Files\WisReg - Madison WI 1981.RAN
Particulate Solids Concentration file name: C:\WinSLAMM Files\v10.1 WI_AVG01.pscx
Runoff Coefficient file name: C:\WinSLAMM Files\WI_SL06 Dec06.rsvx
Residential Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Institutional Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Commercial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Industrial Street Delivery file name: C:\WinSLAMM Files\WI_Com Inst Indust Dec06.std
Other Urban Street Delivery file name: C:\WinSLAMM Files\WI_Res and Other Urban Dec06.std
Freeway Street Delivery file name: C:\WinSLAMM Files\Freeway Dec06.std
Pollutant Relative Concentration file name: C:\WinSLAMM Files\WI_GEO03.ppdx
Start of Winter Season: 12/02 End of Winter Season: 03/12
Model Run Start Date: 01/01/81 Model Run End Date: 12/31/81
Date of run: 10-02-2019 Time of run: 22:30:04
Total Area Modeled (acres): 1.834
Years in Model Run: 1.00

	Runoff Volume (cu ft)	Percent Runoff Volume Reduction	Particulate Solids Conc. (mg/L)	Particulate Solids Yield (lbs)	Percent Particulate Solids Reduction
Total of all Land Uses without Controls:	142378	-	89.88	798.9	-
Outfall Total with Controls:	142755	-0.26%	38.94	347.1	56.55%
Annualized Total After Outfall Controls:	143147			348.0	

CONDITIONAL USE PERMIT (CUP) APPLICATION

5/11/20 Plan Commission Meeting

Scott Morgan / All Terrain Construction

Village Planner Report **Germantown, Wisconsin**

Summary

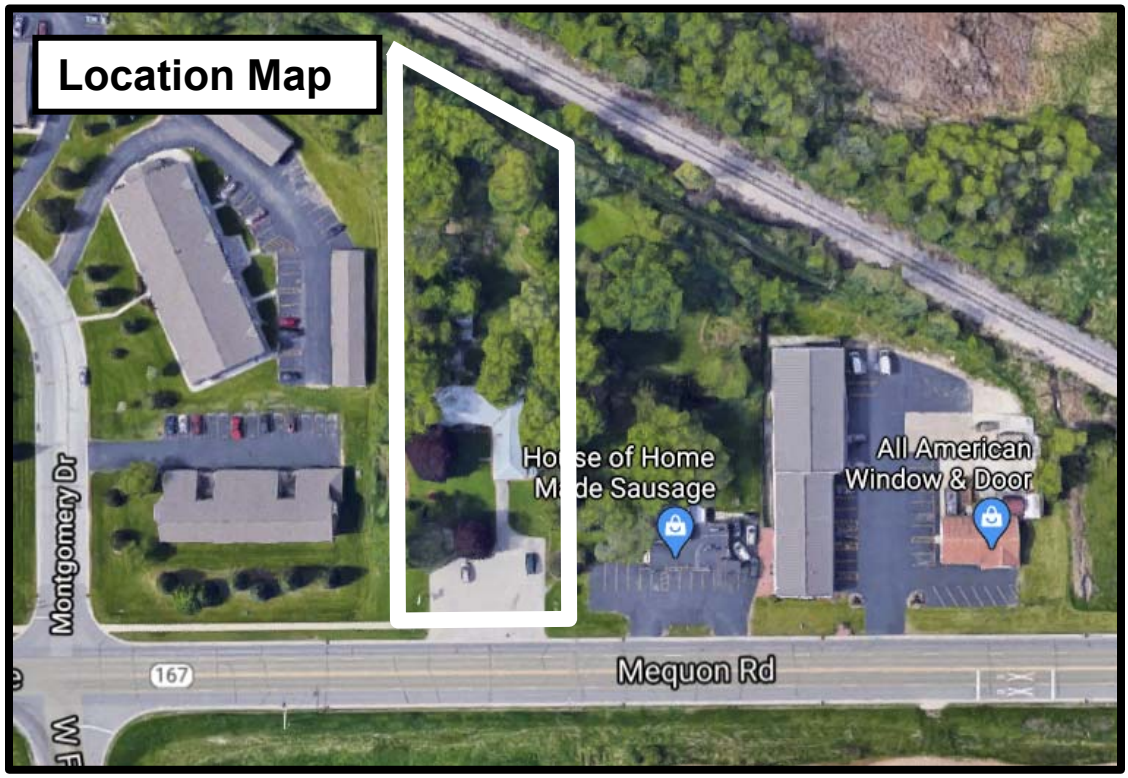
Scott Morgan, agent for All Terrain Construction and property owner, is requesting approval of a Conditional Use Permit (CUP) to operate a Construction Services Contractor Shop on the 1.14-acre property located at N112W14792 Mequon Road.

Location: N112W14792 Mequon Road

Applicant/
Property Owner: Scott Morgan
5355 N Milwaukee River Parkway
Milwaukee, WI 53209

Zoning: B-3: General Business

Adjacent Land Uses		Zoning
North	Open Space	A-1
South	Commercial	B-1
East	Commercial	B-3
West	Residential	Rm-3



History/Proposal

Scott Morgan, agent for All Terrain Construction and property owner, is requesting approval of a Conditional Use Permit (CUP) to operate a Construction Services Contractor Shop on the 1.14-acre property located at N112W14792 Mequon Road. This property is both a residence and a commercial space. The B-3 General Business district allows for a residence as a principal use or as an accessory use to the commercial use.

The applicant plans to live in the dwelling and is proposing to run the offices of All Terrain Construction from the commercial area of the property. All Terrain Construction provides concrete flatwork services for residential and commercial (driveway sidewalks, patios, steps, garages and more.) All Terrain Construction currently has a total of six employees. All work is performed off site. The business equipment (4 pick-up trucks, 4 trailers and 2 skid steer loaders) would be stored in the rear of the property on a proposed concrete area (see site plan sketch). The applicant is also proposing the construction of an accessory building in the future, in which the equipment could be stored. A driveway to the rear of the property is proposed on the east side of the dwelling. Site Plan approval by the Plan Commission will be required for these improvements. This has been added as a condition of approval.

Hours of operation for the commercial business will be 7am to 7pm Monday through Saturday, March through mid-November. Winter months would include office work only with no set hours.

Staff Comments

Planning and Zoning

The main concern, from a staff perspective, of this proposed use at this site is the potential for outdoor storage. Staff recommends that business related vehicles and equipment be stored in the rear yard only. This, of course, cannot take place until the driveway and the paved area in the rear of the building are installed. For this reason, staff recommends adding a three (3)-month maximum timeframe for the Site Plan application to be approved by the Plan Commission. Subsequently, the driveway/paved area in the rear of the building shall be installed within six (6) months of Site Plan approval. Within one (1) year of site plan approval, staff recommends requiring the completion of the accessory building in the rear of the property.

The existing paved driveway and parking area in the front of the property does not meet current Village Code with regard to the maximum width of commercial driveways (40 feet at the right-of-way line) nor the minimum required setback from a residential zoning district (minimum 50 feet). The existing configuration, including the width of the driveway at the right-of-way line and excessive paved area in the front of the property, is likely to encourage the storage of company vehicles and other equipment in front of the primary structure. It is staff's recommendation to require the applicant reduce the driveway width and amount of pavement in the front of the property to meet the maximum 40' driveway width at the right-of-way line and minimum required 50' setback from the residential zoning district to the west.

The applicant shall coordinate with Village Public Works and/or WisDOT to meet current code requirements for driveway width and separation from other existing driveways. A landscape buffer around the parking area adjacent to Mequon Road shall also be required. These improvements shall be included in the Site Plan Application subject to review and approval by the Plan Commission and shall be completed within 2 years of site plan approval pursuant to Chapter 17.43 Site Plan Approval Requirements.

Staff recommends that the Plan Commission also provide guidance regarding the storage of company vehicles in the front of the property while site improvements are being completed and the accessory structure constructed. Staff recommends that company vehicles may only be parked in the front area of the property for a maximum of six (6) months from Site Plan Approval, until the installation of the rear paved area is complete, and then again while the accessory structure is being constructed. Once the accessory structure is complete, the parking of company vehicles in the front of the property shall not be permitted.

The existing pole-mounted sign cabinet on the property is nonconforming to the existing sign regulations in the Village Code. Staff recommends this signage be removed and, if desired, replaced with signage that meets current Village Code requirements.

Public Works

A site plan will be required to be approved by the Plan Commission in conformance with the requirements outlined in the memo dated March 25, 2020 and any other information requested by Village Staff.

VILLAGE STAFF RECOMMENDATION

APPROVE a conditional use permit (CUP) for Scott Morgan and All-Terrain Construction to allow the operation of a construction services contractor shop at the property located at N112W14792 Mequon Road subject to the following conditions:

1. The uses and activities allowed on the property shall be limited to those uses and activities and relative locations specified in the conditional use permit (CUP) application and supporting documents dated February 26, 2019. The size and relative location of those areas within the property from which said uses and activities are permitted are limited to that presented in the detailed site plan and description submitted with the supporting documents. Days and hours of operation shall be limited to those specified in the CUP application and supporting documents submitted to the Village. The Owner/Operator is responsible for reporting any significant changes in the type, intensity, amount or location of the land uses and activities, days and hours of operation, size or location or other operational characteristics of said uses and activities authorized under this CUP to the Village Planner.
2. A Site Plan shall be reviewed and approved by the Plan Commission for a paved driveway and parking area, accessory building in the rear of the existing building, and the modified front paved area/driveway modifications within three (3) months of CUP approval. This approval shall include all items deemed necessary by the Village Public Works Department as outlined in the memo dated March 25, 2020 and any other information requested by Village Staff. The paved driveway and parking area shall be installed no later than six (6) months from the date of site plan approval. The accessory building shall be constructed within one (1) year of site plan approval.
3. The existing pavement in the front yard shall be reduced in size to come into conformance with current driveway width (maximum 40’ at road right-of-way) and residential setback requirements from a residential district (50’). Subsequently, the number of driveways shall be reduced to one, which meets current Village Public Works Department and/or WI Department of Transportation (WisDOT) driveway requirements. Pavement for the existing sidewalk shall also be extended and/or replaced at that time. All listed improvements included in this condition shall be completed no later than two (2) years from the date of site plan approval in accordance with Village Code (Chapter 17.43 Site Plan Approval Requirements).
4. The outdoor storage of construction vehicles, equipment and materials between the front of the existing residential dwelling and Mequon Road shall be prohibited. All storage of construction vehicles, equipment and materials shall be limited to the rear and/or side yards of the property, and, be enclosed and screened from view by adjacent properties.
5. In the event the Village receives complaints regarding outdoor storage, noise, dust, odor, vibration or other negative impacts on surrounding neighborhood and properties, the Owner/Operator shall work cooperatively with the Village to mitigate and resolve the issue.
6. Temporary company vehicle parking may be permitted in the front of the property for up to six (6) months from the date of Site Plan Approval by the Village Plan Commission to accommodate the construction of the proposed driveway and parking area in the rear of the property. Temporary company vehicle parking may also be permitted and during construction of the accessory structure in the rear of the property. Once completed,

there shall be no parking of company vehicles or other storage in the front of the property.

7. All nonconforming signage shall be removed from the property. All temporary and permanent exterior signs require a permit and shall comply with all current sign regulations.
8. Site improvements, buildings, signage, exterior lighting and any other improvements on the property that are necessary for the land uses and activities authorized under this CUP shall be reviewed and approved by the Village through the Zoning Permit or Site Plan application process as determined by the Village Zoning Administrator. If required, Site Plan review and approval will include Plan Commission review and approval.
9. If the use, activities and/or operation subject of this permit falls out of conformity with the conditions herein, or where there is a change in the nature, character, intensity or extent of the permitted conditional uses and activities which cause special problems or harmful effects associated with the permitted uses and activities that were not revealed or anticipated at the time this CUP was granted, or, where conditions imposed by this CUP that were anticipated to mitigate or eliminate harmful effects associated with the uses and activities but are subsequently insufficient to do so, or, for similar cause based upon consideration for the public comfort, safety, and welfare, this conditional use permit may be terminated or modified by the Village Board by the amendment to or addition of conditions after public hearing thereon.

Frederick Gierach
N128 W19157 Holy Hill Road
Richfield, Wisconsin 53076

May 7, 2020

Village of Germantown
Community Development Department
Mr. Jeffrey W. Retzlaff
N112 W17001 Mequon Rd. P.O. Box 337
Germantown, WI 53022-0337

Via: Personal Delivery Village Hall Lobby

RE: Public Hearing for
All Terrain Construction Inc.

Mr. Jeffrey W. Retzlaff:

As one of the owners of the 10 plus acres directly across the street from the property which is subject to this public hearing, I have a few questions and/or comments. First of all, please understand that I have no objection to the proposed use. I do question the capability of the property being able to support the magnitude of the business in question. To locate 4 Pickup sized trucks, 4 Trailers, 2 Skid Steer Loaders and tools on site in the back yard, plus other unspecified material needed to operate this type of business all in the open, could very well be detrimental to the tenants in the apartment project located immediately to the West as well as to the "House of Homemade Sausage" business to the East.

If a Conditional Use Permit is granted, my suggestion would be that the "FUTURE" building as specified in the Notice of Public Hearing be constructed prior to occupancy. Furthermore, a restriction should be included that would prevent the overflow of the operation into the front yard.

I thank you for listening to my concerns. I would like this letter read into the minutes of the Public Hearing.

Sincerely,

F. E. Gierach

Frederick Gierach

cc: Weyer 3 Ltd Prtnrship

RECEIVED
MAY 07 2020
OFFICE OF THE VILLAGE PLANNER
VILLAGE OF GERMANTOWN

Engineering Department Memorandum

To : Jeffrey W. Retzlaff, AICP, Planning Director/Zoning Administrator

From : Lawrence Ratayczak, P.E., Director of Public Works

Date : March 25, 2020

Re : All Terrain Construction

Items Reviewed:

1. Conditional use permit application Dated: 03-02-20

General Comments:

1. Please respond to each item below. **A written response addressing each item shall be included in your submittal**.
2. The submitted plans have been reviewed for general conformance with State and Village design guidelines. Additional comments could arise as a result of the plan completion and modifications. The items listed below will need to be fully resolved before the Engineering Dept. can recommend a formal approval of the plans and permit for construction.
3. A professional engineer's original seal is to be affixed, signed and dated on the final set of construction plans.
4. Please provide the following plans prepared by a professional engineer for review.
    a. Dimensioned site plan showing proposed improvements
    b. Grading plan showing existing and proposed topography
    c. Erosion control plan
    d. Construction Details
5. Provide site calculations showing additional imperious area and disturbed area.
6. If the proposed improvements will add over 5,000SF of impervious area provide a stormwater management plan meeting chapter 13 of MMSD requirements.

Village of Germantown ...Willkommen

Fee must accompany application

☒ $1460 Paid R Date 3/2/20

CONDITIONAL USE PERMIT APPLICATION

Pursuant to Section 17.42 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 APPLICANT OR AGENT

Scott Morgan
5355 N Milwaukee River Parkway
Milwaukee, WI 53209
Phone (414) 807-2146
Fax ( )
E-Mail scmrgn@msn.com

PROPERTY OWNER

Scott Morgan
Same
Phone ( )

2 TO WHOM SHOULD THE PERMIT BE ISSUED?

Scott Morgan / All Terrain Construction

3 PROPERTY ADDRESS

N112 W ~~14977~~ 14972 Mequon Rd.

TAX KEY NUMBER

GT 233997

4 DESCRIPTION OF EXISTING OPERATION

Briefly describe the use as it exists today, including use, size, number of employees, hours of operation, etc. If this permit involves new construction, describe the current status of the property, e.g. "vacant." Use additional pages as necessary.

Former heating and cooling business now vacant.
Attached Single-family residence now vacant.

5 DESCRIPTION OF PROPOSED OPERATION

Write the name of the proposed conditional use exactly as it appears in the Municipal Code.

(1) Construction Services Contractor Shop

Describe the proposed use, including size, number of employees, hours of operation and extent of any new construction/alterations.

All Terrain currently has 6 employees. Office and parking/storage for All Terrain construction Inc. Hours of operation: Summer months 7am-7pm winter office use

6 **METES AND BOUNDS LEGAL DESCRIPTION OF PROPERTY — REQUIRED**

Attach pages as necessary. see survey

SUPPORTING DOCUMENTATION:

7
- ☐ Site plan and elevations for new construction (can be conceptual)
- ☐ Photos of existing use and/or proposed use operating elsewhere
- ☐ _____
- ☐ _____

READ AND INITIAL THE FOLLOWING:

8
- S.M I understand that the Village is under no obligation to issue a Conditional Use Permit and will do so only if the applicant successfully demonstrates that the proposed use is harmonious with the neighborhood and the long range goals of the Village.
- S.M I will notify the Village if any aspect of the conditional use changes. I understand that failure to do so may result in the revocation of the CUP.
- S.M I understand that a Conditional Use Permit is valid only if the conditions and restrictions of the permit are met. I understand that failure to comply with any aspect of the permit may result in revocation.

SIGNATURES — ALL APPLICATIONS MUST BE SIGNED BY OWNER!

9
Applicant _____ Date 3-2-2020

Owner Jason Becker Date 3.3.2020
Trustee Dorothy D Byrd Revocable Trust Currently owner seller

Cornerstone Land Surveying, Inc.

Plat of Survey

Scale 1"= 40'

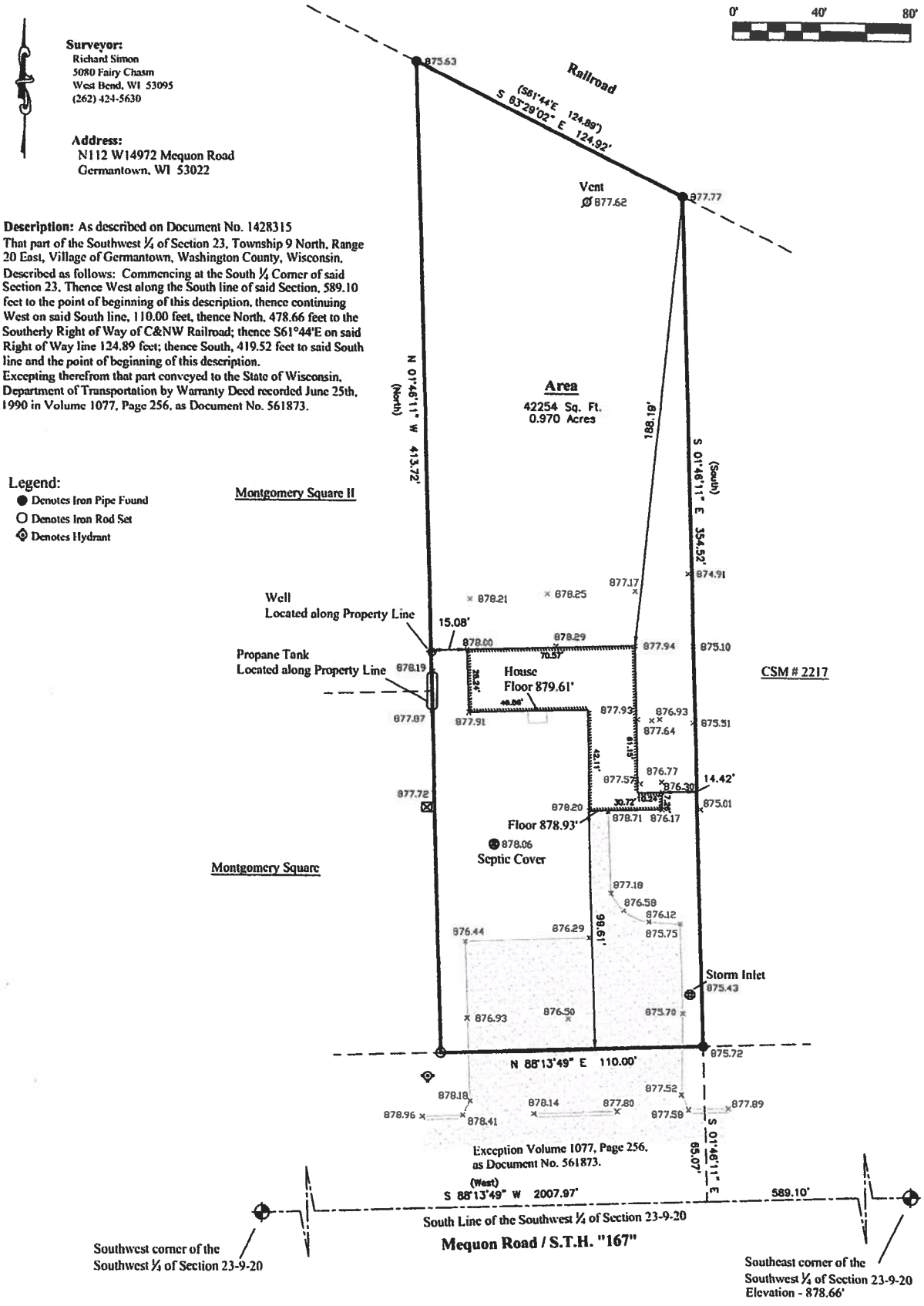
0' 40' 80'

Surveyor:
Richard Simon
5080 Fairy Chasm
West Bend, WI 53095
(262) 424-5630

Address:
N112 W14972 Mequon Road
Germantown, WI 53022

Description: As described on Document No. 1428315
That part of the Southwest ¼ of Section 23, Township 9 North, Range 20 East, Village of Germantown, Washington County, Wisconsin, Described as follows: Commencing at the South ¼ Corner of said Section 23, Thence West along the South line of said Section, 589.10 feet to the point of beginning of this description, thence continuing West on said South line, 110.00 feet, thence North, 478.66 feet to the Southerly Right of Way of C&NW Railroad; thence S61°44'E on said Right of Way line 124.89 feet; thence South, 419.52 feet to said South line and the point of beginning of this description.
Excepting therefrom that part conveyed to the State of Wisconsin, Department of Transportation by Warranty Deed recorded June 25th, 1990 in Volume 1077, Page 256, as Document No. 561873.

Legend:
- ● Denotes Iron Pipe Found
- ○ Denotes Iron Rod Set
- ◈ Denotes Hydrant



Notes:
1) Bearings or Distances in ( ) are Recorded Measurements
2) In providing this boundary survey no attempt has been made to obtain or show data concerning the existence of any utility on the site, whether private, municipal, or public owned.
3) No Title Policy furnished therefore completeness of easements is not warranted.
4) Elevations are referenced to the Southeast corner of the Southwest ¼ of Section 23-9-20, Benchmark Elevation = 878.66', NGVD 1929

STATE OF WISCONSIN) SS.
COUNTY OF WASHINGTON)
"I HAVE SURVEYED THE ABOVE DESCRIBED PROPERTY ACCORDING TO OFFICIAL RECORDS AND THE ABOVE MAP IS A TRUE REPRESENTATION THEROF. THIS SURVEY IS MADE FOR THE EXCLUSIVE USE OF THE PRESENT OWNERS OF THE PROPERTY AND ALSO THOSE WHO PURCHASE, MORTGAGE OR GUARANTEE THE TITLE THERETO, WITHIN ONE YEAR FROM THE DATE HERETO.

Survey For: Scott Morgan
Dated this 25th day of February, 2020.

Cornerstone Land Surveying, Inc.

Plat of Survey

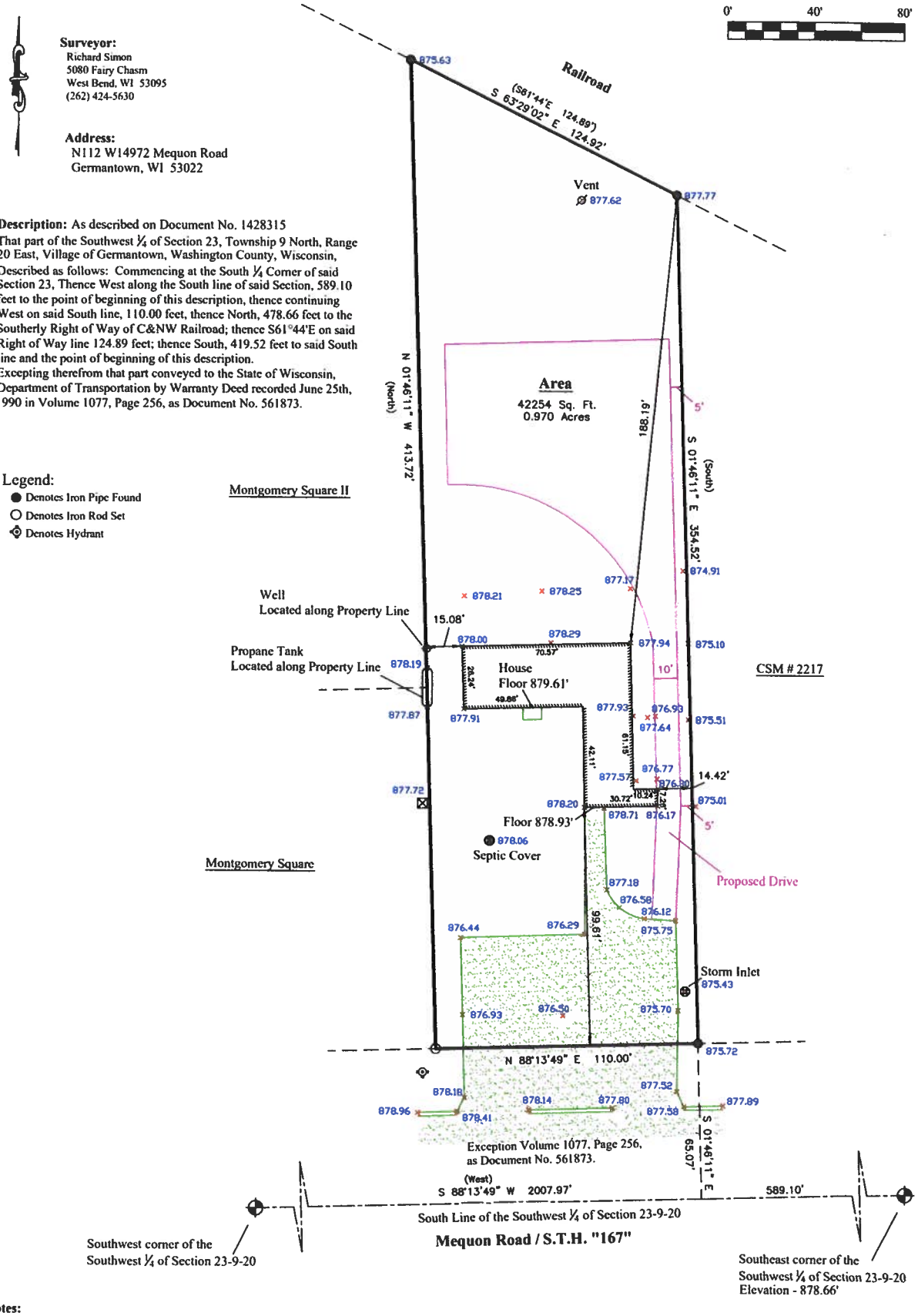
Scale 1"= 40'

0' 40' 80'

Surveyor:
Richard Simon
5080 Fairy Chasm
West Bend, WI 53095
(262) 424-5630

Address:
N112 W14972 Mequon Road
Germantown, WI 53022

Description: As described on Document No. 1428315
That part of the Southwest ¼ of Section 23, Township 9 North, Range 20 East, Village of Germantown, Washington County, Wisconsin, Described as follows: Commencing at the South ¼ Corner of said Section 23, Thence West along the South line of said Section, 589.10 feet to the point of beginning of this description, thence continuing West on said South line, 110.00 feet, thence North, 478.66 feet to the Southerly Right of Way of C&NW Railroad; thence S61°44'E on said Right of Way line 124.89 feet; thence South, 419.52 feet to said South line and the point of beginning of this description.
Excepting therefrom that part conveyed to the State of Wisconsin, Department of Transportation by Warranty Deed recorded June 25th, 1990 in Volume 1077, Page 256, as Document No. 561873.



Notes:
1) Bearings or Distances in ( ) are Recorded Measurements
2) In providing this boundary survey no attempt has been made to obtain or show data concerning the existence of any utility on the site, whether private, municipal, or public owned.
3) No Title Policy furnished therefore completeness of easements is not warranted.
4) Elevations are referenced to the Southeast corner of the Southwest ¼ of Section 23-9-20, Benchmark Elevation = 878.66', NGVD 1929

STATE OF WISCONSIN) SS.
COUNTY OF WASHINGTON)
"I HAVE SURVEYED THE ABOVE DESCRIBED PROPERTY ACCORDING TO OFFICIAL RECORDS AND THE ABOVE MAP IS A TRUE REPRESENTATION THEROF. THIS SURVEY IS MADE FOR THE EXCLUSIVE USE OF THE PRESENT OWNERS OF THE PROPERTY AND ALSO THOSE WHO PURCHASE, MORTGAGE OR GUARANTEE THE TITLE THERETO, WITHIN ONE YEAR FROM THE DATE HERETO.

Survey For: Scott Morgan
Dated this 25th day of February, 2020.

I plan to live in the residence and use the commercial space for offices for my company All Terrain Construction Inc.

Our company provides concrete flatwork services for residential and commercial (driveways sidewalks, patios, steps, garages and more.

Our work is performed offsite.

We have six employees including myself.

We have 4 pickup sized trucks, 4 trailers and 2 skid steer loaders we would park there.

We plan to install a driveway (with 5-foot setback from property line on east side of property) to the rear of the building and park our company trucks and trailers on a concrete parking area, and would like to build an accessory building in the future.

CONDITIONAL USE PERMIT AMENDMENT APPLICATION

5/11/20 Plan Commission Meeting

Redline Canine Training Center / D. Lynne Luckow

Village Planner Report **Germantown, Wisconsin**

Summary

D. Lynne Luckow, agent for Redline Canine Training Center & Behavioral Consultation LLC, operator and Ozaukee Development Corporation, property owner, is seeking an amendment to the existing Conditional Use Permit (CUP# 01-19) for the dog training and education facility in the building located at W188 N11786 Maple Road in the Germantown Industrial Park.

Property Location: W188 N11786 Maple Road

Applicant/
Property Owner: D. Lynne Luckow
RCTC LLC
W157 N10822 Catskill Ln
Germantown, WI

Ozaukee Development Corp.
PO Box 893
Cedarburg, WI 53912

Current Zoning: M-1: Limited Industrial District

Adjacent Land Uses		Zoning
North	Industrial	M-1
South	Industrial	M-1
East	Industrial	M-1
West	Industrial	M-1

Proposal

Lynne Luckow, agent for Redline Canine Training Center & Behavioral Consultation LLC (RCTC), operator and Ozaukee Development Corporation, property owner, is seeking an amendment to the existing Conditional Use Permit (CUP# 01-19) for the dog training and education facility in the building located at W188 N11786 Maple Road in the Germantown Industrial Park.

The operation currently occupies Suites 2,3 & 4 comprising approximately 9,600 gross square feet of the 25,600 square foot multi-tenant building. Under this amendment application, the applicant is proposing to expand the facility to also use Suite 1 (approximately 3,200 square feet), which is currently vacant. The additional space will allow for more office space, as well as the space for competitors to crate their dogs during competitions. No interior modifications are proposed for the space at this time.

As discussed in the application materials, RCTC provides a variety of dog training, exercise and educational services to dog owners and the general public at the facility and throughout the community. All activities and services will be provided on-site and inside the building. With this amendment application, the applicant is also requesting to add canine massage to the “menu” of services provided.

The current hours of operation are Monday through Sunday, 6:00am to 10:00pm. The applicant is requesting to expand the hours of operation to 24 hours/day, 7 days/week in order to accommodate customers wishing to use the turf area later at night (i.e. 9-11pm or 10pm-2am). The expanded services and hours may allow the current number of employees to increase by 1-2 employees in the future (total 4-5 employees).

Staff Comments

Fire Department

If in the future the interior space is modified to connect into one large space, the maximum occupancy of 49 may be able to increase at that time. Additional occupants would be allowed in the new area (Suite 1) as it is separate from the rest of the facility.

Planning & Zoning

Staff support the proposed amendments to the existing Conditional Use Permit and believe that the proposed changes in the area, hours, and services can be added to the existing CUP with one additional condition which points to the CUP amendment application materials (community impact statement).

Village Planner Recommendation

APPROVE a conditional use permit amendment for the operation of a dog training and education facility in the existing building located at W188 N11786 Maple Road (Alpine Business Center Suite 2, 3 & 4) to include the space in Suite 1, expand hours of operation to 24 hours/day 7 days/week and to add canine massage to the list of available services subject to all conditions of CUP #01-19 and the addition of the following condition:

1. This permit authorizes limited uses and activities as set forth in the conditional use permit amendment application dated February 3, 2020 and in the supporting documents made part of the application on file with the Village. All of the operational characteristics and services as described, as well as any commitments made by the Applicant as set forth in the application, supporting documents, and made during presentations to the Village Plan Commission, Village Board and Village staff are deemed to be conditions of approval.

Village of Germantown ...Willkommen

Fee must accompany application

~~$1480~~ $730 Paid [illegible] Date 2-3-20

Amendment

CONDITIONAL USE PERMIT APPLICATION

Pursuant to Section 17.42 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 **APPLICANT OR AGENT**

D. Lynne Luckow
W157 N10822 Catskill Lane
Germantown, WI 53022

Phone (414 699-7727
Fax (262 252-9109
E-Mail Redline.Lynne@hotmail.com

PROPERTY OWNER

Douglas R. Lane Real Estate
PO Box 893
7612A Hwy 60
Cedarburg, WI 53012
Phone (262 377-8597

2 **TO WHOM SHOULD THE PERMIT BE ISSUED?**

Redline Canine Training Center and Behavioral Consultation, LLC

3 **PROPERTY ADDRESS**

W188 N11786 Maple Road
Germantown, WI 53022

TAX KEY NUMBER

(1), 2, 3, 4

4 **DESCRIPTION OF EXISTING OPERATION**

Briefly describe the use as it exists today, including use, size, number of employees, hours of operation, etc. If this permit involves new construction, describe the current status of the property, e.g. "vacant." Use additional pages as necessary.

(Currently Vacant) - Will use Unit #1 (3,200 sq ft) for addition office space as well as space for competitors to crate their dogs during competitions.

5 **DESCRIPTION OF PROPOSED OPERATION**

Write the name of the proposed conditional use exactly as it appears in the Municipal Code.

See CUP # 01-19

Describe the proposed use, including size, number of employees, hours of operation and extent of any new construction/alterations.

Employee's 1-2 growth dependent
Hours - 24/7 days a week - Currently 6AM to 10PM 7 days
No new construction, - AS IS - Will Staying up

See attached community impact Document
Additional space will allow for Agility Competitions

METES AND BOUNDS LEGAL DESCRIPTION OF PROPERTY — REQUIRED

6 Attach pages as necessary.

Lot 1 - CMS 3184 Doc 958719
Sec 21-9-20 2.88Ac

SUPPORTING DOCUMENTATION:

7

- ☐ Site plan and elevations for new construction (can be conceptual)
- ☒ Photos of existing use and/or proposed use operating elsewhere

X See www.RCTC Clicker training.com
X Alpine Business Center Proposal: Community Impact

READ AND INITIAL THE FOLLOWING:

8

HH I understand that the Village is under no obligation to issue a Conditional Use Permit and will do so only if the applicant successfully demonstrates that the proposed use is harmonious with the neighborhood and the long range goals of the Village.

HH I will notify the Village if any aspect of the conditional use changes. I understand that failure to do so may result in the revocation of the CUP.

HH I understand that a Conditional Use Permit is valid only if the conditions and restrictions of the permit are met. I understand that failure to comply with any aspect of the permit may result in revocation.

SIGNATURES — ALL APPLICATIONS MUST BE SIGNED BY OWNER!

9

Applicant 2-3-20 Date

Owner Date

CUP # 01-19 Document No.	CONDITIONAL USE PERMIT Document Title

VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN
CONDITIONAL USE ZONING PERMIT

Document # 1466929
WASHINGTON COUNTY WISCONSIN
02-11-2019 03:55 PM
Sharon A. Martin
SHARON A MARTIN
WASHINGTON COUNTY
REGISTER OF DEEDS
Fee: $30.00

Pages: 4

Whereas the Applicants:
D. Lynne Luckow, Redline Canine Owner/Operator, and Douglas R. Lane, Agent for Ozaukee Development Corporation, Property Owner

agree to comply with applicable Codes and Ordinances of the Village of Germantown, Wisconsin, and further agrees that all work done pursuant to the permission granted herewith will conform with the applications and drawings filed with and approvals granted by officials of the Village for the purpose of obtaining this permit.

Now, therefore, this permit is issued to allow the operation of a dog training and education facility (Redline Canine Training Center & Behavioral Consultation LLC) from the property located at W188 N11786 Maple Road pursuant to Section 17.33(3)(h) of the Village Zoning Code.

4

Name & Return Address:
Village of Germantown
P.O. Box 337
Germantown, WI 53022

Parcel Identification No:
GTNV 212-960

On the following described property located in the Village of Germantown, Washington County, Wisconsin:
Lot 1 of Certified Survey Map (CSM) 3184; a 2.88-acre parcel of Section 21, Town 9 North, Range 20 East, in the Village of Germantown, County of Washington, State of Wisconsin.

Tax Key No: 212-960
Address: W188 N11786 Maple Road, Suites 2,3,4

Pursuant to the following condition(s):

1. This permit authorizes limited uses and activities as set forth in the conditional use permit application dated December 5, 2018 and in the supporting documents made part of the application on file with the Village. All of the operational characteristics and services as described, as well as any commitments made by the Applicant as set forth in the application, supporting documents, and made during presentations to the Village Plan Commission, Village Board and Village staff are deemed to be conditions of approval.
2. If the use, activities and/or operation subject of this permit falls out of conformity with the conditions herein, or, where there is a change in the nature, character, intensity or extent of the activities and/or uses which cause problems or harmful effects not anticipated at the time of approval of this CUP or where conditions imposed were anticipated to ameliorate or eliminate such problems or harmful effects but are subsequently insufficient to do so, or, for similar cause based upon consideration for the public comfort, safety, and welfare, the conditional use permit may be terminated or modified by the Village Board by the amendment to or addition of conditions after public hearing thereon.
3. All interior and exterior building modifications (including exterior lighting) and/or site improvements may require permits and/or other approvals from the Village. State-approved plans may be required for any proposed improvements or remodeling.

Detailed plans for any interior or exterior improvements shall be submitted to the Village as part of a building permit application.

4. If the proposed use constitutes the type of change in occupancy that requires interior and/or exterior remodeling or additional fire safety features to comply with current building, fire safety and other applicable codes and regulations, the operator shall coordinate the preparation and submittal of state-approved plans to and approved by the Village Fire Department and Inspection Services prior to occupancy.
5. The owner/operator shall coordinate with the Fire Department to properly post the tenant space with a maximum occupancy of 49 persons. In the event that the maximum capacity of 49 persons is exceeded on a regular basis as determined by the Fire Department, the owner/operator will be required to re-classify the occupancy type from "business" to "assembly" and, as a result, install any additional, necessary fire-safety measures required by the Fire Department, or, discontinue operation.
6. The owner/operator shall contact the Fire Department and Inspection Services for a pre-occupancy inspection prior to commencing operations.
7. All exterior signage, including temporary signs, require a permit from the Village.
8. If the Village receives any complaints regarding noise generated from barking dogs, the owner/operator shall install sound-deadening materials, e.g. sound absorbing acoustic panels, or implement other sound-proofing measures within the tenant space.

Granted by the Village Board of the Village of Germantown, Washington County, Wisconsin on the 22nd day of January, 2019.

Dean Wolter, Village President

ATTEST:

Deanna Braunschweig

Deanna Braunschweig, Village Clerk

STATE OF WISCONSIN) SS
WASHINGTON COUNTY)

Personally came before me this 22 day of January, 2019, the above named Dean Wolter, Village President, and Deanna Braunschweig, Village Clerk, to me known to be the persons who executed the foregoing instrument and acknowledged the same.

Ben Hubrich
{type or print name of Notary on this line}

Ben Hubrich
{signature of Notary on this line}

NOTARY PUBLIC BEN HUBRICH STATE OF WISCONSIN

Notary Public, State of Wisconsin
My Commission Expires: 5/25/21

ACCEPTANCE OF TERMS AND CONDITIONS BY OPERATOR

As the business owner/operator, D. Lynne Luckow, I hereby accept the terms and conditions set forth in this Permit, and realize that non-adherence to the terms and conditions as stated hereon may result in the revocation of this Permit by the Village of Germantown.

Dated this 7 day of February, 2019

D. Lynne Luckow, Business Owner/Operator, Redline Canine Training Center and Behavioral Consultation, LLC

STATE OF WISCONSIN) SS
Washington COUNTY)

Personally came before me this 7 day of February, 2019, being the above named D. Lynne Luckow, to me known to be the person who executed the foregoing instrument and acknowledged the same.

Ben Hubrich
{type or print name of Notary on this line}

{signature of Notary on this line}

Notary Public, State of Wisconsin
My Commission Expires: 5/25/2021

NOTARY PUBLIC BEN HUBRICH STATE OF WISCONSIN

ACCEPTANCE OF TERMS AND CONDITIONS BY PROPERTY OWNER

As property owner, Ozaukee Development Corporation, I hereby accept the terms and conditions set forth in this Permit, and realize that non-adherence to the terms and conditions as stated hereon may result in the revocation of this Permit by the Village of Germantown.

Dated this 25 day of JAN., 2019

D. Lynne Luckow, PRES.
Ozaukee Development Corporation, Property Owner

STATE OF ~~WISCONSIN~~ Arizona)
) SS
Pima COUNTY)

Personally came before me this 25th day of January, 2019, being the above named Douglas R Lenac, to me known to be the person who executed the foregoing instrument and acknowledged the same.

Jorge V Gracia
(type or print name of Notary on this line)

(signature of Notary on this line)

Notary Public, State of ~~Wisconsin~~ Arizona
My Commission Expires: Jul 6, 2022

This instrument was drafted by:
Jeffrey W. Retzlaff, AICP
Community Development Director/Zoning Administrator
Village of Germantown, Wisconsin

JORGE V GRACIA
Notary Public - Arizona
Pima County
Commission # 548059
My Comm. Expires Jul 6, 2022

Redline Canine Training Center and Behavioral Consultation, LLC

Alpine Business Center Proposal: *Community Impact*

Redline Canine Training Center is excited to be an active member of the greater Germantown community and is eagerly looking forward to sharing our expertise and passion for dog training in a variety of ways that will positively contribute to its citizens and visitors.

We intend to have a significant footprint in the Germantown community by actively participating in numerous ways that will support businesses, schools, and civic efforts.

With input and collaboration from the community, Redline Canine Training Center will offer a vast array of unique and innovative programs for the citizens of Germantown. These will be planned and coordinated throughout the year and can take place on-site at our facility or at locations throughout the community. Redline Canine Training Center is prepared to include the following opportunities:

Civic Engagement

Promoting Responsible Dog Ownership: Redline Canine Training Center will offer a wide range of classes and seminars for dog owners, while we are primarily focused on agility, we will offer additional topics such as new puppy classes, manners, leash walking, and more. Our facility will offer both the new and the seasoned dog owner a state-of-the-art facility to exercise and train their dogs. Redline Canine Training Center will be a wonderful place for families to visit and enjoy!

Supporting Education: Redline Canine Training Center will serve as a resource for public and private schools by delivering educational presentations that meet the needs and education outcomes of the schools. (For more information on youth programs, see below.) These programs can be delivered on-site at our facility or in the classroom.

Supporting Local Business and Government: Redline Canine Training Center eagerly looks forward to supporting the efforts of the police department, Chamber of Commerce, and government entities.

Supporting Civic and Non-Profit Organizations: Redline Canine Training Center plans to support the Germantown community in a variety of ways, including through in-kind and monetary contributions as well as through collaborations, partnerships, and programs.

Youth and Community Programming

Redline Canine Training Center is extremely excited to deliver youth and community programming to Germantown. We have a humane educator on staff who has over two decades of youth and community engagement experience and is thrilled to bring her expertise and passion for community programming to Redline. A sample of the programming we are prepared to implement includes the following:

Community Open Houses: Redline Canine Training Center will feature a state-of-the-art competitive agility turf. We will provide a wonderful array of thrilling agility demonstrations that will engage and entertain the community! We will also provide on-site demos and "fun agility" areas for the community to come try at charity events such as 5K's, non-profit events, and school events.

Therapy Dog Programs: Redline Canine Training Center will train and provide certified therapy dogs for visits at our facility or on-site at schools or organizations such as convalescent and rehabilitation centers, adult day centers, retirement homes, schools, libraries, scout meetings, and after-school programs.

Reading Programs: Redline Canine Training Center will coordinate Reading Programs where young people read to certified therapy dogs. These acclaimed programs have shown to improve reading skills, school attendance, and self-esteem for students of all backgrounds and grade levels.

Educational Programs: Redline Canine Training Center will deliver a wide range of lessons, seminars, and workshops for young people and community members on the following topics:

- Dog Bite Prevention
- Staying Safe Around Dogs
- How to Care for Dogs
- How to Interact with Dogs (i.e. How Dogs Communicate)
- Careers in the Dog Industry
- How to Help Dogs in Need
- The Keys to Responsible Dog Ownership
- Dog Training 101
- Teach Your Dog Tricks
- Ask the Trainer!

We look forward to delivering these lessons and presentations to the following:

- Scouting Groups
- 4H Groups
- Church Groups
- Senior-Aged Groups
- Non-Profit Groups (YMCA's, etc.)
- Schools, Day Care Centers, and After-School Programs
- Police Department and Civic Groups (National Night Out, Safety Town, etc.)
- Special Needs Programming (any of our lessons can be tailored to meet the goals and objectives of special needs groups)

We are thrilled to set our sights on the Village of Germantown. With a population of 19,749 and a median household income of $ $68,975, it is the perfect location for our training center.

We know that Germantown is a growing and robust community with a rich history and bright future. We believe that Redline Canine Training Center will be an invaluable asset to the pet owners of Germantown! Dog ownership in the United States has grown to 89.7 million dogs in households with $5.24 billion spent annually on pet services. Redline Canine Training Center will offer a convenient, unique, and fun training experience for individuals and families to enjoy year-round.

In conclusion, Redline Canine Training Center will serve the citizens of Germantown through dynamic and innovative programming and will make a significant and positive impact through our unique presence. We are eagerly looking forward to being actively involved, to contributing to the wellness of the community, and to supporting educational and civic efforts. Our facility will be a popular place for everyone to enjoy; we would be honored to share our expertise and passion, along with our invaluable resources, with the entire community.

We believe that Redline Canine Training Center will serve the community in countless ways, becoming an invaluable asset to the community of Germantown and its surrounding neighborhoods.

Sponsorship Opportunities

We will actively seek out opportunities to engage sponsors to support the facility in a variety of ways which will offset building and programming costs. Sponsors will receive significant acknowledgement and recognition via banners, social media, and website features. We will strive to have a strong community presence in our facility. Redline Canine Training Center staff have vast experience in sponsorship development as well as relationships with numerous businesses and organizations.
Some of the many we will seek to include are:

- Harley Davidson
- Friends of Nature
- Minuteman Press
- Heartlaub Heating and Cooling
- Nimmer Fence Company
- Bentley's Pet Stuff
- Kohl's and Harley Davidson
- Dog Food Companies (Numerous)
- Veterinary Clinics (Numerous)
- Karen's K9 Pet Care
- Floor Coverings International
- Kari the Painter
- Techteriors
- Elmbrook Humane Society

REDLINE CANINE TRANING CENTER PROPESED PHOTO EXAMPLES

The Above photo is an agility space that is 100 x 60 with a carpeted flooring. The photo below is a slightly larger space most likely 80 x 120.

These photos would resemble the interior of the space at the Alpine Business Center Location. The Proposed flooring will be an artificial turf as seen below.

From: Lori Johnson
To: Jeff Retzlaff; Emily Zandt
Subject: FW: Additional services at Redline
Date: Wednesday, April 22, 2020 12:30:30 PM

See email below.

Lori Johnson
Planning Assistant
Village of Germantown
N112 W17001 Mequon Road
Germantown, WI 53022
(262) 250-4735
ljohnson@village.germantown.wi.us

From: Lynne Luckow <redlinelynne@hotmail.com>
Sent: Wednesday, April 22, 2020 12:27 PM
To: Lori Johnson <ljohnson@village.germantown.wi.us>
Subject: Additional services at Redline

Hello Planning Commission.
Perviously I had been human Massage Therapist (I am still currently licensed and insured) and went back to school to become Certified in Canine Massage. I would love to add this service to the "menu" at Redline Canine Training Center and Behavioral Consultation. My hope is that I can become a valued member of the Veterinary Community to help aide in post surgical surgeries or Injuries that involve soft tissue and would be pithing my scope of practice!!

Sincerely,
D Lynne Luckow

D. Lynne Luckow LMT, NMT, OSCT, KPA-CTP
OneMind Dogs Instructor
Redline Canine Training Center & Behavioral Consultation, LLC
Healing Hands and Paws, K-9 CMT

"A unique training experience"
RCTCclickertraining.com
OneMindDogs.com

TAGteach Certified
Operation Socialization Certified Trainer
FitPaws Master Trainer

Pedigree indicates what the animal should be.
Conformation indicates what the animal appears to be.

SITE PLAN REVIEW

5/11/20 Plan Commission Meeting

Enviro-Safe / JDV Real Estate Holdings, LLC

Village Planner Report **Germantown, Wisconsin**

Summary

Skyline Development Corp., agent for JDV Real Estate Holdings LLC, property owner, and Enviro-Safe Resource Recovery, is seeking approval of site development & building plans for a 29,746 sqft expansion to the existing hazardous/non-hazardous processing, transfer, storage and recycling facility located on a 5.6-acre parcel at W130 N10500 Washington Drive in the Germantown Business Park.

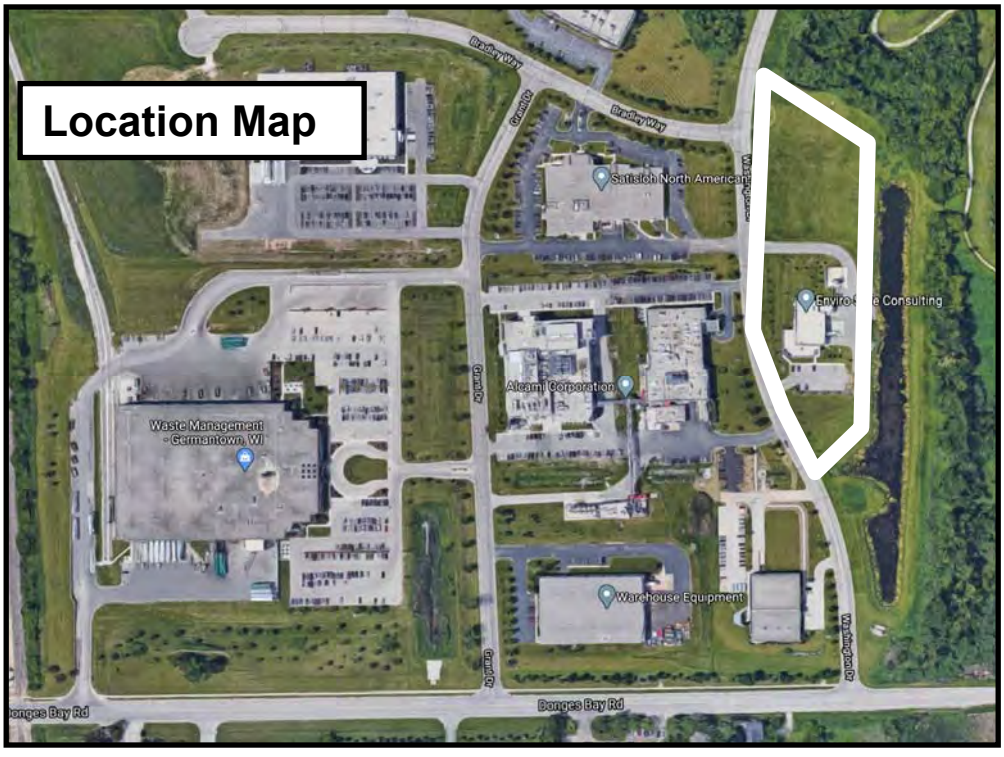
Property Location: W130 N10500 Washington Drive

Applicant/
Property Owners:

Mike Krenz	Jeff Vilione
Skyline Development	Enviro-Safe Consulting
9400 N. 107th St	W130 N10500 Washington Drive
Milwaukee, WI	Germantown, WI

Current Zoning: M-1: Limited Industrial

Adjacent Land Uses		Zoning
North	Industrial	M-1
South	Industrial	M-1
East	Industrial	M-1
West	Industrial	M-1



Background

Enviro-Safe is a multi-disciplinary environmental, safety and resource management and recovery company. Enviro-Safe provides services that include the transportation, collection, bulk processing/repackaging and overall recycling of flammable, combustible, hazardous and non-hazardous liquids, solvents and solid wastes that are redirected to other users. Operations include a 10-day hazardous waste storage license for the transportation of hazardous waste (RCRA), non-hazardous waste (Non-RCRA), hazardous materials, universal waste and E-waste. The existing building is approximately 15,000 sqft and consists of office, warehouse, processing, storage areas and a laboratory.

In May, 2011, the Village Board granted CUP #3-11 that permits Enviro-Safe to operate a facility for the bulk storage of flammable hazardous and non-hazardous liquid materials in the M-1: Limited Industrial Zoning District. CUP #6-15 revised the original CUP to include the processing of and solid waste materials. In November, 2018, the original 3.0-acre site was expanded to 5.6 acres with the acquisition and combination of the vacant 2.6-acre parcel to the north.

Proposal

At this time, Skyline Development Corp., agent for JDV Real Estate Holdings LLC, property owner, and Enviro-Safe, is seeking approval of site development & building plans for a 29,746 sqft expansion to the existing facility located on the 5.6-acre parcel at W130 N10500 Washington Drive in the Germantown Business Park.

As presented in the site development and building plans, the proposed expansion of this facility includes the following features:

- 29,746 sqft Building Addition
    - o 1,643 sqft office, lunchroom & lab
    - o 28,103 sqft warehouse/storage
- Four (4) additional loading docks (north elevation)
- One (1) new driveway (south) & one (1) re-located driveway (north)
- Exterior masonry comprised of earth-tone colored, pre-finished CMU brick and block with limited use of corrugated metal accent trims and panels (outside dispensing canopy and wall features) with aluminum storefront window units
- Flat roof w/ parapet wall components to shield roof-mounted mechanicals)

<u>Parking, Access & traffic Circulation</u>

Access will be provided to Washington Drive for truck traffic at two (2) driveways (north and south) with one driveway (central) for employee/visitor vehicles and parking. A total of (26) parking stalls are currently provided on-site (vs. the 35-48 space guideline under the Zoning Code and Business Park Covenants. However, an additional (23) stalls are shown as “future” on the site plan that can/will be constructed as needed.

Storm Water Management
Between the proposed building expansion, additional driveways and other paved areas, impervious surfaces will increase to 100,494 sqft or 41.2 percent of this 5.6-acre site (vs. the 75% maximum allowed) leaving 58.8 percent in green/open space.

Utilities
Storm water run-off will continue to be collected on-site via storm sewer and diverted to the existing regional storm water basin adjacent to and east of the property. Public water and sanitary sewer will continue to serve the proposed building expansion via connections to the service lines in the existing building and Washington Drive right-of-way.

Landscaping & Lighting
Landscaping is proposed around the building addition and along the Washington Drive frontage. Twenty-four (24) additional deciduous street trees are proposed to be planted along Washington Drive. The use of earthen berms in strategic locations on the north side of the site are used to help screen the new truck docking area on the north side of the building.

Exterior lighting includes:

- (3) 4W 2000 Lumen LED cut-off wall-mounted fixtures at a height of 9' on the east elevation of the addition;
- (2) 18W 6000 Lumen LED cut-off wall-mounted fixtures at a height of 15' located in the dock area

Staff Comments
Planning & Zoning
Enviro-Safe has an approved closure plan pursuant to Condition #5 in CUP#06-15 granted to Enviro-Safe, and, continues to provide the Village an annually-renewing letter of credit (LOC) in the amount of $50,000 as a financial surety. Given that the proposed building expansion provides a significantly larger amount of storage for both hazardous and non-hazardous material, the owner will need to re-evaluate the "closure plan" and adequacy of the LOC amount.

As shown on the site plan (Sheet C1.12 & C1.21), portions of the proposed south driveway encroach into a 25' wetland setback. Under the Village's Shoreland-Wetland Code, development within a 25' wetland setback is only allowed if a conditional use permit (CUP) is granted. Historically, CUP's for wetland setback encroachments have been granted with a requirement that additional wetland protection is provided in the form of an enhanced vegetative buffer adjacent to the wetland, the removal of invasive plant species within the wetland area or some combination of both. The amount of wetland buffer "compensation" is determined by the type of development that is made; "horizontal" development that results in a change in elevation less than 3 feet requires compensation at a 1:1 ratio, and, "vertical" development that results in an elevation change greater than 3 feet requires compensation at a ratio of 2:1. As shown on Sheet C1.21 (Grading Plan-South), the change in elevation associated with the proposed driveway construction would not exceed 3 feet. A requirement that Enviro-Safe obtain a

CUP for the proposed driveway encroachment prior to commencing construction should be a condition of approval.

With that said, there has been ongoing discussion with the architect and engineering consultants for Enviro-Safe concerning the possibility that the wetland shown on the site plan (along the west side of the storm basin) may, in fact, qualify as an "artificial wetland". The wetland delineation was done in early 2018 and at a time when changes to the current WisDNR wetland regulations were undergoing significant change under Act 183 (2017), including the creation of a new exemption for "artificial wetlands". While this particular wetland was not shown as being "artificial" in 2018, it may qualify as an "artificial wetland" under today's WisDNR wetland regulations. If deemed to be the type of "artificial wetland" that the WisDNR now classifies as being exempt, this wetland would not be regulated under either WisDNR or the Village's Shoreland-Wetland Code. If so, the 25' wetland setback and compensation requirements discussed herein would not apply. We do know that the wetland along the west side of the storm water basin affecting the site is associated with and likely the result of the man-made regional storm water basin that was created when the Village first developed this part of the Business Park. From aerial photographs, there is no evidence that a wetland existing in this area before August, 1991 (a critical WisDNR criteria in their "checklist" for determining if a wetland is/is not "artificial". At this time, it is not known Enviro-Safe will pursue a modification to their 2018 wetland delineation or seek an official "artificial wetland" exemption determination from the WisDNR. Unless and until this wetland is determined to be an "artificial wetland" and, therefore exempt from regulation by either the WisDNR or Village, Enviro-Safe should be held to the current code requirement to obtain a CUP and submit an acceptable compensation plan required under Section 24.04 of the Village Code.

The north elevation of the addition is rather plain and uninteresting. It is understood that a future addition may replace or hide most of that view of the elevation, but for now it needs something additional such as landscaping (at a minimum) if not some sort of architectural feature to wrap the corner with the west elevation. Additional landscaping could also help further enhance/create a buffer in the area of the new loading dock area. Foundation plantings, evergreen trees & shrubs, etc.

Fire Department/Police Department
Similar to the closure plan, Enviro-Safe has an approved fire protection and spill control and containment plan (SPCC). Enviro-Safe should re-evaluate the SPCC with the Fire Department and update that plan, as necessary. The Police Department is requesting that all doors and docks be numbered with reflective numbers to aid emergency personnel access.

Public Works Department/Village Engineer/Village Surveyor
The Public Works Department has recommended a number of minor plan revisions and technical corrections as set forth in the April 9, 2020 review memo from Troy Hartjes, R.A. Smith. These plan corrections will need to be addressed in a revised plan set or supplemental information submitted for review and approval prior to issuance of a building permit.

The Village Surveyor has identified additional technical corrections and plan review comments in an April 3, 2020 review memo that will need to be addressed in a revised plan set or supplemental information submitted for review and approval prior to issuance of a building permit.

Building Inspection Services

The Building Inspection Department has indicated that the submission of state-approved plans will be required prior to issuing a building permit along with the required $20,000 occupancy bond.

Utilities

The Wastewater Utility has indicated the following:

1. The sample manhole may need to be upgraded to be code compliant. The owner shall coordinate an inspection of the sampling manhole with the Department;
2. Floor drains in the new addition shall not connect to the sanitary sewer.

Village Forester

The Village Forester has recommended the following changes to the landscaping plan/proposal:

1. The tree species, size and future location of the (14) transplanted trees and (2) tree removals need to be shown on the plan;
2. The quantities for each new plant species that will be installed need to be listed on the plant schedule;
3. There are too many Maple varieties on the site. An alternate species needs to replace one of the two maple varieties proposed to promote diversity.

VILLAGE STAFF RECOMMENDATION

APPROVE the site development & building plans for a 29,746 sqft expansion to the existing Enviro-Safe facility located on the 5.6-acre parcel at W130 N10500 Washington Drive in the Germantown Business Park subject to the following (11) conditions:

1. This approval is subject to all the conditions and requirements set forth herein and adopted by the Plan Commission. Approval is granted for the architectural and engineering plan set dated February 4, 2020 and supporting documents including a February 3, 2019 letter from Michael Krenz, Skyline Development Corp., unless superseded by subsequent plan sheets approved by the Village Planner or Engineer pursuant to revisions required herein and/or by the Plan Commission.
2. All landscaping, screening, grading, paving, storm water management, utility and other improvements that are not fire-safety related as shown on the approved site plans shall be installed as proposed prior to issuance of an occupancy permit unless a cash bond or letter of credit in an amount equal to 120 percent of the estimated installation and material costs reviewed and approved by the Village is submitted to the Village as necessary to ensure that installation of the proposed features and improvements will be completed within one (1) year after issuance of the occupancy permit.
3. All technical issues, corrections and plan requirements identified by the Public Works Department staff (see April 9, 2020 letter from Troy Hartjes, RA Smith, and an April 3, 2020 Village Surveyor Engineer memo) shall be addressed and reflected in revised plans and/or supplemental information reviewed and approved by Village staff prior to issuance of a building permit or as may be mutually agreed to with the Public Works Director (excluding “early start” site clearing and footing/foundation work approved by the Village and/or WI DSPS).
4. Enviro-Safe shall re-evaluate and update the Closure Plan required under Condition #5 in Conditional Use Permit #6-15 given the significantly larger amount of storage capability for both hazardous and non-hazardous material and adjust the financial surety amount accordingly. Results of said re-evaluation shall be submitted to the Village Planner for review and approval within six (6) months after the date the occupancy permit is used for the proposed building expansion.
5. Enviro-Safe shall re-evaluate and update the Spill Prevention, Control and Countermeasure Plan (SPCC) required under Condition #1 in Conditional Use Permit #6-15 given the significantly larger amount of storage capability for both hazardous and non-hazardous material. Results of said re-evaluation and updated SPCC shall be submitted to the Village Fire Chief for review and approval within six (6) months after the date the occupancy permit is used for the proposed building expansion.

VILLAGE STAFF RECOMMENDATION

6. The landscape plan shall be revised as recommended by the Village Forester to: (a) identify the tree species, size and future location of the transplanted removed trees on the landscape plan; (b) identify the quantities for each new plant species that will be installed on the plant schedule; and (c) install/replace an alternative species to one of the two Maple tree varieties proposed to promote diversity.
7. Additional landscaping shall be installed in the northwest corner of the site and along the north elevation to further enhance the appearance of the north elevation and provide a better visual screen of the loading dock area on the north elevation. Said landscaping shall include evergreen trees & shrubs like those previously installed along the north elevation that are now proposed to be relocated, A revised landscaping plan shall be prepared and submitted to the Village Planner for review and approval prior to issuance of an occupancy permit.
8. State approved plans and a $20,000 occupancy bond are required by the Building Inspection Department as part of the building permit application (in addition to the bonding requirements of Section 11.071).
9. All exterior doors (except primary entrance) shall be clearly marked with reflective 5” or larger letters/numbers to aid emergency personnel access as required by the Police Department.
10. Enviro-Safe shall coordinate an inspection of the existing sampling manhole. If said manhole is found to not be code compliant, Enviro-Safe shall upgrade the manhole to current Code in coordination with the Wastewater Utility.
11. Pursuant to the provisions and requirements of Section 24.04 of the Shoreland-Wetland Code, Enviro-Safe shall obtain a conditional use permit for the proposed driveway encroachment into the 25’ wetland setback prior to commencing construction of said driveway. In the event that the wetland associated with the regional storm basin is determined to be an “artificial wetland” (and consequently exempt from regulation) by either the WisDNR or Village of Germantown, this requirement shall not apply.

raSmith

CREATIVITY BEYOND ENGINEERING

MEMORANDUM

DATE: April 9, 2020

TO: Jeff Retzlaff, Village Planner & Zoning Administrator

FR: Troy Hartjes, P.E., Manager Engineer

RE: Engineering Review Comments
Enviro-Safe Expansion Project

Mr. Retzlaff,

We have reviewed the onsite civil engineering infrastructure plans (C1.10-C1.40), dated 2/04/2020 for the referenced proposed Enviro-Safe Expansion Project located at W130N10500 Washington Drive in the Village of Germantown. The following are the engineering review comments for consideration by the Village:

General Comments

1. Please respond to each item below. **A written response addressing each item shall be included in your submittal.**

2. The property owner shall procure the following permits:

   - Plumbing permit from the Department of Safety and Professional Services (DSPS) for utility construction.
   - Notice of Intent from the Department of Natural Resources (WDNR) for land disturbing activities.
   - All necessary Village of Germantown permits.

3. Any existing Village infrastructure (curb & gutter, path, utilities, road, etc.) that is damaged during construction shall be replaced in kind.

4. As-builts prepared to Village standards shall be prepared and provided to the Village post-construction (for all applicable items).

5. A professional engineer's original seal is to be affixed, signed and dated on the final set of construction plans.

Storm Water Management

1. This proposed project consists of 3.62 acres of disturbed area and an increased in impervious area by 1.37 acres. Please provide information regarding storm water management for this site.

Project Location and General Notes – C1.10

1. General Note #9 refers to water main as class 150. Even though there's no water main on this project, it should be noted that The Village minimum pressure class is 235.

Site Plan – North C1.11

1. Provide joint ties where proposed curb & gutter connects to existing curb & gutter.

2. The proposed driveway on the north end of the property encroaches upon the existing 50' wide sanitary and storm easement. In the event that the Village would be required to perform maintenance on the existing sanitary and storm sewer, within the limits of the proposed private infrastructure area, the property owner will be responsible to make all repairs at their own cost.

3. Please label the radii at all locations on the plans.

Site Plan – South C1.12

1. The proposed driveway on the south end of the property encroaches upon the 25' wetland setback.

2. Provide joint ties where proposed curb & gutter connects to existing curb & gutter.

Grading Plan – North C1.20

1. The following design criteria should be met per the Village's design, drafting & construction standards & specifications, Section 4.0 (Storm Water Conveyance System Requirements).

    - Storm sewer capacity should be designed for the 10-year rainfall event in areas having safe overland conveyance of the 100-year event. Please provide storm sewer calculations.

    - Pipe connections shall be crown to crown when the following constraints can be satisfied: The difference between the inverts of pipe shall be 0.1' (min) to 2.0' (max).

    - Storm mainline shall be 15" diameter minimum.

    - Polystyrene board insulation is required for storm sewer depths less than 3.5' (storm run 104).

2. Provide inverts for ends of building laterals.

3. Please verify that the existing manhole (100) is large enough for the addition of the proposed storm sewer. It appears that angle of the proposed storm sewer will cause a conflict.

4. The connection to the existing manhole (100) shall be cored. Cutting or breaking is prohibited.

5. The storm sewer pipe run, east of the proposed building, is not labeled. Please revise.

Grading Plan – South C1.21

1. The sidewalk on the south face of the building addition does not meet ADA requirements (+/- 6% running slope). Please revise.

Erosion Control Plan C1.30

1. The grading plans depict proposed contours along the south driveway entrance. No restoration is shown in that area. Please revise.

2. Note 17 – Per the Village's design, drafting & construction standards & specifications, Section 3.0 (Grading and Erosion Control Requirements), areas that remain inactive for 7 days shall be stabilized.

3. The tracking pad is only 35' in the plan view. Please revise to match the 50' length as shown in the detail.

Construction Details and Specifications C5.00

1. The Earthwork and Erosion Control Note 5 states a silt fence post spacing of 10'. The detail on sheet C1.30 shows 8.0'. Please revise.

If you have any questions, please feel free to contact me at (262) 317-3305.

bth:J:\1191221\Doc\M 200409 Retzlaff - Enviro-Safe Expansion Project.docx

Engineering Department Memorandum

To : **Lawrence Ratayczak, P.E., Director of Public Works**
Jeffrey W. Retzlaff, AICP, Planning Director/Zoning Administrator

From : **Bob Beilfuss, P.L.S., Village Surveyor/Civil Engineer III**

Date : **April 3, 2020**

Re : **Enviro-Safe Addition Site Plan Review**

Items Reviewed:

1. C1.10-C5.00 Dated: 2-4-2020

General Civil Comments:

1. Please respond to each item below. **A written response addressing each item shall be included in your submittal**.

2. The submitted plans have been reviewed for general conformance with State and Village design guidelines. Additional comments could arise as a result of the plan completion and modifications. The items listed below will need to be fully resolved before the Engineering Dept. can recommend a formal approval of the plans and permit for construction.

3. Record Drawings for private storm sewer discharging into the regional detention pond or existing public storm sewer shall be prepared to Village standards and provided to the Village within 30 days of completion of construction.

4. A professional engineer's original seal is to be affixed, signed and dated on the final set of construction plans.

5. The wetland setback shown on sheet C1.50 and C1.51 is not the same as the one shown of CSM No. 6396. The wetlands shown on the CSM are based on a delineation by Brian Lennie (Bonestroo Inc.) on June 26, 2008. Was a more recent delineation performed and if so, when was this task performed and by which firm?

6. There are no boundary markers shown on sheet C1.50 as found or set and does not comply with AE-7 of the Wisconsin Administrative Code. Please show the existing boundary marker as shown on Sheet C1.51.

7. All proposed curb and gutter being used for the two new driveway approaches shall be rodded to the existing road curb using two (2) No. 5 epoxy coated rebar.

8. All proposed curb and gutter replacement for the abandoned driveway approach connecting to Washington Drive, shall be rodded to the existing road curb using two (2) No. 5 epoxy coated rebar.

9. Add dimension for the length of the proposed driveway approach at the curb. Maximum allowable width for the driveway is 45'.

10. Two (2) driveway permits will be required for the proposed driveways.

11. The proposed 12" PVC storm sewer connection at Structure No. 100 shall be a cored in place connection with a rubber boot installed.

12. On Sheet C1.20, there is a proposed storm manhole and storm line that discharges to the regional detention pond located on the east/south side of the proposed addition. What is the pipe diameter and pipe type for this storm line?

13. In the initial application letter to the Village Planner dated February 3, 2020 it is stated that future parking will be shown on the plans. I did not see those future parking stalls or areas on Sheets C1.10 thru C5.00. Please indicate which sheets contain the location of the future parking.

Stormwater Comments

None as the existing and proposed storm discharge is to a regional pond that was designed for full buildout of the Germantown Business Park.

Waste Water Utility Comments:

See memo from Tim Zimmerman

Water Utility Comments

None

No further comments at this time.

CUP #06-15 Document No.	CONDITIONAL USE PERMIT Document Title

1387997

RECORDED
August 10, 2015 10:40 AM
SHARON A MARTIN
REGISTER OF DEEDS
WASHINGTON COUNTY, WI
Recording Fee Paid: $30.00

VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN
CONDITIONAL USE ZONING PERMIT

Whereas the Applicants:

JDV Real Estate Holdings LLC, Property Owner, Enviro-Safe Consulting LLC, and Enviro-Safe Resource Recovery, Operator

agree to comply with applicable Codes and Ordinances of the Village of Germantown, Wisconsin, and further agrees that all work done pursuant to the permission granted herewith will conform with the applications and drawings filed with and approvals granted by officials of the Village for the purpose of obtaining this permit.

Now, therefore, this permit is issued to the Applicants to permit the development and operation of facility used for the bulk storage and processing of flammable hazardous and non-flammable non-hazardous liquid and solid waste materials pursuant to Section 17.33(3)(a) and (b) of the Village's Zoning Code.

4

Name & Return Address:
Village of Germantown
P.O. Box 337
Germantown, WI 53022

Parcel Identification No:
GTNV 254-280

On the following described property located in the Village of Germantown, Washington County, Wisconsin:
Lot 33 of Certified Survey Map No. 6396, recorded February 22, 2011, in Volume 48 of Certified Survey Maps on Pages 195 to 199, as Document No. 1273968, being a re-division of Lot 25 of Certified Survey Map No. 6275, located in that part of the Southwest 1/4 and the Northwest 1/4 of the Southeast 1/4 of Section 25, Town 9 North, Range 20 East, in the Village of Germantown, County of Washington, State of Wisconsin.
Tax Key No: 254-280
Address: W130 N10500 Washington Drive

Pursuant to the following condition(s):

1. Subject to the additional allowances under Condition No. 8 herein, this permit authorizes the uses, activities and facilities set forth in the conditional use permit application dated March 14, 2011 and the supporting documents and plans made part of the application including: Responses to the requirements of Section 11.071 (dated 3-14-2011); MSI letter and attached Plan of Operation (dated March 14, 2011); the draft SPCC (dated March 2011); Enviro-Safe Consulting LLC "CUP Application Review" letter (dated March 30, 2010); Letter of Intent (dated March 11, 2011); and the site development and building plan set (dated 3-14-2011, unless otherwise revised by a subsequent plan set approved by the Village Planner pursuant to revisions required herein). All of the commitments made by the Applicant in the application and supporting documents cited herein are deemed conditions of approval. This approval includes the same uses and activities conducted in/as part of the proposed 12,573 sqft building expansion shown in the site development and building plans.

2. If the use, activities and/or operation subject of this permit falls out of conformity with the conditions herein, or where there is a change in the nature, character, intensity or extent of the permitted conditional use which causes special problems or harmful effects otherwise associated with the use to be no longer ameliorated or eliminated, or where conditions imposed were anticipated to ameliorate or eliminate harmful effects associated with the use but are insufficient to do so, or for similar cause based upon consideration for the public comfort, safety, and welfare, the conditional use permit may be terminated or modified by the Village Board by the amendment to or addition of conditions after public hearing thereon.
3. All business operations and activities conducted on the property and by Enviro-Safe while in the Village shall meet and continuously comply with the performance standards set forth in Zoning Code section 17.47, including, but not limited to odor, fire and explosive hazards, and water quality protection. In the event of a complaint substantiated by Village staff to the extent that a potential violation of or determination of non-compliance with one or more of the performance standards in Section 17.47 may have occurred or is occurring, the applicant shall be responsible for all costs for and resulting from the Village retaining a third party environmental expert capable of investigating and/or monitoring the site and operation. Said expert shall report its findings to the Village for subsequent use in investigating and enforcing said complaint or potential violation of the "performance standards" found in Section 17.47 of the Zoning Code.
4. The type and amount of material to be stored shall be limited to that which is proposed in the application materials including the documents referenced in Condition #1 herein. Any changes to the type, amount, location, and containers from that presented in the application materials and/or site development and building plans, or, any changes to the methods of storage, dispensing, mixing, or transportation activities shall be reported to the Village Planning Department. Modifications to the approved CUP and/or site and building plans or conditions of said approvals may be required by the Village at that time.
5. Enviro-Safe shall develop a closure plan the same as that which required for solid waste storage facilities under WDNR NR 502.04 and submit said plan to the Village Engineer for review and approval prior to issuance of an occupancy permit, including the submittal of a letter of credit or other financial guarantee acceptable to the Village that ensures removal and/or clean-up of remaining inventory can be accomplished by a third party environmental firm (if necessary) in the unanticipated event the business relocates from or ceases to exist in the Village.
6. The applicant is responsible for obtaining all applicable state, federal or other agency permits and approvals and continuously operating within the requirements and restrictions of said permits and approvals. Copies of all state and federal agency permits issued shall be provided to the Village Fire and Planning Department.
7. The overnight storage of hazardous and non-hazardous materials that are not in a protected controlled environment is prohibited.
8. All General, Operations and Reporting conditions of approval and requirements set forth in DNR approval letter dated April 20, 2015 are hereby adopted as conditions of approval for this conditional use permit.

Granted by the Village Board of the Village of Germantown, Washington County, Wisconsin on the 6th day of July, 2015.

Dean M. Wolter, Village President

ATTEST:

Barbara K. D. Goeckner, Village Clerk

STATE OF WISCONSIN) SS
WASHINGTON COUNTY)

Personally came before me this 9th day of July, 2015, the above named Dean M. Wolter, Village President, and Barbara K. D. Goeckner, Village Clerk, to me known to be the persons who executed the foregoing instrument and acknowledged the same.

Jilline Dobratz
{type or print name of Notary on this line}

{signature of Notary on this line}

Notary Public, State of Wisconsin
My Commission Expires: 5-21-19

NOTARY PUBLIC
JILLINE DOBRATZ
STATE OF WISCONSIN

ACCEPTANCE OF TERMS AND CONDITIONS BY APPLICANT

I, Jeff Vilione, authorized representative for Enviro-Safe Consulting LLC, Enviro-Safe Resource Recovery and JDV Real Estate Holdings LLC, hereby accept the terms and conditions set forth in this Permit, and realize that non-adherence to the terms and conditions as stated hereon may result in the revocation of this Permit by the Village of Germantown under Section 17.42 Germantown Municipal Code.

Dated this 30 day of JULY ,2015

JEFFREY D. VILIONE
{type or print name above}

J.D. VR
Signature

STATE OF WISCONSIN) SS
Washington COUNTY)

Personally came before me this 30th day of July, 2015, being the above named Jeffrey D. Vilione, to me known to be the person who executed the foregoing instrument and acknowledged the same.

DEBRA J ZELLMER
Notary Public
State of Wisconsin

Debra J. Zellmer
{type or print name of Notary on this line}

Debra J. Zellmer
{signature of Notary on this line}

Notary Public, State of Wisconsin
My Commission Expires: 8/28/16

This instrument was drafted by:
Jeffrey W. Retzlaff, AICP
Community Development Director/Zoning Administrator
Village of Germantown, Wisconsin

Village of Germantown ...Willkommen

Fee must accompany application

- ☐ $700 Minor Addition
- ☐ $1,240 Construction <10,000 SF
- ☒ $2,095 Construction 10,000 SF to 50,000
- ☐ $3,460 Industrial Construction >50,000 SF
- ☐ $3,460 Commercial Construction >50,000
- ☐ $200 Plan Commission Consultation
- ☐ $125 Fire Department Plan Review

PAID [signature] DATE 2-3-20

SITE PLAN REVIEW APPLICATION

Pursuant to Section 17.43 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1

APPLICANT OR AGENT

Skyline Development Corp.
9400 N. 107th STREET
Milwaukee, WI 53224

Phone (414) 354-2880
E-Mail mrk@skylinedc.com

PROPERTY OWNER

JDV Real Estate Holdings, LLC.
W130 N10500 Washington Dr.
Germantown, WI 53022

Phone (262) 790-2500
E-Mail JVilione@enviro-safe.com

2

PROPERTY ADDRESS

W130 N10500 WASHINGTON DR.

3

NEIGHBORING USES – Specify name and type of use, e.g. Enviro Tech – Industrial, Smith – Residential, etc.

North	South	East	West
M-1 Limited Industrial	M-1 Limited Industrial	M-1 Limited Industrial	Alcami - Industrial

4

READ AND INITIAL THE FOLLOWING:

MK I am aware of the Village of Germantown ordinance requiring fire sprinklers in most new construction.

MK I understand that all new development is subject to Impact and/or Connection Fees that must be paid before building permits will be issued.

MK I understand that an incomplete application will be withdrawn from the Plan Commission agenda and that all resubmissions to the Plan Commission are subject to a new application fee.

5

SIGNATURES – ALL APPLICATION MUST BE SIGNED BY OWNER!

Michael Kenny 2/3/20
Applicant Date

[signature] 1/31/20
Owner Date

RECEIVED
FEB 03 2020
OFFICE OF THE VILLAGE PLANNER
VILLAGE OF GERMANTOWN

SKYLINE DEVELOPMENT CORPORATION

February 3rd, 2020

Planning Department
Jeffrey Retzlaff
Village Planner & Zoning Administrator
N112 W17001 Mequon Road
Germantown, WI 53022

Re: Enviro-Safe – 29,116 Sq. Ft. Warehouse & Office Expansion Located at W130 N10500 Washington Dr.

Dear Mr. Retzlaff,

This letter is to describe to you the intent and scope of the project that is being presented for Plan Commission for review and approval.

Project Name: **Enviro-Safe**
Project Address: **W130 N10500 Washington Dr.**
Project Size: **29,116 Sq. Ft.**

The intent of this project is to expand the S-1 Warehouse storage area (28,103 sq.ft.) to the north, along with some office/lunchroom & lab expansion (1,643 sq.ft.) as well. The intent and design will follow and use all matching materials & elevations. Noting that the office exterior walls will incorporate a parapet that's matches existing and will screen the one 2.5 ton RTU.

Additional four (4) loading docks would be included on the north elevation of the new addition, which would tie in with the new north driveway. In order to ease the flow of truck traffic in and out of the property, the design incorporates a south entrance at the south end of the property. This will allow trucks to enter from the south and exit at the north. No changes are being made to any of the existing outside structures.

There will be (1) 2.5 Ton RTU's on the new office expansion (west elevation) side. Warehouse area to be heated only, with no RTU's.

Parking spaces there are more than adequate for Enviro-Safe staff count and no additional parking will be needed. However, we do show/indicate on the plans where future parking can be placed.

Landscaping will be such as to be similar to what is existing. The group of existing pines on the north end of the existing facility (Where the addition is going) are going to be relocated to the south end of he property to help screen. Based on their existing health of the pines, it is planned for 8 or 9 of them to be transplanted/relocated.

9400 North 107th Street • Milwaukee, Wisconsin 53224-1197 • Telephone (414) 354-2880 • Fax (414) 354-2885
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SKYLINE
DEVELOPMENT
CORPORATION

Plan of Operation/Owner's Statement:

"We originally built our building in 2012 and have out grown the existing space and are looking to expand our operations and processes due to our continued growth"

If you have any questions, please feel free to give me a call to discuss.

Sincerely,

SKYLINE DEVELOPMENT CORP.

Michael Krenz
Project Manager

9400 North 107th Street • Milwaukee, Wisconsin 53224-1197 • Telephone (414) 354-2880 • Fax (414) 354-2885
Design Builders Since 1964

SITE PLAN REVIEW CHECKLIST

Pursuant to Section 17.43 of the Municipal Code

This checklist provides a summary of requirements found in the Municipal Code. It is intended purely as a guide for developers and should not substitute for a full review of the Code and applicable regulations. (Revised 1/02)

GENERAL INFORMATION

- [x] Provide Completed Checklist with submittal
- [x] Names and addresses of owner/developer/designer
- [x] Graphic scale, north arrow
- [x] Location sketch
- [x] Size of site (gross and net acreage)
- [x] Existing zoning
- [x] Adjacent zoning and uses
- [ ] ~~Number of residents (subdivisions)~~
- [x] Number of employees - EXISTING

EXISTING SITE INFORMATION

- [x] Dimensions of site and lot lines (pipes found, pipes set, monuments)
- [x] Existing grades (2' contours minimum)
- [x] Adjacent property grades (within 10' minimum of property lines)
- [x] Adjacent structures (within 20' minimum of property lines)
- [x] Drainage systems and structures
- [x] Natural features (woods, streams, lakes, ponds, outcroppings) - EXISTING
- [x] Wetland boundaries (provide date of staking) - EXISTING
- [ ] ~~Floodplain elevation and boundaries~~
- [ ] ~~Environmental concerns (underground tanks, etc)~~
- [x] Roads, curbs, parking lots, pavement areas
- [x] Structures (location, size)
- [x] Rights-of-Way (existing/ultimate)
- [x] Easements (drainage, utility)
- [x] Existing utilities (sanitary, water, electric, gas, telephone)
- [x] Benchmark locations and elevations
- [x] Location of fences, wells, borings, etc.

ARCHITECTURAL PLANS

- [x] Existing building location
- [x] Existing building elevations/materials
- [x] Proposed use (use list from Section 17.45)
- [x] Statement of design intent (narrative)
- [x] Proposed floor plans (dimension)
- [x] Square footage (total and individual rooms/stores)
- [x] Proposed elevations (dimension)
- [x] Proposed building height - MATCH EXISTING
- [x] Proposed materials and colors (material sample board required for new construction) - MATCH EXISTING
- [ ] ~~Proposed signage (elevations, color, square footage, height, construction material, lighting)~~ - EXISTING
- [ ] ~~Details of any special features~~

PROPOSED SITE PLAN

- [x] Grading and spot elevations
- [x] Erosion control measures (silt fencing, hay bales, rip-rap, tracking mat, stockpile locations)
- [ ] Stormwater management
  - stormwater management design report
  - general drainage pattern
  - swales w/ arrows for direction of flow
  - pond design with outfalls
  - culverts (location/size)
- [x] Utilities (size, invert elevations, length, slope, etc.)
  - sanitary - EXISTING
  - water - EXISTING
  - stormsewer
- [x] Building location (dimension)
- [x] Building elevation (finished grade)
- [ ] ~~Location of proposed signage~~ N/A
- [ ] ~~Details of outside storage (including trash receptacles)~~ N/A
- [x] Setbacks (clearly marked and dimensioned)
- [x] Vehicular entrances (dimension to centerline of nearest intersection)
- [x] Streets (dimension and direction for one-ways)
- [x] Curve radii
- [x] Sidewalks (dimension)
- [ ] ~~Parking areas (show striping/spot elevations)~~ Future
- [ ] ~~Parking setback from property line~~
- [x] Loading areas (dimension)
- [x] Lot coverage
  - Square footage total
  - Impervious surfaces total (%)
  - Green space total (%)
  - Percent permitted (over/under %)
- [x] Municipal utility connections
  - Sanitary sewer (pipe size/elevations)
  - Water (size, valve location, elevations)
  - Location of hydrants
- [x] Easement for public water mains

LIGHTING PLAN

- [x] Major improvements for context
- [ ] Location/nature of existing fixtures
- [x] Location of proposed fixtures
- [x] Photometric report (to scale on plan)
- [x] Manufacturers cut-sheets of all fixtures
- [x] Lighting schedule
  - key to plan
  - number/type of fixtures
  - output (wattage)
- [x] Installation details as appropriate

LANDSCAPING PLAN

- [x] Major improvements for context (building, drives, walks)
- [x] Proposed outdoor amenities (benches, paths, etc.) – sidewalk
- [x] Existing vegetation
  - Species
  - Size
  - Approximate canopy in plan
- [ ] ~~Vegetation to be destroyed~~
  - ~~List and show location~~
- [x] Proposed method of saving existing vegetation during construction
- [x] Proposed landscape features (berms, fountains)
- [x] Existing/proposed lighting – see lighting plan
- [x] Irrigation/watering systems (locate outlets) - existing
- [x] Plant lists or schedules
  - Keyed to plan
  - Number of each species
  - Size when planted (caliper)
- [x] Installation details/staking

MODEL SUBMITTAL INCLUDES THE FOLLOWING PLANS:

1. Cover / Title Page ✓
2. Existing Conditions Survey ✓
3. General Site Plan ✓
4. Grading, Paving & Erosion Control Plan ✓
5. Utility Plan ✓
6. Site Details (curbing, catch basins, detention ponds, pavement, erosion control and sign details) ✓
7. Landscape Plan ✓
8. Landscape details (planting schedule, berming cross-sections, method of installation) ✓
9. Lighting Plan ✓
10. Floor Plan ✓
11. Exterior Building Elevations ✓
12. Building Material Sample Board – EXISTING

In addition to the items on this list, Village Staff and/or the Plan Commission may require additional drawings and data to be submitted for approval.

If any public improvements or work is to be done in the Public Right-of-Way, the Village will require that a Developer's Agreement be submitted and approved by the Village Board.

CONSORTIUM ae
\kən-ˈsor-sh(ē)əm\ a.e. : an architectural engineering partnership

735 N Water Street Suite 1228
Milwaukee | WI 53202
Gregg Prossen, Principal

TELEPHONE 414.406.7625
www.consortiumae.com

AN EXPANSION FOR:

ENVIRO-SAFE

W130N10500 WASHINGTON DR
GERMANTOWN, WI 53022

the CONSORTIUM ae PROJECT #: 0019-42

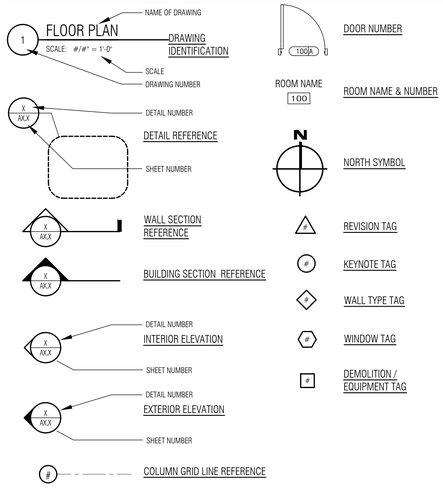
SKYLINE DEVELOPMENT CORPORATION

ENVIRO-SAFE ADDITION
2020-02-04 CDS

ABBREVIATION KEY

ACT	ACOUSTICAL CEILING TILE	GA	GAUGE	SCHED	SCHEDULE
ADJ	ADJUSTABLE	GALV.	GALVANIZED	SF	SQUARE FOOT
A.F.F.	ABOVE FINISH FLOOR	GB	GRAB BAR	SHT	SHEET
ALT.	ALTERNATE	GC	GENERAL CONTRACTOR	SIM	SIMILAR
ALUM	ALUMINUM	GEN	GENERAL	SPEC	SPECIFICATIONS
ARCH	ARCHITECTURAL/ARCHITECT	GFI	GROUND FAULT INTERRUPTOR	SQ	SQUARE
ASPH	ASPHALT	GL	GLASS	S/S	STAINLESS STEEL
AVE	AVENUE	GMU	GLASS MASONRY UNIT	ST	STREET
		GWB	GYPSUM WALL BOARD	STC	SOUND TRANSMISSION CLASS
BLDG	BUILDING	GYP	GYPSUM	STD.	STANDARD
BLK	BLOCK			STL.	STEEL
BLKG	BLOCKING	HB	HOSE BIBB	STRUCT	STRUCTURAL/STRUCTURE
B.O.	BOTTOM OF	HDR	HEADER, METAL	SUSP	SUSPENDED
B.O.	BY OWNER	HDWZ	HOLLOW TILE		SHEET VINYL
B.O.B	BOTTOM OF BEAM	HR	HOUR	SYM	SYMMETRICAL
B.O.D	BOTTOM OF DECK	HT	HEIGHT		
B.O.F.	BOTTOM OF FOOTING	HVAC	HEATING, VENTILATING & AIR CONDITIONING	TEMP	TEMPERATURE
B.O.J.	BOTTOM OF JOIST			TERR.	TYPICAL
BOT	BOTTOM			T.O.B.	TOP OF BEAM
BRK.	BRICK	IN	INCHES	T.O.D.	TOP OF DECK
BRK	BRICK	INCL	INCLUDE	T.O.F.	TOP OF FOOTING
BSMT	BASEMENT	INSUL	INSULATION	T.O.J.	TOP OF JOIST
		INT	INTERIOR	T.O.S.	TOP OF SLAB
CAB	CABINET			T.O.W.	TOP OF WALL
CG	CORNER GUARD	JAN	JANITOR	T&G	TOUNGE & GROOVE
CJ	CONTROL/ CONSTRUCTION JOINT	JNT	JOINT		
CL	CENTER LINE	JST	JOIST	UL	UNDERWRITERS LABORATORIES
CLG	CEILING			UNEX	UNEXCAVATED
CLEAR	CLEARENCE	LAB	LABORATORY	UNFIN	UNFINISHED
CPT	CARPET	LAM	LAMINATED	UNO	UNLESS NOTED OTHERWISE
CMU	CONCRETE MASONRY UNIT	LAV	LAVATORY		
COL	COLUMN	LB	POUND	VB	VINYL BASE
CONC	CONCRETE	LBS	POUNDS	VCT	VINYL COMPOSITION TILE
CONST	CONSTRUCTION	LF	LINEAR FOOT	VERT	VERTICAL
CONT	CONTINOUS	LL	LIVE LOAD	VFA	VINYL FLOORING ADAPTER
CONTR.K	CONTRACTOR	LOUV	LOUVER	VIF	VERIFY IN FIELD
CORR	CORRIDOR/CORRUGATED			VSF	VINYL SHEET FLOORING
CSMT	CASEMENT	MATL	MATERIAL	VSN	VINYL STAIR NOSING
CT	CERAMIC TILE	MAX	MAXIMUM	VT	VINYL TILE
CTR	CENTER	MECH	MECHANICAL	VTR	VENT THROUGH ROOF
CU	CUBIC	M.E.B.	MECHANICAL/ ELECTRICAL/ PLUMBING	VWC	VINYL WALL COVERING
CFOI	CONTRACTOR FURNISHED, OWNER INSTALLED	MFGR	MANUFACTURER		
		MIN.	MINIMUM	W	WIDTH
DBL	DOUBLE	MISC	MISCELLANEOUS	W/	WITH
DEPT	DEPARTMENT	M.O.	MASONRY OPENING	WD	WOOD
DIA	DIAMETER	M.R.	MOISTURE RESISTANT	WL	WIND LOAD
DIAG	DIAGRAM/DIAGONAL	MTL	METAL	W/O	WIT
DIM	DIMENSION				
DIV	DIVISION	NIC	NOT IN CONTRACT		
DN	DOWN	NO	NUMBER		
DS	DOWN SPOUT	NOM	NOMINAL		
DWG	DRAWING	NTS	NOT TO SCALE		
EA	EACH	O.C.	ON CENTER		
E.I.F.S.	EXTERIOR INSULATION FINISH SYSTEM	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED		
EL	ELEVATION	OFOI	OWNER FURNISHED, OWNER INSTALLED		
ELEC	ELECTRICAL	OPNG	OPENING		
ENCL	ENCLOSURE	OPP	OPPOSITE		
ENGR	ENGINEER	OZ	OUNCE		
EPOXY	EPOXY RESIN				
EQ	EQUAL	P.LAM	PLASTIC LAMINATE		
EQUIP	EQUIPMENT	PLYWD	PLYWOOD		
EST	ESTIMATE	PPT	PRESSURE TREATED WOOD		
EXIST.	EXISTING TO REMAIN		PREFABRICATED		
EXIT.	EXISTING		PREFIN PREFINISHED		
EXP.	EXPOSED CONSTRUCTION		PRELIM PRELIMINARY		
EXP. JNT.	EXPANSION JOINT	PSF	POUNDS PER SQUARE FOOT		
EXT	EXTERIOR	PT	PAINT		
		P&S	POLE AND SHELF		
FD	FLOOR DRAIN				
FDN	FOUNDATION	QT	QUARRY TILE		
F.E.	FIRE EXTINGUISHER				
FEC	FIRE EXTINGUISHER CABINET	RAD	RADIUS		
FHC	FIRE HOSE CABINET	RB	RUBBER BASE		
FIN.	FINISH	RD	ROOF DRAIN		
FIN. FLR.	FINISHED FLOOR	RECC	RECESSED		
FLR.	FLOOR	RECD	RECEIVED		
FR.	FRAME	REF	REFRIGERATOR		
FRP	FIBERGLASS REINFORCED POLYESTER	REINF	REINFORCING		
FT	FEET	REQD	REQUIRED		
FTG	FOOTING	RM	ROOM		
F.V.	FIELD VERIFY	RO.O	ROUGH OPENING		
		RST	RUBBER STAIR TREAD		
		RT	RUBBER TILE		

SYMBOLS



GENERAL NOTES

1. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO COMMENCING CONSTRUCTION.
2. FINISHED FLOOR HEIGHT IS 100'-0". REFER TO CIVIL PLAN FOR ACTUAL DATUM ELEVATION.
3. ALL WORK OF THE CONTRACTOR SHALL BE IN ACCORDANCE WITH APPLICABLE BUILDING CODES AND COMPLY WITH ALL GOVERNING LAWS, CODES, ORDINANCES, RULES AND REGULATIONS OF THE CITY, COUNTY STATE AND FEDERAL JURISDICTION INCLUDING REQUIREMENTS OF THE STATE OF WISCONSIN DEPARTMENT OF NATURAL RESOURCES.
4. THE CONTRACTOR SHALL REPORT IMMEDIATELY, ANY DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THOSE SHOWN ON THE CONSTRUCTION DOCUMENTS, TO THE ARCHITECT.
5. PRIOR TO COMMENCEMENT OF WORK , THE CONTRACTOR SHALL CAREFULLY EXAMINE THE SITE OF THE WORK AND VERIFY GRADE ELEVATIONS, UTILITIES, AND OTHER EXISTING CONDITIONS WHETHER OR NOT SHOWN ON THE DRAWINGS. LOCATE ALL GENERAL SITE REFERENCE DATA FOR PROPERTY LINES AND GRADE ELEVATIONS AND DO THAT WORK WHICH IS NECESSARY TO PREVENT THEIR DISLOCATION OR DESTRUCTION.
6. CONTRACTOR SHALL CLEAR THE CONTRACT WORK AREA ONLY. PROTECT EXISTING UTILITIES, TREES AND/OR NATURAL VEGETATION WHICH IS REQUIRED TO REMAIN.
7. THE CLEARING/FILLING/EXCAVATING OF THIS AREA SHALL BE ACCOMPLISHED IN A MANNER AS TO MINIMIZE THE RUNOFF OF SILT AND SEDIMENT INTO THE STORM DRAINAGE SYSTEM AND ONTO ADJACENT OR DOWNSTREAM PROPERTIES. EROSION CONTROL MEASURES SHALL BE INSTITUTED AS NECESSARY BY THE CONTRACTOR TO ACCOMPLISH THIS EROSION CONTROL. ANY AND ALL EROSION PLANS REQUIRED FOR THIS WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
8. NO DEBRIS, EARTH MATERIAL, CLEARED VEGETATION OR WASTE MATERIALS SHALL BE DEPOSITED ON ANY OTHER PROPERTY WITHOUT FIRST OBTAINING THE REQUIRED PERMITS AND/OR APPROVALS. THIS INCLUDES THE INTRUSION OF SUCH MATERIAL INTO THE CITY STREET AND DRAINAGE SYSTEMS. CLEAN ANY DEBRIS LEFT IN THE STREET AT RESULT OF OPERATIONS IMMEDIATELY.
9. BARRICADE AND POST WARNING SIGNS AND LIGHTS ADJACENT TO OPEN DEPRESSIONS AND HOLES OCCURRING AS PART OF THE WORK.
10. MAINTAIN ACCESS TO ADJACENT PROPERTIES AT ALL TIMES.
11. USE MEANS NECESSARY TO PREVENT DUST FROM BECOMING A NUISANCE TO THE PUBLIC, NEIGHBORS, AND OTHER WORK BEING PERFORMED ON OR NEAR THE SITE.
12. GRADE AREAS ADJACENT TO BUILDINGS TO ACHIEVE DRAINAGE AWAY FROM BUILDINGS. SLOPE 5% OR GREATER, AS MAY BE SHOWN, FOR THE FIRST 10'-0" TOWARDS APPROVED DRAINAGE FACILITIES.
13. FINISH FLOOR TO BE A MINIMUM 4" ABOVE ADJACENT FINISH GRADE.
14. DO NOT SCALE DRAWINGS.
15. VERIFY ALL ROUGH-IN DIMENSIONS FOR ALL BUILT-IN EQUIPMENT PRIOR TO PERFORMING WORK. NO CHANGE ORDERS WILL BE APPROVED FOR CONTRACTOR FAILURE TO DO SO.
16. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING, FITTING OR PATCHING THAT MAY BE REQUIRED TO COMPLETE THE WORK.
17. REPETITIVE FEATURES IN THE CONSTRUCTION DOCUMENTS ARE OFTEN DRAWN ONLY ONCE AND SHALL BE COMPLETELY PROVIDED AS IF DRAWN IN FULL.

PROJECT CODE INFORMATION

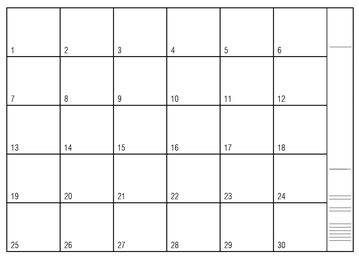
SITE SIZE: 244,196 S.F. (5.61 ACRES)
BUILDING ADDITION AREA:24,923 S.F. S1 STOR+ 3,180 S.F. H2 STOR+ 1,643 S.F. OFFICE = 29,116 S.F.
EXISTG BLDG AREAS: 5,428 S.F. S1+ 1,056 S.F. H3+ 1,911 S.F. H2+ 3,305 S.F. OFFICE = 11,700 S.F.
TOTAL PROPOSED BUILDING AREA: 40,299 S.F.
BUILDING CODE: IBC-2015, IEBC-2015, ICC/ANSI-117.1 - 2009
ADDITION OCCUPANCY CLASSIFICATION: GROUP S1, H2 AND B
CONSTRUCTION TYPE: IIB NON COMBUSTIBLE NOT RATED
SPRINKLERED: NFPA 13 AND FOAM SYSTEM FOR HAZARDOUS OCCUPANCY
IBC-TABLE 506.2 ALLOWABLE AREAS:
B - 92,000 S.F. S1 - 70,000 S.F. H2 - 7,000 S.F. H3 - 14,000 S.F. ALLOWABLE
B - 3,791 S.F. S1 - 30,351 S.F. H2 - 6,485 S.F. H3 - 1,911 S.F. ACTUAL
OCCUPANT LOAD:
B - 3,791 SF, * 1 OCC/100 SF= 38 OCC +STORAGE 36,508 SF*10CC/500SF = 73 OCC = 111 OCCUPANTS
EGRESS TRAVEL:
H2 HAZARDOUS OCCUPANCY =100 FT S1 OCCUPANCY = 250 FT B OCCUPANCY =300 FT
SANITARY FACILITY REQUIREMENTS:
BUSINESS 1 T + 1 LAV PER SEX WAREHOUSE 1T PLUS 1 LAV PER 100 OCCUPANTS
SANITARY FACILITY PROVIDED:
OFFICE 3 TOILETS + 3 LAVS WAREHOUSE 1TOILET + 1 LAV , 1 DRINKING FOUNTAIN, 1 SER SINK

SECONDARY CONTAINMENT CAPACITIES:

S-1 WAREHOUSE ADDITION	11,061.0 CUBIC FEET	82,736.3 GALLONS
S-1 WAREHOUSE EXISTING	2,182.4 CUBIC FEET	16,324.0 GALLONS
H-2 WAREHOUSE ADDITION	1,591.7 CUBIC FEET	11,905.9 GALLONS
H-2 WAREHOUSE EXISTING	846.0 CUBIC FEET	6,328.1 GALLONS
H-3 DISPENSING EXISTING	482.5 CUBIC FEET	3,609.1 GALLONS
TOTALS	16,163.6 CUBIC FEET	120,903.7 GALLONS

EXISTING BUILDING PHOTOS

DRAWING ORGANIZATION

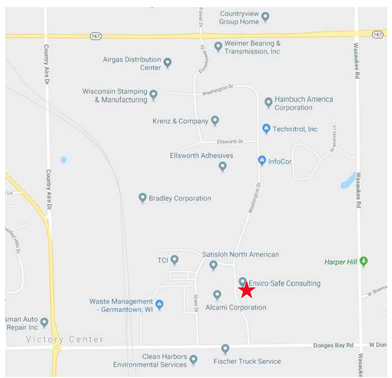


ALL ARCHITECTURAL DRAWINGS ARE ORGANIZED IN CONJUNCTION WITH THE ADJACENT GRID LAYOUT. DRAWINGS ARE NUMBERED IN SEQUENTIAL ORDER LEFT TO RIGHT, TOP TO BOTTOM BEGINNING WITH THE UPPER LEFT DRAWING.

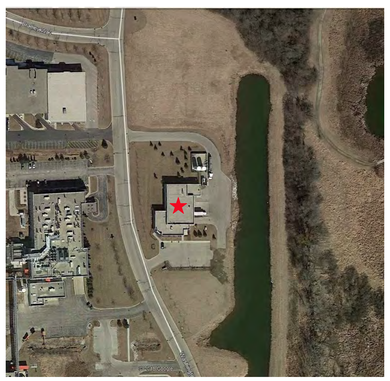
MATERIALS

- EARTH
- SAND, PLASTER, GROUT
- GRAVEL
- CONCRETE
- PRECAST CONCRETE
- BRICK
- CONCRETE BLOCK
- TERRAZZO
- METAL STUD PARTITIONS
- RIGID INSULATION
- BATT INSULATION
- STEEL
- GYPSUM WALLBOARD
- WOOD, FINISHED
- WOOD, BLOCKING
- WOOD SHIM
- PLYWOOD
- ACOUSTICAL TILE
- WOOD STUD PARTITIONS
- CEMENTITIOUS SHEATHING

VICINITY MAP



EXISTING SITE AERIAL



STRUCTURAL ENGINEERING

REYN ENGINEERING INC.
131 W. SEEBOTH, SUITE 220
MILWAUKEE WI 53204
(414)254-8526
www.reynengineering.com

CIVIL ENGINEERING & LANDSCAPE DESIGN

HARWOOD ENGINEERING CONSULTANTS LTD
255 NORTH 21TH STREET
MILWAUKEE WI 53233
(414) 475-5554
www.hecl.com

CONTRACTOR

SKYLINE DEVELOPMENT CORPORATION
3750 N 10BTH STREET
MILWAUKEE WI 53208
(414) 771-2750
www.skylinedc.com

OWNER

JDV REAL ESTATE HOLDINGS, LLC
W130 N10500 WASHINGTON DRIVE
GERMANTOWN, WI 53022
(262) 790-2500

Sheet Set Index

Sheet #	Sheet Title
A0.00	COVER SHEET
A0.01	TITLE INDEX PROJECT AND CODE INFORMATION
C1.10	CIVIL GENERAL NOTES
C1.11	CIVIL SITE PLAN NORTH
C1.12	CIVIL SITE PLAN SOUTH
C1.20	CIVIL GRADING PLAN - NORTH
C1.21	CIVIL GRADING PLAN - SOUTH
C1.30	EROSION CONTROL PLAN
C1.40	CIVIL DEMOLITION PLAN
C1.50	EXISTING SURVEY-NORTH
C1.51	EXISTING SURVEY-SOUTH
C5.00	CIVIL DETAILS
L1.00	LANDSCAPE PLAN
L5.00	LANDSCAPE DETAILS NOTES & SCHEDULES
SP1.00	ARCHITECTURAL SITE PLAN
A1.00	FLOOR PLAN NORTH DOCK OPTION
A1.10	EXISTING-DEMO PLAN, SCHEDULES & DETAILS
A3.00	ROOF PLAN
A4.00	ELEVATIONS
A6.00	SECTIONS
A6.10	SECTIONS & DETAILS
S0.01	STRUCTURAL NOTES
S0.02	STRUCTURAL SCHEDULES
S1.00	FOUNDATION PLAN
S1.10	ROOF FRAMING PLAN
S4.00	STRUCTURAL DETAILS
S4.10	STRUCTURAL DETAILS

STATE OF WISCONSIN
GREGG M PROSSEN
E-28075
MILWAUKEE WI
PROFESSIONAL ENGINEER

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735 N Water Street Suite 1228 | Milwaukee | WI 53202 | Gregg Prossen, Principal
TELEPHONE 414.406.7825
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Project:
ENVIRO-SAFE ADDITION

Enviro-Safe RESOURCE RECOVERY

W130N10500 WASHINGTON DR

Location:
GERMANTOWN, WI 53022

SKYLINE DEVELOPMENT CORPORATION

Sheet:
TITLE INDEX PROJECT AND CODE INFORMATION

Date:	Issue Set:

Date:
2020-02-04 CDS

Project No.:
0019-42

Sheet No.:
A0.01

LEGEND:

UTILITY

EXISTING:

- WATERMAIN
- BURIED ELECTRIC
- OVERHEAD WIRE
- GAS LINE
- SANITARY SEWER
- STORM SEWER
- UTILITY POLE
- LIGHT POLE
- SANITARY MANHOLE
- FIRE HYDRANT
- WATER VALVE
- STORM SEWER STRUCTURE

PROPOSED:

- WATERMAIN
- ELECTRICAL LINE
- GAS LINE
- SANITARY SEWER
- STORM SEWER
- WATER VALVE
- STORM SEWER STRUCTURE
- FLARED END SECTION

GRADING

EXISTING:

- MAJOR CONTOUR
- MINOR CONTOUR
- EXISTING SPOT ELEVATION (EXIST 100.00)

PROPOSED:

- MAJOR CONTOUR (160)
- MINOR CONTOUR (160)
- SPOT ELEVATION (FINISHED GRADE, TOP OF PAVEMENT, FLANGE OF CURB) (100.00)
- DOOR ELEVATION (DOOR 100.00)
- GROUND GRADE AT BUILDING (GR 100.00)
- SPOT ELEVATION (T/C - TOP OF CURB, E/P - EDGE OF PAVEMENT) (100.50T/C 100.00E/P)
- RETAINING WALL SPOT ELEVATION (T/W - TOP OF WALL, B/W - GROUND GRADE AT BOTTOM) (100.50T/W 100.00B/W)
- FLARED END SECTION (PIPE SIZE, INVERT ELEVATION) (12" FES 100.00B/W)
- DRAINAGE FLOW DIRECTION
- EMERGENCY OVERFLOW ROUTE

SITE

EXISTING:

- EXISTING PARKING COUNT
- EXISTING SIGN
- EXISTING ADA PARKING SPACE

PROPOSED:

- PARKING COUNT
- ADA PARKING SPACE
- SIGN
- TRUNCATED DOMES
- PAVEMENT MARKING DIRECTIONAL ARROWS

DIGGER'S HOTLINE — CALL BEFORE YOU DIG — 1-800-242-8511

IN ACCORDANCE WITH WISCONSIN STATUTE 182.0175, DAMAGE TO TRANSMISSION FACILITIES, EXCAVATOR SHALL BE SOLELY RESPONSIBLE TO PROVIDE ADVANCE NOTICE, TO THE DESIGNATED "ONE CALL SYSTEM" NOT LESS THAN THREE WORKING DAYS PRIOR TO COMMENCEMENT OF ANY EXCAVATION REQUIRED TO PERFORM WORK CONTAINED ON THESE DRAWINGS, AND FURTHER, EXCAVATOR SHALL COMPLY WITH ALL OTHER REQUIREMENTS OF THIS STATUTE RELATIVE TO EXCAVATOR'S WORK.

GENERAL NOTES AND SPECIFICATIONS:

1. THE EXISTING SITE INFORMATION ON THIS PLAN WAS TAKEN FROM A SITE SURVEY PROVIDED BY CAPITOL SURVEY ENTERPRISES. THE ENGINEER MAKES NO WARRANTY OR REPRESENTATION WITH REFERENCE TO THE ACCURACY AND COMPLETENESS OF THE EXISTING CONDITIONS INDICATED OR NOT INDICATED ON THE ENGINEERING PLANS PROVIDED. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING SITE CONDITIONS INCLUDING UNDERGROUND UTILITIES, UNDERGROUND UTILITY ELEVATIONS, BUILDING SETBACKS AND EXISTING BUILDING LOCATIONS. THE CONTRACTOR SHALL INFORM THE OWNER AND ENGINEER OF ANY DISCREPANCIES PRIOR TO COMMENCING WITH WORK. QUESTIONS REGARDING THE EXISTING SURVEY SHALL BE DIRECTED TO THE PARTIES LISTED ABOVE.
2. BEFORE PROCEEDING WITH ANY UTILITY CONSTRUCTION, CONTRACTOR SHALL EXCAVATE EACH EXISTING LATERAL TO BE CONNECTED TO (VERIFYING ELEVATION, LOCATION AND SIZE). SHOULD THE EXISTING UTILITY NOT BE AS INDICATED ON THE PLAN, THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR EVALUATION.
3. WHEN PROPOSED UTILITIES CROSSING EXISTING UTILITIES, CONTRACTOR SHALL VERIFY THE EXACT LOCATION AND ELEVATION OF ALL EXISTING UTILITIES PRIOR TO STARTING CONSTRUCTION. IF A CONFLICT IS FOUND NOTIFY THE ENGINEER AND PROVIDE ENGINEER THE EXACT LOCATION AND ELEVATION (TOP AND BOTTOM) OF THE EXISTING UTILITIES.
4. ALL UTILITY CONSTRUCTION SHALL ADHERE TO THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN (2003), AS WELL AS, THE MUNICIPAL CONSTRUCTION STANDARDS AND THE DEPT. OF SAFETY AND PROFESSIONAL SERVICES SEC. 382-387.
5. ALL PERMITS MUST BE RECEIVED FROM THE MUNICIPALITY AND WDNR (IF REQUIRED) PRIOR TO THE START OF CONSTRUCTION. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE ALL APPLICABLE PERMITS ARE RECEIVED PRIOR TO STARTING CONSTRUCTION.
6. NOTIFY THE PUBLIC WORKS INSPECTION DEPT. AT LEAST 48 HOURS BEFORE STARTING CONSTRUCTION WITHIN THE ROW.
7. BACKFILL REQUIREMENTS AND ROADWAY/SIDEWALK RESTORATION SHALL ADHERE TO LOCAL STANDARDS (GRANULAR BACKFILL UNDER OR WITHIN 5' OF CURBS, SIDEWALK, OR PAVEMENT. SPOIL MAY BE USED ELSEWHERE. SLURRY BACKFILL WILL BE REQUIRED IN PUBLIC ROADWAYS.)
8. ALL BUILDING UTILITIES SHALL BE VERIFIED WITH THE ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION.
9. ALL PROPOSED WATERMAIN SHALL BE PVC SDR 18, CLASS 150, AWWA C900 WITH ELASTOMERIC JOINTS.
10. PROPOSED STORM SEWER SHALL BE PVC, ASTM D-3034, SDR 35 WITH RUBBER ELASTOMERIC JOINTS CONFORMING TO ASTM D-3212 (UNLESS OTHERWISE NOTED).
11. A MEANS TO LOCATE BURIED UNDERGROUND EXTERIOR NONMETALLIC UTILITIES MUST BE PROVIDED. PROVIDE TRACER WIRE OR OTHER METHODS IN ORDER TO BE LOCATED IN ACCORD WITH THE PROVISIONS SECTIONS 182.0715(2R) OF THE STATE STATUTES.
12. UTILITY TRENCHES SHALL BE MECHANICALLY COMPACTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN.
13. ALL MANHOLES, CATCH BASINS, INLETS, VALVES BOXES, ETC WITHIN THE PROJECT AREA SHALL BE RESET AND ADJUSTED TO MATCH FINISH GRADE.
14. ALL EXCAVATED OR STRIPPED MATERIALS NOT BEING REPLACED IN UTILITY TRENCHES OR BEING USED FOR FILL SHALL BE REMOVED FROM THE SITE, UNLESS OTHERWISE DIRECTED BY THE OWNER.
15. SEE ARCHITECTURAL PLANS FOR EXACT BUILDING & FOUNDATION DETAILS AND ORIENTATION.
16. ALL ON-SITE CONCRETE CURB AND GUTTER TO BE 18" WIDE VERTICAL FACE, UNLESS OTHERWISE NOTED. REVERSE OR REGULAR STYLE CURB DENOTED ON PLANS.
17. ALL CURB ELEVATIONS ARE EDGE OF PAVEMENT UNLESS OTHERWISE NOTED. SEE CURB DETAIL FOR TOP OF CURB ELEVATIONS.
18. ALL CURB RADII ARE MEASURED TO THE FACE OF CURB UNLESS OTHERWISE NOTED.
19. CONTRACTOR SHALL MATCH PROPOSED CONCRETE CURB AND GUTTER, SIDEWALK AND PAVEMENT TO EXISTING IN ELEVATION AND ALIGNMENT.
20. REMOVAL OF CURB AND GUTTER, SIDEWALK AND PAVEMENT SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE WISCONSIN D.O.T.
21. ALL CONCRETE FOR CURB AND GUTTER, ROADWAY AND SIDEWALKS MUST CONFORM TO THE STANDARD SPECIFICATIONS FOR READY MIXED CONCRETE. MINIMUM 28 DAY COMPRESSIVE STRENGTH TEST MUST EQUAL 4000 PSI.
22. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL PROPERTY CORNERS.
23. CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING UTILITIES OR SITE IMPROVEMENTS. CONTRACTOR SHALL DOCUMENT ALL EXISTING DAMAGE PRIOR TO START OF CONSTRUCTION AND NOTIFY CONSTRUCTION MANAGER OF ANY FINDINGS.
24. PROJECT SAFETY ON-SITE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
25. CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING SOIL CONDITIONS, CONSTRUCTION MANAGER MAY HAVE SOILS REPORT FOR MORE INFO.
26. CONTRACTOR IS RESPONSIBLE FOR PROVIDING THE OWNER WITH A SET OF AS-BUILT PLANS SHOWING ANY CHANGES DURING CONSTRUCTION.

CIVIL SHEET INDEX:

C1.10	PROJECT LOCATION AND GENERAL NOTES
C1.11	SITE PLAN - NORTH
C1.12	SITE PLAN - SOUTH
C1.20	GRADING PLAN - NORTH
C1.21	GRADING PLAN - SOUTH
C1.30	EROSION CONTROL PLAN
C1.40	DEMOLITION PLAN
C1.50	EXISTING SURVEY - NORTH
C1.51	EXISTING SURVEY - SOUTH
C5.00	CONSTRUCTION DETAILS AND SPECIFICATIONS

SITE CALCULATION TABLE

TOTAL SITE AREA	5.605 AC
TOTAL DISTURBED AREA	3.624 AC
EXISTING IMPERVIOUS AREA	1.059 AC
PROPOSED IMPERVIOUS AREA	2.431 AC
PROPOSED GREENSPACE	3.174 AC

CONSORTIUM ae
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Project:
ENVIRO-SAFE ADDITION

Enviro-Safe RESOURCE RECOVERY

W130N10500 WASHINGTON DR

Location:
GERMANTOWN, WI 53022

SKYLINE DEVELOPMENT CORPORATION

Sheet:
PROJECT LOCATION AND GENERAL NOTES

SCALE: 1" = 100'

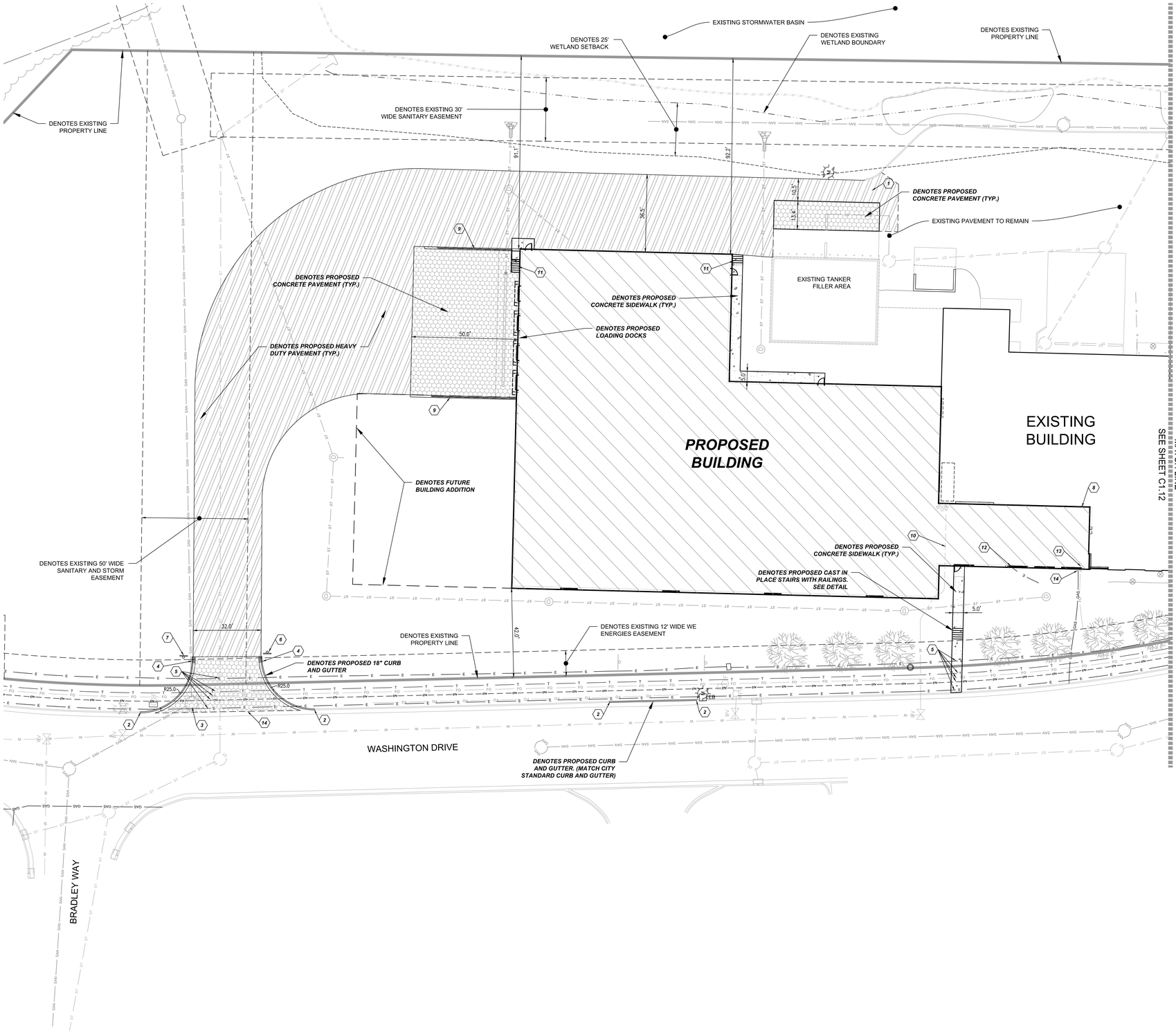
North

Date:	Issue Set:

Date:
2020-02-04 CDs

Project No.:
0019-42

Sheet No.:
C1.10



NOTES

1. SAWCUT EXISTING PAVEMENT (FULL DEPTH) AND CREATE BUTT JOINT WHERE PROPOSED MEETS EXISTING.
2. MATCH INTO EXISTING CURB AND GUTTER.
3. ADJUST EXISTING STRUCTURE TO MATCH PROPOSED GRADE.
4. DENOTES PROPOSED 3' CURB TAPER.
5. CAUTION! UTILITIES. VERIFY EXACT LOCATION PRIOR TO STARTING CONSTRUCTION.
6. DENOTES PROPOSED "ONE WAY. DO NOT ENTER" SIGN.
7. DENOTES PROPOSED STOP SIGN.
8. DENOTES EXISTING GAS METER LOCATION. GAS METER AND SERVICE TO BE RE-LOCATED. (SEE MECHANICAL PLANS). CONTRACTOR TO COORDINATE SERVICE ROUTE TO METER WITH UTILITY COMPANY.
9. DENOTES PROPOSED RETAINING WALLS. (SEE ARCHITECTURAL PLANS).
10. EXISTING WATERMAIN AND FIRE DEPARTMENT CONNECTION TO BE RE-LOCATED. SEE PLUMBING PLANS.
11. DENOTES PROPOSED STAIRS. SEE ARCHITECTURAL PLANS.
12. EXISTING ELECTRIC TO BE RELOCATED. CONTRACTOR TO COORDINATE SERVICE ROUTE WITH UTILITY COMPANY.
13. EXISTING FIBER OPTIC TO BE RELOCATED. CONTRACTOR TO COORDINATE SERVICE ROUTE WITH UTILITY COMPANY.
14. SAWCUT EXISTING CURB HEAD OR REMOVE CURB AND INSTALL VILLAGE STANDARD DEPRESSED CURB..

HATCH LEGEND

- PROPOSED CONCRETE SIDEWALK
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- PROPOSED CONCRETE PAVEMENT
- PROPOSED TAPER CURB

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IN ACCORDANCE WITH WISCONSIN STATUTE 182.0175, DAMAGE TO TRANSMISSION FACILITIES, EXCAVATOR SHALL BE SOLELY RESPONSIBLE TO PROVIDE ADVANCE NOTICE TO THE DESIGNATED "ONE CALL SYSTEM" NOT LESS THAN THREE WORKING DAYS PRIOR TO COMMENCEMENT OF ANY EXCAVATION REQUIRED TO PERFORM WORK CONTAINED ON THESE DRAWINGS, AND FURTHER, EXCAVATOR SHALL COMPLY WITH ALL OTHER REQUIREMENTS OF THIS STATUTE RELATIVE TO EXCAVATOR'S WORK.

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Project:
ENVIRO-SAFE ADDITION

Enviro-Safe RESOURCE RECOVERY

W130N10500 WASHINGTON DR

Location:
GERMANTOWN, WI 53022

SKYLINE DEVELOPMENT CORPORATION

Sheet:
SITE PLAN - NORTH

SCALE: 1" = 20'

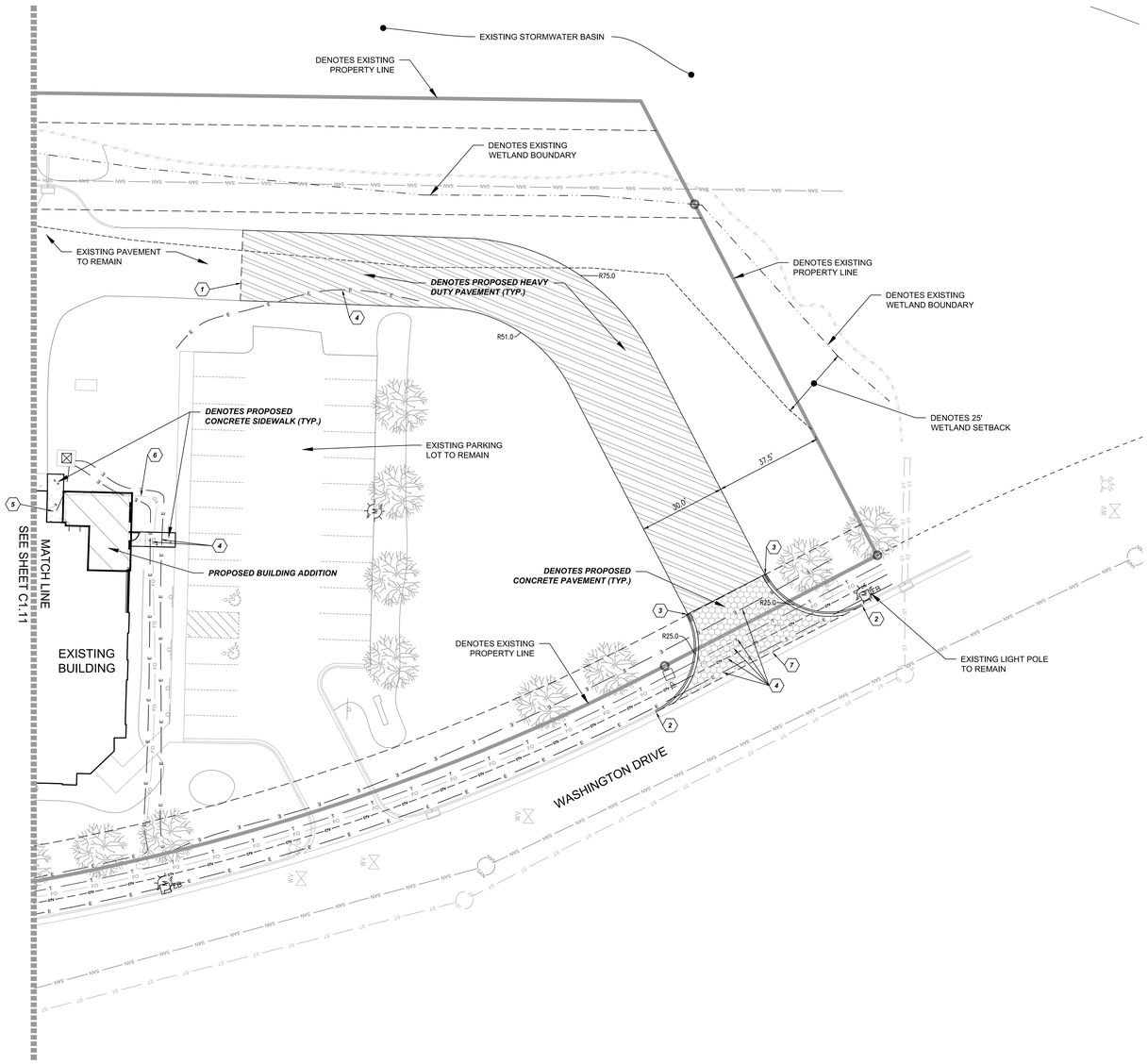
North

Date:	Issue Set:

Date:
2020-02-04 CDs

Project No.:
0019-42

Sheet No.:
C1.11



NOTES

1. SAWCUT EXISTING PAVEMENT (FULL DEPTH) AND CREATE BUTT JOINT WHERE PROPOSED MEETS EXISTING.
2. MATCH INTO EXISTING CURB AND GUTTER.
3. DENOTES PROPOSED 3' CURB TAPER.
4. CAUTION! UTILITIES. VERIFY EXACT LOCATION PRIOR TO STARTING CONSTRUCTION.
5. EXISTING ELECTRIC TO BE RELOCATED. CONTRACTOR TO COORDINATE RE-LOCATION WITH UTILITY COMPANY.
6. EXISTING FIBER OPTIC LINE TO BE RELOCATED. CONTRACTOR TO COORDINATE SERVICE ROUTE WITH UTILITY COMPANY.
7. SAWCUT EXISTING CURB HEAD OR REMOVE EXISTING CURB AND REPLACE WITH VILLAGE STANDARD DEPRESSED STYLE.

HATCH LEGEND

- PROPOSED CONCRETE SIDEWALK
- PROPOSED HEAVY DUTY ASPHALT PAVEMENT
- PROPOSED CONCRETE PAVEMENT
- PROPOSED TAPER CURB

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IN ACCORDANCE WITH WISCONSIN STATUTE 182.0175, DAMAGE TO TRANSMISSION FACILITIES, EXCAVATOR SHALL BE SOLELY RESPONSIBLE TO PROVIDE ADVANCE NOTICE TO THE DESIGNATED "ONE CALL SYSTEM" NOT LESS THAN THREE WORKING DAYS PRIOR TO COMMENCEMENT OF ANY EXCAVATION REQUIRED TO PERFORM WORK CONTAINED ON THESE DRAWINGS, AND FURTHER, EXCAVATOR SHALL COMPLY WITH ALL OTHER REQUIREMENTS OF THIS STATUTE RELATIVE TO EXCAVATOR'S WORK.

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Project:
ENVIRO-SAFE ADDITION

Enviro-Safe RESOURCE RECOVERY

W130N10500 WASHINGTON DR

Location:
GERMANTOWN, WI 53022

SKYLINE DEVELOPMENT CORPORATION

Sheet:
SITE PLAN - SOUTH

SCALE: 1" = 20'

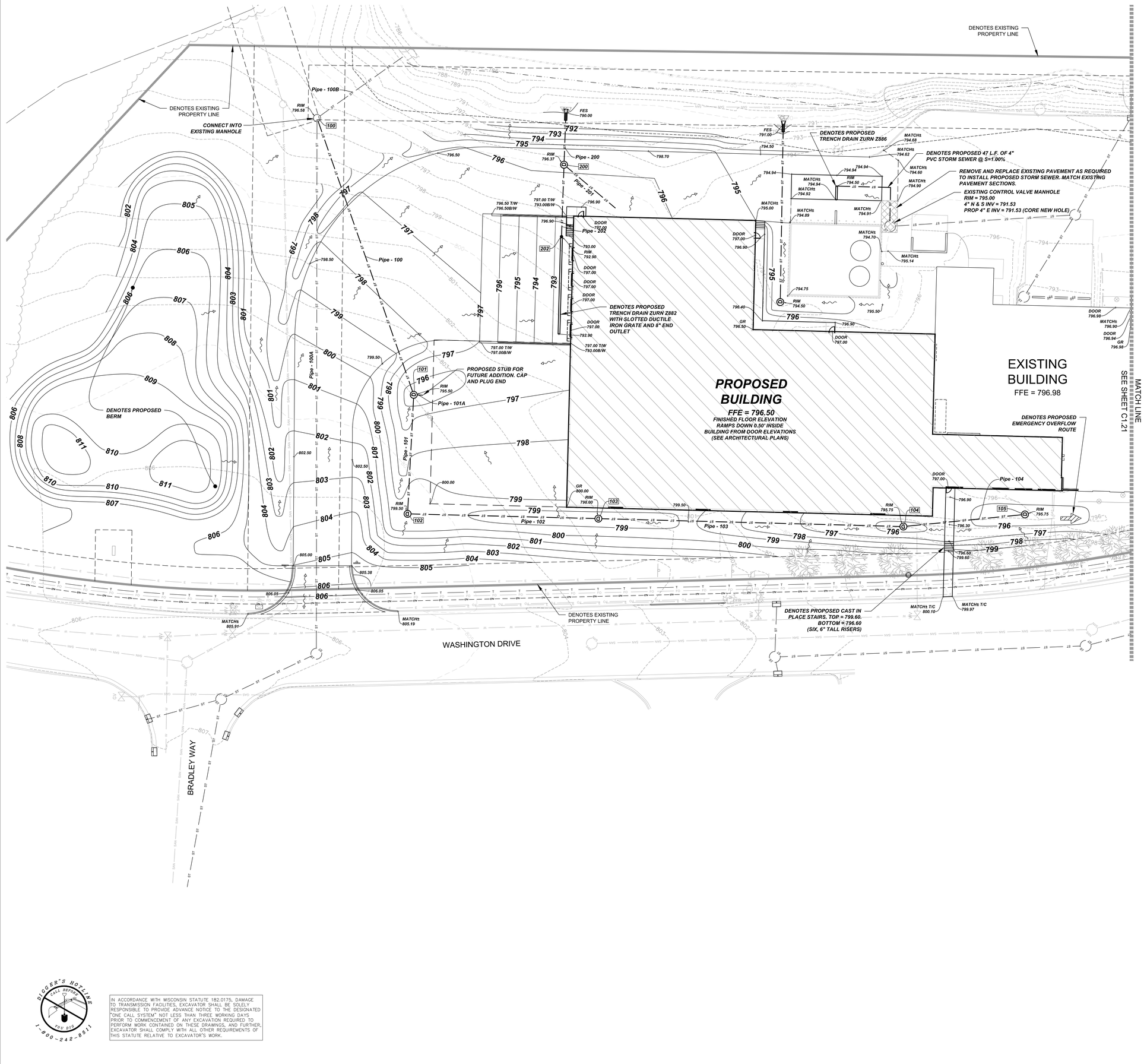
North

Date:	Issue Set:

Date:
2020-02-04 CDs

Project No.:
0019-42

Sheet No.:
C1.12



Storm Structure Table	
#	Structure Details
100	EXISTING MANHOLE RIM = 796.58 Pipe - 100 = 790,35 Pipe - 100A = 789,00 Pipe - 100B = 788,85
101	CATCH BASIN RIM = 795,50 Pipe - 101 = 791,16 Pipe - 100 = 791,15 Pipe - 101A = 791.16
102	CATCH BASIN RIM = 799,50 Pipe - 102 = 791,48 Pipe - 101 = 791,48
103	CATCH BASIN (3' DIA) RIM = 798,00 Pipe - 103 = 792,01 Pipe - 102 = 792,01
104	CATCH BASIN (3' DIA) RIM = 795,75 Pipe - 104 = 792,84 Pipe - 103 = 792,84
105	CATCH BASIN (3' DIA) RIM = 795,75 Pipe - 104 = 793,18
200	CATCH BASIN RIM = 796,37 Pipe - 202 = 790,14 Pipe - 201 = 790,14 Pipe - 200 = 790,14
202	ZURN Z882 TRENCH DRAIN RIM = 792,90 Pipe - 202 = 790.34
300	CATCH BASIN RIM = 794,50 Pipe - 300 = 791,97

Storm Pipe Table					
Pipe Name	Size	Material	Length	Slope	Description
Pipe - 100	12	PVC	161	0.50%	
Pipe - 100A	30	RCP	291	2,82%	EXISTING PIPE
Pipe - 100B	30	RCP	58	2,98%	EXISTING PIPE
Pipe - 101	12	PVC	65	0.50%	
Pipe - 101A	8	PVC	5	1,00%	STUB FOR FUTURE ADDITION
Pipe - 102	12	PVC	105	0.50%	
Pipe - 103	10	PVC	168	0.50%	
Pipe - 104	10	PVC	67	0.50%	
Pipe - 200	15	HDPE	28	0.50%	W/ RCP FES
Pipe - 201	12	PVC	37	1,00%	ROOF DRAIN CONDUCTOR
Pipe - 202	8	PVC	39	0.50%	
Pipe - 300	8	HDPE	97	1,00%	W/ RCP FES

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SKYLINE DEVELOPMENT CORPORATION

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GRADING PLAN - NORTH

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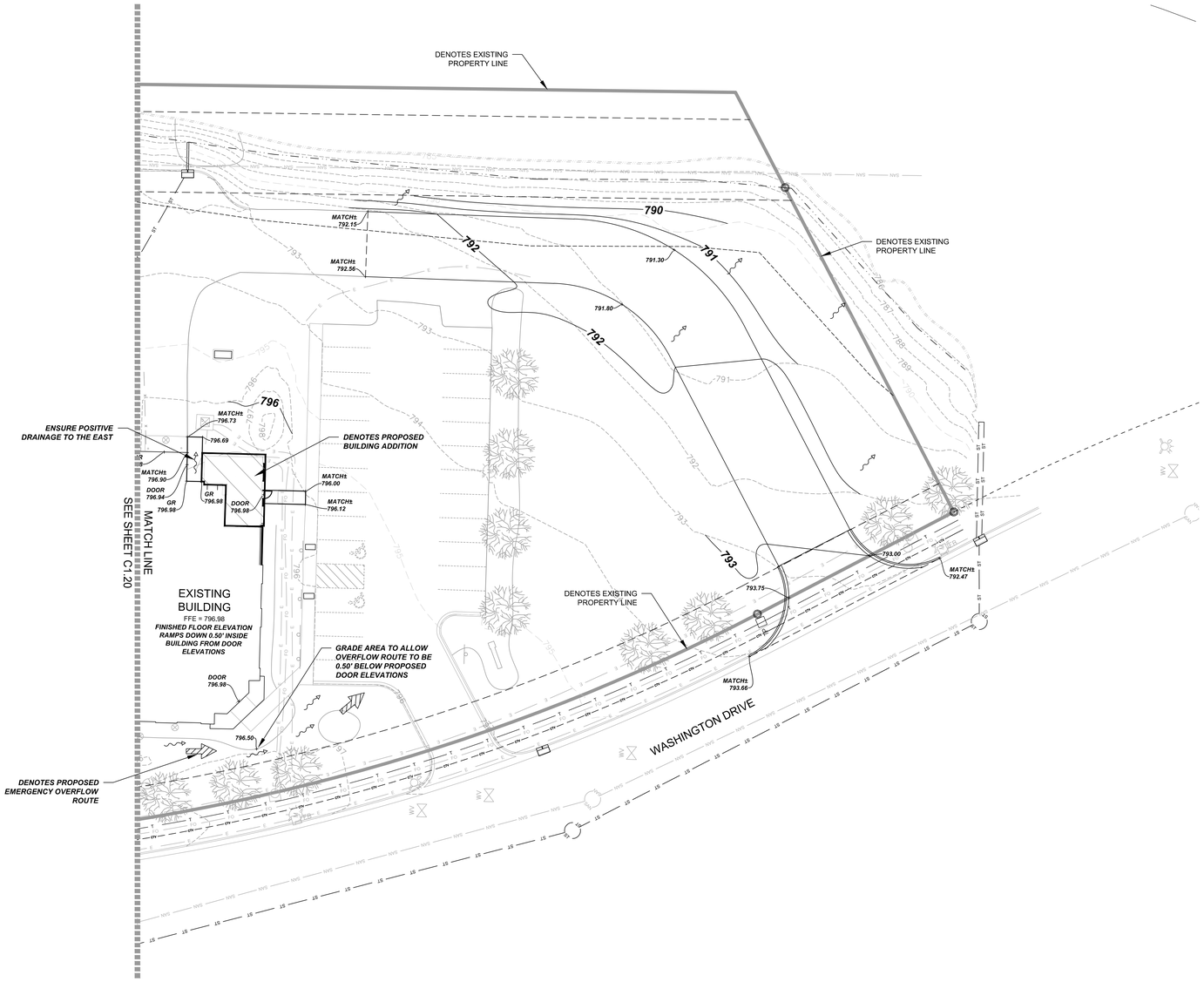

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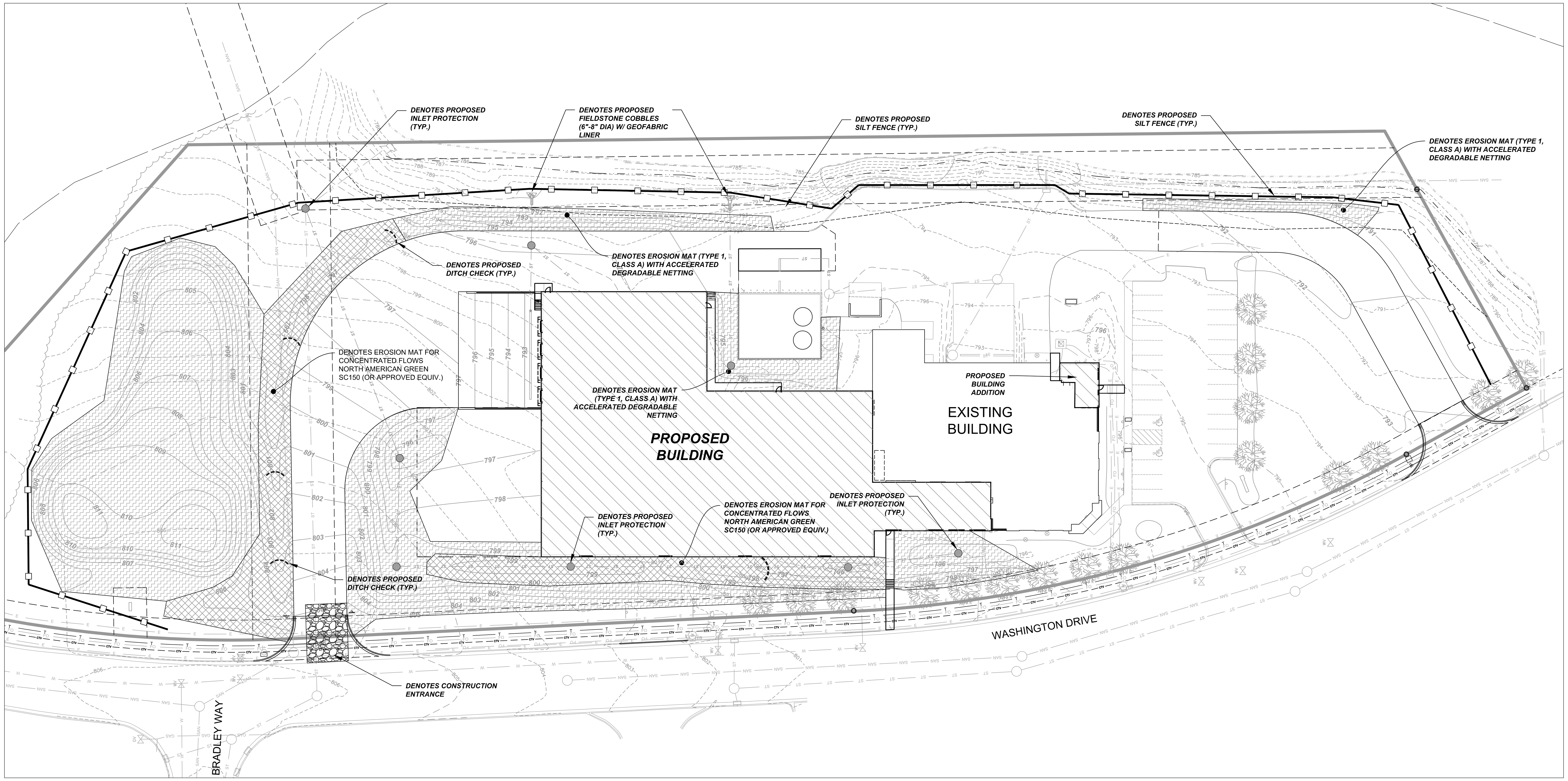


EROSION CONTROL NOTES AND PHASING

1. WDNR PERMIT COVERAGE IS REQUIRED. POST WDNR CERTIFICATE OF PERMIT COVERAGE ON SITE AND MAINTAIN UNTIL CONSTRUCTION ACTIVITIES HAVE CEASED, THE SITE IS STABILIZED, AND A NOTICE OF TERMINATION IS FILED WITH WDNR.
2. KEEP A COPY OF THE CURRENT EROSION CONTROL PLAN ON SITE THROUGHOUT THE DURATION OF THE PROJECT.
3. SUBMIT PLAN REVISIONS OR AMENDMENTS TO THE ENGINEER AT LEAST 5 DAYS PRIOR TO FIELD IMPLEMENTATION.
4. CONTRACTOR IS RESPONSIBLE FOR ROUTINE SITE INSPECTIONS AT LEAST ONCE EVERY 7 DAYS AND WITHIN 24 HOURS AFTER A RAINFALL EVENT OF 0.5 INCHES OR GREATER. KEEP INSPECTION REPORTS ON-SITE AND MAKE THEM AVAILABLE UPON REQUEST.
5. INSPECT AND MAINTAIN ALL INSTALLED EROSION CONTROL PRACTICES UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED.
6. WHEN POSSIBLE: PRESERVE EXISTING VEGETATION (ESPECIALLY ADJACENT TO SURFACE WATERS), MINIMIZE LAND-DISTURBING CONSTRUCTION ACTIVITY ON SLOPES OF 20% OR MORE, MINIMIZE SOIL COMPACTION, AND PRESERVE TOPSOIL.
7. REFER TO THE WDNR STORMWATER CONSTRUCTION TECHNICAL STANDARDS AT http://dnr.wi.gov/topic/stormwater/standards/const_standards.html.
8. INSTALL PERIMETER EROSION CONTROLS, (IF REQUIRED) CONSTRUCTION ENTRANCE(S) PRIOR TO ANY LAND-DISTURBING ACTIVITIES, INCLUDING CLEARING AND GRUBBING. USE WDNR TECHNICAL STANDARD STONE TRACKING PAD FOR ROCK CONSTRUCTION ENTRANCE(S) (IF REQUIRED).
9. INSTALL INLET PROTECTION PRIOR TO LAND-DISTURBING ACTIVITIES IN THE CONTRIBUTING DRAINAGE AREA AND/OR IMMEDIATELY UPON INLET INSTALLATION. COMPLY WITH WDNR TECHNICAL STANDARD STORM DRAIN INLET PROTECTION FOR CONSTRUCTION SITES #1060.
10. STAGE CONSTRUCTION GRADING ACTIVITIES TO MINIMIZE THE CUMULATIVE EXPOSED AREA. CONDUCT TEMPORARY GRADING FOR EROSION CONTROL PER WDNR TECHNICAL STANDARD TEMPORARY GRADING PRACTICES FOR EROSION CONTROL #1067.
11. PERMITTING OF GROUNDWATER DEWATERING IS THE RESPONSIBILITY OF THE CONTRACTOR. GROUNDWATER DEWATERING IS SUBJECT TO A DNR WASTEWATER DISCHARGE PERMIT AND A DNR HIGH CAPACITY WELL APPROVAL IF CUMULATIVE PUMP CAPACITY IS 70 GPM OR MORE.
12. PROVIDE ANTI-SCOUR PROTECTION AND MAINTAIN NON-EROSIVE FLOW DURING DEWATERING. PERFORM DEWATERING OF ACCUMULATED SURFACE RUNOFF IN ACCORDANCE WITH WDNR TECHNICAL STANDARD DE-WATERING #1061.
13. INSTALL AND MAINTAIN SILT FENCING PER WDNR TECHNICAL STANDARD SILT FENCE #1056. REMOVE SEDIMENT FROM BEHIND SILT FENCES AND SEDIMENT BARRIERS BEFORE SEDIMENT REACHES A DEPTH THAT IS EQUAL TO ONE-HALF OF THE FENCE AND/OR BARRIER HEIGHT.
14. REPAIR BREAKS AND GAPS IN SILT FENCES AND BARRIERS IMMEDIATELY. REPLACE DECOMPOSING STRAW BALES (TYPICAL BALE LIFE IS 3 MONTHS). LOCATE, INSTALL, AND MAINTAIN STRAW BALES PER WDNR TECHNICAL STANDARD DITCH CHECKS #1062.
15. INSTALL AND MAINTAIN FILTER SOCKS IN ACCORDANCE WITH WDNR TECHNICAL STANDARD INTERIM MANUFACTURED PERIMETER CONTROL AND SLOPE INTERRUPTION PRODUCTS # 1071.
16. IMMEDIATELY STABILIZE STOCKPILES AND SURROUND STOCKPILES AS NEEDED WITH SILT FENCE OR OTHER PERIMETER CONTROL IF STOCKPILES WILL REMAIN INACTIVE FOR 7 DAYS OR LONGER.
17. IMMEDIATELY STABILIZE ALL DISTURBED AREAS THAT WILL REMAIN INACTIVE FOR 14 DAYS OR LONGER.
   - BETWEEN SEPTEMBER 15 AND OCTOBER 15:
     STABILZE WITH MULCH, TACKIFIER, AND A PERENNIAL SEED MIXED WITH WINTER WHEAT, ANNUAL OATS, OR ANNUAL RYE, AS APPROPRIATE FOR REGION AND SOIL TYPE
   - OCTOBER 15 THROUGH COLD WEATHER: STABILIZE WITH A POLYMER AND DORMANT SEED MIX, AS APPROPRIATE FOR REGION AND SOIL TYPE.
18. STABILIZE AREAS OF FINAL GRADING WITHIN 7 DAYS OF REACHING FINAL GRADE.
19. SWEEP/CLEAN UP ALL SEDIMENT/TRASH THAT MOVES OFF-SITE DUE TO CONSTRUCTION ACTIVITY OR STORM EVENTS BEFORE THE END OF THE SAME WORKDAY OR AS DIRECTED BY THE WDNR/MUNCIPALITY. SEPARATE SWEPT MATERIALS (SOILS AND TRASH) AND DISPOSE OF APPROPRIATELY.
20. CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST PER WDNR TECHNICAL STANDARD DUST CONTROL ON CONSTRUCTION SITES # 1068.
21. PROPERLY DISPOSE OF ALL WASTE AND UNUSED BUILDING MATERIALS (INCLUDING GARBAGE, DEBRIS, CLEANING WASTES, OR OTHER CONSTRUCTION MATERIALS) AND DO NOT ALLOW THESE MATERIALS TO BE CARRIED BY RUNOFF INTO THE RECEIVING CHANNEL.
25. FOR NON-CHANNELIZED FLOW ON DISTURBED OR CONSTRUCTED SLOPES 4:1 OR GREATER (OR AS SHOWN ON THE PLAN), PROVIDE CLASS I TYPE TYPE A (WITH ACCELERATED DEGRADABLE NETTING) EROSION CONTROL MATTING. SELECT EROSION MATTING FROM WDOT'S PRODUCT ACCEPTABILITY LIST (PAL); INSTALL AND MAINTAIN PER WDNR TECHNICAL STANDARD NON-CHANNEL EROSION MAT #1052.
22. FOR CHANNELIZED FLOW ON DISTURBED OR CONSTRUCTED AREAS (OR AS SHOWN ON THE PLANS), PROVIDE NORTH AMERICAN GREEN SC150 (OR APPROVED EQUAL) EROSION CONTROL MATTING. INSTALL AND MAINTAIN PER WDNR TECHNICAL STANDARD CHANNEL EROSION MAT #1053.
23. MAKE PROVISIONS FOR WATERING DURING THE FIRST 8 WEEKS FOLLOWING SEEDING OR PLANTING OF DISTURBED AREAS WHENEVER MORE THAN 7 CONSECUTIVE DAYS OF DRY WEATHER OCCUR.
24. INSTALL ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES (SUCH AS TEMPORARY SEDIMENT BASINS, DITCH CHECKS, EROSION CONTROL MATTING, SILT FENCING, FILTER SOCKS, WATTLES, SWALES, ETC.), OR AS DIRECTED BY WDNR/MUNICIPALITY
25. NOTICE OF TERMINATION: WHEN THE SITE HAS BEEN FULLY STABILIZED AND ALL STORMWATER DISCHARGES FROM THE SITE AUTHORIZED UNDER THE NOI PERMIT HAVE BEEN ELIMINATED, A NOTICE OF TERMINATION SHALL BE FILED WITH THE DNR. CONTRACTOR SHALL SUBMIT A COMPLETED NOTICE OF TERMINATION APPLICATION IN ACCORDANCE WITH THE PERMIT REQUIREMENTS TO THE SITE OWNER FOR EXECUTION PRIOR TO FINAL PAYMENT.

GENERAL NOTES:

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

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

① CROSS BRACE WITH 2" x 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS AS DIRECTED BY THE ENGINEER.

② MINIMUM 14 GAGE WIRE REQUIRED, FOLD FABRIC 3" OVER THE WIRE AND STAPLE OR PLACE WIRE RINGS ON 12" C-C.

③ EXCAVATE A TRENCH A MINIMUM OF 4" WIDE AND 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC, FOLD MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL.

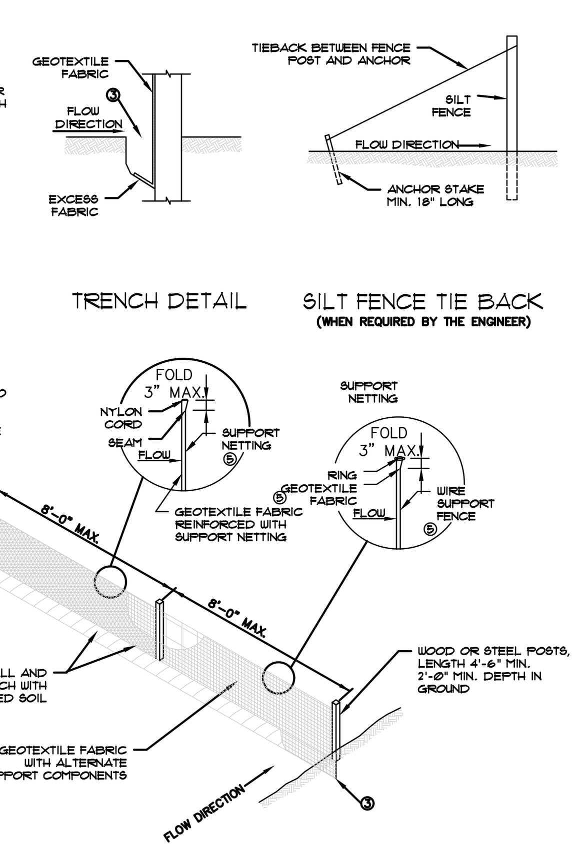
④ WIRE SUPPORT FENCE SHALL BE 14 GAGE MINIMUM WOVEN WIRE WITH A MAXIMUM MESH SPACING OF 6". SECURE TOP OF GEOTEXTILE FABRIC TO TOP OF FENCE WITH STAPLES OR WIRE RINGS AT 12" C-C.

⑤ GEOTEXTILE FABRIC SHALL BE REINFORCED WITH AN INDUSTRIAL POLY-PROPYLENE NETTING WITH A MAXIMUM MESH SPACING OF 3/4" OR EQUAL. A HEAVY DUTY NYLON TOP SUPPORT CORD OR EQUIVALENT IS REQUIRED.

⑥ STEEL POSTS SHALL BE STUDDED "TEE" OR "U TYPE" WITH A MINIMUM WEIGHT OF 1.28 lbs/lin. ft. (WITHOUT ANCHOR). FIN ANCHORS SUFFICIENT TO RESIST POST MOVEMENT ARE REQUIRED. WOOD POSTS SHALL BE A MINIMUM SIZE OF 4" DIA. OR 1-1/2" x 3-1/2" EXCEPT WOOD POSTS FOR GEOTEXTILE FABRIC REINFORCED WITH NETTING SHALL BE A MINIMUM SIZE OF 1-1/8" x 1-1/8" OAK OR HICKORY.

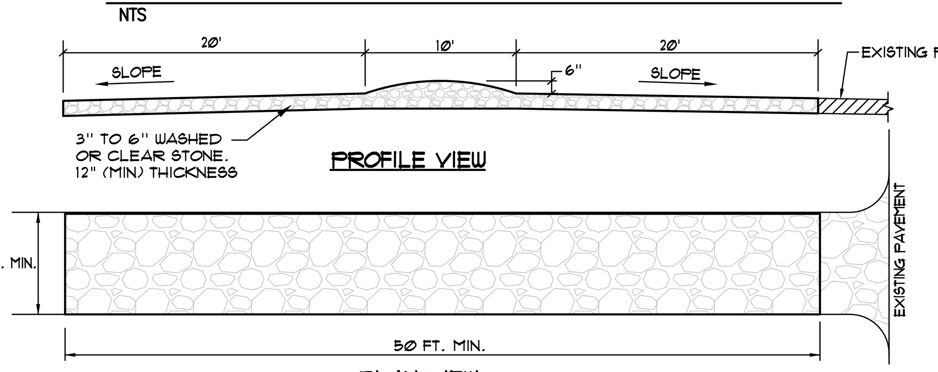
ALTERNATIVES A AND B ARE EQUAL AND EITHER MAY BE USED.

NOTE: ADDITIONAL POST DEPTH OR TIE BACKS MAY BE REQUIRED IN UNSTABLE SOILS



SILT FENCE DETAIL

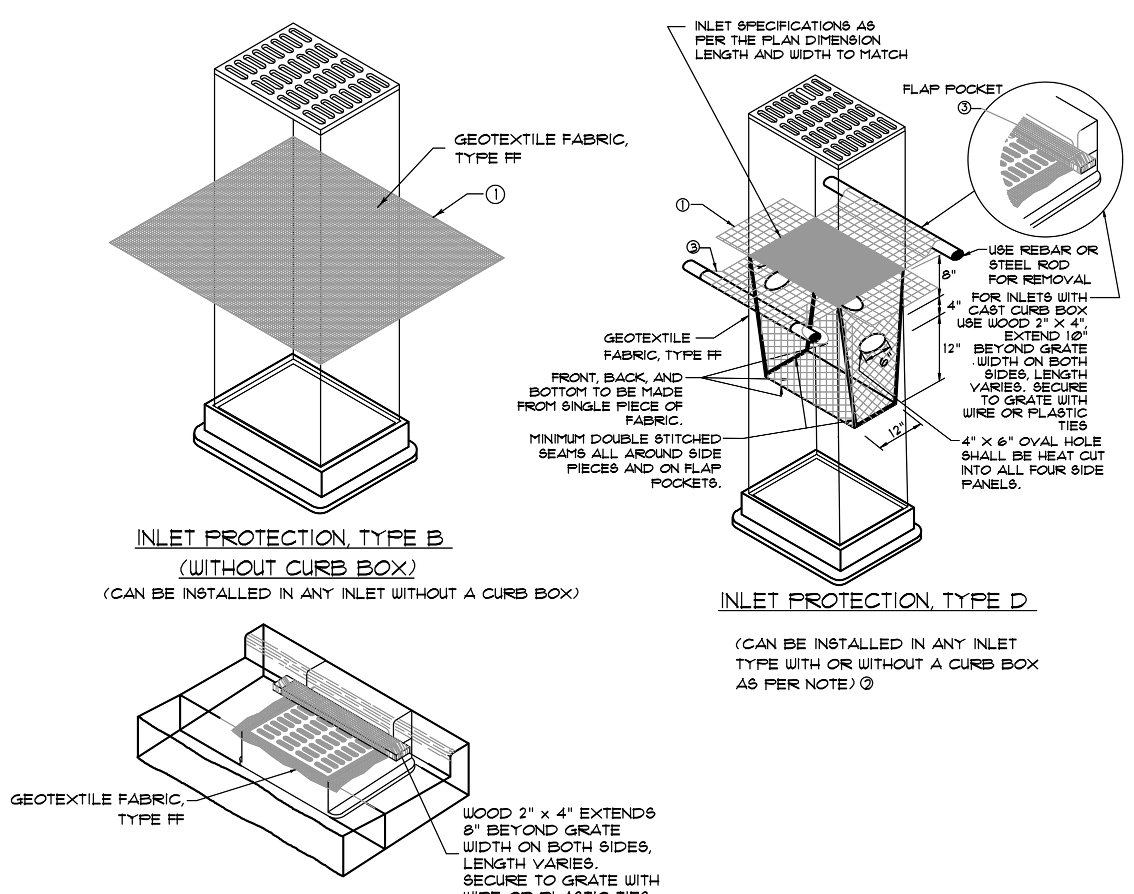
NTS



NOTE: STRIP TOPSOIL PRIOR TO PLACING STONE.

CONSTRUCTION ENTRANCE AND TRACKING PAD DETAIL

NTS



GENERAL NOTES:

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT's EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

FOR INLET PROTECTION, TYPE C WITH CURB BOX, AND 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.

FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.

INSTALLATION NOTES:

TYPES 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 DEWN 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 IF 4" FROM THE BOTTOM OF THE BAG.

INLET PROTECTION

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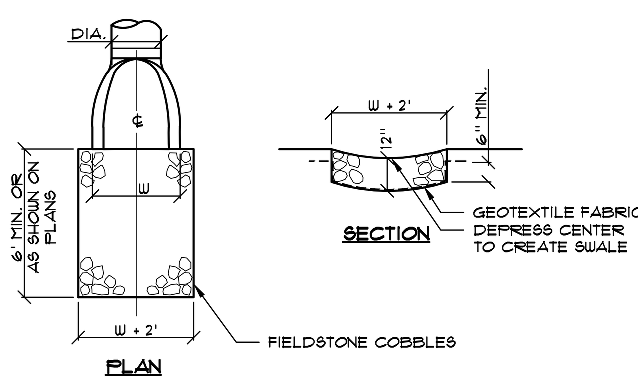
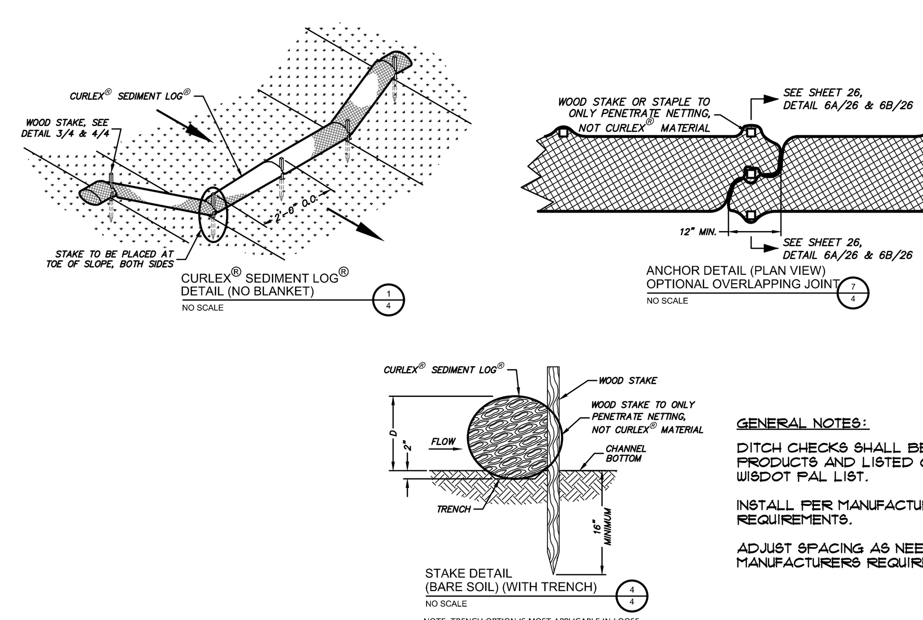


FIELDSTONE COBBLES AT PIPE ENDWALL 105

NTS 11/19/10



GENERAL NOTES:

DITCH CHECKS SHALL BE MANUFACTURED PRODUCTS AND LISTED ON THE CURRENT WISDOT PAL LIST.

INSTALL PER MANUFACTURERS REQUIREMENTS.

ADJUST SPACING AS NEEDED TO MEET MANUFACTURERS REQUIREMENTS.

DITCH CHECK

NTS

EROSION CONTROL LEGEND

SILT FILTER FENCE	
CONSTRUCTION ENTRANCE	
EROSION MAT	
DITCH CHECK	
INLET SEDIMENT GUARD	

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W130N10500 WASHINGTON DR

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SKYLINE DEVELOPMENT CORPORATION

Sheet:
EROSION CONTROL PLAN

North

SCALE: 1" = 30'

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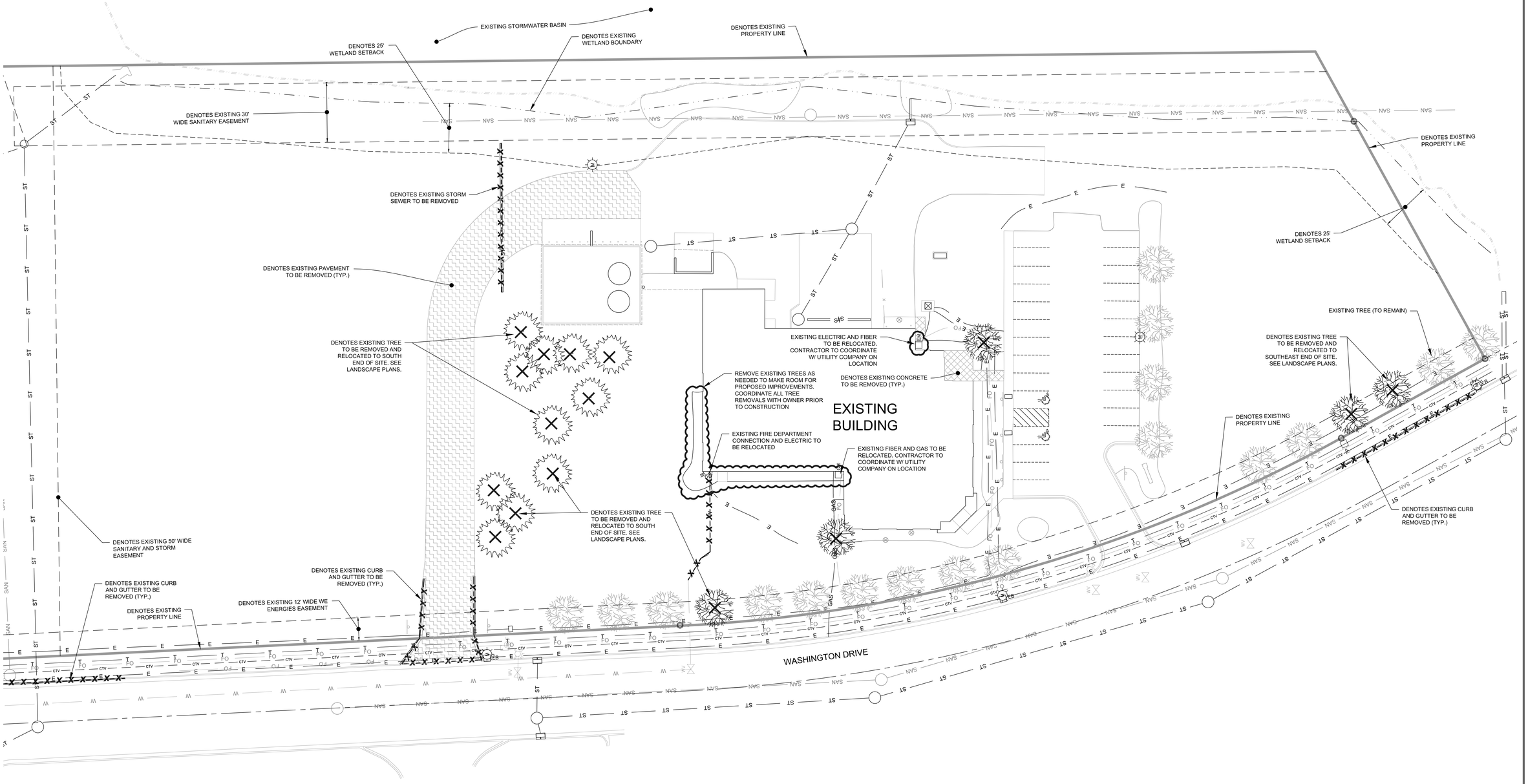

DEMOLITION LEGEND

- DENOTES ITEM TO BE REMOVED OR DEMOLISHED
- DENOTES PAVEMENT REMOVAL AREA
- DENOTES CONCRETE SIDEWALK REMOVAL AREA
- DENOTES ITEM TO BE ABANDONED OR REMOVED
- DENOTES TREE TO BE REMOVED OR RELOCATED (AS NOTED)

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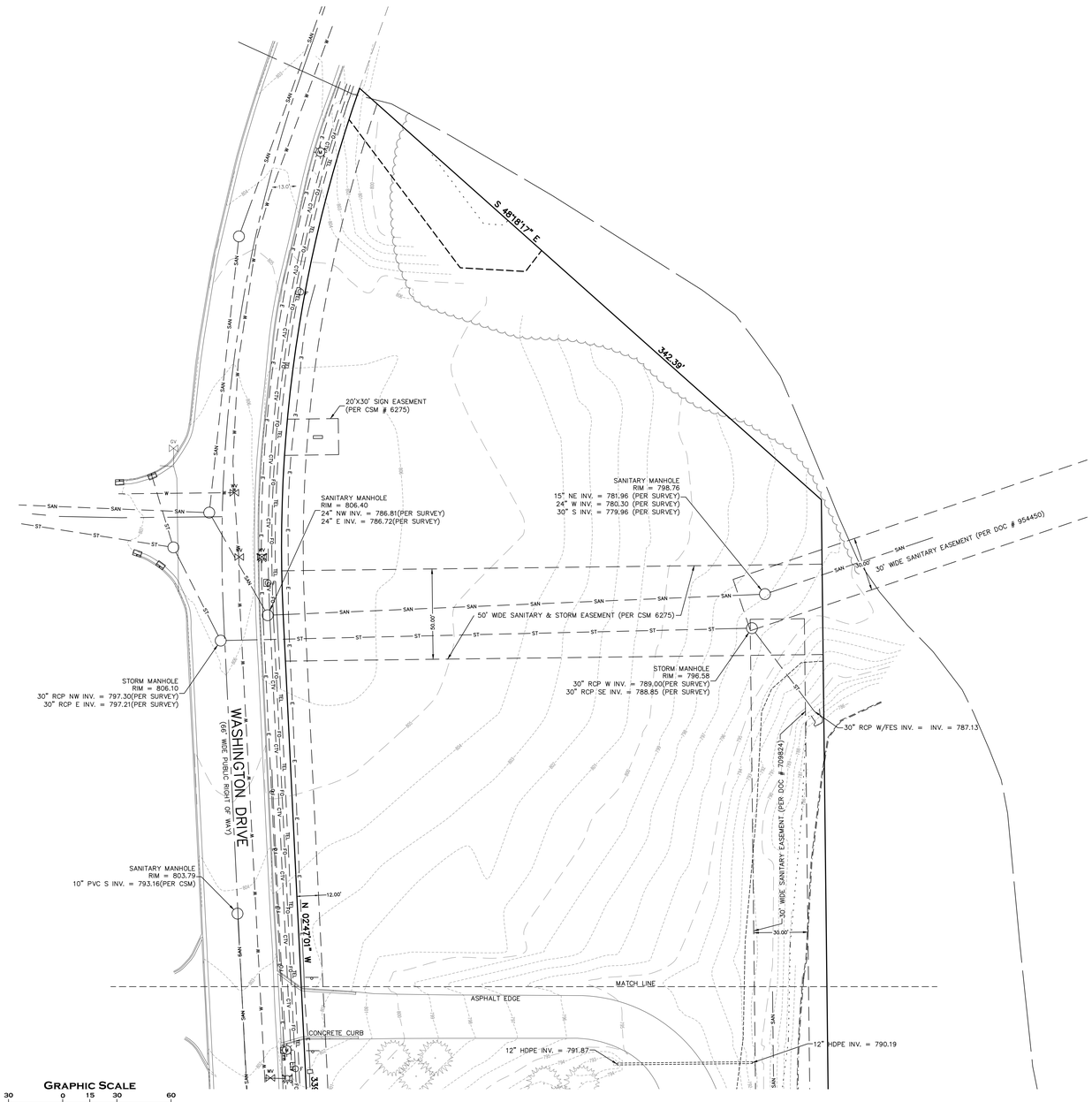
CSE
CAPITOL SURVEY ENTERPRISES
220 REGENCY CT. STE. 210
BROOKFIELD, WI 53045
Ph: (262) 786-6600
Fax: (414) 786-6608
WWW.CAPITOLSURVEY.COM



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DIAL 811 OR (800) 242-8511

LEGEND

SAN	SANITARY SEWER	ELECTRIC TRANSFORMER	HYDRANT
ST	STORM SEWER	ELECTRIC METER	WATER VALVE
W	WATER MAIN	ELECTRIC PEDESTAL	GAS VALVE
G	BURIED GAS LINE	ELECTRIC BOX AT GRADE	MANHOLE
TEL	BURIED TELEPHONE LINE	TELEPHONE BOX AT GRADE	STORM MANHOLE
E	BURIED ELECTRIC LINE	TELEPHONE PEDESTAL	CATCH BASIN
FO	BURIED FIBER OPTIC LINE	TV PEDESTAL	CURB INLET
OHP	OVERHEAD UTILITY LINES	GAS METER	METAL LIGHT POLE
CATV	BURIED CABLE TELEVISION LINES	AIR CONDITIONER	CONCRETE LIGHT POLE
COMB	COMBINATION SEWER	UTILITY POLE	WOOD LIGHT POLE
	WOOD FENCE	WOOD SIGN	MAIL BOX
	METAL FENCE	METAL SIGN	FIBER OPTIC MARKER
	EDGE OF TREES AND BRUSH	FLAG POLE	GUY WIRE
	CLEAN OUT	BOLLARD	
	FIRE DEPARTMENT CONNECTION	BOLLARD LIGHT	
		YARD LIGHT	
		SOIL BORING	

GRAPHIC SCALE
30 0 15 30 60
(IN FEET)
1 INCH = 30 FT.

EXISTING CONDITIONS SURVEY
FOR
ENVIRO-SAFE
W130 N10500 WASHINGTON DR.
GERMANTOWN, WI

DRAWN BY:	RAP	DATE:	12/09/2019
CHECKED BY:	MJB	DRAWING NO.	P-0
CSE JOB NO.:	19-087	SHEET	2 OF 2

NOTE: SURVEY COMPLETED BY CAPITOL SURVEY ENTERPRISES. THE ENGINEER MAKES NO WARRANTY OR REPRESENTATION WITH REFERENCE TO THE ACCURACY AND COMPLETENESS OF THE EXISTING CONDITIONS INDICATED OR NOT INDICATED ON THE ENGINEERING PLANS PROVIDED.

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the Consortium ae LLC
735 N Water Street Suite 1228 | Milwaukee | WI 53202 | Gregg Prossen, Principal
TELEPHONE 414.406.7825
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Harwood Engineering Consultants
255 North 21st Street | Milwaukee, WI 53233
P 414.671.2104 | www.hecivil.com

Project:
ENVIRO-SAFE ADDITION

Enviro-Safe RESOURCE RECOVERY

W130N10500 WASHINGTON DR

Location:
GERMANTOWN, WI 53022

SKYLINE DEVELOPMENT CORPORATION

Sheet:
EXISTING SURVEY - NORTH

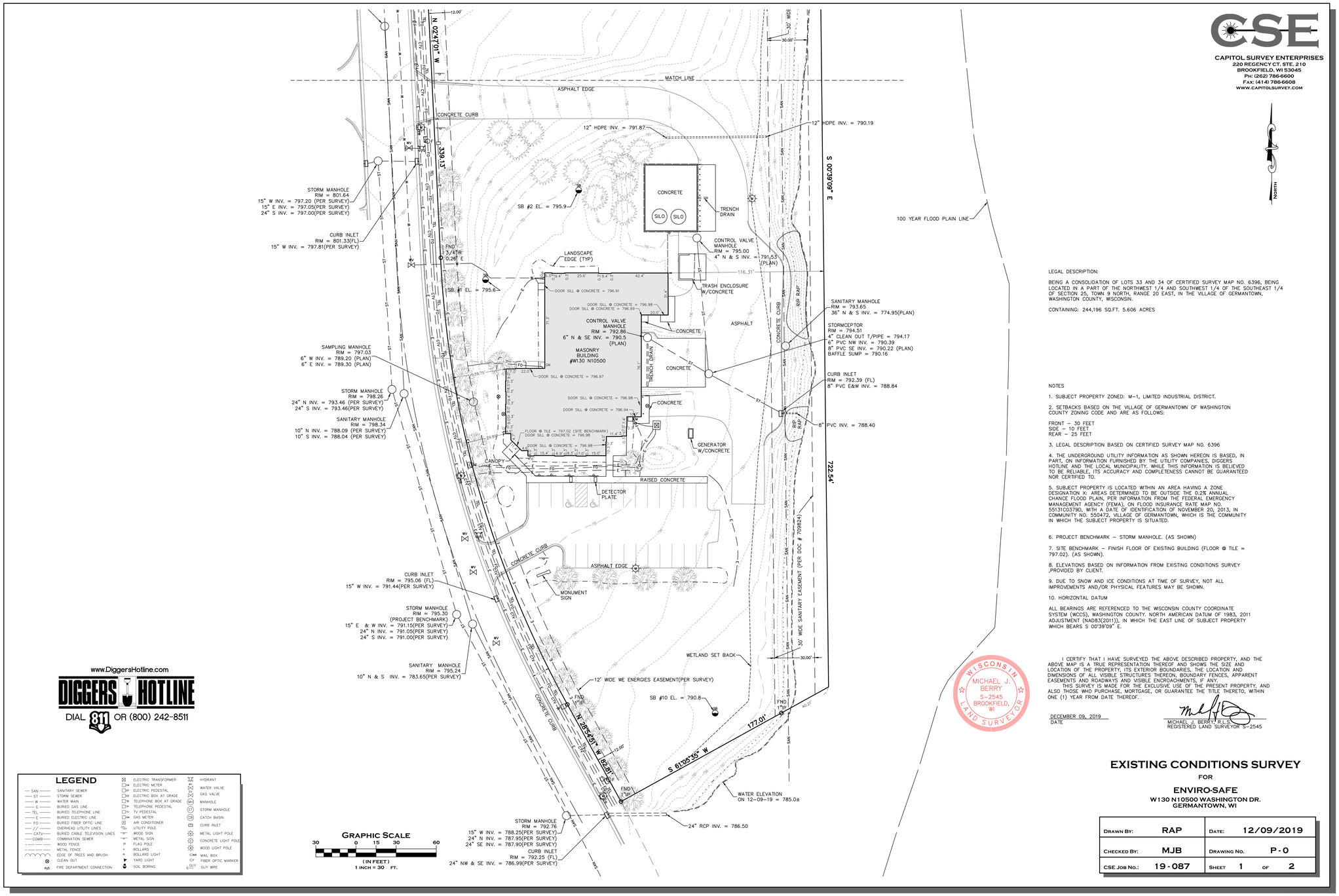
SCALE: 1" = 30'
North

Date:	Issue Set:

Date:
2020-02-04 CDs

Project No.:
0019-42

Sheet No.:
C1.50



CSE
CAPITOL SURVEY ENTERPRISES
220 REGENCY CT, STE. 210
BROOKFIELD, WI 53045
PH: (262) 786-6600
FAX: (414) 786-6608
WWW.CAPITOLSURVEY.COM

LEGAL DESCRIPTION:

BEING A CONSOLIDATION OF LOTS 33 AND 34 OF CERTIFIED SURVEY MAP NO. 6396, BEING LOCATED IN A PART OF THE NORTHWEST 1/4 AND SOUTHWEST 1/4 OF THE SOUTHEAST 1/4 OF SECTION 25, TOWN 9 NORTH, RANGE 20 EAST, IN THE VILLAGE OF GERMANTOWN, WASHINGTON COUNTY, WISCONSIN.

CONTAINING: 244,196 SQ.FT. 5.606 ACRES

NOTES

1. SUBJECT PROPERTY ZONED: M-1, LIMITED INDUSTRIAL DISTRICT.

2. SETBACKS BASED ON THE VILLAGE OF GERMANTOWN OF WASHINGTON COUNTY ZONING CODE AND ARE AS FOLLOWS:

FRONT – 30 FEET
SIDE – 10 FEET
REAR – 25 FEET

3. LEGAL DESCRIPTION BASED ON CERTIFIED SURVEY MAP NO. 6396

4. THE UNDERGROUND UTILITY INFORMATION AS SHOWN HEREON IS BASED, IN PART, ON INFORMATION FURNISHED BY THE UTILITY COMPANIES, DIGGERS HOTLINE AND THE LOCAL MUNICIPALITY. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, ITS ACCURACY AND COMPLETENESS CANNOT BE GUARANTEED NOR CERTIFIED TO.

5. SUBJECT PROPERTY IS LOCATED WITHIN AN AREA HAVING A ZONE DESIGNATION X: AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN, PER INFORMATION FROM THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA), ON FLOOD INSURANCE RATE MAP NO. 55131C0379D, WITH A DATE OF IDENTIFICATION OF NOVEMBER 20, 2013, IN COMMUNITY NO. 550472, VILLAGE OF GERMANTOWN, WHICH IS THE COMMUNITY IN WHICH THE SUBJECT PROPERTY IS SITUATED.

6. PROJECT BENCHMARK – STORM MANHOLE. (AS SHOWN)

7. SITE BENCHMARK – FINISH FLOOR OF EXISTING BUILDING (FLOOR @ TILE = 797.02). (AS SHOWN).

8. ELEVATIONS BASED ON INFORMATION FROM EXISTING CONDITIONS SURVEY ,PROVIDED BY CLIENT.

9. DUE TO SNOW AND ICE CONDITIONS AT TIME OF SURVEY, NOT ALL IMPROVEMENTS AND/OR PHYSICAL FEATURES MAY BE SHOWN.

10. HORIZONTAL DATUM

ALL BEARINGS ARE REFERENCED TO THE WISCONSIN COUNTY COORDINATE SYSTEM (WCCS), WASHINGTON COUNTY, NORTH AMERICAN DATUM OF 1983, 2011 ADJUSTMENT (NAD83(2011)), IN WHICH THE EAST LINE OF SUBJECT PROPERTY WHICH BEARS S 00°39'09" E.

I CERTIFY THAT I HAVE SURVEYED THE ABOVE DESCRIBED PROPERTY, AND THE ABOVE MAP IS A TRUE REPRESENTATION THEREOF AND SHOWS THE SIZE AND LOCATION OF THE PROPERTY, ITS EXTERIOR BOUNDARIES, THE LOCATION AND DIMENSIONS OF ALL VISIBLE STRUCTURES THEREON, BOUNDARY FENCES, APPARENT EASEMENTS AND ROADWAYS AND VISIBLE ENCROACHMENTS, IF ANY.
THIS SURVEY IS MADE FOR THE EXCLUSIVE USE OF THE PRESENT PROPERTY, AND ALSO THOSE WHO PURCHASE, MORTGAGE, OR GUARANTEE THE TITLE THERETO, WITHIN ONE (1) YEAR FROM DATE THEREOF.

WISCONSIN MICHAEL J. BERRY S-2545 BROOKFIELD, WI LAND SURVEYOR

DECEMBER 09, 2019
DATE

MICHAEL J. BERRY R.L.S.
REGISTERED LAND SURVEYOR S-2545

www.DiggersHotline.com
DIGGERS HOTLINE
DIAL 811 OR (800) 242-8511

LEGEND

SAN	SANITARY SEWER	ELECTRIC TRANSFORMER	HYDRANT
ST	STORM SEWER	ELECTRIC METER	WATER VALVE
W	WATER MAIN	ELECTRIC PEDESTAL	GAS VALVE
G	BURIED GAS LINE	ELECTRIC BOX AT GRADE	MANHOLE
TEL	BURIED TELEPHONE LINE	TELEPHONE BOX AT GRADE	STORM MANHOLE
E	BURIED ELECTRIC LINE	TELEPHONE PEDESTAL	CATCH BASIN
FO	BURIED FIBER OPTIC LINE	TV PEDESTAL	CURB INLET
//	OVERHEAD UTILITY LINES	GAS METER	METAL LIGHT POLE
CATV	BURIED CABLE TELEVISION LINES	AIR CONDITIONER	CONCRETE LIGHT POLE
COMB	COMBINATION SEWER	UTILITY POLE	WOOD LIGHT POLE
	WOOD FENCE	WOOD SIGN	MAIL BOX
	METAL FENCE	METAL SIGN	FIBER OPTIC MARKER
	EDGE OF TREES AND BRUSH	FLAG POLE	GUY WIRE
	CLEAN OUT	BOLLARD	
	FIRE DEPARTMENT CONNECTION	BOLLARD LIGHT	
		YARD LIGHT	
		SOIL BORING	

GRAPHIC SCALE
30 0 15 30 60
(IN FEET)
1 INCH = 30 FT.

EXISTING CONDITIONS SURVEY
FOR
ENVIRO-SAFE
W130 N10500 WASHINGTON DR.
GERMANTOWN, WI

DRAWN BY:	RAP	DATE:	12/09/2019
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ENVIRO-SAFE ADDITION

Enviro-Safe RESOURCE RECOVERY

W130N10500 WASHINGTON DR

Location:
GERMANTOWN, WI 53022

SKYLINE DEVELOPMENT CORPORATION

Sheet:
EXISTING SURVEY - SOUTH

SCALE: 1" = 30'

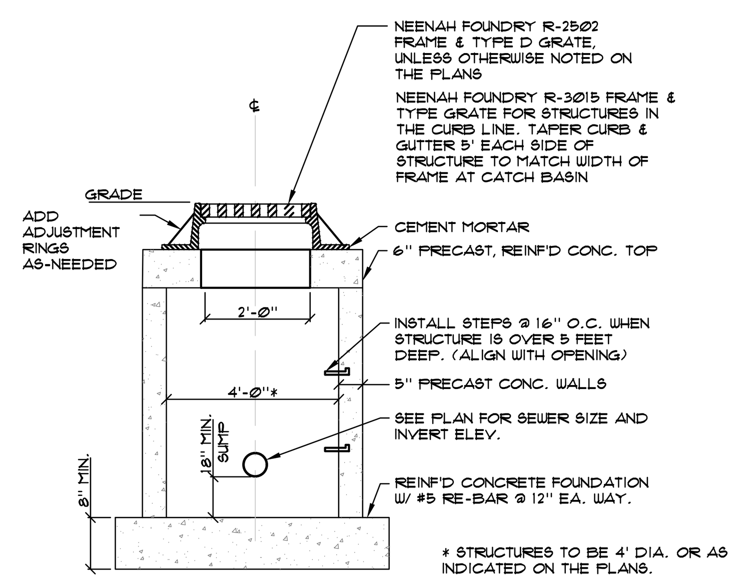
North

Date:	Issue Set:

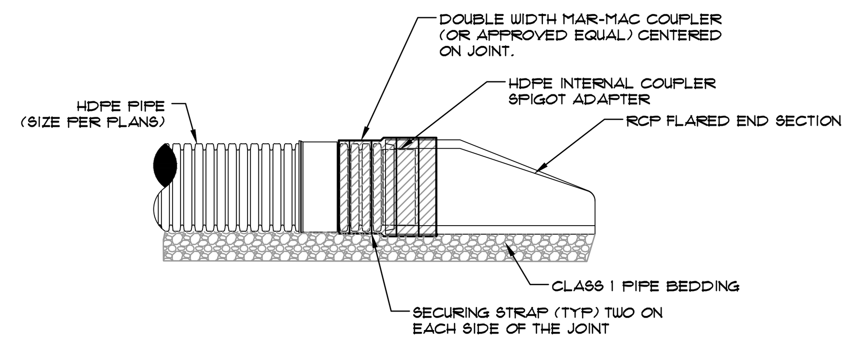
Date:
2020-02-04 CDs

Project No.:
0019-42

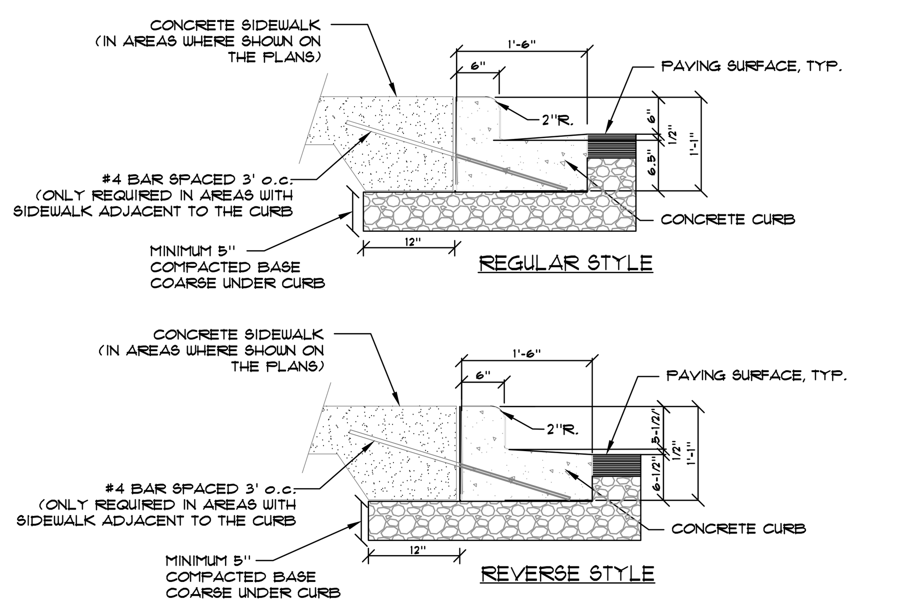
Sheet No.:
C1.51



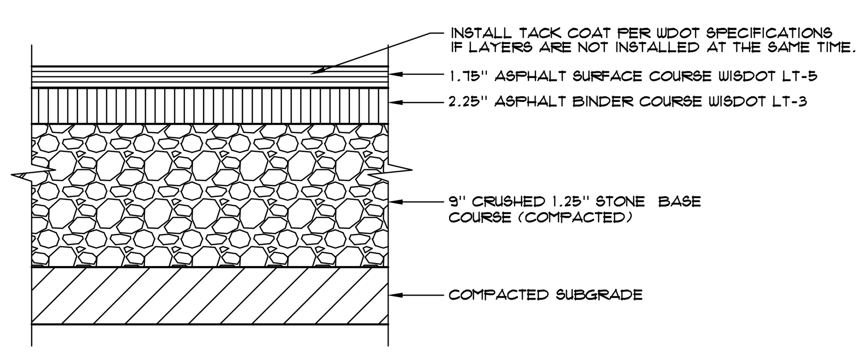
01 CATCH BASIN DETAIL
NTS



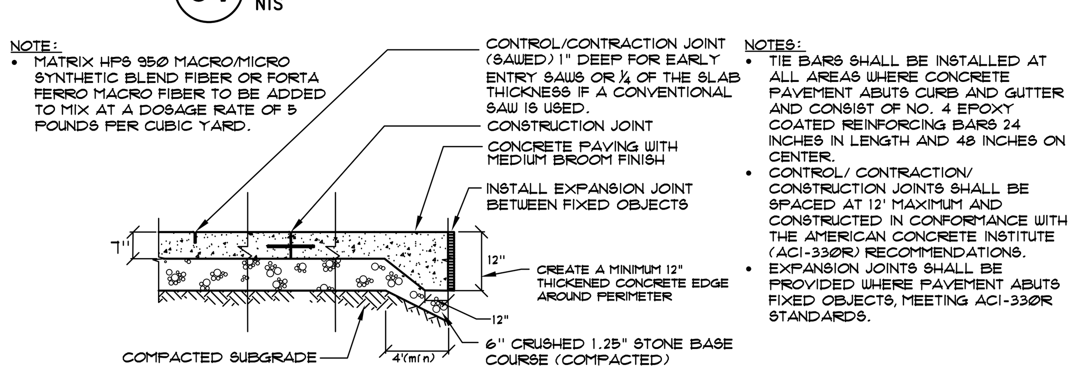
02 RCP FLARED END SECTION DETAIL
NTS



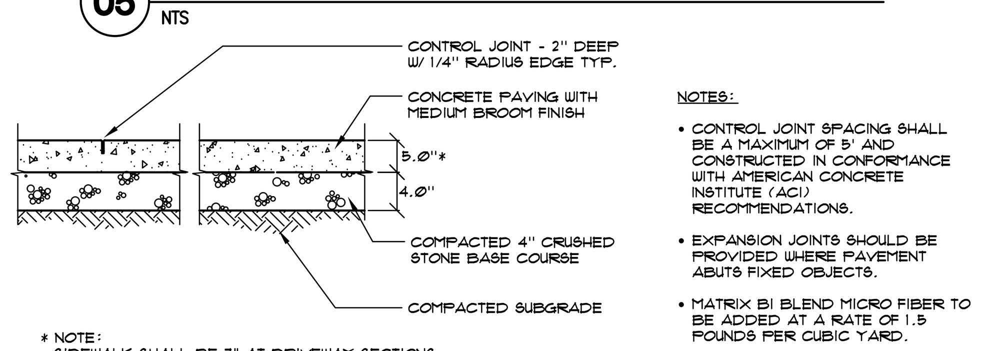
03 VERTICAL FACE CURB - 18" WIDE
NTS



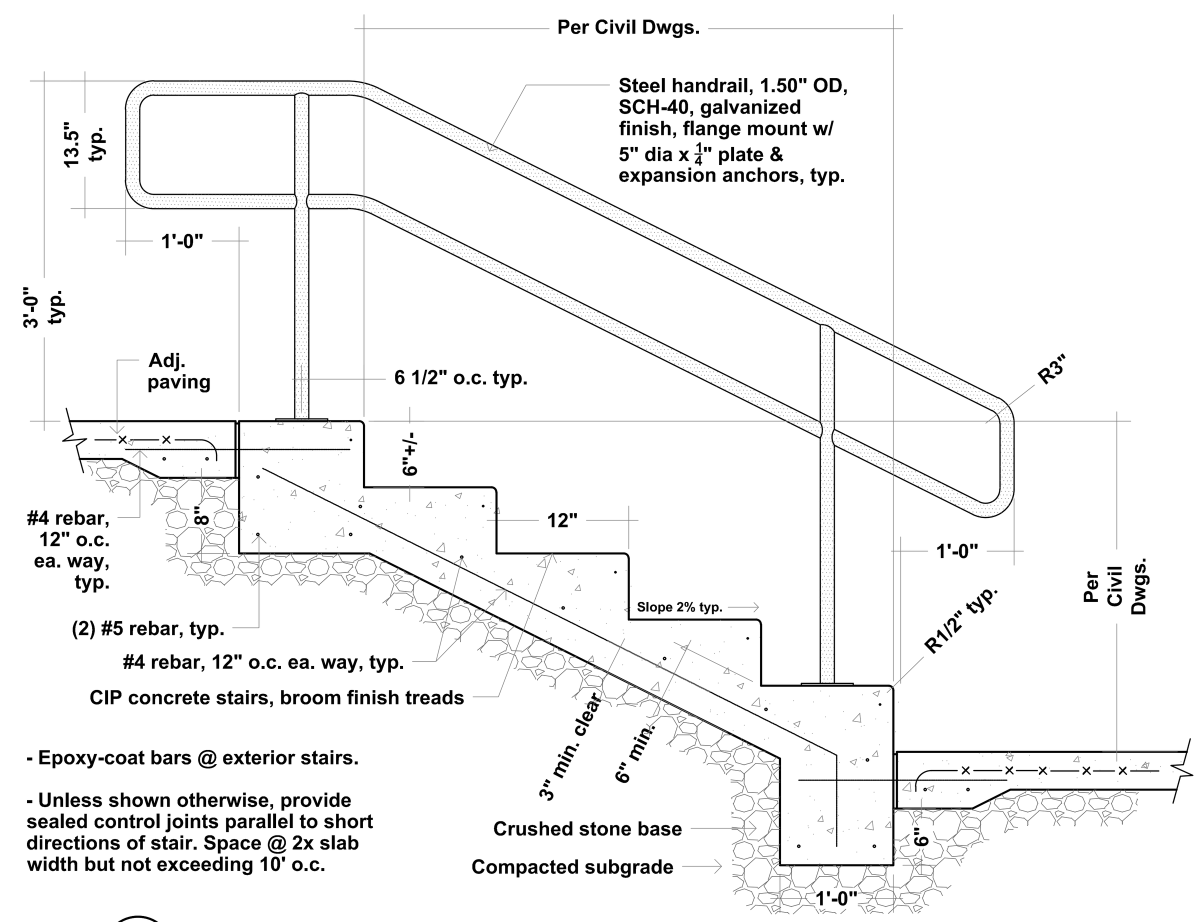
04 BITUMINOUS ASPHALT SECTION - HEAVY DUTY PAVEMENT
NTS



05 CONCRETE PAVEMENT SECTION
NTS



06 CONCRETE SIDEWALK SECTION
NTS



- Epoxy-coat bars @ exterior stairs.

- Unless shown otherwise, provide sealed control joints parallel to short directions of stair. Space @ 2x slab width but not exceeding 10' o.c.

07 CAST IN PLACE STAIRS
NTS

STORM DRAINAGE UTILITIES

1. Contractor shall be solely responsible for obtaining all permits necessary to complete the work. Contractor shall pay all fees associated with obtaining permits.
2. Conform all materials to the size and type shown on the plans or as called for in the specifications and to applicable Laws, Codes, and Ordinances.
3. Submittals
   A. Provide manufacturer's product information (cut sheets), shop drawings, and O&M information as indicated in Civil General Requirements for storm sewer materials including:
      - Pipe
      - Fittings
      - Structures
      - Outfalls
      - Castings
   B. Provide reports documenting any required testing
4. Provide the size, type and class/schedule of pipe as indicated on the drawings.
5. Use only pipe supplied from the same manufacturer, and of the same type, unless otherwise specified or approved in advance by the Engineer.
6. When applicable, only pipe, joints, material and installation approved by Wisconsin Department of Natural Resources and/or the Wisconsin Department of Safety and Professional Services (SPS) for the intended use in the State of Wisconsin shall be used.
7. Unless other noted all pipe shall conform to ASTM D-3034 with solvent weld or elastomeric joints. Pipe shall be SDR-35, unless otherwise noted. Pipe over 15 inches in diameter shall meet the requirements of ASTM F679-03.
8. Round Catch Basins shall conform to the following requirements:
   - Round catch basins shall be 48" (MIN) inside diameter precast concrete unless otherwise shown or required. (See plans for specific sizes.)
   - Submit manufacturer's preproduction (shop) drawings for approval prior to the start of manufacturing.
   - Contractor shall carefully locate all pipe locations, sizes, orientation and elevation prior to ordering catch basin.
   - Round catch basins shall meet the requirements of ASTM C478.
8. Where indicated on the plans, existing sewer to be left in place shall be abandoned in accordance with Section 3.2.24 of the Standard Specifications for Sewer & Water Construction (with the exception of paragraph B). Sewer shall not be abandoned until existing services have been reconnected to the replacement sewer. Abandoning sewers is considered incidental to the construction.

   In paved areas or current/future building pad areas, existing storm sewer facilities are required to be abandoned as follows:
   - Remove existing pipes or fill them with sand or grout and seal ends with a minimum 2-foot thick grout plug.
   - Remove existing inlets, catch basins, and manholes to at least 4 feet below finished grade. Provide a minimum 6-inch hole in the bottom of the structure and fill the remaining portion with bedding stone.
9. Downspout Connections
   - All downspout connections to the storm sewer system shall be made with a manufactured adapter designed for the purpose of connecting downspouts to the storm sewer system.
   - Adapter color shall be chosen by owner or architect and shall match the downspout color.
   - If no storm sewer connection is shown on the plans all downspouts shall be provided with a splash block.
10. Flared End Sections
   - All flared end sections shall be reinforced concrete conforming to ASTM C-76.
   - Connection between flared and section and hdpe pipe shall be sealed with an external coupler for dissimilar pipe connections, the dissimilar pipe coupler as manufactured by mar mac construction products or an approved equal and shall be installed according to the manufacturer's recommendations. The coupler shall have an outer cover of polyethylene with an under layer of rubberized mastic that is reinforced with a woven polypropylene fabric laminated to a second layer of rubberized mastic and polyethylene. There shall be a peelable protective release film against the mastic that is removed when the coupler is applied to the joint. securing straps shall be incorporated within the coupler, two each on either side of the butt joint. the securing straps shall be isolated from the mastic allowing the straps to tension with equal force around the pipe circumference. the coupler shall be designed so that when it is applied around the joint the ends shall overlap a minimum of 8". After the straps are secured, a polyethylene/mastic flap shall completely cover the straps.

EARTHWORK AND EROSION CONTROL

1. Contact the Project Manager to determine the type, and frequency of quality assurance geotechnical testing required on each project. Provide listing of quality assurance geotechnical testing requirements in this item.
2. Contractor shall be solely responsible for determining all earthwork quantities based on the existing and proposed elevations provided on the plans. Any geotechnical investigations provided by the Owner apply only to those locations that the data was collected, and may not be indicative of conditions elsewhere on the site.
3. Erosion control and storm water management practices shall be installed and maintained in accordance with the WDNR approved Technical Standards (or equivalent).
4. Erosion mats, soil stabilizers, and trackifiers shall be listed on the Product Acceptability List for Multi-Modal Applications ("PAL") as published by the Wisconsin Department of Transportation.
5. Silt fence fabric shall comply with the requirements of Standard Specifications for Highway Construction 628.2.6, in 3 foot tall rolls, with 4' tall 2" x 2" nominal cross section hardwood posts spaced a maximum of 10' o.c.. Silt fence shall be Mirafi, Trevira, Amoco, CFM, or approved equal.
6. Erosion mat shall comply with the requirements of Class I, Type A erosion mat as defined by Standard Specifications for Highway Construction and the PAL. Erosion mat shall be American Excelsior, SI Geosolutions, Erosion Control Systems, North American Green, or approved equal.
7. Fieldstone Cobbles stone shall be the size and type specified on plans. Contractor shall provide an on-site sample for approval prior to installation.
8. The aggregate for tracking pads shall be 3 to 6 inch clear of washed stone. All materials shall be retained on a 3-inch sieve.
9. Soil stabilizers shall be non-asphalt-based products of the type specified, and meeting the requirements of the PAL.
10. Polymers used to settle suspended sediment shall meet the requirements of the WDNR Technical Standards.
11. Water soluble anionic polyacrylamide (PAM) used as temporary soil binding agents to reduce erosion shall meet the requirements of WDNR Technical Standards.
12. Install erosion control measures as required by the erosion control plan and contract documents. **Provide additional erosion control measures as dictated by Contractor's means and methods, or by differing site conditions.** Notify Construction Representative of additional erosion control features that are provided, but not shown on the plan.
13. Convey drainage to the nearest adequate stormwater facility. Do not discharge water in a manner that will cause erosion or sedimentation of the site or receiving facility.

DENSE GRADED BASE

1. Submittals
   A. Provide copies of material testing reports
   B. Provide manufacturers product information (cut sheets) and mix designs and specifications:
   - Aggregate Gradations
2. Base course material shall be crushed stone or crushed gravel only.
3. Material gradations shall conform to Section 305.2.2 of the WisDOT Standard Specifications for Highway and Structure Construction unless specified elsewhere in the contract documents.
4. Prepare the foundation, or resurface the previously placed base layer, as specified in WisDOT Section 211 before placing base. Do not place base foundations that are soft, spongy, or covered by ice or snow. Water and rework or re-compact dry foundations as necessary to ensure proper compaction, or as the representative designates.
5. In proposed pavement areas, all organic solid shall be removed.
6. In areas of existing pavement to be modified or adjusted in grade, the existing pavement section shall be removed by an acceptable method. The new pavement section shall match the construction details.
7. Proof-roll all subgrade areas that are to receive aggregate base or pavement.
8. Build and maintain stockpiles using methods that minimize segregation and prevent contamination. If the contract specifies location, place stockpiles where specified. Clear and prepare stockpile areas to facilitate the recovery of the maximum amount of stockpiled material.
9. Place aggregate in a manner that minimizes hauling on the subgrade. Do not use vehicles or operations that damage the subgrade or in-place base. Deposit material in a manner that minimizes segregation.
10. Compact the base until there is no appreciable displacement, either laterally or longitudinally, under the compaction equipment.
11. Compact each base layer, including shoulder foreslopes, with equipment specified in WisDOT Section 301.3.1. Use standard compaction conforming to WisDOT Section 301.3.4.2, unless the special provisions specify other methods. Final shaping of shoulder foreslopes does not require compaction.
12. After the project is completed, thoroughly clean up all debris which may have accumulated during the placement of dense graded base. Replace or repair as required, all surfaces and/or landscape features damaged or disturbed under this item of work.

GENERAL REQUIREMENTS

1. Contractor shall be solely responsible for obtaining all permits necessary to complete the work. Contractor shall pay all fees associated with obtaining permits.
2. Completely coordinate with work of all other trades.
3. Although such work is not specifically called out on drawing, the contractor shall furnish and install all miscellaneous items, appurtenances and devices incidental to or necessary for a sound, secure and complete installation
2. Drawings are diagrammatic and indicate general arrangement of site features, dimensions, utility tags are provided as a courtesy. All lengths and dimensions shall be verified by Contractor in advance of bidding, otherwise, the more expensive option shall be deemed to be included.
3. Field verify locations and arrangement of all existing site features.
4. If any errors or omissions appear in Drawings, Specifications, or other documents, bidding Contractor shall notify Engineer no later than ten (10) days prior to submitting bid. Should conflict occur in or between drawings and specifications, bidding contractor is deemed to have estimated more expensive way of doing work, unless he has asked for and obtained written decision (addendum) before submission of bid as to which method or materials will be required.
5. Installation of all systems and materials is subject to clarification as indicated in reviewed shop drawings and field coordination drawings.
6. Perform all work and install materials and equipment in full accordance with the latest applicable rules, regulations, requirements, and specifications of the following:
   - State and Federal Laws
   - Local laws, codes and ordinances
   - American Society for Testing and Materials (ASTM)
   - American Water Works Association (AWWA)
   - Federal Highway Administration (FHA)
   - Environmental Protection Agency (EPA)
   - Wisconsin Department of Safety and Professional Services (SPS):
   - Chapter NR 141 - Monitoring Well Construction
   - Chapter NR 812 - Well Construction and Pump Installation
   - Wisconsin Department of Natural Resources Technical Standards for Constructions Site, Erosion & Sediment Control
   - Conflicts, if any, which may exist between the above items, the more restrictive shall govern.
7. **SUBMITTALS**
   A. The A/E's review of shop drawings or samples shall not relieve the Contractor of responsibility for any deviation from the contract documents. The Contractor shall include with the shop drawings an index sheet detailing all deviations from the contract documents, and will be held responsible for all deviations unless he has received written approval from the A/E for the specific deviation, separate from general shop drawing approval. The A/E's review shall not relieve the contractor from responsibility for errors or omissions in the shop drawings or samples.
   B. Shop Drawings:
      a. The Contractor shall review the shop drawings and stamp with his approval prior to submitting shop drawings to A/E for review.
      b. Shop drawings shall be submitted electronically in one PDF format file for each specification section. File name shall contain specification number and product name. Each shop drawing shall contain the following:
      a. Cover Sheet: The submittals shall contain a cover sheet, which shall include the following information.
         1) Submittal Date
         2) Specification Section
         3) Manufacturer's Representative (Contact Name, address, and telephone number)
         4) Project Name, Project City, Project State, and Project Address.
      b. Product Data: Manufacturer's product data sheets and description of all system components. These data sheets shall be highlighted or suitably marked, so that included items and options are indicated. On data sheets that include multiple products, the products that are not used shall be crossed out.
8. Cause as little interference or interruption of existing utilities and services as possible.
9. Schedule work which will cause interference or interruption in advance with Owner, Architect, authorities having jurisdiction and all affected trades.
10. Examine Contract Documents to determine how other work will affect execution of civil work.
11. Determine and verify locations of all existing utilities on or near site.
12. Make arrangements for and pay for necessary permits, licenses, and inspections.
13. Keep a complete set of all civil drawings in job site office for showing actual locations of utilities and other features encountered, modifications to proposed grades and site features, and other deviations from the original design.
   - Use this set of drawings for no other purpose.
   - Where any locations of utilities and other features encountered, modifications to proposed grades and site features, and other deviations from the original design are installed differently from that shown, indicate differences clearly and neatly using ink or indelible pencil.
   - At project completion, submit record set of drawings to owner and engineer.

PAVEMENT

1. Submittals
   A. Provide copies of material testing reports
   B. Provide manufacturers product information (cut sheets) and mix designs and specifications:
   - Asphalt Mix Design
2. Proof-roll all subgrade areas that are to receive aggregate base or pavement. Proof-roll with a loaded dump truck prior to the placement of base courses to locate soft spots that yield under loading. Loaded truck shall have a minimum gross operating weight of 30 tons.
3. Undercut soft or unsuitable areas of subgrade 2 or as directed by the Geotechnical Engineer. Backfill with granular soil (as indicated in the geotechnical report) fill in maximum 8 inch loose lifts, and compact to the minimum required degree of compaction.
4. Proofrolling,undercutting, and fill operations shall be performed under the observation of the Geotechnical Engineer.
5. Asphalt pavement shall only be installed after a successful proof-roll of the base course has been completed and observed/approved by the geotechnical engineer (immediately before the asphalt pacement).
6. Provide hot mix asphalt (HMA) pavement conforming to the requirements Section 460 of Standard Specifications for Highway Construction. Utilize the same material type through the paving operation unless noted elsewhere on the plans. Materials under this section to the requirements of WisDOT Standard Specifications for Highway AND Structure Construction, Section 445 and as revised in any current Supplemental Specifications.
7. HMA Type:
   - Heavy Duty
     Surface Course: LT-5
     Binder Course: LT-3
   - Regular Duty
     Surface Course: LT-5
     Binder Course: LT-4
7. HMA shall be placed in accordance with the requirements of Section 460 of Standard Specifications for Highway Construction.
8. Asphalt shall not be installed adjacent to new curb nor shall backfilling occur adjacent to new curb no sooner than 7 days after pouring. If desired, Contractor (at his cost) may provide cylinders (tested by the geotechnical engineer) that prove a minimum strength of 3000 psi sooner than 7 days.
9. Pavement Repairs: Full depth sawcut all pavement surfaces to neat and straight lines at the limits of removal by a two-step method (only applicable in areas where existing pavement is not being pulverized). Limit the initial pavement removal to the immediate area of the proposed work. Adjust all inlets, manholes, catch basins, valve boxes, and other such castings to match new finished grade as incidental work.

CAST IN PLACE CONCRETE

1. Submittals
   A. Concrete mix design: Submit five (5) copies of mix design to Architect for review. This submittal shall include the following:
      - Required cylindrical compression strength for f'c (28 day).
      - Element (curb, driveway, etc.) in which each class (strength of concrete) will be used
      - Cylinder compressive strength test results or complete standard deviation analysis in accordance with ACI 318 Section 5.3
      - Proportions of Materials
      - Source of materials - Cement (type and brand), gravel pit.
      - Aggregate size and certification from an independent testing lab that gradation, specific gravity, soundness, absorption, and impurities meet ASTM requirements.
      - Admixture brand, dosage, literature.
      - Air content
      - Water content and target slump
      - Range of ambient temperature and humidity for which design is valid
      - Special characteristics of mix which require precautions in mixing, placing, or finishing techniques to achieve finished product specified.
   B. Product Data: Submit manufacturer's product data for review with application and installation instructions for proprietary materials and items including: patching compounds, epoxies, curing compounds, dry-shake finish materials, hardeners, sealers etc. for all items specified and used in materials list.
2. All work shall be in accordance with applicable manufacturer's and supplier's instructions.
3. All concrete work which does not conform to the requirements of the Contract Documents and ACI 301, including function, durability, appearance, strength, cracking, tolerances and finishing, shall be corrected as directed by Architect at Contractor's expense. Additional testing, engineering, reinforcement and removal and replacement of defective concrete shall be paid for by Concrete Contractor. Contractor shall also be responsible for the cost of corrections to any other work affected by or resulting from corrections to the concrete work.
4. All concrete, unless otherwise specifically permitted by Architect, shall be transit-mixed in accordance with ASTM C 94.
5. Synthetic Fibers shall be used in concrete mix design in lieu of welded wire fabric. Synthetic fibers shall not replace reinforcing rebar/dowels as depicted on the Construction Details.
   - For concrete sidewalks: Matrix Bi-Blend micro fiber - FRC Industries. Application dosage shall be 1.5 pounds per cubic yard.
   - For concrete pavements: Matrix HPS 950 Macro/micro synthetic blend fiber or Forta Ferro macro fiber - FRC Industries. Application dosage shall be 5 pounds per cubic yard.
5. Concrete must meet all requirements of the ASTM C 94, ACI 211, ACI 318 Chapter 4 Durability Requirements, and those herein specified for materials, proportioning, mixing and other details of manufacturer, quality and deliver.
6. Air entrained concrete: Use for all exterior slabs, walls, walks, platforms, ramps, steps, all portions of parking
7. Concrete requiring air entrainment shall contain six (6) percent plus or minus one and a half (1.5) percent air by volume, for 3/4" dia. aggregate. Conform to ACI 318, Chapter 4.
8. Minimum compressive strength at 28 days: 4000 psi.
9. Maximum aggregate size shall not exceed one third of the slab on grade thickness.
10. Fly Ash may be used as a pound for pound replacement of cement up to 20% of the total cementitious content, 25% for footings, except for finished flatwork during winter construction, subject to Architect's approval.
11. Make one slump test of the first truck of each mix, each day, one test for each compression test and other tests as often as required thereafter, whenever consistency changes.
12. Air content tests shall be made from the first truck of each mix, each day and when-ever test cylinders are made, in accordance with ASTM C 173 or ASTM C231. Test more often when required air contents are not achieved.
13. Concrete Temperature: Test hourly when air temperature is 40 degrees F (4 degrees C) and below, and when 80 degrees F (27 degrees C) and above; and each time a set of compression test specimens is made.
14. If measured slump, air content or concrete temperature falls outside limits specified, a check test shall be made immediately on another portion of same sample. In event of a second failure, concrete shall be considered to have failed to meet requirements of specifications and shall not be used in structure. Notify Architect immediately.
15. Strength tests shall be made for each of the following conditions: Each day's pour, each class of concrete, each change of supplies or source, each 150 cubic yards of concrete or fraction thereof, and each 5000 square feet of surface area for slabs or walls.
16. To conform to requirements of this Specification, the strength level shall be considered satisfactory so long as the average of all sets of three (3) consecutive strength test results equals or exceeds the specified f'c and no individual strength test result falls below the specified strength f'c by more than 500 psi. Architect shall be notified immediately of nonconformance.
17. Before placing concrete, verify that installation of formwork, reinforcement, and embedded items is complete and that required inspections have been performed.
18. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures in conformance with ACI 301 and ACI 308.
19. Concrete curb and gutter shall be placed in accordance with WisDOT Section 601 to the dimensions and shapes shown in the standard detail drawings. Where curb and gutter details are not provided, curb and gutter shape and dimensions shall match existing adjacent curb and gutter.
20. Concrete sidewalk and driveway shall be placed in accordance with WisDOT Section 602 to the dimensions and thicknesses shown in the detail drawings.
21. Provide concrete pavement having the thickness and reinforcement as shown on the drawings, or to match adjacent existing pavement.
22. Each curb ramp shall be provided with a detectable warning field installed in fresh concrete of all sidewalk and multi-use trails at legal crosswalks, and as shown in the detail drawings. A detectable warning field shall not be installed in asphalt pavements. The detectable warning field shall be installed per manufacturer's recommendations.

DEMOLITION

1. For utilities or other services requiring removal or abandonment in-place, submit materials documenting completion of such work.
2. Verify all gas and electrical utilities have been abandoned or disconnected and associated hazards mitigated, prior to beginning any demolition.
3. Take all necessary precautions while dismantling piping containing gas, gasoline, oil or other explosive or toxic fluids or gases. Purge lines and contain materials in accordance with all applicable regulations. store such piping outdoors until fumes are removed.
4. Unless otherwise noted, Contractor shall be responsible for obtaining and paying for all permits necessary to complete demolition work.
5. Use Contractor's normal equipment for demolition purposes and which meets all safety requirements imposed on such equipment.
6. Remove all equipment, fixtures and other materials scheduled for salvage prior to be beginning demolition operations.
7. Abandon gas, electric and communication utilities in accordance with local utility company requirements, or applicable substantive requirements if considered private.
8. Demolish foundation walls and other below grade features in accordance with the plans. Unless otherwise noted, remove all below grade features to a point 4' below adjoining existing grade, or proposed grade, whichever is lower. Basement and/or lowest level floors more than 4' below existing grade need not be removed, but must be broken up to permit drainage.
9. Carefully protect and/or replace drain tiles encountered during demolition which are necessary to maintain site drainage conditions. Immediately repair or replace any drain tiles not scheduled for demolition, but damaged. Report damage to the Construction Representative. Repairs to drain tile or replacement drain tile shall be comparable or better than the existing drain tile system.
10. Transport and dispose all demolition waste in accordance with local, state, and federal guidelines.

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Project:
ENVIRO-SAFE ADDITION

Enviro-Safe RESOURCE RECOVERY

W130N10500 WASHINGTON DR

Location:
GERMANTOWN, WI 53022

SKYLINE DEVELOPMENT CORPORATION

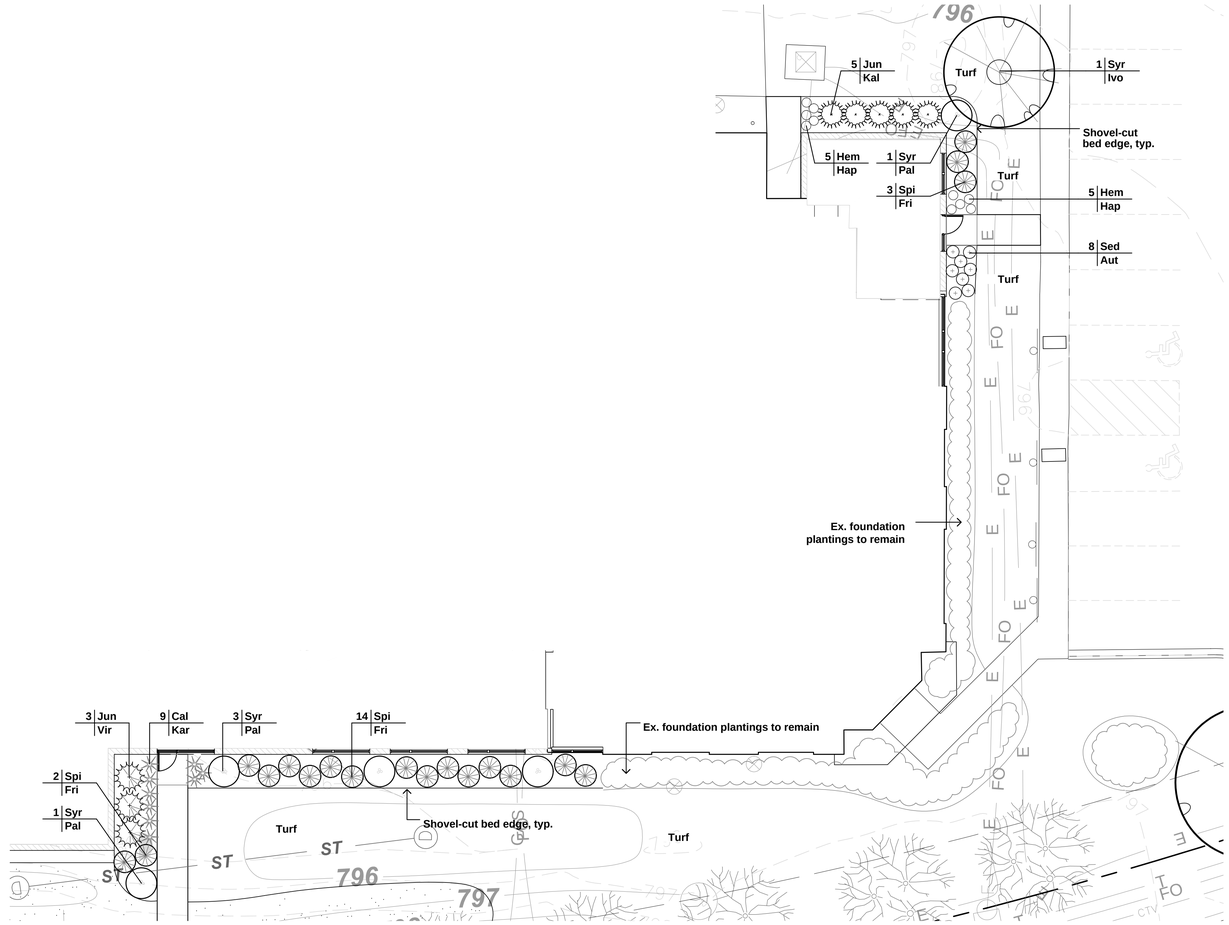
Sheet:
CONSTRUCTION DETAILS AND SPECIFICATIONS

Date:	Issue Set:

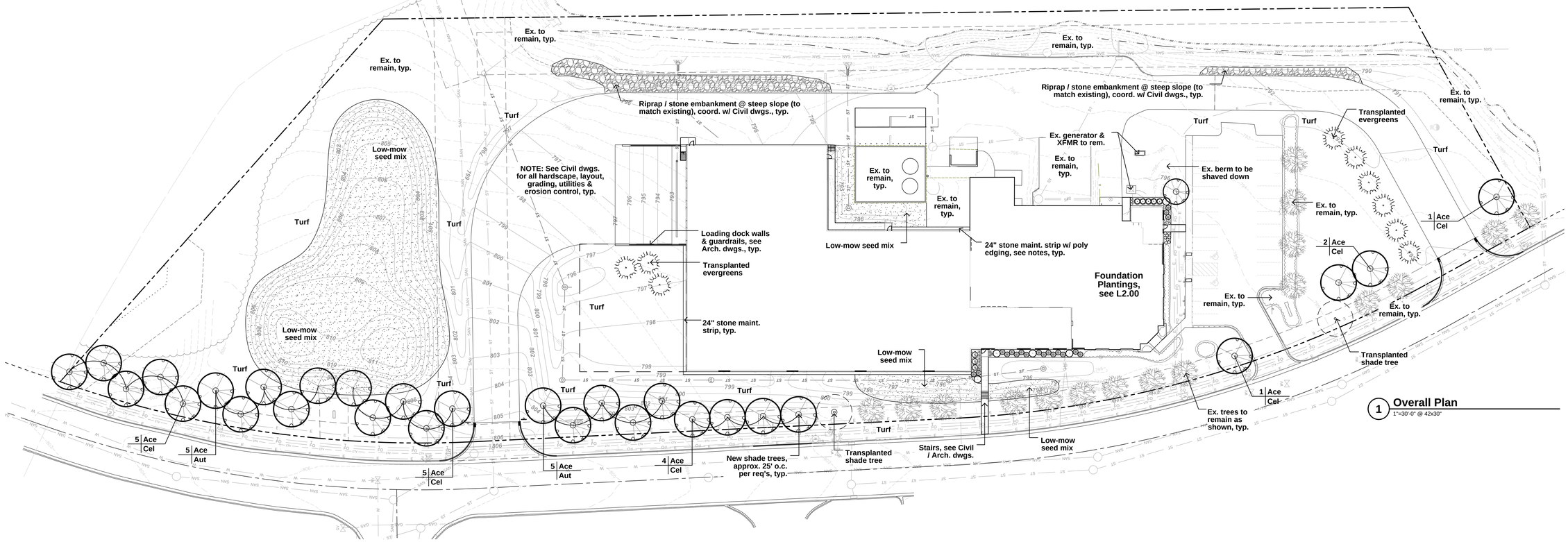
Date:
2020-02-04 CDs

Project No.:
0019-42

Sheet No.:
C5.00



2 Building Enlargement
1"=10'-0" @ 42x30"



1 Overall Plan
1"=30'-0" @ 42x30"

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Project:
ENVIRO-SAFE ADDITION

Enviro-Safe RESOURCE RECOVERY

W130N10500 WASHINGTON DR

Location:
GERMANTOWN, WI 53022

SKYLINE DEVELOPMENT CORPORATION

Sheet:
LANDSCAPE PLAN

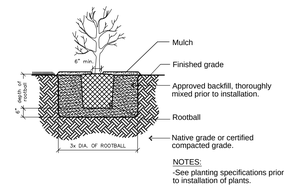
North
SCALE: As Shown @ 42x30"

Date:	Issue Set:

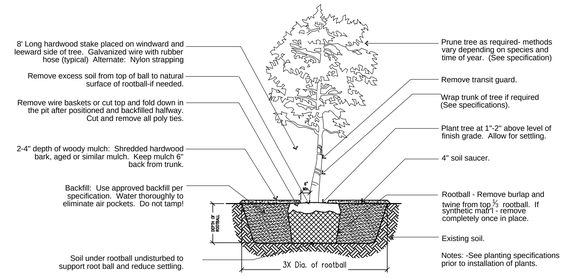
Date:
2020-02-04 CDS

Project No.:
0019-42

Sheet No.:
L1.00



2 Shrub Planting Detail
Not To Scale



1 Tree Planting Detail
Not To Scale

General Notes

1.01 All landscape installation & maintenance shall conform with all applicable local codes & ordinances, including (but not limited to) select portions of the Village of Germantown Landscape Standards & Germantown Business Park Covenants (rev. 2009.)

1.02 See Site / Civil dwgs. for work limits, scope of construction, hardscape, dimensions, grading, stormwater management, site utilities & erosion control &/or construction notes. See Landscape dwgs. for landscape plans, details, schedules, notes. See Architectural dwgs. for all construction. See Electrical drawings for all power, circuiting, lighting & access control.

1.03 Contractor shall provide shop drawings and material submittals of **all** hardscape & landscape construction elements shown in plan set for Landscape Architect review prior to construction, including (but not limited to) ornamental fencing & all access control equipment.

1.04 Contractor shall provide samples for Landscape Architect's approval on all colors, finishes & materials prior to construction, including (but not limited to) topsoil, gravels, mulches, seed mixes et al.

1.05 CAUTION: Underground utilities are present on site. The contractor shall verify location of all above- and below-grade utilities, both public & private, prior to commencement of site construction. If unanticipated above- or below-grade conditions are encountered, the contractor shall notify Client & Landscape Architect prior to proceeding. Coordinate with local public & private utility locating entities as needed.

1.06 Contractor shall verify hardscape layout prior to construction. Contact Civil Engineer if discrepancies are found that will impact landscape installation.

1.07 Contractor shall limit construction traffic to within work limit lines. All adjacent damage shall be the responsibility of the contractor to restore. See Civil drawings for limits of disturbance.

1.08 All written dimensions supersede scaled dimensions. All dimensions are taken from face of curb, wall or existing building foundations.

1.09 Existing plantings on-site shall remain unless otherwise noted for removal. Existing trees to remain shall be protected for the duration of the project. Protection shall be snow fencing installed @ 15' radius from tree trunk, or to its dripline, whichever is farther. No construction storage, traffic, compaction, trenching or other disturbance shall occur within fenced zones unless specifically shown in the Civil plans. Utilities shall be directional-bored through tree root zones, not open trenched.

1.10 CAUTION: Select existing trees on site shall be removed, stockpiled on site and reinstalled as part of the project scope. See plans indicating transplant trees & locations.

Landscape Notes

2.01 Rough grading & topsoil import/spreading shall be completed by others. Finish grading, seed area and ornamental planting bed preparation shall be the landscape contractor's responsibility. Verify all existing site and grading conditions prior to construction.

2.02 All areas disturbed by site construction shall be fine graded and restored with vegetative cover as shown. See plans for cover types & locations, see specifications for materials & installation.

2.03 Contractor shall verify plant quantities shown on plan. Symbol quantities take precedence over plant keys unless otherwise noted in the plant schedule. Forward a material list to the Landscape Architect prior to construction identifying species, sizes & plant sources to be used on the project.

2.04 All plant materials shall conform to the schedule and shall meet quality requirements outlined in the ANLA "American Standard for Nursery Stock", ANSI Z60.1-2004.The Landscape Architect reserves the right to reject any substandard planting material. Such rejected material shall be removed from the project site immediately.

2.05 All nursery tags/labels shall be left on plant materials until the project punch-list inspection is completed by the Landscape Architect. Untagged materials will be assumed to be deficient.

2.06 All planting beds shall contain screened blended topsoil mix to a min. depth of 18". All lawn areas shall have min. 6". Suitable existing soil may be used & mixed if previously approved. Contractor shall be responsible for obtaining soil tests for existing or imported topsoil. Soil testing results shall include (but is not limited to) soil pH, % organic matter, phosphorus, potassium, calcium & texture (percentages of sand, silt and/or clay.) Remove excessive clay, gravel & stones detrimental to healthy plant growth. Remove all debris greater than 1" diameter.

2.07 Contractor shall be responsible for ensuring that all tree pits & planting areas drain properly. Notify Landscape Architect if drainage or moisture problems are encountered while planting.

2.08 Contractor shall backfill all trees, shrubs & evergreens with a mix of 1/3 plant starter mix & 2/3 remaining soil. Plant Starter Mix to be provided by Liesener Soils, Cedarburg WI, or approved equal.

2.09 All perennial and groundcover areas shall receive a 3" layer of plant starter mix and perennial starter fertilizer, rototilled into the top 6" of blended topsoil in beds.

2.10 All perennial areas shall receive a 1-2" layer of shredded hardwood bark mulch. Groundcover beds do not receive a cover of shredded bark mulch. Do not allow mulch to touch stems or leaves of perennials! All woody planting areas shall receive a 3" layer. Unless otherwise shown in the plans, no landscape fabric or weed barrier is to be installed.

2.11 Unless otherwise shown, all perennials & shrubs to be planted in triangular arrangements. For plants not shown individually, refer to the spacing shown in the plant schedule.

2.12 All maint. strip edging shall be commercial-grade black poly edging, min. 5" depth, UV stable, heavy-duty top bead, min. 0.35 lbs / LF. Provide submittal & sample for approval. All other bed edging shall be shovel cut, min 6" depth.

2.13 Stone mulch areas to contain 2-3" of decorative stone installed over poly weed barrier. Stone shall be Mississippi washed @ min. 1" dia, or approved equal. Coordinate final material selection with LA.

2.14 Contractor shall provide positive drainage away from all structures for a minimum of 10'.

2.15 Contractor shall be responsible for providing base bid comprehensive landscape establishment, maintenance and warranty care for one year after installation. Work shall include (but is not limited to) spring & fall clean-ups, shrub trimming / fertilizing / pruning, perennial fertilizing / deadheading & all integrated pest management. Prior to beginning installation, the contractor shall submit a 12-mo. calendar for review/approval including all anticipated maintenance activities.

Seed / Sod Notes & Mixes

3.01 This work shall consist of preparing the seed / sod beds and furnishing, sowing, mulching and/or installing the required turf within the various seed & sod areas, as outlined in the site plans and specifications. All turf restoration shall be as noted on the plans.

3.02 Rough grading, drainage work, topsoiling and fine grading shall be completed before sowing or installation. The areas to be turfed shall be worked with plow chisels, discs & harrows, soil finishers and/or other appropriate equipment until a reasonably even and loose seedbed is obtained. Turf areas shall be prepared immediately in advance of the seeding. If proposed turf areas are weedy, contractor shall apply herbicide or utilize other weed control measures to eliminate all weeds prior to installation. Conform with seed / sod supplier's specifications if required.

3.03 Confirm that anticipated project schedule date(s) fall within the dates allowed by the specifications. Installations completed outside of acceptable installation dates shall be the performed at the sole responsibility and expense of the contractor. For dormant seeding, a min. of one over-seed application in the following spring will be required.

3.04 Seeds shall be PLS and will be mixed in accordance w/ mfr's specifications. Provide invoices, bag-tags or mix analysis results for approval prior to installation.

3.05 Sod shall be min. 25% fescue, sourced from a mineral soil location, mown to 2" height, furnished without weeds. Machine cut rolls shall have min. 3/4" soil thickness. Cut in uniform commercial-sized strips, min 18" width x 4' length. Broken corners / ends will be rejected. Lay straight & parallel, with rolls unstretched. Stagger joints. Roll & water after installation.

3.06 Seed mixtures shall be sown by means of equipment adapted to the purpose. Mechanical distribution of seed (i.e. Truax seed drill, Brillion seeder, cultipacker, slit-seeder, drop spreader or broadcast spreader) are the only accepted methods. No hand-broadcasting of seed.

3.07 No seeding shall occur if the wind exceeds 12 MPH.

3.08 Coordinate erosion control and/or mulching in seeded areas with Civil dwgs. In sloped areas steeper than 4:1, erosion matting shall be installed by others (see 3.09); installation coordination will be required. In areas with slopes between 4:1 and 8:1, landscape contractor shall apply clean hay or straw mulch, free of debris and seeds, on all newly seeded areas. Mulch shall be uniformly spread over the designated area at a rate of 55 bales per acre or as indicated in the respective seed supplier's specifications. Mulch material shall be chopped and blown into the seeded area. Lightweight E.C. matting and/or hydromulch will be accepted as a no-cost alternate if approved by Landscape Architect. Sod installed in areas steeper than 4:1 slope shall be held in place w/ wooden stakes.

3.09 See Civil dwgs for erosion control devices. Coordinate with erosion control contractor where required to ensure that topsoil, seeding, sodding and/or E.C. installations are properly coordinated.

3.10 Contractor shall be responsible for obtaining soil tests for all turf areas. Soil testing results shall include (but is not limited to) soil pH, % organic matter, phosphorus, potassium, calcium & texture (percentages of sand, silt and/or clay.) Contaminated soil shall be removed from the project site if discovered. If necessary, supply soil amendments required for specified seed mixes and/or coordinate alternate mixes if soils cannot be properly conditioned.

3.11 Seed mix substitutions will be considered only if submitted for approval 10 days before the close of bidding. All mixes shall be installed & maintained per supplier's specifications.

BLUEGRASS MIX:
"Deluxe 50 Mix" shall be supplied by Reinders, Sussex WI, 262-786-3300. Apply @ 6 lbs per 1000 GSF.

LOW-MOW MIX:
"No-Mow Lawn Mix" shall be supplied by Prairie Nursery, Westfield WI, 800-476-9453. Apply @ 200 lbs per AC, including Annual Rye cover crop.

3.12 Contractor shall be responsible for providing base bid comprehensive seed / sod establishment, maintenance and warranty care for all areas:

- Bluegrass areas shall be for one year after installation. Maintenance shall include (but is not limited to) 24 mowings per season plus all watering, fertilizing, weed control & bed edge maintenance. Bare areas larger than 1 sq. foot shall be re-seeded or re-sodded in spring.
- All other seed areas (low-mow) shall be for one year after installation. Maintenance shall include (but is not limited to) spring & fall clean-ups and 4-5 mowings timed to cut weeds but not desirable plants. Bare areas larger than 1 sq. foot shall be re-seeded each spring or fall.

Prior to beginning installation, the contractor shall submit a 12-mo. calendar for review/approval including all anticipated maintenance activities.

Plant Schedule

NOTE: Contractor shall be responsible for all plant qty's, typ.

Symbol	Qty Prop.	Botanical Name	Common Name	Installed Size	Root	Spacing	Notes
Shade Trees							
Ace Cel		Acer x. freemanii 'Celebration'	Celebration Maple	3" Cal.	B/B	As Shown	
Ace Aut		Acer x. freemanii 'Autumn Fantasy'	Autumn Fantasy Maple	3" Cal.	B/B	As Shown	
-		Existing trees to be removed, stockpiled & reinstalled as shown		-	-	-	
Ornamental Trees							
Syr Ivo		Syringa ret. 'Ivory Silk'	Ivory Silk Japanese Tree Lilac	2.5" Cal.	B/B	As Shown	
Evergreen Trees							
Jun Vir		Juniperus virginiana	Eastern Redcedar	5-6' Ht.	B/B	As Shown	
-		Existing trees to be removed, stockpiled & reinstalled as shown		-	-	-	
Deciduous Shrubs							
Spi Fri		Spiraea fritschiana	Fritsch Spirea	15-18" Ht.	2 Gal.	42" o.c.	
Syr Pal		Syringa meyeri 'Palibin'	Palibin Dwf. Lilac	30-36" Ht.	7 Gal.	54-60" o.c.	
Evergreen Shrubs							
Jun Kal		Juniperus chinensis 'Kallay'	Kallay Compact Juniper	24" sprd.	7 Gal.	54-60" o.c.	
Perennials & Grasses							
Cal Kar		Calamagrostis 'Karl Foerester'	Karl Foerester Reed Grass	1 Gal.	Cont.	30-36" o.c.	
Hem Hap		Hemerocallis 'Happy Returns'	Happy Returns Daylily	4.5"	Cont.	18-24" o.c.	
Sed Aut		Sedum 'Autumn Joy'	Autumn Joy Sedum	1 Gal.	Cont.	24" o.c.	

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Project:
ENVIRO-SAFE ADDITION

Enviro-Safe RESOURCE RECOVERY

W130N10500 WASHINGTON DR

Location:
GERMANTOWN, WI 53022

SKYLINE DEVELOPMENT CORPORATION

Sheet:
LANDSCAPE DETAILS, SCHEDULES & NOTES

SCALE: AS SHOWN @ 42x30"

Date:	Issue Set:

Date:
2020-02-04 CDS

Project No.:
0019-42

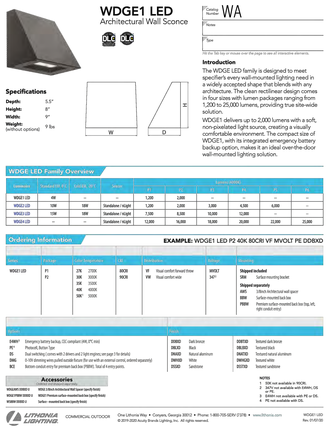
Sheet No.:
L5.00

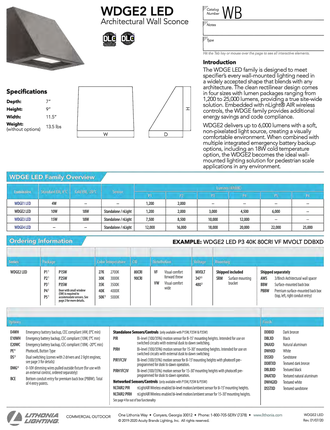
SITE STATISTICS

ZONING - VILLAGE OF GERMANTOWN M-1 LIMITED INDUSTRIAL
SITE AREA = 244,196 S.F. OR APPROXIMATELY 5.61 ACRES

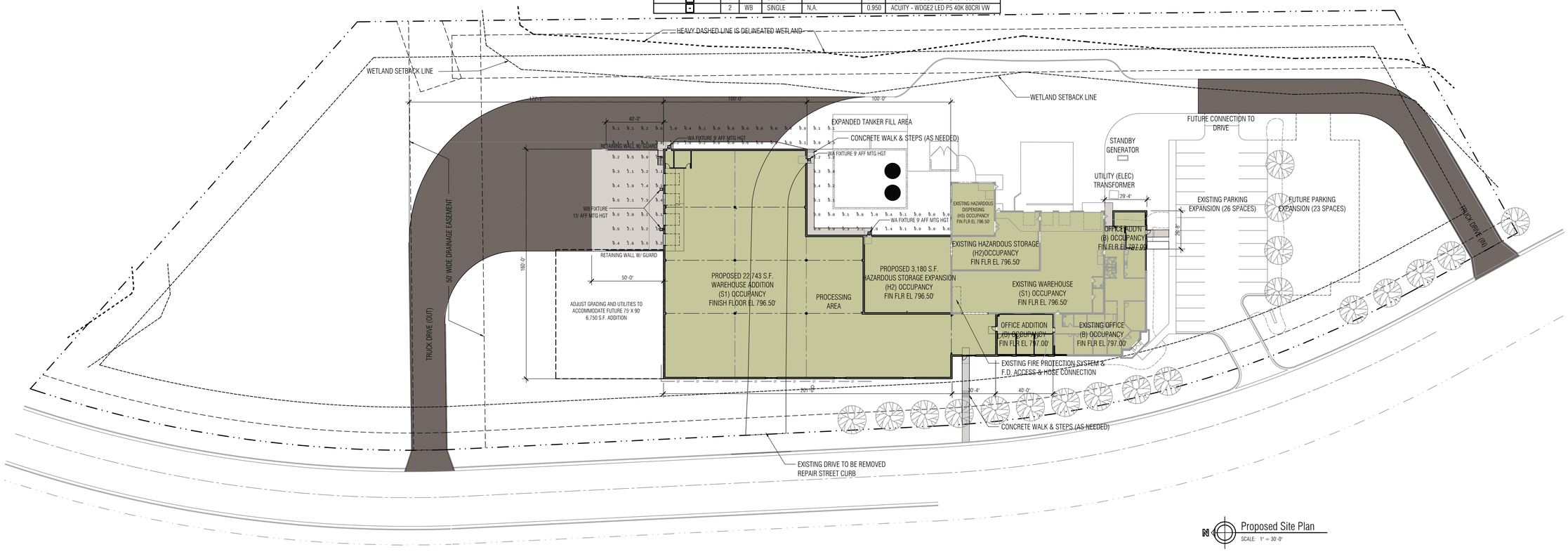
EXISTING
IMPERVIOUS AREA TOTAL = 46,429 S.F.
BUILDING = 11,700 S.F. SIDEWALK AREA = 946 S.F.
PAVING AREA = 33,783 S.F.
IMPERVIOUS RATIO = 33,783 / 244,196 = 0.138 OR 13.8%
GREEN SPACE RATION = 0.862 OR 86.2%
PARKING PER VILLAGE ZONING = 1 / 500 SF PRINCIPAL BLDG AREA = 24 SPACES
PARKING PROVIDED = 26 SPACES

PROPOSED
IMPERVIOUS AREA TOTAL = 100,494 S.F.
EXIST'G BLDG = 11,700 S.F. ADDITION = 29,116 S.F. SIDEWALK AREA = 1,601 S.F.
EXIST'G PAVING AREA = 28,530 S.F. ADDED PAVING = 30,064 S.F.
IMPERVIOUS RATIO = 1001,001 / 244,196 = 0.414 OR 41.4%
GREEN SPACE RATIO = 0.586 OR 58.6%
PARKING PER VILLAGE ZONING = 1 / 500 SF PRINCIPAL BLDG AREA = 81 SPACES
PARKING PROVIDED = 26 SPACES + FUTURE 23 SPACES = 49 SPACES





LUMINAIRE SCHEDULE						
Symbol	Qty	Label	Arrangement	Total Lamp Lumens	LLF	Description
	3	WA	SINGLE	N.A.	0.950	ACUITY - WDGE1 LED P2 40K 80CRI VW
	2	WB	SINGLE	N.A.	0.950	ACUITY - WDGE2 LED P5 40K 80CRI VW



Proposed Site Plan
SCALE: 1" = 30'-0"

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Project:
ENVIRO-SAFE ADDITION

W130N10500 WASHINGTON DR

Location:
GERMANTOWN, WI 53022

SKYLINE DEVELOPMENT CORPORATION

Sheet:
ARCHITECTURAL SITE PLAN

Date:	Issue Set:

Date:
2020-02-04 CDS

Project No.:
0019-42

Sheet No.:
SP1.00

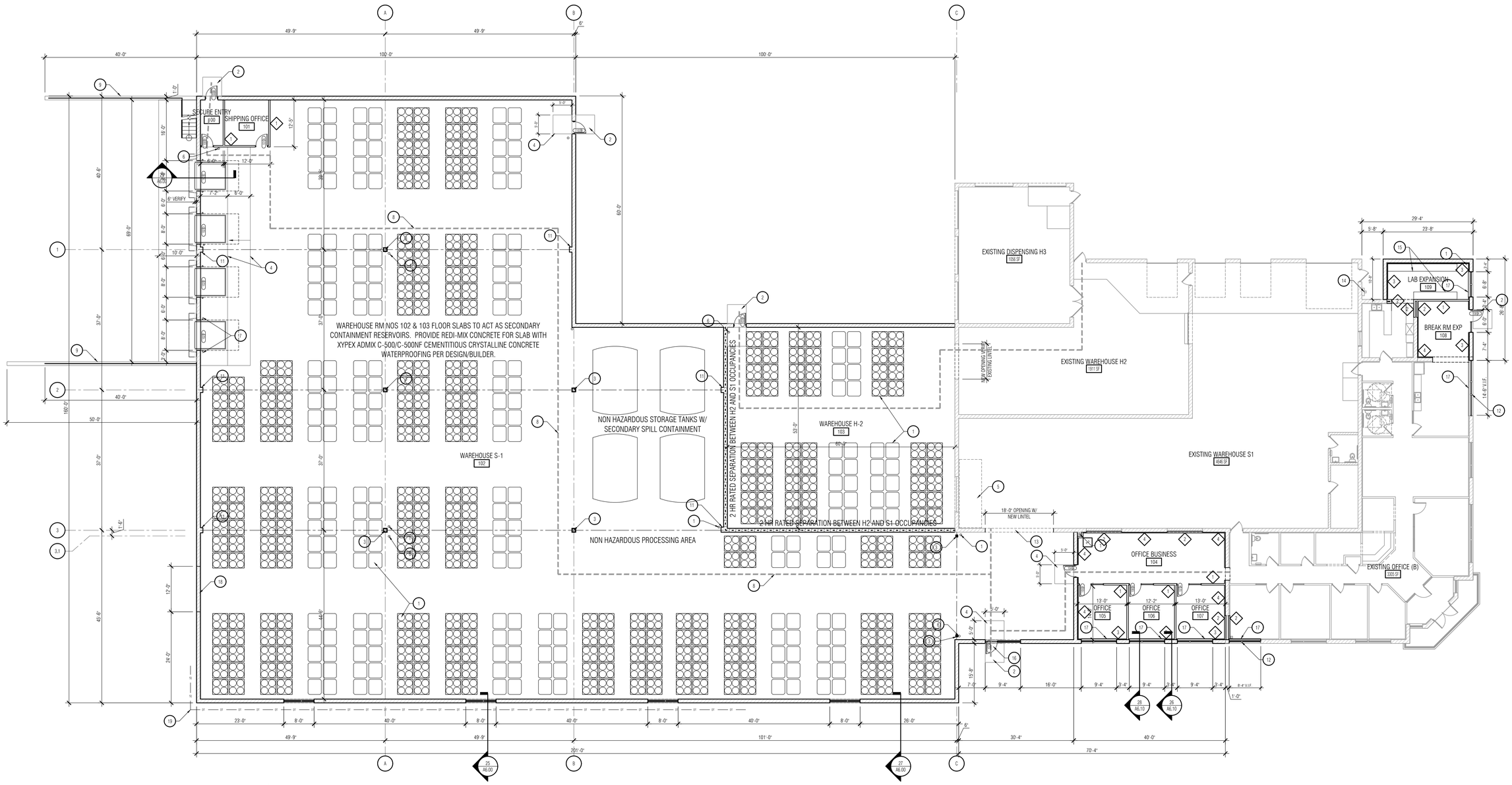
FLOOR PLAN KEYNOTES

1. ROOF DRAIN, PROVIDE PROTECTION, LOCATE TIGHT TO WALL OR COLUMN
2. 5' SQUARE CONCRETE STOOP AND FOUNDATION (SEE STRUCT DWGS)
3. TYPICAL PAINTED STRUCT STEEL TUBE COLUMN
4. INTERIOR FLOOR STOOP OR RAMP TO ACCOMMODATE 6" DIFFERENTIAL
5. EXISTING LOCATION FOR FIRE SPRINKLER & SUPPRESSION SYSTEM RISERS AND FOAM TANKS. G.C. TO VERIFY UNDERGROUND WATER SERVICE THIS AREA.
6. PROVIDE PROTABLE FIRE EXTINGUISHERS & CABINETS (SURFACE MOUNT) AS REQUIRED BY CODE AND LOCAL FIRE AUTHORITY.
7. 6" DIA PAINTED (SAFETY YELLOW) CONCRETE FILLED, 5' TALL STEEL BOLLARD SET IN 1'-6" DIA CONCRETE BASE (4' BELOW GRADE)
8. WIDE DASHED LINE INDICATES PATH OF EGRESS. PROVIDE DESIGN BUILD EMERGENCY EGRESS LIGHTING & EXIT SIGNS PER IBC-2015. EMERGENCY EGRESS LIGHTING EXTENDS TO EXTERIOR OF BUILDING AS REQ'D BY CODE.
9. POURED IN PLACE CONCRETE DOCK WALL WITH PAINTED STEEL GUARD. SEE STRUCT DWGS FOR CONC WALL DESIGN.
10. POTENTIAL LAYOUT OF BULK STORED TOTES AND 55 GAL DRUMS.
11. REINFORCED CMU PILASTER FOR BEAM/GIRDER BEARING (SEE STRUCT DWGS)
12. ANODIZED ALUM STOREFRONT GLAZING SYSTEM TO MATCH EXISTING . CAN REUSE SALVAGED MATERIALS FROM EXISTING (REMOVED).
13. NEW OPENING AND HEADER IN EXISTING CMU WALL FOR DOOR & FRAME (SEE STRUCT DWGS FOR LINTEL INFORMATION)
14. EXISTING ELEC SERVICE LOCATION. GC TO VERIFY LOCATION OF UNDER GROUND SERVICES INCLUDING ELECTRICAL POWER, DATA/COMM IN AREA OF WORK.
15. PROVIDE NEW LAB TOPS AND CASEWORK. COORDINATE CASEWORK LAYOUT AND LAB TOP MATERIAL WITH OWNER.
16. FIRE DEPARTMENT ACCESS TO SPRINKLER RISER. PROVIDE KNOX BOX NEAR DOOR AS DIRECTED BY LOCAL FIRE AUTHORITY.
17. PROVIDE FINISH INTERIOR SILL TO MATCH EXISTING
18. PROVIDE STEEL LINTEL IN WALL FOR FUTURE KNOCK OUT (TO ACCESS FUTURE ADDITION). SAME AREA TO PROVIDE CONSTRUCTION ACCESS TO ADDITION.
19. DRAIN TUBE AT BUILDING PERIMETER WHERE FIN GRADE IS < ONE FOOT ABOVE FIN FLOOR.

WALL TYPES

1. TYP. INTERIOR WALL
   5/8" GWB ON EA SIDE OF 20 GA 3 5/8" METAL STUDS 16" O.C. WITH FIBERGLASS BATT INSULATION TO UNDERSIDE OF ROOF DECK.
2. 4" FURRING WALL
   5/8" GWB ON ONE SIDE OF 20 GA 3-5/8" METAL STUDS 16" O.C. TO STRUCTURE
3. 2" EXT WALL FURRING WALL
   5/8" GWB ON ONE SIDE OF 2" ZEE FURRING (HORIZONTAL) W/ VAPOR BARRIER AND 2" RIGID INSULATION TO DECK
4. 2" EXT WALL FURRING WALL
   5/8" GWB ON ONE SIDE OF 1-1/2" METAL FURRING CHANNELS 16" O/C

NOTES:
1. ALL WALLS ARE TYPE ◇ UNLESS NOTED OTHERWISE ON PLANS
2. MOISTURE RESISTANT GWB AT ALL LOCATIONS EXPOSED TO MOISTURE
3. ALL WALLS ARE DRAWN AT NOMINAL WIDTHS ON FLOOR PLANS
4. ALL DIMENSIONS ARE TO FINISHED FACE OF WALL UNLESS NOTED OTHERWISE



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Proposed Expansion Plan

SCALE: 3/32" = 1'-0"

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Project:

ENVIRO-SAFE ADDITION

Enviro-Safe RESOURCE RECOVERY

W130N10500 WASHINGTON DR

Location:

GERMANTOWN, WI 53022

SKYLINE DEVELOPMENT CORPORATION

Sheet:

FLOOR PLAN NORTH DOCK OPTION

Date:	Issue Set:

Date:

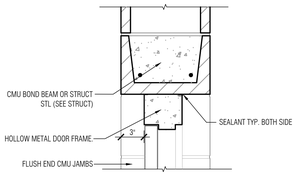
2020-02-04 CDS

Project No.:

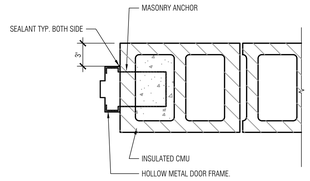
0019-42

Sheet No.:

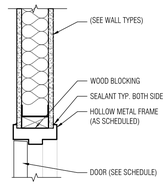
A1.00



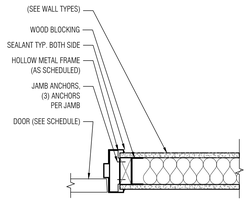
1 Door Head @ CMU Wall
SCALE: 1-1/2" = 1'-0"



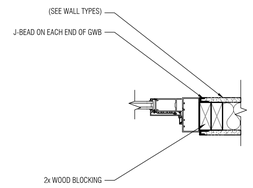
2 Door Jamb @ CMU Wall
SCALE: 1-1/2" = 1'-0"



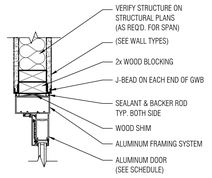
3 Door Head @ Gypsum Bd Wall
SCALE: 1-1/2" = 1'-0"



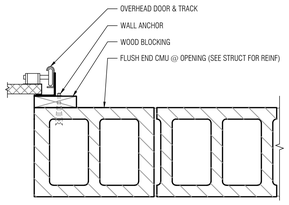
4 Door Jamb @ Gypsum Bd Wall
SCALE: 1-1/2" = 1'-0"



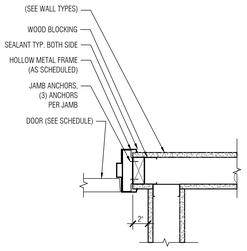
5 Interior Door Jamb @ Storefront Framing
SCALE: 1-1/2" = 1'-0"



6 Interior Door Head @ Storefront Framing
SCALE: 1-1/2" = 1'-0"



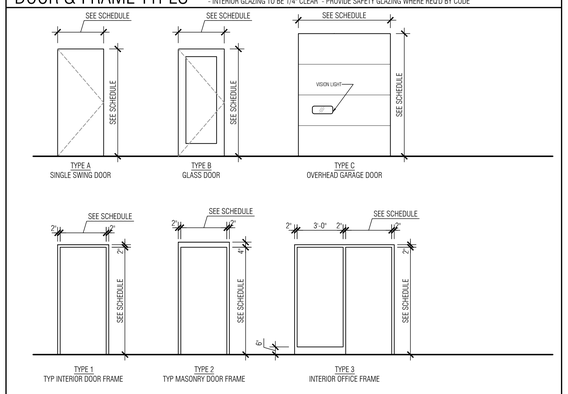
7 O.H. Door Jamb (Head Similar)
SCALE: 1-1/2" = 1'-0"



8 Typical Door Frame at Intersecting Wall
SCALE: 1-1/2" = 1'-0"

DOOR & FRAME TYPES

NOTE:
- INTERIOR GLAZING TO BE 1/4" CLEAR - PROVIDE SAFETY GLAZING WHERE REQ'D BY CODE



HARDWARE SETS

HS-1 (WAREHOUSE EXT DOOR)
1-1/2 PAIR B.B. HINGES, LOCK SET, LATCH GUARD, DRIP, CLOSURE , THRESHOLD & WEATHER-STRIPPING, SWEEP.

HS-2 (OVERHEAD EXTERIOR DOORS)
SLIDE LOCK, DOOR CONTACTS, OPERATOR

HS-3 (OFFICE INTERIOR DOOR)
1-1/2 PAIR HINGES, LOCK SET.

HS-4 (SHIPPING INTERIOR DOOR)
1-1/2 PAIR HINGES, CLOSURE, THRESHOLD, WEATHER STRIPPING, SWEEP, LOCK SET

HS-5 (TOILET & CHANGING ROOMS)
1-1/2 PAIR HINGES, PRIVACY LATCH SET

HARDWARE NOTES
HARDWARE FINISH TO BE BRUSHED CHROMIUM

LOCK SETS TO BE SCHLAGE, "AL" SERIES NEPTUNE LEVER

GENERAL NOTES:

1. PROVIDE DOOR BUMPERS OR STOPS AT EACH NON-CLOSURE DOOR
2. G.C. TO CONFIRM WITH OWNER REQUIREMENTS FOR DOOR CONTACTS AND/OR ELECTRONIC DOOR CONTROLS

LEGEND

ALUM	ALUMINUM
ANOD	ANODIZED
F.O.	FINISHED OPENING
H.M.	HOLLOW METAL
HS	HARDWARESET
PREF	PREFINISHED
PT	PAINT
S.F.	STOREFRONT
SS	STAINLESS STEEL
ST	STEEL

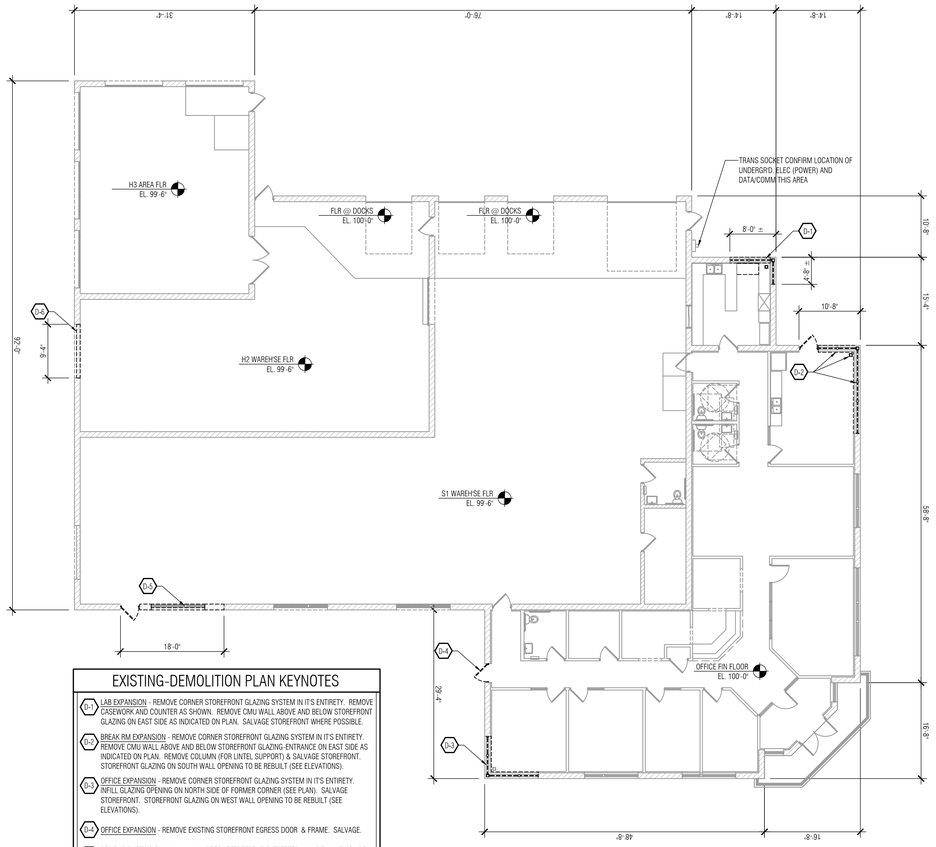
DOOR AND FRAME SCHEDULE

No.	DOOR					FRAME			DETAIL		FIRE RATING	HARDWARE	REMARKS
	WIDTH	HEIGHT	TYPE	MAT'L	FINISH	TYPE	MAT'L	FINISH	HEAD	JAMB			
100.A	3'-0"	7'-0"	A	H.M.	PT	2	H.M.	PT	1/A1.10	2/A1.10	--	HS-1	--
100.B	3'-0"	7'-0"	A	H.M.	PT	1	H.M.	PT	3/A1.10	4/A1.10	--	HS-4	--
101.A	3'-0"	7'-0"	A	H.M.	PT	1	H.M.	PT	3/A1.10	4/A1.10	--	HS-3	--
102.A	3'-0"	7'-0"	A	H.M.	PT	1	H.M.	PT	3 SIM/1.1	4 SIM/1.1	--	HS-1	--
102.B	3'-0"	7'-0"	A	H.M.	PT	2	H.M.	PT	1/A1.10	2/A1.10	--	HS-1	--
102.C	8'-0"	10'-0"	C	MTL	PREFIN	--	--	--	7 SIM	7/A1.10	--	HS-2	--
102.D	8'-0"	10'-0"	C	MTL	PREFIN	--	--	--	7 SIM	7/A1.10	--	HS-2	--
102.E	8'-0"	10'-0"	C	MTL	PREFIN	--	--	--	7 SIM	7/A1.10	--	HS-2	--
102.F	8'-0"	10'-0"	C	MTL	PREFIN	--	--	--	7 SIM	7/A1.10	--	HS-2	--
103.A	3'-0"	7'-0"	A	H.M.	PT	1	--	PT	1/A1.10	2/A1.10	--	HS-3	--
104.A	3'-0"	7'-0"	A	H.M.	PT	2	H.M.	PT	1/A1.10	2/A1.10	--	HS-5	--
105.A	3'-0"	7'-0"	B	WD	ST	3	H.M.	PT	6/A1.10	5/A1.10	--	HS-3	--
106.A	3'-0"	7'-0"	B	WD	ST	3	H.M.	PT	6/A1.10	5/A1.10	--	HS-3	--
107.A	3'-0"	7'-0"	B	WD	ST	3	H.M.	PT	6/A1.10	5/A1.10	--	HS-3	--
108.A	3'-0"	7'-0"	B	AL	ANOD	--	AL	ANOD	--	--	--	HS-1	--

ROOM FINISH SCHEDULE

ROOM		AREA	FLOOR		WALLS				CEILING		REMARKS
No	NAME		MAT'L	BASE	NORTH	EAST	SOUTH	WEST	MAT'L	HEIGHT	
100	SECURE ENTRY	72 SF	EPOXY	EPB	PT	PT	PT	PT	EXP PT	9'-0"	1
101	SHIPPING OFFICE	139 SF	EPOXY	EPB	PT	PT	PT	PT	EXP PT	9'-0"	1
102	WAREHOUSE S-1	22743 SF	XYPEX	EPB	PT	PT	PT	PT	EXP PT	18'-0"	1
103	WAREHOUSE H-2	3180 SF	XYPEX	EPB	PT	PT	PT	PT	EXP PT	8'-0"	1
104	OFFICE BUSINESS	514 SF	CPT1	VB1	PT	PT	PT	PT	ACT1	9'-6"	--
105	OFFICE	181 SF	CPT1	VB1	PT	PT	PT	PT	ACT1	9'-6"	--
106	OFFICE	172 SF	CPT1	VB1	PT	PT	PT	PT	ACT1	9'-6"	--
107	OFFICE	181 SF	CPT1	VB1	PT	PT	PT	PT	ACT1	9'-6"	--
108	BREAK RM EXP	208 SF	SV1	VB1	PT	PT	PT	PT	ACT1	9'-6"	2
109	LAB EXPANSION	207 SF	EP1	EPB	PT	PT	PT	PT	ACT1	9'-6"	2

ROOM FINISH SCHEDULE REMARKS:
1. MATCH EXISTING FINISHES IN WAREHOUSE (LIQUID TIGHT FLOORING, FULL CAULKED JOINTS) 6" EPOXY BASE. FLOOR SERVES AS SECONDARY CONTAINMENT. PROVIDE SLABS WITH XYPEX ADMIX C-500/C-500NF.
2. MATCH FINISHES IN EXISTING LAB AND BREAK ROOM



EXISTING-DEMOLITION PLAN KEYNOTES

D-1 LAB EXPANSION - REMOVE CORNER STOREFRONT GLAZING SYSTEM IN IT'S ENTIRETY. REMOVE CASEWORK AND COUNTER AS SHOWN. REMOVE CMU WALL ABOVE AND BELOW STOREFRONT GLAZING ON EAST SIDE AS INDICATED ON PLAN. SALVAGE STOREFRONT WHERE POSSIBLE.

D-2 BREAK RM EXPANSION - REMOVE CORNER STOREFRONT GLAZING SYSTEM IN IT'S ENTIRETY. REMOVE CMU WALL ABOVE AND BELOW STOREFRONT GLAZING-ENTRANCE ON EAST SIDE AS INDICATED ON PLAN. REMOVE COLUMN (FOR LINTEL SUPPORT) & SALVAGE STOREFRONT. STOREFRONT GLAZING ON SOUTH WALL OPENING TO BE REBUILT (SEE ELEVATIONS).

D-3 OFFICE EXPANSION - REMOVE CORNER STOREFRONT GLAZING SYSTEM IN IT'S ENTIRETY. INFILL GLAZING OPENING ON NORTH SIDE OF FORMER CORNER (SEE PLAN). SALVAGE STOREFRONT. STOREFRONT GLAZING ON WEST WALL OPENING TO BE REBUILT (SEE ELEVATIONS).

D-4 OFFICE EXPANSION - REMOVE EXISTING STOREFRONT EGRESS DOOR & FRAME. SALVAGE.

D-5 REMOVE EXISTING CMU WALL, H.M. DOOR, STOREFRONT CLERESTORY WINDOW IN THIS AREA AS INDICATED ON PLAN TO HEIGHT OF 16'-8". PROVIDE NEW STRUCT STEEL LINTEL TOOTH IN FLUSH END JAMB CMU TO COMPLETE NEW OPENING. (SEE STRUCT DWGS)

D-6 REMOVE EXISTING 8" CMU THIS LOCATION AS INDICATED ON PLAN TO UNDERSIDE OF EXISTING STRUCTURAL STEEL LINTEL (APPROXIMATELY 15'-4"). TOOTH IN FLUSH END JAMB CMU AS NECESSARY TO PROVIDE A NEW OPENING BETWEEN H-2 STORAGE AREAS.

N Existing-Demolition Plan
SCALE: 3/32" = 1'-0"

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Project:
ENVIRO-SAFE ADDITION

W130N10500 WASHINGTON DR

Location:
GERMANTOWN, WI 53022

SKYLINE DEVELOPMENT CORPORATION

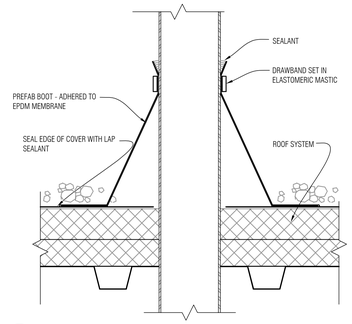
Sheet:
EXISTING-DEMO PLAN, SCHEDULES & DETAILS

Date:	Issue Set:

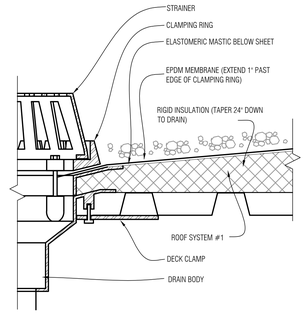
Date:
2020-02-04 CDS

Project No.:
0019-42

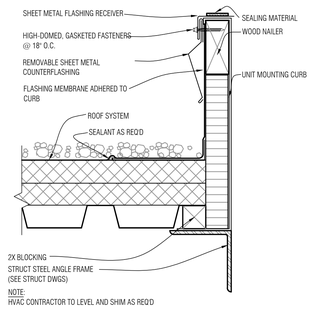
Sheet No.:
A1.10



1 ROOF PENETRATION
SCALE: 3" = 1'-0"



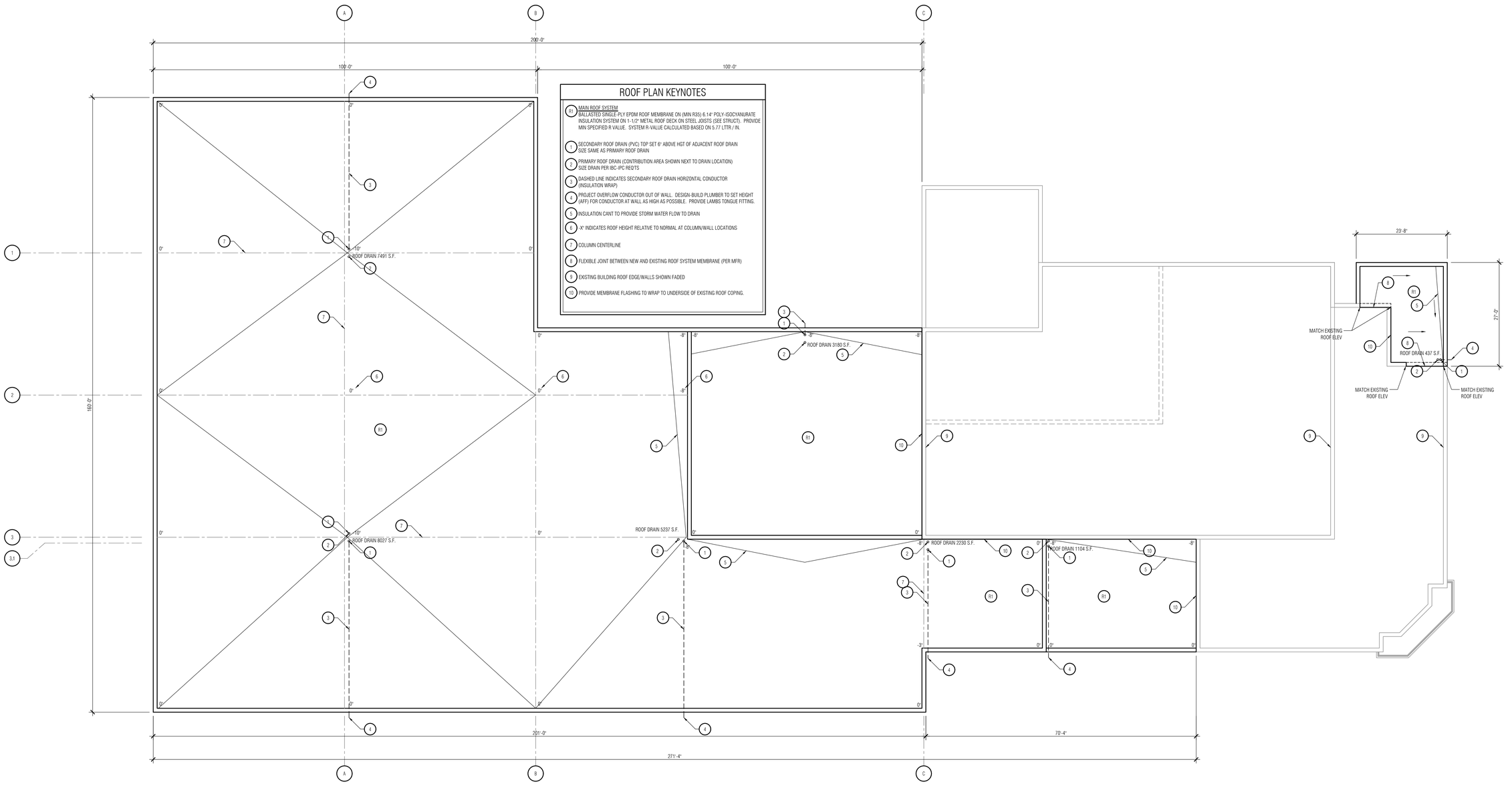
2 ROOF DRAIN
SCALE: 3" = 1'-0"



3 HVAC ROOF CURB
SCALE: 3" = 1'-0"

ROOF PLAN KEYNOTES

- (R1) MAIN ROOF SYSTEM — BALLASTED SINGLE-PLY EPDM ROOF MEMBRANE ON (MIN R35) 6.14" POLY-ISOCYANURATE INSULATION SYSTEM ON 1-1/2" METAL ROOF DECK ON STEEL JOISTS (SEE STRUCT). PROVIDE MIN SPECIFIED R VALUE. SYSTEM R-VALUE CALCULATED BASED ON 5.77 LTTR / IN.
- (1) SECONDARY ROOF DRAIN (PVC) TOP SET 6" ABOVE HGT OF ADJACENT ROOF DRAIN SIZE SAME AS PRIMARY ROOF DRAIN
- (2) PRIMARY ROOF DRAIN (CONTRIBUTION AREA SHOWN NEXT TO DRAIN LOCATION) SIZE DRAIN PER IBC-IPC REQTS
- (3) DASHED LINE INDICATES SECONDARY ROOF DRAIN HORIZONTAL CONDUCTOR (INSULATION WRAP)
- (4) PROJECT OVERFLOW CONDUCTOR OUT OF WALL. DESIGN-BUILD PLUMBER TO SET HEIGHT (AFF) FOR CONDUCTOR AT WALL AS HIGH AS POSSIBLE. PROVIDE LAMBS TONGUE FITTING.
- (5) INSULATION CANT TO PROVIDE STORM WATER FLOW TO DRAIN
- (6) -X" INDICATES ROOF HEIGHT RELATIVE TO NORMAL AT COLUMN/WALL LOCATIONS
- (7) COLUMN CENTERLINE
- (8) FLEXIBLE JOINT BETWEEN NEW AND EXISTING ROOF SYSTEM MEMBRANE (PER MFR)
- (9) EXISTING BUILDING ROOF EDGE/WALLS SHOWN FADED
- (10) PROVIDE MEMBRANE FLASHING TO WRAP TO UNDERSIDE OF EXISTING ROOF COPING.



Roof Plan
SCALE: 3/32" = 1'-0"

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Sheet:
ROOF PLAN

Date:	Issue Set:

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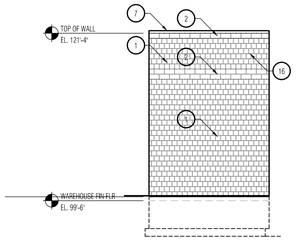
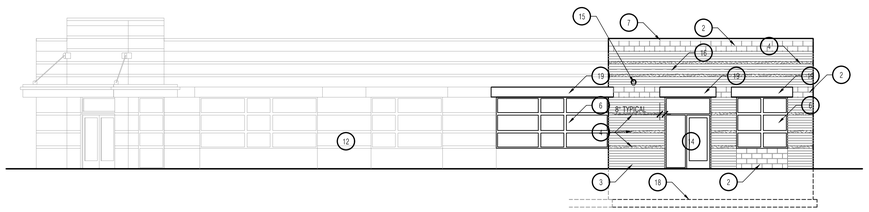
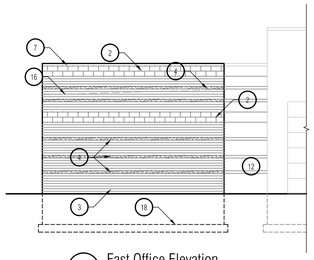


South Warehouse Elevation West Side
SCALE: 1/8" = 1'-0"



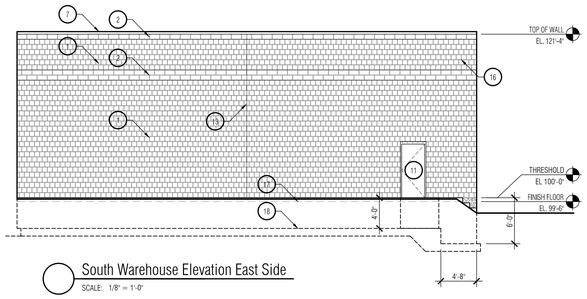
South Office Elevation
SCALE: 1/8" = 1'-0"



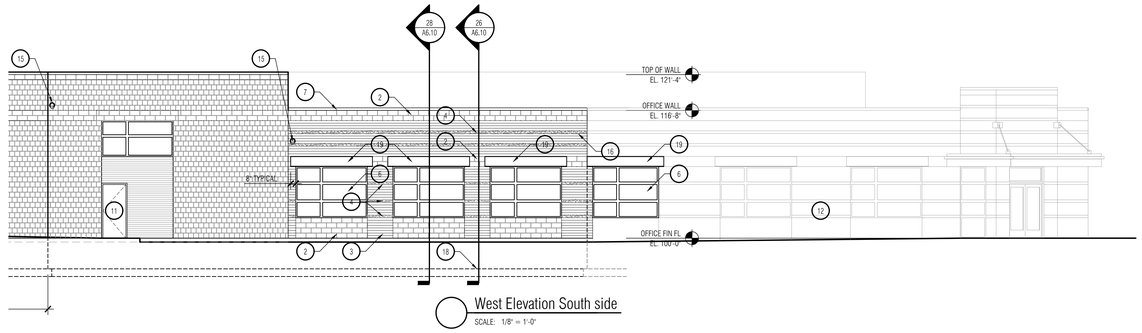
East Office Elevation
SCALE: 1/8" = 1'-0"

ELEVATION KEYNOTES

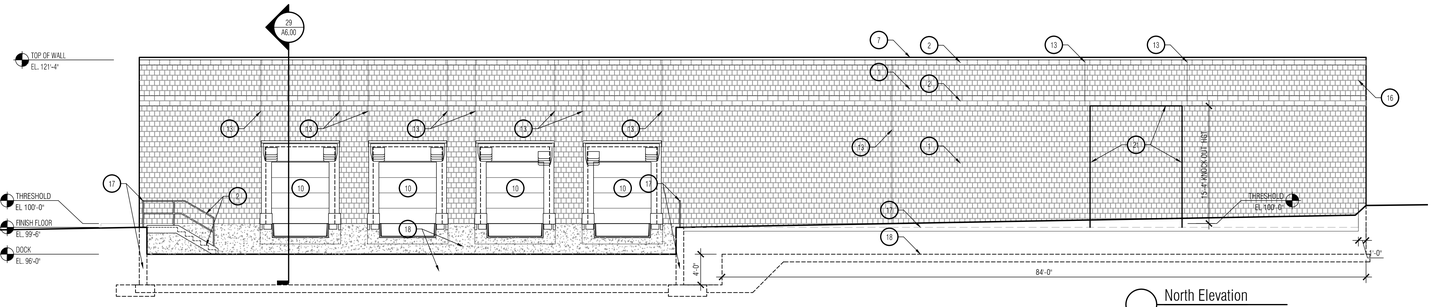
1. PREFINISHED, INSULATED ROCK FACE ARCHITECTURAL CMU (MATCH EXISTING)
2. PREFINISHED, INSULATED SMOOTH FACE, BURNISHED CMU (MATCH EXISTING)
3. PREFINISHED, INSULATED 4' HIGH SMOOTH FACE CMU (MATCH EXISTING)
4. PREFINISHED, INSULATED 4' HIGH ROCK FACE ACCENT CMU (MATCH EXISTING)
5. HORIZONTAL METAL PANEL ACCENT SYSTEM BELOW CLERESTORY (MATCH EXISTING) ON NEW COLD FORM INSULATED METAL STUD WALL SYSTEM.
6. THERMALLY BROKEN, CLEAR ANODIZED ALUMINUM STOREFRONT W/ 1" TINTED, LOW-E. INSUL GLASS W/ SILL & HEAD FLASHING GLAZING (MATCH EXISTING INCL 4" INTERIOR MULLIONS)
7. PREFIN METAL WALL COPING (MATCH EXISTING)
8. POURED IN PLACE CONCRETE RETAINING WALL SYSTEM W/ PAINTED STEEL PIPE GUARD.
9. EXPOSED CONCRETE FOUNDATION/STEM WALL SYSTEM
10. INSULATED SECTIONAL O.H. DOOR, DOCK SHELTER AND DOCK LEVELER
11. PAINTED H.M. DOOR AND FRAME
12. EXISTING BUILDING SHOWN FADED
13. CONTROL JOINTS LOCATED AS RECOMMENDED BY NCMA TEK 10-2B 2008
14. ALUMINUM STOREFRONT ENTRY SYSTEM (MATCH EXISTING)
15. LAMBS TONGUE FOR OVERFLOW DRAIN
16. APPROXIMATE JOIST BRG
17. DASHED LINE INDICATES FINISH FLOOR LOCATION
18. POURED IN PLACE CONCRETE FOUNDATION WALL AND FOOTING SYSTEM
19. PAINTED BENT PLATE STEEL FALSE LINTEL (MATCH EXISTING STEEL LINTEL COLOR)
20. PAINTED STEEL DOCK STAIR WITH HAND RAIL AND GUARD. CODE COMPLIANT "OPEN" GRATE TREADS.
21. PROVIDE STEEL LINTEL IN WALL FOR FUTURE KNOCK OUT (TO ACCESS FUTURE ADDITION). SAME AREA TO PROVIDE CONSTRUCTION ACCESS TO ADDITION.



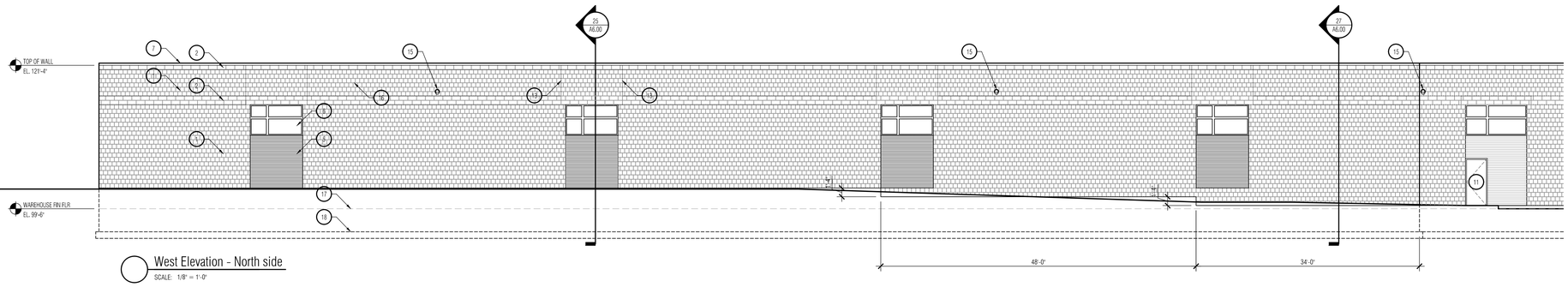
South Warehouse Elevation East Side
SCALE: 1/8" = 1'-0"



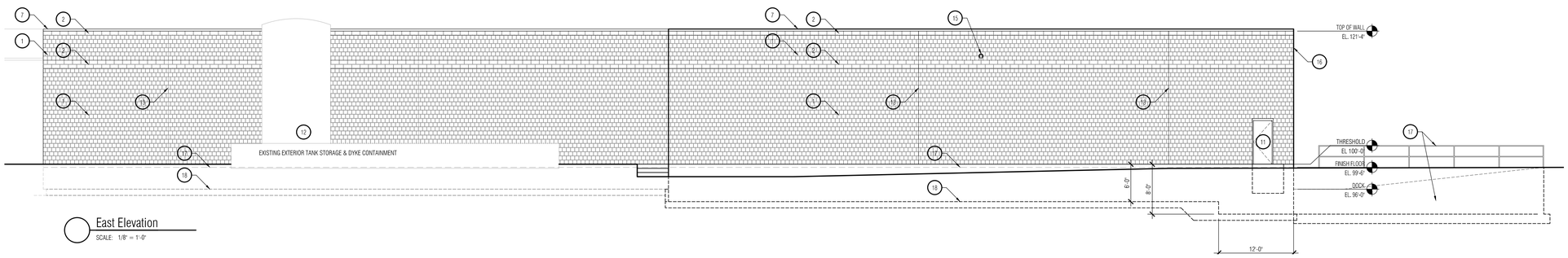
West Elevation South side
SCALE: 1/8" = 1'-0"



North Elevation
SCALE: 1/8" = 1'-0"



West Elevation - North side
SCALE: 1/8" = 1'-0"



East Elevation
SCALE: 1/8" = 1'-0"

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W130N10500 WASHINGTON DR

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SKYLINE DEVELOPMENT CORPORATION

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ELEVATIONS

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0019-42

Sheet No.:
A4.00

SECTION KEYNOTES

- CP1 COPING SYSTEM #1
  PRE-FINISHED (MATCH EXISTING) 2 PIECE METAL WALL COPING ON CONTINUOUS P.T. 2"x WD BLOCKING ANCHORED TO TOP OF WALL SYSTEM W/COUNTER SUNK EXP ANCHORS AT 3`0/C.
- F1 WAREHOUSE CONCRETE FLOOR SYSTEM
  7" UNREINFORCED CONC SLAB ON VAPOR BARRIER ON COMPACTED GRANULAR FILL ON COMPACTED SUBGRADE. PROVIDE ISOLATION JOINT MATERIAL AT COLUMNS, AND PERIMETER (SEE STRUCT.) CAULK FLR JOINTS, PROVIDE SEAL TIGHT FINISH AND 6" HIGH LIQUID TIGHT BASE TO CREATE 6" DEEP SECONDARY CONTAINMENT SYSTEM.
- F2 OFFICE CONCRETE FLOOR SYSTEM
  5" CONC. SLAB W/ WWF REINFORCING ON VAPOR BARRIER ON COMPACTED GRANULAR FILL ON COMPACTED SUBGRADE. PROVIDE ISOLATION JOINT MATERIAL AT STRUCTURE & PERIMETER (SEE STRUCT.)
- FD1 FOUNDATION SYSTEM
  CAST IN PLACE REIN CONC FTG W/ CAST IN PLACE TRENCH WALL & FOOTING. PROVIDE DRAIN TUBE, MEMBRANE WATER PROOFING, 2" HIGH DENSITY RIGID INSULATION/PROTECTION BD AT LOCATIONS WHERE GRADE IS HIGHER THAN FINISH FLOOR ELEVATION. (SEE STRUCT)
- FD2 FOUNDATION SYSTEM (TYPICAL)
  CAST IN PLACE REIN CONC FTG W/ CAST IN PLACE TRENCH WALL & FOOTING. PROVIDE 2" HIGH DENSITY RIGID INSULATION MIN 4`-0" LENGTH. (SEE STRUCT)
- G1 GLAZING SYSTEM #1
  ANODIZED ALUMINUM STOREFRONT SYSTEM W/ 1" INSULATED TINTED LOWe GLAZING UNITS TO MATCH EXISTING BUILDING. MIN WINTER U= 29, SHGC= .28. PROVIDE SILL AND HEAD FLASHING AS RECOMMENDED BY MFR FOR OPENING AND SPAN CONDITIONS. SAFETY GLAZING AS REQ'D. BY CODE.
- R1 ROOF SYSTEM
  BALLASTED SINGLE-PLY EPDM ROOF MEMBRANE ON (MIN R35) 6.14" POLY-ISOCYANURATE INSULATION SYSTEM ON 1-1/2" METAL ROOF DECK ON STEEL JOISTS (SEE STRUCT). PROVIDE MIN SPECIFIED R VALUE. SYSTEM R-VALUE CALCULATED BASED ON 5.77 LTTR / IN.
- W1 EXTERIOR WALL SYSTEM
  FOAMED IN PLACE, PRE-FINISHED, REINFORCED 12" ARCHITECTURAL CMU. SEE ELEVATIONS FOR CMU EXTERIOR FINISH TYPE (MATCH EXISTING) . PROVIDE HORIZONTAL JOINT REINF. EVERY OTHER COURSE OR 16" O/C VERTICAL. PROVIDE CONTROL JOINTS AS RECOMMENDED BY THE NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA). SEE STRUCT DWGS FOR VERT REINF REQUIREMENTS.
- W2 EXTERIOR COLD FORM WALL SYSTEM
  6" COLD FORM STUD WALL W/ 3" FOAM IN PLACE INSULATION. PROVIDE HORIZONTAL METAL PANEL (THRU FASTENED) TO MATCH EXISTING ON PEEL & STICK AIR-WATER BARRIER ON ½" NON-COMBUSTIBLE SHEATHING ON COLD FORM STUDS. INTERIOR SIDE TO BE PAINTED, NON-COMBUSTIBLE SHEATHING.
- W3 EXTERIOR RETAINING WALL SYSTEM
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1. 11-5/8" X 3/8" X WIDTH OF OPENG PAINTED STEEL PLATE.
2. PAINTED 3/8" BENT STEEL PLATE (TO MATCH EXISTING EXPOSED STEEL LINTEL PROFILE)
3. STEEL JOIST
4. REINFORCED CMU PIER BEYOND (SEE STRUCT DWGS)
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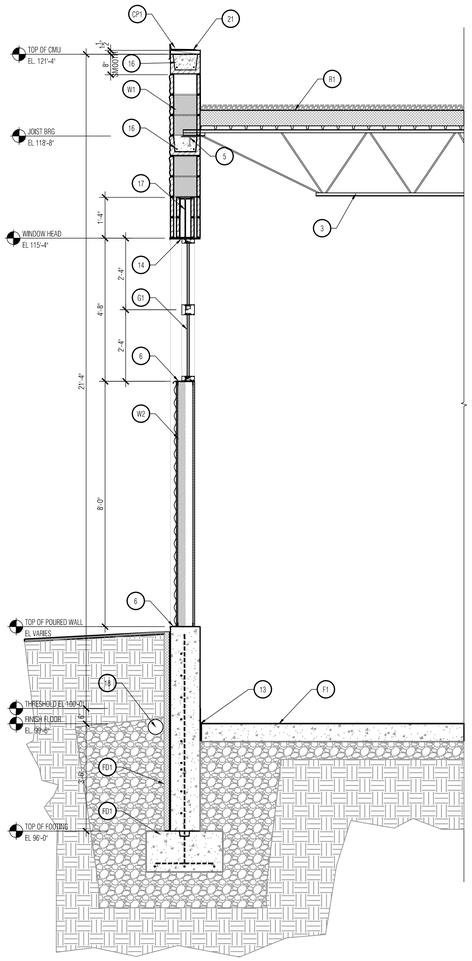
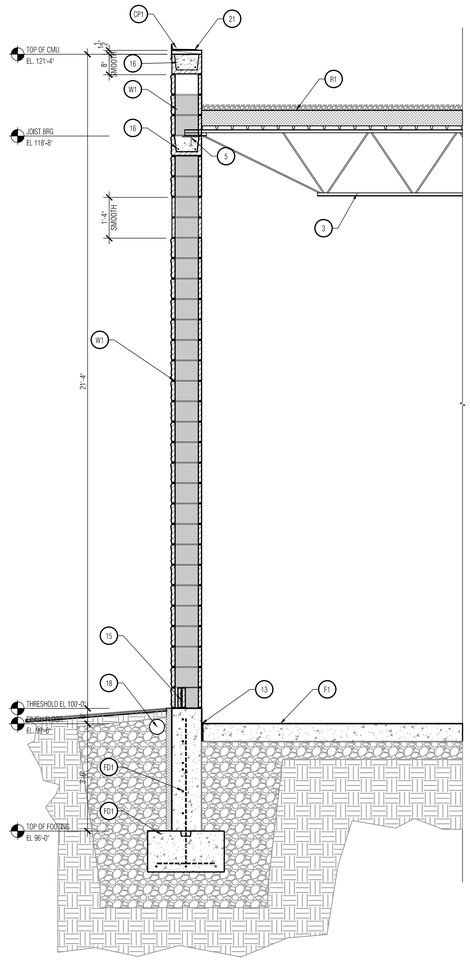
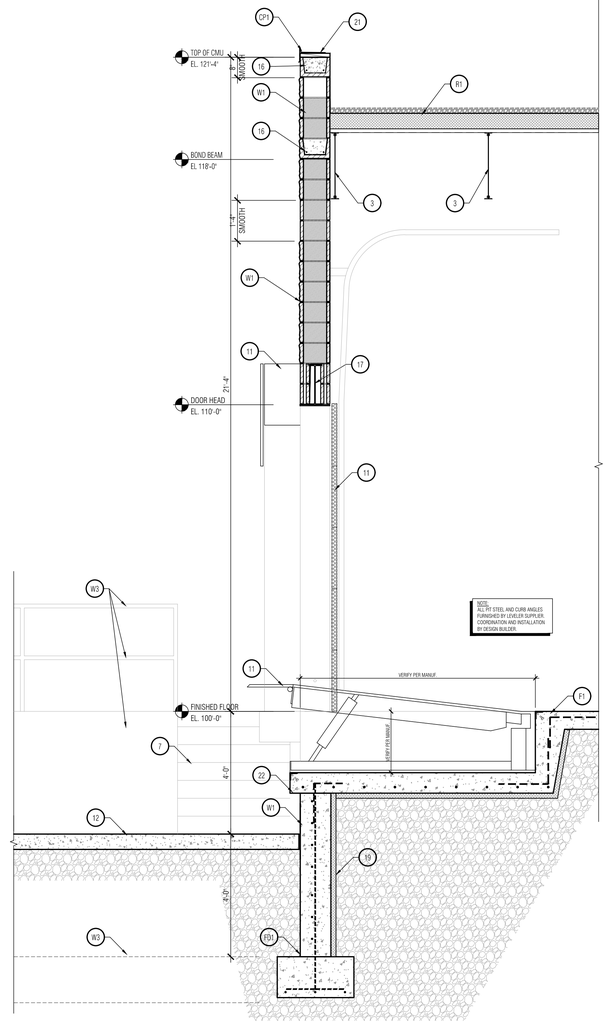
10. MEMBRANE WATER PROOFING AND 2" RIGID INSULATION/PROTECTION BOARD AT EXTERIOR SIDE OF CAST IN PLACE RETAINING WALL WHERE GRADE ABOVE FIN FLOOR ELEVATION.
11. INSULATED, SECTIONAL O.H. DOOR W/ SINGLE VISION LIGHT, MOTOR OPERATOR, DOCK SHELTER AND MANUAL DOCK LEVELER.
12. EXTERIOR CONCRETE SLAB OR BITUMINOUS PAVING SYSTEM. (SEE CIVIL DWGS)
13. 1/2" JOINT ISOLATION MATERIAL
14. FLASHING
15. THRU WALL FLASHING AND WEEPS
16. REINFORCED GROUTED CMU BOND BEAM (SEE STRUCT)
17. STEEL LINTEL W/ THRU WALL FLASHING & WEEPS (SEE STRUCT)
18. PROVIDE EXTERIOR DRAIN TUBE SYSTEM AT AREAS WHERE EXTERIOR GRADE IS HIGHER THAN INTERIOR FLOOR SLAB. TIE TO EXISTING CATCH BASIN ON WEST SIDE OF BLDG
19. 2" THICK EXTRUDED POLY STYRENE RIGID INSULATION AT BUILDING PERIMETER (4' TYPICAL PER CODE)
20. ACOUSTICAL CEILING TO MATCH EXISTING
21. RUN MEMBRANE-ROOF FLASHING OVER TOP OF CMU WALL
22. MAXIMUM 6" DOCK PROJECTION AS RECOMMENDED BY DOCK EQUIPT MFR.
23. 4" H ACCENT CMU 1/4" CORBEL. MATCH EXISTING.
24. INTERIOR SILL SYSTEM. MATCH EXISTING.



25 West Wall Section - Metal & Clerestory
SCALE: 1/2" = 1'-0"



27 Typical Wall Section - West Warehouse
SCALE: 1/2" = 1'-0"



29 Wall Section - Loading Dock
SCALE: 1/2" = 1'-0"

CONSORTIUM ae
\kən-sor-sh(ē)əm\ a.e. : an architectural engineering partnership
the Consortium ae LLC
735 N Water Street Suite 1228 | Milwaukee | WI 53202 | Gregg Prossen, Principal
TELEPHONE 414.406.7825
www.consortiumae.com

Project:
ENVIRO-SAFE ADDITION

W130N10500 WASHINGTON DR

Location:
GERMANTOWN, WI 53022

SKYLINE DEVELOPMENT CORPORATION

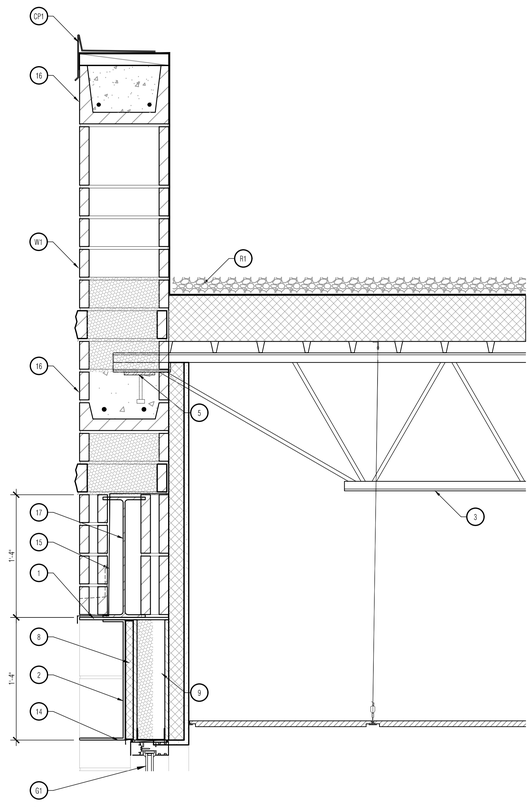
Sheet:
SECTIONS

Date:	Issue Set:

Date:
2020-02-04 CDS

Project No.:
0019-42

Sheet No.:
A6.00



Window Head-Lintel Detail
SCALE: 1-1/2" = 1'-0"

SECTION KEYNOTES

- CP1 COPING SYSTEM #1
  PRE-FINISHED (MATCH EXISTING) 2 PIECE METAL WALL COPING ON CONTINUOUS P.T. 2"x WD BLOCKING ANCHORED TO TOP OF WALL SYSTEM W/COUNTER SUNK EXP ANCHORS AT 3`0/C.
- F1 WAREHOUSE CONCRETE FLOOR SYSTEM
  7" UNREINFORCED CONC SLAB ON VAPOR BARRIER ON COMPACTED GRANULAR FILL ON COMPACTED SUBGRADE. PROVIDE ISOLATION JOINT MATERIAL AT COLUMNS, AND PERIMETER (SEE STRUCT.) CAULK FLR JOINTS, PROVIDE SEAL TIGHT FINISH AND 6" HIGH LIQUID TIGHT BASE TO CREATE 6" DEEP SECONDARY CONTAINMENT SYSTEM.
- F2 OFFICE CONCRETE FLOOR SYSTEM
  5" CONC. SLAB W/ WWF REINFORCING ON VAPOR BARRIER ON COMPACTED GRANULAR FILL ON COMPACTED SUBGRADE. PROVIDE ISOLATION JOINT MATERIAL AT STRUCTURE & PERIMETER (SEE STRUCT.)
- FD1 FOUNDATION SYSTEM
  CAST IN PLACE REIN CONC FTG W/ CAST IN PLACE TRENCH WALL & FOOTING. PROVIDE DRAIN TUBE, MEMBRANE WATER PROOFING, 2" HIGH DENSITY RIGID INSULATION/PROTECTION BD AT LOCATIONS WHERE GRADE IS HIGHER THAN FINISH FLOOR ELEVATION. (SEE STRUCT)
- FD2 FOUNDATION SYSTEM (TYPICAL)
  CAST IN PLACE REIN CONC FTG W/ CAST IN PLACE TRENCH WALL & FOOTING. PROVIDE 2" HIGH DENSITY RIGID INSULATION MIN 4`-0" LENGTH. (SEE STRUCT)
- G1 GLAZING SYSTEM #1
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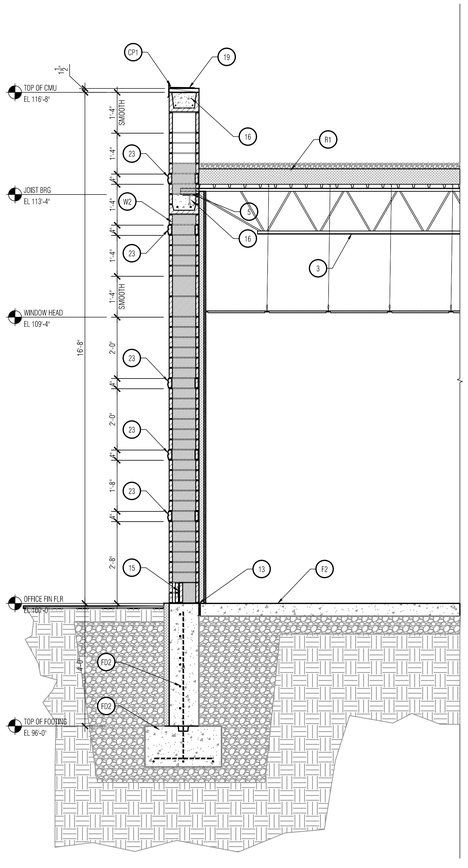
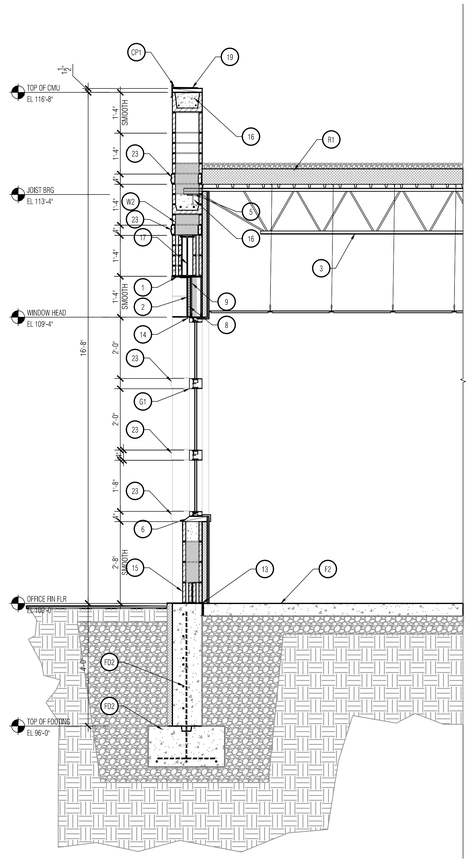


26 Typical Wall Section - Office Addition
SCALE: 1/2" = 1'-0"



28 Typical Wall Section - Office Window
SCALE: 1/2" = 1'-0"

CONSORTIUM ae
\ kən-sor-sh(ē)əm \ a.e. : an architectural engineering partnership
the Consortium ae LLC
Gregg Prossen, Principal
TELEPHONE 414.406.7025
735 N Water Street Suite 1228 | Milwaukee | WI 53202
www.consortiumae.com

Project:
ENVIRO-SAFE ADDITION

Enviro-Safe RESOURCE RECOVERY

W130N10500 WASHINGTON DR

Location:
GERMANTOWN, WI 53022

SKYLINE DEVELOPMENT CORPORATION

Sheet:
SECTIONS & DETAILS

Date:	Issue Set:

Date:
2020-02-04 CDS

Project No.:
0019-42

Sheet No.:
A6.10

SITE PLAN REVIEW

5/11/20 Plan Commission Meeting

Josh Brown / Bliffert Germantown Holdings

Village Planner Report **Germantown, Wisconsin**

Summary

Josh Brown, agent for Bliffert Germantown Holdings LLC, property owner, is seeking approval of site development & building plans to enclose approximately 3,800 square feet in the front area of the existing building (already covered) for additional retail space as well as the addition of an entrance tower and front porch area. Additional customer parking spaces will also be marked in front of the building.

Location: N116 W16474 Main Street

Applicant/ Owner:

Josh Brown
Bliffert Lumber
6826 S. 13th Street
Oak Creek, WI 53154

Bliffert Germantown Holdings LLC
6826 S. 13th Street
Oak Creek, WI 53154

Current Zoning: B-3: General Business

Adjacent Land Uses		Zoning
North	Residential/Open Space	A-2/Rs-2, 3, 4
South	Residential	Rs-4,5/Rm-3
East	Residential	Rd-2
West	Park/Industrial	I / M-1

Proposal

Josh Brown, agent for Bliffert Germantown Holdings LLC, property owner, is seeking approval of site development & building plans to enclose approximately 3,800 square feet in the front area of the existing building (currently covered storage) for additional retail space as well as the addition of an entrance tower and front porch area. Twelve (12) additional customer parking spaces will also be marked in the front of the building, including two (2) ADA compliant spaces.

The Bliffert Lumber site is 11.17 acres on the west end of Main Street, immediately east of Haupt Strasse Park. This property was the former Neu's Hardware Store. Bliffert took ownership of the property in 2019.

The proposed area to be enclosed is an existing covered area currently used for storage. The newly enclosed area will be used for offices, retail floor space, and new bathrooms. Keeping with the Bliffert branding, the applicant is also proposing new "entry tower" which they feel is consistent with the Village of Germantown's Germanic Theme Corridor requirements.

The enclosure and entry tower improvements will include cedar shingled siding, exposed cedar accents, and royal blue roof and trim.

Staff Analysis/Comments

Planning & Zoning

The zoning for this parcel is B-3: General Business. Subject to the staff recommended conditions herein, the proposed development plans comply with the B-3: General Business Zoning district regulations.

The current plans do not include any landscaping for the new parking area. Staff recommends requiring a combination of deciduous and evergreen trees (50/50 mix) be installed along the fence line shared by the abutting residential lot (also owned by Bliffert) directly south of the improvements. The site plan shall be updated with landscaping in conformance with Chapter 17.43 Site Plan Approval Requirements and submitted for review and approval by the Village Planner. This has been added as a condition of approval. The Plan Commission can make modifications to the landscaping recommendation as they see fit.

As the proposed building addition will not include adding additional impervious surface to the site, Planning staff recommends approval of the proposed 3,800-square foot enclosure project, including the entry tower and porch area and the twelve (12) additional parking spaces to be striped in front of the building, with conditions to be met and submitted to Village Planning and/or Engineering staff for review and approval prior to the issuance of any building permits.

Public Works

The applicant has submitted revised plans in response to the first set of review comments provided by the Public Works department, which added a fire hydrant to the site. After further discussion between the Fire Chief and the Utility Superintendents, it

was been determined that the hydrant is not the best solution for the site. The Fire Chief and Utility Superintendents would prefer to see the existing driveway widened or a connection from the existing driveway on the adjacent residential property owned by Bliffert (see graphic included in the Engineering Department Memorandum dated May 7, 2020).The necessary plan modifications and a few other items have been outlined in a Memo provided by the Director of Public Works dated May 7, 2020. Compliance with these items has been included as a condition of approval.

Inspection Services

Inspector services has indicated that the submission of state-approved plans may be required prior to issuing a building permit along with a $20,000 occupancy bond.

Village Planner Recommendation

APPROVE the site development & building plans for the proposed 3,800 square foot enclosure, entry tower, and porch area to the existing facility located at N116 W16474 Main Street subject to the following conditions:

1. Approval is for the site development and building plan set dated April 23, 2020 (unless otherwise revised by a subsequent plan set approved by the Village Planner pursuant to revisions required herein or by the Plan Commission).
2. All information and revised plans including, but not limited to, the items identified in the Memo from the Public Works Director dated May 7, 2020 must be submitted to the Village Public Works Department staff for review and approval prior to the issuance of a building permit for the proposed work. This shall include either the widening of the existing driveway or a connection between the existing residential driveway to the west and the Bliffert commercial property.
3. A landscaping plan, meeting the requirements of Chapter 17.43(5) Site Plan Approval Requirements shall be submitted and approved by the Village Arborist and Planning Staff prior to the issuance of any permits for the proposed work.
4. All landscaping, screening, grading, and paving improvements shown on the approved site plans shall be installed as proposed prior to issuance of an occupancy permit unless a cash bond or letter of credit in an amount equal to 120 percent of the estimated installation and material costs reviewed and approved by the Village is submitted to the Village as necessary to ensure that installation of the proposed features and improvements will be completed within one (1) year after issuance of the occupancy permit.
5. State approved plans and a $20,000 occupancy bond may be required by Inspection Services as part of the building permit application.
6. If proposed in the future, all exterior signage and exterior lighting will require separate review and approval by the Plan Commission.

Engineering Department Memorandum

To : Jeffrey W. Retzlaff, AICP, Planning Director/Zoning Administrator

From : Lawrence Ratayczak, P.E., Director of Public Works

Date : May 7, 2020

Re : Bliffert Lumber – Site Plan Review

Items Reviewed:

1. Civil Plan Set (4 pages) Dated: 04-23-20

General Comments:

1. Please respond to each item below. **A written response addressing each item shall be included in your submittal**.
2. The submitted plans have been reviewed for general conformance with State and Village design guidelines. Additional comments could arise as a result of the plan completion and modifications. The items listed below will need to be fully resolved before the Engineering Dept. can recommend a formal approval of the plans and permit for construction.
3. A professional engineer's original seal is to be affixed, signed and dated on the final set of construction plans.
4. Contact Ryan Ehlerding, 262-250-4723 for a utility permit.
5. As a guide to the review response: Items in *italics* are resolved or acknowledged, items in regular font are to be addressed yet, items in **Bold** are additional feedback to remaining original comment.
6. *Provide a dimensioned site plan showing the proposed site improvements on the existing site.*
7. *ADA parking is required. Show proposed ADA parking locations.*
8. *Provide a grading plan for the proposed site improvements.*

Utility Department Comments:

1. A sampling manhole meeting Village specification is required. Show the sewer lateral and new sampling manhole location on the plan. **Sampling manhole has match Village standard details. Include village standard detail on the plan set. Add a note requiring the contractor to televise the existing lateral for re-use and provide the Village with information on it's condition.**

2. *A water meter on the existing well for sewer billing purposes is required. Coordinate with the water utility to have a meter installed.*
3. Add truncated domes at the access aisle for the ADA parking.
4. The water utility and fire department have visited the site and due to concerns over flushing the hydrant, hydrant protection, and drainage they will allow the hydrant to be omitted if one of the following access improvements are made to the site.
    1. Widen existing drive and gate to the width of the drive and parking stalls (or).
    2. Create a second access from the driveway of the Bliffert owned residence.

4/23/2020

Jeffrey W. Retzlaff, AICP, Director
Village of Germantown
Community Development Department
N112 W17001 Mequon Road
P.O. Box 337
Germantown, WI 53022-0337

RE: Bliffert Germantown Site Plan Review Response
Village of Germantown, Washington County, WI
PEG Job No. 2000.00-WI

Dear Mr. Retzlaff,

This response letter is regarding the attached March 10, 2020 Bliffert Germantown Site Plan Review Application Staff Review Comments. The comments in the site plan review were addressed as follows:

Community Development Department

1. Village code requires parking spaces to be at least 180 square feet in size. Further, ADA compliant parking is required. Please update the site plan with parking spaces of this dimension, and ADA compliant parking.
   See sheet C-2 for ADA stall and signage locations and parking dimensions confirming 180 square feet stalls.
2. Please specify the materials to be used on the proposed addition on the site plan.
   See revised architectural plans.
3. A materials board will be required for the Plan Commission meeting.
   Comment only, no plan change.
4. Any new proposed signage will require a separate Sign Permit application which goes before the Plan Commission for approval.
   Comment only, no change. No proposed sign as part of this package.
5. Will any additional exterior lighting be added to the site? If so, please provide detailed specifications, a photometric report, and installation information.
   To be provided at a later date.
6. Is any landscaping planned for the site?
   No new landscaping is being planned.
7. Please remove the “Free” container from the Main Street right-of-way. Any such container should be screened from view.
   Container has been removed.
8. A sign permit is required for the banner advertising salt in front of the property.
   Sign has been removed.

Fire Department

9. The fire department will require one of the two options:
    a. Add a second fire lane access connecting to Main Street, including the addition of a knox box at the gate.
    b. Install one fire hydrant connected to municipal water supply on Main Street. Hydrant location/flow to be determined with the Germantown Fire Department. A knox box would be required at the existing gate. ***This option was selected. A hydrant has been added per guidance from the Germantown Fire Department. A knox box has been proposed on the existing gate.***

Public Works/Village Engineer

10. Please refer to the Memo provided by the Director of Public Works dated January 29, 2020.
    See attached response to said memo.

Please feel free to contact me if you have any questions or comments.

Sincerely,

Pinnacle Engineering Group

Anthony S. Zanon, P.E.
Senior Project Manager | Principal

Village of Germantown
...Willkommen

Community Development Department
Jeffrey W. Retzlaff, AICP, Director
Village Planner & Zoning Administrator
N112 W17001 Mequon Road P.O. Box 337
Germantown, WI 53022-0337
Telephone: (262) 250-4735 Website: www.village.germantown.wi.us
FAX: (262) 253-8255 E-mail: jretzlaff@village.germantown.wi.us

March 10, 2020

Josh Brown
Bliffert Germantown Holdings
6826 S 13th Street
Oak Creek, WI 53154

RE: Bliffert Germantown Site Plan Review Application
Staff Review Comments

Mr. Brown:

Village Staff has reviewed the application, plan set and supporting materials submitted for the proposed addition to the building located at N116W16474 Main Street. Below are the outstanding items/issues that need to be addressed before this item can be placed on the Plan Commission Agenda for review/approval. Please provide the requested information, corrections and/or revisions as soon as possible. If necessary, Village staff would be happy to meet with you to discuss or clarify any of these items.

Community Development Department

1. Village code requires parking spaces to be at lease 180 square feet in size. Further, ADA compliant parking is required. Please update the site plan with parking spaces of this dimension, and ADA compliant parking.
2. Please specify the materials to be used on the proposed addition on the site plan.
3. A materials board will be required for the Plan Commission meeting.
4. Any new proposed signage will require a separate Sign Permit application which goes before the Plan Commission for approval.
5. Will any additional exterior lighting be added to the site? If so, please provide detailed specifications, a photometric report, and installation information.
6. Is any landscaping planned for the site?
7. Please remove the “Free” container from the Main Street right-of-way. Any such container should be screened from view.
8. A sign permit is required for the banner advertising salt in front of the property.

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9. The fire department will require one of the two options:
    a. Add a second fire lane access connecting to Main Street, including the addition of a knox box at the gate.
    b. Install one fire hydrant connected to municipal water supply on Main Street. Hydrant location/flow to be determined with the Germantown Fire Department. A knox box would be required at the existing gate.

Public Works/Village Engineer
Please refer to the Memo provided by the Director of Public Works dated January 29, 2020.

When submitting revised plans or additional information, please submit (1) digital plan set and fifteen (15) full-size, hard-copy plan sets set to the Community Development Department. Complete responses and/or information, plan revisions, etc. to the items/issues listed above will help avoid delay in the review and processing of your application.

Respectfully,

Jeffrey W. Retzlaff, AICP
Village Planner & Zoning Administrator

4/23/2020

Lawrence Ratayczak, P.E.
Director of Public Works
Village of Germantown
N112 W17001 Mequon Road
P.O. Box 337
Germantown, WI 53022-0337

RE: Bliffert Lumber - Site Plan Review Response
Village of Germantown, Washington County, WI
PEG Job No. 2000.00-WI

Dear Mr. Ratayczak,

This response letter is regarding the attached January 29, 2020 Engineering Department Memorandum for Bliffert Lumber - Site Plan Review. The comments in the memorandum were addressed as follows:

General Comments

1. Please respond to each item below. A written response addressing each item shall be included in your submittal.
   This letter serves as the response letter.
2. The submitted plans have been reviewed for general conformance with State and Village design guidelines. Additional comments could arise as a result of the plan completion and modifications. The items listed below will need to be fully resolved before the Engineering Dept. can recommend a formal approval of the plans and permit for construction.
   Comment only, no change.
3. A professional engineer's original seal is to be affixed, signed, and dated on the final set of construction plans.
   The civil plan set has been stamped, signed, and dated.
4. Contact Ryan Ehlerding, 262-250-4723 for a utility permit.
   The owner and/or contractor will reach out to Ryan for the utility permit.
5. As a guide to the review response: Items in italics are resolved or acknowledged, items in regular font are to be addressed yet, items in Bold are additional feedback to remaining original comment.
   Comment only, no change.
6. Provide a dimensioned site plan showing the proposed site improvements on the existing site.
   Sheet C-2 is the proposed site plan with dimensions on the site improvements.
7. ADA parking is required. Show proposed ADA parking locations.

See sheet C-2 for ADA stall and signage locations and parking dimensions.

8. Provide a grading plan for the proposed site improvements.
   Sheet C-3 is the grading and erosion control plan.

Utility Department Comments:

1. A sampling manhole meeting Village specification is required. Show the sewer lateral and new sampling manhole location on the plan.
   See sheet C-4 for the existing sanitary lateral location, proposed sampling manhole location and manhole detail.
2. A water meter on the existing well for sewer billing purposes is required. Coordinate with the water utility to have a meter installed.
   This note was added to sheet C-4.

Please feel free to contact me if you have any questions or comments.

Sincerely,

Pinnacle Engineering Group

Anthony S. Zanon, P.E.
Senior Project Manager | Principal

Engineering Department Memorandum

To : Jeffrey W. Retzlaff, AICP, Planning Director/Zoning Administrator

From : Lawrence Ratayczak, P.E., Director of Public Works

Date : January 29, 2020

Re : Bliffert Lumber – Site Plan Review

Items Reviewed:

1. Plan Set (5 pages) Dated: 01-29-20

General Comments:

1. Please respond to each item below. **A written response addressing each item shall be included in your submittal**.
2. The submitted plans have been reviewed for general conformance with State and Village design guidelines. Additional comments could arise as a result of the plan completion and modifications. The items listed below will need to be fully resolved before the Engineering Dept. can recommend a formal approval of the plans and permit for construction.
3. A professional engineer's original seal is to be affixed, signed and dated on the final set of construction plans.
4. Contact Ryan Ehlerding, 262-250-4723 for a utility permit.
5. As a guide to the review response: Items in *italics* are resolved or acknowledged, items in regular font are to be addressed yet, items in **Bold** are additional feedback to remaining original comment.
6. Provide a dimensioned site plan showing the proposed site improvements on the existing site.
7. ADA parking is required. Show proposed ADA parking locations.
8. Provide a grading plan for the proposed site improvements.

Utility Department Comments:

1. A sampling manhole meeting Village specification is required. Show the sewer lateral and new sampling manhole location on the plan.
2. A water meter on the existing well for sewer billing purposes is required. Coordinate with the water utility to have a meter installed.

Village of
Germantown
...Willkommen

Fee must accompany application
- ☐ $700 Minor Addition
- ☒ $1,240 Construction <10,000 SF
- ☐ $2,095 Construction 10,000 SF to 50,000
- ☐ $3,460 Industrial Construction >50,000 SF
- ☐ $3,460 Commercial Construction >50,000
- ☐ $200 Plan Commission Consultation
- ☐ $125 Fire Department Plan Review

PAID [signature] DATE 1-16-20

SITE PLAN REVIEW APPLICATION

Pursuant to Section 17.43 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 **APPLICANT OR AGENT**

Josh Brown

Phone (414) 209-5518
E-Mail josh@bliffertlumber.com

PROPERTY OWNER

Bliffert Germantown Holdings
16826 S. 13th Street
Oak Creek, WI 53154

Phone (414) 209-5518
E-Mail josh@bliffertlumber.com

2 **PROPERTY ADDRESS**

N116 W16474, Main St., Germantown, WI 53022

3 **NEIGHBORING USES** – Specify name and type of use, e.g. Enviro Tech – Industrial, Smith – Residential, etc.

North	South	East	West
Rail Road	Residential	Residential	Park

4 **READ AND INITIAL THE FOLLOWING:**

JB I am aware of the Village of Germantown ordinance requiring fire sprinklers in most new construction.

JB I understand that all new development is subject to Impact and/or Connection Fees that must be paid before building permits will be issued.

JB I understand that an incomplete application will be withdrawn from the Plan Commission agenda and that all resubmissions to the Plan Commission are subject to a new application fee.

5 **SIGNATURES** – ALL APPLICATION MUST BE SIGNED BY OWNER!

[signature] Applicant Date

[signature] Owner Date

Bliffert
LUMBER
& HARDWARE
– est. 1904 –

1/16/2020

RE: Bliffert Lumber Remodel

It is our intention to enclose an area already under roof and noted on the site plan provided. This area will be used for offices, retail floor space, and new bathrooms. We will also add an entrance tower and front porch area. At the time of this remodel we will also add an exterior that we feel is consistent with Village of Germantown's appearance requirements. Finally we will add additional parking spaces for the newly renovated area. If you have any questions I can be reached via phone at 414.349.1346 or email: josh@bliffertlumber.com. Thank you.

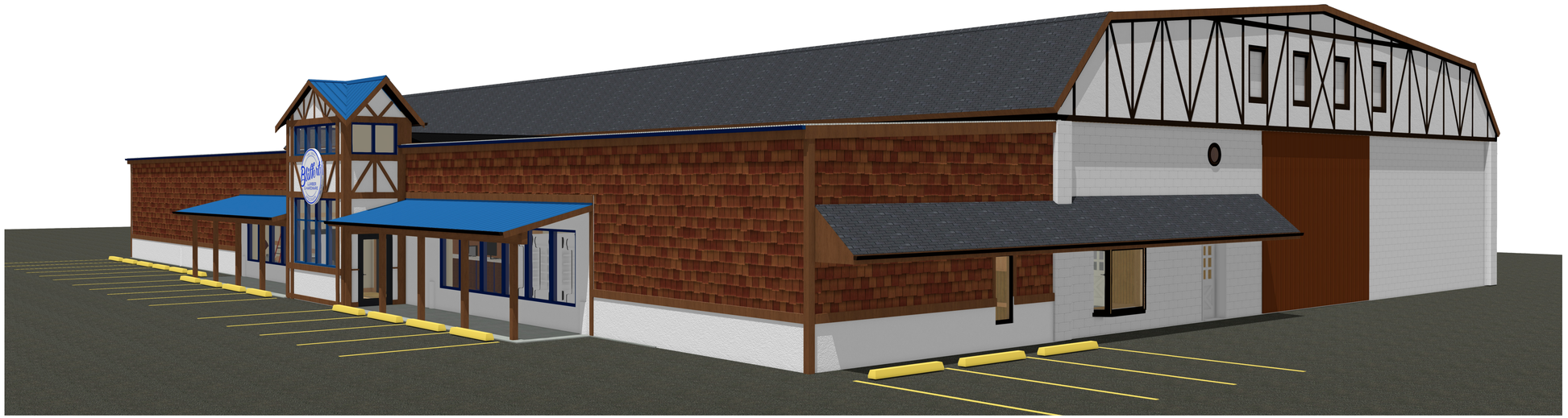
Regards,

Josh Brown
Owner/Vice President

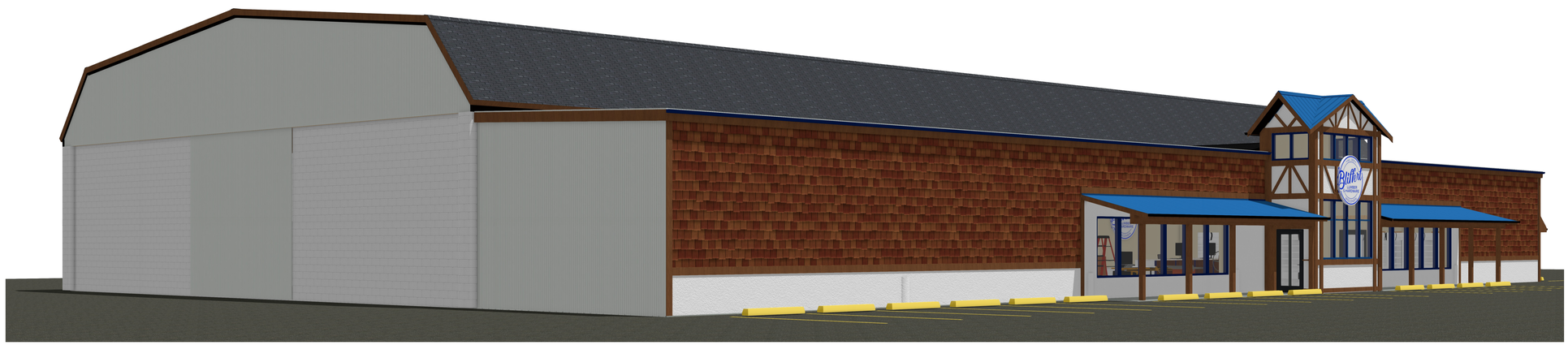
Cc: Eli Bliffert, Owner

RECEIVED
JAN 16 2020
OFFICE OF THE VILLAGE PLANNER
VILLAGE OF GERMANTOWN

SOUTH PERSPECTIVE - NO SCALE



SOUTHEAST PERSPECTIVE - NO SCALE



SOUTHWEST PERSPECTIVE - NO SCALE

CHRIS EGNER
DESIGN - BUILD - REMODEL

THESE DRAWINGS ARE THE PROPRIETARY WORK PRODUCT AND PROPERTY OF CHRIS EGNER DESIGN-BUILD-REMODEL LLC. DEVELOPED FOR THE EXCLUSIVE USE OF CHRIS EGNER DESIGN-BUILD-REMODEL LLC. USE OF THESE DRAWINGS AND CONCEPTS CONTAINED THEREIN WITHOUT THE WRITTEN PERMISSION OF CHRIS EGNER DESIGN-BUILD-REMODEL LLC. IS PROHIBITED AND MAY SUBJECT YOU TO A CLAIM FOR DAMAGES UNDER COPYRIGHT LAWS.

PROJECT DESCRIPTION:
MAIN ENTRANCE & SHOWROOM
ADDITION & REMODEL

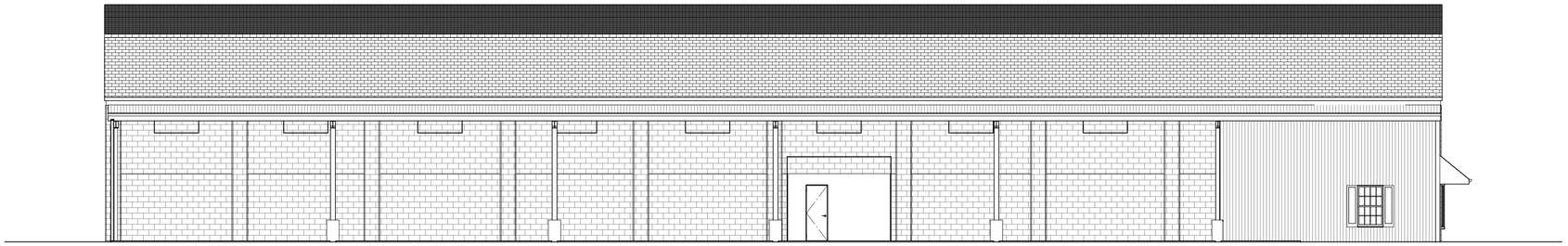
OWNER(S):
BLIFFERT GERMANTOWN HOLDINGS
5312 N. LAKE DR.
WHITE FISH BAY, WI. 53217
414-349-1346 josh@bliffertlumber.com

DRAWINGS PROVIDED BY:
CHRIS EGNER DESIGN-
BUILD-REMODEL LLC
13198 W. NATIONAL AVE. NEW BERLIN, WI. 53151
262-797-8818

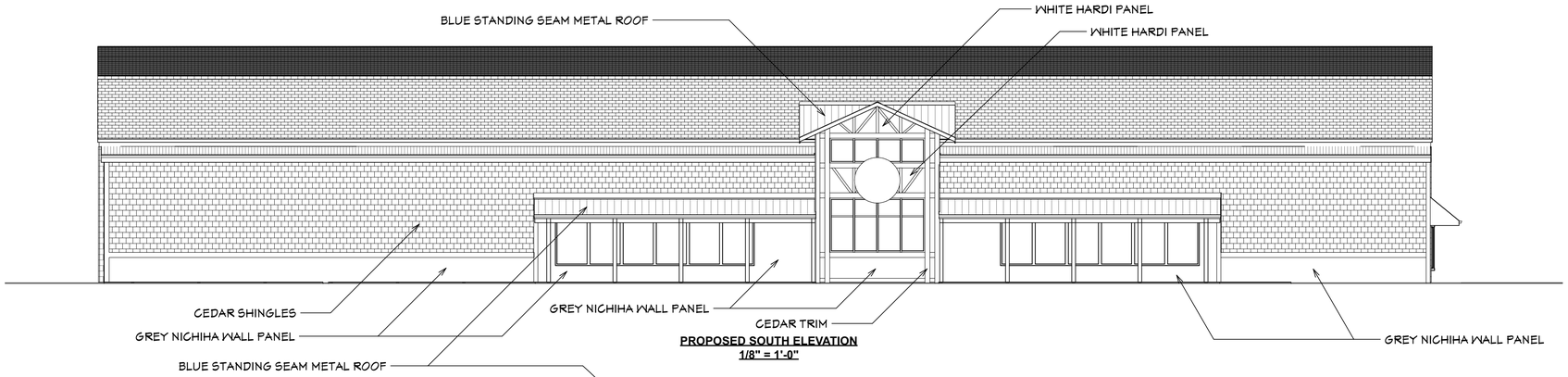
DATE:
1/9/2020

SCALE:
NO SCALE

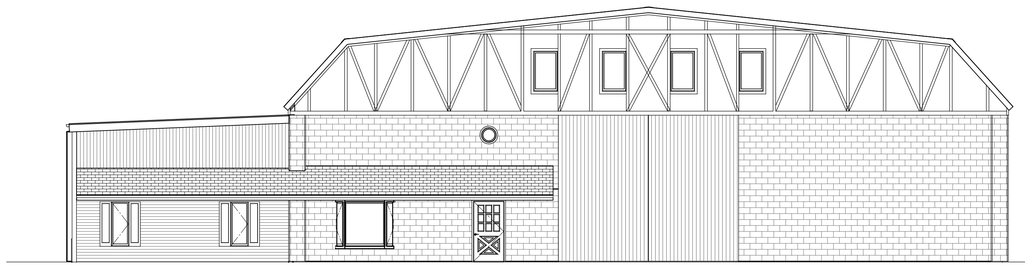
SHEET:
A-1



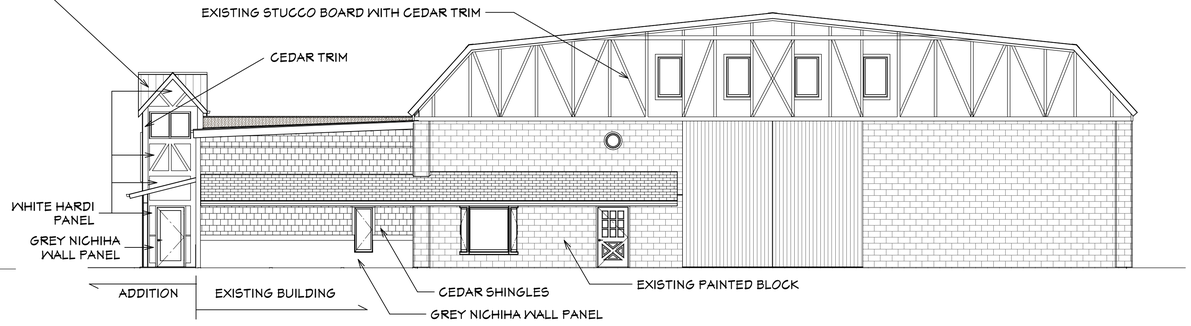
EXISTING SOUTH ELEVATION
1/8" = 1'-0"



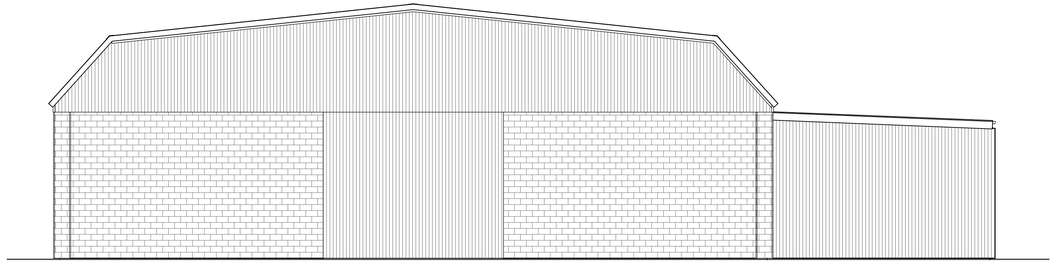
PROPOSED SOUTH ELEVATION
1/8" = 1'-0"



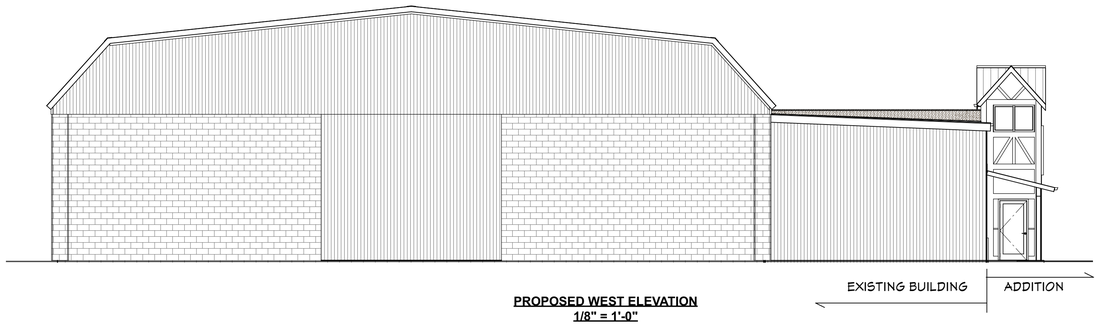
EXISTING EAST ELEVATION
1/8" = 1'-0"



PROPOSED EAST ELEVATION
1/8" = 1'-0"



EXISTING WEST ELEVATION
1/8" = 1'-0"



PROPOSED WEST ELEVATION
1/8" = 1'-0"

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PROJECT DESCRIPTION:
MAIN ENTRANCE & SHOWROOM ADDITION & REMODEL

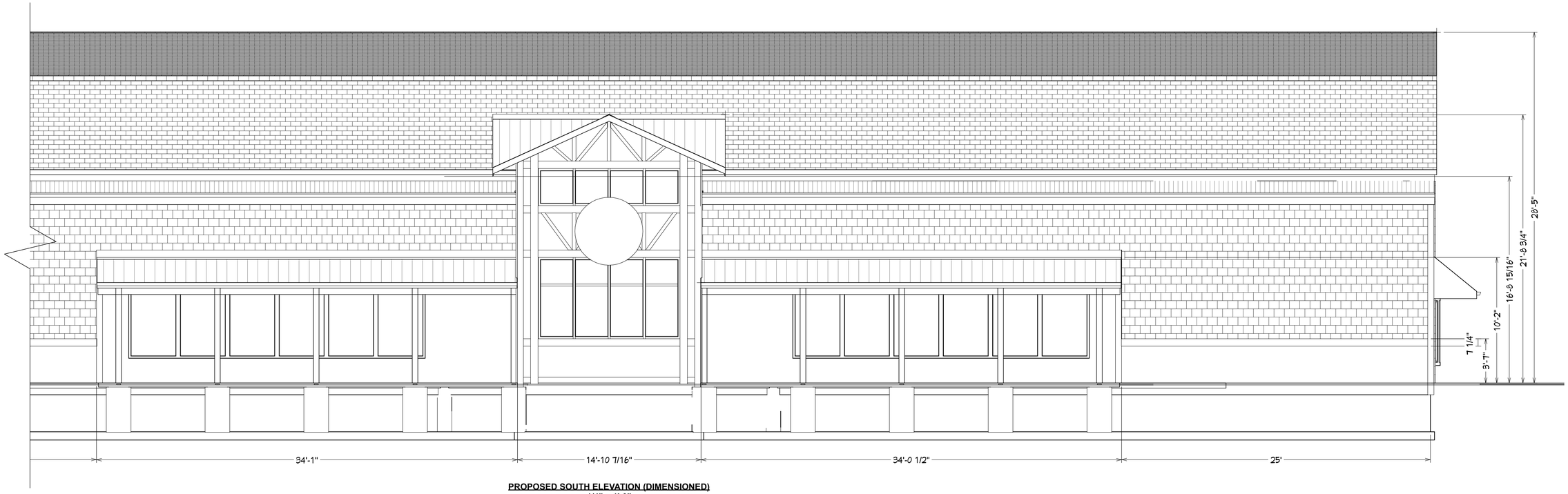
OWNER (S):
BLIFFERT GERMANTOWN HOLDINGS
5312 N. LAKE DR.
WHITE FISH BAY, WI. 53217
414-349-1346 josh@bliffertlumber.com

DRAWINGS PROVIDED BY:
CHRIS EGNER DESIGN-BUILD-REMODEL LLC
13140 W. NATIONAL AVE. NEW BERLIN, WI. 53151
262-797-5818

DATE:
4/23/2020

SCALE:
1/8" = 1'-0"

SHEET:
A-1



PROPOSED SOUTH ELEVATION (DIMENSIONED)
1/4" = 1'-0"

PROPOSED EAST ELEVATION (DIMENSIONED)
1/4" = 1'-0"

CHRIS EGNER
DESIGN - BUILD - REMODEL

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PROJECT DESCRIPTION:
MAIN ENTRANCE & SHOWROOM
ADDITION & REMODEL

OWNER (S):
BLIFFERT GERMANTOWN HOLDINGS
5312 N. LAKE DR.
WHITE FISH BAY, WI. 53217
414-349-1346 josh@bliffertlumber.com

DRAWINGS PROVIDED BY:
CHRIS EGNER DESIGN-
BUILD-REMODEL LLC
13198 W. NATIONAL AVE. NEW BERLIN, WI. 53151
262-797-8818

DATE:
4/23/2020

SCALE:
1/4" = 1'-0"

SHEET:
A-2

EXISTING FLOORPLAN
1/8" = 1'-0"

CHRIS EGNER
DESIGN - BUILD REMODEL

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PROJECT DESCRIPTION:
MAIN ENTRANCE & SHOWROOM ADDITION & REMODEL

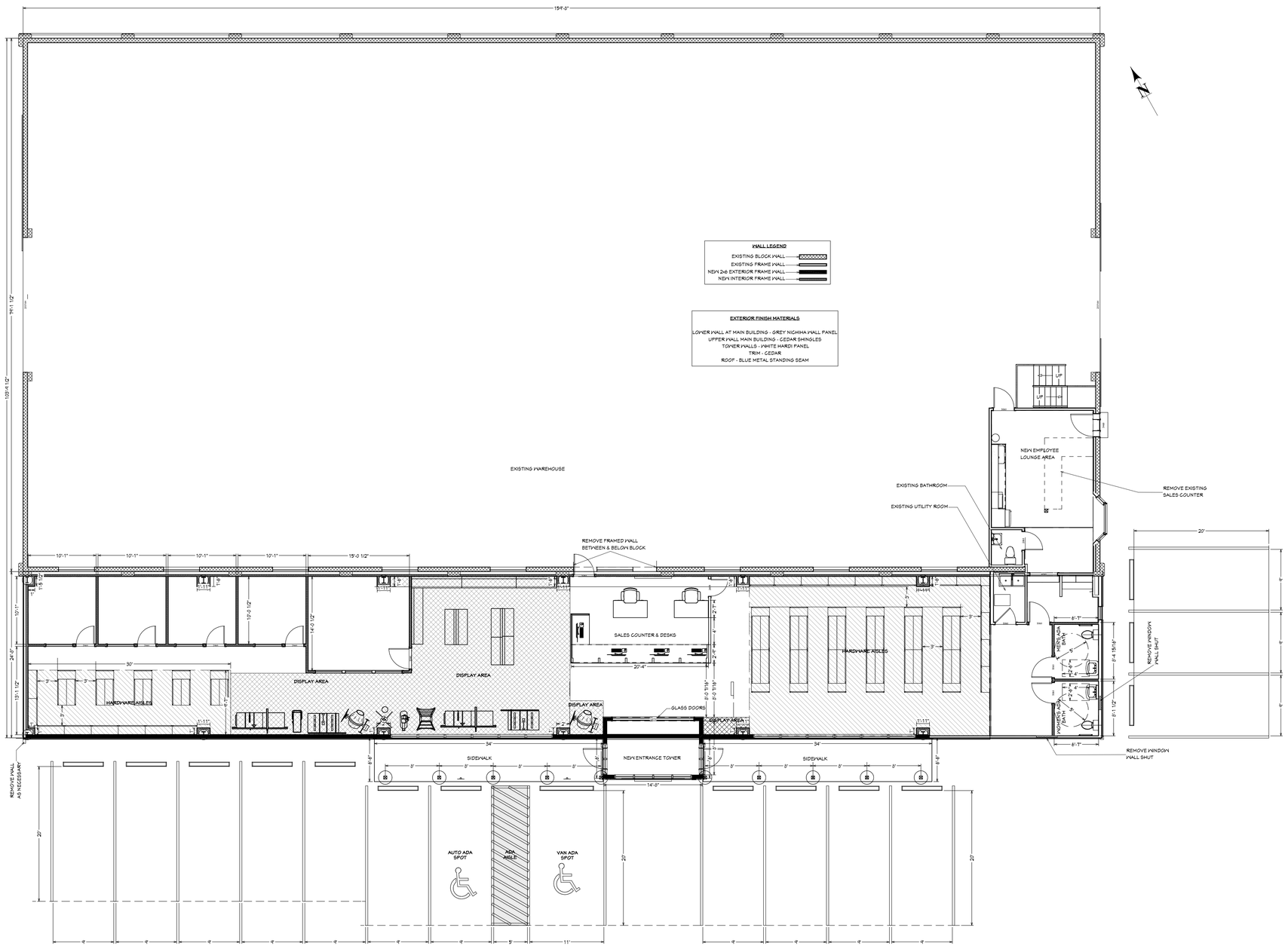
OWNER (S):
BLIFFERT GERMANTOWN HOLDINGS
5312 N. LAKE DR.
WHITE FISH BAY, WI. 53217
414-344-1346 josh@blifferlumber.com

DRAWINGS PROVIDED BY:
CHRIS EGNER DESIGN-BUILD-REMODEL LLC
13148 W. NATIONAL AVE. NEW BERLIN, WI. 53151
262-797-8818

DATE:
4/23/2020

SCALE:
1/8" = 1'-0"

SHEET:
A-3



PROPOSED FLOORPLAN & PARKING PLAN
1/8" = 1'-0"

CHRIS EGNER
DESIGN - BUILD REMODEL

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PROJECT DESCRIPTION:
MAIN ENTRANCE & SHOWROOM ADDITION & REMODEL

OWNER (S):
BLIFFERT GERMANTOWN HOLDINGS
5312 N. LAKE DR.
WHITE FISH BAY, WI. 53217
414-341-1346 josh@blifferlumber.com

DRAWINGS PROVIDED BY:
CHRIS EGNER DESIGN-BUILD-REMODEL LLC
13148 W. NATIONAL AVE. NEW BERLIN, WI. 53151
262-797-5818

DATE:
4/23/2020

SCALE:

SHEET:
A-4

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LEGAL DESCRIPTION:

Lot 3 of Certified Survey Map No. 490, recorded in the office of the Register of Deeds for Washington County, Wisconsin, on February 23, 1972 in Volume 3 of Certified Survey Maps, at Page 10, as Document No. 329102, being part of the Northwest 1/4, Section 22, Township 9 North, Range 20 East. Said land being in the Village of Germantown, County of Washington, State of Wisconsin.
AND
A strip of land situated in the Village of Germantown described as follows: Part of the Southeast 1/4 of the Northwest 1/4 of Section 22, Township 9 North, Range 20 East, described as follows: Beginning at the intersection of the Wisconsin and Souther Railroad's Southwest right of way line, being parallel to and 49.5 feet Southwest of the centerline of the Main Line track, and a line 120 feet West of and parallel to the North-South 1/4 Section line of Section 22; then Northwest along said Railroad property line 330 feet; Northeast 26.5 feet normal to said Railroad centerline; then Southeast parallel to and 23 feet Southwest of said centerline of the Main Line track to an intersection with a line 120 feet West of the North-South 1/4 Section line; then South along said line to the Point of Beginning. Said land being in the Village of Germantown, County of Washington, State of Wisconsin.

GENERAL NOTES

1. Survey prepared for: Bliffert Germantown Holdings LLC.
2. Field work completed on APRIL 8, 2020.
3. No title or letter report was provided for this survey.
4. Existing improvements graphically shown on this survey are limited to a predefined "Project Area" specified by the Owner/Client. Pinnacle Engineering Group, LLC takes no responsibility for improvements outside of this "Project Area".
5. Vertical Datum: National Geodetic Vertical Datum of 1929 (NGVD29). Contours are shown at a 1' interval based on actual ground survey of the current ground terrain. Reference Benchmark: Concrete monument with brass cap at the southwest corner of the Northwest 1/4 Section 22, Town 9 North, Range 20 East, Elevation = 849.19.
6. Underground utility locations shown are based on field location markings by Digger's Hotline ticket #20201412992 with a clear date of APRIL 7, 2020. The location and size of underground structures and utilities shown hereon have been located based on a reasonable visual observation and are shown for informational purposes only. PINNACLE ENGINEERING GROUP, LLC. does not guarantee the location of utilities shown. Contact Digger's Hotline prior to the start of any activity.

NORTH

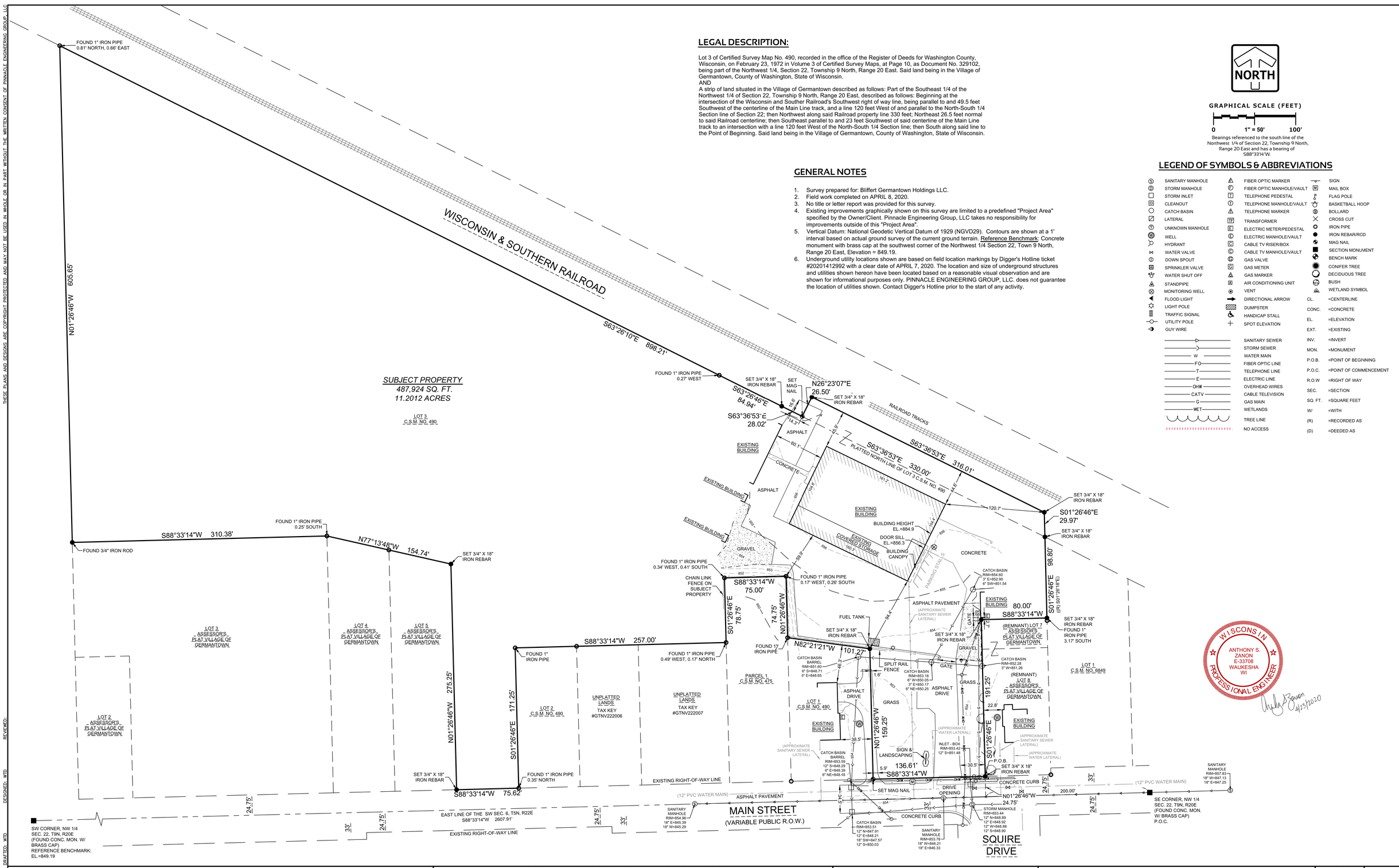
GRAPHICAL SCALE (FEET)

0 1" = 50' 100'

Bearings referenced to the south line of the Northwest 1/4 of Section 22, Township 9 North, Range 20 East and has a bearing of S88°33'14"W.

LEGEND OF SYMBOLS & ABBREVIATIONS

SANITARY MANHOLE	FIBER OPTIC MARKER	SIGN	
STORM MANHOLE	FIBER OPTIC MANHOLE/VAULT	MAIL BOX	
STORM INLET	TELEPHONE PEDESTAL	FLAG POLE	
CLEANOUT	TELEPHONE MANHOLE/VAULT	BASKETBALL HOOP	
CATCH BASIN	TELEPHONE MARKER	BOLLARD	
LATERAL	TRANSFORMER	CROSS CUT	
UNKNOWN MANHOLE	ELECTRIC METER/PEDESTAL	IRON PIPE	
WELL	ELECTRIC MANHOLE/VAULT	IRON REBAR/RCD	
HYDRANT	CABLE TV RISER/BOX	MAG NAIL	
WATER VALVE	CABLE TV MANHOLE/VAULT	SECTION MONUMENT	
DOWN SPOUT	GAS VALVE	BENCH MARK	
SPRINKLER VALVE	GAS METER	CONIFER TREE	
WATER SHUT OFF	GAS MARKER	DECIDUOUS TREE	
STANDPIPE	AIR CONDITIONING UNIT	BUSH	
MONITORING WELL	VENT	WETLAND SYMBOL	
FLOOD LIGHT	DIRECTIONAL ARROW	CL. =CENTERLINE	
LIGHT POLE	DUMPSTER	CONC. =CONCRETE	
TRAFFIC SIGNAL	HANDICAP STALL	EL. =ELEVATION	
UTILITY POLE	SPOT ELEVATION	EXT. =EXISTING	
GUY WIRE		INV. =INVERT	
SANITARY SEWER		MON. =MONUMENT	
STORM SEWER		P.O.B. =POINT OF BEGINNING	
W WATER MAIN		P.O.C. =POINT OF COMMENCEMENT	
FO FIBER OPTIC LINE		R.O.W =RIGHT OF WAY	
T TELEPHONE LINE		SEC. =SECTION	
E ELECTRIC LINE		SQ. FT. =SQUARE FEET	
OHW OVERHEAD WIRES		W/ =WITH	
CATV CABLE TELEVISION		(R) =RECORDED AS	
G GAS MAIN		(D) =DEEDED AS	
WET WETLANDS			
TREE LINE			
NO ACCESS			



WISCONSIN
ANTHONY S. ZANON
E-33708
WAUKESHA
WI
PROFESSIONAL ENGINEER
4/23/2020

PLAN | DESIGN | DELIVER
www.pinnacle-engr.com
PINNACLE ENGINEERING GROUP
ENGINEERING | NATURAL RESOURCES | SURVEYING
WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO | MILWAUKEE | NATIONWIDE

BLIFFERT LUMBER

VILLAGE OF GERMANTOWN

EXISTING SITE PLAN

REVISIONS

PEG JOB No. 2000.00 ASZ
PEG PM 4/23/20
START DATE 1" = 50'
SCALE

SHEET
C-1
C-4

© COPYRIGHT 2019

EXISTING SITE PLAN

REVIEWED:
DESIGNED: WTD
DRAFTED: WTD

Z:\PROJECTS\2020\2000.00-WI\CAD\SHEETS\2000.00 PLAT OF SURVEY.DWG

www.pinnacle-engr.com

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www.pinnacle-engr.com

LEGEND

- STANDARD DUTY PAVEMENT — MATCH EXISTING PAVEMENT
- CONCRETE SIDEWALK — - 6" CRUSHED AGGREGATE BASE COURSE (3/4" DENSE GRADED VIRGIN LIMESTONE); - 5" PCC (400 PSI AIR ENTRAINED CONCRETE WITH 6"X6" WELDED WIRE FABRIC PER ACI 315-92)

NORTH

GRAPHICAL SCALE (FEET)

0 1" = 20' 40'

PROPOSED PARKING STALLS:

REGULAR STALLS = 15
HANDICAP STALLS = 2
TOTAL STALLS = 17

CONCRETE
EXISTING BUILDING
ASPHALT
EXISTING BUILDING
EXISTING BUILDING
GRAVEL
CHAIN LINK FENCE ON SUBJECT PROPERTY
S88°33'14"W 75.00'
S01°26'46"E 78.75'
74.75'
N01°26'46"W
N82°21'21"W 101.27'
CATCH BASIN BARREL RIM=851.60 6" S=848.71 6" E=848.65
46.3'
PARCEL 1 C.S.M. NO. 475
UNPLATTED LANDS TAX KEY #GTNV222007
LOT 1 C.S.M. NO. 490
ASPHALT DRIVE
EXISTING BUILDING
38.5'
(APPROXIMATE SANITARY SEWER LATERAL)
CATCH BASIN BARREL RIM=853.59 12" S=848.29 6" E=848.39 6" NE=848.45
G RIGHT-OF-WAY LINE
(12" PVC WATER MAIN)
ASPHALT PAVEMENT
34.5'
S88°53'E 330.00'
316.01'
RTH LINE OF LOT 3 C.S.M. NO. 490
161.2'
104.8'
44.6'
120.7'
EXISTING COVERED STORAGE AREA TO BE ENCLOSED. FLOOR TO MATCH EXISTING BUILDING
PROP. SIDEWALK FLUSH WITH PAVEMENT
PROP. CONC. WHEEL STOPS (TYP.)
PROP. ADA SIGN
PROP. BOLLARD (TYP.)
EXISTING BUILDING
BUILDING HEIGHT EL.=884.9
EXISTING COVERED STORAGE
160.3'
104.4'
DOOR SILL EL.=856.3
BUILDING CANOPY
3.5'
20.0'
9.0'
86.0'
PAINT NEW STALL LINES
59.9'
8
81.5'
20.0'
PROP. ADA VAN ACCESSIBLE SIGN
6.0'
6.0'
PROP. SIDEWALK FLUSH WITH PAVEMENT
59.5'
34.0'
9.0'
8.0'
8.0'
14.8'
4
6.5'
9.0'
20.0'
PROPOSED SAWCUT
PAINT NEW STALL LINES
100.9'
94.4'
FUEL TANK
9.0'
20.0'
RESTRIPE EXISTING STALLS LINES
PARKING STALLS
101.4'
CONCRETE
CATCH BASIN RIM=854.60 3" E=852.90 6" SW=851.54
EXISTING BUILDING
ASPHALT PAVEMENT
(APPROXIMATE SANITARY SEWER LATERAL)
GATE
2.7'
80.00' S88°33'14"W
S01°26'46"E 98.80'
((R) S01°26'18"E)
S01°26'46"E 29.97'
(REMNANT) LOT 7 ASSESSOR'S PLAT VILLAGE OF GERMANTOWN
GRAVEL
CATCH BASIN RIM=852.28 3" W=851.26
LOT 1 C.S.M. NO. 6849
(REMNANT) LOT 8 ASSESSOR'S PLAT VILLAGE OF GERMANTOWN
SPLIT RAIL FENCE
1.6'
GATE
CATCH BASIN RIM=853.18 6" W=850.05 3" E=850.17 6" NE=850.25
GRASS
ASPHALT DRIVE
GRASS
191.25'
22.8'
EXISTING BUILDING
N01°26'46"W 159.25'
S01°26'46"E
(APPROXIMATE WATER LATERAL)
(APPROXIMATE SANITARY SEWER LATERAL)
(APPROXIMATE WATER LATERAL)
INLET - BOX RIM=853.42 12" S=851.48
SIGN & LANDSCAPING
5.9'
136.61' S88°33'14"W
30.5'
P.O.B.
SANITARY MANHOLE RIM=857.83 18" W=847.13 18" E=847.25
CONCRETE CURB
24.75'
33'
200.00'
(12" PVC WATER MAIN)
MAIN STREET
DRIVE OPENING
N01°26'46"W 24.75'
SE CORNER, NW 1/4

WISCONSIN
ANTHONY S. ZANON
E-33708
WAUKESHA
WI
PROFESSIONAL ENGINEER
4/23/2020

REVIEWED:
DESIGNED: NTD
DRAFTED: NTD

PLAN I DESIGN I DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO I MILWAUKEE - NATIONWIDE

BLIFFERT LUMBER

VILLAGE OF GERMANTOWN

PROPOSED SITE PLAN

REVISIONS

PEG JOB No. 2000.00
PEG PM ASZ
START DATE 4/23/20
SCALE 1" = 20'

SHEET C-2 C-4

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PROPOSED SITE PLAN

Z:\PROJECTS\2020\2000.00-WI\CAD\SHEETS\2000.00 PROPOSED PLAT OF SURVEY.DWG

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NORTH

GRAPHICAL SCALE (FEET)

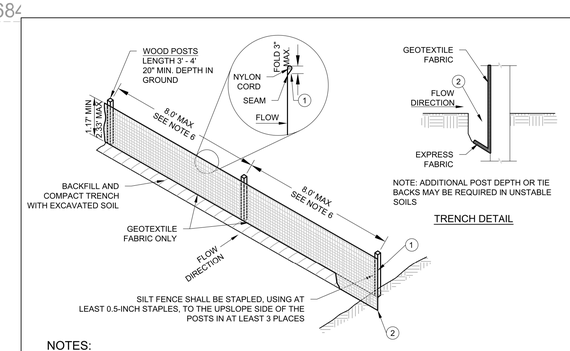
0 1" = 20' 40'

LEGEND

SANITARY SEWER MANHOLE	NORMAL WATER LEVEL (NWL)
STORM SEWER MANHOLE	DIRECTION OF SURFACE FLOW
STORM STORM CATCH BASIN (ROUND CASTING)	DITCH OR SWALE
STORM SEWER CATCH BASIN (RECTANGULAR CASTING)	DIVERSION SWALE
PRECAST FLARED END SECTION	OVERFLOW RELIEF ROUTING
CLEANOUT	SILT FENCE
VALVE BOX	INLET PROTECTION
FIRE HYDRANT	CONSTRUCTION ENTRANCE
PROPOSED CONTOUR	HYDROSEED (PER MANUFACTURER SPECIFICATIONS)
PROPOSED SPOT ELEVATION	EROSION CONTROL BLANKET (NORTH AMERICAN GREEN S75 OR EQUAL)
WETLANDS	
FLOODPLAIN	
HIGH WATER LEVEL (HWL)	

NOTE:
NO PROPOSED TRACKING PAD.
CONSTRUCTION VEHICLES TO REMAIN ON PAVED AREAS

WISCONSIN
ANTHONY S. ZANON
E-33708
WAUKESHA
WI
PROFESSIONAL ENGINEER
4/23/2020



TRENCH DETAIL

NOTES:

1. ALL SILT FENCE MATERIALS AND INSTALLATION SHALL BE IN CONFORMANCE WITH WI DNR TECHNICAL STANDARD 1056.
2. GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF MATERIAL SPECIFICATION 592 GEOTEXTILE TABLE 1 OR 2, CLASS I WITH EQUIVALENT OPENING SIZE OF AT LEAST 30 FOR NONWOVEN AND 50 FOR WOVEN.
3. SILT FENCE SHALL BE ANCHORED BY SPREADING AT LEAST 8-INCHES OF FABRIC IN A 4-INCH WIDE AND 6-INCH DEEP TRENCH OR 6-INCH DEEP V-TRENCH ON THE UPSLOPE SIDE OF THE FENCE. TRENCHES SHALL NOT BE EXCAVATED WIDER OR DEEPER THAN NECESSARY FOR PROPER INSTALLATION.
4. FOLD MATERIAL TO FIT TRENCH AND BACKFILL AND COMPACT TRENCH WITH EXCAVATED SOIL.
5. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1.125-INCHES x 1.125-INCHES OF DRIED OAK OR HICKORY.
6. SILT FENCE TO EXTEND ABOVE THE TOP OF PIPE, WHERE APPLICABLE.
7. POST SPACING SHALL BE SELECTED BASED ON GEOTEXTILE FABRIC (8-FEET FOR WOVEN AND 3-FEET FOR NON-WOVEN).

SILT FENCE

REVIEWED:
DESIGNED: WTD
DRAFTED: WTD

PLAN I DESIGN I DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO I MILWAUKEE : NATIONWIDE

BLIFFERT LUMBER

VILLAGE OF GERMANTOWN

GRADING AND EROSION CONTROL

REVISIONS

PEG JOB No. 2000.00
PEG PM ASZ
START DATE 4/23/20
SCALE 1" = 20'

SHEET C-3 C-4

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GRADING AND EROSION CONTROL

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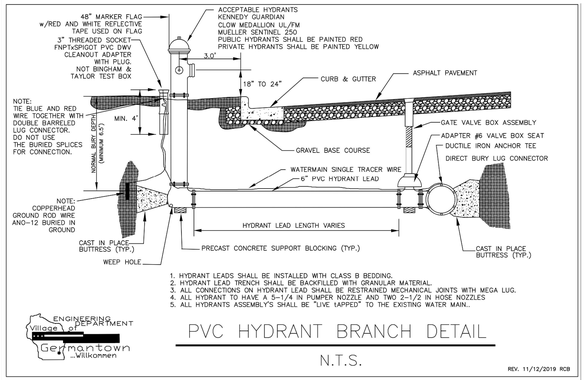


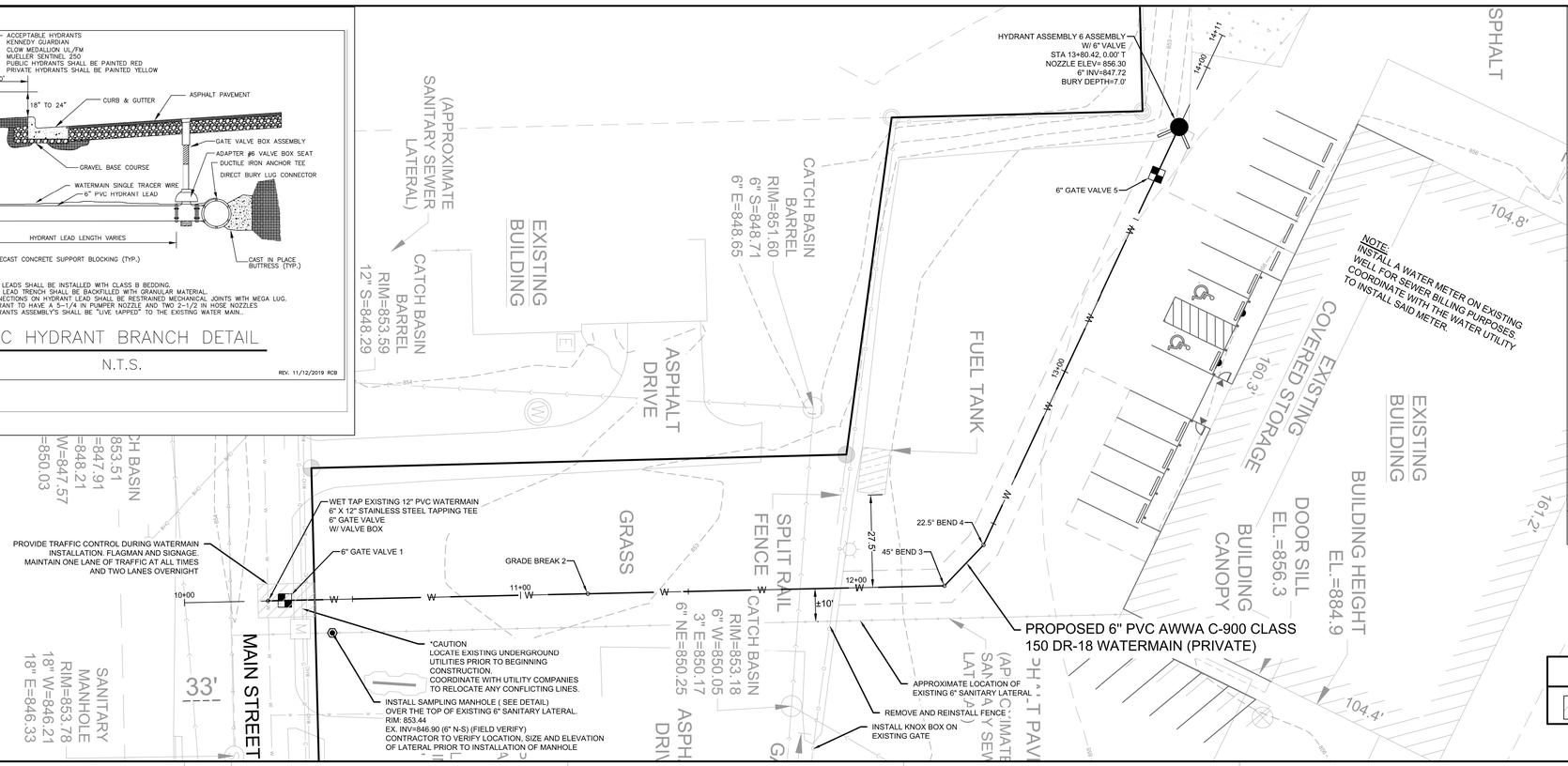
1. HYDRANT LEADS SHALL BE INSTALLED WITH CLASS B BEDDING.
2. HYDRANT LEAD TRENCH SHALL BE BACKFILLED WITH GRANULAR MATERIAL.
3. ALL CONNECTIONS ON HYDRANT LEAD SHALL BE RESTRAINED MECHANICAL JOINTS WITH MEGA LUG.
4. ALL HYDRANT TO HAVE A 5–1/4 IN PUMPER NOZZLE AND TWO 2–1/2 IN HOSE NOZZLES
5. ALL HYDRANTS ASSEMBLY'S SHALL BE "LIVE TAPPED" TO THE EXISTING WATER MAIN..

ENGINEERING DEPARTMENT Village of Germantown Willkommen

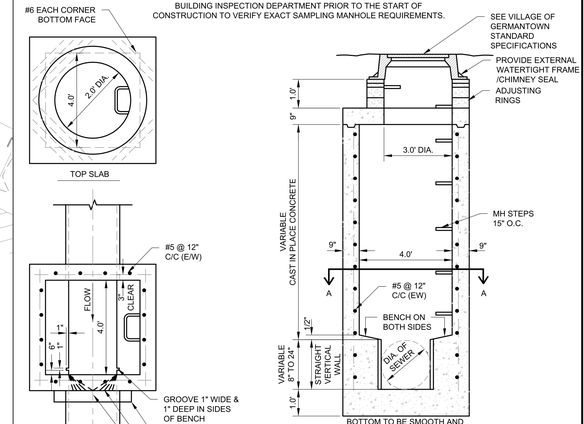
PVC HYDRANT BRANCH DETAIL

N.T.S.

REV. 11/12/2019 RCB



IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT THE VILLAGE/CITY BUILDING INSPECTION DEPARTMENT PRIOR TO THE START OF CONSTRUCTION TO VERIFY EXACT SAMPLING MANHOLE REQUIREMENTS.



NOTES:

1. 4'-0" I.D. PRECAST MAY BE SUBSTITUTED FOR SAMPLING M.H.'S ON BUILDING LATERAL
2. 4'-0" I.D. MONOLITHIC MAY BE SUBSTITUTED FOR GAUGING M.H.'S ON MUNICIPAL SEWERS

SAMPLING AND GAUGING MANHOLE

#403.0420BIFF

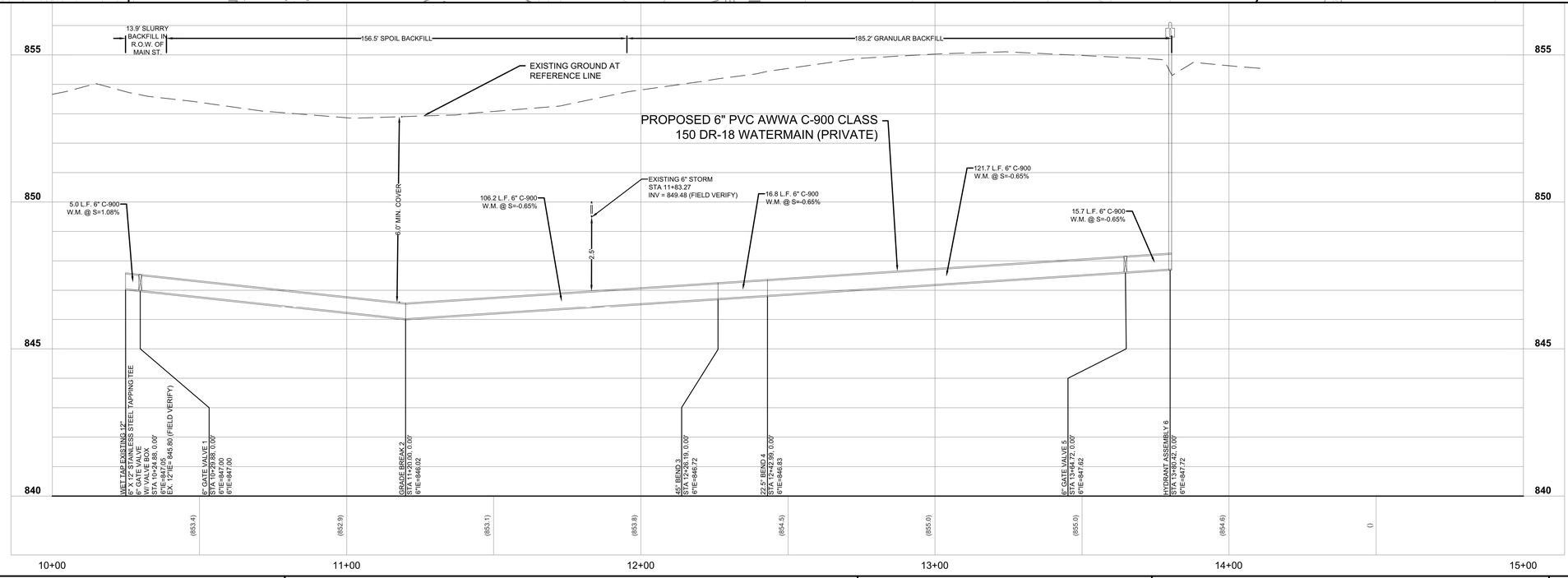
LEGEND

VILLAGE OF GERMANTOWN PAVEMENT
MATCH EXISTING PAVEMENT

NORTH

GRAPHICAL SCALE (FEET)

0 1" = 20' 40'



WISCONSIN ANTHONY S. ZANON E-33708 WAUKESHA WI PROFESSIONAL ENGINEER

4/23/2020

REVIEWED:
DESIGNED: WTD
DRAFTED: WTD

PLAN I DESIGN I DELIVER
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BLIFFERT LUMBER

VILLAGE OF GERMANTOWN

UTILITY PLAN

REVISIONS

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SHEET C-4 C-4

UTILITY PLAN

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Z:\PROJECTS\2020\2000.00-WI\CAD\SHEETS\2000.00 WATERMAIN PLAN AND PROFILE.DWG

SITE PLAN APPLICATION

5/11/20 Plan Commission Meeting

ZPG Development LLC / Germantown Gateway Corporate Park

Village Planner Report ***Germantown, Wisconsin***

Summary

Frank Dekan, Zilber Property Group, agent for ZPG Development LLC, is requesting approval of Site Development and Building Plans for the fourth phase of development in the Germantown Corporate Park located north of the Holy Hill Road @ Gateway Crossing intersection east of US-41, which includes a 146,000-square foot industrial building.

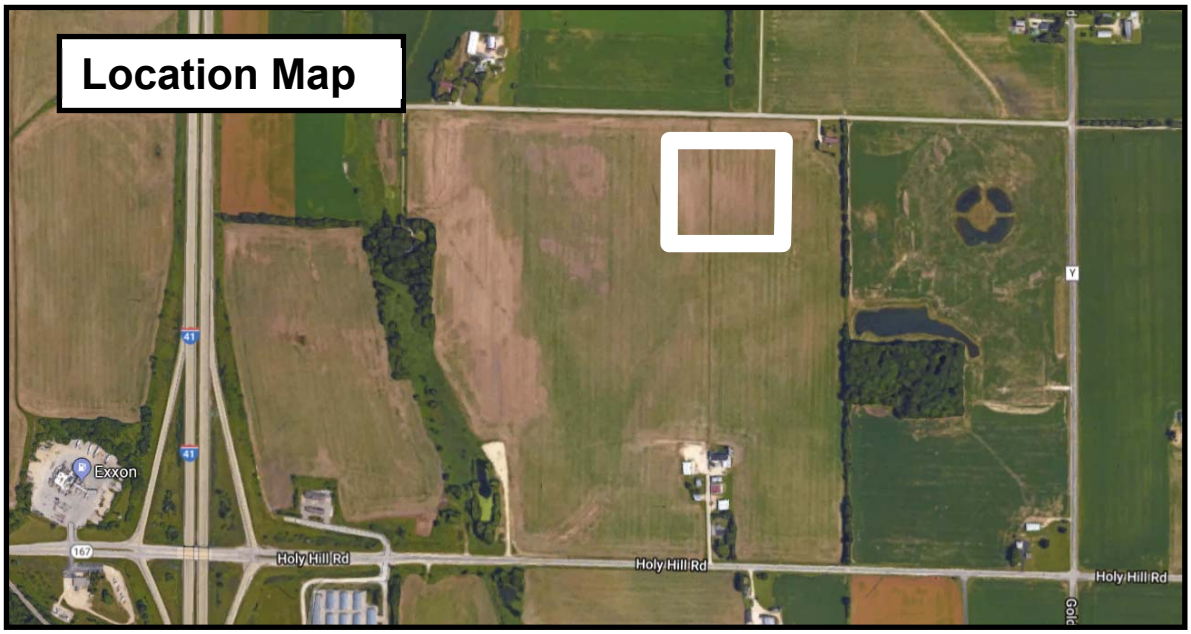
Location: Lot 5 of CSM 6898 near Rockfield Road @ Gateway Crossing (¼-mile east of US-41)

Agent/ Property Owners:

Frank Dekan ZPG 710 N. Plankinton Ave Milwaukee, WI	Jason Lueders, ZPG Development LLC 710 N. Plankinton Ave Milwaukee, WI

Current Zoning: M-1: Limited Industrial

Adjacent Land Uses		Zoning
North	New Water Tower	M-1
South	Industrial	M-1
East	Residential	Rs-1
West	Agricultural	M-1



Background/Proposal

In 2019, CSM 6898 was approved and recorded which dedicated right-of-way to the Village for the extension of Gateway Crossing north to Rockfield Road. Gateway Crossing is planned to be expanded in 2020. The proposed site plan will take access off of Gateway Crossing.

As with Zilber 2 & 3, Zilber 4 is being developed as a "spec" building with space that can be divided to accommodate a variety of industrial manufacturing and/or distribution uses. Future tenants are required to submit detailed operation plans, as well as, obtain Zoning Permits to ensure the uses and activities are allowed under the M-1: Limited Industrial Zoning District.

Zilber Industrial 4

As detailed in the plans, development of the 146,000 square foot building "Zilber Industrial 4" will have the following characteristics:

Site Improvements:

- Two (2) access driveways onto Gateway Crossing (one main access driveway for employees and visitors on the north side of the lot, and another access for trucks on the south side of the proposed building);
- On-site sanitary sewer and water facilities with connections to the public utilities being extended to the site and installed in the Gateway Crossing public right-of-way;
- Install on-site storm sewer, drain tile, ditches and swales with connections to the "regional" storm water ponds already constructed on the west side of Lot 3;
- Parking along the north side of the site with a total of 102 employee/visitor stalls (9'x20')
- Truck parking along the south side of the site with 41 truck/trailer stalls (12'x55') and 28 elevated dock bays adjacent to the building (16 installed w/ 12 future).
- Perimeter plantings on all four sides of the property, building foundation landscaping along the west, and north sides of the building; street trees along Gateway Crossing

Building Improvements:

- 146,000 square foot industrial building
- 14' wide x 32' clear height painted and insulated pre-cast concrete wall panels with multiple reveals, painted white to gray and warm accent colors and stepped elevation to create shadow lines and reduce scale;
- Aluminum storefront window systems with clearstory windows
- (35) elevated loading dock bays

Storm Water Management. A total of 292,842 square feet (6.72 acres) of impervious surfaces are proposed as part of the Zilber 4 site development or 79.0% of the total 8.51-acre site leaving 21.0% in open/green space. All on-site storm sewer, roof drains, ditches and swales are provided with connections to the corporate park "regional" storm water ponds constructed on the west and south side of the Gateway Corporate Park (within Lot 3).

Landscaping & Buffering. A significant amount of landscaping is proposed along perimeter of the site and the north and west foundations of the building. Overall (see Sheet L-1), plantings consist of a variety of deciduous street and shade trees, ornamental trees, evergreen trees, deciduous and evergreen shrubs, perennial plantings and ornamental grasses. (see Sheet L-1 through L-4).

Lighting. Exterior lighting for the site include:

- 111W LED cut-off style building-mounted fixtures at a height of 25' on the north and south elevations;
- 111 W LED cut-off style pole-mounted fixtures mounted on a 23' pole and 2' base (25' total fixture height) along the east and south sides of the truck parking area
- 54 W LED Ground-mounted directional spot lighting for the entrance & office areas near the northwest and northeast corners of the building

Signage. There is a placeholder for a monument sign on the site plan. A sign permit will need to be reviewed and approved by the Plan Commission prior to any sign installation.

Staff Comments

Community Development: Planning & Zoning

The detailed site development and building plans for Zilber 4 development are consistent with the overall concept plan that was presented and approved as part of the overall rezoning for the 146.5-acre Gateway Corporate Park.

Planning staff shared several items related to landscaping, parking area setback, additional detail on the west façade which were included in the review memo dated April 2, 2020. Additional landscaping was added to the site as well as additional precast element to the west façade of the building. Staff feels that the modifications provided by the applicant are sufficient to address a most these items.

Roof-mounted mechanicals may be installed at one or more locations on the building depending on the eventual tenant(s). Without knowing further details, the need for screening will have to be deferred to a later date. Zoning Permit approval is required for any/all new tenant occupancy and, therefore, should be the point at which a revised roof plan and screening is reviewed by Village Staff and the Plan Commission (if necessary).

As was done with Zilber 2 & Zilber 3, the developer should be required to provide a plan or set of specifications for what type, i.e. design, materials, color, etc. of screening will be installed in the event that screening is required, and, submit said specifications to the Village Planner for review and approval.

Public Works

As a result of Staff's initial review of the site development and building plans submitted for Zilber 4, a number of items/issues were identified in a review memo (attached hereto) dated March 24, 2020 that the Developer has addressed with supplemental information and revised plan sheets submitted on April 17, 2020. Although Staff has

received the supplemental information and revised plan revisions, there has not been sufficient time for staff to thoroughly review all aspects of the revised plans and additional information to definitively conclude that the plans are entirely code compliant and contain all of the necessary detail required.

With that said, Staff has the opinion that all outstanding items or issues are relatively minor and will not alter the location, size, layout or other characteristics of the proposed site developments or buildings, and, can easily be resolved through further consultation between Staff and the Developer. Consequently, Staff is recommending conditional approval of the site development and building plans for Zilber 4 subject to all of the outstanding items and issues identified in the following review memos being resolved and reflected in additional information and/or revised plans submitted to Village Staff for further review, comment and approval prior to issuance of a building permit.

Staff acknowledges that, in the course of reviewing the Developer's responses and revised plans intended to address staff's initial items and issues, there may be additional questions, items or issues that are identified. The Developer is also responsible for addressing any additional or unresolved items or issues that are identified by Village Staff.

Fire & Police Departments

The Fire Department is recommending approval of the Zilber 4 site plan subject to the following requirements:

1. An approved water supply with fire hydrants required at intervals of approximately 400 apart.
2. Fire Sprinkler and alarm systems shall be installed as required by IBC based on occupancy class (currently unknown). Locations of fire protection equipment is subject to approval of GFD.
3. Knox boxes will be required at locations to be determined by GFD.
4. All exterior doors (except primary entrance) shall be clearly marked with reflective 5" or larger letters/numbers to aid emergency personnel access.

Community Development: Inspection Services

Inspection Services has indicated that the submission of state-approved plans will be required prior to issuing a building permit along with a $20,000 occupancy bond.

VILLAGE PLANNER RECOMMENDATION:

Site Development & Building Plans

APPROVE the site development and building plans for Zilber 4 (146,000 square foot industrial building) in the Gateway Corporate Park subject to the following conditions:

1. This approval is subject to all the conditions and requirements set forth herein and adopted by the Plan Commission. Approval is granted for the following architectural and engineering plans unless superseded by subsequent plan sheets approved by Village Staff pursuant to revisions required herein and/or by the Plan Commission:
   a. *"Onsite Civil Engineering and Infrastructure Plans for the Zilber Industrial 4 at Germantown Corporate Park" dated April 16, 2020;*
   b. *Architectural plans labeled "Zilber Industrial 4" dated March 25, 2020 and revised April 10, 2020;*
2. All landscaping, screening, grading, and paving improvements shown on the approved site plans shall be installed as proposed prior to issuance of an occupancy permit unless a cash bond or letter of credit in an amount equal to 120 percent of the estimated installation and material costs reviewed and approved by the Village is submitted to the Village as necessary to ensure that installation of the proposed features and improvements will be completed within one (1) year after issuance of the occupancy permit.
3. All exterior doors (except primary entrance) shall be clearly marked with reflective 5" or larger letters/numbers to aid emergency personnel access as required by the Police Department.
4. All outstanding items and issues identified by Village Staff in the following review memos shall be resolved and reflected in additional information and/or revised plans submitted to Staff for further review, comment and approval prior to issuance of a building permit for the Zilber 4 building (excluding "early start" site clearing and footing/foundation work approved by the Village and/or WI DSPS):
   a. *March 24, 2020 memo from Public Works Director, Larry Ratayczak*
5. State approved plans and a $20,000 occupancy bond are required by Inspection services as part of the building permit application.
6. The following items shall be provided as required by the Village Fire Department:
   a. *An approved water supply with fire hydrants required at intervals of approximately 400' apart.*
   b. *Fire Sprinkler and alarm systems shall be installed as required by IBC based on occupancy class (currently unknown). Locations of fire protection equipment is subject to approval of GFD.*
   c. *Knox boxes will be required on each building at locations to be determined by GFD.*
7. The Developer shall provide a detailed plan or set of specifications for what type, i.e. design, materials, color, etc. of roof-mounted mechanical screening will be installed in the event that screening is required at the time one or more tenants apply for building permits and occupancy from the Village, and, submit said specifications to the Village Planner for review and approval prior to issuance of an occupancy permit for the Zilber 4 building.

Engineering Department Memorandum

To : Jeffrey W. Retzlaff, AICP, Planning Director/Zoning Administrator

From : Lawrence Ratayczak, P.E., Director of Public Works

Date : March 24, 2019

Re : Zilber Property Group – Gateway Crossing

Items Reviewed:

1. Civil Plan Set C9 – C9 (9 pages) Dated: 03-02-20

General Comments:

1. Please respond to each item below. **A written response addressing each item shall be included in your submittal**.
2. The submitted plans have been reviewed for general conformance with State and Village design guidelines. Additional comments could arise as a result of the plan completion and modifications. The items listed below will need to be fully resolved before the Engineering Dept. can recommend a formal approval of the plans and permit for construction.
3. This project will require a WRAPP/NOI from the DNR. Please submit a copy of the approved permit prior to final approval.
4. The project will require DSPS plumbing and infiltration system review and approval. Please provide a copy of the DSPS approval prior to engineering approval
5. As-builts prepared to Village standards shall be prepared and provided to the Village post-construction (for all applicable items).
6. A professional engineer's original seal is to be affixed, signed and dated on the final set of construction plans.
7. Contact Ryan Ehlerding, 262-250-4723 for a utility permit.
8. As a guide to the review response: Items in *italics* are resolved or acknowledged, items in regular font are to be addressed yet, items in **Bold** are additional feedback to remaining original comment.

Water Department Comments

1 Tracer wire shall be #12 HDPE coated with buried lug connector. Add Village tracer wire requirements to the notes.

2. Private hydrants shall be painted yellow.

3. Add a note requiring the contractor to schedule and hold a pre-construction meeting with Village staff prior to any utility work taking place.

Wastewater Utility Comments

1 Sanitary pipe on the downstream side of the sampling manhole shall be C-900 pipe due to the buried depth of the main.

C3 – Site Dimensional and Paving Plan

1 ADA ramps shown do not appear to meet ADA requirements. Ramps that can be approached from the side shall have a flares not steeper than 1:10

C4 – Grading Plan

1 Grading plan shows work over the south property line. Provide documentation that the neighboring property owner is aware of this and approving of it.

2. Plan currently allows for over 1' of ponding in parking areas before overtopping. Revise plan to allow for a max of 1' of ponding in parking areas.

3. Review overflow elevation for the area between the retaining wall and the building. Adjust elevations to allow that area to overflow at an elevation at least 6" below the building FFE.

C5 – Utility Plan

1 Is offsite 54" storm sewer to the northwest intended to be public or private?

2. Provide storm sewer calculations.

3. Provide crossing information where storm sewer crosses proposed building sewer and water laterals.

C6 – Erosion Control Plan

1 Provide on-site sediment controls to remove construction site sediment prior to discharging from the site. Inlet protection is only adequate if the drainage area to the inlet is less than 1 acre. Sediment traps / basins are likely required.

C7 – Construction Details

1 Add ADA ramp details

Stormwater Management Plan

1. This site layout appears slightly different than what was included on the previously approved stormwater management plan. Please provide updated drainage maps that show this development along with a simple letter summary of what was included in the approved stormwater management plan and how this proposed development compares to it.

Village of Germantown ...Willkommen

Community Development Department
Jeffrey W. Retzlaff, AICP, Director
Village Planner & Zoning Administrator
N112 W17001 Mequon Road P.O. Box 337
Germantown, WI 53022-0337
Telephone: (262) 250-4735 Website: www.village.germantown.wi.us
E-mail: jretzlaff@village.germantown.wi.us

April 2, 2020

Frank Dekan
Zilber Property Group
710 N. Plankinton Ave
Milwaukee, WI 53203

RE: Germantown Gateway Corporate Park; Zilber4 Site & Building Plans; Staff Review Comments

Mr. Dekan:

Village Staff has reviewed the applications and plans submitted for the proposed Zilber[4] building and site development in the Germantown Gateway Corporate Park and has identified the following outstanding items/issues that need to be addressed before we can schedule the plans for Plan Commission review/approval. Please provide the requested information, corrections and/or revisions as soon as possible. If necessary, Village staff would be happy to meet with you to discuss or clarify any of these items.

Community Development Department

1. As shown in the Site Data table, the maximum amount of impervious area is nearly proposed (79.6% vs. 80% max), and, as shown on the site plan the absolute minimum setbacks are proposed. While on one hand this is an efficient use of the parcel for the developed features, there is little attention paid to the impact on the adjacent parcels, particularly the residential parcel to the east. Subsequent comments address specific concerns.

2. As required under Zoning Code 17.45(1)(b) no parking stall or driveway shall be closer than 50 feet to a residential district lot line. The property located to the east of the subject property is zoned residential. Please revise the site plan accordingly.

   17.45 (1)(b): Unless authorized pursuant to section 17.45(5) below, the location of any off-street parking area shall be on the same lot or parcel (i.e., "on-site") as the principal use and no parking stall or driveway, except in residential districts, shall be closer than 50 feet to a residential district lot line; except churches, in which case the distance shall be no closer than 20 feet to a residential district lot line. Berming may be required with possible landscaping, as determined by the Plan Commission. (Am. Ord. #1-02; Am. Ord. #9-10)

3. Additional landscaping and building setback along the east property line is recommended to reduce the significant impact the proposed building is going to have on the residential property to the east.
4. Additional landscaping is required along Gateway Crossing, the north property line and along the south property line in lieu of landscaping within the interior parking areas required under Zoning Code 17.43(5)(c) below:

(c) Parking Lot Landscaping.1.In parking lots, at least 5% of the interior parking area shall be landscaped with plantings, and one tree of a minimum 2-inch caliper, for each 10 spaces, all as shall be submitted and approved as part of the plan provided for herein above. Planting required within the parking lot shall be in addition to, and not in lieu of, other planting requirements, such as for street trees.2.Parking lot street frontage screening and perimeter screening shall be a minimum of 5 feet wide.3.Parking lot landscaping shall be located in protected areas, such as along walkways, in center islands, at the ends of bays, or between parking stalls. All landscaping in parking areas and on the street frontage shall be placed so that it will not obstruct sight lines and distances.4.A mixture of hardy flowering and/or decorative evergreen and deciduous trees which shall be selected by the developer from an approved list of types and species of plantings and trees to be provided by the Village, shall be planted. Evergreens shall be used along the perimeter of the lot for screening from adjacent properties, and the deciduous trees for shade within the lot. Areas between trees shall be mulched or planted with shrubs or ground cover. Any landscaped area that will be under the overhang of vehicles shall be mulched or covered with decorative paving material.

5. Additional setback with a flat grade or some sort of better curb stop or bumper guard may be needed along the south property line given the relatively steep slope down to the parcel to the south.
6. Will the site be fenced like the Briggs & Stratton property?
7. A Zoning Permit will be required for a future tenant prior to occupancy. A building permit will be required for interior modifications at the time those details are known.
8. A roof plan sheet is required and needs to show any/all roof-mounted mechanicals (assumed dimensions if no details available). If the future tenant is unknown at this time, please submit a roof plan and sight-line elevation showing the RTU will be screened at the same time the future Zoning Permit is submitted.
9. There is a monument sign “placeholder” shown on the Landscape Plan on the east side of Gateway Crossing. The proposed monument sign and any other proposed signage requires Plan Commission review and approval through a sign permit application.
10. The west elevation is rather plain for what is considered to be the “front” side of the building facing Gateway Crossing. Can a feature be added to the mid-section of the elevation to enhance the overall appearance?
11. The graphics shown for the proposed site lighting (shown in arch plan set Sheet E-1) are difficult to read and I’s unclear if the maximum mounting height (25’) is being met for both the building and pole-mounted light fixtures. The Village’s maximum fixture height allowance is 25 feet; if necessary, the pole height and/or base will need to be adjusted accordingly.

Village Arborist

12. Excellent diversity of tree species selection.
13. Recommend adding plant key to reference each species on plant list to proper planting site symbol on the landscape plan.

Fire Department

14. No comment.

Public Works/Village Engineer/Village Surveyor

15. Comments from the Village Surveyor regarding the CSM are contained in a separate review memo dated March 24, 2020 (copy attached).
16. The sanitary pipe from the downstream side of the sampling manhole shall be a C-900 pipe due to buried depth of main. Please add this to the notes under sanitary pipes.

When submitting revised plans or additional information, please submit (1) digital plan set and three (3) full-size, hard-copy plan sets set to the Community Development Department. Complete responses and/or information, plan revisions, etc. to the items/issues listed above will help avoid delay in the review and processing of your application.

Respectfully,

Emily Zandt

Emily Zandt, AICP
Associate Planner

Village of Germantown ...Willkommen

Fee must accompany application

- ☐ $700 Minor Addition
- ☐ $1,240 Construction <10,000 SF
- ☐ $2,095 Construction 10,000 SF to 50,000
- ☐ $3,460 Industrial Construction >50,000 SF
- ☒ $3,460 Commercial Construction >50,000
- ☐ $200 Plan Commission Consultation
- ☐ $125 Fire Department Plan Review

PAID _____ DATE _____

SITE PLAN REVIEW APPLICATION

Pursuant to Section 17.43 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 APPLICANT OR AGENT

Zilber Property Group
710 N. Plankinton Avenue, Ste 1100
Milwaukee, WI 53146

Phone (**414**)**274-2916**
E-Mail **Frank.dekan@zilber.com**

PROPERTY OWNER

ZPG Development Corp. LLC
710 N. Plankinton Avenue, Ste 1100
Milwaukee, WI 53146

Phone (**414**) **274-2632**
E-Mail **John.kersey@zilber.com**

2 PROPERTY ADDRESS

Zilber Industrial 4 at Germantown Gateway Corporate Park
Gateway Crossing
Richfield, WI 53076

Actual address to be determined.

3 NEIGHBORING USES – Specify name and type of use, e.g. Enviro Tech – Industrial, Smith – Residential, etc.

North	South	East	West
Rural	**Industrial**	**Industrial**	**Industrial**

4 READ AND INITIAL THE FOLLOWING:

X I am aware of the Village of Germantown ordinance requiring fire sprinklers in most new construction.

X I understand that all new development is subject to Impact and/or Connection Fees that must be paid before building permits will be issued.

X I understand that an incomplete application will be withdrawn from the Plan Commission agenda and that all resubmissions to the Plan Commission are subject to a new application fee.

5 SIGNATURES – ALL APPLICATION MUST BE SIGNED BY OWNER!

Applicant **2/28/20** Date

Owner 2/25/20 Date

ZILBER
PROPERTY GROUP SM

February 26, 2020

Re: Statement of Design Intent
Site Plan Review Application Submitted March 2, 2020

The proposed Zilber Industrial 4 at Germantown Gateway Corporate Park project is a 146,000 square foot industrial building that will be developed in a manner consistent with other institutional-quality industrial development projects recently completed by Zilber Property Group including the 706,840 sf industrial build to suit for Briggs and Stratton Corp, the adjacent 198,648 sf industrial spec building along with the 204,373 sf build to suit for Smart Warehousing. The Zilber Industrial 4 building will be located in the newly developed Germantown Gateway Corporate Park, which is generally located at the intersection of Holy Hill Road and Gateway Crossing in the northeast quadrant of the US 41 and Holy Hill Road interchange.

As currently proposed, the building will feature stepped up corner conditions and an intermediate employee entrance. The building will consist of 14ft wide and 32ft clear height painted and insulated precast wall panels that have multiple reveals and will be painted in tones between white to grey and warm accent colors to help reduce the overall scale of the building. Additionally, the building elevation is stepped to further break the scale down and panels are stepped to create additional shadow lines. Around the building, the project includes clearstory windows to provide natural daylight within the building. The precast panel steps, paint and glazing are continued around the building to create four sided architecture.

CORPORATE
710 North Plankinton Avenue
Milwaukee, WI 53203

KENOSHA
9560 58th Place, Suite 350
Kenosha, WI 53144

www.zilberpropertygroup.com

ZILBER
PROPERTY GROUP℠

April 15, 2020

Emily Zandt, AICP
Village of Germantown
Associate Planner/Zoning Administrator
N112 W17001 Mequon Road
P.O Box 337
Germantown, WI 53022-0337

Re: Permission for Grading

Dear Emily:

ZPG Development Corp LLC is the owner of the project currently under site plan review, also known as Zilber Industrial 4 at Germantown Gateway Corporate Park. ZPG Development LLC is also the owner of the adjacent parcel, located at W210 N12800 Gateway Crossing.

The project plans depict work to occur on the project site as well as the adjacent site of W210 N12800 Gateway Crossing. As the owner of both parcels, we have granted permission to Riley Construction, and their sub-contractors to perform the work indicated on the plans for both parcels of land.

If you have any issues or concerns regarding the Site Work, please feel free to contact Frank M. Dekan, Project Manager - Zilber Property Group; 414-234-1100, or frank.dekan@zilber.com.

Thank you,

Frank M. Dekan
Project Manager
Zilber Property Group

THESE PLANS AND DESIGNS ARE COPYRIGHT PROTECTED AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT THE WRITTEN CONSENT OF PINNACLE ENGINEERING GROUP, LLC

ONSITE CIVIL ENGINEERING INFRASTRUCTURE PLANS

FOR

ZILBER INDUSTRIAL 4 AT GERMANTOWN GATEWAY CORPORATE PARK

GERMANTOWN, WI

PLANS PREPARED

FOR

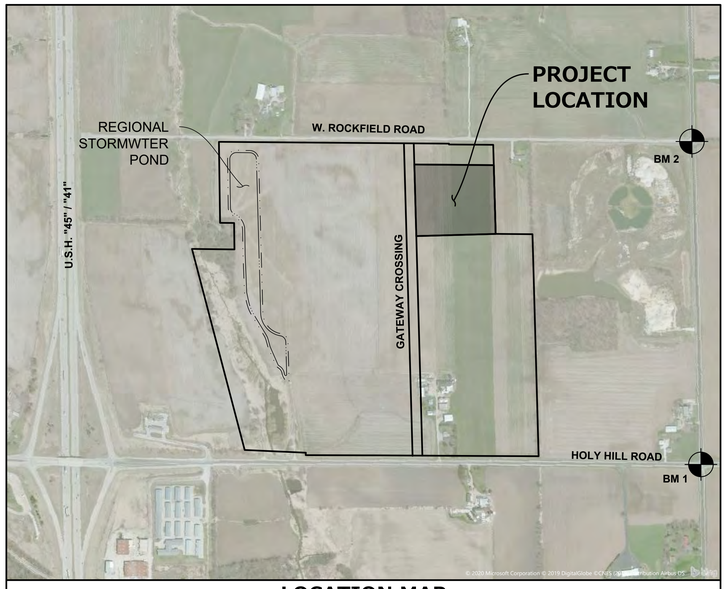
ZILBER PROPERTY GROUP SM

LEGEND

	EXISTING	PROPOSED
SANITARY SEWER MANHOLE	S	S
STORM SEWER MANHOLE	S	S
STORM SEWER CATCH BASIN (ROUND CASTING)		
STORM SEWER CATCH BASIN (RECTANGULAR CASTING)		
PRECAST FLARED END SECTION		
CONCRETE HEADWALL		
VALVE BOX	V	V
FIRE HYDRANT		
CLEANOUT	C	C
SANITARY SEWER		
FORCE MAIN		
STORM SEWER		
DRAIN TILE		
WATER MAIN	W	W
FIRE PROTECTION		FP
ELECTRICAL CABLE	E	E
OVERHEAD WIRES	OHW	OHW
GAS MAIN	G	G
TELEPHONE LINE	T	T
UTILITY CROSSING		X
CAUTION EXISTING UTILITIES NEARBY		CAUTION
GRANULAR TRENCH BACKFILL		
LIGHTING		
ELECTRICAL TRANSFORMER OR PEDESTAL	TP	
POWER POLE		
POWER POLE WITH LIGHT		
GUY WIRE		
STREET SIGN		
CONTOUR	749	749
SPOT ELEVATION	×(750.00)	+750.00
WETLANDS	WD	
PRIMARY ENVIRONMENTAL CORRIDOR	PEC	
FLOODWAY		
FLOODPLAIN		
HIGH WATER LEVEL (HWL)		
NORMAL WATER LEVEL (NWL)		
DIRECTION OF SURFACE FLOW		
DITCH OR SWALE		
DIVERSION SWALE		
OVERFLOW RELIEF ROUTING		
TREE WITH TRUNK SIZE		
SOIL BORING		
TOPSOIL PROBE		
FENCE LINE, TEMPORARY SILT	SF	SF
FENCE LINE, WIRE		
FENCE LINE, CHAIN LINK OR IRON		
FENCE LINE, WOOD OR PLASTIC		
CONCRETE SIDEWALK		
CURB AND GUTTER		
DEPRESSED CURB		
REVERSE PITCH CURB & GUTTER		
EASEMENT LINE		

ABBREVIATIONS

BL	BASE LINE	N.I.C.	NOT IN CONTRACT
C	LONG CHORD OF CURVE	PC	POINT OF CURVATURE
C & G	CURB AND GUTTER	PT	POINT OF TANGENCY
CB	CATCH BASIN	PVI	POINT OF VERTICAL INTERSECTION
CL	CENTERLINE	R	RADIUS
D	DEGREE OF CURVE	ROW	RIGHT-OF-WAY
EP	EDGE OF PAVEMENT	SAN	SANITARY SEWER
FF	FINISHED FLOOR	ST	STORM SEWER
FG	FINISHED GRADE	T	TANGENCY OF CURVE
FL	FLOW LINE	TB	TOP OF BANK
FP	FLOODPLAIN	TC	TOP OF CURB
FR	FRAME	TF	TOP OF FOUNDATION
FW	FLOODWAY	TP	TOP OF PIPE
HWL	HIGH WATER LEVEL	TS	TOP OF SIDEWALK
INV	INVERT	TW	TOP OF WALK
L	LENGTH OF CURVE	WM	WATER MAIN
MH	MANHOLE	△	INTERSECTION ANGLE



LOCATION MAP
SCALE: 1" = 500'

STORMWATER MANAGEMENT NOTE

APPROVED STORMWATER MANAGEMENT PLAN FOR GERMANTOWN GATEWAY CORPORATE PARK, DATED SEPTEMBER 12, 2018 (REVISION), PREPARED BY PINNACLE ENGINEERING GROUP.

SITE IMPERVIOUSNESS INCLUDED IN THE APPROVED REPORT FOR THE SUBJECT PARCEL = 85.8% (7.30 AC)

SITE IMPERVIOUSNESS PROPOSED AS PART OF THIS DEVELOPMENT = 79.0% (6.72 AC)

GENERAL NOTES

1. THE INTENTION OF THE PLANS AND SPECIFICATIONS IS TO SET FORTH PERFORMANCE AND CONSTRUCTION MATERIAL STANDARDS FOR THE PROPER EXECUTION OF WORK. ALL WORKS CONTAINED WITHIN THE PLANS AND SPECIFICATIONS SHALL BE COMPLETED IN ACCORDANCE WITH ALL REQUIREMENTS FROM LOCAL, STATE, FEDERAL OR OTHER GOVERNING AGENCY'S LAWS, REGULATIONS, JURISDICTIONAL ORDINANCES/CODES/RULES/ETC., AND THE OWNER'S DIRECTION.
2. A DRAFT GEOTECHNICAL REPORT IS NOT AVAILABLE AT THIS TIME. A PREVIOUS GEOTECHNICAL REPORT PREPARED BY GILES ENGINEERING ASSOCIATES, INC, DATED JUNE 28TH, 2018 IS AVAILABLE FOR REVIEW. IT SHALL BE EXPRESSLY UNDERSTOOD THAT OWNER WILL NOT BE RESPONSIBLE FOR ANY INTERPRETATIONS OR CONCLUSIONS DRAWN THERE FROM BY THE CONTRACTOR. DATA IS MADE AVAILABLE FOR THE CONVENIENCE OF THE CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING ANY ADDITIONAL SOILS INVESTIGATIONS THEY FEEL IS NECESSARY FOR THE PROPER EVALUATION OF THE SITE FOR PURPOSES OF PLANNING, BIDDING, OR CONSTRUCTING THE PROJECT AT NO ADDITIONAL COST TO THE OWNER.
3. THE CONTRACTOR IS RESPONSIBLE TO REVIEW AND UNDERSTAND ALL COMPONENTS OF THE PLANS AND SPECIFICATIONS, INCLUDING FIELD VERIFYING SOIL CONDITIONS, PRIOR TO SUBMISSION OF A BID PROPOSAL.
4. THE CONTRACTOR SHALL PROMPTLY REPORT ANY ERRORS OR AMBIGUITIES LEARNED AS PART OF THEIR REVIEW OF PLANS, SPECIFICATIONS, REPORTS AND FIELD INVESTIGATIONS.
5. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE COMPUTATION OF QUANTITIES AND WORK REQUIRED TO COMPLETE THIS PROJECT. THE CONTRACTOR'S BID SHALL BE BASED ON ITS OWN COMPUTATIONS AND IN NO SUCH INSTANCE RELY ON THE ENGINEER'S ESTIMATE.
6. QUESTIONS/CLARIFICATIONS WILL BE INTERPRETED BY ENGINEER/OWNER PRIOR TO THE AWARD OF CONTRACT. ENGINEER/OWNER WILL SUBMIT OFFICIAL RESPONSES IN WRITING. INTERPRETATIONS PRESENTED IN OFFICIAL RESPONSES SHALL BE BINDING ON ALL PARTIES ASSOCIATED WITH THE CONTRACT. IN NO WAY SHALL WORD-OF-MOUTH DIALOG CONSTITUTE AN OFFICIAL RESPONSE.
7. PRIOR TO START OF WORK, CONTRACTOR SHALL BE COMPLETELY FAMILIAR WITH ALL CONDITIONS OF THE SITE, AND SHALL ACCOUNT FOR CONDITIONS THAT AFFECT, OR MAY AFFECT CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, LIMITATIONS OF WORK ACCESS, SPACE LIMITATIONS, OVERHEAD OBSTRUCTIONS, TRAFFIC PATTERNS, LOCAL REQUIREMENTS, ADJACENT ACTIVITIES, ETC. FAILURE TO CONSIDER SITE CONDITIONS SHALL NOT BE CAUSE FOR CLAIM OF JOB EXTRAS.
8. COMMENCEMENT OF CONSTRUCTION SHALL EXPLICITLY CONFIRM THAT THE CONTRACTOR HAS REVIEWED THE PLANS AND SPECIFICATIONS IN ENTIRETY AND CERTIFIES THAT THEIR SUBMITTED BID PROPOSAL CONTAINS PROVISIONS TO COMPLETE THE PROJECT, WITH THE EXCEPTION OF UNFORESEEN FIELD CONDITIONS; ALL APPLICABLE PERMITS HAVE BEEN OBTAINED; AND CONTRACTOR UNDERSTANDS ALL OF THE REQUIREMENTS OF THE PROJECT.
9. SHOULD ANY DISCREPANCIES OR CONFLICTS IN THE PLANS OR SPECIFICATIONS BE DISCOVERED AFTER THE AWARD OF CONTRACT, ENGINEER SHALL BE NOTIFIED IN WRITING IMMEDIATELY AND CONSTRUCTION OF ITEMS AFFECTED BY THE DISCREPANCIES/CONFLICTS SHALL NOT COMMENCE, OR CONTINUE, UNTIL A WRITTEN RESPONSE FROM ENGINEER/OWNER IS DISTRIBUTED. IN THE EVENT OF A CONFLICT BETWEEN REFERENCED CODES, STANDARDS, SPECIFICATIONS AND PLANS, THE ONE ESTABLISHING THE MOST STRINGENT REQUIREMENTS SHALL BE FOLLOWED.
10. THE CONTRACTOR SHALL, AT ITS OWN EXPENSE, OBTAIN ALL NECESSARY PERMITS AND LICENSES TO COMPLETE THE PROJECT. OBTAINING PERMITS, OR DELAYS, IS NOT CAUSE FOR DELAY OF THE CONTRACT OR SCHEDULE. CONTRACTOR SHALL COMPLY WITH ALL PERMIT REQUIREMENTS.
11. THE CONTRACTOR SHALL NOTIFY ALL INTERESTED GOVERNING AGENCIES, UTILITY COMPANIES AFFECTED BY THIS CONSTRUCTION PROJECT, AND DIGGER'S HOTLINE IN ADVANCE OF CONSTRUCTION TO COMPLY WITH ALL JURISDICTIONAL ORDINANCES/CODES/RULES/ETC., PERMIT STIPULATIONS, AND OTHER APPLICABLE STANDARDS.
12. SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE TO INITIATE, INSTITUTE, ENFORCE, MAINTAIN, AND SUPERVISE ALL SAFETY PRECAUTIONS AND JOB SITE SAFETY PROGRAMS IN CONNECTION WITH THE WORK.
13. CONTRACTOR SHALL KEEP THE JOBSITE CLEAN AND ORDERLY AT ALL TIMES. ALL LOCATIONS OF THE SITE SHALL BE KEPT IN A WORKING MANNER SUCH THAT DEBRIS IS REMOVED CONTINUOUSLY AND ALL RESPECTIVE CONTRACTORS OPERATE UNDER GENERAL "GOOD HOUSEKEEPING."
14. THE CONTRACTOR SHALL INDEMNIFY THE OWNER, ENGINEER, AND THEIR AGENTS FROM ALL LIABILITY INVOLVED WITH THE CONSTRUCTION, INSTALLATION, AND TESTING OF THE WORK ON THIS PROJECT.

PROJECT TEAM CONTACTS

CIVIL ENGINEER:
MARK BABICH, P.E.
PINNACLE ENGINEERING GROUP
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888

SURVEYOR:
JOHN KONOPACKI, P.L.S.
PINNACLE ENGINEERING GROUP
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888

ARCHITECT:
MATTHEW A. MANO
VICE PRESIDENT, PE LEED-AP
STEPHEN PERRY SMITH ARCHITECTS, INC.
215 N. WATER STREET, SUITE 250
MILWAUKEE, WI 53202
(414) 277-9700

APPLICANT:
FRANK DEKAN
ZILBER PROPERTY GROUP
710 N. PLANKINTON AVENUE
MILWAUKEE, WI 53203
(414) 274-2916

BENCHMARKS

VERTICAL DATUM: NGVD 29
HORIZONTAL DATUM: NAD 1927

BM 1: CONCRETE MONUMENT WITH BRASS CAP AT THE SOUTHEAST CORNER OF THE SOUTHEAST 1/4 SECTION 7, TOWN 9 NORTH, RANGE 20 EAST, ELEVATION = 933.82.

BM 2: CONCRETE MONUMENT WITH BRASS CAP AT THE NORTHEAST CORNER OF THE SOUTHEAST 1/4 SECTION 7, TOWN 9 NORTH, RANGE 20 EAST, ELEVATION = 945.69.

INDEX OF SHEETS

C-1	COVER SHEET
C-2	EXISTING CONDITIONS
C-3	SITE DIMENSIONAL & PAVING PLAN
C-4	GRADING PLAN
C-5	UTILITY PLAN
C-6	EROSION CONTROL PLAN
C-7 to C-9	CONSTRUCTION DETAILS
L-1	OVERALL LANDSCAPE PLAN
L-2 to L-3	ENLARGED LANDSCAPE PLAN
L-4	LANDSCAPE GENERAL NOTES & DETAILS

REQUIRED SUBMITTALS FOR APPROVAL

1. **HOT MIX ASPHALT** - MIX DESIGN
2. **CONCRETE PAVEMENTS (EXTERIOR)** - MIX DESIGN & JOINT PLAN
3. **PAVEMENT STONE BASE COURSE** - GRADATION
4. **PIPE BEDDING & TRENCH BACKFILL** - GRADATION
5. **MANHOLE BACKFILL** - GRADATION
6. **PAVEMENT MARKING PAINT**

REQUIRED SUBMITTALS FOR RECORDS

1. **WATER MAIN PIPES, VALVES, HYDRANTS & FITTINGS**
2. **SANITARY SEWER PIPE & FITTINGS**
3. **STORM SEWER PIPE, STRUCTURES, & FITTINGS**
4. **TRACER WIRE**
5. **UNDERGROUND UTILITY LOCATION RECORD DRAWINGS**
6. **ADA SIGN & TRUNCATED DOMES, PAINT & STENCILS**
7. **CHEMICAL SOIL STABILIZATION MIX DESIGN (IF APPLICABLE)**

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

EXPIRATION DATE: JULY 31, 2020

PINNACLE ENGINEERING GROUP, LLC - ENGINEER'S LIMITATION

PINNACLE ENGINEERING GROUP, LLC AND THEIR CONSULTANTS DO NOT WARRANT OR GUARANTEE THE ACCURACY AND COMPLETENESS OF THE DELIVERABLES HEREIN BEYOND A REASONABLE DILIGENCE. IF ANY MISTAKES, OMISSIONS, OR DISCREPANCIES ARE FOUND TO EXIST WITHIN THE DELIVERABLES, THE ENGINEER SHALL BE PROMPTLY NOTIFIED PRIOR TO BID SO THAT HE MAY HAVE THE OPPORTUNITY TO TAKE WHATEVER STEPS NECESSARY TO RESOLVE THEM. FAILURE TO PROMPTLY NOTIFY THE ENGINEER OF SUCH CONDITIONS SHALL ABSOLVE THE ENGINEER FROM ANY RESPONSIBILITY FOR THE CONSEQUENCES OF SUCH FAILURE. ACTIONS TAKEN WITHOUT THE KNOWLEDGE AND CONSENT TO THE ENGINEER, OR IN CONTRADICTION TO THE ENGINEER'S DELIVERABLES OR RECOMMENDATIONS, SHALL BECOME THE RESPONSIBILITY NOT OF THE ENGINEER BUT OF THE PARTIES RESPONSIBLE FOR TAKING SUCH ACTION.

FURTHERMORE, PINNACLE ENGINEERING GROUP, LLC IS NOT RESPONSIBLE FOR CONSTRUCTION SAFETY OR THE MEANS AND METHODS OF CONSTRUCTION.

www.pinnacle-engr.com

ISSUED FOR MUNICIPAL REVIEW

COVER SHEET

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REVIEWED: MAB
DESIGNED: CWB
DRAFTED: MRG

PLAN | DESIGN | DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING | NATURAL RESOURCES | SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO I MILWAUKEE : NATIONWIDE

ZILBER PROPERTY GROUP SM

ZILBER INDUSTRIAL 4 AT GERMANTOWN GATEWAY CORPORATE PARK
GERMANTOWN, WI

COVER SHEET

REVISIONS

1	ISSUED FOR OWNER REVIEW	02/19/20	
2	ISSUED FOR MUNICIPAL REVIEW	03/02/20	
3	VILLAGE COMMENTS (3/24/20)	04/16/20	

PEG JOB No.: 1296.00C
REG PM: MAB
START DATE:
SCALE: N.T.S.

SHEET C-1 OF C-9

Z:\PROJECTS\2018\1296.00C-WI\CAD\SHEETS\1296.00C-WI G4 COVER SHEET.DWG

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ROCKFIELD ROAD

LOT 6
C.S.M. NO. 6898

OWNER:
ZILBER PROPERTY GROUP

M-1 LIMITED INDUSTRIAL
ZONING DISTRICT

8.0' PARKING SETBACK

S 89°33'23" E 647.61'

10.0' BUILDING SETBACK

VACANT
LOT 5
C.S.M. NO. 6898

FUTURE GATEWAY CROSSING

(80' PUBLIC R.O.W.)

40'

40'

584.25'

N 1°34'46" W

30.0'
BUILDING
SETBACK

S 88°25'02" W 647.19'

10.0' BUILDING SETBACK

8.0' PARKING SETBACK

LOT 6
C.S.M. NO. 6824

OWNER:
TI INVESTORS OF
GERMANTOWN

M-1 LIMITED INDUSTRIAL
ZONING DISTRICT

LOT 1
C.S.M. NO. 6182

OWNER:
WIEDMEYER TRUST

RS-1 SINGLE FAMILY
RESIDENTIAL ZONING DISTRICT

50.0' PARKING SETBACK

25.0' BUILDING SETBACK

561.35'

S 1°34'59" E

NORTH

GRAPHICAL SCALE (FEET)

0 1" = 30' 60'

EXISTING CONDITIONS SURVEY:

EXISTING CONDITIONS SURVEY PROVIDED BY PINNACLE ENGINEERING GROUP. ALTHOUGH PEG HAS NO REASON TO BELIEVE THE SURVEY IS INACCURATE, PEG MAKES NO WARRANTS THAT EXISTING INFORMATION CONTAINED WITHIN THESE PLANS IS ALL-INCLUSIVE OR ACCURATE. CONTRACTOR SHALL UNDERTAKE NECESSARY EFFORTS TO VERIFY THE EXISTING CONDITIONS PRIOR TO THE START OF MATERIAL PROCUREMENT AND CONSTRUCTION EFFORTS/ACTIVITIES.

CONTRACTOR RESPONSIBILITY:

THE INFORMATION SHOWN ON THIS DRAWING CONCERNING TYPE AND LOCATION OF UNDERGROUND UTILITIES IS NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING HIS OWN DETERMINATIONS AS TO THE TYPE AND LOCATION OF UNDERGROUND UTILITIES AS MAY BE NECESSARY TO AVOID DAMAGE THERETO. IF ADDITIONAL UTILITIES ARE KNOWN TO EXIST IN THE PROPERTY, THE OWNER WILL PROVIDE EXISTING PLANS OF OTHER UTILITIES SERVING THE SITE AND THE BUILDING THAT OTHERWISE CANNOT BE LOCATED BY A VISUAL OBSERVATION OF THE PROPERTY OR OF WHICH THE SURVEYOR WOULD HAVE NO KNOWLEDGE.

www.pinnacle-engr.com

ISSUED FOR MUNICIPAL REVIEW

EXISTING CONDITIONS

REVIEWED: MJB
DESIGNED: CWB
DRAFTED: MRG

PLAN | DESIGN | DELIVER
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PINNACLE ENGINEERING GROUP
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CHICAGO | MILWAUKEE | NATIONWIDE

ZILBER PROPERTY GROUP SM

ZILBER INDUSTRIAL 4 AT GERMANTOWN GATEWAY CORPORATE PARK
GERMANTOWN, WI

EXISTING CONDITIONS

REVISIONS

1	ISSUED FOR OWNER REVIEW	02/19/20	
2	ISSUED FOR MUNICIPAL REVIEW	03/02/20	
3	VILLAGE COMMENTS (3/24/20)	04/16/20	

PEG JOB No.: 1296.00C
PEG PM: MJB
START DATE:
SCALE: 1" = 30'

SHEET
C-2
OF
C-9

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Z:\PROJECTS\2018\1296.00C-WI\CAD\SHEETS\1296.00C-WI G4 EXISTING CONDITIONS.DWG

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ROCKFIELD ROAD

LOT 6
C.S.M. NO. 6898

OWNER:
ZILBER PROPERTY GROUP

M-1 LIMITED INDUSTRIAL
ZONING DISTRICT

8.0' PARKING SETBACK

10.0' PARKING SETBACK

S 89°33'23" E 647.61'

MONUMENT SIGN

SEE ENLARGED VIEW A

SEE ENLARGED VIEW B

SEE ENLARGED VIEW C

SEE ENLARGED VIEW D

PROPOSED BUILDING
146,000 SF I FFE=935.60

FUTURE GATEWAY CROSSING
(DESIGN BY OTHERS)

N 1°34'46" W 584.25'

PROPOSED TRANSFORMER PAD
(DESIGN BY OTHERS)

FUTURE DRIVE IN DOOR LOCATIONS OR DOCK POSITIONS

THICKENED ASPHALT EDGE (SEE DETAIL)

30.0' BUILDING SETBACK

8.0' PARKING SETBACK

10.0' BUILDING SETBACK

S 88°25'02" W 647.19'

LOT 6
C.S.M. NO. 6824

OWNER:
TI INVESTORS OF GERMANTOWN

M-1 LIMITED INDUSTRIAL
ZONING DISTRICT

FUTURE ACCESS DRIVE FOR BRIGGS & STRATTON

LOT 1
C.S.M. NO. 6182

OWNER:
WIEDMEYER TRUST

RS-1 SINGLE FAMILY
RESIDENTIAL ZONING DISTRICT

S 1°34'39" E 561.35'

25.0' BUILDING SETBACK

50.0' PARKING SETBACK

SITE DATA

SITE AREA:	**370,712 S.F./8.51 AC**
ZONING CLASSIFICATION:	**M-1 LIMITED INDUSTRIAL**
BUILDING FOOTPRINT AREA:	**146,000 S.F.**
IMPERVIOUS SPACE:	**292,842 S.F./6.72 AC/79.0%**
GREEN SPACE *REQUIRED*:	**74,142 S.F./1.70 AC/20.0%**
GREEN SPACE *PROVIDED*:	**77,870 S.F./1.79 AC/21.0%**
PARKING PROVIDED (9'x20')	**102 (4 ADA)**

LEGEND

- (A) 18" CURB & GUTTER (SEE DETAIL)
- (B) 18" REVERSE CURB & GUTTER (SEE DETAIL)
- (C) TAPER CURB HEAD (SEE DETAIL)
- (D) BUILDING DOOR SLAB (2% MAX SLOPE WITHIN 5 FT OF MAN DOOR)
- (E) 4" SOLID WHITE STRIPE
- (F) 4" DIAGONAL AT 45° SPACED 2' O.C.
- (G) ADA STALL INSIGNIA
- (H) ADA CURB RAMP W/ STAMPED WARNING FIELD (SEE ENLARGED VIEWS, SHEET C-7)
- (I) R7-8 HANDICAP PARKING SIGN (SEE DETAIL)
- (#) PARKING COUNT (FOR INFORMATION ONLY, NOT TO BE PAINTED)
- MAN DOOR
- D.I.D. DRIVE IN DOOR
- LIGHT DUTY PAVEMENT (SEE DETAIL)
- HEAVY DUTY PAVEMENT (SEE DETAIL)
- CONCRETE PAVEMENT (SEE DETAIL)
- CONCRETE SIDEWALK (SEE DETAIL)

ALL WORK WITHIN PUBLIC R.O.W. SHALL CONFORM TO VILLAGE OF GERMANTOWN STANDARDS.

PAVING AND LAYOUT NOTES

1. ALL DIMENSIONS ARE EDGE OF PAVEMENT, FACE OF CURB, SHOULDER, OR CENTER OF LANE LINE UNLESS NOTED OTHERWISE. ALL UTILITY DIMENSIONS ARE TO OUTSIDE OF PIPE OR CENTER OF STRUCTURE UNLESS OTHERWISE NOTED.
2. ALL PROPOSED CURB AND GUTTER SHALL BE 18" STANDARD CURB AND GUTTER (SEE DETAIL) UNLESS OTHERWISE NOTED. CURB AND GUTTER DRAINING AWAY FROM THE FACE OF CURB IS NOTED AS REVERSE CURB AND GUTTER.
3. BUILDING DIMENSIONS AND ADJACENT PARKING AND UTILITY LAYOUT HAVE BEEN PREPARED BASED UPON ARCHITECTURAL INFORMATION CURRENT AT THE DATE OF THIS DRAWING. SUBSEQUENT ARCHITECTURAL CHANGES MAY EXIST. THEREFORE CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR PRECISE BUILDING DIMENSIONS AND EXACT UTILITY ENTRANCE LOCATIONS AND NOTIFY THE ARCHITECT AND ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR SHALL CONTACT DIGGERS HOTLINE (1-800-242-8511) PRIOR TO ANY WORK TO LOCATE UTILITIES AND SHALL CONTACT THE OWNER SHOULD UTILITIES APPEAR TO BE IN CONFLICT WITH THE PROPOSED IMPROVEMENT.
5. IMPROVEMENTS ADJACENT TO BUILDING IF SHOWN SUCH AS TRUCK DOCK, RETAINING WALLS, SIDEWALKS, CURBING, FENCES, CANOPIES, RAMPS, HANDICAP ACCESS, PLANTERS, DUMPSTERS, AND TRANSFORMERS ETC. HAVE BEEN SHOWN FOR APPROXIMATE LOCATION ONLY. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATIONS, SPECIFICATIONS, AND DETAILS.
6. REFER TO ELECTRICAL PLANS FOR LIGHTING LOCATIONS, SPECIFICATIONS, AND DETAILS.
7. SEE ADDITIONAL NOTES AND DETAILS ON SITE DIMENSIONAL PLANS AND CONSTRUCTION DETAILS.
8. ALL PAVING SHALL CONFORM TO STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY & STRUCTURE CONSTRUCTION AND APPLICABLE VILLAGE OF GERMANTOWN ORDINANCES, AND SPECIFICATIONS CONTAINED WITHIN THIS PLAN SET.
9. CONTRACTOR SHALL CONSULT STRIPING COLOR WITH OWNER PRIOR TO CONSTRUCTION.
10. PROVIDE CONTRACTOR GRADE ACRYLIC, STRIPING PAINT FOR NEW ASPHALT OR COATED ASPHALT. APPLY MARKING PAINT AT A RATE OF ONE (1) GALLON PER THREE TO FOUR HUNDRED (300-400) LINEAL FEET OF FOUR (4) INCH WIDE STRIPES OR TO MANUFACTURER'S SPECIFICATION, WHICHEVER IS GREATER.
11. THOROUGHLY CLEAN SURFACES FREE OF DIRT, SAND, GRAVEL, OIL AND OTHER FOREIGN MATTER. CONTRACTOR RESPONSIBLE TO INSPECT EXISTING PAVEMENT SURFACES FOR CONDITIONS AND DEFECTS THAT WILL ADVERSELY AFFECT QUALITY OF WORK, AND WHICH CANNOT BE PUT INTO AN ACCEPTABLE CONDITION THROUGH NORMAL PREPARATORY WORK AS SPECIFIED.
12. DO NOT PLACE MARKING OVER UNSOUND PAVEMENTS. IF THESE CONDITIONS EXIST, NOTIFY OWNER. STARTING INSTALLATION CONSTITUTES CONTRACTOR'S ACCEPTANCE OF SURFACE AS SUITABLE FOR INSTALLATION.
13. LAYOUT MARKINGS USING GUIDE LINES, TEMPLATES AND FORMS. STENCILS AND TEMPLATES SHALL BE PROFESSIONALLY MADE TO INDUSTRY STANDARDS. "FREE HAND" PAINTING OF ARROWS, SYMBOLS, OR WORDING SHALL NOT BE ALLOWED. APPLY STRIPES STRAIGHT AND EVEN.
14. PROTECT ADJACENT CURBS, WALKS, FENCES, AND OTHER ITEMS FROM RECEIVING PAINT.
15. BARRICADE MARKED AREAS DURING INSTALLATION AND UNTIL THE MARKING PAINT IS DRIED AND READY FOR TRAFFIC.
16. ASPHALTIC CONCRETE PAVING SPECIFICATIONS-

    CODES AND STANDARDS: THE PLACING, CONSTRUCTION AND COMPOSITION OF THE ASPHALTIC BASE COURSE AND ASPHALTIC CONCRETE SURFACING SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF SECTIONS 450, 455, 460 AND 465 OF THE STATE OF WISCONSIN STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION, LATEST EDITION. HEREAFTER, THIS PUBLICATION WILL BE REFERRED TO AS THE STATE HIGHWAY SPECIFICATIONS.

    WEATHER LIMITATIONS: APPLY TACK COATS WHEN AMBIENT TEMPERATURE IS ABOVE 50° F (10° C) AND WHEN TEMPERATURE HAS NOT BEEN BELOW 35° F (1° C) FOR 12 HOURS IMMEDIATELY PRIOR TO APPLICATION. DO NOT APPLY WHEN BASE IS WET OR CONTAINS EXCESS OF MOISTURE. CONSTRUCT ASPHALTIC CONCRETE SURFACE COURSE WHEN ATMOSPHERIC TEMPERATURE IS ABOVE 40° (4°C) AND WHEN BASE IS DRY AND WHEN WEATHER IS NOT RAINY. BASE COURSE MAY BE PLACED WHEN AIR TEMPERATURE IS ABOVE 30° F (-1° C).

    GRADE CONTROL: ESTABLISH AND MAINTAIN REQUIRED LINES AND ELEVATIONS FOR EACH COURSE DURING CONSTRUCTION.

    CRUSHED AGGREGATE BASE COURSE: THE TOP LAYER OF BASE COURSE SHALL CONFORM TO SECTIONS 301 AND 305, STATE HIGHWAY SPECIFICATIONS.

    BINDER COURSE AGGREGATE: THE AGGREGATE FOR THE BINDER COURSE HALL CONFORM TO SECTIONS 460.2.7 AND 315, STATE HIGHWAY SPECIFICATIONS.

    SURFACE COURSE AGGREGATE: THE AGGREGATE FOR THE SURFACE COURSE SHALL CONFORM TO SECTIONS 460.2.7 AND 465, STATE HIGHWAY SPECIFICATIONS.

    ASPHALTIC MATERIALS: THE ASPHALTIC MATERIALS SHALL CONFORM TO SECTION 455 AND 460, STATE HIGHWAY SPECIFICATIONS.

    SURFACE PREPARATION: NOTIFY CONTRACTOR OF UNSATISFACTORY CONDITIONS. DO NOT BEGIN PAVING WORK UNTIL DEFICIENT SUBBASE AREAS HAVE BEEN CORRECTED AND ARE READY TO RECEIVE PAVING.
17. TRAFFIC CONTROL SHALL BE PER M.U.T.C.D.
18. PUBLIC CURB & GUTTER REPLACEMENT SHALL BE TIED TO EXISTING CURB & GUTTER WITH #4 TIE BARS. PUBLIC CURB & GUTTER SHALL BE A 6-BAG MIX.

NORTH

GRAPHICAL SCALE (FEET)
0 1" = 30' 60'

www.pinnacle-engr.com

ISSUED FOR MUNICIPAL REVIEW

SITE DIMENSIONAL & PAVING PLAN

REVIEWED- MAB
DESIGNED- CMB
DRAFTED- MRG

PLAN I DESIGN I DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO I MILWAUKEE : NATIONWIDE

ZILBER
PROPERTY GROUP SM

ZILBER INDUSTRIAL 4 AT GERMANTOWN GATEWAY CORPORATE PARK
GERMANTOWN, WI

SITE DIMENSIONAL & PAVING PLAN

REVISIONS

1	ISSUED FOR OWNER REVIEW	02/19/20	
2	ISSUED FOR MUNICIPAL REVIEW	03/02/20	
3	VILLAGE COMMENTS (3/24/20)	04/16/20	

PEG JOB No. 1296.00C
PEG PM MAB
START DATE
SCALE 1" = 30'

SHEET C-3 OF C-9

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Z:\PROJECTS\2018\1296.00C-WI\CAD\SHEETS\1296.00C-WI G4 SITE DIMENSIONAL & PAVING.DWG

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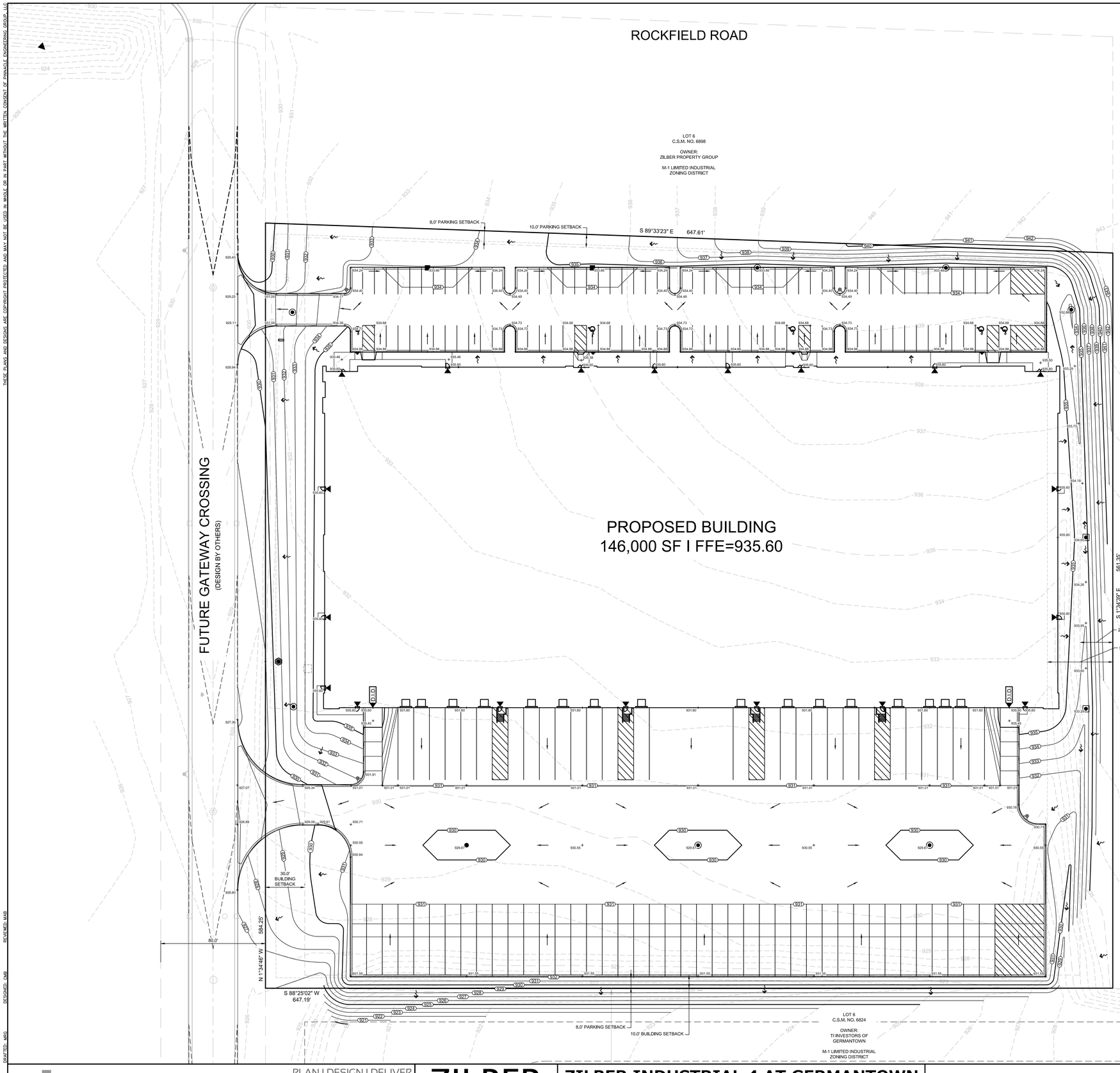

GRAPHICAL SCALE (FEET)

0 1" = 30' 60'

LEGEND

- STORM SEWER MANHOLE
- STORM SEWER CATCH BASIN- ROUND CASTING
- STORM SEWER CATCH BASIN- RECTANGULAR CASTING
- PROPOSED FLARED END SECTION
- 740 PROPOSED CONTOUR
- 750.00 SPOT ELEVATION
- GRASS PAVEMENT DIRECTION OF SURFACE FLOW
- OVERFLOW RELIEF ROUTING
- CURB AND GUTTER

ALL WORK WITHIN PUBLIC R.O.W. SHALL CONFORM TO VILLAGE OF GERMANTOWN STANDARDS.

GRADING NOTES

1. CONTRACTOR SHALL VERIFY ALL GRADES, ENSURE ALL AREAS DRAIN PROPERLY AND REPORT ANY DISCREPANCIES TO PINNACLE ENGINEERING GROUP PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES.
2. ALL EXISTING CONTOURS REPRESENT EXISTING SURFACE GRADES UNLESS OTHERWISE NOTED. ALL PROPOSED GRADES SHOWN ARE FINISH SURFACE GRADES UNLESS OTHERWISE NOTED.
3. SPOT ELEVATIONS REPRESENT THE GRADE ALONG THE CURB AND GUTTER FLOWLINE UNLESS OTHERWISE NOTED.
4. ALL EXCAVATIONS AND MATERIAL PLACEMENT SHALL BE COMPLETED TO DESIGN ELEVATIONS AS DEPICTED IN THE PLANS.

   CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR THE COMPUTATION(S) OF ALL GRADING QUANTITIES. WHILE PEG ATTEMPTS TO PROVIDE A COST EFFECTIVE APPROACH TO BALANCE EARTHWORK, GRADING DESIGN IS BASED ON MANY FACTORS, INCLUDING SAFETY, AESTHETICS, AND COMMON ENGINEERING STANDARD OF CARE, THEREFORE NO GUARANTEE CAN BE MADE FOR A BALANCED SITE.

   THE CONTRACTOR MAY SOLICIT APPROVAL FROM ENGINEER/OWNER TO ADJUST FINAL GRADES FROM DESIGN GRADES TO PROVIDE AN OVERALL SITE BALANCE AS A RESULT OF FIELD CONDITIONS.
5. GRADING ACTIVITIES SHALL BE IN A MANNER TO ALLOW POSITIVE DRAINAGE ACROSS DISTURBED SOILS, WHICH MAY INCLUDE EXCAVATION OF TEMPORARY DITCHES TO PREVENT PONDING, AND IF NECESSARY PUMPING TO ALLEVIATE PONDING. CONTRACTOR SHALL PREVENT SURFACE WATER FROM ENTERING INTO EXCAVATIONS. IN NO WAY SHALL OWNER BE RESPONSIBLE FOR REMEDIATION OF UNSUITABLE SOILS CREATED/ORIGINATED AS A RESULT OF IMPROPER SITE GRADING OR SEQUENCING. CONTRACTOR SHALL SEQUENCE GRADING ACTIVITIES TO LIMIT EXPOSURE OF DISTURBED SOILS DUE TO WEATHER.
6. THE CONTRACTOR IS RESPONSIBLE FOR MEETING MINIMUM COMPACTION STANDARDS. THE CONTRACTOR SHALL NOTIFY ENGINEER/OWNER IF PROPER COMPACTION CANNOT BE OBTAINED. THE PROJECT'S GEOTECHNICAL CONSULTANT SHALL DETERMINE WHICH IN-SITU SOILS ARE TO BE CONSIDERED UNSUITABLE SOILS. THE ENGINEER/OWNER AND GEOTECHNICAL TESTING CONSULTANT WILL DETERMINE IF REMEDIAL MEASURES WILL BE NECESSARY.
7. IN THE EVENT THAT ANY MOISTURE-DENSITY TEST(S) FAIL TO MEET SPECIFICATION REQUIREMENTS, THE CONTRACTOR SHALL PERFORM CORRECTIVE WORK AS NECESSARY TO BRING THE MATERIAL INTO COMPLIANCE AND RETEST THE FAILED AREA AT NO COST TO THE OWNER.
8. WITH THE AUTHORIZATION OF THE ENGINEER/OWNER, MATERIAL THAT IS TOO WET TO PERMIT PROPER COMPACTION MAY BE SPREAD ON FILL AREAS IN AN EFFORT TO DRY. CONTRACTOR SHALL CLEARLY FIELD MARK THE EXTERIOR LIMITS OF SPREAD MATERIAL WITH PAINTED LATH AND SUBMIT A PLAN TO THE ENGINEER/OWNER THAT IDENTIFIES THE LIMITS. UNDER NO CONDITION SHALL THE SPREAD MATERIAL DEPTH EXCEED THE MOST RESTRICTIVE OF: THE EFFECTIVE TREATMENT DEPTH OF MACHINERY THAT WILL BE USED TO TURNOVER THE SPREAD MATERIAL; OR THE MAXIMUM COMPACTION LIFT DEPTH.
9. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER/OWNER IF GROUNDWATER IS ENCOUNTERED DURING EXCAVATION.
10. CONTRACTOR IS SOLELY RESPONSIBLE FOR THE DESIGN AND CONSTRUCTION OF ADEQUATE AND SAFE TEMPORARY SHORING, BRACING, RETENTION STRUCTURES, AND EXCAVATIONS.
11. THE SITE SHALL BE COMPLETED TO WITHIN 0.10-FT (+/-) OF THE PROPOSED GRADES AS INDICATED WITHIN THE PLANS PRIOR TO PLACEMENT OF TOPSOIL OR STONE. CONTRACTOR IS ENCOURAGED TO SEQUENCE CONSTRUCTION SUCH THAT THE SITE IS DIVIDED INTO SMALLER AREAS TO ALLOW STABILIZATION OF DISTURBED SOILS IMMEDIATELY UPON COMPLETION OF INDIVIDUAL SMALLER AREAS.
12. CONTRACTOR SHALL CONTACT "DIGGER'S HOTLINE" FOR LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES AND SHALL BE RESPONSIBLE FOR PROTECTING SAID UTILITIES FROM ANY DAMAGE DURING CONSTRUCTION.
13. CONTRACTOR SHALL PROTECT INLETS AND ADJACENT PROPERTIES WITH SILT FENCING OR APPROVED EROSION CONTROL METHODS UNTIL CONSTRUCTION IS COMPLETED. CONTRACTOR SHALL PLACE SILT FENCING AT DOWN SLOPE SIDE OF GRADING LIMITS.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO ANY EXISTING FACILITIES OR UTILITIES. ANY DAMAGE SHALL BE REPAIRED TO THE OWNER'S SATISFACTION AT THE EXPENSE OF THE CONTRACTOR.
15. WORK WITHIN ANY ROADWAY RIGHT-OF-WAY SHALL BE COORDINATED WITH THE APPROPRIATE MUNICIPAL OFFICIAL PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FEES. GRADING WITHIN RIGHT-OF-WAY IS SUBJECT TO APPROVAL BY SAID OFFICIALS. RESTORATION OF RIGHT-OF-WAY IS CONSIDERED INCIDENTAL AND SHALL BE INCLUDED IN THE COST OF GRADING. RESTORATION SHALL INCLUDE ALL ITEMS NECESSARY TO RESTORE RIGHT-OF-WAY IN-KIND INCLUDING LANDSCAPING.
16. CONTRACTOR SHALL COMPLY WITH ALL VILLAGE OF GERMANTOWN CONSTRUCTION STANDARDS/ORDINANCES.
17. LANDSCAPE AND TURF AREAS SHALL HAVE A MINIMUM OF 4-INCH TOPSOIL REPLACEMENT.
18. TOPSOIL BERMING SHALL ACHIEVE 90% STANDARD PROCTOR DENSITY AT 3%(±) OPTIMUM MOISTURE CONTENT.
19. SURVEY BENCHMARKS AND MAPPING HAS BEEN PROVIDED BY PINNACLE ENGINEERING GROUP. IN NO WAY DOES PEG WARRANT THE BASEMAP IS ALL INCLUSIVE OR REPRESENTATIVE OF ACTUAL CONDITIONS. CONTRACTOR SHALL PROVIDE CHECKS AS NECESSARY TO VERIFY THE BASEMAP CONTENT AND ACCURACY.

www.pinnacle-engr.com

ISSUED FOR MUNICIPAL REVIEW

GRADING PLAN

REVIEWED: MAB
DESIGNED: CMB
DRAFTED: MSG

PLAN I DESIGN I DELIVER
www.pinnacle-engr.com

PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING

WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
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(262) 754-8888
CHICAGO I MILWAUKEE : NATIONWIDE

ZILBER PROPERTY GROUP SM

ZILBER INDUSTRIAL 4 AT GERMANTOWN GATEWAY CORPORATE PARK
GERMANTOWN, WI

GRADING PLAN

REVISIONS

1	ISSUED FOR OWNER REVIEW	02/19/20
2	ISSUED FOR MUNICIPAL REVIEW	03/02/20
3	VILLAGE COMMENTS (3/24/20)	04/16/20

PEG JOB No.: 1296.00C
PEG PM: MAB
START DATE:
SCALE: 1" = 30'

SHEET
C-4
OF
C-9

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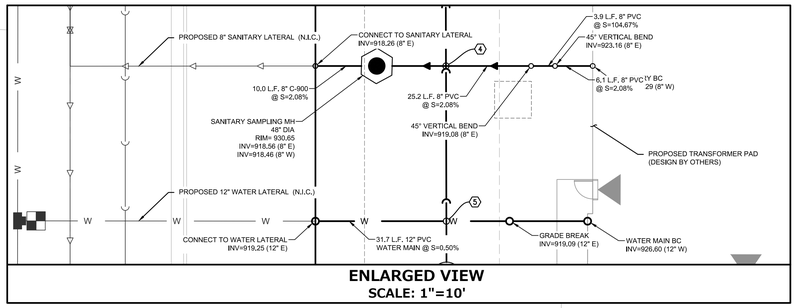
ROCKFIELD ROAD



ENLARGED VIEW
SCALE: 1"=10'

LOT 6
C.S.M. NO. 6898

OWNER:
ZILBER PROPERTY GROUP

M-1 LIMITED INDUSTRIAL
ZONING DISTRICT

ES 6.0
INV=920.00 (54" SE)

280.5 L.F. 54" RCP
@ S=0.20%

PROPOSED FIRE HYDRANT (N.I.C.)

PROPOSED SAN MH 2 (N.I.C.)
48" DIA
RIM= 930.00
INV=903.22 (12" N)
INV=903.12 (12" S)

PROPOSED 12" SANITARY SEWER (N.I.C.)

PROPOSED 16" WATERMAIN (N.I.C.)

MH 12.0
96" DIA
RIM= 931.77
INV=922.06 (36" S)
INV=922.06 (24" E)
INV=920.56 (54" NW)

PROPOSED IRRIGATION SLEEVE
SIZE & LOCATION TO BE DETERMINED
BY LANDSCAPE CONTRACTOR

CB 11.0
72" DIA
RIM= 933.66
INV=923.32 (18" E)
INV=926.54 (10" S)
INV=922.82 (24" W)

FH ASSEMBLY 4.0
NOZZLE=935.85
FLANGE=934.35
SHOE ELEV=927.06 (6")

8.0' PARKING SETBACK

10.0' BUILDING SETBACK

S 89°33'23" E 647.61'

126.0 L.F. 18" HDPE
@ S=1.40%

144.0 L.F. 18" HDPE
@ S=0.60%

CB 8.0
48" DIA
RIM= 933.48
INV=926.96 (10" S)
INV=927.46 (12" E)
INV=926.96 (18" W)

8.5 L.F. 10" PVC
@ S=3.80%

22.5° BEND 11.3
INV=926.86 (10" SE)

108.6 L.F. 24" HDPE
@ S=0.70%

62.0 L.F. 10" PVC
@ S=3.80%

CB 10.0
48" DIA
RIM= 933.66
INV=925.08 (18" E)
INV=927.54 (10" SE)
INV=925.08 (18" W)

CB 9.0
48" DIA
RIM= 933.66
INV=926.09 (18" E)
INV=926.09 (18" W)

21.5 L.F. 10" PVC
@ S=3.80%

101.0 L.F. 12" HDPE
@ S=0.50%

91.9 L.F. 10" PVC
@ S=2.00%

FH ASSEMBLY 3.0
NOZZLE=936.46
FLANGE=934.96
SHOE ELEV=927.40 (6")

52.8 L.F. 6" PVC
HYDRANT LEAD @ S=1.00%

45° BEND 8.3
INV=927.77 (10" SW)

CB 7.0
48" DIA
RIM= 932.86
INV=930.38 (4" S)
INV=927.96 (12" W)

56.6 L.F. 6" PVC
HYDRANT LEAD @ S=1.50%

10.0 L.F. 10" PVC
@ S=3.80%

45° BEND 9.2
INV=929.38 (10" S)

62.7 L.F. 10" PVC
@ S=3.80%

22.5° BEND 11.2
INV=929.22 (10" S)

BC 11.1
INV=929.60 (10" N)

10.8 L.F. 10" PVC
@ S=2.00%

BC 10.1
INV=929.60 (10" N)

45° BEND 8.2
INV=930.16 (10" S)

10.0 L.F. 10" PVC
@ S=3.80%

BC 8.1
INV=930.54 (10" N)

HYDRANT LEAD BC 3.0
INV=928.00 (6" N)

HYDRANT LEAD BC 4.0
INV=928.00 (6" N)

SLEEVE FOR MONUMENT SIGN
TERMINATE IN A HAND HOLE
LOCATION SHOWN ON PLANS IS
APPROXIMATE

174.2 L.F. 4" DRAINTILE
@ S=0.50%

STORM CLEANOUT 2
RIM=934.60
INV=931.25 (4" S)
INV=931.25 (4" N)

561.35'

S 1°34'39" E

130.8 L.F. 4" DRAINTILE
@ S=0.50%

25.0' BUILDING SETBACK

50.0' PARKING SETBACK

STORM CLEANOUT 1
RIM=933.29
INV=931.90 (4" N)

LOT 1
C.S.M. NO. 6182

OWNER:
WIEDMEYER TRUST

RS-1 SINGLE FAMILY
RESIDENTIAL ZONING DISTRICT

FUTURE GATEWAY CROSSING
(DESIGN BY OTHERS)

584.25'

N 1°34'46" W

301.1 L.F. 36" HDPE
@ S=0.20%

PROPOSED DATA SLEEVES
3 - 4" PVC PIPE
EXTEND TO RIGHT OF WAY &
TERMINATE IN A HAND HOLE
LOCATION SHOWN ON PLANS
IS APPROXIMATE

SEE ENLARGED VIEW

FDC
CONNECTION

HYDRANT LEAD BC 2.0
INV=928.95 (6" S)

BC 3.1
INV=926.55 (10" S)

BC 2.1
INV=926.93 (10" S)

BC 1.1
INV=927.49 (10" S)

MH 4.0
60" DIA
RIM= 932.43
INV=922.66 (30" SE)
INV=922.66 (30" N)

20.0 L.F. 10" PVC
@ S=2.40%

19.9 L.F. 10" PVC
@ S=2.10%

20.0 L.F. 10" PVC
@ S=2.40%

HYDRANT LEAD BC 1.0
INV=928.60 (6" S)

50.9 L.F. 6" PVC
HYDRANT LEAD @ S=6.41%

45° BEND 3.2
INV=926.07 (10" N)

45° BEND 2.2
INV=926.51 (10" N)

45° BEND 1.2
INV=927.01 (10" N)

59.5 L.F. 10" PVC
@ S=2.40%

27.7 L.F. 10" PVC
@ S=2.40%

FH ASSEMBLY 2.0
NOZZLE=933.59
FLANGE=932.09
SHOE ELEV=925.50

45° BEND 3.3
INV=925.41 (10" NE)

86.6 L.F. 10" PVC
@ S=2.10%

79.7 L.F. 6" PVC
HYDRANT LEAD @ S=6.75%

45° BEND 1.3
INV=925.58 (10" NW)

FH ASSEMBLY 1.0
NOZZLE=932.70
FLANGE=931.20
SHOE ELEV=923.02 (6")

PROPOSED 12" SANITARY SEWER (N.I.C.)

PROPOSED 15" STORM SEWER (N.I.C.)

PROPOSED FIRE HYDRANT (N.I.C.)

PROPOSED IRRIGATION SLEEVE
SIZE & LOCATION TO BE DETERMINED
BY LANDSCAPE CONTRACTOR

65.4 L.F. 10" PVC
@ S=2.40%

45° BEND 2.3
INV=924.69 (10" NW)

43.0 L.F. 10" PVC
@ S=2.40%

PROPOSED SAN MH 1 (N.I.C.)
48" DIA
RIM= 927.35
INV=902.24 (12" N)
INV=902.14 (12" S)

169.3 L.F. 30" HDPE
@ S=0.40%

176.8 L.F. 30" HDPE
@ S=0.20%

23.8 L.F. 10" PVC
@ S=2.10%

176.8 L.F. 24" HDPE
@ S=0.20%

CB 3.0
72" DIA
RIM= 929.67
INV=923.84 (10" N)
INV=923.34 (30" E)
INV=923.34 (30" NW)

CB 2.0
60" DIA
RIM= 929.67
INV=924.19 (10" N)
INV=923.69 (24" E)
INV=923.69 (30" W)

CB 1.0
60" DIA
RIM= 929.67
INV=924.55 (10" N)
INV=924.05 (24" W)

30.0'
BUILDING
SETBACK

80.0'

PROPOSED BUILDING
146,000 SF I FFE=935.60

8.0' PARKING SETBACK

10.0' BUILDING SETBACK

S 88°25'02" W 647.19'

LOT 6
C.S.M. NO. 6824

OWNER:
TI INVESTORS OF
GERMANTOWN

M-1 LIMITED INDUSTRIAL
ZONING DISTRICT

NORTH

GRAPHICAL SCALE (FEET)
0 1" = 30' 60'

UTILITY NOTES

1. EXISTING UTILITIES ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY AND ARE NOT GUARANTEED TO BE ACCURATE OR ALL INCLUSIVE. CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE TYPE, LOCATION, SIZE AND ELEVATION OF UNDERGROUND UTILITIES AS THEY DEEM NECESSARY FOR PROPOSED UTILITY CONNECTIONS AND/OR TO AVOID DAMAGE THERETO. CONTRACTOR SHALL CALL "DIGGER'S HOTLINE" PRIOR TO ANY CONSTRUCTION.
2. ALL UTILITY WORK SHALL BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN (LATEST EDITION AND ADDENDUM) AND ALL STATE AND LOCAL CODES AND SPECIFICATIONS. IT IS THE CONTRACTORS RESPONSIBILITY TO DETERMINE WHICH SPECIFICATIONS AND CODES APPLY, AND TO COORDINATE ALL CONSTRUCTION ACTIVITIES WITH THE APPROPRIATE LOCAL AND STATE AUTHORITIES.
3. UTILITY CONSTRUCTION AND SPECIFICATIONS SHALL COMPLY WITH THE VILLAGE OF GERMANTOWN SPECIAL PROVISIONS AND WISCONSIN DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES COMM 82.
4. LENGTHS OF PROPOSED UTILITIES ARE TO CENTER OF STRUCTURES OR FITTINGS AND MAY VARY SLIGHTLY FROM PLAN. LENGTHS ARE SHOWN FOR CONTRACTOR CONVENIENCE ONLY. CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPUTATIONS OF MATERIALS REQUIRED TO COMPLETE WORK. LENGTHS SHALL BE FIELD VERIFIED DURING CONSTRUCTION.
5. CONTRACTOR SHALL ADJUST AND/OR RECONSTRUCT EXISTING UTILITY COVERS (SUCH AS MANHOLE COVERS, VALVE BOX COVERS, ETC.) TO MATCH FINISHED GRADES OF THE AREAS DISTURBED DURING CONSTRUCTION.
6. CONTRACTOR SHALL FIELD VERIFY LOCATIONS, ELEVATIONS, AND SIZES OF PROPOSED UTILITIES AND CHECK ALL UTILITY CROSSINGS FOR CONFLICTS PRIOR TO ATTEMPTING CONNECTIONS AND BEGINNING UTILITY CONSTRUCTION AND NOTIFY THE OWNER OF ANY DISCREPANCIES OR CONFLICTS.
7. ALL NEW ON-SITE SANITARY, STORM AND WATER UTILITIES SHALL BE PRIVATELY OWNED AND MAINTAINED BY THE PROPERTY OWNER.
8. THE CONTRACTOR SHALL CONTACT THE VILLAGE OF GERMANTOWN PUBLIC WORKS DEPARTMENT 48-HOURS IN ADVANCE OF SANITARY, WATER AND STORM CONNECTIONS TO THE VILLAGE-OWNED SYSTEM TO SCHEDULE INSPECTIONS.
9. ROUTING OF GAS, ELECTRIC AND TELEPHONE SERVICES ARE SHOWN ON THE ARCHITECTURAL PLANS AND SUBJECT TO CHANGE BASED UPON FINAL REVIEW AND APPROVAL BY RESPECTIVE UTILITY COMPANIES AND OWNER. CONTRACTOR SHALL CONTACT EACH UTILITY COMPANY AND COORDINATE FINAL LOCATIONS FOR ALL UTILITY SERVICES PRIOR TO START OF CONSTRUCTION.
10. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE PROPER AUTHORITIES FOR ANY REQUIRED PERMITS, AUTHORIZATIONS, TRAFFIC CONTROL AND ANY PERMIT FEES REQUIRED.
11. FIELD TILE CONNECTION - ALL FIELD TILE ENCOUNTERED DURING CONSTRUCTION SHALL BE INCLUDED IN THE UNIT PRICE(S) FOR STORM SEWER. TILE LINES CROSSED BY THE TRENCH SHALL BE REPLACED WITH THE SAME MATERIAL AS THE STORM SEWER.
12. THE CONTRACTOR IS RESPONSIBLE FOR THE SIZE, TYPE AND NUMBER OF WATER MAIN BENDS, HORIZONTAL AND VERTICAL, REQUIRED TO COMPLETE CONSTRUCTION. COST FOR BENDS, HORIZONTAL AND VERTICAL, SHALL BE INCIDENTAL AND INCLUDED IN THE OVERALL COST OF THE CONTRACT.
13. STORM SEWER SPECIFICATIONS -

    PIPE - REINFORCED CONCRETE PIPE (RCP) SHALL MEET THE REQUIREMENTS OF ASTM CLASS C-76 WITH RUBBER GASKET JOINTS CONFORMING TO ASTM C-443. STRENGTH CLASSIFICATIONS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

HEIGHT OF COVER (FEET):	0-2	2-3	3-6	6-15	15-25	25+
MINIMUM CONCRETE PIPE CLASSIFICATION:	IV	III	II	III	IV	ENGINEER TO SPECIFY

    HIGH DENSITY DUAL-WALL POLYETHYLENE N-12 CORRUGATED PIPE (HDPE) SHALL BE AS MANUFACTURED BY ADS OR EQUAL WITH WATER TIGHT JOINTS, AND SHALL MEET THE REQUIREMENTS OF AASHTO DESIGNATION M-294 TYPE "S", OR POLYVINYL CHLORIDE (PVC) - CLASS PS46 MEETING AASHTO M278, AS NOTED. IF HDPE PIPE IS USED FOR POND OUTFALLS, A MINIMUM OF THREE (3) SECTIONS (2 STRAPS) SHALL BE STRAPPED TOGETHER.

    INLETS/CATCH BASINS - INLETS/CATCH BASINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH FILE NO. 25 OF THE "STANDARD SPECIFICATIONS" WITH A 1'-8" X 2'-6" MAXIMUM OPENING. FRAME & GRATE SHALL BE NEENAH R-2502 WITH TYPE D GRATE, OR EQUAL. CURB FRAME & GRATE SHALL BE NEENAH R-3067, OR EQUAL. THE SUMP DEPTH (VERTICAL DISTANCE FROM THE BASE OF THE STRUCTURE TO OUTFALL INVERT OF THE PIPE) SHALL BE 18" MIN. STRUCTURE SHOP DRAWINGS SHALL BE SUBMITTED TO PINNACLE ENGINEERING GROUP FOR REVIEW AND APPROVAL PRIOR TO MANUFACTURING AND INSTALLATION.

    BACKFILL AND BEDDING - STORM SEWER SHALL BE CONSTRUCTED WITH GRAVEL BACKFILL AND CLASS "B" BEDDING IN ALL PAVED AREAS AND TO A POINT 5 FEET BEYOND THE EDGE OF PAVEMENT. TRENCHES RUNNING PARALLEL TO AND LESS THAN 5 FEET FROM THE EDGE OF PAVEMENT SHALL ALSO REQUIRE GRAVEL BACKFILL. SLURRY BACK FILL UNDER PUBLIC ROAD PAVEMENT. SLURRY LIMITS: FROM TOP OF COVER STONE TO PAVEMENT. SLURRY TO BE 1-BAG PORTLAND MIX. LANDSCAPED AREAS MAY BE BACKFILLED WITH EXCAVATED MATERIAL IN CONFORMANCE WITH SECTION 8.43.5 OF THE "STANDARD SPECIFICATIONS".
    MANHOLE FRAMES AND COVERS - MANHOLE FRAMES AND COVERS SHALL BE NEENAH R-1580 W/ NEENAH R-1660-0003 ROCKING COVER W/ 2 PICK HOLES AND 8 VENT HOLES
14. WATER MAIN SPECIFICATIONS -

    PIPE - WATER MAIN SHALL BE POLYVINYL CHLORIDE (PVC) PIPE MEETING THE REQUIREMENTS OF AWWA STANDARD C-900, CLASS 235, DR-18, WITH CAST IRON O.D. AND INTEGRAL ELASTOMERIC BELL AND SPIGOT JOINTS. VALVES AND VALVE BOXES - GATE VALVES SHALL BE AWWA GATE VALVES MEETING THE REQUIREMENTS OF AWWA C-500 AND CHAPTER 8.27.0 OF THE "STANDARD SPECIFICATIONS". GATE VALVES AND VALVE BOXES SHALL CONFORM TO LOCAL PLUMBING ORDINANCES.

    HYDRANTS - SEE SHEET C-8 FOR DETAIL. ALL PRIVATE HYDRANTS SHALL BE PAINTED YELLOW.

    BEDDING AND COVER MATERIAL - PIPE BEDDING AND COVER MATERIAL SHALL BE SAND, CRUSHED STONE CHIPS OR CRUSHED STONE SCREENINGS CONFORMING TO CHAPTER 8.43.2 OF THE "STANDARD SPECIFICATIONS".

    BACKFILL - BACKFILL MATERIAL AND INSTALLATION SHALL BE IN ACCORDANCE WITH CHAPTER 2.6.0 OF THE "STANDARD SPECIFICATIONS". GRAVEL BACKFILL IS REQUIRED IN ALL PAVED AREAS AND TO A POINT 5 FEET BEYOND THE EDGE OF PAVEMENT. TRENCHES RUNNING PARALLEL TO AND LESS THAN 5 FEET FROM THE EDGE OF PAVEMENT SHALL ALSO REQUIRE GRAVEL BACKFILL. SLURRY BACK FILL UNDER PUBLIC ROAD PAVEMENT. SLURRY LIMITS: FROM TOP OF COVER STONE TO PAVEMENT. SLURRY TO BE 1-BAG PORTLAND MIX. LANDSCAPED AREAS MAY BE BACKFILLED WITH EXCAVATED MATERIAL IN CONFORMANCE WITH SECTION 8.43.5 OF THE "STANDARD SPECIFICATIONS".
15. SANITARY SEWER SPECIFICATIONS -

    PIPE - SANITARY SEWER PIPE MATERIAL SHALL BE POLYVINYL CHLORIDE (PVC) MEETING REQUIREMENTS OF ASTM D 3034, SDR-35, WITH INTEGRAL BELL TYPE FLEXIBLE ELASTOMERIC JOINTS MEETING THE REQUIREMENTS OF ASTM D-3212, OR AWWA STANDARD C-900, CLASS 235, DR-18, WITH GASKETED JOINTS MEETING THE REQUIREMENTS OF ASTM D-3139.

    BEDDING AND COVER MATERIAL - BEDDING AND COVER MATERIAL SHALL CONFORM TO THE APPROPRIATE SECTIONS OF THE "STANDARD SPECIFICATION" WITH THE FOLLOWING MODIFICATION: "COVER MATERIAL SHALL BE THE SAME AS USED FOR BEDDING AND SHALL CONFORM TO SECTION 8.43.2 (A). BEDDING AND COVER MATERIAL SHALL BE PLACED IN A MINIMUM OF THREE SEPARATE LIFTS, OR AS REQUIRED TO INSURE ADEQUATE COMPACTING OF THESE MATERIALS, WITH ONE LIFT OF BEDDING MATERIAL ENDING AT OR NEAR THE SPRINGLINE OF THE PIPE. THE CONTRACTOR SHALL TAKE CARE TO COMPLETELY WORK BEDDING MATERIAL UNDER THE HAUNCH OF THE PIPE TO PROVIDE ADEQUATE SIDE SUPPORT."

    BACKFILL - BACKFILL MATERIAL AND INSTALLATION SHALL BE IN ACCORDANCE CHAPTER 2.6.0 OF THE "STANDARD SPECIFICATIONS." SLURRY BACK FILL UNDER PUBLIC ROAD PAVEMENT. SLURRY LIMITS: FROM TOP OF COVER STONE TO PAVEMENT. SLURRY TO BE 1-BAG PORTLAND MIX. GRAVEL BACKFILL IS REQUIRED IN ALL PAVED AREAS AND TO A POINT 5 FEET BEYOND THE EDGE OF PAVEMENT. TRENCHES RUNNING PARALLEL TO AND LESS THAN 5 FEET FROM THE EDGE OF PAVEMENT SHALL ALSO REQUIRE GRAVEL BACKFILL. LANDSCAPED AREAS MAY BE BACKFILLED WITH EXCAVATED MATERIAL IN CONFORMANCE WITH SECTION 8.43.5 OF THE "STANDARD SPECIFICATIONS."

    MANHOLES - MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH FILE NOS. 12, 13 AND 15 OF THE "STANDARD SPECIFICATIONS" AND ALL SPECIAL PROVISIONS OF THE VILLAGE OF GERMANTOWN. STRUCTURE SHOP DRAWINGS SHALL BE SUBMITTED TO PINNACLE ENGINEERING GROUP FOR REVIEW AND APPROVAL PRIOR TO MANUFACTURING AND INSTALLATION.

    MANHOLE FRAMES AND COVERS - NEENAH R-1661 FRAME W/ SOLID GASKETED LID AND 2 CONCEALED PICK HOLES. CONFORM TO STANDARD SPECIFICATIONS CH. 3.5.0
16. WATER MAIN AND SANITARY SEWER SHALL BE INSULATED WHEREVER THE DEPTH OF COVER IS LESS THAN 6 FEET. INSULATION AND PLACING OF INSULATION SHALL CONFORM TO CHAPTER 4.17.0 "INSULATION" OF THE STANDARD SPECIFICATIONS FOR SEWER AND WATER CONSTRUCTION IN WISCONSIN 6TH EDITION UPDATED WITH ITS LATEST ADDENDUM (TYP.).
17. TRACER WIRE SHALL BE INSTALLED IN ACCORDANCE WITH THE PROVISIONS OF THESE CODE SECTIONS AS PER 182.0715(2R) OF THE STATUTES AND THE VILLAGE OF GERMANTOWN REQUIREMENTS. TRACER WIRE SHALL BE #12 HDPE COATED W/ BURIED LUG CONNECTOR.
18. SEE UTILITY PLANS AND CONSTRUCTION DETAILS FOR ADDITIONAL INFORMATION.
19. THE CONTRACTOR SHALL SCHEDULE AND HOLD A PRE-CONSTRUCTION MEETING WITH VILLAGE STAFF PRIOR TO ANY UTILITY WORK TAKING PLACE.

ALL WORK WITHIN PUBLIC R.O.W. SHALL CONFORM TO VILLAGE OF GERMANTOWN STANDARDS.

UTILITY CROSSINGS

1. **6" WATER OVER 24" STORM**
   6" B/PIPE = 927.12
   24" T/PIPE = 924.44
2. **54" STORM OVER 12" SANITARY**
   54" B/PIPE = 919.92
   12" T/PIPE = 904.32
3. **54" STORM OVER 16" WATER**
   54" B/PIPE = 919.90
   16" T/PIPE = 918.26
4. **36" STORM OVER 8" SANITARY**
   36" B/PIPE = 922.38
   8" T/PIPE = 919.48
5. **36" STORM OVER 12" WATER**
   36" B/PIPE = 922.43
   12" T/PIPE = 920.14
6. **6" WATER OVER 30" STORM**
   6" B/PIPE = 926.49
   30" T/PIPE = 925.63

LEGEND

- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- STORM SEWER CATCH BASIN (ROUND CASTING)
- STORM SEWER CATCH BASIN (RECTANGULAR CASTING)
- PRECAST CONCRETE FLARED END SECTION
- VALVE BOX
- FIRE HYDRANT
- SANITARY SEWER
- STORM SEWER
- DRAIN TILE (SEE DETAIL)
- DRAIN TILE DONUT (SEE DETAIL)
- W — WATER MAIN
- FP — FIRE PROTECTION
- X — UTILITY CROSSING

REVIEWED: MAB
DESIGNED: CMB
DRAFTED: MSG

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ZILBER PROPERTY GROUP SM

ZILBER INDUSTRIAL 4 AT GERMANTOWN GATEWAY CORPORATE PARK
GERMANTOWN, WI

UTILITY PLAN

REVISIONS

1	ISSUED FOR OWNER REVIEW	02/19/20
2	ISSUED FOR MUNICIPAL REVIEW	03/02/20
3	VILLAGE COMMENTS (3/24/20)	04/16/20

PEC JOB No. 1296.00C
PEC PM MAB
START DATE
SCALE 1" = 30'

SHEET C-5 OF C-9

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ISSUED FOR MUNICIPAL REVIEW

UTILITY PLAN

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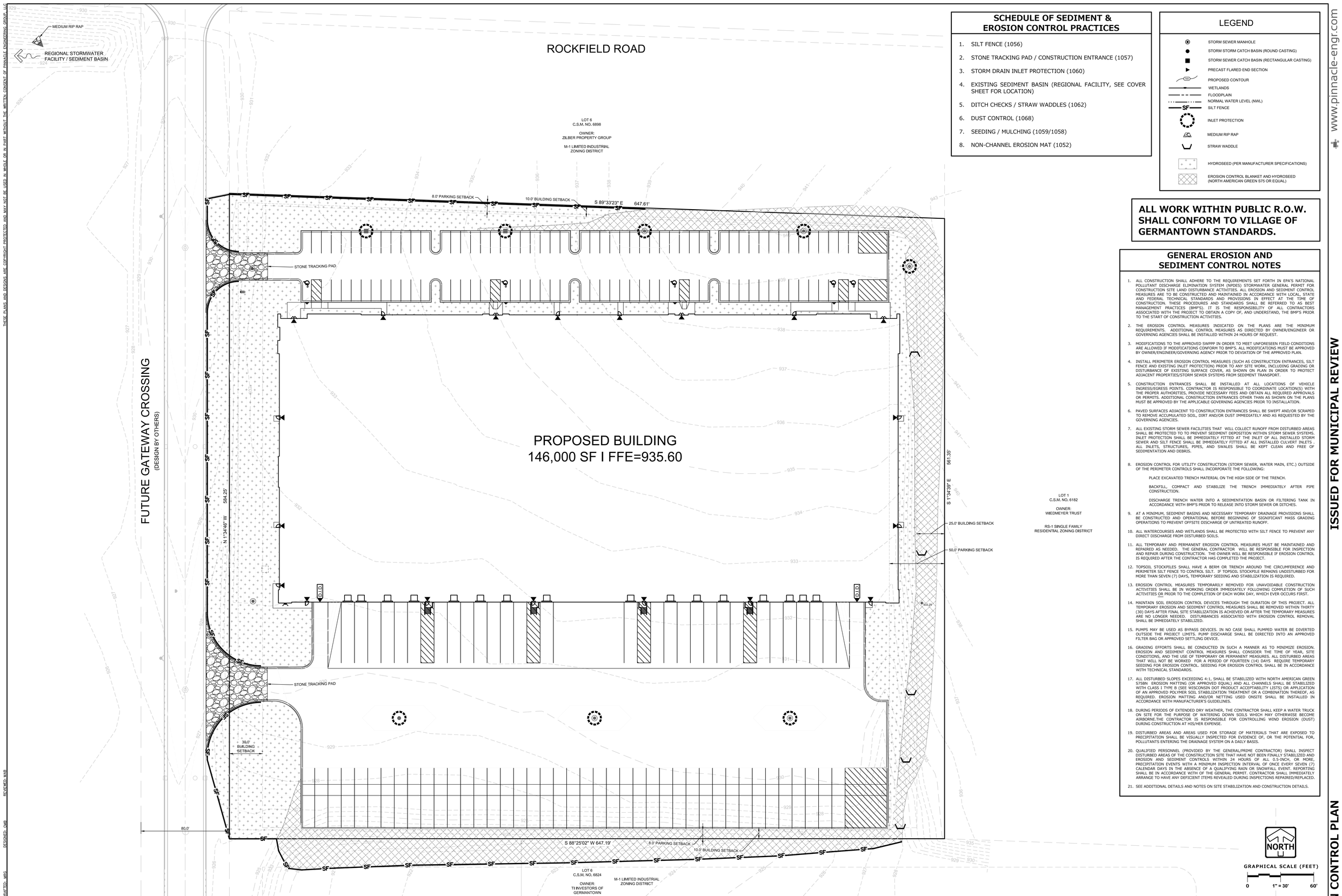

SCHEDULE OF SEDIMENT & EROSION CONTROL PRACTICES

1. SILT FENCE (1056)
2. STONE TRACKING PAD / CONSTRUCTION ENTRANCE (1057)
3. STORM DRAIN INLET PROTECTION (1060)
4. EXISTING SEDIMENT BASIN (REGIONAL FACILITY, SEE COVER SHEET FOR LOCATION)
5. DITCH CHECKS / STRAW WADDLES (1062)
6. DUST CONTROL (1068)
7. SEEDING / MULCHING (1059/1058)
8. NON-CHANNEL EROSION MAT (1052)

LEGEND

- STORM SEWER MANHOLE
- STORM STORM CATCH BASIN (ROUND CASTING)
- STORM SEWER CATCH BASIN (RECTANGULAR CASTING)
- PRECAST FLARED END SECTION
- PROPOSED CONTOUR
- WETLANDS
- FLOODPLAIN
- NORMAL WATER LEVEL (NWL)
- SILT FENCE
- INLET PROTECTION
- MEDIUM RIP RAP
- STRAW WADDLE
- HYDROSEED (PER MANUFACTURER SPECIFICATIONS)
- EROSION CONTROL BLANKET AND HYDROSEED (NORTH AMERICAN GREEN S75 OR EQUAL)

ALL WORK WITHIN PUBLIC R.O.W. SHALL CONFORM TO VILLAGE OF GERMANTOWN STANDARDS.

GENERAL EROSION AND SEDIMENT CONTROL NOTES

1. ALL CONSTRUCTION SHALL ADHERE TO THE REQUIREMENTS SET FORTH IN EPA'S NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORMWATER GENERAL PERMIT FOR CONSTRUCTION SITE LAND DISTURBANCE ACTIVITIES. ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL TECHNICAL STANDARDS AND PROVISIONS IN EFFECT AT THE TIME OF CONSTRUCTION. THESE PROCEDURES AND STANDARDS SHALL BE REFERRED TO AS BEST MANAGEMENT PRACTICES (BMP'S). IT IS THE RESPONSIBILITY OF ALL CONTRACTORS ASSOCIATED WITH THE PROJECT TO OBTAIN A COPY OF, AND UNDERSTAND, THE BMP'S PRIOR TO THE START OF CONSTRUCTION ACTIVITIES.
2. THE EROSION CONTROL MEASURES INDICATED ON THE PLANS ARE THE MINIMUM REQUIREMENTS. ADDITIONAL CONTROL MEASURES AS DIRECTED BY OWNER/ENGINEER OR GOVERNING AGENCIES SHALL BE INSTALLED WITHIN 24 HOURS OF REQUEST.
3. MODIFICATIONS TO THE APPROVED SWPPP IN ORDER TO MEET UNFORESEEN FIELD CONDITIONS ARE ALLOWED IF MODIFICATIONS CONFORM TO BMP'S. ALL MODIFICATIONS MUST BE APPROVED BY OWNER/ENGINEER/GOVERNING AGENCY PRIOR TO DEVIATION OF THE APPROVED PLAN.
4. INSTALL PERIMETER EROSION CONTROL MEASURES (SUCH AS CONSTRUCTION ENTRANCES, SILT FENCE AND EXISTING INLET PROTECTION) PRIOR TO ANY SITE WORK, INCLUDING GRADING OR DISTURBANCE OF EXISTING SURFACE COVER, AS SHOWN ON PLAN IN ORDER TO PROTECT ADJACENT PROPERTIES/STORM SEWER SYSTEMS FROM SEDIMENT TRANSPORT.
5. CONSTRUCTION ENTRANCES SHALL BE INSTALLED AT ALL LOCATIONS OF VEHICLE INGRESS/EGRESS POINTS. CONTRACTOR IS RESPONSIBLE TO COORDINATE LOCATION(S) WITH THE PROPER AUTHORITIES, PROVIDE NECESSARY FEES AND OBTAIN ALL REQUIRED APPROVALS OR PERMITS. ADDITIONAL CONSTRUCTION ENTRANCES OTHER THAN AS SHOWN ON THE PLANS MUST BE APPROVED BY THE APPLICABLE GOVERNING AGENCIES PRIOR TO INSTALLATION.
6. PAVED SURFACES ADJACENT TO CONSTRUCTION ENTRANCES SHALL BE SWEPT AND/OR SCRAPED TO REMOVE ACCUMULATED SOIL, DIRT AND/OR DUST IMMEDIATELY AND AS REQUESTED BY THE GOVERNING AGENCIES.
7. ALL EXISTING STORM SEWER FACILITIES THAT WILL COLLECT RUNOFF FROM DISTURBED AREAS SHALL BE PROTECTED TO TO PREVENT SEDIMENT DEPOSITION WITHIN STORM SEWER SYSTEMS. INLET PROTECTION SHALL BE IMMEDIATELY FITTED AT THE INLET OF ALL INSTALLED STORM SEWER AND SILT FENCE SHALL BE IMMEDIATELY FITTED AT ALL INSTALLED CULVERT INLETS . ALL INLETS, STRUCTURES, PIPES, AND SWALES SHALL BE KEPT CLEAN AND FREE OF SEDIMENTATION AND DEBRIS.
8. EROSION CONTROL FOR UTILITY CONSTRUCTION (STORM SEWER, WATER MAIN, ETC.) OUTSIDE OF THE PERIMETER CONTROLS SHALL INCORPORATE THE FOLLOWING:
   - PLACE EXCAVATED TRENCH MATERIAL ON THE HIGH SIDE OF THE TRENCH.
   - BACKFILL, COMPACT AND STABILIZE THE TRENCH IMMEDIATELY AFTER PIPE CONSTRUCTION.
   - DISCHARGE TRENCH WATER INTO A SEDIMENTATION BASIN OR FILTERING TANK IN ACCORDANCE WITH BMP'S PRIOR TO RELEASE INTO STORM SEWER OR DITCHES.
9. AT A MINIMUM, SEDIMENT BASINS AND NECESSARY TEMPORARY DRAINAGE PROVISIONS SHALL BE CONSTRUCTED AND OPERATIONAL BEFORE BEGINNING OF SIGNIFICANT MASS GRADING OPERATIONS TO PREVENT OFFSITE DISCHARGE OF UNTREATED RUNOFF.
10. ALL WATERCOURSES AND WETLANDS SHALL BE PROTECTED WITH SILT FENCE TO PREVENT ANY DIRECT DISCHARGE FROM DISTURBED SOILS.
11. ALL TEMPORARY AND PERMANENT EROSION CONTROL MEASURES MUST BE MAINTAINED AND REPAIRED AS NEEDED. THE GENERAL CONTRACTOR WILL BE RESPONSIBLE FOR INSPECTION AND REPAIR DURING CONSTRUCTION. THE OWNER WILL BE RESPONSIBLE IF EROSION CONTROL IS REQUIRED AFTER THE CONTRACTOR HAS COMPLETED THE PROJECT.
12. TOPSOIL STOCKPILES SHALL HAVE A BERM OR TRENCH AROUND THE CIRCUMFERENCE AND PERIMETER SILT FENCE TO CONTROL SILT. IF TOPSOIL STOCKPILE REMAINS UNDISTURBED FOR MORE THAN SEVEN (7) DAYS, TEMPORARY SEEDING AND STABILIZATION IS REQUIRED.
13. EROSION CONTROL MEASURES TEMPORARILY REMOVED FOR UNAVOIDABLE CONSTRUCTION ACTIVITIES SHALL BE IN WORKING ORDER IMMEDIATELY FOLLOWING COMPLETION OF SUCH ACTIVITIES OR PRIOR TO THE COMPLETION OF EACH WORK DAY, WHICH EVER OCCURS FIRST.
14. MAINTAIN SOIL EROSION CONTROL DEVICES THROUGH THE DURATION OF THIS PROJECT. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE REMOVED WITHIN THIRTY (30) DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED. DISTURBANCES ASSOCIATED WITH EROSION CONTROL REMOVAL SHALL BE IMMEDIATELY STABILIZED.
15. PUMPS MAY BE USED AS BYPASS DEVICES. IN NO CASE SHALL PUMPED WATER BE DIVERTED OUTSIDE THE PROJECT LIMITS. PUMP DISCHARGE SHALL BE DIRECTED INTO AN APPROVED FILTER BAG OR APPROVED SETTLING DEVICE.
16. GRADING EFFORTS SHALL BE CONDUCTED IN SUCH A MANNER AS TO MINIMIZE EROSION. EROSION AND SEDIMENT CONTROL MEASURES SHALL CONSIDER THE TIME OF YEAR, SITE CONDITIONS, AND THE USE OF TEMPORARY OR PERMANENT MEASURES. ALL DISTURBED AREAS THAT WILL NOT BE WORKED FOR A PERIOD OF FOURTEEN (14) DAYS REQUIRE TEMPORARY SEEDING FOR EROSION CONTROL. SEEDING FOR EROSION CONTROL SHALL BE IN ACCORDANCE WITH TECHNICAL STANDARDS.
17. ALL DISTURBED SLOPES EXCEEDING 4:1, SHALL BE STABILIZED WITH NORTH AMERICAN GREEN S75BN EROSION MATTING (OR APPROVED EQUAL) AND ALL CHANNELS SHALL BE STABILIZED WITH CLASS I TYPE B (SEE WISCONSIN DOT PRODUCT ACCEPTABILITY LISTS) OR APPLICATION OF AN APPROVED POLYMER SOIL STABILIZATION TREATMENT OR A COMBINATION THEREOF, AS REQUIRED. EROSION MATTING AND/OR NETTING USED ONSITE SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S GUIDELINES.
18. DURING PERIODS OF EXTENDED DRY WEATHER, THE CONTRACTOR SHALL KEEP A WATER TRUCK ON SITE FOR THE PURPOSE OF WATERING DOWN SOILS WHICH MAY OTHERWISE BECOME AIRBORNE.THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING WIND EROSION (DUST) DURING CONSTRUCTION AT HIS/HER EXPENSE.
19. DISTURBED AREAS AND AREAS USED FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION SHALL BE VISUALLY INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM ON A DAILY BASIS.
20. QUALIFIED PERSONNEL (PROVIDED BY THE GENERAL/PRIME CONTRACTOR) SHALL INSPECT DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED AND EROSION AND SEDIMENT CONTROLS WITHIN 24 HOURS OF ALL 0.5-INCH, OR MORE, PRECIPITATION EVENTS WITH A MINIMUM INSPECTION INTERVAL OF ONCE EVERY SEVEN (7) CALENDAR DAYS IN THE ABSENCE OF A QUALIFYING RAIN OR SNOWFALL EVENT. REPORTING SHALL BE IN ACCORDANCE WITH OF THE GENERAL PERMIT. CONTRACTOR SHALL IMMEDIATELY ARRANGE TO HAVE ANY DEFICIENT ITEMS REVEALED DURING INSPECTIONS REPAIRED/REPLACED.
21. SEE ADDITIONAL DETAILS AND NOTES ON SITE STABILIZATION AND CONSTRUCTION DETAILS.

NORTH

GRAPHICAL SCALE (FEET)

0 1" = 30' 60'

REVIEWED: MAB
DESIGNED: CMB
DRAFTED: MSG

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ZILBER INDUSTRIAL 4 AT GERMANTOWN GATEWAY CORPORATE PARK
GERMANTOWN, WI

EROSION CONTROL PLAN

REVISIONS

1	ISSUED FOR OWNER REVIEW	02/19/20
2	ISSUED FOR MUNICIPAL REVIEW	03/02/20
3	VILLAGE COMMENTS (3/24/20)	04/16/20

PEC JOB No. 1296.00C
PEC PM MAB
START DATE
SCALE 1" = 30'

SHEET C-6 OF C-9

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EROSION CONTROL PLAN

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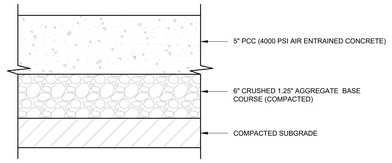
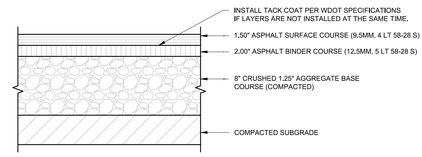
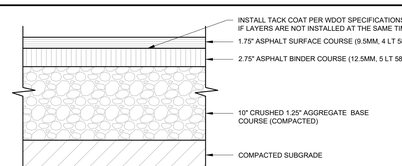


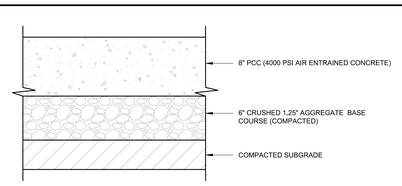
CONCRETE SIDEWALK SECTION



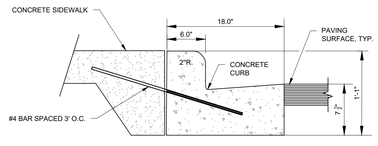
LIGHT DUTY PAVEMENT SECTION



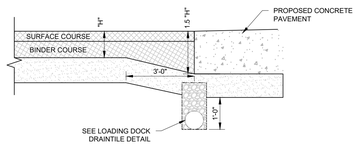
HEAVY DUTY PAVEMENT SECTION



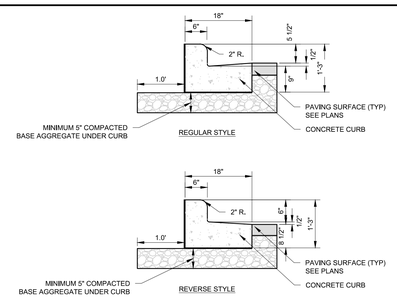
CONCRETE PAVEMENT SECTION (TRUCK DOCK AREA)



18" CURB ADJACENT TO SIDEWALK



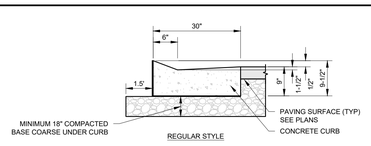
THICKENED ASPHALT EDGE



NOTES:

1. LATERAL CONTRACTION JOINTS SHALL BE PLACED AT INTERVALS OF NOT MORE THAN 15 FEET NOR LESS THAN 6 FEET, THE JOINTS SHALL BE A MINIMUM OF 3 INCHES IN DEPTH.
2. EXPANSION JOINTS SHALL BE PLACED TRANSVERSELY AT RADIUS POINTS ON CURVES OF RADIUS 200 FEET OR LESS, AND AT ANGLE POINTS, OR AS DIRECTED BY THE ENGINEER OF RECORD, THE EXPANSION JOINTS FILLER SHALL BE A ONE PIECE FIBERBOARD OR THE APPROVED EQUIVALENT MATERIAL HAVING THE SAME DIMENSIONS AS CURB & GUTTER AT THAT STATION AND BE 0.5 INCH THICK.
3. IN ALL CASES, CONCRETE CURB & GUTTER SHALL BE PLACED ON THOROUGHLY COMPACTED CRUSHED STONE.
4. REVERSE STYLE CURB LOCATIONS ARE NOTED ON THE PLANS,

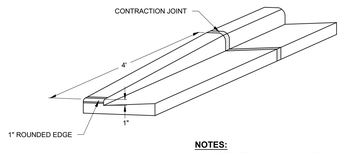
18" VERTICAL FACE CURB



NOTES:

1. LATERAL CONTRACTION JOINTS SHALL BE PLACED AT INTERVALS OF NOT MORE THAN 10 FEET NOR LESS THAN 6 FEET. THE JOINTS SHALL BE A MINIMUM OF 3 INCHES IN DEPTH.
2. EXPANSION JOINTS SHALL BE PLACED TRANSVERSELY AT ALL PT'S AND PC'S, AND AT ANGLE POINTS, OR AS DIRECTED BY THE ENGINEER OF RECORD. THE EXPANSION JOINTS FILLER SHALL BE A ONE PIECE FIBERBOARD OR THE APPROVED EQUIVALENT MATERIAL HAVING THE SAME DIMENSIONS AS CURB & GUTTER AT THAT STATION AND BE 0.5 INCH THICK.
3. IN ALL CASES, CONCRETE CURB & GUTTER SHALL BE PLACED ON THOROUGHLY COMPACTED CRUSHED STONE.
4. REVERSE STYLE CURB LOCATIONS ARE NOTED ON THE PLANS.

30" DEPRESSED CURB



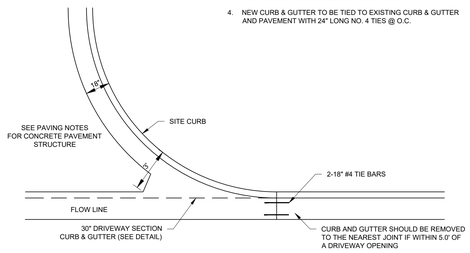
NOTES:

1. CONTRACTION JOINTS SHALL BE PLACED EVERY 10 FEET
2. EXPANSION JOINTS (3/4" EXPANSION FIBER MATERIAL) SHALL BE PLACED EVERY 300 FEET AND AT EVERY PC/PT AND 3 FEET FROM STRUCTURES

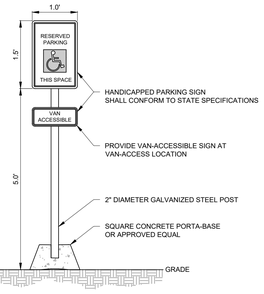
TAPER CURB HEAD

NOTES:

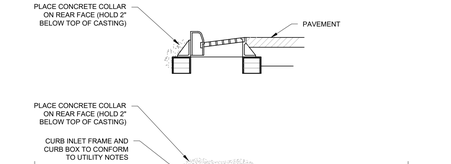
1. LATERAL CONTRACTION JOINTS SHALL BE PLACED AT INTERVALS OF NOT MORE THAN 15 FEET NOR LESS THAN 6 FEET. THE JOINTS SHALL BE A MINIMUM OF 3 INCHES IN DEPTH.
2. EXPANSION JOINTS SHALL BE PLACED TRANSVERSELY AT ALL PT'S AND PC'S, AND AT ANGLE POINTS, OR AS DIRECTED BY THE ENGINEER OF RECORD. THE EXPANSION JOINTS FILLER SHALL BE A ONE PIECE FIBERBOARD OR THE APPROVED EQUIVALENT MATERIAL HAVING THE SAME DIMENSIONS AS CURB & GUTTER AT THAT STATION AND BE 0.5 INCH THICK.
3. IN ALL CASES, CONCRETE CURB & GUTTER SHALL BE PLACED ON THOROUGHLY COMPACTED CRUSHED STONE.
4. NEW CURB & GUTTER TO BE TIED TO EXISTING CURB & GUTTER AND PAVEMENT WITH 24" LONG NO. 4 TIES @ O.C.



DRIVEWAY ENTRANCE

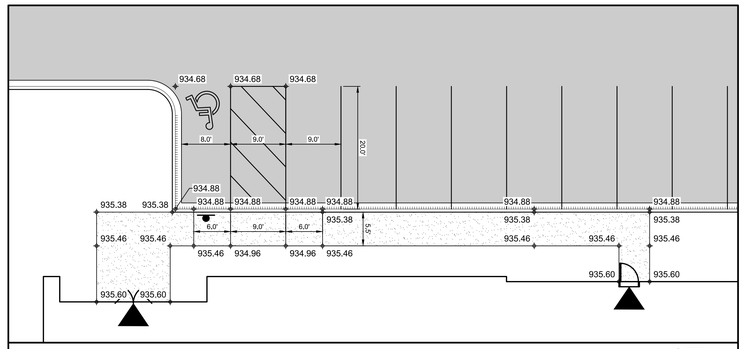


MOVABLE ADA SIGN

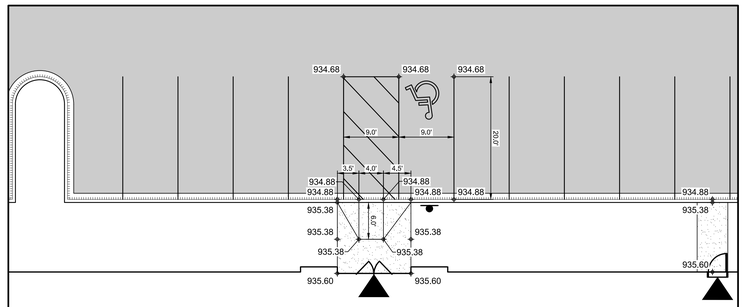


NOTE : CURB CONTRACTOR TO VERIFY POSITION AND ELEVATION OF FRAME AND GRATE PRIOR TO POUR. IF NOT CORRECT, FIVE (5) FOOT TRANSITION AREA TO BE LEFT UNPOURED UNTIL SITUATION IS CORRECTED BY CONTRACTOR.

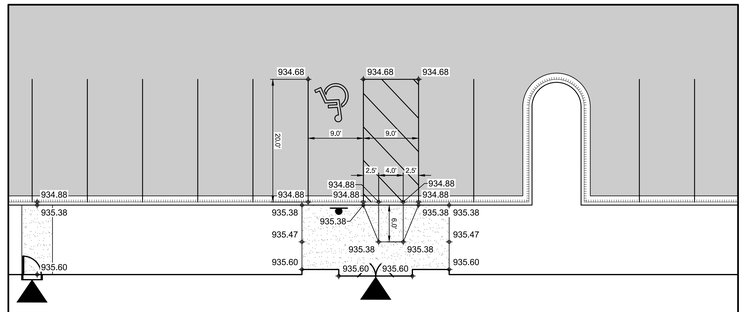
CURB AND GUTTER BUMP OUT



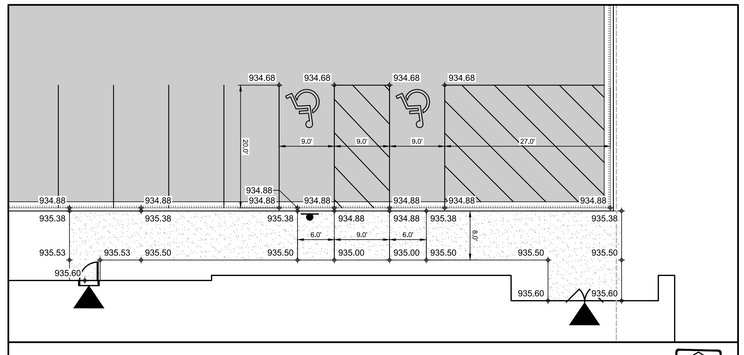
ENLARGED VIEW A
1"=10'



ENLARGED VIEW B
1"=10'



ENLARGED VIEW C
1"=10'



ENLARGED VIEW D
1"=10'

REVIEWED: MAB
DESIGNED: CMB
DRAFTED: MKG

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ZILBER PROPERTY GROUP SM

ZILBER INDUSTRIAL 4 AT GERMANTOWN GATEWAY CORPORATE PARK
GERMANTOWN, WI

CONSTRUCTION DETAILS

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3	VILLAGE COMMENTS (3/24/20)	04/16/20	

PEC JOB No. 1296.00C
PEC PM: MAB
START DATE: N.T.S.
SCALE:

SHEET
C-7
OF
C-9

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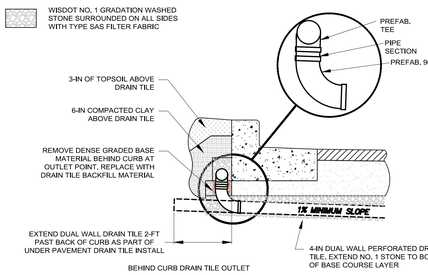
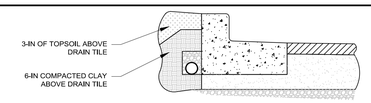
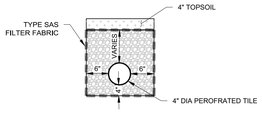


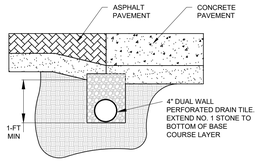
BEHIND CURB DRAIN TILE OUTLET



BEHIND CURB DRAIN TILE



GRASS SWALE DRAIN TILE

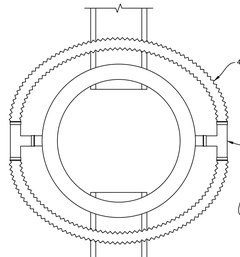


LOADING DOCK DRAIN TILE

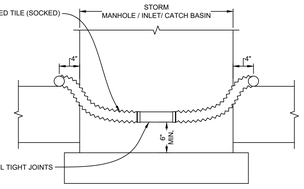
DRAIN TILE GENERAL SPECIFICATIONS

1. THE DRAIN TILE CONDUIT AND FITTINGS SHALL MEET STRENGTH AND DURABILITY REQUIREMENTS FOR THE SITE. ALL CONDUITS AND FITTINGS SHALL MEET OR EXCEED THE MINIMUM REQUIREMENTS OF THE APPROPRIATE SPECIFICATIONS PUBLISHED BY THE AMERICAN SOCIETY FOR TESTING AND MATERIALS. CORRUGATED HIGH DENSITY POLYETHYLENE (HDPE) CONDUIT AND FITTINGS SHALL MEET THE REQUIREMENTS OF ASTM M252. CONDUIT TYPE (SINGLE WALL OR DUAL WALL) SHALL INSTALLED PER THE LOCATIONS SHOWN IN THE PLANS. CONTRACTOR MAY SUBSTITUTE DUAL WALL CONDUIT AT LOCATIONS SPECIFIED FOR SINGLE WALL CONDUIT AT THE SOLE EXPENSE OF THE CONTRACTOR.
   - SINGLE WALL CONDUIT SHALL BE TYPE CP WITH CLASS II PERFORATION PATTERN.
   - DUAL WALL CONDUIT SHALL BE TYPE SP WITH A SMOOTH INTERIOR THAT CARRIES A MAXIMUM MANNING'S 'N' VALUE OF 0.12 WITH CLASS II PERFORATION PATTERN.
2. ALL DRAIN TILE CONSTRUCTION MUST BE PROVIDED WITH TRACER WIRE OR OTHER APPROVED METHODS IN ORDER TO BE LOCATED IN ACCORD WITH 182.0715(2R) OF THE STATUTES. CONTRACTOR SHALL PROVIDE THE ENGINEER NOTICE OF LOCATION METHOD PRIOR TO THE START OF CONSTRUCTION.
3. A MAXIMUM TRENCH WIDTH OF 2-FT SHALL BE MAINTAINED FOR ALL DRAIN TILE INSTALLATION WITH THE EXCEPTION OF CONNECTION POINTS TO THE EXISTING STORM SEWER SYSTEM IN WHICH CASE THE CONTRACTOR SHALL LIMIT DISTURBANCE AS POSSIBLE.
4. THE MINIMUM DEPTH OF COVER (FINISH GRADE TO TOP PIPE) SHALL BE:
   - CONCRETE PAVED AREAS - 2.0-FT
   - ASPHALT PAVED AREAS - 2.5-FT
   - BEHIND CURB - 0.5-FT
   - OTHER LANDSCAPED/GRASS/PERVIOUS AREAS - 2.0-FT
5. CONNECTION TO THE EXISTING STORM SEWER SYSTEM SHALL ACHIEVED BY CORING THE EXISTING REINFORCED CONCRETE STORM SEWER STRUCTURES OR PIPING TO THE DIAMETER NECESSARY TO ACCOMMODATE A PERMANENT CONNECTION. ALL CONNECTIONS TO THE EXISTING REINFORCED CONCRETE STORM SEWER SHALL BE ACHIEVED BY THE USE OF KOR-N-SEAL CONNECTORS, OR EQUAL.
6. FOR TRENCH INSTALLATIONS OF CORRUGATED PLASTIC CONDUIT (OTHER THAN BEHIND CURB LOCATIONS), THE FOLLOWING BEDDING METHODS ARE REQUIRED:
   - A STONE BEDDING LAYER, AT LEAST 3 IN. THICK, USING A CLEAR STONE SHALL BE INSTALLED TO PROVIDE CONDUIT SUPPORT.
   - COMPACT BEDDING MATERIAL BESIDE AND TO THE UPPER (TOP) LIMITS OF BASE COURSE IN PAVED AREAS OR TOP OF CLAY (BOTTOM OF TOPSOIL LAYER) ABOVE THE CONDUIT..
7. ANY HARD OBJECTS LARGER THAN 1.5 IN. IN DIAMETER EXPOSED WITHIN THE TRENCH BOTTOM OR WALLS SHALL BE REMOVED TO PREVENT UNDUE STRESSES ON THE CONDUIT AND FITTINGS.
8. PRE MANUFACTURED FITTINGS (SUCH AS: WYES, TEES, BENDS, CAPS, ETC) OF THE SAME MATERIAL AS THE CONDUIT SHALL BE USED AT ALL CONNECTIONS AND DEFLECTIONS GREATER THAN 22.5 DEGREES.
9. IF NOT CONNECTED TO A STRUCTURE, THE UPPER END OF EACH SUBSURFACE DRAIN TILE SHALL BE CAPPED WITH A TIGHT-FITTING EXTERNAL CAP OF THE SAME MATERIAL AS THE CONDUIT.
10. AT ALL TIMES THE DRAIN TILE SYSTEM SHALL BE KEPT CLEAN AND PROTECTED AGAINST UNDERMINING OF THE CAPACITY OF THE CONDUIT AND DAMAGE DURING CONSTRUCTION. TYPICAL CAPACITY UNDERMINING INCLUDES ENTRY OF CONSTRUCTION MATERIALS, TRASH, AND RODENTS INTO THE CONDUIT.

DRAINTILE



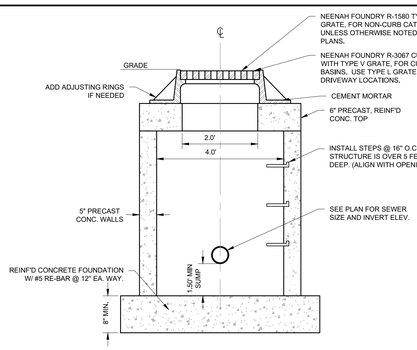
PLAN VIEW



ELEVATION VIEW

NOTE: DRAIN TILE DONUT INSTALLATION IS REQUIRED FOR ALL PROPOSED STORM SEWER STRUCTURES.

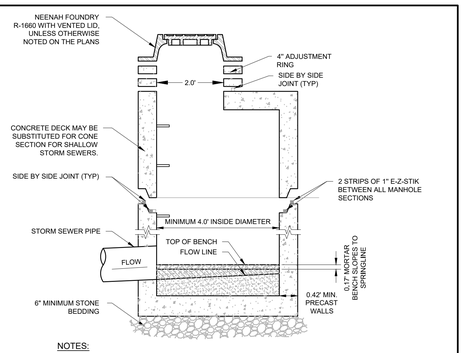
DRAIN TILE DONUT



NOTES:

1. EASY STICK, RUBBER GASKET OR APPROVED EQUIVALENT SHALL BE PLACED AT ALL JOINTS BETWEEN ADJUSTING RINGS FOR STORM CATCH BASINS.
2. THE FLAT TOP MAY BE USED IN LIEU OF THE TAPERED TOP WHEN FIELD CONDITIONS PROHIBIT USE OF A TAPERED TOP.
3. STRUCTURE TO BE 4.0' DIA. OR AS INDICATED ON THE PLANS.

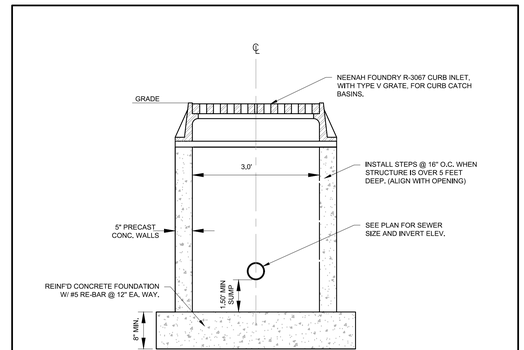
CATCH BASIN



NOTES:

1. CLEAN UNDERSIDE OF ADJUSTING RING OR CAST IRON FRAME AND SET IN PLACE.
2. TUCK POINT MORTAR INTO ANNULAR CRACK AND BACKPLASTERED INSIDE AND OUTSIDE OF ALL JOINTS.
3. THE FLAT TOP MAY BE USED IN LIEU OF THE TAPERED TOP WHEN FIELD CONDITIONS PROHIBIT THE USE OF A FLAT TAPERED TOP.
4. MANHOLE CONSTRUCTION TO MEET REQUIREMENTS OF ASTM C478.
5. ECCENTRIC CONE SECTION OF MANHOLE TO BE SET OUTSIDE OF VEHICULAR WHEEL PATH NEAR ℄ OF ROADWAY.

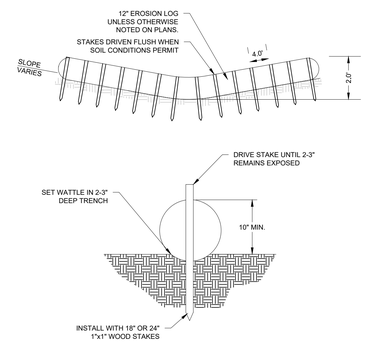
STORM SEWER MANHOLE



NOTES:

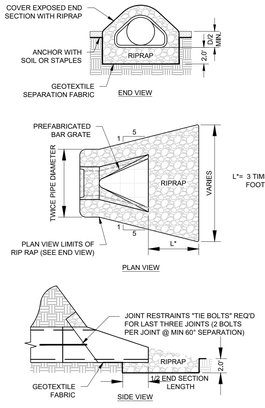
1. EASY STICK, RUBBER GASKET OR APPROVED EQUIVALENT SHALL BE PLACED AT ALL JOINTS BETWEEN ADJUSTING RINGS FOR STORM CATCH BASINS.
2. THE FLAT TOP MAY BE USED IN LIEU OF THE TAPERED TOP WHEN FIELD CONDITIONS PROHIBIT USE OF A TAPERED TOP.

2' x 3' CATCH BASIN



ENTRENCHMENT DETAIL

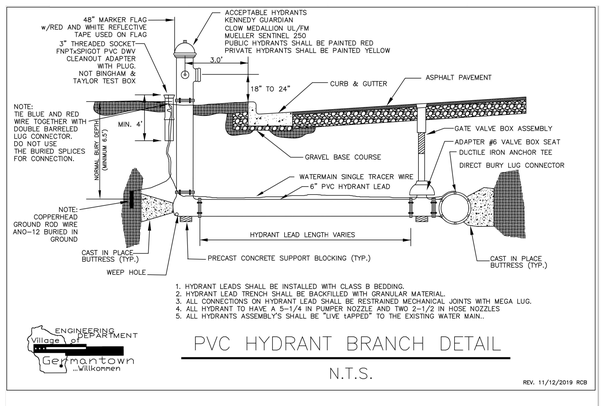
STRAW WATTLE DITCH CHECK



NOTES:

1. RIP RAP AND GEOTEXTILE FABRIC SHALL MEET REQUIREMENTS FOR STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION.

RIP RAP AT END SECTIONS



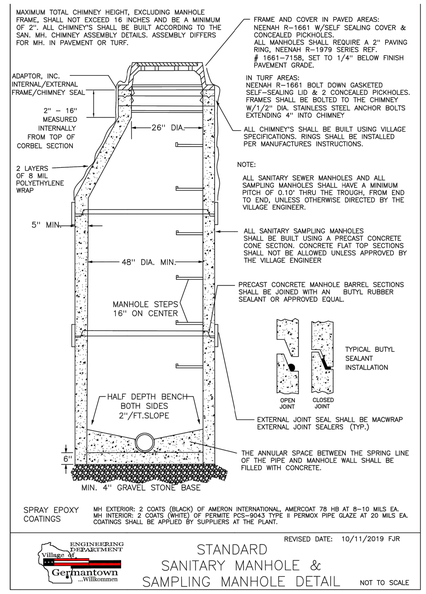
1. HYDRANT LEADS SHALL BE INSTALLED WITH CLASS B BEDDING.
2. HYDRANT LEAD TRENCH SHALL BE BACKFILLED WITH GRANULAR MATERIAL.
3. ALL CONNECTIONS ON HYDRANT LEAD SHALL BE RESTRAINED MECHANICAL JOINTS WITH MEGA LUG.
4. ALL HYDRANT TO HAVE A 5-1/4 IN PUMPER NOZZLE AND TWO 2-1/2 IN HOSE NOZZLES
5. ALL HYDRANTS ASSEMBLY'S SHALL BE "LIVE TAPPED" TO THE EXISTING WATER MAIN..

ENGINEERING DEPARTMENT Village of Germantown Wisconsin

PVC HYDRANT BRANCH DETAIL

N.T.S.

REV. 11/12/2019 RCB



SPRAY EPOXY COATINGS

MH EXTERIOR: 2 COATS (BLACK) OF AMERON INTERNATIONAL, AMERCOAT 78 HB AT 8-10 MILS EA.
MH INTERIOR: 2 COATS (WHITE) OF PERMITE PCS-8043 TYPE II PERMOX PIPE GLAZE AT 20 MILS EA.
COATINGS SHALL BE APPLIED BY SUPPLIERS AT THE PLANT.

REVISED DATE: 10/11/2019 FJR

ENGINEERING DEPARTMENT Village of Germantown Wisconsin

STANDARD SANITARY MANHOLE & SAMPLING MANHOLE DETAIL NOT TO SCALE

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PEG JOB No. 1296.00C
PEG PM MAB
START DATE
SCALE N.T.S.

SHEET C-8 of C-9

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1.0 POTENTIAL POLLUTANT SOURCES

GIVEN THE PROPOSED ACTIVITY ON THE PROJECT SITE, THE PRIMARY POTENTIAL POLLUTANT SOURCE ASSOCIATED WITH THIS CONSTRUCTION PROJECT IS SOIL EROSION AND TRANSPORTATION; REFER TO SECTION 4 OF THIS PLAN. ADDITIONAL POTENTIAL SOURCES OF POLLUTION MAY INCLUDE: FUEL TANKS, WASTE CONTAINERS, OIL OR OTHER PETROLEUM PRODUCTS, DETERGENTS, PAINTS, CONSTRUCTION DEBRIS, SANITARY STATIONS, FERTILIZERS, AND DUST; REFER TO SECTION 5 OF THIS PLAN.

2.0 EROSION AND SEDIMENT CONTROL IMPLEMENTATION

THE FOLLOWING ARE DESCRIPTIONS OF THE EROSION AND SEDIMENT CONTROL PRACTICES THAT SHALL BE IMPLEMENTED DURING CONSTRUCTION OF THIS PROJECT. IN ADDITION TO THESE MEASURES, CONTRACTOR SHALL DISTURB ONLY AREAS NECESSARY TO COMPLETE THE CONSTRUCTION PROJECT. ALL PRACTICES SHALL BE CONDUCTED IN ACCORDANCE WITH THE BEST MANAGEMENT PRACTICES (BMP).

2.1 CONSTRUCTION AND EROSION CONTROL SEQUENCING

CONSTRUCTION SEQUENCING WILL BE UTILIZED AS A MEANS OF CONTROLLING EROSION AND LIMITING SEDIMENT TRANSPORT. SEQUENCING AS LISTED BELOW IS GENERAL IN NATURE AND MAY VARY DEPENDING ON WEATHER CONDITIONS AND/OR PHASING OF CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT A DETAILED SITE SEQUENCING PLAN TO OWNER FOR APPROVAL AT LEAST 5 BUSINESS DAYS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.

1. INSTALL TEMPORARY CONSTRUCTION ENTRANCES, INLET PROTECTION ON EXISTING STORM SEWER AND CULVERT INLET LOCATIONS, SEDIMENT TRAPS, DIVERSION BERMS, DITCH CHECKS, AND PERIMETER SILT FENCING.
2. INSTALL SILT FENCING ALONG THE PERIMETER OF PROPOSED TOPSOIL STOCKPILE LOCATIONS. THE FIRST TOPSOIL DEPOSITED WITHIN THE STOCKPILE LIMITS SHALL BE PLACED TO CREATE TEMPORARY BERMING ALONG THE SILT FENCE TO PREVENT DIRECT STORMWATER RUNOFF AGAINST SILT FENCING. CONTRACTOR SHALL LIMIT LAND DISTURBING ACTIVITIES ASSOCIATED WITH TEMPORARY BERMING TO A MINIMUM.
3. CONDUCT ROUGH GRADING OPERATIONS AND UTILITY PIPING INSTALLATION. DRAIN TILE SHALL NOT BE INSTALLED UNTIL UPLAND AREAS CONTRIBUTING STORMWATER RUNOFF ARE STABILIZED. DITCH CHECKS SHALL BE INSTALLED WITHIN DRAINAGE DITCHES IMMEDIATELY FOLLOWING CREATION OF DITCHES AND INLET PROTECTION SHALL BE INSTALLED TO PROTECT ANY STORM SEWER OR CULVERTS THAT WILL FUNCTION DURING CONSTRUCTION.
4. FINE GRADE SUB-GRADE SOILS WITHIN PAVEMENT AND BUILDING LIMITS. PLACE STONE BASE MATERIAL AS SOON AS POSSIBLE FOLLOWING COMPLETION OF FINE GRADING EFFORTS.
5. FINE GRADE REMAINING DISTURBED AREAS. PLACE SALVAGED TOPSOIL, EROSION BLANKETS/MATTING, AND SEED/MULCH AS SOON AS POSSIBLE FOLLOWING COMPLETION OF FINE GRADING EFFORTS.
6. EROSION CONTROLS SHALL NOT BE REMOVED UNTIL SITE IS FULLY STABILIZED OR 70% VEGETATIVE COVER IS ESTABLISHED. CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF SILT FENCE, TEMPORARY FENCING/PRETECTION, DITCH CHECKS, AND OTHER TEMPORARY CONTROLS, AND RESTORATION PRACTICES AS NECESSARY, TO THE SATISFACTION OF THE OWNER.

2.2 STABILIZATION PRACTICES

THE DATES WHEN MAJOR GRADING ACTIVITIES OCCUR, WHEN CONSTRUCTION ACTIVITIES TEMPORARILY OR PERMANENTLY CEASE ON A PORTION OF THE SITE, AND WHEN STABILIZATION MEASURES ARE INITIATED, SHALL BE RECORDED ON THE STABILIZATION SCHEDULE FOR MAJOR GRADING ACTIVITIES.

STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED. NO MORE THAN SEVEN (7) DAYS SHALL PASS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS PERMANENTLY CEASED UNLESS:

THE INITIATION OF STABILIZATION MEASURES BY THE SEVENTH (7) DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASE IS PRECLUDED BY SNOW COVER. IN THAT EVENT, STABILIZATION MEASURE SHALL BE INITIATED AS SOON AS PRACTICABLE.

CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN FOURTEEN (14) DAYS FROM WHEN ACTIVITIES CEASED, (I.E. THE TOTAL TIME PERIOD THAT THE CONSTRUCTION ACTIVITY IS TEMPORARILY CEASED IS LESS THAN FOURTEEN (14) DAYS). IN THAT EVENT, STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE BY THE SEVENTH (7) DAY AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY CEASED. SEE THE SOIL PROTECTION CHART PRESENTED IN THE CONSTRUCTION DOCUMENTS FOR RATES OF PERMANENT AND TEMPORARY VEGETATION.

STABILIZATION WILL BE INITIATED BY THE FOURTEENTH (14) DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASES IN ANY SPECIFIC AREA ON THE SITE, WHILE CONSTRUCTION CONTINUES IN OTHER AREAS OF THE SITE. THIS IS TO INCLUDE STOCK PILES, PONDS, AND OTHER DISTURBED AREAS ONSITE.

STABILIZATION MEASURES SHALL BE DETERMINED BASED ON SITE CONDITIONS AT THE TIME CONSTRUCTION ACTIVITY HAS CEASED, INCLUDING BUT NOT LIMITED TO WEATHER CONDITIONS AND LENGTH OF TIME MEASURE MUST BE EFFECTIVE. THE FOLLOWING ARE ACCEPTABLE STABILIZATION MEASURES.

PERMANENT SEEDING; IN ACCORDANCE WITH APPROVED LANDSCAPING PLAN
TEMPORARY SEEDING MAY CONSIST OF SPRING OATS (100LBS/ACRE) AND/OR WHEAT OR CEREAL RYE (150LBS/ACRE)
HYDRO-MULCHING WITH A TACKIFIER
GEOTEXTILE EROSION MATTING
SODDING

2.3 STRUCTURAL PRACTICES

THE FOLLOWING ARE DESCRIPTIONS OF STRUCTURAL PRACTICES TO BE IMPLEMENTED TO DIVERT FLOWS FROM EXPOSED SOILS, STORE FLOWS, OR OTHERWISE LIMIT THE DISCHARGE OF POLLUTANTS FROM EXPOSED AREAS OF THE SITE INCLUDING THE PROPOSED AND EXISTING WETLAND AREAS. SUCH PRACTICES COULD INCLUDE SILT FENCE, PROTECTION FENCE, CONSTRUCTION ENTRANCE, DITCH CHECK, EROSION CONTROL MATTING, DIVERSION BERM/SWALE, SEDIMENT TRAP, LEVEL SPREADER, INLET PROTECTION, OUTLET PROTECTION, AND TEMPORARY OR PERMANENT SEDIMENT BASIN. THE FOLLOWING STRUCTURAL PRACTICES ARE TO BE UTILIZED DURING THIS PROJECT.

SILT FENCE SHALL BE PLACED DOWN SLOPE OF DISTURBED AREAS OF THE CONSTRUCTION SITE AND AROUND THE PERIMETER OF THE TOPSOIL STOCKPILE. THIS INCLUDES PROTECTION OF EXISTING WETLAND AREAS TO BE MAINTAINED. SILT FENCE MAY ALSO BE USED AS A TEMPORARY CONTROL DEVICE WHERE SEDIMENTATION RUNOFF IS DISCOVERED.

CONSTRUCTION ENTRANCE SHALL BE INSTALLED TO REDUCE SOIL EROSION POLLUTANTS FROM LEAVING THE SITE DURING CONSTRUCTION ACTIVITIES. IF THE CRUSHED STONE DOES NOT ADEQUATELY REMOVE MUD FROM VEHICLE TIRES, THEY SHALL BE HOSED OFF BEFORE ENTERING A PAVED ROADWAY. ANY SOIL DEPOSITED ON THE PUBLIC PAVED ROAD WAY SHALL BE REMOVED IMMEDIATELY.

DITCH CHECK SHALL BE INSTALLED IN DRAINAGE CHANNELS AS NEEDED.

EROSION CONTROL MATTING SHALL BE PLACED ON AREAS OR EMBANKMENTS HAVING SLOPES GREATER THAN OR EQUAL TO 3H:1V, BEFORE VEGETATION IS ESTABLISHED.

INLET PROTECTION SHALL BE INSTALLED AT STORMWATER DRAINAGE INLETS TO REDUCE SEDIMENT WITHIN STORM SEWER CONVEYANCE FEATURES.

OUTLET SCOUR PROTECTION SHALL BE INSTALLED AT STORMWATER DRAINAGE OUTLETS TO DIFFUSE FLOWS.

3.0 ADDITIONAL PRACTICES

ADDITIONAL POLLUTANT CONTROL MEASURES TO BE IMPLEMENTED DURING CONSTRUCTION ACTIVITIES SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING.

CONSTRUCTION WASTE SHALL BE PROPERLY DISPOSED OF. THIS INCLUDES ALL CONSTRUCTION SITE WASTE MATERIAL, SANITARY WASTE, AND WASTE FROM VEHICLE TRACKING OF SEDIMENTS. THE CONTRACTOR SHALL ENSURE THAT NO MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, BURNED, OR DISCHARGED TO THE WATERS OF THE STATE. VEHICLES HAULING MATERIAL AWAY FROM THE SITE SHALL BE COVERED WITH A TARPAULIN TO PREVENT BLOWING DEBRIS.

DUST CONTROL SHALL BE ACCOMPLISHED BY ONE OR MORE OF THE FOLLOWING METHODS:

COVERING 30% OR MORE OF THE SOIL SURFACE WITH A NON-ERODIBLE MATERIAL.

ROUGHENING (EQUIPMENT TRACKING) THE SOIL TO PRODUCE RIDGES PERPENDICULAR TO THE PREVAILING WIND. RIDGES SHALL BE AT LEAST SIX (6) INCHES IN HEIGHT.

FREQUENT WATERING OF EXCAVATION AND FILL AREAS.

PROVIDING GRAVEL OR PAVING AT ENTRANCE/EXIT DRIVES, PARKING AREAS AND TRANSIT PATHS.

STREET SWEEPING SHALL BE PERFORMED TO IMMEDIATELY REMOVE ANY SEDIMENT TRACKED ON PAVEMENTS.

4.0 EROSION AND SEDIMENT STRUCTURAL PRACTICE MAINTENANCE

THE FOLLOWING MAINTENANCE PRACTICES SHALL BE USED TO MAINTAIN, IN GOOD AND EFFECTIVE OPERATING CONDITIONS, VEGETATION, EROSION AND SEDIMENT CONTROL MEASURES, AND OTHER PROTECTIVE MEASURES IDENTIFIED IN THIS PLAN. UPON IDENTIFICATION, DEFICIENCIES IN STORMWATER CONTROLS SHALL BE ADDRESSED IMMEDIATELY. THE MAINTENANCE PROCEDURES FOR THIS DEVELOPMENT SHALL INCLUDE, BUT NOT BE LIMITED TO THE BELOW.

SILT FENCE - REPAIR OR REPLACE ANY DAMAGED FILTER FABRIC AND/OR STAKES. REMOVE ACCUMULATED SEDIMENT WHEN IT HAS REACHED ONE-HALF THE ABOVE GROUND HEIGHT OF THE FENCE.

CONSTRUCTION ENTRANCE - AS NEEDED, ADD STONE TO MAINTAIN CONSTRUCTION ENTRANCE DIMENSIONS AND EFFECTIVENESS.

DITCH CHECK - RE-SECURE STAKES; ADJUST OR REPOSITION BALES TO ADDRESS PROPER FLOW OF STORMWATER; AND REMOVE ACCUMULATED SEDIMENT WHEN IT HAS REACHED ONE-HALF THE HEIGHT OF THE BALE.

EROSION CONTROL MATTING - REPAIR MATTING IMMEDIATELY IF INSPECTION REVEALS BREACHED OR FAILED CONDITIONS. REPAIR AND RE-GRADE SOIL WHERE CHANNELIZATION HAS OCCURRED.

INLET PROTECTION - CLEAN, REPAIR OR REPLACE FILTER FABRIC AND/OR STONE WHEN CONTROL MEASURE IS CLOGGED. INLET FILTER BAGS SHALL BE REPLACED ONCE ONE-HALF FULL OF SEDIMENT.

OUTLET PROTECTION - CLEAN, REPAIR OR REPLACE FILTER FABRIC, TURF REINFORCEMENT MATTING AND/OR STONE WHEN CONTROL MEASURE IS ONE-HALF FULL OF SEDIMENT.

5.0 INSPECTION

INSPECTIONS SHALL BE COMPLETED WITHIN TWENTY-FOUR (24) HOURS OF THE END OF A RAINFALL EVENT THAT IS ONE-HALF INCH OR GREATER OR EQUIVALENT SNOWFALL, OR AT A MINIMUM ONCE EVERY SEVEN (7) CALENDAR DAYS. INSPECTIONS SHALL BE UNDERTAKEN BY QUALIFIED PERSONNEL PROVIDED BY THE CONTRACTOR, AND SHALL INCLUDE: DISTURBED AREAS OF THE CONSTRUCTION SITE THAT HAVE NOT BEEN FINALLY STABILIZED, STRUCTURAL CONTROL MEASURES, AND LOCATIONS WHERE VEHICLES ENTER OR EXIT THE SITE. A STORMWATER POLLUTION PREVENTION PLAN INSPECTION REPORT SHALL BE COMPLETED AND ADDED TO THE SWPPP. RAINFALL SHALL BE RECORDED ON THE SWPPP RAINFALL LOG. CONTRACTOR SHALL IMMEDIATELY ARRANGE FOR REPAIR OR REPLACEMENT OF ANY DAMAGED OR DEFICIENT CONTROL MEASURES OBSERVED DURING THE INSPECTION.

QUALIFIED PERSONNEL MEANS A PERSON KNOWLEDGEABLE IN THE PRINCIPLES AND PRACTICES OF EROSION AND SEDIMENT CONTROL MEASURES, SUCH AS A LICENSED PROFESSIONAL ENGINEER, A CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL, A CERTIFIED EROSION SEDIMENT OR STORMWATER INSPECTOR, OR OTHER TRAINED INDIVIDUAL.

6.0 SPILL PREVENTION

6.1 GENERAL MATERIAL MANAGEMENT PRACTICES

THE GOOD HOUSEKEEPING PRACTICES LISTED BELOW SHALL BE FOLLOWED THROUGHOUT THE CONSTRUCTION PROJECT.

1. CONTRACTOR SHALL STORE ONLY ENOUGH PRODUCTS REQUIRED TO COMPLETE THIS PROJECT.
2. ALL MATERIAL SHALL BE STORED IN A NEAT, ORDERLY MANNER IN THEIR ORIGINAL CONTAINERS CONTAINING MANUFACTURER'S LABEL.
3. MANUFACTURERS' RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED.
4. MATERIALS REQUIRED TO HAVE A MATERIAL SAFETY DATA SHEET (MSDS) SHALL HAVE A COPY STORED IN THE PROJECT'S MSDS DATABASE.

6.2 SPILL CONTROL PRACTICES

THE PRACTICES LISTED BELOW SHALL BE FOLLOWED FOR SPILL PREVENTION AND CLEANUP.

1. MATERIALS AND EQUIPMENT NECESSARY FOR SPILL CLEANUP SHALL BE MAINTAINED ONSITE.
2. IMMEDIATELY UPON DISCOVERY, ALL SPILLS SHALL BE CLEANED UP ACCORDING TO THE MANUFACTURERS' RECOMMENDED METHODS.
3. PERSONNEL CLEANING UP A SPILL SHALL USE PERSONAL PROTECTIVE EQUIPMENT.
4. IMMEDIATELY UPON DISCOVERY, SPILLS OF TOXIC OR HAZARDOUS MATERIALS SHALL BE REPORTED TO THE OWNER AND GENERAL CONTRACTOR.
5. NOTIFICATION AND REPORTING TO THE APPROPRIATE FEDERAL, STATE, AND LOCAL GOVERNMENT AGENCIES SHALL BE MADE AS REQUIRED.

GENERAL INFORMATION:

THIS STORMWATER POLLUTION PREVENTION PLAN (SWPPP) HAS BEEN DEVELOPED TO FULFILL ONE OF THE REQUIREMENTS OF THE GENERAL ENVIRONMENTAL PROTECTION AGENCY (EPA) NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (WISCONSIN POLLUTION DISCHARGE ELIMINATION SYSTEM "WPDES") FOR THE DISCHARGE OF STORMWATER ASSOCIATED WITH CONSTRUCTION PROJECTS DISTURBING ONE ACRE OR MORE. THE OWNER AND CONTRACTORS SHALL COMPLY WITH ALL REQUIREMENTS OF THE WPDES FOR ALL SUCH CONSTRUCTION PROJECTS. THE STORMWATER DISCHARGES ASSOCIATED WITH THE CONSTRUCTION ACTIVITY FROM THIS SITE ARE SUBJECT TO THE CONDITIONS AND REQUIREMENTS OF THE PERMITS.

THE EXECUTED OWNER CERTIFICATION AND THE CONTRACTOR CERTIFICATIONS SHALL BE KEPT ONSITE WITH THE APPROVED PLANS.

SWPPP AVAILABILITY:

THE OWNER SHALL RETAIN A COPY OF THE SWPPP AT THE CONSTRUCTION SITE FROM THE DATE OF THE PROJECT INITIATION TO THE DATE OF FINAL STABILIZATION.

KEEPING PLANS CURRENT:

THE CONTRACTOR SHALL AMEND THE PLAN WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE, WHICH HAS A SIGNIFICANT EFFECT ON THE POTENTIAL FOR THE DISCHARGE OF POLLUTANTS TO THE WATERS OF THE STATE AND WHICH HAS NOT OTHERWISE BEEN ADDRESSED IN THE PLAN OR IF THE PLAN PROVES TO BE INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY CONTROLLING POLLUTANTS IN STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION SITE ACTIVITY. IN ADDITION, THE THE PLAN SHALL BE AMENDED TO IDENTIFY ANY NEW CONTRACTOR AND/OR SUBCONTRACTOR THAT WILL IMPLEMENT A MEASURE OF THE PLAN. AMENDMENTS TO THE PLAN MAY BE REQUIRED BY THE MUNICIPALITY, OWNER, OR OTHER REVIEWING AGENCY. COPIES OF THE AMENDMENTS SHALL BE KEPT ONSITE AS PART OF THE SWPPP.

RETENTION OF RECORDS:

THE OWNER SHALL RETAIN COPIES OF THIS AND ALL REPORTS AND NOTICES REQUIRED BY THIS PERMIT, AND RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT TO BE COVERED BY THIS PERMIT, FOR A PERIOD OF AT LEAST THREE YEARS FROM THE DATE PERMIT COVERAGE EXPIRES OR IS TERMINATED. THIS PERIOD MAY BE EXTENDED BY THE REQUEST OF THE AGENCY AT ANY TIME. IN ADDITION, THE OWNER SHALL RETAIN A COPY OF THE PLAN REQUIRED BY THIS PERMIT AT THE CONSTRUCTION SITE FROM THE DATE OF PROJECT INITIATION TO THE DATE OF FINAL STABILIZATION.

A NOTICE OF INTENT (NOI) APPLICATION MUST BE COMPLETED AND INCORPORATED INTO THE SWPPP.

WPDES NOTICE OF TERMINATION GUIDANCE:

WHEN A SITE HAS BEEN FINALLY STABILIZED AND ALL STORMWATER DISCHARGES FROM CONSTRUCTION SITES THAT ARE AUTHORIZED BY THE PERMIT ARE ELIMINATED, THE OWNER OF THE FACILITY MUST SUBMIT A COMPLETED NOTICE OF TERMINATION THAT IS SIGNED IN ACCORDANCE WITH THE PERMIT. CONTRACTOR SHALL SUBMIT A COMPLETED NOTICE OF TERMINATION TO OWNER FOR EXECUTION PRIOR TO THEIR FINAL PAY APPLICATION REQUEST.

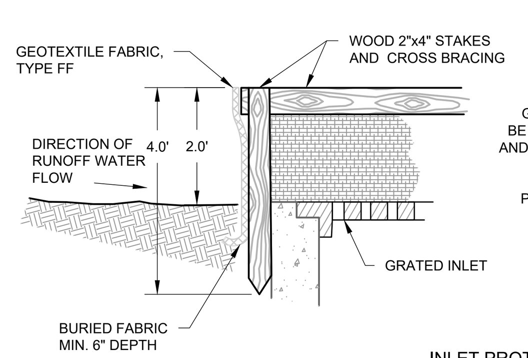
CONTROL MEASURE GROUP	CONTROL MEASURE	CONTROL MEASURE CHARACTERISTICS
VEGETATIVE SOIL COVER	TEMPORARY SEEDING	PROVIDES QUICK TEMPORARY COVER TO CONTROL EROSION WHEN PERMANENT SEEDING IS NOT DESIRED OR TIME OF YEAR IS INAPPROPRIATE.
	PERMANENT SEEDING	PROVIDES PERMANENT VEGETATIVE COVER TO CONTROL EROSION, FILTERS SEDIMENT FROM WATER. MAY BE PART OF FINAL LANDSCAPE PLAN.
NON VEGETATIVE SOIL COVER	AGGREGATE COVER	PROVIDES TEMPORARY COVER ON ROADS AND PARKING LOTS AND AREAS WHERE VEGETATION CANNOT BE ESTABLISHED. PREVENTS MUD FROM BEING PICKED UP AND TRANSPORTED OFF-SITE.
	PAVING	PROVIDES PERMANENT COVER ON PARKING LOTS AND ROADS OR OTHER AREAS WHERE VEGETATION CANNOT BE ESTABLISHED.
DIVERSIONS	DIVERSION BERM / SWALE	DIVERTS RUNOFF TO A SEDIMENT TRAP OR OTHER CONTROL.
ENCLOSED DRAINAGE	STORM SEWER	CONVEYS SEDIMENT LADEN WATER TO A SEDIMENT BASIN.
OUTLETS	APRON ENDWALL OR RIPRAP	PROTECTS DOWNSTREAM CHANNEL FROM HIGH VELOCITY OF FLOW DISCHARGING FROM STRUCTURE.
SEDIMENT BASINS	TEMPORARY SEDIMENT TRAP	CONSTRUCTED TO REMOVE SILTATION FROM RUNOFF FROM SITE DIVERSION BERMS/SWALES AND IN OVERLAND FLOOD ROUTE. CAN BE CONVERTED TO PERMANENT SEDIMENT BASIN.
SEDIMENT FILTERS	SILT FENCE	PLACED DOWN SLOPE OF DISTURBED AREA TO KEEP RUNOFF CONTAINED ON-SITE.
	INLET PROTECTION	INSTALLED IN OPEN GRATE STRUCTURES TO COLLECT SEDIMENT.
	DITCH CHECK	PLACED IN DRAINAGE CHANNELS TO FILTER SEDIMENT FROM RUNOFF.
MUD AND DUST CONTROL	CONSTRUCTION ENTRANCE	REDUCES SOIL EROSION POLLUTANTS BEING TRANSPORTED OFF-SITE.
	STREET SWEEPING	REDUCES POLLUTANTS TRACKED FROM CONSTRUCTION SITE.
	DUST CONTROL	PREVENTS DUST FROM LEAVING CONSTRUCTION SITE.

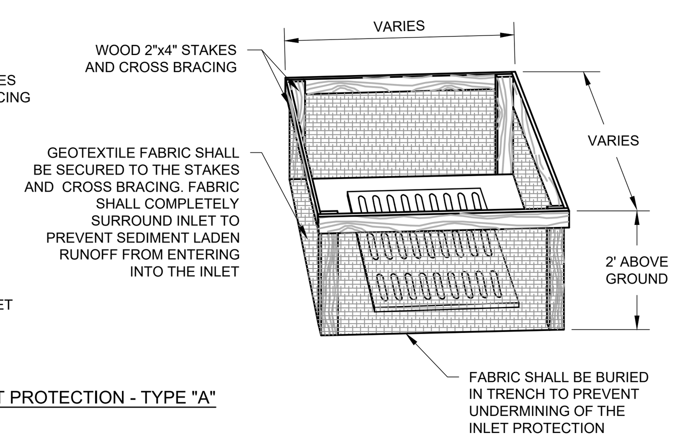
STABILIZATION EFFECTIVENESS (TIME OF YEAR)

STABILIZATION TYPE	STABILIZATION UTILIZATION PERIODS											
	JAN.	FEB.	MAR.	APR.	MAY	JUNE	JULY	AUG.	SEPT.	OCT.	NOV.	DEC.
PERMANENT SEEDING			A →	* →	* →	* →	* →	* →	* →			
DORMANT SEEDING	B →	→	→								B →	→
TEMPORARY SEEDING			C →	* →	* →	* →	D * →	* →	*			
SODDING			E →	* →	* →	* →	* →	* →	* →			

A. KENTUCKY BLUEGRASS 90 LBS/ACRE MIXED WITH PERENNIAL RYEGRASS 30 LBS/ACRE.
B. KENTUCKY BLUEGRASS 135 LBS/ACRE MIXED WITH PERENNIAL RYEGRASS 45 LBS/ACRE + 2 TONS STRAW MULCH/ACRE.
C. SPRING OATS 100 LBS/ACRE.
D. WHEAT OR CEREAL RYE 150 LBS/ACRE.
E. SOD.
F. STRAW MULCH 2 TONS/ACRE.

* IRRIGATION/WATERING REQUIRED TO SUPPORT ESTABLISHMENT AS NEEDED.





INLET PROTECTION - TYPE "A"

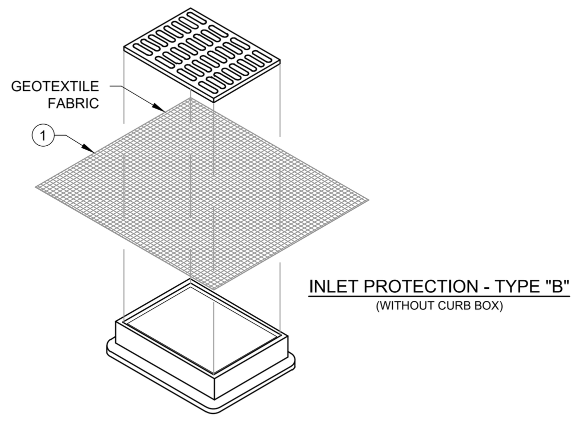
NOTES:

1. GEOTEXTILE FABRIC SHALL MEET THE REQUIREMENTS OF MATERIAL SPECIFICATION 592 GEOTEXTILE TABLE 1 OR 2, CLASS I, WITH AN EOS OF AT LEAST 30 FOR NONWOVEN AND 50 FOR WOVEN.
2. WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

(1) FINISHED SIZE, INCLUDING FLAP POCKET WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

(2) FOR INLET PROTECTION, TYPE "C" (WITH CURB BOX), AN ADDITIONAL 18 INCHES 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.

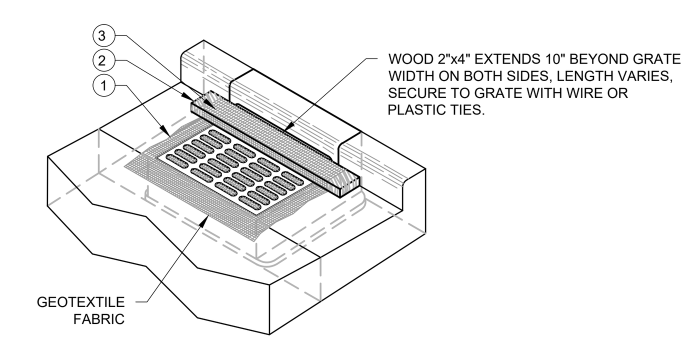


INLET PROTECTION - TYPE "B"
(WITHOUT CURB BOX)

TYPE "B" & "C" INSTALLATION NOTES

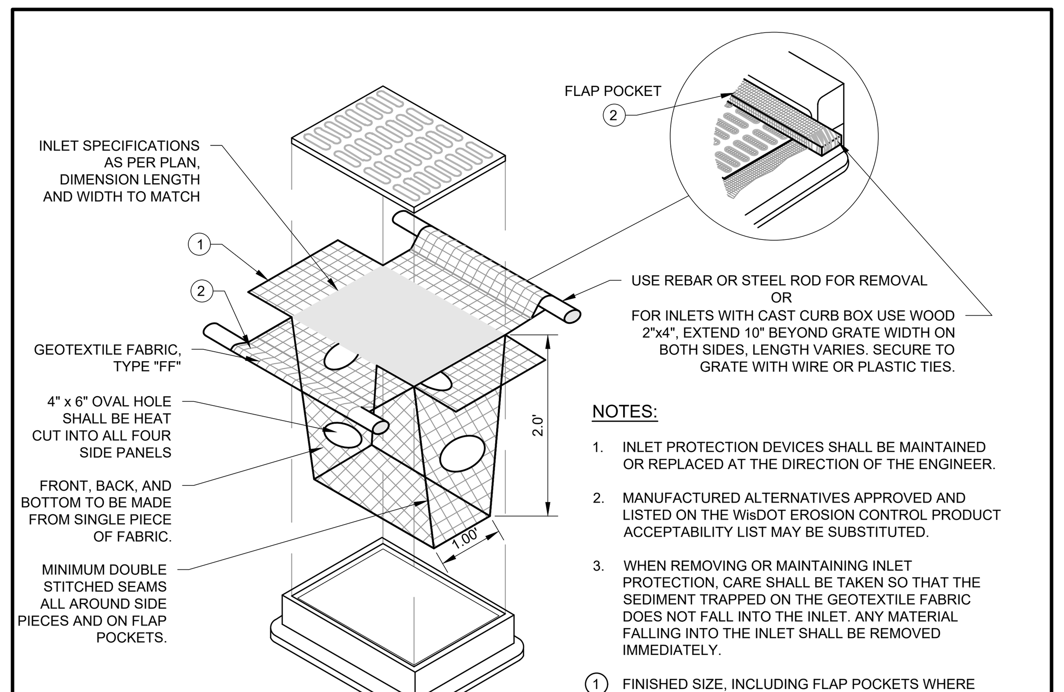
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3 INCHES OF THE GRATE.

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



INLET PROTECTION, TYPE "C"
(WITH CURB BOX)

INLET PROTECTION



NOTES:

1. INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.
2. MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE WisDOT EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.
3. WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

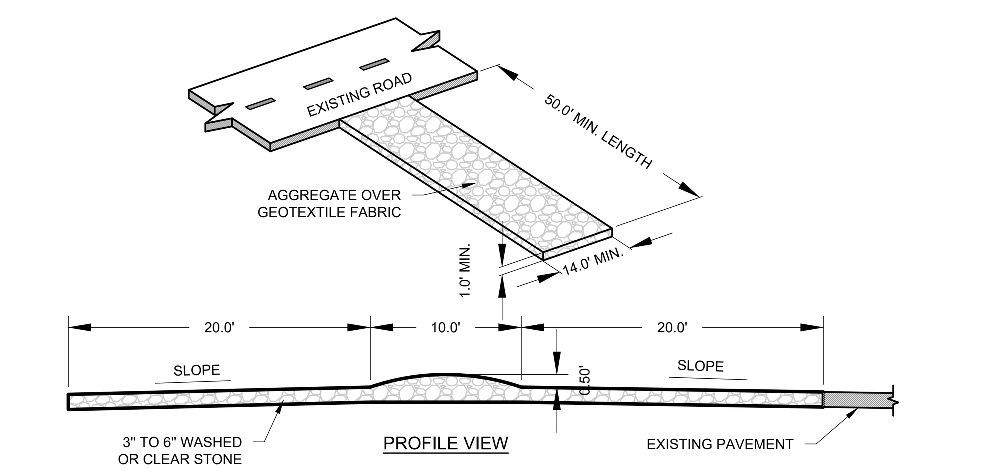
(1) FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10 INCHES AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.

(2) FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2 INCH X 4 INCH.

INSTALLATION NOTES:

1. DO NOT INSTALL INLET PROTECTION TYPE "D" IN INLETS SHALLOWER THAN 30 INCHES, MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.
2. TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3 INCHES OF THE GRATE.
3. 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 INCHES. WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3 INCHES CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4 INCHES FROM THE BOTTOM OF THE BAG.

INLET PROTECTION



NOTES:

1. ALL TRACKING PAD MATERIALS AND INSTALLATION SHALL BE IN CONFORMANCE WITH WI DNR TECHNICAL STANDARD 1057.
2. TRACKING PADS SHALL BE INSTALLED PRIOR TO ANY TRAFFIC LEAVING THE SITE. CONTRACTOR SHALL VERIFY LOCATION WITH OWNER.
3. THE AGGREGATE FOR TRACKING PADS SHALL BE 3 TO 6 INCH CLEAR OR WASHED STONE. ALL MATERIALS TO BE RETAINED ON A 3-INCH SIEVE
4. THE AGGREGATE SHALL BE PLACED IN A LAYER AT LEAST 12-INCHES THICK. ON SITES WHERE SATURATED CONDITIONS ARE EXPECTED DURING THE LIFE OF THE PAD, THE PAD SHALL BE UNDERLAIN WITH GEOTEXTILE FABRIC WHICH MEETS MATERIAL SPECIFICATION 592 GEOTEXTILE, TABLE 1 OR 2, CLASS I, II OR IV, TO PREVENT MIGRATION OF UNDERLYING SOILS INTO THE STONE LAYER.
5. THE TRACKING PAD SHALL BE THE FULL WIDTH OF THE EGRESS POINT. MINIMUM WIDTH IS 14 FEET FOR ONE-WAY TRAFFIC AND 20 FEET FOR TWO-WAY TRAFFIC, WITH AN ADDITIONAL INCREASE OF 4 FEET FOR TRAILER TRAFFIC. THE TRACKING PAD SHALL BE A MINIMUM 50-FEET LONG.
6. ANY SEDIMENT TRACKED ONTO A PUBLIC OR PRIVATE ROAD SHOULD BE REMOVED BY STREET CLEANING, NOT FLUSHING, AT THE END OF EACH WORKING DAY.
7. TRACKING PADS SHALL, AT A 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.
8. THE TRACKING PAD PERFORMANCE SHALL BE MAINTAINED BY SCRAPING OR TOP-DRESSING WITH ADDITIONAL AGGREGATE.

CONSTRUCTION ENTRANCE

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.

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DRAFTED: MRG DESIGNED: CMB REVIEWED: MAB

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CHICAGO I MILWAUKEE : NATIONWIDE

ZILBER PROPERTY GROUP SM

ZILBER INDUSTRIAL 4 AT GERMANTOWN
GATEWAY CORPORATE PARK
GERMANTOWN, WI

CONSTRUCTION DETAILS

REVISIONS

No.	Description	Date
1	ISSUED FOR OWNER REVIEW	02/19/20
2	ISSUED FOR MUNICIPAL REVIEW	03/02/20
3	VILLAGE COMMENTS (3/24/20)	04/16/20

PEG JOB No. 1296.00C
PEG PM MAB
START DATE
SCALE N.T.S.

SHEET C-9 OF C-9

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ISSUED FOR MUNICIPAL REVIEW

CONSTRUCTION DETAILS

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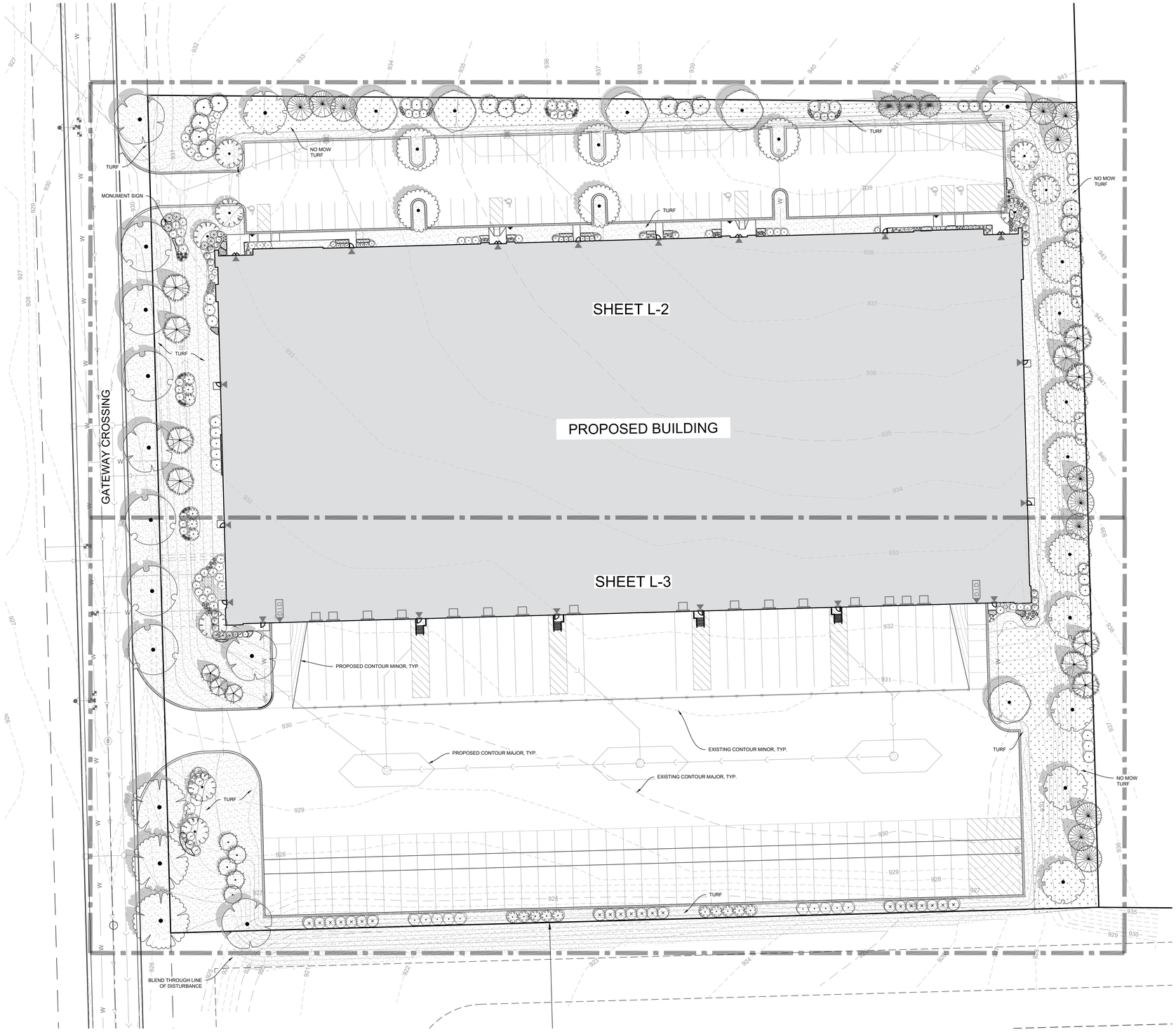
SHEET INDEX

SHEET	DESCRIPTION
L-1	OVERALL LANDSCAPE PLAN
L-2	ENLARGED LANDSCAPE PLAN
L-3	ENLARGED LANDSCAPE PLAN
L-4	LANDSCAPE GENERAL NOTES & DETAILS



NORTH

GRAPHICAL SCALE (FEET)

0 1" = 30' 60'

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OVERALL LANDSCAPE PLAN

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REVIEWED: DJB
DESIGNED: JSJ
DRAFTED: JSJ

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OVERALL LANDSCAPE PLAN

REVISIONS

1	ISSUED FOR OWNER REVIEW	02/19/20
2	ISSUED FOR MUNICIPAL REVIEW	03/02/20
3	VILLAGE COMMENTS (3/24/20)	04/14/20

PEC JOB No. 1296.00C
PEC PM MAB
START DATE
SCALE 1"=30'

SHEET
L-1
OF
L-4

Z:\PROJECTS\2018\1296.00C-WI\CAD\SHEETS\1296.00C-WI LANDSCAPE PLAN.DWG

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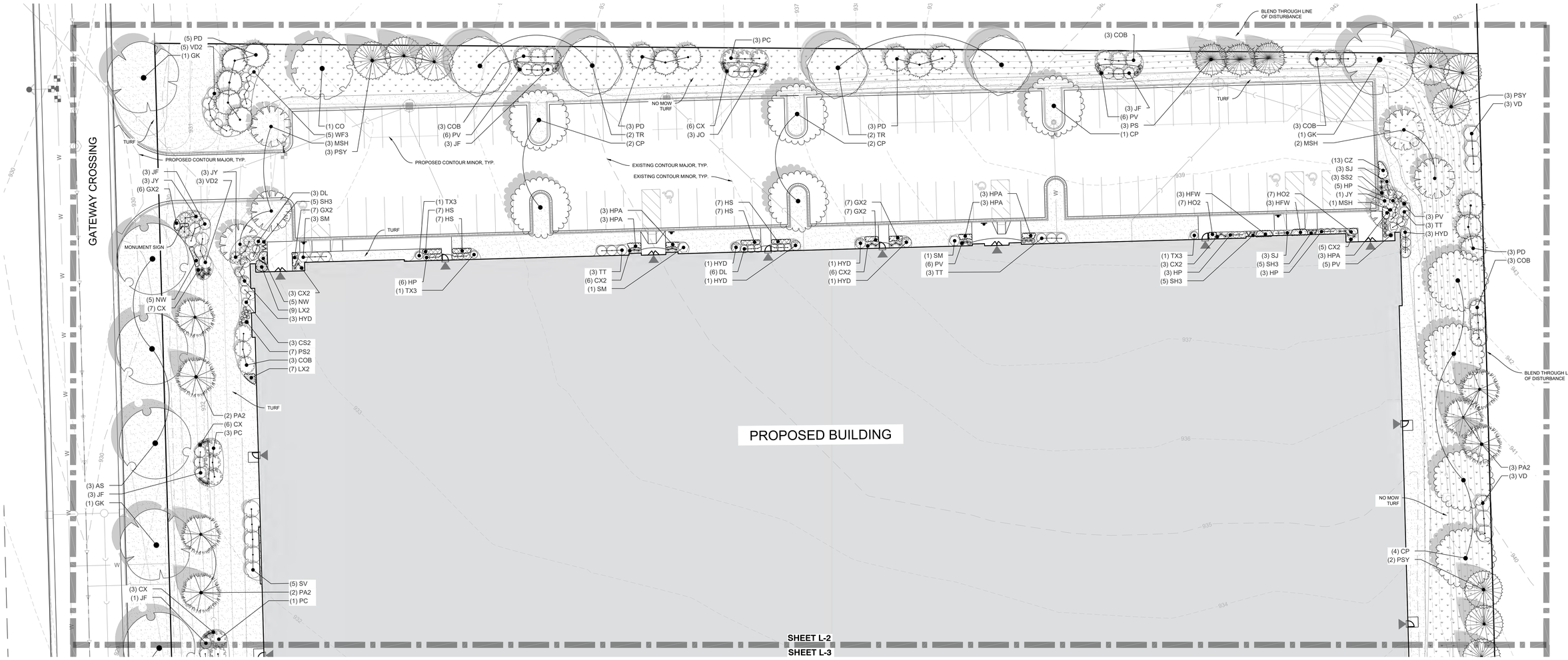

PLANT KEY

DECIDUOUS TREES	BOTANICAL NAME	COMMON NAME
CO	Carya ovata	Shagbark Hickory
CP	Celtis occidentalis `Prairie Pride`	Prairie Pride Hackberry
TR	Tilia americana `Redmond`	Redmond American Linden

EVERGREEN TREES	BOTANICAL NAME	COMMON NAME
JE	Juniperus virginiana	Eastern Red Cedar
PA2	Picea abies	Norway Spruce
PD	Picea glauca `Densata`	Black Hills Spruce
PS	Pinus strobus	White Pine
PSY	Pinus sylvestris	Scotch Pine

ORNAMENTAL TREES	BOTANICAL NAME	COMMON NAME
MA	Malus x `Adirondak`	Adirondak Crab Apple
MSH	Malus x `Shotizam` TM	Showtime Crabapple

STREET TREES	BOTANICAL NAME	COMMON NAME
AS	Acer miyabei `State Street`	Miyabei Maple
GK	Gymnocladus dioica	Kentucky Coffee Tree
QB2	Quercus bicolor	Swamp White Oak

DECIDUOUS SHRUBS	BOTANICAL NAME	COMMON NAME
AA	Aronia arbutifolia `Brilliantissima`	Brilliant Red Chokeberry/Red Chokeberry
COB	Cephalanthus occidentalis	Buttonbush
CS2	Cornus stolonifera `Arctic Fire`	Arctic Fire Dogwood
DL	Diervilla lonicera	Dwarf Bush Honeysuckle
HP	Hydrangea paniculata `Bobo`	Bobo Hydrangea
HYD	Hydrangea paniculata `Vanilla Strawberry`	Vanilla Strawberry Hydrangea
PC	Physocarpus opulifolius `Center Glow`	Center Glow Ninebark
SJ	Spiraea japonica `Magic Carpet`	Magic Carpet Spirea
SM	Syringa meyeri `Palibin`	Dwarf Korean Lilac
SV	Syringa vulgaris `Sensation`	Sensation Lilac
VD2	Viburnum dentatum `Blue Muffin`	Southern Arrowwood
VD	Viburnum dentatum `Red Feather`	Red Feather Arrowwood Viburnum
WF3	Weigela florida `Wine & Roses`	Wine & Roses Weigela

EVERGREEN SHRUBS	BOTANICAL NAME	COMMON NAME
JMB	Juniperus chinensis `Mountbatten`	Chinese Juniper
JF	Juniperus chinensis `Sea Green`	Sea Green Juniper
JW	Juniperus horizontalis `Wiltonii`	Blue Rug Juniper
JY	Juniperus horizontalis `Youngstown`	Creeping Juniper
JO	Juniperus virginiana `Grey Owl`	Eastern Redcedar
TX3	Taxus x media `Everlow`	Yew
TT	Taxus x media `Tauntonii`	Tauton Yew

ORNAMENTAL GRASSES	BOTANICAL NAME	COMMON NAME
CX	Calamagrostis x acutiflora `Karl Foerster`	Feather Reed Grass
CX2	Calamagrostis x acutiflora `Overdam`	Overdam Feather Reed Grass
PV	Panicum virgatum `Northwind`	Switch Grass
PS2	Panicum virgatum `Shenandoah`	Switch Grass
SS2	Schizachyrium scoparium `Blue Heaven`	Blue Heaven Little Bluestem
SH3	Sporobolus heterolepis `Tara`	Prairie Dropseed

PERENNIALS	BOTANICAL NAME	COMMON NAME
CZ	Coreopsis verticillata `Zagreb`	Zagreb Thread Leaf Coreopsis
GR	Geranium x `Rozanne` TM	Hybrid Cranesbill
GX2	Geranium x c `Biokovo Carmina`	Biokovo Carmina Cranesbill
HX3	Hemerocallis x `Stella de Oro`	Stella de Oro Daylily
HO2	Heuchera x `Obsidian`	Coral Bells
HS	Heuchera x `Southern Comfort`	Southern Comfort
HPA	Hosta fortunei `Patriot`	Patriot Hosta
HFW	Hosta x `Frances Williams`	Plantain Lily
LX2	Leucanthemum x superbum `Becky`	Shasta Daisy
NW	Nepeta x faassenii `Walkers Low`	Walkers Low Catmint

GROUND COVERS	BOTANICAL NAME	COMMON NAME
	Turf Seed Drought Tolerant Dwarf Fescue Blend	
	Turf Seed Low Grow Mix	

NORTH

GRAPHICAL SCALE (FEET)
0 1" = 20' 40'

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PINNACLE ENGINEERING GROUP
ENGINEERING I NATURAL RESOURCES I SURVEYING
WISCONSIN OFFICE:
20725 WATERTOWN ROAD, SUITE 100
BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO I MILWAUKEE : NATIONWIDE

ZILBER PROPERTY GROUP SM

ZILBER INDUSTRIAL 4 AT GERMANTOWN GATEWAY CORPORATE PARK
GERMANTOWN, WI

ENLARGED LANDSCAPE PLAN

REVISIONS

1	ISSUED FOR OWNER REVIEW	02/19/20
2	ISSUED FOR MUNICIPAL REVIEW	03/02/20
3	VILLAGE COMMENTS (3/24/20)	04/14/20

PEG JOB No. 1296.00C
PEG PM MAB
START DATE
SCALE 1"=20'

SHEET L-2 OF L-4

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ISSUED FOR MUNICIPAL REVIEW

ENLARGED LANDSCAPE PLAN

www.pinnacle-engr.com

REVIEWED: DJB
DESIGNED: JSJ
DRAFTED: JSJ

Z:\PROJECTS\2018\1296.00C-WI\CAD\SHEETS\1296.00C-WI LANDSCAPE PLAN.DWG

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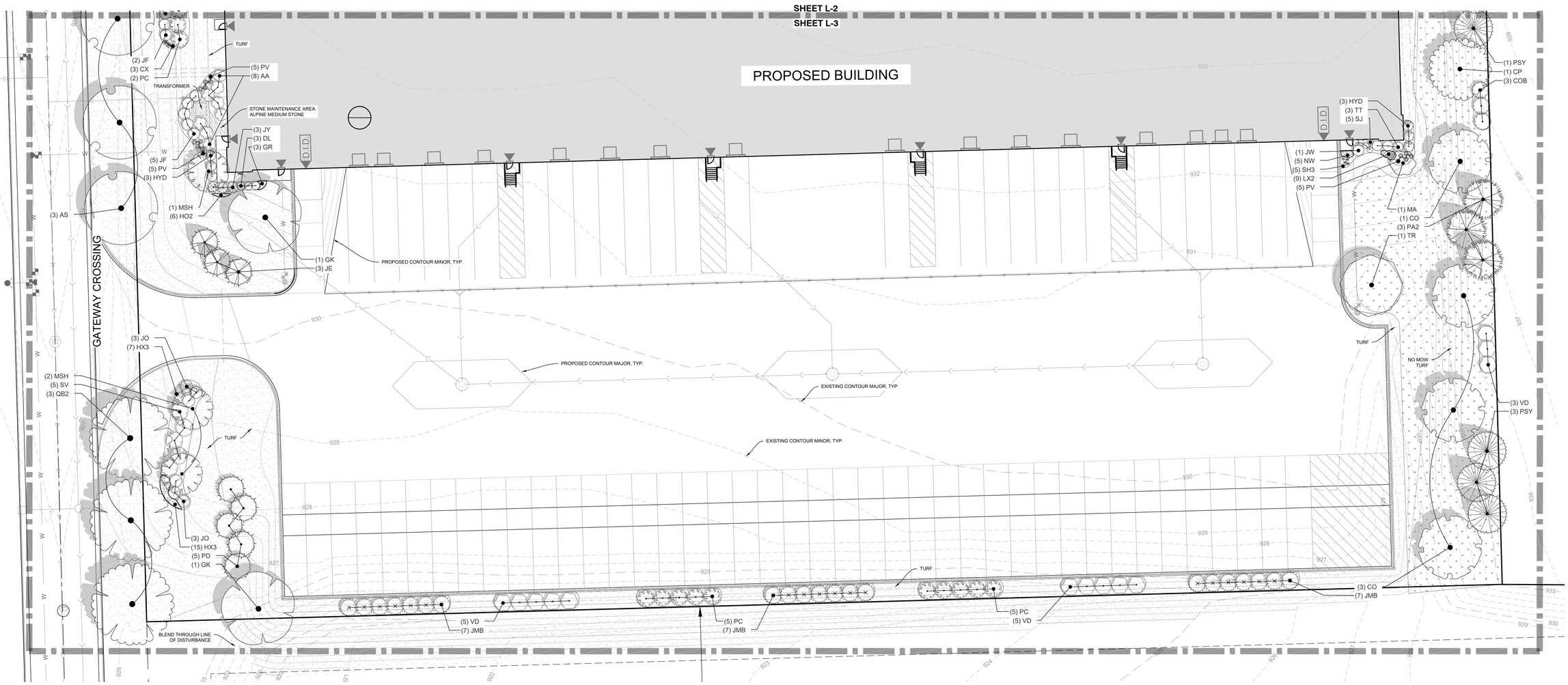

PLANT KEY

DECIDUOUS TREES	BOTANICAL NAME	COMMON NAME
CO	Carya ovata	Shagbark Hickory
CP	Celtis occidentalis `Prairie Pride`	Prairie Pride Hackberry
TR	Tilia americana `Redmond`	Redmond American Linden

EVERGREEN TREES	BOTANICAL NAME	COMMON NAME
JE	Juniperus virginiana	Eastern Red Cedar
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NORTH

GRAPHICAL SCALE (FEET)

0 1" = 20' 40'

REVIEWED: DJB
DESIGNED: JSJ
DRAFTED: JSJ

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ENLARGED LANDSCAPE PLAN

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SHEET L-3 or L-4

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ISSUED FOR MUNICIPAL REVIEW

ENLARGED LANDSCAPE PLAN

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GENERAL PLANTING NOTES

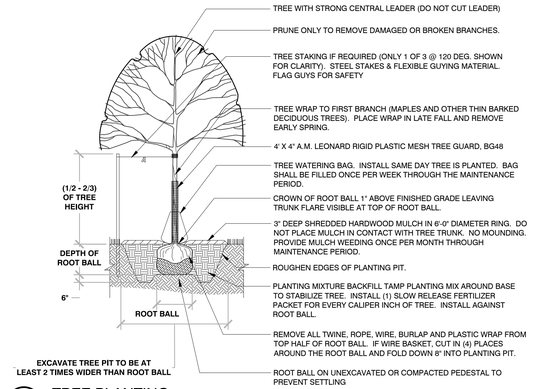
1. THE LAYOUT OF ALL PLANTING BEDS AND INDIVIDUAL TREES AND SHRUBS SHALL BE STAKED BY THE CONTRACTOR IN ADVANCE OF INSTALLATION. FLAGGING, STAKES, OR PAINT MAY BE USED TO DELINEATE LOCATIONS AS SCALED FROM THE PLANS. AN APPROVED REPRESENTATIVE WILL REVIEW THESE LOCATIONS WITH THE CONTRACTOR AND MAKE MINOR ADJUSTMENTS AS NECESSARY. BED LAYOUT SHALL ALSO INCLUDE PERENNIAL GROUPINGS BY SPECIES.
2. THE CONTRACTOR IS RESPONSIBLE FOR INDEPENDENTLY DETERMINING THE PLANT MATERIAL QUANTITIES REQUIRED BY THE LANDSCAPE PLANS. REPORT ANY DISCREPANCIES TO THE LANDSCAPE ARCHITECT.
3. ALL STOCK SHALL BE FREE OF DISEASES AND HARMFUL INSECTS, DAMAGE, DISORDERS AND DEFORMITIES.
4. TREES SHALL HAVE SINGLE, STRAIGHT TRUNKS AND WELL BALANCED BRANCH SYSTEMS. HEIGHT-TO-CALIPER RATIOS SHALL BE CONSISTENT WITH THE LATEST EDITION OF ANSI Z60.1.
5. ROOT SYSTEMS SHALL BE LARGE ENOUGH TO ALLOW FOR FULL RECOVERY OF THE TREE, AND SHALL CONFORM TO STANDARDS AS THEY APPEAR IN THE MOST CURRENT REVISION OF THE AMERICAN ASSOCIATION OF NURSERYMEN'S AMERICAN STANDARD OF NURSERY STOCK ANSI Z60.1.
6. BNB TREES SHALL BE DUG WITH A BALL OF SOIL, NOT SOFT BALLED OR POTTED AND SHALL BE FIRM IN THEIR ROOTBALL. ROOT BALL SHALL BE WRAPPED (WITH BIODEGRADABLE MATERIAL). THE TREE ROOT FLARE, OR COLLAR, SHALL BE AT OR WITHIN THE TOP THREE INCHES OF GRADE.
7. ALL SPRING TREES MUST BE FRESHLY DUG IN THE SPRING 2020.
8. ALL AUTUMN TREES MUST BE FRESHLY DUG IN THE AUTUMN 2019.
9. TREES SHALL BE ALIVE, HEALTHY AND APPROPRIATELY MOIST, AT TIME OF DELIVERY.
10. TREES SHALL BE SUBJECT TO INSPECTION FOR CONFORMITY TO SPECIFICATION REQUIREMENTS AND APPROVAL BY THE LANDSCAPE ARCHITECT OR OWNERS REPRESENTATIVE. THE LANDSCAPE ARCHITECT OR OWNERS REPRESENTATIVE RESERVES THE RIGHT TO REJECT ANY TREES THAT DO NOT MEET THE SPECIFICATIONS OR THAT HAVE BEEN DAMAGED DURING SHIPMENT. THE LANDSCAPE INSTALLER MUST RECEIVE APPROVAL FROM LANDSCAPE ARCHITECT FOR ANY SUBSTITUTIONS OR ALTERATIONS.
11. ALL PLANT MATERIAL AND SEED SHALL BE PROVIDED FROM A NURSERY (WITHIN 200 MILES) WITH A SIMILAR PLANT HARDINESS ZONE AS PROJECT LOCATION. EXISTING SOIL SHALL BE AMENDED PER SOIL ANALYSIS REPORT TO ENSURE A PROPER GROWING MEDIUM IS ACHIEVED.
12. ALL PLANT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH PLANTING DETAILS.
13. ALL PLANTING BEDS SHALL HAVE A MINIMUM 10" DEPTH OF PREPARED SOIL. WITH APPROVAL, EXISTING SOIL MAY BE UTILIZED PROVIDED THE PROPER SOIL AMENDMENTS ARE TILLED THOROUGHLY INTO THE TOP 10" OF SOIL. REFER TO SOIL PLACEMENT NOTES.
14. WHILE PLANTING TREES AND SHRUBS, BACKFILL $\frac{2}{3}$ OF PLANTING HOLE AND WATER TREE THOROUGHLY BEFORE INSTALLING THE REMAINDER OF SOIL MIXTURE. AFTER ALL SOIL HAS BEEN PLACED INTO THE PLANTING HOLE WATER THOROUGHLY AGAIN.
15. THE CONTRACTOR MUST LABEL ALL TREES WITH THE COMMON AND BOTANICAL NAMES PRIOR TO FINAL INSPECTION.
16. ALL PLANTING BEDS SHALL BE MULCHED WITH 3" DEEP SHREDDED HARDWOOD MULCH, AND ALL TREES PLANTED IN TURF AREAS SHALL RECEIVE A 3" DEEP SHREDDED HARDWOOD MULCHED RING AS SHOWN IN PLANTING DETAILS.
17. ALL PLANTING BEDS AND TREE RINGS SHALL HAVE A 4" DEEP TRENCHED BED EDGE CREATED BY EITHER A FLAT LANDSCAPE SPADE OR MECHANICAL EDGER. BED EDGES ARE TO BE CUT CLEAN AND SMOOTH AS SHOWN ON LANDSCAPE PLANS WITH A CLEAN DEFINITION BETWEEN TURF AND PLANTING AREAS.
18. ALL TURF SEED AREAS SHALL HAVE A MINIMUM DEPTH OF 6" OF TOPSOIL. WITH APPROVAL, EXISTING SOIL MAY BE UTILIZED PROVIDED THE PROPER SOIL AMENDMENTS ARE TILLED THOROUGHLY INTO THE TOP 6" OF SOIL AS INDICATED IN THE SOIL PLACEMENT NOTES. REQUIRED AMENDMENTS SHALL BE DETERMINED BASED ON A SOIL ANALYSIS TO BE PERFORMED. ALL TOPSOIL AMENDMENT SHALL BE AGED WEED FREE MANURE OR CLASS 1 ORGANIC MATTER.
19. FOR LAWN SEEDING, APPLY A STARTER FERTILIZER AND SEED UNIFORMLY AT THE RATE RECOMMENDED BY MANUFACTURER, AND PROVIDE A MULCH COVERING THAT IS SUITABLE TO PROMOTE SEED GERMINATION AND TURF ESTABLISHMENT. CONTRACTOR TO PROVIDE FERTILIZER, SEED, AND MULCH SPECIFICATIONS TO THE LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION. EROSION CONTROL MEASURES ARE TO BE INSTALLED IN THOSE AREAS REQUIRING STABILIZATION (SWALES, SLOPES EXCEEDING 1:3, AND THOSE LOCATIONS INDICATED IN CIVIL DRAWINGS).
20. THE CONTRACTOR TO ENSURE A SMOOTH, UNIFORM QUALITY TURF IS ACHIEVED WITH NO BARE SPOTS LARGER THAN 6" X 6". ANY BARE SPOTS LARGER THAN 6" X6" AT THE END OF ESTABLISHMENT PERIOD SHALL BE RESEEDED AT THE CONTRACTORS EXPENSE TO OBTAIN A DENSE, UNIFORM LAWN.
21. ALL FINISH GRADING AND LAWN AREAS TO BE INSTALLED BY LANDSCAPE CONTRACTOR.
22. ALL DISTURBED AREAS WITHIN THE PROJECT SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION.
23. ALL DISTURBED AREAS OUTSIDE THE LIMITS OF WORK SHALL BE RESTORED TO ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE OWNER.
24. THE CONTRACTOR SHALL ENSURE THAT SOIL CONDITIONS AND COMPACTION ARE ADEQUATE TO ALLOW FOR PROPER DRAINAGE AROUND THE CONSTRUCTION SITE. UNDESIRABLE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT PRIOR TO BEGINNING OF WORK. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO ENSURE PROPER SURFACE AND SUBSURFACE DRAINAGE IN ALL AREAS
25. THE CONTRACTOR SHALL VERIFY ALL EXISTING UTILITIES, INCLUDING ANY IRRIGATION LINES, PRIOR TO DIGGING. CONSULT DIGGERS HOTLINE.
26. TREES SHALL BE INSTALLED NO CLOSER THAN:
    - -10 FEET FROM ANY FIRE HYDRANT
    - - 7 FEET FROM DRIVEWAYS, STORM SEWER, SANITARY SEWER LATERALS, AND WATER SERVICE
27. THE CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS, FEES, AND LICENSES NECESSARY FOR THE INSTALLATION OF THIS PLAN.
28. THE CONTRACTOR IS TO REVIEW ALL SITE ENGINEERING DOCUMENTS PRIOR TO INSTALLATION. ANY CONFLICTS MUST BE REPORTED TO THE LANDSCAPE ARCHITECT. THESE LANDSCAPE DRAWINGS ARE FOR THE INSTALLATION OF PLANT MATERIALS ONLY UNLESS OTHERWISE STATED.
29. THE CONTRACTOR SHALL PROVIDE WATERING AND MAINTENANCE SERVICES FOR A PERIOD OF 60 DAYS TO ENSURE VEGETATIVE ESTABLISHMENT. UPON COMPLETION OF THE PROJECT, CONTRACTOR SHALL SUPPLY THE OWNER IN WRITING WITH ONGOING WATERING AND MAINTENANCE INSTRUCTIONS.
30. PLANT MATERIALS SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR FROM TIME OF OWNER ACCEPTANCE. ONLY ONE REPLACEMENT PER PLANT WILL BE REQUIRED DURING THE WARRANTY PERIOD EXCEPT IN THE EVENT OF FAILURE TO COMPLY WITH THE SPECIFIED REQUIREMENTS.
31. THE CONTRACTOR IS RESPONSIBLE TO CONDUCT A FINAL WALK THROUGH WITH THE LANDSCAPE ARCHITECT AND OR OWNERS REPRESENTATIVE TO ANSWER QUESTIONS, PROVIDE WRITTEN INSTRUCTIONS, AND ENSURE THAT PROJECT REQUIREMENTS HAVE BEEN MET.

SOIL PLACEMENT NOTES

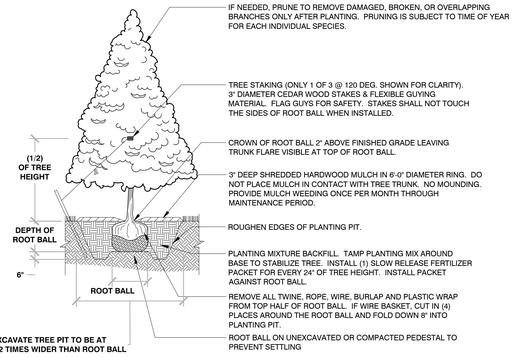
1. LOOSEN SUBGRADE TO A MINIMUM DEPTH INDICATED IN PLANTING NOTES USING A CULTI-MULCHER OR SIMILAR EQUIPMENT, AND REMOVE STONES MEASURING OVER 1-1/2 INCHES IN ANY DIMENSION, STICKS, RUBBISH AND OTHER EXTRANEOUS MATTER. INTERNAL PARKING ISLANDS SHALL BE LOOSENED TO A DEPTH OF 30".
2. THOROUGHLY BLEND PLANTING SOIL MIX FOR PLANTING BED AREAS. (1 PART EXISTING SOIL, 1 PART TOPSOIL, 1 PART ORGANIC SOIL AMENDMENT, 2.9 POUNDS PER CUBIC YARD OF 4-4-4 ANALYSIS SLOW-RELEASE FERTILIZER)
3. TREE AND SHRUB HOLES SHALL BE FILLED WITH A PREPARED PLANTING MIXTURE OF 1 PART TOPSOIL, 2 PARTS PLANTING SOIL MIX.
4. SPREAD SOIL AND SOIL AMENDMENTS TO DEPTH INDICATED ON DRAWINGS, BUT NOT LESS THAN REQUIRED TO MEET FINISH GRADES AFTER NATURAL SETTLEMENT. (FINISH GRADE OF PLANTING BEDS SHALL BE 3" BELOW ALL ADJACENT SURFACES. FINISH GRADE OF TURF SEEDING AREAS SHALL BE 1" BELOW ALL ADJACENT HARD SURFACES, WALKS, AND CURBS.)
5. PLACE APPROXIMATELY 1/2 OF TOTAL AMOUNT OF SOIL REQUIRED. WORK INTO TOP OF LOOSENED SUBGRADE TO CREATE A TRANSITION LAYER, THEN PLACE REMAINDER OF THE SOIL. SOIL TRANSITION LAYER SHALL BE TILLED TO A MINIMUM DEPTH OF 6" BELOW THE DEPTH OF NEWLY PLACED SOIL. PARKING LOT ISLANDS SHALL BE CROWNED TO A HEIGHT OF 6" TO PROVIDE PROPER DRAINAGE UNLESS OTHERWISE NOTED.
6. DO NOT SPREAD IF PLANTING SOIL OR SUBGRADE IS FROZEN, MUDDY, OR EXCESSIVELY WET.
7. FINISH GRADING: GRADE SOIL TO A SMOOTH, UNIFORM SURFACE PLANE WITH A LOOSE, UNIFORMLY FINE TEXTURE.
8. ROLL AND RAKE, REMOVE RIDGES, AND FILL DEPRESSIONS TO MEET FINISH GRADES.
9. RESTORE PLANTING BEDS IF ERODED OR OTHERWISE DISTURBED AFTER FINISH GRADING AND BEFORE PLANTING.

PLANT SCHEDULE

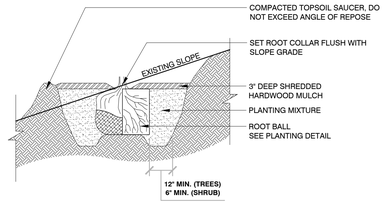
	COMMON NAME	SIZE	QTY
DECIDUOUS TREES			
Carya ovata	Shagbark Hickory	2.5" Cal.	5
Celtis occidentalis `Prairie Pride`	Prairie Pride Hackberry	2.5" Cal.	10
Tilia americana `Redmond`	Redmond American Linden	2.5" Cal.	5
EVERGREEN TREES			
Juniperus virginiana	Eastern Red Cedar	5` Tall	3
Picea abies	Norway Spruce	5` Tall	10
Picea glauca `Densata`	Black Hills Spruce	5` Tall	19
Pinus strobus	White Pine	5` Tall	3
Pinus sylvestris	Scotch Pine	5` Tall	12
ORNAMENTAL TREES			
Malus x `Adirondak`	Adirondak Crab Apple	1.5" Cal.	1
Malus x `Shotizam` TM	Showtime Crabapple	1.5" Cal.	9
STREET TREES			
Acer miyabei `State Street`	Miyabei Maple	3" Cal.	6
Gymnocladus dioica	Kentucky Coffee Tree	3" Cal.	5
Quercus bicolor	Swamp White Oak	3" Cal.	3
DECIDUOUS SHRUBS			
Aronia arbutifolia `Brilliantissima`	Brilliant Red Chokeberry/Red Chokeberry	2` Tall & Wide	8
Cephalanthus occidentalis	Buttonbush	2` Tall & Wide	18
Cornus stolonifera `Arctic Fire`	Arctic Fire Dogwood	2` Tall & Wide	3
Diervilla lonicera	Dwarf Bush Honeysuckle	2` Tall & Wide	12
Hydrangea paniculata `Bobo`	Bobo Hydrangea	2` Tall & Wide	17
Hydrangea paniculata `Vanilla Strawberry`	Vanilla Strawberry Hydrangea	2` Tall & Wide	16
Physocarpus opulifolius `Center Glow`	Center Glow Ninebark	2` Tall & Wide	19
Spiraea japonica `Magic Carpet`	Magic Carpet Spirea	2` Tall & Wide	11
Syringa meyeri `Palibin`	Dwarf Korean Lilac	2` Tall & Wide	5
Syringa vulgaris `Sensation`	Sensation Lilac	2` Tall & Wide	10
Viburnum dentatum `Blue Muffin`	Southern Arrowwood	2` Tall & Wide	8
Viburnum dentatum `Red Feather`	Red Feather Arrowwood Viburnum	2` Tall & Wide	19
Weigela florida `Wine & Roses`	Wine & Roses Weigela	2` Tall & Wide	5
EVERGREEN SHRUBS	COMMON NAME	SIZE	QTY
Juniperus chinensis `Mountbatten`	Chinese Juniper	5` Ht.	21
Juniperus chinensis `Sea Green`	Sea Green Juniper	2` Tall & Wide	20
Juniperus horizontalis `Wiltonii`	Blue Rug Juniper	2` Wide	1
Juniperus horizontalis `Youngstown`	Creeping Juniper	2` Wide	10
Juniperus virginiana `Grey Owl`	Eastern Redcedar	2` Tall & Wide	9
Taxus x media `Everlow`	Yew	2` Wide	3
Taxus x media `Tauntonii`	Tauton Yew	2` Tall & Wide	12
ORNAMENTAL GRASSES	COMMON NAME	SIZE	QTY
Calamagrostis x acutiflora `Karl Foerster`	Feather Reed Grass	1 gal.	25
Calamagrostis x acutiflora `Overdam`	Overdam Feather Reed Grass	1 gal.	23
Panicum virgatum `Northwind`	Switch Grass	1 gal.	41
Panicum virgatum `Shenandoah`	Switch Grass	1 gal.	7
Schizachyrium scoparium `Blue Heaven`	Blue Heaven Little Bluestem	1 gal.	3
Sporobolus heterolepis `Tara`	Prairie Dropseed	1 gal.	20
PERENNIALS	COMMON NAME	SIZE	QTY
Coreopsis verticillata `Zagreb`	Zagreb Thread Leaf Coreopsis	4.5" Cont.	13
Geranium x `Rozanne` TM	Hybrid Cranesbill	4.5" Cont.	3
Geranium x c `Biokovo Carmina`	Biokovo Carmina Cranesbill	4.5" Cont.	27
Hemerocallis x `Stella de Oro`	Stella de Oro Dayily	4.5" Cont.	22
Heuchera x `Obsidian`	Coral Bells	4.5" Cont.	20
Heuchera x `Southern Comfort`	Southern Comfort	1 gal.	28
Hosta fortunei `Patriot`	Patriot Hosta	4.5" Cont.	15
Hosta x `Frances Williams`	Plantain Lily	4.5" Cont.	6
Leucanthemum x superbum `Becky`	Shasta Daisy	4.5" Cont.	25
Nepeta x faassenii `Walkers Low`	Walkers Low Catmint	4.5" Cont.	15
GROUND COVERS	COMMON NAME	QTY	
Turf Seed Drought Tolerant Dwarf Fescue Blend		57,204 sf	
Turf Seed Low Grow Mix		32,253 sf	



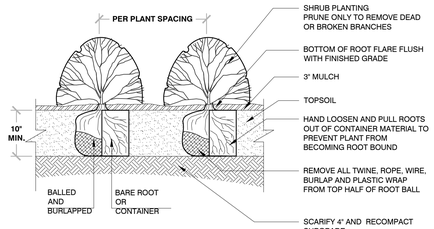
1 TREE PLANTING
1/4" = 1'-0" 329343-01



2 EVERGREEN TREE PLANTING
1/4" = 1'-0" 329343-03

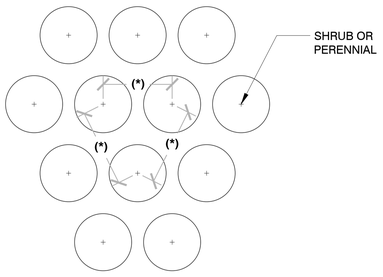


3 TREE PLANTING ON SLOPE
3/8" = 1'-0" 32 9343-02

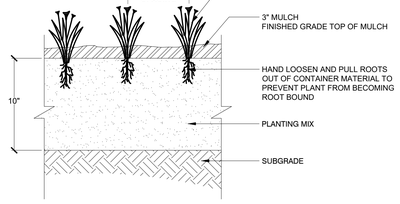


BAREROOT PLANTING NOTES:
1. SOAK ROOTS IN WATER FOR AT LEAST ONE HOUR BUT NOT MORE THAN 24 HOURS PRIOR TO PLANTING.
2. SCARIFY SIDES AND BOTTOMS OF HOLE.
3. PROCEED WITH CORRECTIVE PRUNING OF THE TOP AND BOTTOM ROOTS.
4. TRANSFER PLANT DIRECTLY FROM WATER TO HOLE. SET PLANT SO THE ROOT FLARE IS APPROXIMATELY AT THE FINISHED SOIL ELEVATION. SPREAD ROOTS OUT EVENLY. PLUMB AND IMMEDIATELY BACKFILL WITH PLANTING SOIL MIX.
5. WATER THOROUGHLY WITHIN 2 HOURS TO SETTLE PLANTS AND FILL VOIDS.
6. BACKFILL VOIDS AND WATER SECOND TIME.
7. PLACE MULCH WITHIN 48 HOURS OF THE SECOND WATERING UNLESS SOIL MOISTURE IS EXCESSIVE.

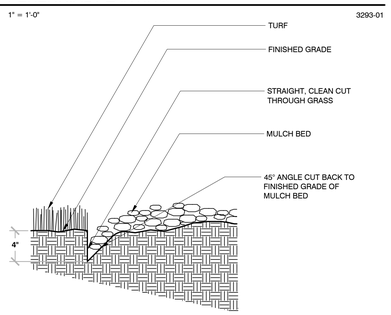
4 SHRUB PLANTING
1/2" = 1'-0" 329333-02



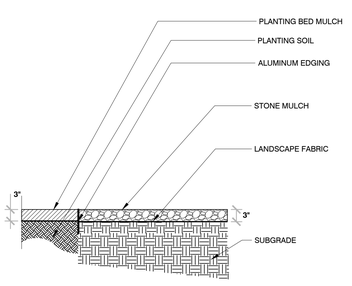
(*) = SPECIFIED PLANT SPACING PER PLANTING LIST



5 PERENNIAL PLANTING
1" = 1'-0" 3293-01



6 PLANT SPACING
3/4" = 1'-0" 3293-02



7 TRENCHED BED EDGE
3/4" = 1'-0" 3293-03

8 STONE MULCH ALONG PLANTING BED
3/4" = 1'-0" 329413-05

ISSUED FOR MUNICIPAL REVIEW
www.pinnacle-engr.com

LANDSCAPE GENERAL NOTES & DETAILS

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REVIEWED: DJB
DESIGNED: JSJ
DRAFTED: JSJ

PLAN | DESIGN | DELIVER
www.pinnacle-engr.com
PINNACLE ENGINEERING GROUP
ENGINEERING | NATURAL RESOURCES | SURVEYING
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BROOKFIELD, WI 53186
(262) 754-8888
CHICAGO | MILWAUKEE | NATIONWIDE

ZILBER PROPERTY GROUP SM

ZILBER INDUSTRIAL 4 AT GERMANTOWN GATEWAY CORPORATE PARK
GERMANTOWN, WI

LANDSCAPE GENERAL NOTES & DETAILS

REVISIONS

1	ISSUED FOR OWNER REVIEW	02/19/20
2	ISSUED FOR MUNICIPAL REVIEW	03/02/20
3	VILLAGE COMMENTS (3/24/20)	04/14/20

PEG JOB No. 1296.00C
PEG PM MAB
START DATE
SCALE NTS

SHEET L-4 OF L-4

Z:\PROJECTS\2018\1296.00C-WI\CAD\SHEETS\1296.00C-WI LANDSCAPE PLAN.DWG

PROJECT:

ZILBER INDUSTRIAL 4

GERMANTOWN GATEWAY CORPORATE PARK

GERMANTOWN, WISCONSIN

ISSUED FOR: **MUNICIPAL REVIEW**

ARCHITECT:

STEPHEN PERRY SMITH ARCHITECTS, INC.

MILWAUKEE, WISCONSIN

STEPHEN PERRY SMITH ARCHITECTS, INC.

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CREATIVITY BEYOND ENGINEERING

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PROPOSED BUILDING FOR:

ZILBER INDUSTRIAL 4

GERMANTOWN GATEWAY
CORPORATE PARK

CONTRACTOR

RILEY CONSTRUCTION

OWNER

ZILBER PROPERTY GROUP SM

REVISIONS

NO.	DESCRIPTION	DATE
1	OWNER REVIEW	2.19.20
2	MUNICIPAL REVIEW	3.02.20
3	PRECAST & STEEL BID	3.03.20
4	STATE REVIEW SET	3.25.20
5	MUNICIPAL REVISION SET	4.10.20

INFORMATION

PROJECT ARCHITECT	SPS
PROJECT MANAGER	MAM
PROJECT NUMBER	ZIL-20-926
ISSUED FOR	MUNICIPAL REVIEW
DATE	3.25.20

SHEET

TITLE PAGE

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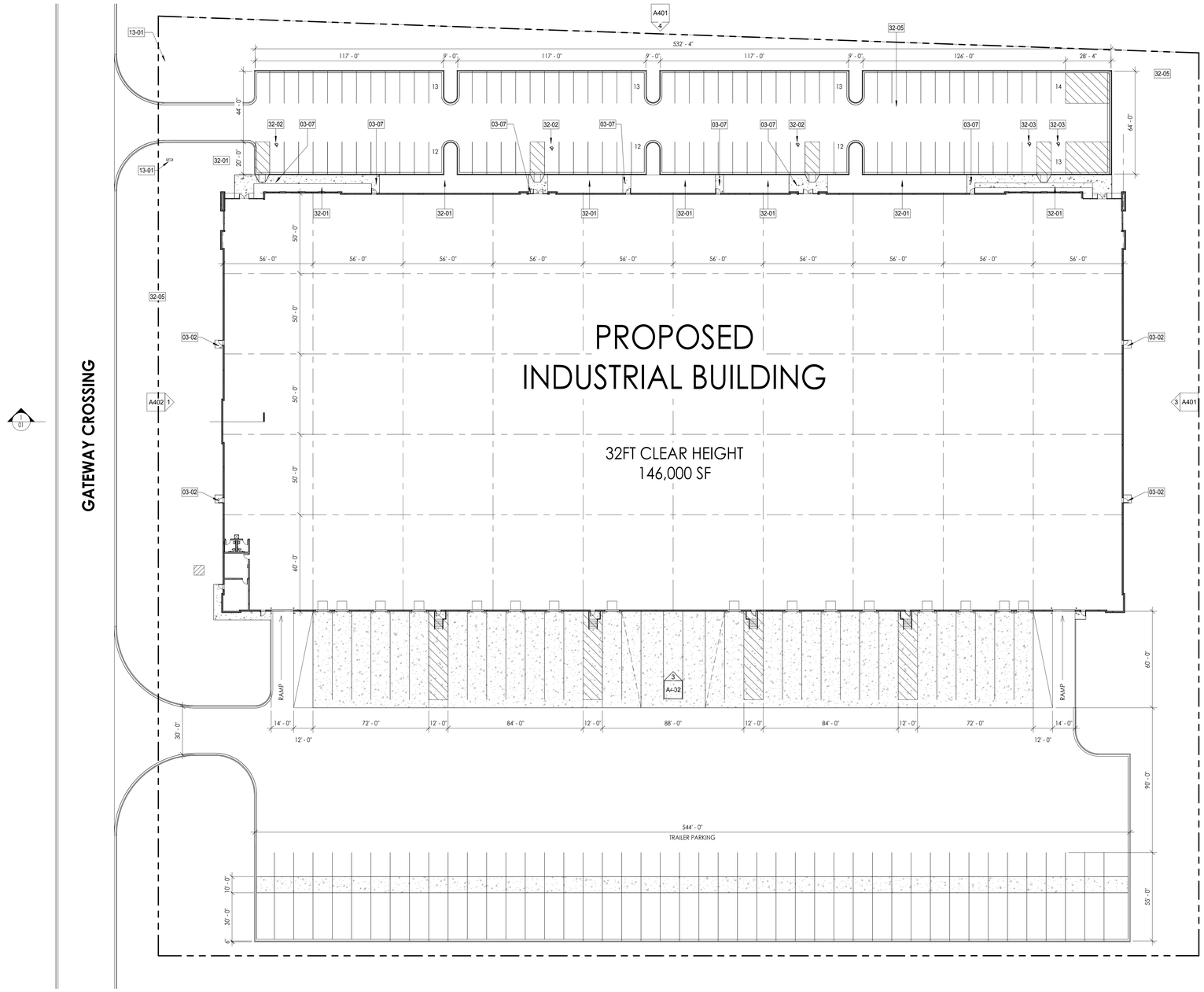
SHEET KEYNOTES

03-02	CONCRETE STOOP
03-07	CONCRETE SIDEWALK W/ INTEGRAL CURB
13-01	MONUMENT SIGN, BY OTHER
32-01	LANDSCAPING AREA
32-02	STANDARD ACCESSIBLE PARKING STALL
32-03	VAN ACCESSIBLE PARKING STALL
32-05	GREENSPACE AREA

SITE SUMMARY

SITE AREA:	370,712 S.F./ 8.51 AC
ZONING CLASSIFICATION:	M-1 LIMITED INDUSTRIAL
PROPOSED BUILDING AREA (1ST FLOOR):	146,000 S.F.
PROPOSED PAVING AREA:	294,950 S.F. / 6.77 AC/ 79.6%
GREEN SPACE REQUIRED:	74,142 S.F. / 1.70 AC/ 20.0%
GREEN SPACE PROVIDED:	75,762 S.F. / 1.74 AC/ 20.4%
STANDARD PARKING:	93 PARKING STALLS
HANDICAP SPACES REQUIRED:	2
HANDICAP SPACES PROVIDED:	3 PARKING STALLS
VAN ACCESSIBLE SPACE REQUIRED:	1
VAN ACCESSIBLE SPACE PROVIDED:	1 PARKING STALLS
TOTAL PARKING SPACES @ 9' X 20':	96 PARKING STALLS (4 ADA)



1 ARCHITECTURAL SITE PLAN
SCALE 1" = 30'-0"

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REVISIONS

NO.	DESCRIPTION	DATE
5	MUNICIPAL REVISION SET	4.10.20

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SHEET

ARCHITECTURAL SITE PLAN

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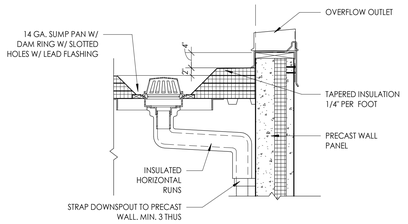
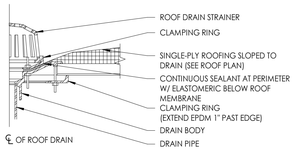
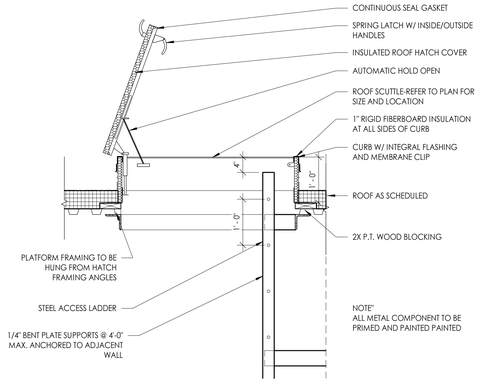


8 DOWNSPOUT DETAIL @ ROOF
SCALE 3/4" = 1'-0"

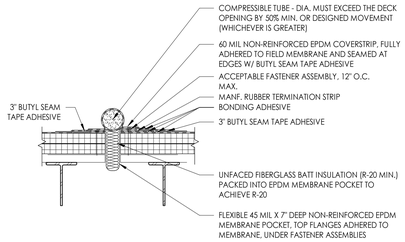
7 CANOPY ROOF PERSPECTIVE
SCALE



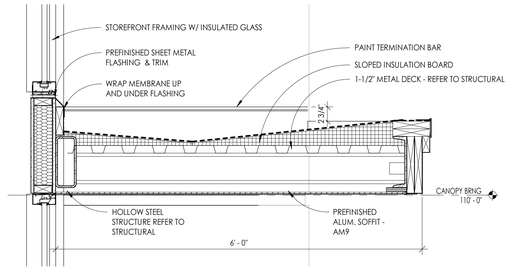
6 ROOF DRAIN DETAIL
SCALE 1 1/2" = 1'-0"



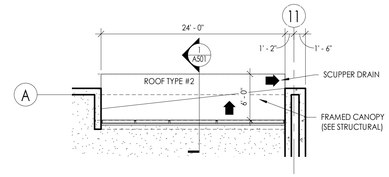
5 ROOF ACCESS LADDER
SCALE 3/4" = 1'-0"



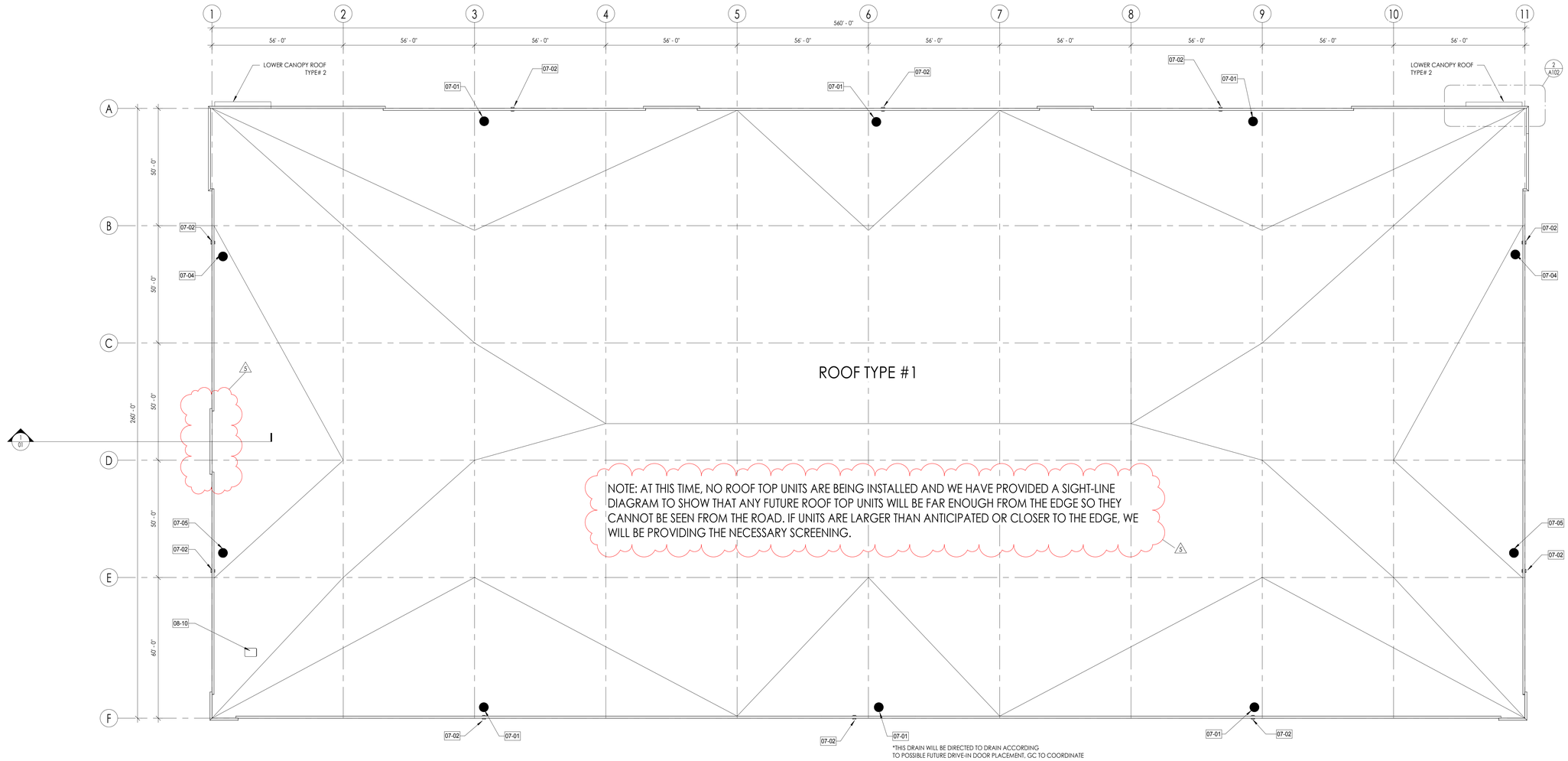
4 ROOF EXPANSION DETAIL
SCALE 1" = 1'-0"



3 ENLARGED CANOPY DETAIL
SCALE 1" = 1'-0"



2 ENLARGED CANOPY ROOF PLAN
SCALE 1/8" = 1'-0"



1 CONSTRUCTION PLAN - ROOF
SCALE 1" = 20'-0"

SHEET KEYNOTES

07-01	PRIMARY ROOF DRAIN W/ INTEGRAL DOWNSPOUT
07-02	SECONDARY OVERFLOW DRAIN W/ THRU WALL SCUPPER - SCUPPER DRAIN ELEVATION TO BE SET @ 6" ABOVE PRIMARY DRAIN
07-04	PRIMARY ROOF DRAIN W/ CONDUCTOR TO NORTH DRAIN LINE - GC TO COORDINATE
07-05	PRIMARY ROOF DRAIN W/ CONDUCTOR TO SOUTH DRAIN LINE - GC TO COORDINATE
08-10	INSULATED 30"X36" ROOF SCUTTLE W/ LADDER AND CAGE BELOW -GC TO COORDINATE LOCATION WITH STRUCTURAL FRAMING ABOVE

ROOF TYPES

ROOF TYPE #1 - TYPICAL BUILDING ROOF
SINGLE PLY 45 MIL. WHITE EPDM
2 LAYERS OF POLYISOCYANURATE W/ STAGGERED JOINTS IN BOTH DIRECTIONS (R-20)
1-1/2" METAL DECKING (SEE STRUCTURAL)

ROOF TYPE #2 - LOWER CANOPY ROOF
SINGLE PLY 45 MIL. WHITE EPDM
SLOPED POLYISOCYANURATE BOARD (AT 1/4" PER FOOT)
1-1/2" METAL DECKING (SEE STRUCTURAL)

NOTE:
1. PITCH TO ROOF DRAIN AT 1/8" PER FOOT MINIMUM.

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CREATIVITY BEYOND ENGINEERING

PROJECT

PROPOSED BUILDING FOR:

ZILBER INDUSTRIAL 4

GERMANTOWN GATEWAY CORPORATE PARK

CONTRACTOR

RILEY CONSTRUCTION

OWNER

ZILBER PROPERTY GROUP SM

REVISIONS

NO.	DESCRIPTION	DATE
4	STATE REVIEW SET	3.25.20
5	MUNICIPAL REVISION SET	4.10.20

INFORMATION

PROJECT ARCHITECT	SPS
PROJECT MANAGER	MAM
PROJECT NUMBER	ZIL-20-926
ISSUED FOR	MUNICIPAL REVIEW
DATE	3.25.20

SHEET

CONSTRUCTION PLAN - ROOF

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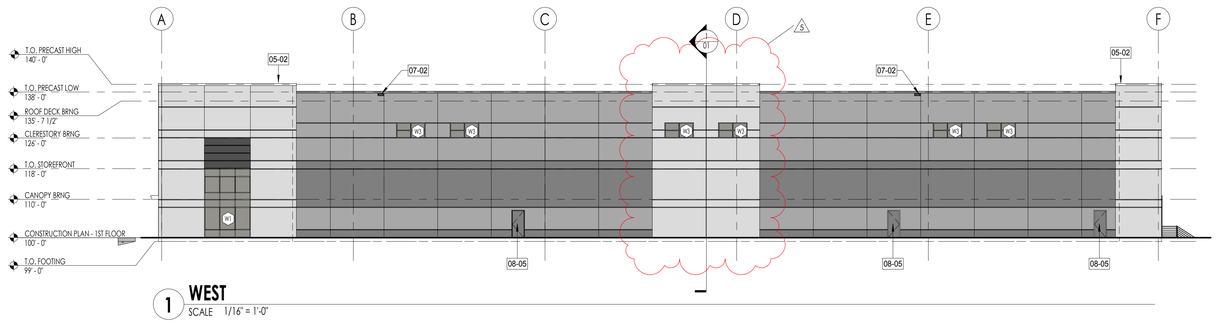
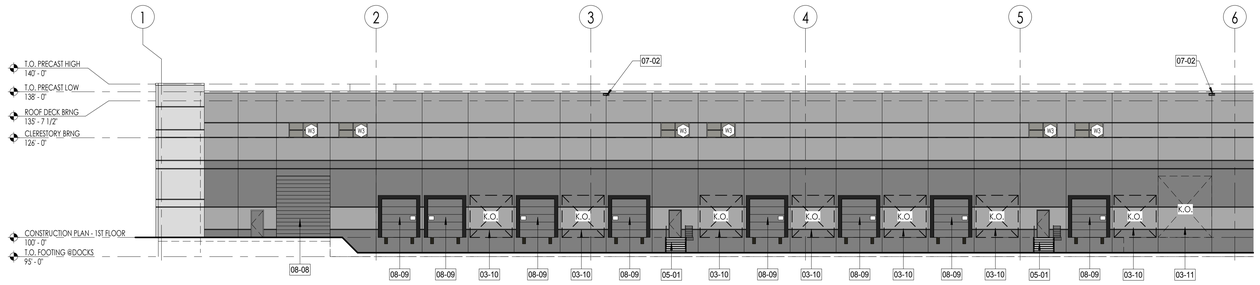
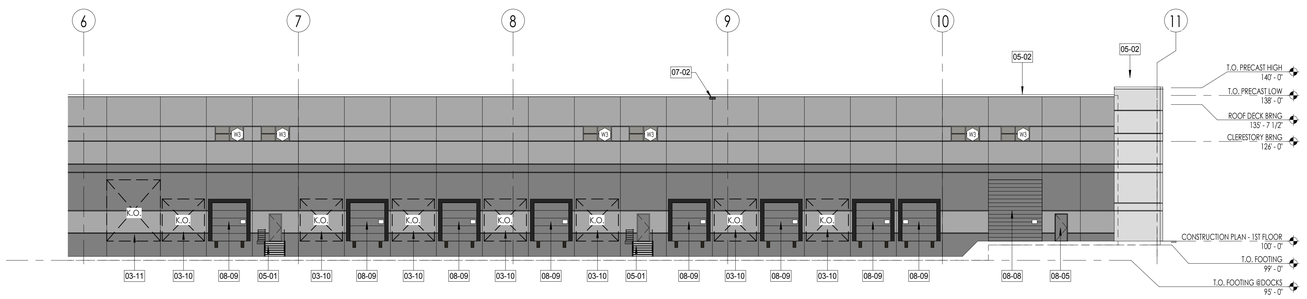


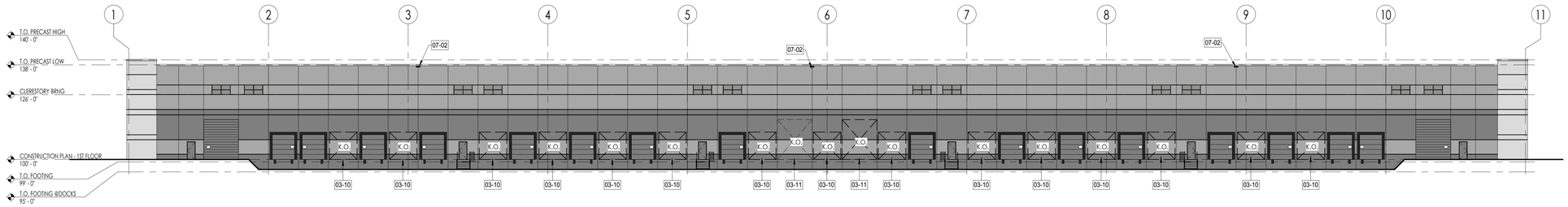
1 WEST
SCALE 1/16" = 1'-0"



2 SOUTH ELEVATION 'A'
SCALE 1/16" = 1'-0"



4 SOUTH ELEVATION 'B'
SCALE 1/16" = 1'-0"



3 SOUTH - OVERALL
SCALE 1" = 20'-0"

SHEET KEYNOTES

03-10 FUTURE PRECAST KNOCKOUT FOR DOCK DOORS
03-11 FUTURE PRECAST KNOCKOUT FOR DID DOOR 14X16
05-01 HOT DIPPED GALVANIZED STAIR
05-02 PREFINISHED METAL COPING - AM1
07-02 SECONDARY OVERFLOW DRAIN W/ THRU WALL SCUPPER - SCUPPER DRAIN ELEVATION TO BE SET @ 6" ABOVE PRIMARY DRAIN
08-05 INSULATED STEEL DOOR WITH PAINTED FINISH (MEDIUM GRAY) - EPT5
08-08 INSULATED OVERHEAD DOOR - AM6
08-09 INSULATED OVERHEAD DOOR W/ DOCK SEAL - AM7

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GERMANTOWN GATEWAY
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PROPERTY GROUP SM

REVISIONS

NO.	DESCRIPTION	DATE
5	MUNICIPAL REVISION SET	4.10.20

INFORMATION

PROJECT ARCHITECT	SPS
PROJECT MANAGER	MAM
PROJECT NUMBER	ZIL-20-926
ISSUED FOR	MUNICIPAL REVIEW
DATE	3.25.20

SHEET

BUILDING ELEVATIONS

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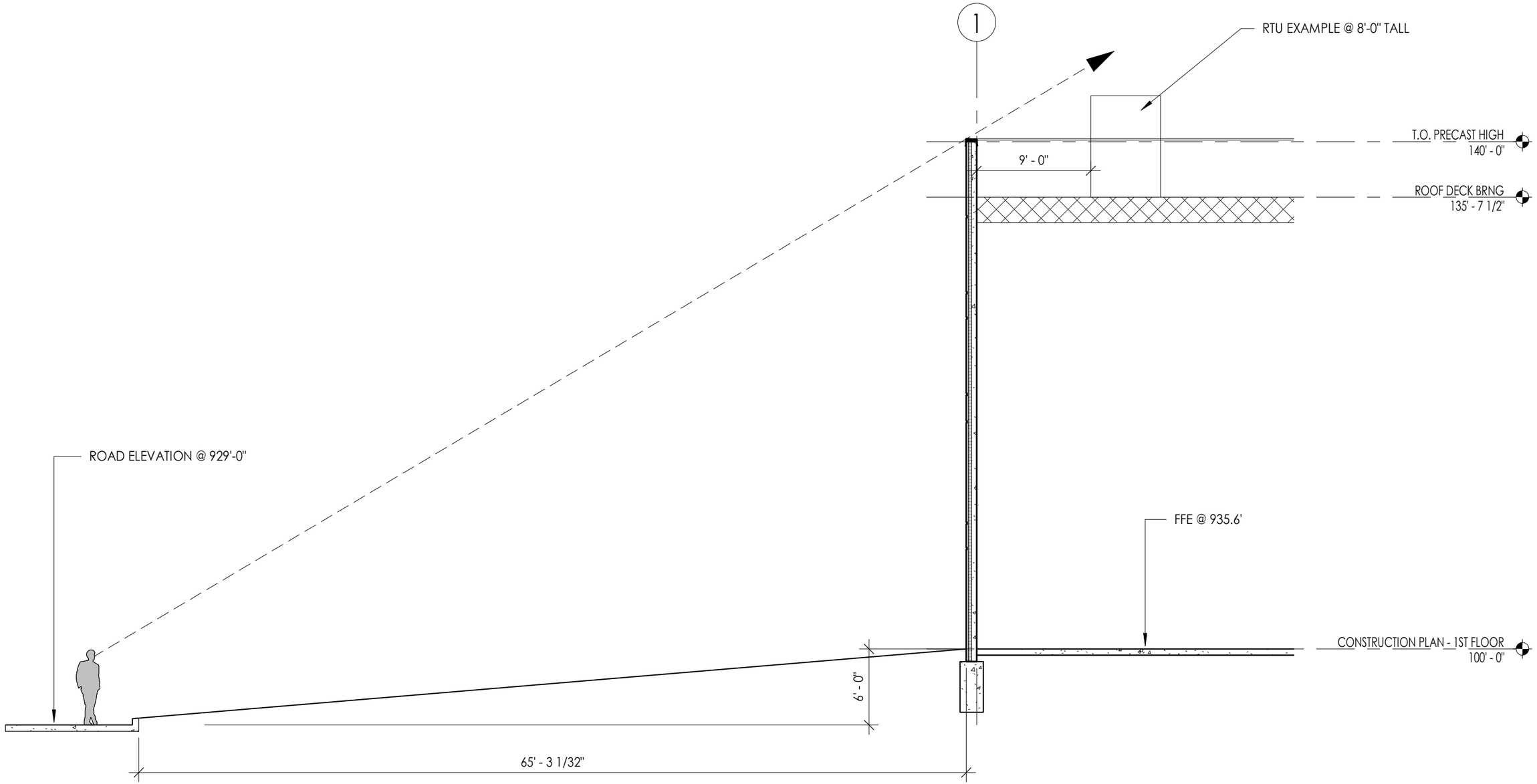

1 SECTION VIEW FROM ROAD

SCALE 1/8" = 1'-0"

STEPHEN PERRY SMITH ARCHITECTS, INC.

ZILBER INDUSTRIAL 4

GERMANTOWN, WI

ZIL-20-926
MAM
04/09/20

01

ZILBER
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ZILBER INDUSTRIAL 4

GERMANTOWN, WISCONSIN

STEPHEN
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ZILBER INDUSTRIAL 4

GERMANTOWN, WISCONSIN

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ZILBER INDUSTRIAL 4

GERMANTOWN, WISCONSIN

STEPHEN
PERRY
SMITH
ARCHITECTS, INC.

RSX2 LED
Area Luminaire

Specifications

EPA: 0.69 ft² (0.06 m²)

Length: 29" (73.6 cm)
31.5" (80 cm) Arm

Width: 13.4" (34.0 cm)

Height: 6.5" (1.2 cm) Below Bucky
7.8" (19.8 cm) Arm

Weight (max): 39.0 lbs (17.7 kg)

Introduction

The new RSX LED Area family delivers maximum value by providing significant energy savings, long-life performance and reliability, all at a very cost-effective price. The RSX2 delivers 11,000 to 31,200 lumens allowing it to replace 250W to 1000W HID luminaires.

The RSX features an integral universal mounting arm that fits both 2" and 3" pole tenons and is designed on most existing drill holes patterns. This "one-drill" solution provides significant labor savings. An integral terminal block with pull-apart power leads allows for wiring without opening the electrical compartment. A mast arm adapter, adjustable integral slipfitter and other mounting configurations are available.

Ordering Information

EXAMPLE: RSX2 LED P5 40K R3 MVOLT SPA DDBXD

RSX2 LED									
Series	Performance package	Color temperature	Distribution	Voltage	Mounting	Shipped included	Control options	Other options	Finish
RSX2 LED	P1 1,000 lm P2 2,000 lm P3 3,000 lm P4 4,000 lm P5 5,000 lm	30K 3000K 40K 4000K 50K 5000K	T1S Type I Short T2S Type II Short T2M Type II Medium T3S Type III Short T3M Type III Medium T4M Type IV Medium RCCO Rotatable Refractor Cutout BLC Backlight Control LCCO Left Corner Cutout RCCO Right Corner Cutout	MVOLT 120-277V HVOLT 347-480V XVOLT* 277-480V (see specific voltage for each configuration) 120 120V 208 208V 240 240V 277 277V 347 347V 480 480V	Type I Short Type II Short Type II Medium Type III Short Type III Medium Type IV Medium Rotatable Short Cutout Rotatable Left Cutout Rotatable Right Cutout Backlight Control AFBCW Automatic Field Blocked Control Wattage	SPA Square pole mounting (3" min. Diameter, 1/4" min. Wall) (Use 2 @ 180° for Multi-Directional) RPA Round pole mounting (3" min. Diameter, 1/4" min. Wall) (Use 2 @ 180° for Multi-Directional) WBA Wall bracket (use for 2 @ 180° for Multi-Directional) SPUMBA Square pole universal mounting adaptor RPUMBA Round pole universal mounting adaptor KMA Mast arm adaptor (2 @ 180° for Multi-Directional) ASP Adjustable slipfitter (specify mounting height) AMS Adjustable slipfitter with mast arm AMSX Adjustable slipfitter with extended mast arm	Shipped separately BSW Bird Spikes SF Single Fuse (120, 277, 347V) DF Double Fuse (208, 240, 480V) DS Dual Switching PIR High Performance PIR Sensor (Requires 120V, 208V or 240V) PIRH High Performance PIR Sensor (Requires 480V) PER NEMA Photocell, Button Type PER5 NEMA Photocell, Button Type (for use with 5W, 7W, or 10W LED drivers) DMG 0-10V Dimming wires pulled through back of housing for external control (control ordered separately)* DCR Dimmable driver, reduces to 10% at full off PIRBL PIR Bluetooth Sensor (Requires 120V, 208V or 240V) PIRHBL PIR Bluetooth Sensor (Requires 480V) FAO Field Adjustable Output* HS House-side Shield (one required per unshielded side) SF Single Fuse (120, 277, 347V)* DF Double Fuse (208, 240, 480V)* L90 Left Rotated 90° R90 Right Rotated 90° DDL Diffused Drop Lens SPD20KV 20kV Surge Protection Device SPD10KV 10kV Surge Protection Device *Not available with PIR, PIRH, PIRBL, PIRHBL, PER, PER5, or DCR **Not available with P1 or P2 ***Not available with HVOLT or XVOLT ****Not available with P5 Note: PIRBL and PIRHBL require the use of a Bluetooth enabled mobile device and the SensorView configuration app (free download). Sold separately. Learn more at www.lithonia.com/sensorview	DDBXD Dark Bronze DBLXD Black DNAXD Natural Aluminum DWHXD White DSSXD Sandstone DBLBXD Black Textured DNATXD Natural Aluminum Textured DWHGXD Textured White

Ordering Information

Accessories

Ordered and shipped separately.

RSXHS DDBXD	Backplate house-side shield
RSXHS DDBXD U	Backplate house-side shield (universal)
RSXSVS DDBXD	Sensor view shield (required for all sensor options)
RSXBSW DDBXD	Bird spike backplate
RSXBSW DDBXD U	Bird spike backplate (universal)
RSXSVS DDBXD U	Sensor view shield (required for all sensor options) (universal)
RSXRPA DDBXD	Round pole mounting bracket
RSXSPA DDBXD	Square pole mounting bracket

Ordering Information

Fixture Slide Shield

External Glare Shield

External 360 Full Visor

Pole/Mounting Information

Accessories including buffetns, cross arms and other adjustes are available under the accessories tab at Lithonia's Outdoor Poles and Arms product page. Click here to visit: lithonia.com/poles

MARKING & ORIENTATION

RSX PB32 DRILLING

RSX STANDARD ARM & ADJUSTABLE ARM

Round Tenon Mount - Pole Top Slipfitters

Cat.	RSX1LED	RSX2LED	RSX3LED	RSX4LED	RSX5LED	RSX6LED
2"	RSX1LED	RSX2LED	RSX3LED	RSX4LED	RSX5LED	RSX6LED
3"	RSX1LED	RSX2LED	RSX3LED	RSX4LED	RSX5LED	RSX6LED

Drill/Slide Location by Configuration Type

Mast Location	Side A	Side A-1	Side A-2	Side B	Side B-1	Side B-2
Side A Mast Arm	RSX1LED	RSX2LED	RSX3LED	RSX4LED	RSX5LED	RSX6LED

RSX2 - Luminaire EPA

Effective projected area (EPA) data is for reference only. Other factors, wire, brackets or other accessories may be not included in the EPA data.

Mounting Type	Number of Luminaires	Orientation	25°	90°	120°	180°	240°	270°	300°	360°
Pole Top Slipfitter	1	0°	0.69	1.39	1.39	1.39	1.39	1.39	1.39	1.39
		90°	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
	2	0°	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
		90°	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
	3	0°	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
		90°	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
	4	0°	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
		90°	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
Side Arm Mount	1	0°	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
		90°	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
	2	0°	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
		90°	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
	3	0°	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
		90°	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
	4	0°	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39
		90°	1.39	1.39	1.39	1.39	1.39	1.39	1.39	1.39

Performance Data

Lumen Output

Lumen values are from photometric test performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance of other configurations.

Performance Package	Wattage	Distribution	30K (3000K, 70 CRI)				40K (4000K, 70 CRI)				50K (5000K, 70 CRI)			
			Lumens	LPW	BUG		Lumens	LPW	BUG		Lumens	LPW	BUG	
P1	71W	T1S	10,000	141	B3	U0	10,000	141	B3	U0	10,000	141	B3	U0
		T2S	9,778	138	B2	U0	9,778	138	B2	U0	9,778	138	B2	U0
		T2M	9,778	138	B2	U0	9,778	138	B2	U0	9,778	138	B2	U0
		T3S	9,778	138	B2	U0	9,778	138	B2	U0	9,778	138	B2	U0
		T3M	9,778	138	B2	U0	9,778	138	B2	U0	9,778	138	B2	U0
		T4M	9,778	138	B2	U0	9,778	138	B2	U0	9,778	138	B2	U0
		BLC	9,778	138	B2	U0	9,778	138	B2	U0	9,778	138	B2	U0
		LCCO	9,778	138	B2	U0	9,778	138	B2	U0	9,778	138	B2	U0
		RCCO	9,778	138	B2	U0	9,778	138	B2	U0	9,778	138	B2	U0
P2	112W	T1S	20,000	179	B4	U0	20,000	179	B4	U0	20,000	179	B4	U0
		T2S	19,556	175	B3	U0	19,556	175	B3	U0	19,556	175	B3	U0
		T2M	19,556	175	B3	U0	19,556	175	B3	U0	19,556	175	B3	U0
		T3S	19,556	175	B3	U0	19,556	175	B3	U0	19,556	175	B3	U0
		T3M	19,556	175	B3	U0	19,556	175	B3	U0	19,556	175	B3	U0
		T4M	19,556	175	B3	U0	19,556	175	B3	U0	19,556	175	B3	U0
		BLC	19,556	175	B3	U0	19,556	175	B3	U0	19,556	175	B3	U0
		LCCO	19,556	175	B3	U0	19,556	175	B3	U0	19,556	175	B3	U0
		RCCO	19,556	175	B3	U0	19,556	175	B3	U0	19,556	175	B3	U0
P3	143W	T1S	30,000	210	B4	U0	30,000	210	B4	U0	30,000	210	B4	U0
		T2S	29,333	205	B3	U0	29,333	205	B3	U0	29,333	205	B3	U0
		T2M	29,333	205	B3	U0	29,333	205	B3	U0	29,333	205	B3	U0
		T3S	29,333	205	B3	U0	29,333	205	B3	U0	29,333	205	B3	U0
		T3M	29,333	205	B3	U0	29,333	205	B3	U0	29,333	205	B3	U0
		T4M	29,333	205	B3	U0	29,333	205	B3	U0	29,333	205	B3	U0
		BLC	29,333	205	B3	U0	29,333	205	B3	U0	29,333	205	B3	U0
		LCCO	29,333	205	B3	U0	29,333	205	B3	U0	29,333	205	B3	U0
		RCCO	29,333	205	B3	U0	29,333	205	B3	U0	29,333	205	B3	U0
P4	186W	T1S	40,000	215	B4	U0	40,000	215	B4	U0	40,000	215	B4	U0
		T2S	39,111	210	B3	U0	39,111	210	B3	U0	39,111	210	B3	U0
		T2M	39,111	210	B3	U0	39,111	210	B3	U0	39,111	210	B3	U0
		T3S	39,111	210	B3	U0	39,111	210	B3	U0	39,111	210	B3	U0
		T3M	39,111	210	B3	U0	39,111	210	B3	U0	39,111	210	B3	U0
		T4M	39,111	210	B3	U0	39,111	210	B3	U0	39,111	210	B3	U0
		BLC	39,111	210	B3	U0	39,111	210	B3	U0	39,111	210	B3	U0
		LCCO	39,111	210	B3	U0	39,111	210	B3	U0	39,111	210	B3	U0
		RCCO	39,111	210	B3	U0	39,111	210	B3	U0	39,111	210	B3	U0
P5	249W	T1S	50,000	201	B4	U0	50,000	201	B4	U0	50,000	201	B4	U0
		T2S	48,889	196	B3	U0	48,889	196	B3	U0	48,889	196	B3	U0
		T2M	48,889	196	B3	U0	48,889	196	B3	U0	48,889	196	B3	U0
		T3S	48,889	196	B3	U0	48,889	196	B3	U0	48,889	196	B3	U0
		T3M	48,889	196	B3	U0	48,889	196	B3	U0	48,889	196	B3	U0
		T4M	48,889	196	B3	U0	48,889	196	B3	U0	48,889	196	B3	U0
		BLC	48,889	196	B3	U0	48,889	196	B3	U0	48,889	196	B3	U0
		LCCO	48,889	196	B3	U0	48,889	196	B3	U0	48,889	196	B3	U0
		RCCO	48,889	196	B3	U0	48,889	196	B3	U0	48,889	196	B3	U0
P6	311W	T1S	60,000	193	B4	U0	60,000	193	B4	U0	60,000	193	B4	U0
		T2S	58,667	189	B3	U0	58,667	189	B3	U0	58,667	189	B3	U0
		T2M	58,667	189	B3	U0	58,667	189	B3	U0	58,667	189	B3	U0
		T3S	58,667	189	B3	U0	58,667	189	B3	U0	58,667	189	B3	U0
		T3M	58,667	189	B3	U0	58,667	189	B3	U0	58,667	189	B3	U0
		T4M	58,667	189	B3	U0	58,667	189	B3	U0	58,667	189	B3	U0
		BLC	58,667	189	B3	U0	58,667	189	B3	U0	58,667	189	B3	U0
		LCCO	58,667	189	B3	U0	58,667	189	B3	U0	58,667	189	B3	U0
		RCCO	58,667	189	B3	U0	58,667	189	B3	U0	58,667	189	B3	U0

Performance Data

Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for operation in ambient temperatures between 0°C and 40°C (32°F and 104°F).

0° C	10° C	25° C	40° C
32° F	50° F	77° F	104° F
1.03	1.02	1.00	0.98

Electrical Load

Performance Package	System Watts (W)	30K	40K	50K	120V	208V	240V	277V	347V	480V
P1	71W	0.59	0.59	0.59	0.59	0.34	0.30	0.26	0.20	0.15
P2	112W	0.93	0.93	0.93	0.93	0.54	0.47	0.41	0.32	0.23
P3	143W	1.19	1.19	1.19	1.19	0.69	0.60	0.52	0.41	0.30
P4	186W	1.55	1.55	1.55	1.55	0.90	0.78	0.67	0.53	0.39
P5	249W	2.07	2.07	2.07	2.07	1.20	1.04	0.90	0.71	0.52
P6	311W	2.59	2.59	2.59	2.59	1.50	1.30	1.12	0.89	0.65

Projected LED Lumen Maintenance

Ambient Temperature	25°C	40°C	50°C/122°F
Lumen Maintenance	>L95	>L95	>L90

Values calculated according to IESNA TM-21-11 methodology and valid up to 40°C.

TFX LED
Floodlights

The TFX LED floodlight is Sure Lithonia's lighting solution for best-value in lighting. Built a tested you can trust. Superior performance and reduced design make this product suitable for any general purpose floodlighting application.

FEATURES

- Ideal solution to replace up to 400W metal halide floodlights
- Floodlight yoke for itself in less than 2 years
- Robust design and cost effective – Ideal for outdoor installations

Luminaire	QTY	Lumens	Input Watts	Finish	Voltage	Catalog Number	Drawing	UPC	Mount Weight	Replaces Up To
TFX		4000 K	5,000	11,700		TFX LED 40K R2 / TFX LED 40K R3	TFX LED	784262197216	70	1000 Watt Halide
		5000 K	5,000	11,946	240V/480V	TFX LED 40K R2 HL / TFX LED 40K R3 HL	TFX LED	784262197261	70	1000 Watt Halide
		6500 K	5,000	11,946	240V/277	TFX LED 40K R2 HL / TFX LED 40K R3 HL	TFX LED	784262197247	70	1000 Watt Halide
TFX		4000K	10,200	24,000	120-277V	TFX LED 40K R2 / TFX LED 40K R3	TFX LED	784262197209	70	2000 Watt Halide
		5000K	10,200	24,000	120-277V	TFX LED 40K R2 HL / TFX LED 40K R3 HL	TFX LED	784262197254	70	2000 Watt Halide
		6500K	10,200	24,000	240V/480V	TFX LED 40K R2 HL / TFX LED 40K R3 HL	TFX LED	784262197230	70	2000 Watt Halide
TFX		4000K	15,600	37,000	120-277V	TFX LED 40K R2 / TFX LED 40K R3	TFX LED	784262197223	70	3000 Watt Halide
		5000K	15,600	37,000	240V/480V	TFX LED 40K R2 HL / TFX LED 40K R3 HL	TFX LED	784262197278	70	3000 Watt Halide
TFX		4000K	20,800	49,000	120-277V	TFX LED 40K R2 / TFX LED 40K R3	TFX LED	784262197285	70	4000 Watt Halide
		5000K	20,800	49,000	240V/480V	TFX LED 40K R2 HL / TFX LED 40K R3 HL	TFX LED	784262197292	70	4000 Watt Halide

Accessories (Order as separate catalog number.)

Slipfitter for pole

CONTRACTOR SELECT TFX SERIES LED
Page 1 of 2

TFX LED
Floodlights

Specifications

HOUSING AND DOOR:
Die-cast aluminum housing has integral heat sink fins to optimize thermal management through conduction and convection cooling. The LED driver is mounted in direct contact with housing to provide optimum operating temperature. Housing and door are sealed with a one-piece gasket to enclose and environmentally protect LEDs, and TIR lens optics and seal from dirt.

ELECTRICAL:
Light engine(s) consist of LEDs directly coupled to the housing to maximize heat dissipation and promote long life (up to 50,000 hours).

INSTALLATION:
Integral slipfitter in yoke facilitates quick and easy installation to a variety of mounting orientations.

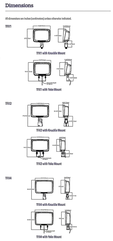
LISTINGS:
CSA certified to U.S. and Canadian standards. Luminaire is IP66 rated. Rated for -40°C minimum ambient.

Energy Logistics Consortium® (DLC) Premium qualified product and DLC quantified product. Not all versions of this product may be listed. Please refer to www.designlights.org/QPL to check the DLC Qualified Products List or to www.lithonia.com/DLC to confirm which versions are qualified.

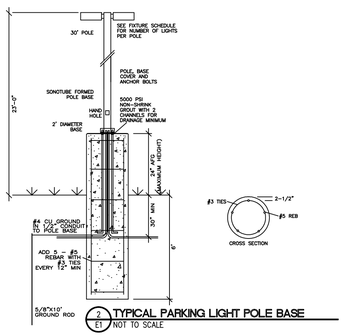
WARRANTY:
5-year limited warranty. Complete warranty terms located at www.acuitybrands.com/CustomerResources/Terms_and_conditions.aspx
Note: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C.

Dimensions

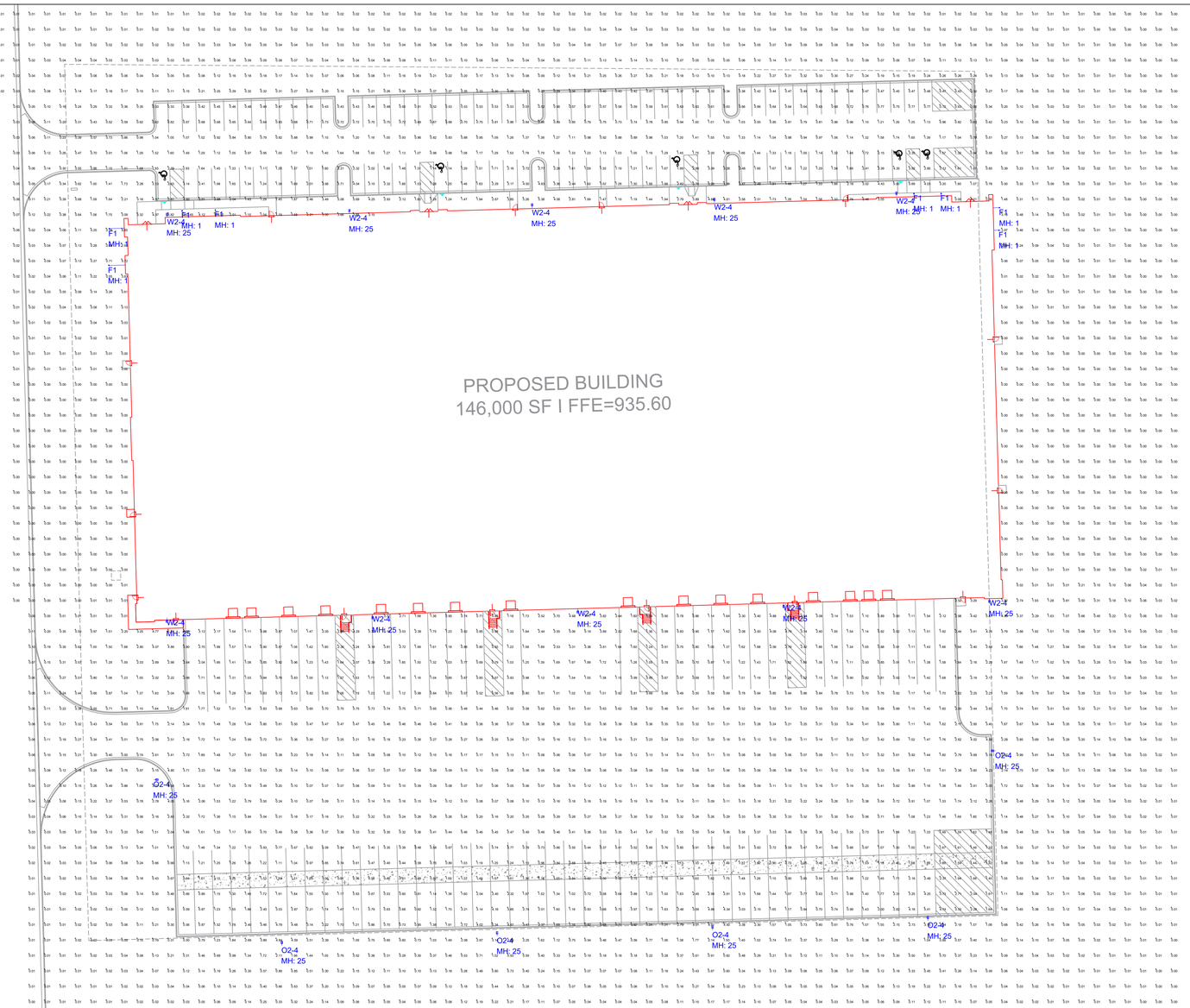
All dimensions are nominal unless otherwise indicated.



CONTRACTOR SELECT TFX SERIES LED
Page 2 of 2



2 TYPICAL PARKING LIGHT POLE BASE
E1 NOT TO SCALE



Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
SITE	Illuminance	Fc	0.72	262.45	0.00	N.A.	N.A.
PARKING AREA	Illuminance	Fc	1.30	5.8	0.3	4.33	19.33
TRUCK AREA	Illuminance	Fc	1.11	5.7	0.1	11.10	57.00

Luminaire Schedule								
Qty	Label	Arrangement	LLF	MFR	Description	Lum. Watts	Total Watts	Lum. Lumens
8	F1	SINGLE	0.950	LITHONIA	TFX1 LED 40K MVolt	54.1	432.8	7205
6	O2-4	SINGLE	0.950	LITHONIA	RSX2 LED P2 xxK R4 (23FT POEL 2FT BASE)	114.07	684.42	17427
10	W2-4	SINGLE	0.950	LITHONIA	RSX2 LED P2 xxK R4 WBA	114.07	1140.7	17427

#	DATE	REVISIONS

COMMENTS

DRAWN BY : AD	DATE : APR 15, 2020	SCALE : 1" = 40'- 0"

ZILBER	GERMANTOWN GATEWAY	CORPORATE PARK

PINNACLE ENGINEERING GROUP
Plan | Design | Deliver
www.pinnacle-engr.com

STORM SEWER COMPUTATIONS
FOR
G4 AT GATEWAY CORPORATE PARK

GERMANTOWN, WI

SHEET 1 OF 1
DESIGN BY: MAB
PROJECT NUMBER: 1296.00C
DATE: 4/15/2020

DESIGN DATA

County: Washington | **Design Storm:** 10 yr | **Storm Duration:** 5 min | **DESIGN INTENSITY (I):** 7.29 in/hr | Intensity calculated using SEWRPC IDF equations.

STRUCTURE DATA			DRAINAGE AREA AND FLOW DATA (Flow is determined by Rational Method Q = CIA)				PIPE DATA				PIPE CAPACITY INFORMATION (Pipe capacity is determined by Manning's Equation $Q = 1.486/n\ AR^{2/3}\ S^{1/2}$)					ELEVATIONS		
Notes	Upstream Structure	Downstream Structure	Individual Acres A	Individual Coefficient C	Individual Flow Q (cfs)	Cumulative Flow (cfs)	Length (ft)	Diameter (in)	Slope (%)	Manning Coefficient	Required Drop (ft)	Actual Drop (ft)	Percent Full (%)	Actual Velocity (fps)	Max. Capacity (cfs)	Rim/Toc Up	Invert Up	Invert Down
Bldg	BC 1.1	CB 1.0	0.60	0.90	3.91	3.91	122.40	10	2.40	0.011	2.79	2.94	86%	8.38	4.32	931.60	927.49	924.55
South	BC 2.1	CB 2.0	0.32	0.90	2.11	2.11	130.40	10	2.10	0.011	0.87	2.74	55%	7.08	4.04	931.60	926.93	924.19
	BC 3.1	CB 3.0	0.60	0.90	3.91	3.91	113.10	10	2.40	0.011	2.58	2.71	86%	8.38	4.32	931.60	926.55	923.84
South	CB 1.0	CB 2.0	0.82	0.88	5.28	9.19	176.80	24	0.20	0.012	0.25	0.35	75%	3.91	11.79	929.67	924.05	923.69
Parking	CB 2.0	CB 3.0	0.83	0.90	5.47	16.78	176.80	30	0.20	0.012	0.25	0.35	75%	4.54	21.38	929.67	923.69	923.34
	CB 3.0	MH 4.0	0.82	0.90	5.40	26.09	169.40	30	0.40	0.012	0.58	0.68	82%	6.50	30.23	929.67	923.34	922.66
	MH 4.0	MH 12.0	0.00	0.00	0.00	26.09	301.10	36	0.20	0.012	0.39	0.60	73%	5.09	34.76	932.43	922.66	922.06
Bldg	BC 8.1	CB 8.0	0.74	0.90	4.88	4.88	94.20	10	3.80	0.011	3.35	3.58	85%	10.54	5.43	935.60	930.54	926.96
North	BC 10.1	CB 10.0	0.35	0.90	2.27	2.27	102.80	10	2.00	0.011	0.79	2.06	59%	7.07	3.94	935.60	929.60	927.54
	BC 11.1	CB 11.0	0.74	0.90	4.88	4.88	80.50	10	3.80	0.011	2.86	3.06	85%	10.54	5.43	935.60	929.60	926.54
North	CB 7.0	CB 8.0	0.51	0.30	1.11	1.11	100.90	12	0.50	0.012	0.08	0.50	43%	3.29	2.94	932.86	927.96	927.46
Parking	CB 8.0	CB 9.0	0.35	0.72	1.87	7.86	144.00	18	0.60	0.012	0.69	0.86	79%	5.64	9.48	933.48	926.96	926.09
	CB 9.0	CB 10.0	0.28	0.71	1.43	9.28	126.00	18	0.80	0.012	0.84	1.01	80%	6.53	10.95	933.66	926.09	925.08
	CB 10.0	CB 11.0	0.26	0.73	1.37	12.92	126.00	18	1.40	0.012	1.62	1.76	84%	8.68	14.48	933.66	925.08	923.32
	CB 11.0	MH 12.0	0.21	0.84	1.30	19.10	108.60	24	0.70	0.012	0.66	0.76	82%	7.41	22.06	933.66	922.82	922.06
Gateway Crossing	MH 12.0	ES 6.0	0.00	0.00	0.00	45.20	280.60	54	0.20	0.013	0.15	0.56	51%	5.57	94.60	931.77	920.56	920.00

CB 11.0
TOTAL = 9,269 SF
GRASS = 957 SF
PAVE = 8,312 SF

CB 10.0
TOTAL = 11,256 SF
GRASS = 3,191 SF
PAVE = 8,065 SF

CB 9.0
TOTAL = 12,007 SF
GRASS = 3,815 SF
PAVE = 8,192 SF

CB 8.0
TOTAL = 15,407 SF
GRASS = 4,537 SF
PAVE = 10,870 SF

CB 7.0
TOTAL = 22,061 SF
GRASS = 22,061 SF

BC 11.1
TOTAL = 32,402 SF
ROOF = 32,402 SF

BC 10.1
TOTAL = 15,049 SF
ROOF = 15,049 SF

BC 8.1
TOTAL = 32,422 SF
ROOF = 32,422 SF

PROPOSED BUILDING
146,000 SF I FFE=935.60

BC 3.1
TOTAL = 25,976 SF
ROOF = 25,976 SF

BC 2.1
TOTAL = 14,027 SF
ROOF = 14,027 SF

BC 1.1
TOTAL = 25,976 SF
ROOF = 25,976 SF

CB 3.0
TOTAL = 35,848 SF
PAVE = 35,848 SF

CB 2.0
TOTAL = 36,338 SF
PAVE = 36,338 SF

CB 1.0
TOTAL = 35,806 SF
GRASS = 1,106 SF
PAVE = 34,700 SF

NORTH

GRAPHICAL SCALE (FEET)
0 1" = 30' 60'

ZILBER INDUSTRIAL 4 @ GERMANTOWN - STORM SEWER AREAS EXHIBIT

04/20/2020

PINNACLE ENGINEERING GROUP
20725 WATERTOWN ROAD | SUITE 100 | BROOKFIELD, WI 53186 | WWW.PINNACLE-ENGR.COM |

PLAN | DESIGN | DELIVER

PEGJOB# 1296.00C

Community Development Department

1. As shown in the Site Data table, the maximum amount of impervious area is nearly proposed (79.6% vs. 80% max), and, as shown on the site plan the absolute minimum setbacks are proposed. While on one hand this is an efficient use of the parcel for the developed features, there is little attention paid to the impact on the adjacent parcels, particularly the residential parcel to the east. Subsequent comments address specific concerns.

2. As required under Zoning Code 17.45(1)(b) no parking stall or driveway shall be closer than 50 feet to a residential district lot line. The property located to the east of the subject property is zoned residential. Please revise the site plan accordingly.

   17.45 (1)(b): Unless authorized pursuant to section 17.45(5) below, the location of any off-street parking area shall be on the same lot or parcel (i.e., "on-site") as the principal use and no parking stall or driveway, except in residential districts, shall be closer than 50 feet to a residential district lot line; except churches, in which case the distance shall be no closer than 20 feet to a residential district lot line. Berming may be required with possible landscaping, as determined by the Plan Commission. (Am. Ord. #1-02; Am. Ord. #9-10)

- Pinnacle – The site plan has been adjusted to incorporate a 50-foot parking/driveway setback along the residential district lot line.

3. Additional landscaping and building setback along the east property line is recommended to reduce the significant impact the proposed building is going to have on the residential property to the east.

- Pinnacle – Added additional Trees-deciduous & evergreen, and shrubs.

- Zilber – The building has been moved to the West approximately 15’ to help the impact of the building.

4. Additional landscaping is required along Gateway Crossing, the north property line and along the south property line in lieu of landscaping within the interior parking areas required under Zoning Code 17.43(5)(c) below:

(c) Parking Lot Landscaping.1. In parking lots, at least 5% of the interior parking area shall be landscaped with plantings, and one tree of a minimum 2-inch caliper, for each 10 spaces, all as shall be submitted and approved as part of the plan provided for herein above. Planting required within the parking lot shall be in addition to, and not in lieu of, other planting requirements, such as for street trees.2. Parking lot street frontage screening and perimeter screening shall be a minimum of 5 feet wide.3. Parking lot landscaping shall be located in protected areas, such as along walkways, in center islands, at the ends of bays, or between parking stalls. All landscaping in parking areas and on the street frontage shall be placed so that it will not obstruct sight lines and distances.4. A mixture of hardy flowering and/or decorative evergreen and deciduous trees which shall be selected by the developer from an approved list of types and species of plantings and trees to be provided by the Village, shall be planted. Evergreens shall be used along the perimeter of the lot for screening from adjacent properties, and the deciduous trees for shade within the lot. Areas between trees shall be mulched or planted with shrubs or ground cover. Any landscaped area that will be under the overhang of vehicles shall be mulched or covered with decorative paving material.

5. Additional setback with a flat grade or some sort of better curb stop or bumper guard may be needed along the south property line given the relatively steep slope down to the parcel to the south.
    - Zilber – Currently a 6” concrete curb face is proposed; the slop is consistent with building standards not to require additional retainage.

6. Will the site be fenced like the Briggs & Stratton property?
    - Zilber – No fencing is proposed at this time

7. A Zoning Permit will be required for a future tenant prior to occupancy. A building permit will be required for interior modifications at the time those details are known.
    - Zilber - Acknowledged

8. A roof plan sheet is required and needs to show any/all roof-mounted mechanicals (assumed dimensions if no details available). If the future tenant is unknown at this time, please submit a roof plan and sight-line elevation showing the RTU will be screened at the same time the future Zoning Permit is submitted.
    - SPS – This building is currently planned to be a “speculative” building therefore no roof mounted equipment is proposed at this time. When a tenant is found and a lease is signed we will submit the appropriate applications for site plan review and we will included all rood mounted equipment. An example of the proposed site line is shown on sheet A102.

9. There is a monument sign “placeholder” shown on the Landscape Plan on the east side of Gateway Crossing. The proposed monument sign and any other proposed signage requires Plan Commission review and approval through a sign permit application.
    - Zilber - Acknowledged

10. The west elevation is rather plain for what is considered to be the “front” side of the building facing Gateway Crossing. Can a feature be added to the mid-section of the elevation to enhance the overall appearance?
    - SPS – See elevation 1 on sheet A402 BUILDING ELEVATIONS. An additional precast element has been added to break up the plane of this elevation and add more visual appeal to the West elevation to address this concern.

11. The graphics shown for the proposed site lighting (shown in arch plan set Sheet E-1) are difficult to read and I’s unclear if the maximum mounting height (25’) is being met for both the building and pole-mounted light fixtures. The Village’s maximum fixture height allowance is 25 feet; if necessary, the pole height and/or base will need to be adjusted accordingly.
    - Zilber – Building wall packs are noted to be 25’ mounting height. Pole mounted lights will be corrected to comply with the Village ordinance. Attached is the revised site and building photometric design with requested changes.

Village Arborist

12. Excellent diversity of tree species selection.
13. Recommend adding plant key to reference each species on plant list to proper planting site symbol on the landscape plan.
    - Pinnacle - Plants were changed from concept plants to final plants. All were labeled. A current schedule was placed in the drawings.

Fire Department

14. No comment.

Public Works/Village Engineer/Village Surveyor

15. Comments from the Village Surveyor regarding the CSM are contained in a separate review memo dated March 24, 2020 (copy attached).
    - Zilber – No comments attached, therefore no action taken

16. The sanitary pipe from the downstream side of the sampling manhole shall be a C-900 pipe due to buried depth of main. Please add this to the notes under sanitary pipes.
    - Pinnacle - Revised plan and note #15 to include C-900 piping downstream of sampling manhole.

When submitting revised plans or additional information, please submit (1) digital plan

set and three (3) full-size, hard-copy plan sets set to the Community Development Department.
Complete responses and/or information, plan revisions, etc. to the items/issues listed above will help avoid delay in the review and processing of your application.

ZILBER
PROPERTY GROUP℠

Items Reviewed:

1. Civil Plan Set C9 – C9 (9 pages)

General Comments:

1. Please respond to each item below. **A written response addressing each item shall be included in your submittal**.
2. The submitted plans have been reviewed for general conformance with State and Village design guidelines. Additional comments could arise as a result of the plan completion and modifications. The items listed below will need to be fully resolved before the Engineering Dept. can recommend a formal approval of the plans and permit for construction.
3. This project will require a WRAPP/NOI from the DNR. Please submit a copy of the approved permit prior to final approval.
4. The project will require DSPS plumbing and infiltration system review and approval. Please provide a copy of the DSPS approval prior to engineering approval
5. As-builts prepared to Village standards shall be prepared and provided to the Village post-construction (for all applicable items).
6. A professional engineer's original seal is to be affixed, signed and dated on the final set of construction plans.
7. Contact Ryan Ehlerding, 262-250-4723 for a utility permit.
8. As a guide to the review response: Items in *italics* are resolved or acknowledged, items in regular font are to be addressed yet, items in **Bold** are additional feedback to remaining original comment.

Water Department Comments

1 Tracer wire shall be #12 HDPE coated with buried lug connector. Add Village tracer wire requirements to the notes
   - Pinnacle - Pinnacle – Revised note #17 on Sheet C-5 to include the Village tracer wire.

2. Private hydrants shall be painted yellow.
   - Pinnacle - Revised note #14, 2nd paragraph as indicated.

3. Add a note requiring the contractor to schedule and hold a pre-construction meeting with Village staff prior to any utility work taking place.
   - Pinnacle - Added Note #19 to Sheet C-5.

ZILBER
PROPERTY GROUP SM

Wastewater Utility Comments

1 Sanitary pipe on the downstream side of the sampling manhole shall be C-900 pipe due to the buried depth of the main.
- Pinnacle - Revised plan and note #15 to include C-900 piping downstream of sampling manhole.

C3 – Site Dimensional and Paving Plan

1 ADA ramps shown do not appear to meet ADA requirements. Ramps that can be approached from the side shall have a flares not steeper than 1:10
- Pinnacle - ADA ramp details have been added to Sheet C-7 to show conformance with ADA requirements.

C4 – Grading Plan

1 Grading plan shows work over the south property line. Provide documentation that the neighboring property owner is aware of this and approving of it.
- Zilber – Letter attached for the Southern property owner.

2. Plan currently allows for over 1' of ponding in parking areas before overtopping. Revise plan to allow for a max of 1' of ponding in parking areas.
- Pinnacle - Sheet C-4 has been revised to allow for ponding in parking areas to be limited to a maximum of 1'.

3. Review overflow elevation for the area between the retaining wall and the building. Adjust elevations to allow that area to overflow at an elevation at least 6" below the building FFE.
- Pinnacle - The overflow elevation is 12" below FFE and is located at the midpoint of the east building elevation

C5 – Utility Plan

1 Is offsite 54" storm sewer to the northwest intended to be public or private?
- Zilber - Private

2. Provide storm sewer calculations.
- Pinnacle - storm sewer calculations are provided with this revised submittal.

3. Provide crossing information where storm sewer crosses proposed building sewer and water laterals.
- Pinnacle - utility crossings are provided on Sheet C-5.

ZILBER
PROPERTY GROUP SM

C6 – Erosion Control Plan

1 Provide on-site sediment controls to remove construction site sediment prior to discharging from the site Inlet protection is only adequate if the drainage area to the inlet is less than 1 acre. Sediment traps / basins are likely required.

- Pinnacle – On-site sediment controls are directly connected to the regional stormwater pond / sediment basin downstream. Storm sewer connecting this site to the pond is designed with self cleaning velocities in accordance with the State and Local Plumbing Codes. Notation has been added to the plan to include this practice.

C7 – Construction Details

1 Add ADA ramp details
- Pinnacle - ADA ramp details have been added to Sheet C-7.

Stormwater Management Plan

1. This site layout appears slightly different than what was included on the previously approved stormwater management plan. Please provide updated drainage maps that show this development along with a simple letter summary of what was included in the approved stormwater management plan and how this proposed development compares to it.
   - Pinnacle - In lieu of a separate letter summary, a Stormwater Management Note has been added to the cover sheet showing the development's compliance with the approved stormwater management plan.

SIGN REVIEW

5/11/20 Plan Commission Meeting

Bauer Sign & Lighting Co, Inc. / WMG Development

Village Planner Report **Germantown, Wisconsin**

Summary

Bauer Sign & Lighting Co, Inc., agent for WMG Development, is requesting approval for two wall signs for Germantown Dental Care located at N112W16286 Mequon Road.

Location: N112W16286 Mequon Road

Agent/
Property Owners: Bauer Sign & Lighting Co,. Inc.
2500 S 170th Street
New Berlin, WI 53151

WMG Development
1200 Network Centre Drive
Effingham, IL 62401

Current Zoning: B-2/PDD: Community Business/Germantown Marketplace PDD

Adjacent Land Uses		Zoning
North	Commercial	B-2/PDD
South	Single-Family Residential	Rs-6
East	Commercial	B-2/PDD
West	Commercial	B-2/PDD

Background/Proposal

Bauer Sign & Lighting Co., Inc. agent for WMG Development is requesting approval for two wall signs for Germantown Dental Care located at N112W16286 Mequon Road.

Wall Signs

- 50” x 191” (65.5 square feet) internally illuminated letterset (LED), made with acrylic and aluminum. This sign will be placed on the west façade of the building, above the entrance door.
- 44” x 172” (52.3 square feet) internally illuminated letterset (LED), made with acrylic and aluminum. This sign will be placed on the south façade of the building, above the entrance door.

Staff Comments

Village code limits wall signage to the building frontage, unless deemed appropriate and approved by the Plan Commission. In this case, the Plan Commission will have to approve the proposed wall signage on the west façade of the building. Staff supports approval of this signage as it will be visible to east bound traffic on Mequon Road.

Village Planner Recommendation

APPROVE the two proposed wall signs for the Germantown Dental Care property subject to the following condition:

1. Electrical permits shall be obtained from Inspection Services prior to installation of any/all electrical components.

Village of Germantown ...Willkommen

Fee must accompany application

$275 Sign Review Fee

$ 75 Sign Face Replacement

Paid _____ Date_____

SIGN REVIEW APPLICATION

Pursuant to Section 17.46 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 APPLICANT OR AGENT

Bauer Sign & Lighting Co., Inc
2500 S 170th St
New Berlin, WI 53151

Phone (262) 784-0500
Fax (262) 784-6675
E-Mail bkraus@bauersignusa.com

PROPERTY OWNER

WMG Development
1200 Network Centre Drive
Effingham, IL 62401

Phone (217) 540-5100

2 PROPERTY ADDRESS OR GENERAL LOCATION

N112 W16286 Mequon Road

3 SIGN INFORMATION

Sign Dimensions 49.375" height x 191.0" width Single Multi Tenant (circle one)
Number of Sides 1 Building Frontage SF 62.75
Total Square Footage of Sign (include all sides) 65.5 sq ft
Total height of the Sign 49.375"
Is the Sign to be illuminated x yes _____ no
Type of Sign Construction Materials Aluminum / acrylic / LED modules
Distance to Closest Property Line _____

Are there any existing signs on the property NA
If yes, what is the total Square Footage of existing signs NA

What are the intentions for the existing signs: Take down NA Remain NA

4 SIGNATURES -- ALL APPLICATIONS MUST BE SIGNED BY OWNER!

Applicant 4/22/2020 Date

Owner 4.21.20 Date

Front Store Elevation

S1-2

Proposed Signage = 65.5 SF

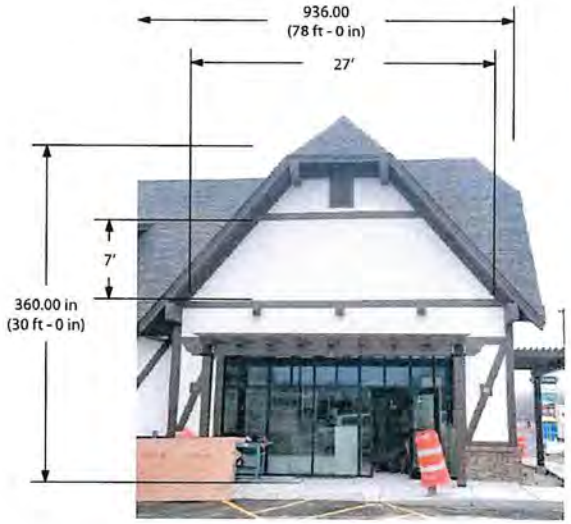
Relevant Signage Code
1.5 SF per linear foot of frontage up to 300 SF.
Signage only allowed on building frontage.
78 x 1.5 = 117 SF

Sign Type
LED Channel Letters
Front-Lit

Mounting
Flush Mounted

Color Palette

Face: White Acrylic
Vinyl: 3M 3630-69 Durandoic Day/Night
PMS Black 7 Trims & Returns
Facade: SW 7004 Snowbound



▲ EXISTING

▲ PROPOSED

GC IS RESPONSIBLE TO GUARANTEE ACCESS FOR SIGN INSTALLATION
PMS COLORS CONVERTED TO CLOSEST VINYL MATCHES
FONT & STROKE ADJUSTED TO ALLOW FOR ILLUMINATION

Project No.	200033
Project	Signage Package
Location	W15800 Mequon Rd. Germantown, WI 53022
Orig. Draft	03.31.2020
Project Mgr.	Rachel Bennington
Designer	Stephanie
Rev. Art	N/A
Rev. Date	00.00.00
Page Rev.	000
Rev. Details	N/A

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Schaumburg, IL 60173
Office 847.301.0510
identiti.net

Scale: 1/2" = 12"

Village of Germantown ...Willkommen

Fee must accompany application

$275 Sign Review Fee

$ 75 Sign Face Replacement

Paid _____ Date_____

SIGN REVIEW APPLICATION

Pursuant to Section 17.46 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 APPLICANT OR AGENT

Bauer Sign & Lighting Co., Inc
2500 S 170th St
New Berlin, WI 53151

Phone (262) 784-0500
Fax (262) 784-6675
E-Mail bkraus@bauersignusa.com

PROPERTY OWNER

WMG Development
1200 Network Centre Drive
Effingham, IL 62401

Phone (217) 540-5100

2 PROPERTY ADDRESS OR GENERAL LOCATION

N112 W16286 Mequon Road

3 SIGN INFORMATION

Sign Dimensions 43.875" height x 171.5" width (Single) Multi Tenant (circle one)
Number of Sides 1 Building Frontage SF 62.75
Total Square Footage of Sign (include all sides) 52.3 sq ft
Total height of the Sign 43.875"
Is the Sign to be illuminated x yes _____ no
Type of Sign Construction Materials Aluminum / acrylic / LED modules
Distance to Closest Property Line _____

Are there any existing signs on the property NA
If yes, what is the total Square Footage of existing signs NA

What are the intentions for the existing signs: Take down NA Remain NA

4 SIGNATURES -- ALL APPLICATIONS MUST BE SIGNED BY OWNER!

Applicant 4/22/2020 Date

Owner 4.21.20 Date

Side Store Elevation

S2-1

Proposed Signage = 52.3 SF

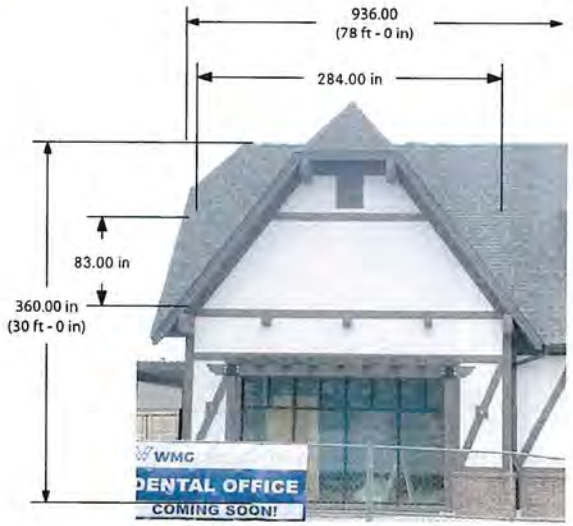
Relevant Signage Code
1.5 SF per linear foot of frontage up to 300 SF.
Signage only allowed on building frontage.
78 x 1.5 = 117 SF

Sign Type
LED Channel Letters
Front-Lit

Mounting
Flush Mounted

Color Palette

- Face: White Acrylic
- Vinyl: 3M 3630-69 Durandoic Day/Night
- PMS Black 7 Trims & Returns
- Facade: SW 7004 Snowbound



▲ EXISTING

▲ PROPOSED

GC IS RESPONSIBLE TO GUARANTEE ACCESS FOR SIGN INSTALLATION
PMS COLORS CONVERTED TO CLOSEST VINYL MATCHES
FONT & STROKE ADJUSTED TO ALLOW FOR ILLUMINATION

Project No.	200033
Project	Signage Package
Location	W15800 Mequon Rd. Germantown, WI 53022
Orig. Draft	03.31.2020
Project Mgr.	Rachel Bennington
Designer	Stephanie
Rev. Art	Liz
Rev. Date	04.15.20
Page Rev.	002
Rev. Details	Add page

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18th Floor
Schaumburg, IL 60173
Office 847.301.0510
identiti.net

Scale: 1/2" - 12"

IDENTITI RESOURCES • Certificate of Consent Form

LOCATION TO CONSENT:

Germantown Dental Care
W15800 Mequon Rd.
Germantown, WI 53022

AUTHORIZATION AND CONSENT

By my signature below, I hereby represent that I am the owner of the property indicated above or otherwise duly authorized by the Lease to grant authorization for Identiti Resources Limited and/or their sub contractor to apply for permits and install new signage at the above referenced location.

My signature below is also an approval to the supplied designs and artwork renderings provided by Identiti Resources Limited for the above referenced location. All signage, included but not limited to, dimensions, materials, mounting and sign placement are approved and authorized.

LANDLORD APPROVAL

SIGNATURE _____ PRINT NAME Daniel Willis DATE 4.16.20

TITLE Director - Design & Construction

PHONE NUMBER: (217) 540-8541

ADDRESS: 1200 Network Centre Dr #3, Effingham, IL 62401

Please return form to:

Identiti Resources Limited
1201 Wiley Rd, Ste 150, Schaumburg, IL 60173

PM: Mary Furey

Office: 847.232.8402 Fax: 847- 301-0518

Email: mfurey@identiti.net

IRL Project #: 200033

Sign Specifications

SPEC

Proposed Signage = N/A

Relevant Signage Code
N/A

Sign Type
LED Channel Letters
Front-Lit

Mounting
Flush Mounted

Color Palette

Face: White Acrylic

Vinyl: 3M 3630-69 Durandoic Day/Night

PMS Black 7 Trims & Returns

Facade: SW 7004 Snowbound

Project No.	200033
Project	Signage Package
Location	W15800 Mequon Rd. Germantown, WI 53022
Orig. Draft	03.31.2020
Project Mgr.	Rachel Bennington
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Rev. Date	04.15.20
Page Rev.	002
Rev. Details	Show night view

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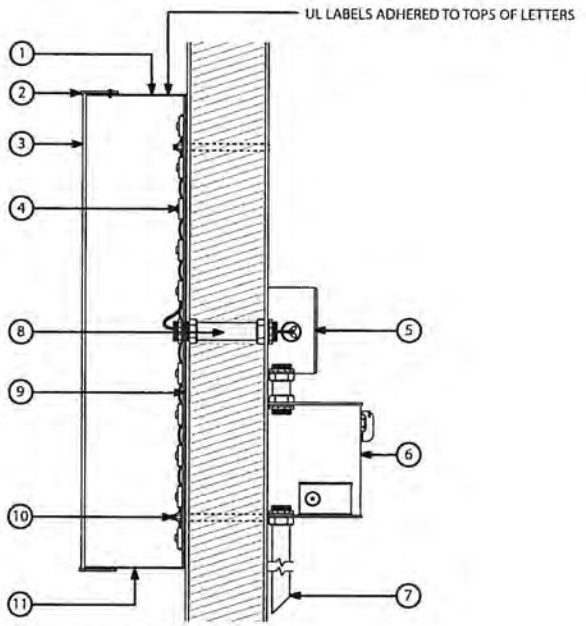
GERMANTOWN DENTAL CARE

GERMANTOWN DENTAL CARE

Night View

LETTERSET SPECIFICATIONS	
1	0.040 ALUMINUM RETURNS (5" DEPTH): PAINTED BLACK 7C
2	1" TRIM CAP: (WITH JEWELITE WASHER HEAD PHILLIPS SCREWS) PAINTED BLACK 7C
3	3/16" ACRYLIC FACE: WITH 3M 3630-69 DUROANDIC DAY/NIGHT
4	LED UNITS (WHITE):
5	UL LISTED HOUSING: SECONDARY WIRING SPLICE POINT (WHEN NEEDED)
6	UL HOUSING W/ PWR SUPPLY (QTY VARIES) DISCONNECT SWITCH FOR DEDICATED PRIMARY POWER CIRCUIT
7	PRIMARY POWER CIRCUIT (PROVIDED/PERMITTED BY OTHERS) TO BE PLACED WITHIN 5 FEET OF CENTER OF SIGN
8	CONDUIT: SECONDARY ELECTRICAL RUN (WHEN NEEDED)
9	0.063 ALUMINUM BACK: PRECOAT WHITE FINISH
10	MOUNTING HARDWARE: VARIES ON FACADE TYPE AND SUPPORT STRUCTURE
11	WEEP HOLES



A3 LETTER SECTION
SCALE: N.T.S.

Scale: 1/2" – 12"

Site Plan - Overview

Project No.	200033
Project	Signage Package
Location	W15800 Mequon Rd. Germantown, WI 53022
Orig. Draft	03.31.2020
Project Mgr.	Rachel Bennington
Designer	Stephanie
Rev. Art	Liz
Rev. Date	04.15.20
Page Rev.	002
Rev. Details	Add sign 2

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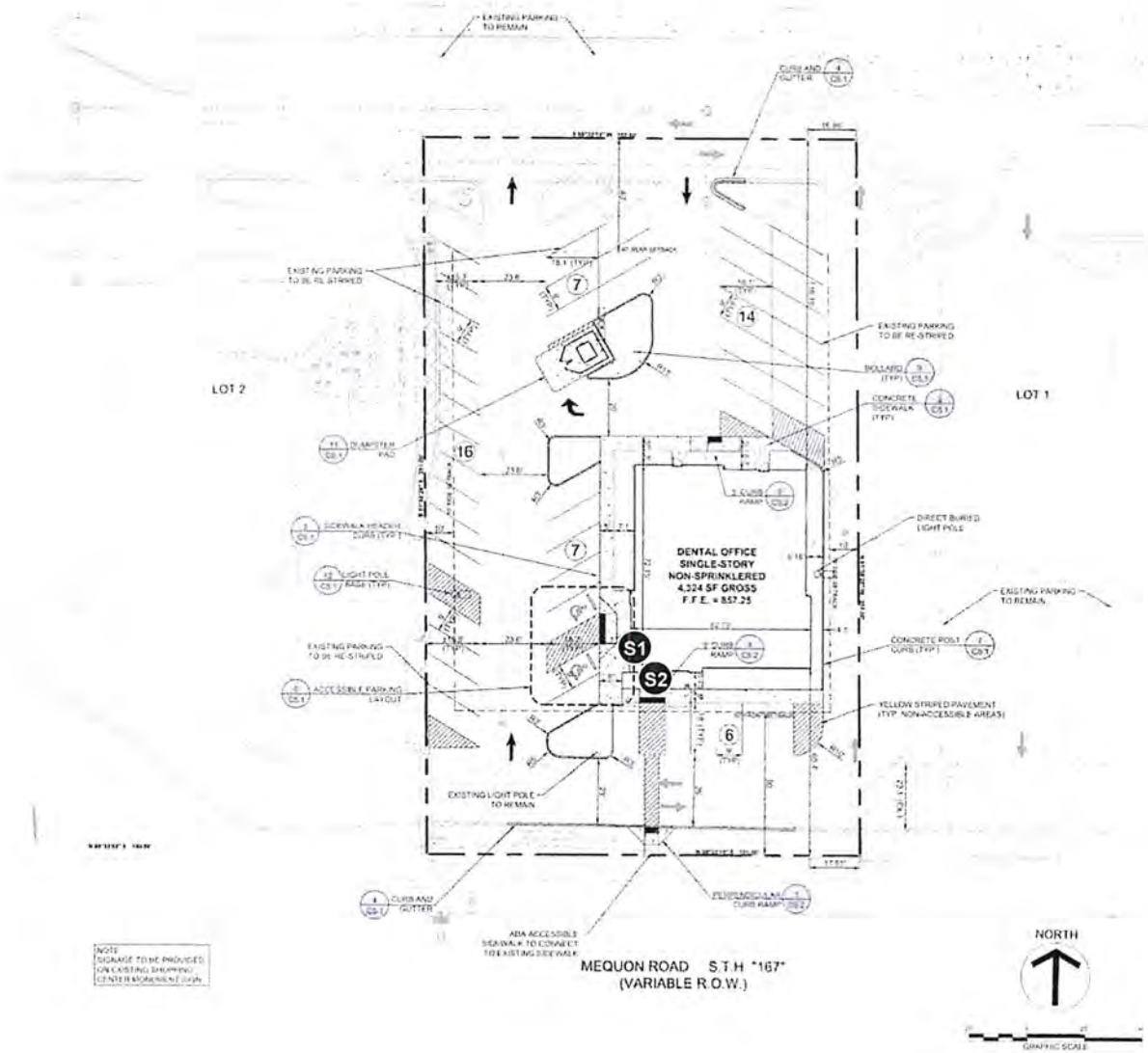

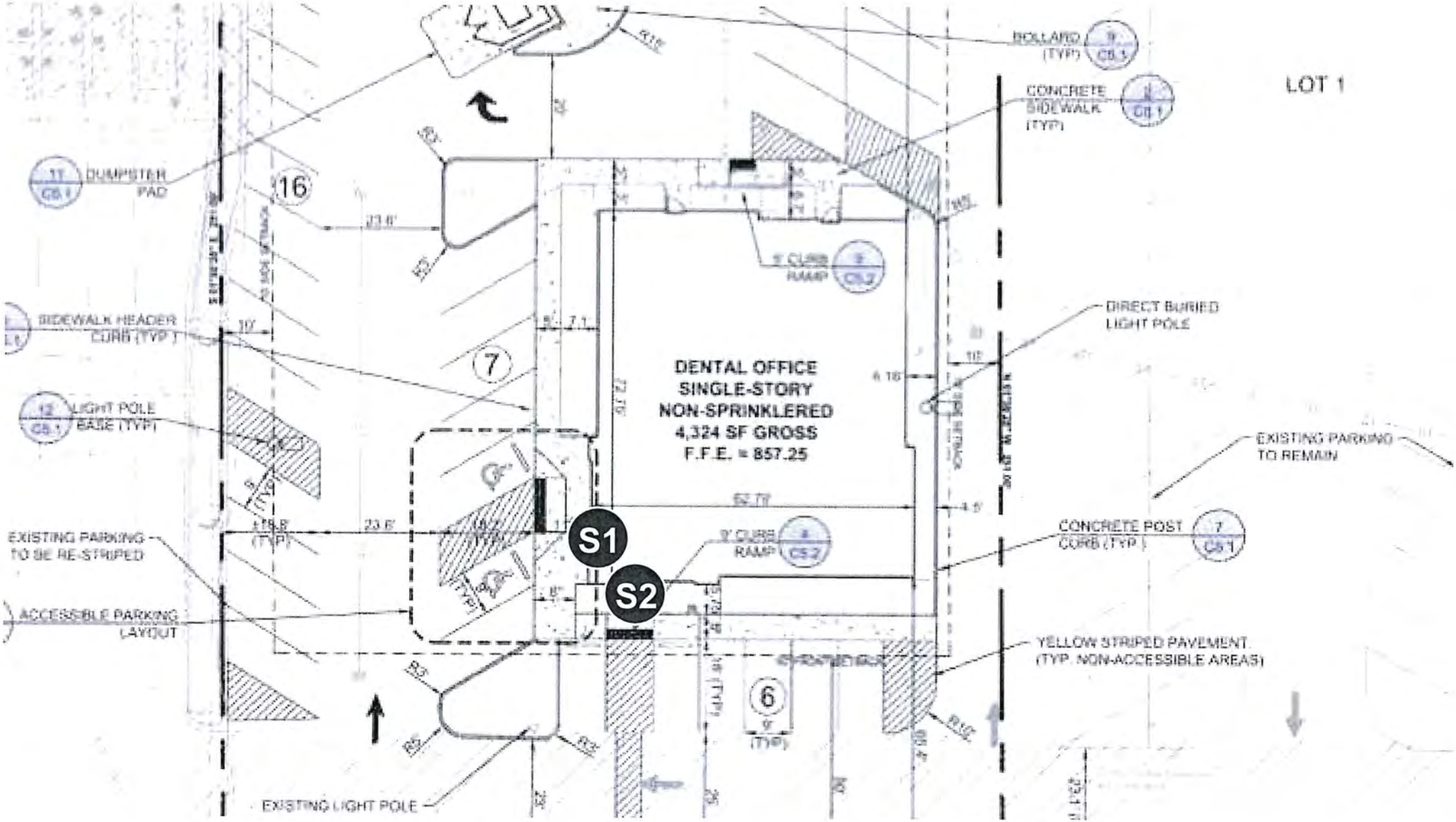
LOT 1
BOLLARD (TYP)
CONCRETE SIDEWALK (TYP)
DUMPSTER PAD
DIRECT BURIED LIGHT POLE
SIDEWALK HEADER CURB (TYP.)
LIGHT POLE BASE (TYP)
DENTAL OFFICE
SINGLE-STORY
NON-SPRINKLERED
4,324 SF GROSS
F.F.E. = 857.25
EXISTING PARKING TO REMAIN
CONCRETE POST CURB (TYP.)
EXISTING PARKING TO BE RE-STRIPED
ACCESSIBLE PARKING LAYOUT
S1
S2
YELLOW STRIPED PAVEMENT (TYP. NON-ACCESSIBLE AREAS)
EXISTING LIGHT POLE

SIGN REVIEW

5/11/20 Plan Commission Meeting

Bauer Sign & Lighting Co, Inc. / American Parts Equipment Supply

Village Planner Report **Germantown, Wisconsin**

Summary

Bauer Sign & Lighting Co, Inc., agent for American Parts Equipment Supply, and the Anderson Brothers, property owners, are requesting approval for one wall sign for American Parts Equipment Supply located at W188N10707 Maple Road.

Location: W188 N10707 Maple Road

Agent/
Property Owners: Bauer Sign & Lighting Co., Inc.
2500 S 170th Street
New Berlin, WI 53151

Anderson Brothers Construction
Appliance World
671 Stonegate Pass
Colgate, WI 53017

Zoning: B-1: Neighborhood Business

Adjacent Land Uses		Zoning
North	Commercial	B-1
South	Commercial	B-5
East	Commercial / Agricultural	B-1 / A-1
West	Commercial / Interstate 41	B-1 / ROW

Background/Proposal

Bauer Sign & Lighting Co, Inc., agent for American Parts Equipment Supply, and the Anderson Brothers, property owners, are requesting approval for one wall sign for American Parts Equipment Supply located at W188N10707 Maple Road.

Wall Sign

- Approximately 73 square-foot, internally illuminated channel letters, made with red and blue acrylic faces and aluminum returns and backs. The sign will be placed on the front elevation of the building, directly above the entrance.

Staff Comments

The maximum square footage for the signage on the face of this building is 90 square feet. The proposed wall sign meets the Village's sign requirements.

Village Planner Recommendation

APPROVE the proposed wall sign for American Parts Equipment Supply subject to the following conditions:

1. Electrical permits shall be obtained from Inspection Services prior to installation of any/all electrical components.

Village of Germantown ...Willkommen

Fee must accompany application

$275 Sign Review Fee

$ 75 Sign Face Replacement

Paid $ ____ Date 5-4-20

SIGN REVIEW APPLICATION

Pursuant to Section 17.46 of the Municipal Code

Please read and complete this application carefully. **All applications must be signed and dated.**

1 APPLICANT OR AGENT

Paul Butler
Bower Sign + Lighting
2500 S 170th Street
New Berlin, Wisc. 53151
Phone ( )
Fax ( )
E-Mail Pbutler@bowersignUSA.com

PROPERTY OWNER

Ray Anderson
Russell Anderson
Phone (414) 467-9800

2 PROPERTY ADDRESS OR GENERAL LOCATION

W188 N 10707 Maple Road
Germantown, Wisc. 53202

3 SIGN INFORMATION

Sign Dimensions 88.6 height x 195 width Single/Multi Tenant (circle one)
Number of Sides ____ Building Frontage SF 70' Ln ft
Total Square Footage of Sign (include all sides) ____ SF 1516.66
Total height of the Sign 83 6
Is the Sign to be illuminated ✓ yes ____ no
Type of Sign Construction Materials poly panel .125 Aluminum
Distance to Closest Property Line ____

Are there any existing signs on the property ~~yes~~ NO
If yes, what is the total Square Footage of existing signs 0

What are the intentions for the existing signs: Take down ____ Remain ____

4 SIGNATURES -- ALL APPLICATIONS MUST BE SIGNED BY OWNER!

Applicant ____ Date

Owner ____ Date 5/4/20

BAUER Sign & Lighting COMPANY

2500 South 170th
New Berlin, Wisconsin
Proudly Made in the USA!

Web: www.bauersignusa.com
Phone: 262-784-0500
Fax: 262-787-6675

File	American Parts Equipment Supply
Location	Germantown
Client	Butch
Sales rep	Paul Butler
Date	cb 03/27/20
Revision	cb 03/30/20

Raceway Color @
Behr Ostrich
4805

Faces	Trimcap	Returns
White	Black	Black

COLOR SCHEME

- 3M BLACK PERFORATED DAY/NIGHT VINYL OVERLAYS
- ~~3M SULTAN BLUE 3730-157L VINYL OVERLAYS~~ 3m Royal Blue

AMERICAN PARTS EQUIPMENT SUPPLY
Internally LED Illuminated Channel Letters

Printed artwork colors are not always representative of final product colors. Please refer to specifications for call out or salesman for samples.

These drawings are the exclusive property of Bauer Sign Company. Not to be duplicated in any way without expressed written permission!

FINAL ELECTRICAL CONNECTION IS CLIENT'S RESPONSIBILITY

our products are certified by: Underwriters Laboratories, Inc.

This sign shall be manufactured in accordance with the Article 600 of the National Electrical Code and/or the applicable local codes. This includes proper grounding and bonding of the sign. Sign shall bear correct UL Labels.

Scale: 1/2" - 1'

22' 8'
Bot
33 x 96
114" x 96"
BBQ
GRIL
OPEN
84
84
76
78
78
30