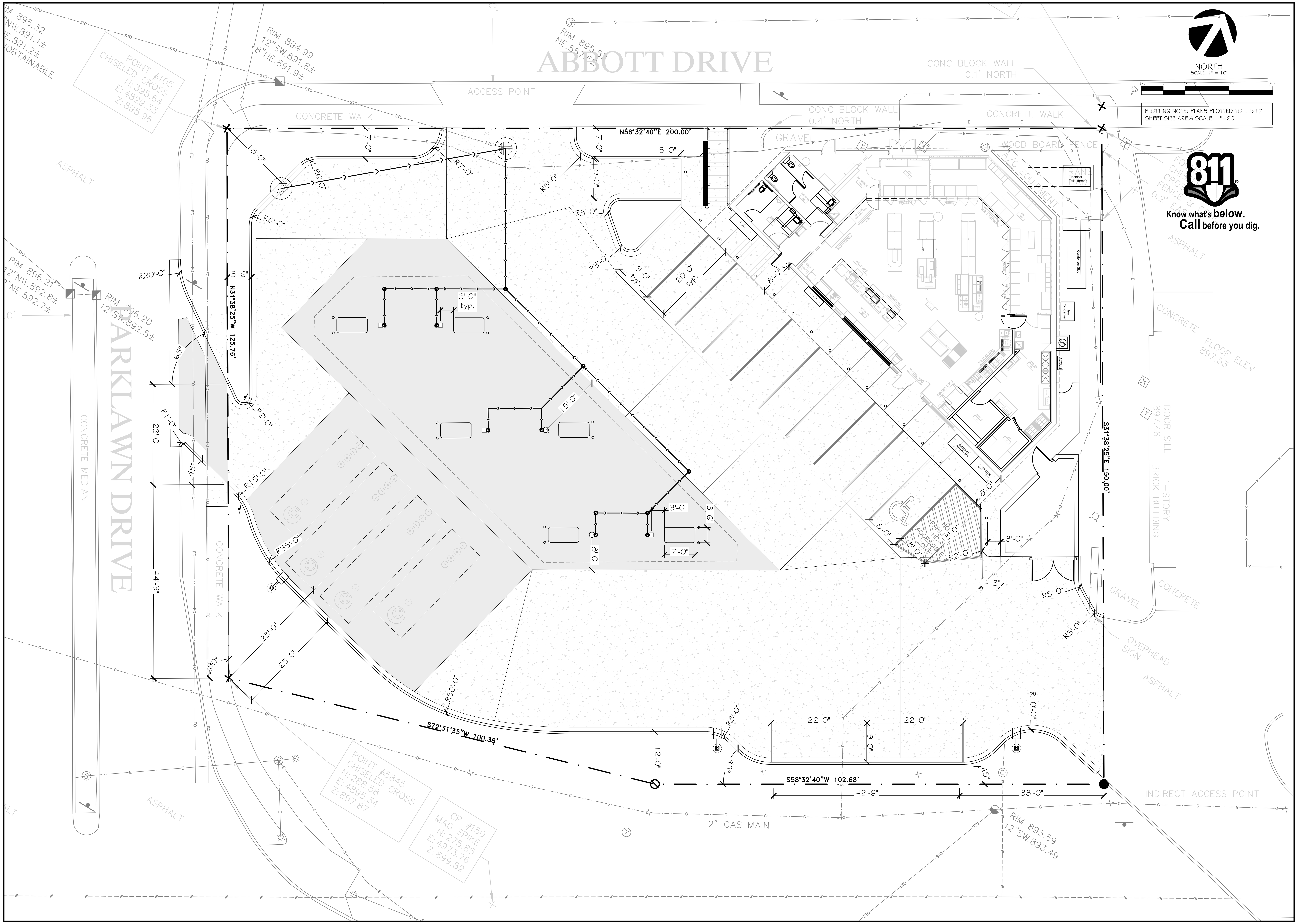

KWIK TRIP

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KWIK TRIP, Inc.
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INSITES
SITE PLANNING LANDSCAPE ARCHITECTURE
3030 Harbor Lane North, STE 131
Plymouth Minnesota 55447
763.383.8400
fax 763.383.8440

STATE OF WISCONSIN — ROBERT J. MUELLER — LA-378 — PLYMOUTH, MN — REGISTERED LANDSCAPE ARCHITECT

06MAR18

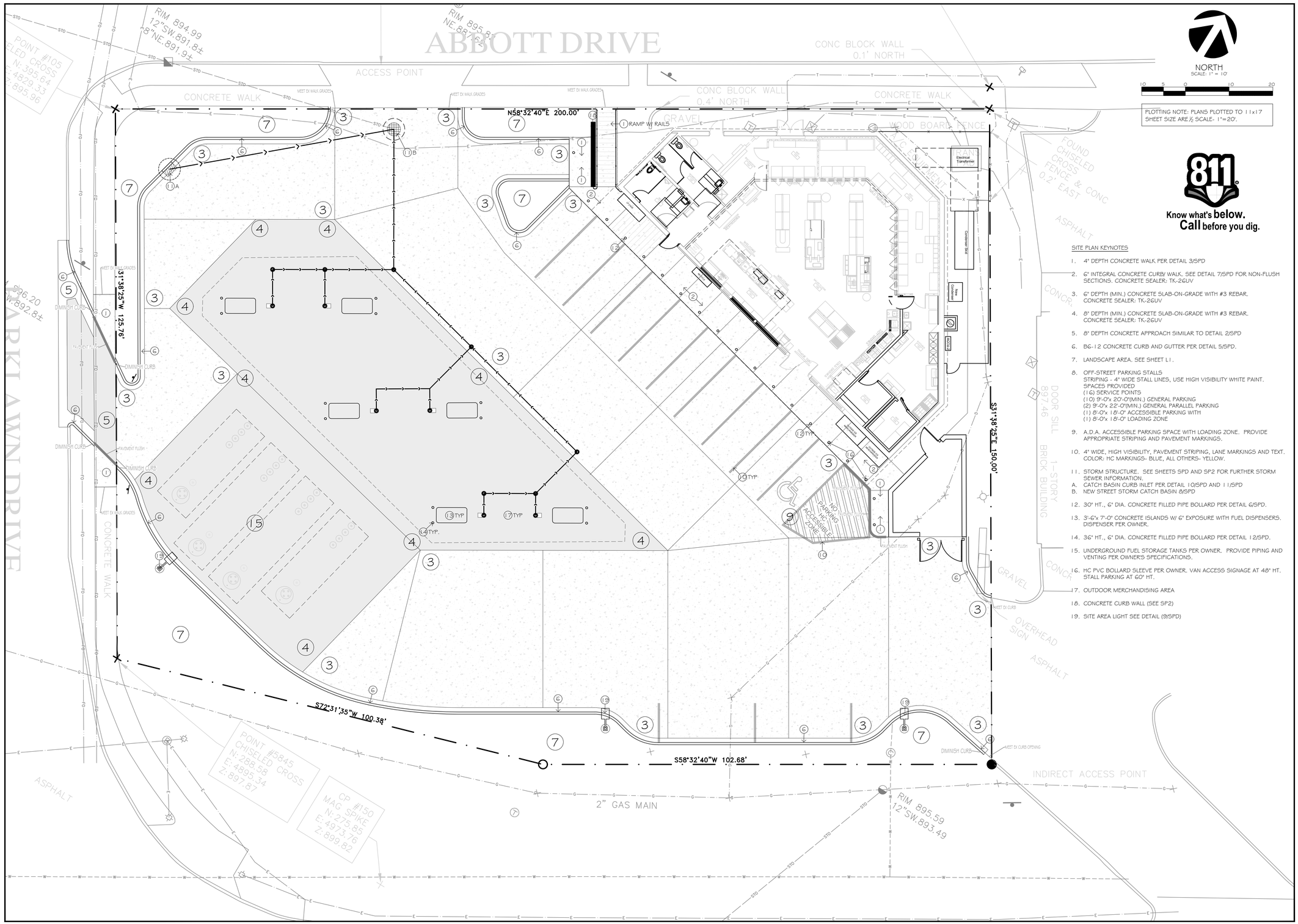
SITE DIMENSION PLAN

CONVENIENCE STORE 968

2302 E MORELAND BLVD
WAUKESHA, WISCONSIN

NO.	DATE	DESCRIPTION
-	06MAR18	CITY COMMENTS

DRAWN BY	
SCALE	GRAPHIC
PROJ. NO.	17968
DATE	09JAN2018
SHEET	**SP1**



NORTH
SCALE: 1" = 10'

10 5 0 10 20

PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=20'.

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

SITE PLAN KEYNOTES

1. 4" DEPTH CONCRETE WALK PER DETAIL 3/SPD
2. 6" INTEGRAL CONCRETE CURB/ WALK. SEE DETAIL 7/SPD FOR NON-FLUSH SECTIONS. CONCRETE SEALER: TK-2GUV
3. 6" DEPTH (MIN.) CONCRETE SLAB-ON-GRADE WITH #3 REBAR. CONCRETE SEALER: TK-2GUV
4. 8" DEPTH (MIN.) CONCRETE SLAB-ON-GRADE WITH #3 REBAR. CONCRETE SEALER: TK-2GUV
5. 8" DEPTH CONCRETE APPROACH SIMILAR TO DETAIL 2/SPD
6. B6-12 CONCRETE CURB AND GUTTER PER DETAIL 5/SPD.
7. LANDSCAPE AREA. SEE SHEET L1.
8. OFF-STREET PARKING STALLS
   STRIPING - 4" WIDE STALL LINES, USE HIGH VISIBILITY WHITE PAINT.
   SPACES PROVIDED
   (16) SERVICE POINTS
   (10) 9'-0"x 20'-0"(MIN.) GENERAL PARKING
   (2) 9'-0"x 22'-0"(MIN.) GENERAL PARALLEL PARKING
   (1) 8'-0"x 18'-0" ACCESSIBLE PARKING WITH
   (1) 8'-0"x 18'-0" LOADING ZONE
9. A.D.A. ACCESSIBLE PARKING SPACE WITH LOADING ZONE. PROVIDE APPROPRIATE STRIPING AND PAVEMENT MARKINGS.
10. 4" WIDE, HIGH VISIBILITY, PAVEMENT STRIPING, LANE MARKINGS AND TEXT. COLOR: HC MARKINGS- BLUE, ALL OTHERS- YELLOW.
11. STORM STRUCTURE. SEE SHEETS SPD AND SP2 FOR FURTHER STORM SEWER INFORMATION.
    A. CATCH BASIN CURB INLET PER DETAIL 10/SPD AND 11/SPD
    B. NEW STREET STORM CATCH BASIN 8/SPD
12. 30" HT., 6" DIA. CONCRETE FILLED PIPE BOLLARD PER DETAIL 6/SPD.
13. 3'-6"x 7'-0" CONCRETE ISLANDS W/ 6" EXPOSURE WITH FUEL DISPENSERS. DISPENSER PER OWNER.
14. 36" HT., 6" DIA. CONCRETE FILLED PIPE BOLLARD PER DETAIL 12/SPD.
15. UNDERGROUND FUEL STORAGE TANKS PER OWNER. PROVIDE PIPING AND VENTING PER OWNER'S SPECIFICATIONS.
16. HC PVC BOLLARD SLEEVE PER OWNER. VAN ACCESS SIGNAGE AT 48" HT. STALL PARKING AT 60" HT.
17. OUTDOOR MERCHANDISING AREA
18. CONCRETE CURB WALL (SEE SP2)
19. SITE AREA LIGHT SEE DETAIL (9/SPD)

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STATE OF WISCONSIN
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PLYMOUTH, MN
REGISTERED LANDSCAPE ARCHITECT
09MAR18

SITE KEYNOTE PLAN

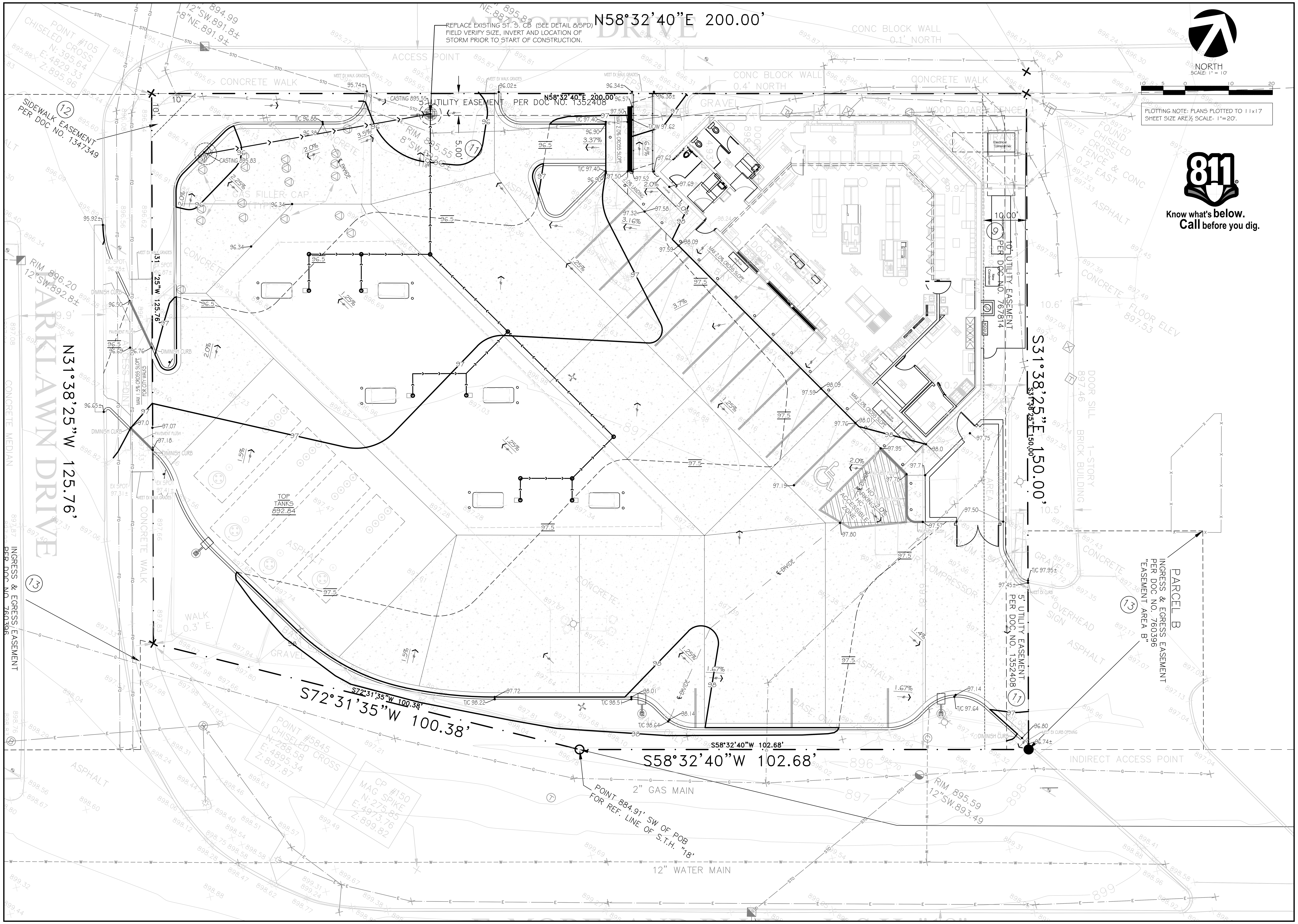
CONVENIENCE STORE 968

2302 E MORELAND BLVD
WAUKESHA, WISCONSIN

NO.	DATE	DESCRIPTION
-	09MAR18	CITY COMMENTS

DRAWN BY:
SCALE: GRAPHIC
PROJ. NO.: 17968
DATE: 09JAN2018
SHEET: SP1.1

insites 17-052 PM C.N.



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STATE OF WISCONSIN
ROBERT J. MUELLER
LA-378
PLYMOUTH, MN
REGISTERED LANDSCAPE ARCHITECT
06MAR18

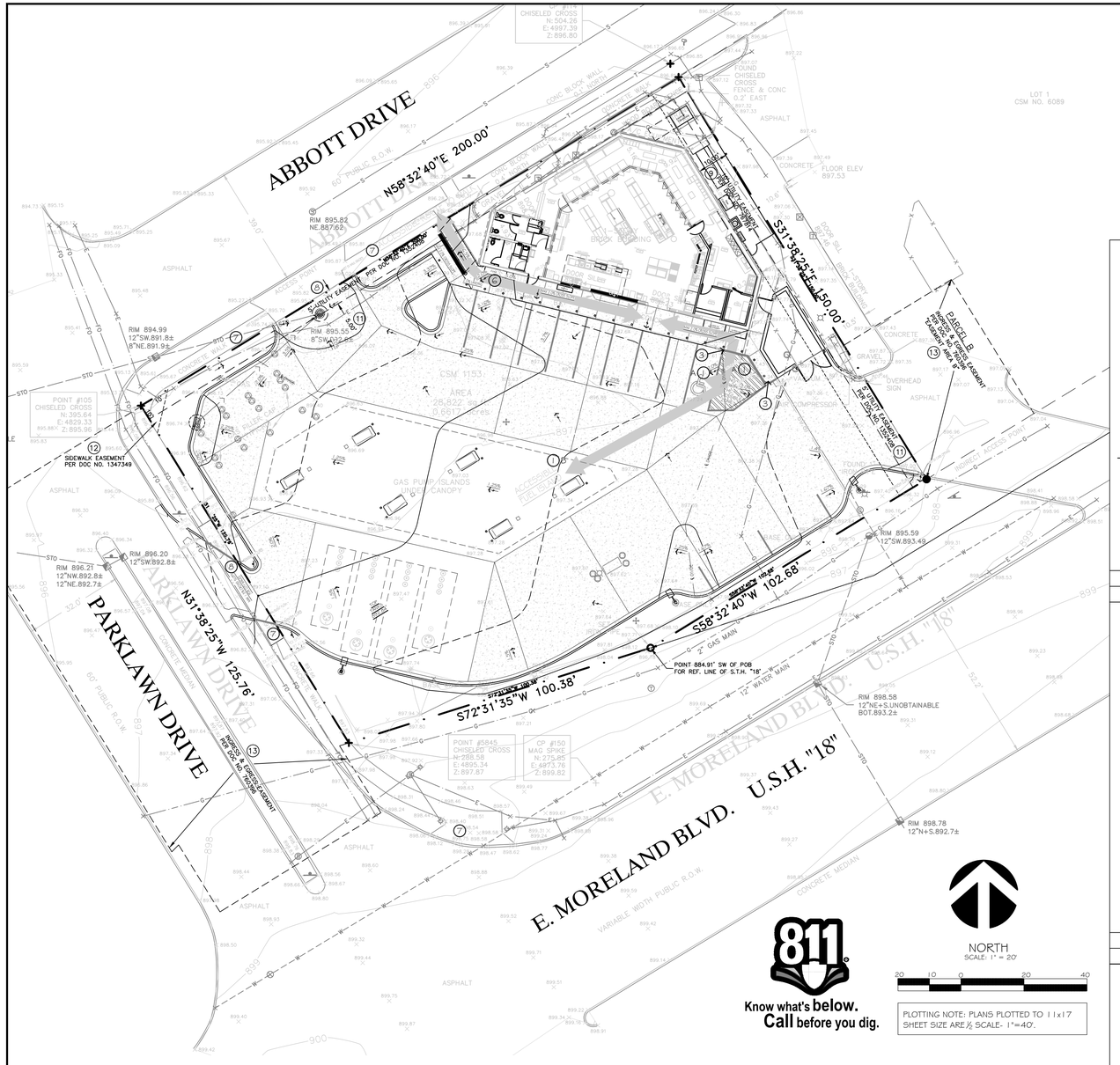
GRADE PLAN

CONVENIENCE STORE 968

2302 E MORELAND BLVD
WAUKESHA, WISCONSIN

NO.	DATE	DESCRIPTION
-	06MAR18	CITY COMMENTS

DRAWN BY	
SCALE	GRAPHIC
PROJ. NO.	17968
DATE	09JAN2018
SHEET	SP2



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

NORTH
SCALE: 1" = 20'

20 10 0 20 40

PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=40'.

PLAN KEYNOTES

1. ACCESSIBLE STALLS
   A. STRIPING - 4" WIDE STALL LINES, USE HIGH VISIBILITY BLUE PAINT (UNLESS ALTERNATE COLOR SPECIFIED BY LOCAL OR STATE CODES). SPACES PROVIDED
   (1) 8'-0"x 20'-0" ACCESSIBLE PARKING WITH
   (1) 8'-0"x 18'-0" LOADING ZONE
   B. ACCESSIBLE FUELING POINT AND DISPENSER AND VALET. VALET AND KEY PAD ON PUMP SHALL CONFORM TO ADA REACH DIMENSIONS AS SHOWN IN DETAIL. SEE NOTES FOR CONVENIENCE STORE ACCESSIBILITY.

X ~~TRUNCATED DOME INSERT- COLOR: BURGUNDY. DIMENSIONS OF INSERT AS DETERMINED BY PATH WIDTH TO ENSURE COMPLETE DETECTION ZONE IN LINE OF TRAVEL.~~

3. PAVEMENTS FLUSH FOR ACCESSIBILITY.

X ~~PICNIC TABLE- W/ ACCESSIBLE PLACEMENT PROVIDE OWNER. PROVIDE TRASH CONTAINER~~

X ~~ACCESSIBLE VACUUM & AIR INSTALLED WITH APPROPRIATED HEIGHTS. PARKING AREA SHALL MEET A.D.A DIMENSIONS FOR ACCESS AND SURFACE FOR WHEEL CHAIR ACCESS SHALL NOT EXCEED 1:48 SLOPE IN ALL DIRECTIONS. . SEE NOTES FOR CONVENIENCE STORE ACCESSIBILITY.~~

6. ACCESSIBLE ROUTE TO STORE

7. CITY SIDEWALK

8. ACCESS THRU APPROACH
   MAX. 2% CROSS SLOPE (1:48)

X ~~CURB RAMP- RAMP SLOPE MAX 1:12 SIDE FLARE SLOPE MAX. 1:10~~

NOTES FOR CONVENIENCE STORE ACCESSIBILITY

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

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

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

PROVIDE AT EACH ACCESSIBLE FUELING POSITION VISIBLE TO APPROACHING VEHICLES.

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

ANY PAY FUNCTION- i.e. AIR/VACUUM etc. ARE REQUIRED TO HAVE AN ACCESSIBLE ROUTE TO STORE ENTRANCE. CONTROLS SHALL BE ACCESSIBLE 30"X48" CLF SPACE AND WITHIN A FORWARD OR SIDE APPROACH REACH RANGE.

NOTES:

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

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

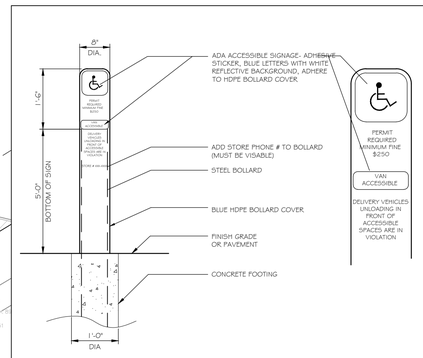
-STORE FRONTS WILL PROVIDE FLUSH PAVEMENTS ALONG ACCESSIBLE ROUTES WITH PROTECTIVE SECURITY BOLLARDS INDICATED AND SPACED BETWEEN PARKING SURFACES AND BUILDING WALK PER PLAN.

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

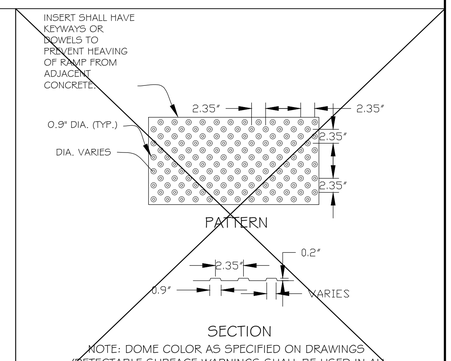
-PER A.D.A GUIDELINES- CLEAR WIDTH OF ACCESSIBLE ROUTES SHALL BE 36" AND PERMITTED TO BE REDUCED TO 32" FOR A LENGTH OF 24".

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

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



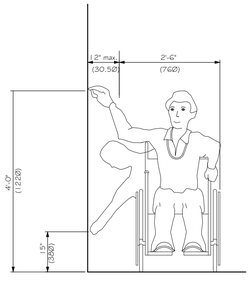
ADA BOLLARD SIGNAGE
NOT TO SCALE



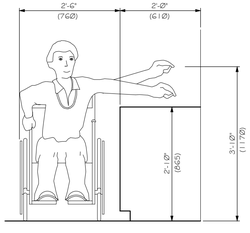
NOTE: DOME COLOR AS SPECIFIED ON DRAWINGS (DETECTABLE SURFACE WARNINGS SHALL BE USED IN ALL PUBLIC R.O.W. ACCESS POINTS)

DETECTABLE WARNING INSERT(TRUNCATED DOMES)
NOT TO SCALE

VAN ACCESSIBLE PARKING PLAN
NOT TO SCALE



HIGH AND LOW - SIDE REACH LIMITS



MAXIMUM SIDE REACH OVER OBSTRUCTION

ACCESSIBLE REACH DIMENSIONS
NOT TO SCALE

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STATE OF WISCONSIN
ROBERT J. MUELLER
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REGISTERED LANDSCAPE ARCHITECT
06MAR18

ACCESSIBILITY PLAN

CONVENIENCE STORE 968

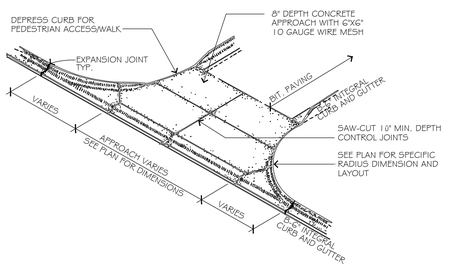
2302 E MORELAND BLVD
WAUKESHA, WISCONSIN

NO.	DATE	DESCRIPTION
-	06MAR18	CITY COMMENTS

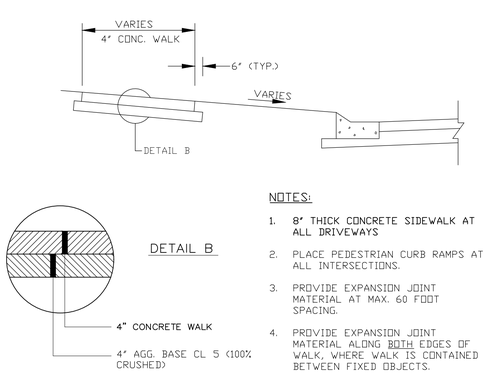
DRAWN BY
SCALE GRAPHIC
PROJ. NO. 17968
DATE 09JAN2018
SHEET SPA

insites 17-052 PM C.N.

1 | SPD



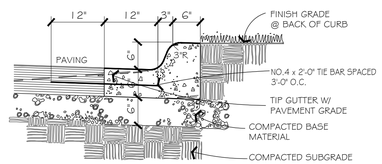
2 | SPD | CONCRETE APPROACH DETAIL
NOT TO SCALE



NOTES:

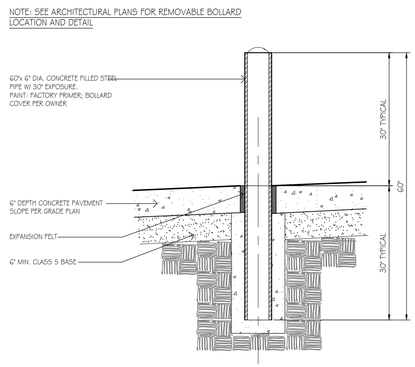
1. 8" THICK CONCRETE SIDEWALK AT ALL DRIVEWAYS
2. PLACE PEDESTRIAN CURB RAMPS AT ALL INTERSECTIONS.
3. PROVIDE EXPANSION JOINT MATERIAL AT MAX. 60 FOOT SPACING.
4. PROVIDE EXPANSION JOINT MATERIAL ALONG BOTH EDGES OF WALK, WHERE WALK IS CONTAINED BETWEEN FIXED OBJECTS.

3 | SPD | CONCRETE WALK/ PAD DETAIL
NOT TO SCALE

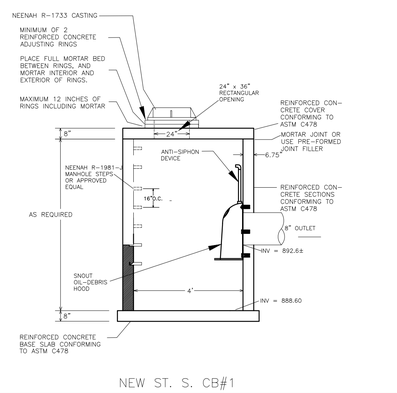


BG-12 CURB AND GUTTER

5 | SPD | CONCRETE CURB DETAIL
SCALE - 3/4" = 1'-0"

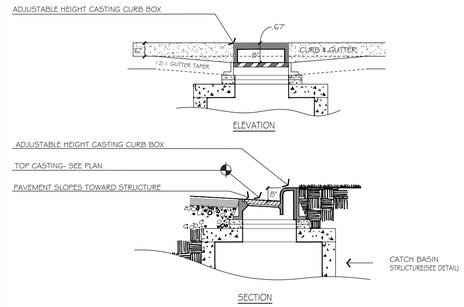


6 | SPD | 60"x 6" DIAMETER PIPE BOLLARD
SCALE - 3/8" = 1'-0"

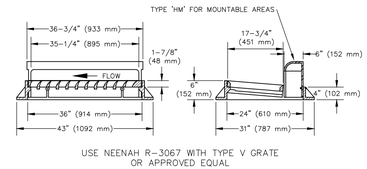


8 | SPD | NEW ST. S. CB#1

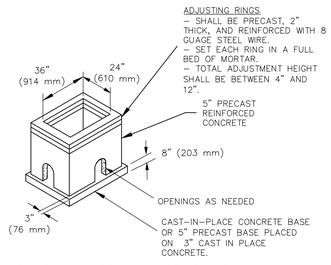
NOTE: THIS CURB CONSTRUCTION DETAIL IS TO BE USED AT LOW POINTS WHEN INDICATED ON PLAN. SEE GRADE PLAN FOR SPECIFIC CURB ELEVATIONS THAT REFLECT 8" DIFFERENCE FROM TOP OF CURB TO CASTING (SEE ACTUAL CB DETAILS FOR STRUCTURE INFO.)



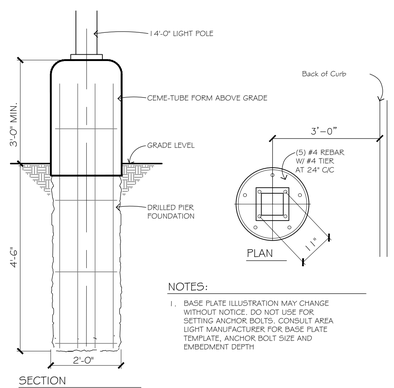
10 | SPD | CURBLINE DETAIL AT CATCHBASIN CURB/PAVEMENT LOW POINTS (SPECIFIC LOCATIONS)
NOT TO SCALE



USE NEENAH R-3067 WITH TYPE V GRATE OR APPROVED EQUAL



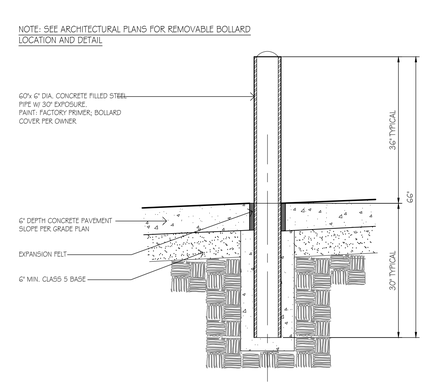
11 | SPD | 24"x 36" CURB INLET AND CASTING DETAIL
NOT TO SCALE



NOTES:

1. BASE PLATE ILLUSTRATION MAY CHANGE WITHOUT NOTICE. DO NOT USE FOR SETTING ANCHOR BOLTS. CONSULT AREA LIGHT MANUFACTURER FOR BASE PLATE TEMPLATE, ANCHOR BOLT SIZE AND EMBEDMENT DEPTH

9 | SPD | ROUND AREALIGHT FOUNDATION
SCALE - 1/2"= 1'-0"



12 | SPD | 66" x 6" DIAMETER PIPE BOLLARD
SCALE - 3/8" = 1'-0"

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763.383.8400
fax 763.383.8440

SITE PLAN DETAILS

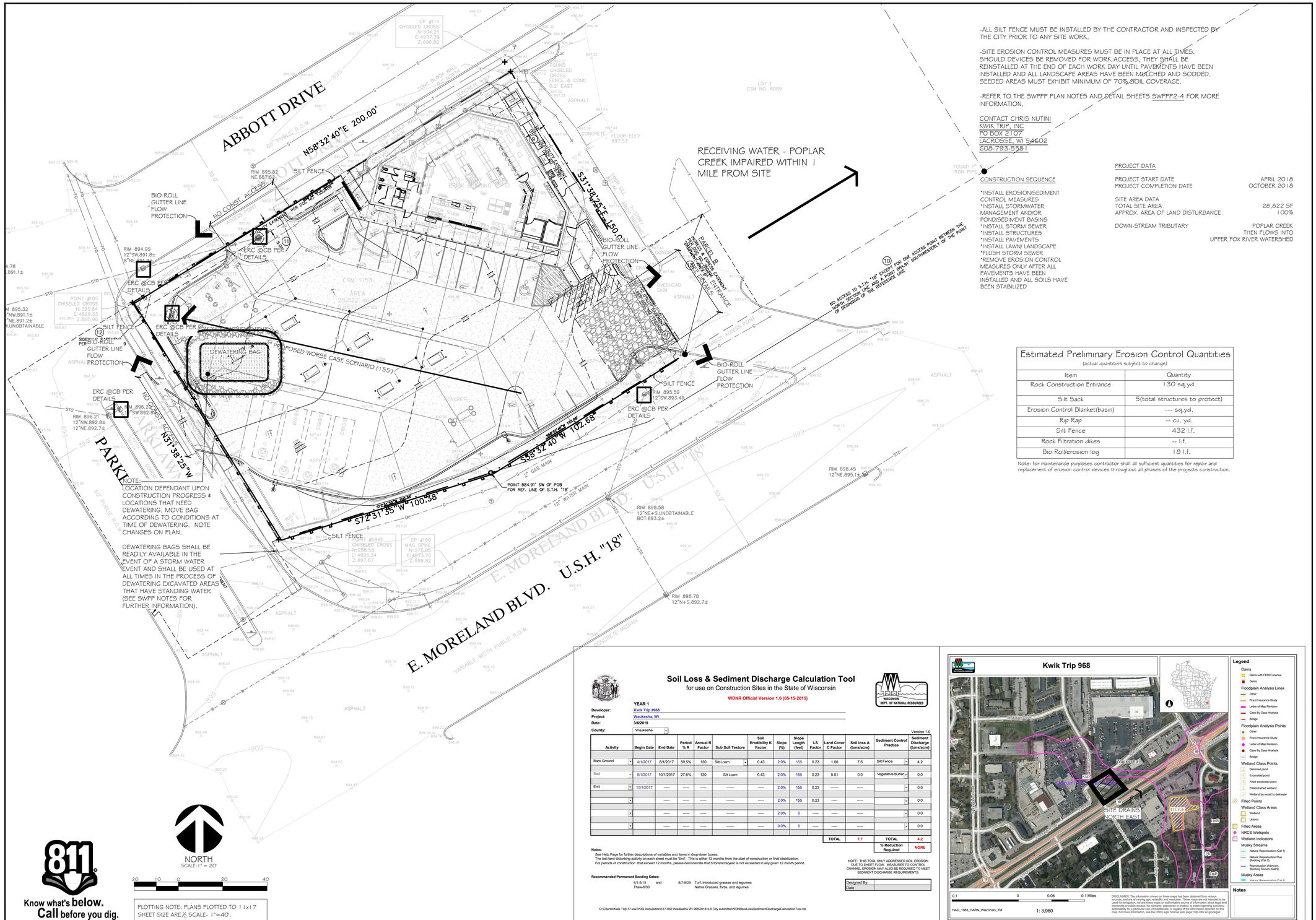
CONVENIENCE STORE 950

4402 E BUCKEYE RD
MADISON, WISCONSIN

NO.	DATE	DESCRIPTION
–	-------	----------

DRAWN BY
SCALE GRAPHIC
PROJ. NO. 17950
DATE 05SEPT2017
SHEET SPD

insites 17-035 PM B.B.



NOTE:
LOCATION DEPENDANT UPON CONSTRUCTION PROGRESS & LOCATIONS THAT NEED DEWATERING, MOVE BAG ACCORDING TO CONDITIONS AT TIME OF DEWATERING. NOTE CHANGES ON PLAN.

DEWATERING BAGS SHALL BE READILY AVAILABLE IN THE EVENT OF A STORM WATER EVENT AND SHALL BE USED AT ALL TIMES IN THE PROCESS OF DEWATERING EXCAVATED AREAS THAT HAVE STANDING WATER (SEE SWPP NOTES FOR FURTHER INFORMATION).

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

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

-REFER TO THE SWPPP PLAN NOTES AND DETAIL SHEETS SWPPP2-4 FOR MORE INFORMATION.

CONTACT CHRIS NUTINI
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PO BOX 2107
LACROSSE, WI 54602
608-793-5581

CONSTRUCTION SEQUENCE

*INSTALL EROSION/SEDIMENT CONTROL MEASURES
*INSTALL STORMWATER MANAGEMENT AND/OR POND/SEDIMENT BASINS
*INSTALL STORM SEWER
*INSTALL STRUCTURES
*INSTALL PAVEMENTS
*INSTALL LAWN/ LANDSCAPE
*FLUSH STORM SEWER
*REMOVE EROSION CONTROL MEASURES ONLY AFTER ALL PAVEMENTS HAVE BEEN INSTALLED AND ALL SOILS HAVE BEEN STABILIZED

PROJECT DATA

PROJECT START DATE	APRIL 2018
PROJECT COMPLETION DATE	OCTOBER 2018
SITE AREA DATA	
TOTAL SITE AREA	28,822 SF
APPROX. AREA OF LAND DISTURBANCE	100%
DOWN-STREAM TRIBUTARY	POPLAR CREEK, THEN FLOWS INTO UPPER FOX RIVER WATERSHED

Estimated Preliminary Erosion Control Quantities
(actual quantities subject to change)

Item	Quantity
Rock Construction Entrance	130 sq.yd.
Silt Sack	5(total structures to protect)
Erosion Control Blanket(basin)	--- sq.yd.
Rip Rap	-- cu. yd.
Silt Fence	432 l.f.
Rock Filtration dikes	-- l.f.
Bio Roll/erosion log	18 l.f.

Note: for maintenance purposes contractor shall all sufficient quantities for repair and replacement of erosion control devices throughout all phases of the projects construction.

Know what's below. Call before you dig.

NORTH
SCALE:1" = 20'

20 10 0 20 40

PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=40'.

Soil Loss & Sediment Discharge Calculation Tool

for use on Construction Sites in the State of Wisconsin

WDNR Official Version 1.0 (05-15-2015)

WISCONSIN DEPT. OF NATURAL RESOURCES

YEAR 1

Developer: Kwik Trip #968
Project: Waukesha, WI
Date: 3/6/2018
County: Waukesha

Version 1.0

Activity	Begin Date	End Date	Period % R	Annual R Factor	Sub Soil Texture	Soil Erodibility K Factor	Slope (%)	Slope Length (feet)	LS Factor	Land Cover C Factor	Soil loss A (tons/acre)	Sediment Control Practice	Sediment Discharge (tons/acre)
Bare Ground	4/1/2017	8/1/2017	59.5%	130	Silt Loam	0.43	2.0%	155	0.23	1.00	7.6	Silt Fence	4.2
Bad	8/1/2017	10/1/2017	27.6%	130	Silt Loam	0.43	2.0%	155	0.23	0.01	0.0	Vegetative Buffer	0.0
End	10/1/2017	-----	-----	-----	------	-----	2.0%	155	0.23	-----	-----		0.0
		-----	-----	-----	------	-----	2.0%	155	0.23	-----	-----		0.0
		-----	-----	-----	------	-----	2.0%	0	----	-----	-----		0.0
		-----	-----	-----	------	-----	0.0%	0	----	-----	-----		0.0
											TOTAL	7.7	TOTAL 4.2
													% Reduction Required NONE

Notes:
See Help Page for further descriptions of variables and items in drop-down boxes.
The last land disturbing activity on each sheet must be 'End'. This is either 12 months from the start of construction or final stabilization.
For periods of construction that exceed 12 months, please demonstrate that 5 tons/acre/year is not exceeded in any given 12 month period.

Recommended Permanent Seeding Dates:
4/1-5/15 and 8/7-8/29 Turf, introduced grasses and legumes
Thaw-6/30 Native Grasses, forbs, and legumes

NOTE: THIS TOOL ONLY ADDRESSES SOIL EROSION DUE TO SHEET FLOW. MEASURES TO CONTROL CHANNEL EROSION MAY ALSO BE REQUIRED TO MEET SEDIMENT DISCHARGE REQUIREMENTS.

Designed By:	
Date	

O:\Client\Kwik Trip\17-xxx PDQ Acquisitions\17-052 Waukesha WI 968\2018 3-6 City submittal\WDNRsoilLossSedimentDischargeCalculationTool.xls

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STATE OF WISCONSIN
ROBERT J. MUELLER
LA-378
PLYMOUTH, MN
REGISTERED LANDSCAPE ARCHITECT
06MAR18

EROSION CONTROL PLAN
CONVENIENCE STORE 968
2302 E MORELAND BLVD WAUKESHA, WISCONSIN

NO.	DATE	DESCRIPTION
-	06MAR18	CITY COMMENTS

DRAWN BY:
SCALE: GRAPHIC
PROJ. NO.: 17968
DATE: 09JAN2018
SHEET: SWP1

insites 17-052 PM C.N.

GENERAL STORMWATER POLLUTION PREVENTION:

Apply for and obtain all necessary permits for Construction Activity.

Stormwater Pollution Prevention Plan (SWPPP): The SWPPP includes this narrative, Plan Sheets SP3, SP3.1 and SP3.2, and the Stormwater Management Calculations. Keep a copy of the SWPPP, all changes to it, and inspections and maintenance records at the site during the construction. During the construction process the SWPP will have to be amended for all changes performed by the contractor, the owner shall be aware of the amendments prior to changes made to the SWPP plan. All notes, photographs, recorded dates, sketches, references, and diagrams will have to be recorded and made available as part of the SWPP permit.

Individual(s) preparing the SWPPP for the project, overseeing implementation of the SWPPP, revising and amending the SWPPP, and at least one individual on the project performing installation, inspection, maintenance, and repairs of BMPs must be trained. The training must be done by a local, state, federal agencies; professional organization; or other entities with expertise in erosion prevention, sediment control, or permanent Stormwater management.

Responsible Parties: The contractor must designate a person knowledgeable and experienced in the application of erosion prevention and sediment control BMPs who will oversee the implementation of the SWPPP, and the installation, inspection, and maintenance of the erosion prevention and sediment control BMPs before and during construction.

The owner is responsible for identifying who will have responsibility for the long term operation and maintenance of the permanent stormwater management systems.

Owner contact:

CONTACT CHRIS NUTINI
KWIK TRIP, INC
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LACROSSE, WI 54602
608-793-5551

SITE INVESTIGATION, INSTALLATION, IMPLIMENTATION :

1. Prior to any work, contractor shall visit the site, document existing conditions as necessary(photos, notes, etc) and note existing drainage patterns on and off site that are related to the project. These notes shall be part of the SWPP.

2. Install all temporary erosion and sediment control measures including silt fence, rock construction entrance(s), erosion control berms, rock filters, silt sacks, rock/earth berms, and sedimentation basins. Protect all receiving waters, catch basins, ditches, inlets etc. in and around the site. All protective and preventative measures must be in place and inspected prior to beginning site clearing, grading, or other land-disturbing activity.

3. Prior to beginning site clearing and grading, protect all storm sewer inlets that receive runoff from disturbed areas. In order to prevent sediment from leaving the site and entering the downstream storm sewer system, seal all storm sewer inlets that are not needed for site drainage during construction. Protect all other storm sewer inlets by installing sediment control devices, such as silt sacks, or rocked filtration logs/wers. Straw bales or fabric under the grates are not acceptable forms of inlet protection. Protect new storm sewer inlets as they are completed. Maintain storm sewer inlet protection in place until all sources with potential for discharging to the inlets are stabilized.

4. Before beginning construction, install a TEMPORARY ROCK CONSTRUCTION ENTRANCE at each point where vehicles exit the construction site When at all possible contractor shall designate only one access point for vehicles entering and exiting the site. The rock on the entrance will have to be inspected daily and replaced or rock supplemented by the contractor when over 50% of the voids in the rock are filled. A cleaning station should be made available to drivers and visibly signed as such. Provide shovels, brooms and/or hose with a wash out area so soils can be removed from vehicles on site.

5. Avoid entire removal of trees and surface vegetation all at once whenever possible as this limits the amount of site susceptable to erosion. Schedule construction zones and note this on the SWPP plan in order to expose the smallest practical area of soil at any given time. Utilize vegetation removed by on site grinding and mulching and using this material to protect the soil from erosion.

6. Following initial soil disturbance or re-disturbance, complete permanent or temporary stabilization against erosion due to rain, wind, and running water within 7 calendar days on all disturbed or graded areas. This requirement does not apply to those areas that are currently being used for material storage on a daily basis or for those areas on which grading, site building, or other construction activities are actively underway. Provide temporary cover on all stacked topsoil piles, and other areas of stockpiled excavated material in order to prevent soil erosion and rapid runoff during the construction period. Stockpiles can be mulched,covered with poly or fabric, and or seeded during prolonged exposure. Prolonged periods of open, bare earth without grass cover will not be permitted. Stabilize all disturbed greenspace areas with a minimum of 4" topsoil immediately after final subgrade completion. Seed and mulch, or sod and protect these areas within 48 hours after completion of final grading work (weather permitting). Stabilize all disturbed areas to be paved using early application of gravel base. Stabilize the normal wetted perimeter of any temporary or permanent drainage ditch that conveys water from the construction site, or diverts water around the construction site, within 200 lineal feet from the property edge, or within 200 feet from the point of discharge to any surface water. Stabilize temporary or permanent drainage ditches within 24 hours of connecting to a surface water. Protect outfalls minimum of 200feet down stream and to the side of the discharge point. Additional settling "pots" achieved by filter logs or filtered stick bales staked in the channel will dissipate the water energy. Provide pipe outlets with temporary or permanent energy dissipation within 24 hours of connection to a surface water.

7. Receiving Waters - It is the contractors responsibility to inspect the site discharge point as well as downstream to the receiving body of water(pond, lake, stream, etc.) on a regular basis including after each storm event and document if any differences or changes in normal in discharge and if material is leaving the construction site. If so it shall be documented and removed immediately.

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

POLLUTION CONTROL:

1. Designate a Concrete Wash-out and truck wash area:
   Make it visible in the field to vehicle operators and note this on the SWPP plan.

   a. When washouts occur on the site, concrete washout water must be contained in a leak-proof containment facility or impermeable liner. Liquid and solid wastes may not touch the ground and there must not be runoff from the concrete washout operations or areas.

   b. On sites where Concrete Washout areas are not feasible as shown on the Detail Sheet, above ground methods and/or off-site methods can be utilized as approved by Owner.

   c. Concrete washout may be provided off-site by Concrete Contractor or Concrete Supplier, at an approved washout disposal area. Concrete Supplier may provide Concrete Washout Areas on-board their transports for disposal off-site. Concrete Contractor shall verify with Supplier in regards to provided Concrete Washout areas on and off-site, as necessary.

   d. Limit external washing of trucks and other construction vehicles to a defined area preferably before the construction access/exit point. Wash vehicles only on an area stabilized with stone that drains into an approved sediment trapping device. Contain runoff and properly dispose of waste. Engine degreasing is prohibited.

2. Solid Waste: Properly dispose of collected sediment, asphalt and concrete millings, floating debris, paper, plastic, fabric, construction and demolition debris, and other wastes in compliance with State requirements.

3. Hazardous Materials: Properly dispose of all waste and unused building materials (including garbage debris, cleaning wastes, oil, gasoline, paint, wastewater, toxic materials, and hazardous materials) off-site. Do not allow waste and unused building materials to be carried by runoff into a receiving channel or storm sewer system. Properly store oil, gasoline, paint, and other hazardous materials in order to prevent spills, leaks, or other discharge. Include secondary containment. Restrict access to storage areas in order to prevent vandalism. Storage and disposal of hazardous materials must be in compliance with regulations.

4. Machinery: and mechanized equipment that leaks waste shall have a protective barrier or containment under the device adequate to contain the waste. Properly dispose of the waste.

5. Emergency spill station: Contractor shall locate and sign an emergency spill station that has necessary containment or cleanup devices for all workers to access.

EROSION CONTROL :

Apply necessary moisture to the construction area and haul roads to prevent the spread of dust.

Contractor shall utilize coarsely ground wood and tree mulches to cover exposed soils. Mulches shall be stored on site to supplement and use in problem areas during all phases of the construction project.

Contractor shall uses star tack or other organic substances in situations to prevent soil from eroding away by wind or rain.

Whenever possible contractor shall grade areas of soil to limit potential of erosion, to include tracking perpendicular to fall line of grades as well as diverting water flows from problematic areas on the site.

Seeding, fiber blankets, poly/tarps or cover mulches, disked mulches and compost can be used to cover temporarily exposed areas from wind and rain. Other methods by the contractor shall be documented in the SWPP.

SEDIMENT CONTROL:

Inlet Sediment Control Protection Devices:
The following area approved Inlet Sediment Control Devices:

a. Road Drain Top Slab Model RD 23 (fits rough opening for 2'x3' inlet), Road Drain Top Slab Model RD 27 (fits rough opening for 27" inlet), or Road Drain Top Slab Model CG 3067 (fits Neenah Casting with 35-1/4"x17-3/4" dimensions) manufactured by:
WIMCO
799 Theis Drive
Shakopee, MN, 55379
Phone (992) 233-3055
or approved equal

b. Silt Sack manufactured by:
ACF ENVIRONMENTAL
2831 Cardwell Road
Richmond, VA, 23234
Phone (800) 448-3636
or approved equal

c. InfraSafe Sediment Control Barrier. Install geotextile sock on the outside of the barrier in order to trap additional fines. Standard frames are available to fit 24" to 30" diameter and 2'x3' openings.
Distributed by:
ROYAL ENTERPRISES AMERICA
30622 Forest Boulevard
Stacy, MN, 55079
Phone (651) 462-2130
or approved equal

d. Ridge Bag Rock Log. Use rock logs only for curb inlets after pavement is in place.
Manufactured by RED BARN RIDGE, 3135
County Road 136, Saint Cloud, MN, 35301
Phone (320) 253-3744
or approved equal

e. Inflatable drain plugs by Interstate Products www.interstateproducts.com *or approved equal*

Riprap:
Place a 450 mm (18 inch) thick layer of riprap onto a 225 mm (9 inch) thick layer of granular filter material at locations indicated on the plan in accordance with WIDOT Specification 606. Install two layers of medium duty Geotextile fabric (WIDOT HR, section 645.3.7) beneath the granular filter material. At pipe outfalls configure the installation as shown on detail sheet for the size of pipe indicated and extend the geotextile fabric under the culvert apron a minimum of 3 feet. For pipe sizes smaller than 300 mm (12 inch) diameter, the minimum quantity of riprap and filter blanket shall be no less than that required for 300 mm (12 inch) diameter pipes.

Silt Fence:
Install and maintain per WIDNR Conservation Practice Standard 1056.

Install silt fence along the contour (on a level horizontal plane) with the ends turned up (J-hooks) in order to help pond water behind the fence. Install the silt fence on the uphill side of the support posts. Provide a post spacing of 1.2 m (4 feet) or less. Drive posts at least 0.6 m (2 feet) into the ground. Anchor the silt fence fabric in a trench at least 152 mm (6 inches) deep and 152 mm (6 inches) wide dug on the upslope side of the support posts. Lay the fabric in the trench and then backfill and compact with a vibratory plate compactor. Make any splices in the fabric at a fence post. At splices, overlap the fabric at least 152 mm (6 inches), fold it over, and securely fasten it to the fence post. Silt fence supporting posts shall be 51 mm (2 inch) square or larger hardwood, pine, or standard T- or U-section steel posts. T- or U-section steel posts shall weigh not less than 1.8602 kg per meter (1.25 lb per lineal foot). Posts shall have a minimum length of 1524 mm (5 feet). Posts shall have projections to facilitate fastening the fabric and prevent slippage. Geotextile fabric shall meet the requirements of WIDOT Standard Specification 628 for preassembled silt fence, furnished in a continuous roll in order to avoid splices. Geotextile fabric shall be uniform in texture and appearance and have no defects, flaws, or tears. The fabric shall contain sufficient ultraviolet (UV) ray inhibitor and stabilizers to provide a minimum two-year service life outdoors. Fabric color shall be international orange. In high traffic areas contractor shall reinforce silt fence with wire fencing and metal posts. extreme circumstances will require temporary concrete median sections to support material backing of stock piled soil or filled earth.

Install siltfence, or other effective sediment controls, around all temporary soil stockpiles. Locate soil or dirt stockpiles containing more than 10 cubic yards of material such that the downslope drainage length is no less than 8 m (25 feet) from the toe of the pile to a roadway or drainage channel. If remaining for more than seven days, stabilize the stockpiles by mulching, vegetative cover, tarps, or other means. Control erosion from all stockpiles by placing silt fence barriers around the piles. During street repair, cover construction soil or dirt stockpiles located closer than 8 m (25 feet) to a roadway or drainage channel with tarps, and protect storm sewer inlets with silt sacks or staked siltfence. Do not stock pile soil or material near catch basins or drainage ways.

Stone Tracking Pad (Temporary Rock Construction Entrance:
Install and maintain per WIDNR Conservation Practice Standard 1057. Use 3inch to 6" diameter rock. Place the aggregate in a layer at least 300 mm (12 inches) thick across the entire width of the entrance. Extend the rock entrance at least 15 m (50 feet) into the construction zone. Use a WIDOT Type R permeable geotextile fabric material beneath the aggregate in order to prevent migration of soil into the rock from below. Maintain the entrance in a condition that will prevent tracking or flowing of sediment onto paved roadways. Provide periodic top dressing with additional stone as required. Close entrances not protected by temporary rock construction entrances to all construction traffic.

Temporary Sediment Basins
In the construction process or if noted on the plan the contractor shall construct temporary sediment basin(s). As per general rule the sediment basin shall be sized appropriately to a capacity related to the drainage area on a ratio of 3,600 cubic feet per acre of drainage zone entering the basin. Basins shall be inspected after every rainfall event, material removed and stabilized. If changes to the basin are made, document and amend the SWPP plan.

DEWATERING:

If dewatering is required and sump pumps are used, all pumped water must be discharged through an erosion control facility (temporary sedimentation basin, grit chamber, sand filter, upflow chamber, hydro-cyclone, swirl concentrator, dewatering bag or other appropriate facility) prior to leaving the construction site. Proper energy dissipation must be provided at the outlet of the pump system. Discharge clear water only. To achieve better separation of the material suspended in the water a biodegradable not toxic flocculant agent may be required.
For more information and materials go to by Interstate Products www.interstateproducts.com

INSPECTIONS-MAINTENANCE-DAILY RECORD-AMEND THE SWPP PLAN

1. Contractor shall inspect all erosion and sediment control devices, stabilized areas, and infiltration areas on a daily basis until land-disturbing activity has ceased. Thereafter, inspect at least on a weekly basis until vegetative cover is established. Inspect all erosion and sediment control devices, stabilized areas, and infiltration areas within 24 hours after a rainfall event greater than 0.5 inches in 24 hours. Remove accumulated sediment deposits from behind erosion and sediment control devices as needed. Do not allow sediment to accumulate to a depth of more than one-third of the height of the erosion and sediment control devices. Immediately replace deteriorated, damaged, rotted, or missing erosion control devices. Document inspections and dates of rainfall events. Maintain a written log of all inspection, maintenance, and repair activities related to erosion and sediment control facilities. All nonfunctional BMPs must be repaired, replaced, or supplemented with functional BMPs within 24 hours after discovery, or as soon as field conditions allow access.

2. All inspections and maintenance activities must be recorded in writing DAILY in a detailed record(notes, photographs, sketches, etc, and kept with the SWPPP by the contractor.

3. Contractor shall remove all soils and sediments tracked or otherwise deposited onto adjacent property, pavement areas, sidewalks, streets, and alleys. Removal shall be on a daily basis throughout the duration of the construction and/or as directed by the City. Clean paved roadways by shoveling or wet-sweeping. Do not dry sweep. If necessary, scrape paved surfaces in order to loosen compacted sediment material prior to sweeping. Haul sediment material to a suitable disposal area. Street washing is allowed only after sediment has been removed by shoveling or sweeping.

4. All soil hauled from the site shall be accounted for and documented in the SWPP by the contractor. Its final destination and how the soil has been stored and stabilized.

5. Contractor shall maintain all temporary erosion and sediment control devices in place until the contributing drainage area has been stabilized (hard-surfaced areas paved and vegetation established in greenspace). Repair any rilling, gully formation, or washouts. After final establishment of permanent stabilization, remove all temporary synthetic, structural, and non-biodegradable erosion and sediment control devices and any accumulated sediments. Dispose-of off site. Restore permanent sedimentation basins to their design condition immediately following stabilization of the site.

6. Contractor shall clean sedimentation basins, storm sewer catchbasins, ditches, and other drainage facilities as required in order to maintain their effectiveness. Temporary and permanent sedimentation basins must be drained and the sediment removed when the depth of sediment collected in the basin reaches 1/2 of the storage volume. Drainage and removal must be completed within 72 hours, or as soon as field conditons allow access.

7. Contractor shall inspect infiltration areas to ensure that no sediment from ongoing construction activities is accumulating. Remove sediment immediately ensuring subsoils are not compacted by machinery.

8. Every vehicle shall not track material off-site. Clean the wheels of construction vehicles in order to remove soils before the vehicles leave the construction site. Wash vehicles only on an area stabilized with stone that drains into an approved sediment trapping device.

9. Contractor shall reinforce erosion control facilities in areas where concentrated flows occur (such as swales, ditches, and areas in front of culverts and catchbasins) by backing them with snow fence, wire mesh, or stiff plastic mesh reinforcement until paving and turf establishment operations have been completed. Posts for the reinforcing fence shall be 100 mm (4 inch) diameter wood posts, or standard steel fence posts weighing not less than 0.59 kg (1.3 lbs) per lineal foot, with a minimum length of 762 mm (30 inches) plus burial depth. Space posts for the reinforcing fence at intervals of 3 m (10 feet) or less. Drive posts for the reinforcing fence at least 0.6 m (2 feet) into the ground.

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

Establishment of lawn, prairie/wildflower and/or plant bed areas will be noted on the landscape plan

to ensure stabilization of soils, restaking of sod where applicable, proper watering and mulch maintenance will be required. Inspect seeded or sodded areas on a timely day-to-day basis. In the event of a seeding failure, reseed and remulch the areas where the original seed has failed to grow and perform additional watering as necessary at no additional cost to the Owner. Special maintenance provisions for wild and prairie grass seeded areas as noted in the landscape plan. Promptly replace all sod that dries out to the point where it is presumed dead and all sod that has been damaged, displaced, weakened, or heavily infested with weeds at no additional cost to the Owner. .

In areas to be temporarily seeded, use introduced seed mixture equivalent to WIDOT #10 or #20. Apply seed mixture per WIDOT 630.3.3.5. Incorporate a fertilizer (slow release type with 10 week residual) consisting of 23-0-30 (%N-P-K) into the soil at an application rate of 224 kg per hectare (200 lbs per acre) by disking prior to seeding. In problematic areas it may be necessary to use a low phosphorus organic fertilizer in cases where seeds may not germinate. If this is the case, seed and fertilizer shall be disked into the surface and mulched properly to ensure germination and uptake of the Phosphorus by the seed.

To ensure adequate germination of the seed the work will be performed as follows:
Spring- from April 1 through May 15.
Fall- from August 15 to September 20.
After September 20, wait until October 30 to perform dormant seeding. Dormant seeding will only be allowed if the maximum soil temperature at a depth of 25 mm (1 inch) does not exceed 4.44 degrees C (40 degrees F) in order to prevent germination.

In seeded areas with slopes steeper than 3:1 and lengths less than 15 meters (50 feet), install biodegradable erosion control blankets uniformly over the soil surface by hand within 24 hours after seeding in accordance with manufacturers recommendations. Use WIDOT Urban Type B or owner approved equal.

In areas where irrigation is to be installed, contractor shall work in zones to finish grade and install the system in zones. Note- Erosion control measures shall remain in place until soils have been stabilized with sod or seeded areas that exhibit minimum of 70% lawn vegetative coverage. If silt fence has to be removed to install the irrigation system, it shall be reinstalled at the end of each work day or use bio rolls to provide protection during the installation process until lawn areas have sod and/or plant beds are mulched.

In areas to be sodded, silt fence can be removed short term for working, but exposed soil areas shall be sodded or erosion control measures shall be reinstalled at the end of each work day.

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

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KWIK STAR

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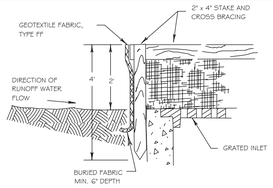
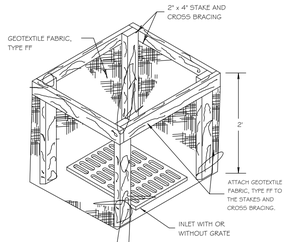
insites 17-052 PM:C.N.

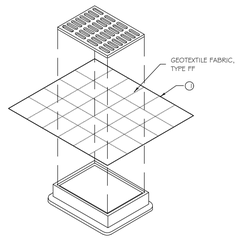
ALL EROSION CONTROL MEASURES TO BE
INSTALLED AND MAINTAINED PER WDNR STANDARDS

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

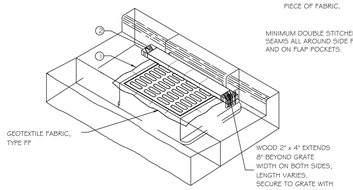




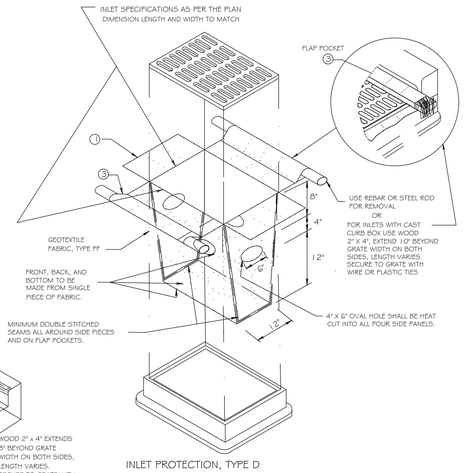
INLET PROTECTION, TYPE A



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



INLET PROTECTION, TYPE C (WITH CURB BOX)



INLET PROTECTION, TYPE D
(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE 3)

GENERAL NOTES

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENTS EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

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 1'-0" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
2. FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 1'-8" 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.

INSTALLATION NOTES

TYPE B & C

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

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

TYPE D

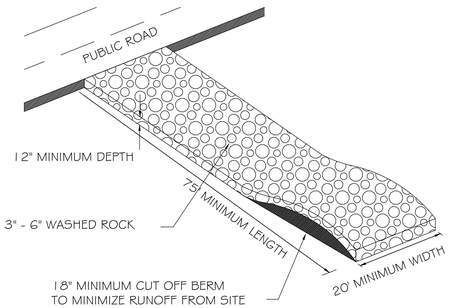
DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

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

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

This drawing based on Wisconsin Department of Transportation Standard Detail Drawing 8 E 10-2.

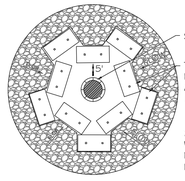
INLET PROTECTION
TYPE A, B, C, AND D



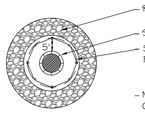
FILTER FABRIC SHALL BE PLACED UNDER ROCK TO STOP MUD MIGRATION THROUGH ROCK.

ROCK CONSTRUCTION ENTRANCE

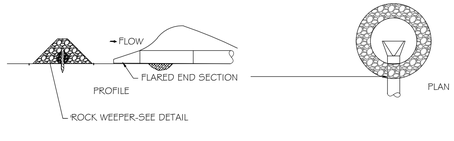
OPTION 1 - HAYBALES AROUND BEEHIVE



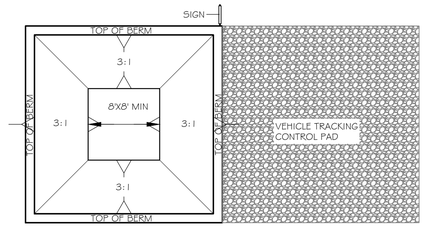
OPTION 2- SILT FENCE CONTROL AROUND BEEHIVE



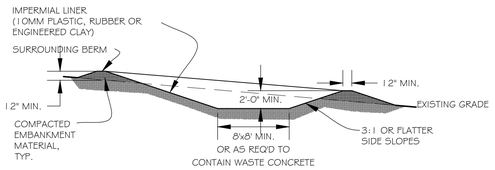
C. ROCK WEEPER PROTECTION AT FLARED END SECTION/OUTLET PIPE-
SEE ROCK WEEPER DETAIL FOR INSTALLATION
DIKE SHALL BE MIN. 6" HIGHER THAN DIAMETER OF PIPE



BEE-HIVE CASTING AND FLARED END SECTION
EROSION/SEDIMENT CONTROL



PLAN
1/8"= 1'-0"



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

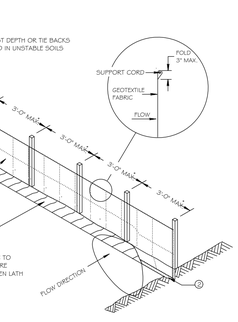
CONCRETE WASHOUT AREA INSTALLATION NOTES

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

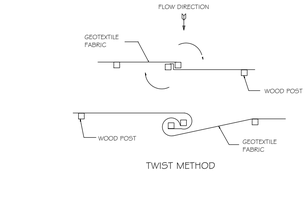
CONCRETE WASHOUT AREA MAINTENANCE NOTES

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

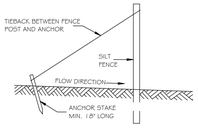
CONCRETE WASHOUT AREA



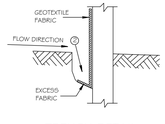
SILT FENCE



JOINING TWO LENGTHS OF SILT FENCE 3



SILT FENCE TIE BACK
(WHEN ADDITIONAL SUPPORT REQUIRED)



TRENCH DETAIL

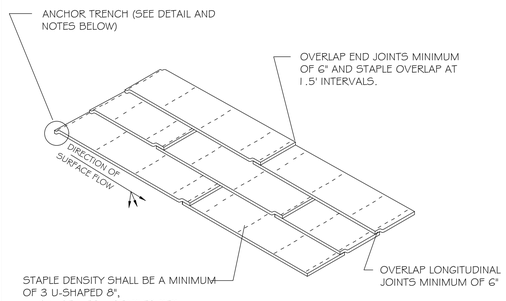
GENERAL NOTES

1. HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
2. TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
3. WOOD POSTS SHALL BE A MINIMUM SIZE OF 1.5" X 1.5" OF OAK OR HICKORY.
4. SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
5. CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS: A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.

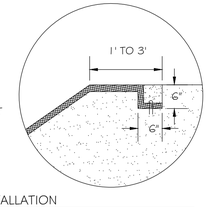
This drawing based on Wisconsin Department of Transportation Standard Detail Drawing 8 E 9-6.

SILT FENCE

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



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



EROSION CONTROL BLANKET INSTALLATION

KWIK TRIP
KWIK STAR

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
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INSITES
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Plymouth Minnesota 55447
763.383.8400
fax 763.383.8440

STATE OF WISCONSIN
ROBERT J. MUELLER
LA-378
PLYMOUTH, MN
REGISTERED LANDSCAPE ARCHITECT
OGMAR18

EROSION CONTROL DETAILS

CONVENIENCE STORE 968

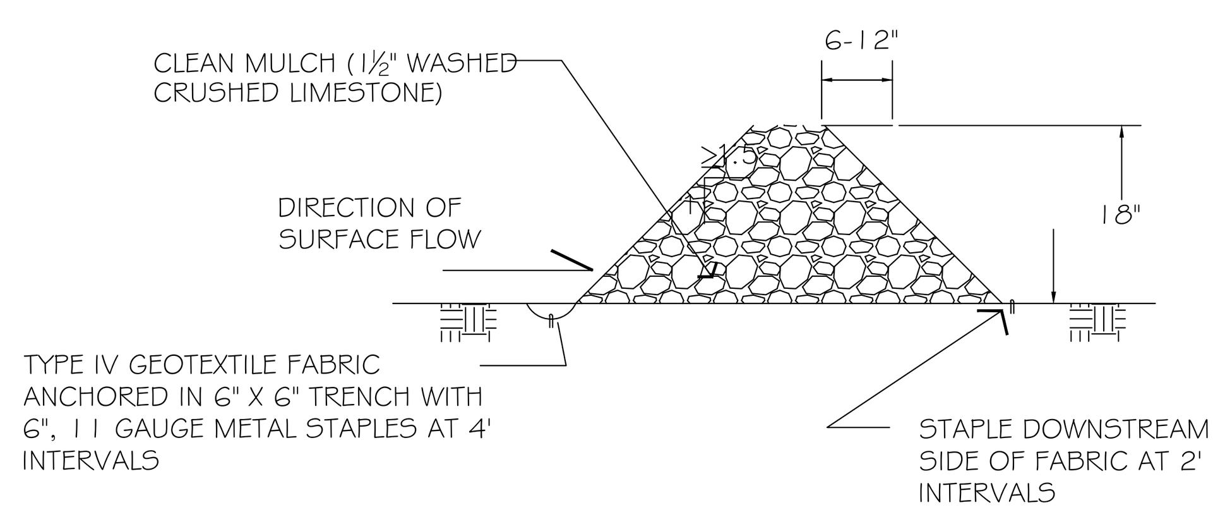
2302 E MORELAND BLVD
WAUKESHA, WISCONSIN

NO.	DATE	DESCRIPTION
-	OGMAR18	CITY COMMENTS

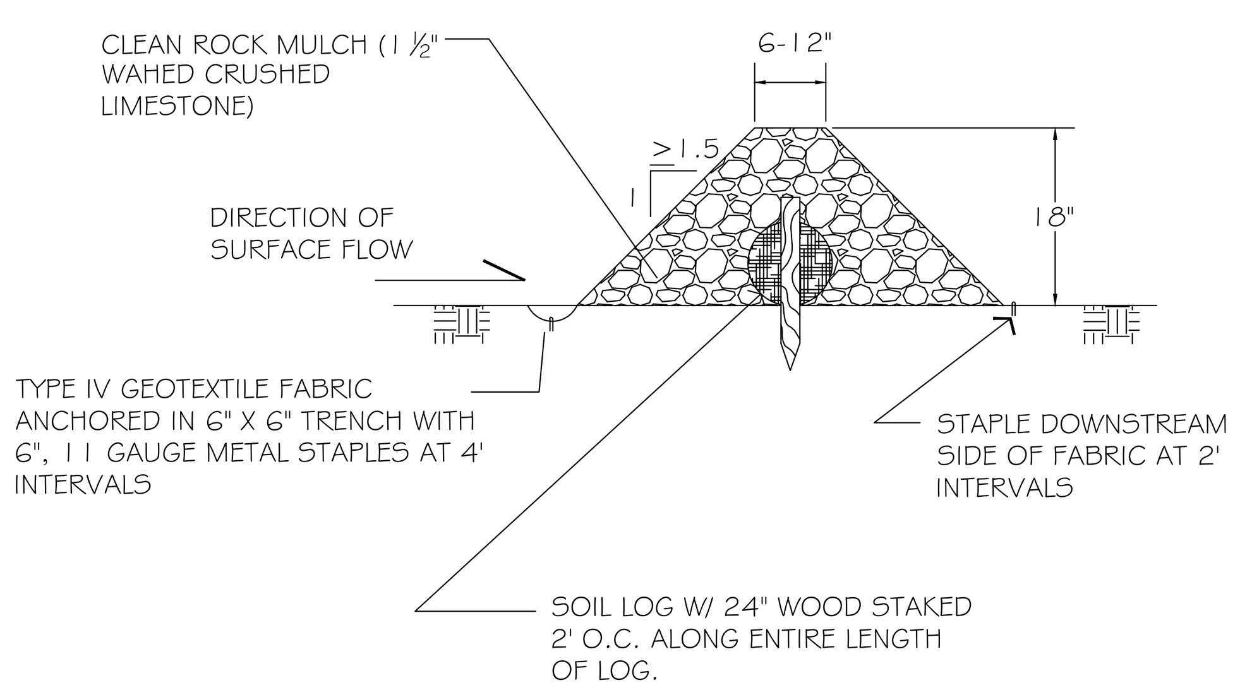
DRAWN BY
SCALE GRAPHIC
PROJ. NO. 17968
DATE 09JAN2018
SHEET **SWP3**

insites 17-052 PM C.N.

I. ROCK WEEPER @ MINIMAL WATER FLOWS



II. BIO WEEPER @ CONCETRATED FLOWS



DITCH CHECKS, ROCK WEEPERS, & ROCK BIO WEEPERS
EROSION CONTROL

Channel Erosion Mat
(1053)

Wisconsin Department of Natural Resources
Conservation Practice Standard

I. Definition

A protective soil cover of straw, wood, coconut fiber or other suitable plant residue, or plastic fibers formed into a mat, usually with a plastic or biodegradable mesh on one or both sides. Erosion mats are rolled products available in many varieties and combination of materials and with varying life spans.

II. Purpose

The purpose of this practice is to protect the channel from erosion or act as turf reinforcement during and after the establishment of grass or other vegetation in a channel. This practice applies to both *Erosion Control Revegative Mats* (*ECRM*[1]) and *Turf-Reinforcement Mats* (*TRM*).

III. Conditions Where Practice Applies

This standard applies where runoff channelizes in intermittent flow and vegetation is to be established. Some products may have limited applicability in projects adjacent to navigable waters.

IV. Federal, State, and Local Laws

Users of this standard shall be aware of applicable federal, state, and local laws, rules, regulations, or permit requirements governing the use and placement of erosion mat. This standard does not contain the text of federal, state, or local laws.

V. Criteria

This section establishes the minimum standards for design, installation and performance requirements. To complete the shear calculations, a 2 year, 24 hour storm event shall be used to calculate depth of flows for an ECRM. For sizing a TRM, use the depth of flow corresponding to the maximum design capacity of the channel.

Only mats listed in the Wisconsin Department of Transportation (WisDOT) Erosion Control Product Acceptability List (PAL) will be accepted for use in this standard.

To differentiate applications WisDOT organizes erosion mats into three classes of mats, which are further broken down into various Types.

A. **Class I**: A short-term duration (minimum of 6 months), light duty, organic ECRM with plastic or biodegradable netting.

1. **Type A** – Only suitable for slope applications, not channel applications.
2. **Type B** – Double netted product for use in channels where the calculated (design) shear stress is 1.5 lbs/ft^2 or less.

B. **Class II**: A long-term duration (three years or greater), organic ECRM.

1. **Type A** – Jute fiber only for use in channels to reinforce sod.
2. **Type B** – For use in channels where the calculated (design) shear stress is 2.0 lbs/ft^2 or less. Made with plastic or biodegradable mat.
3. **Type C** – A woven mat of 100% organic material for use in channels where the calculated (design) shear stress is 2.0 lbs/ft^2 or less. Applicable

Conservation Practice Standards are reviewed periodically and updated if needed. To obtain the current version of this standard, contact your local WDNR office or the Standards Oversight Council office in Madison.

[1] Words in the standard that are shown in italics are described in X. Definitions. The words are italicized the first time they are used in the text.

for use in environmentally sensitive areas where plastic netting is inappropriate.

C. **Class III**: A permanent 100% synthetic ECRM or TRM. Class I, Type B erosion mat or Class II, Type B or C erosion mat must be placed over a soil filled TRM.

1. **Type A** – An ECRM for use in channels where the calculated (design) shear stress of 2.0 lbs/ft^2 or less.
2. **Type B** – A TRM for use in channels where the calculated (design) shear stress of 2.0 lbs/ft^2 or less.
3. **Type C** – A TRM for use in channels where the calculated (design) shear stress of 3.5 lbs/ft^2 or less.
4. **Type D** – A TRM for use in channels where the calculated (design) shear stress of 5.0 lbs/ft^2 or less.

D. **Installation**

1. ECRM shall be installed after all topsoiling, fertilizing, liming, and seeding is complete.
2. Erosion mats shall extend for whichever is greater: upslope one-foot minimum vertically from the ditch bottom or 6 inches higher than the design flow depth.
3. The mat shall be in firm and continuous contact with the soil. It shall be anchored, overlapped, staked and entrenched per the manufacturer's recommendations.
4. TRM shall be installed in conjunction with the topsoiling operation and shall be followed by ECRM installation.
5. At time of installation, document the manufacturer and mat type by saving material labels and manufacturer's installation instructions. Retain this documentation until the site is stabilized.

VI. Considerations

A. Erosion mats shall be selected so that they last long enough for the grass or other vegetation to become densely established.

B. Consider using Class II, Type C mats adjacent to waterways where trapping small animals is to be avoided.

C. Class III TRM may be appropriate as a replacement for riprap as a channel liner. Check the shear stress criteria for the channel to determine mat applicability.

D. Once a gully has formed in a channel, it is difficult to stabilize due to loss of soil structure. Even when the gully is filled with topsoil and reseeded, the soil has a tendency to dislodge in the same pattern. If gully formation continues to be a problem the design should be reevaluated, including other mat classes or riprap.

E. It may be difficult to establish permanent vegetation and adequate erosion protection in a channel with continuous flow. Consider riprap or planting wetland species with an ECRM.

F. Documentation of materials used, monitoring logs, project diary, and weekly inspection forms including erosion and stormwater management plans, should be provided to the authority charged with long term maintenance of the site.

G. Channel cross sections may be parabolic, v-shaped or trapezoidal. The use of "V" channels is generally discouraged due to erosion problems experienced.

H. To help determine the appropriate channel liner, designers can refer to the design matrix in the back of the WisDOT PAL. However, for channels not conforming to the typical section shown in the channel matrix or having a depth of flow greater than 6 inches (150 mm), the designer will need to design

for an appropriate channel liner. One way to do this is to use the "tractive force" method presented in FHWA's Hydraulic Engineering Circular (HEC) No. 15. This method requires that the calculated maximum shear stress of a channel is not to exceed the permissible shear stress of the channel liner. To use this method, permissible shear stress values are stated next to each device listed in the channel matrix.

VII. Plans and Specifications

A. Plans and specifications for installing erosion mat shall be in keeping with this standard and shall describe the requirements for applying the practice to achieve its intended purpose. The plans and specifications shall address the following:

1. Location of erosion mat
2. Installation sequence
3. Material specification conforming to standard

B. All plans, standard detail drawings, or specifications shall include schedule for installation, inspection, and maintenance. The responsible party shall be identified.

VIII. Operation and Maintenance

A. Erosion mats 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.

B. If there are signs of rilling under the mat, install more staples or more frequent anchoring trenches. If rilling becomes severe enough to prevent establishment of vegetation, remove the section of mat where the damage has occurred. Fill the eroded area with topsoil, compact, reseed and replace the section of mat, trenching and overlapping ends per manufacturer's recommendations. Additional staking is recommended near where rilling was filled.

C. If the reinforcing plastic netting has separated from the mat, remove the plastic and if necessary replace the mat.

D. Maintenance shall be completed as soon as possible with consideration to site conditions.

IX. References

WisDOT "Erosion Control Product Acceptability List" is available online at http://www.dot.wisconsin.gov/business/engrserv/pal.htm.

X. Definitions

Channel Erosion: The deepening and widening of a channel due to soil loss caused by flowing water. As rills become larger and flows begin to concentrate, soil detachment occurs primarily as a result of shear.

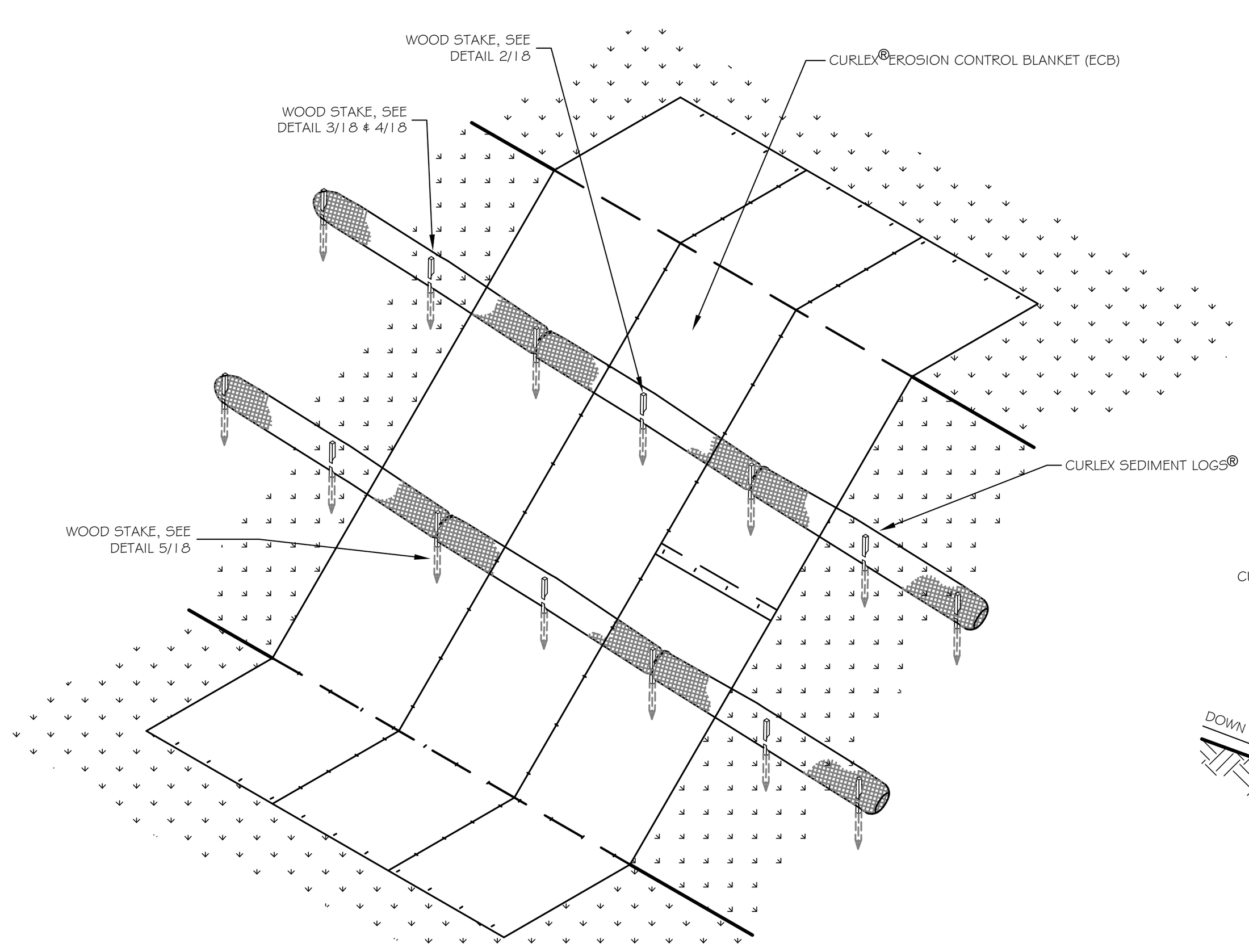
Erosion Control Revegative Mats (ECRM) (II): Erosion control revegetative mats are designed to be placed on top of soil.

Turf-Reinforcement Mats (TRM) (II): Turf-reinforcement mats are permanent devices constructed from various types of synthetic materials and buried below the surface to help stabilize the soil. TRMs must be used in conjunction with an ECRM or an approved soil stabilizer Type A (as classified in the WisDOT PAL)

NOTE: SEDIMENT LOGS SHALL BE "CURLEX" BY AMERICAN EXCELSIOR COMPANY

www.americanexcelsior.com/erosioncontrol/

OR APPROVED EQUAL



SLOPE DETAIL 1/18
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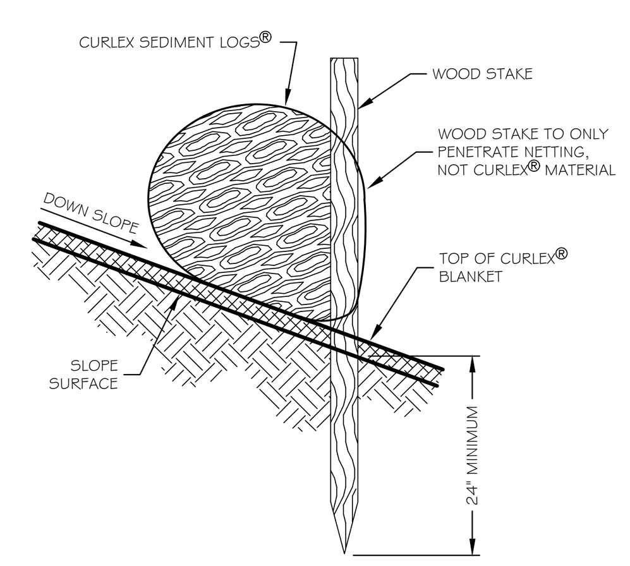
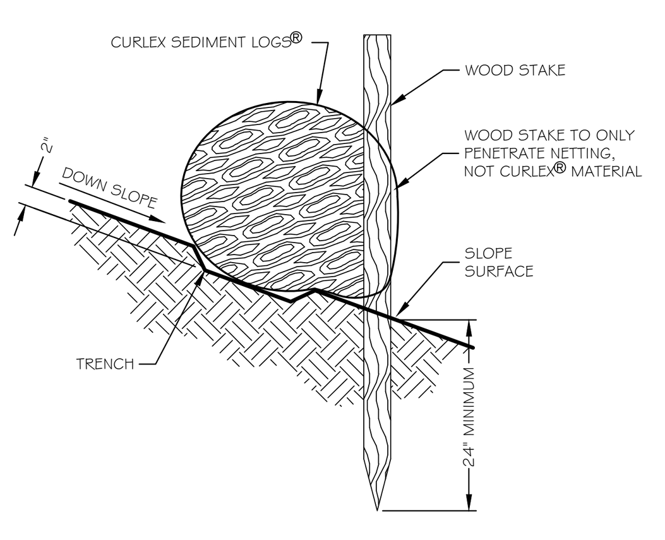
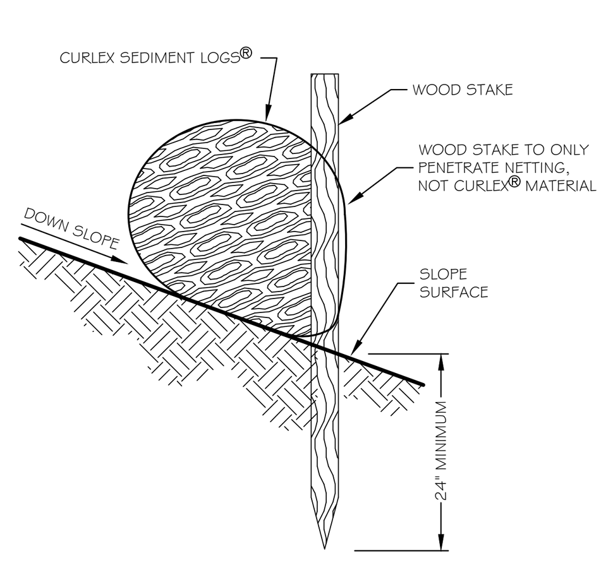


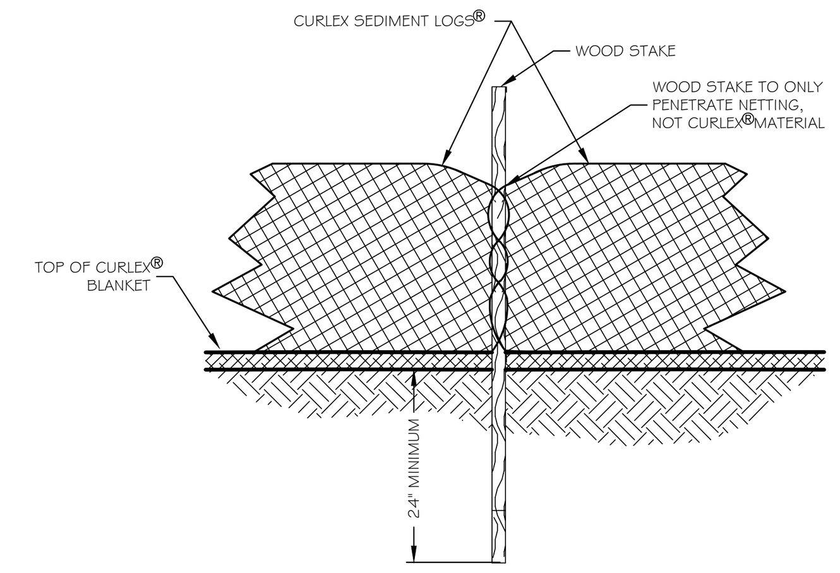
STAKE DETAILS (ON TOP OF CURLEX® ECB) 2/18
NO SCALE



(OPTIONAL TRENCH ON BARE SOIL) 4/18
NO SCALE

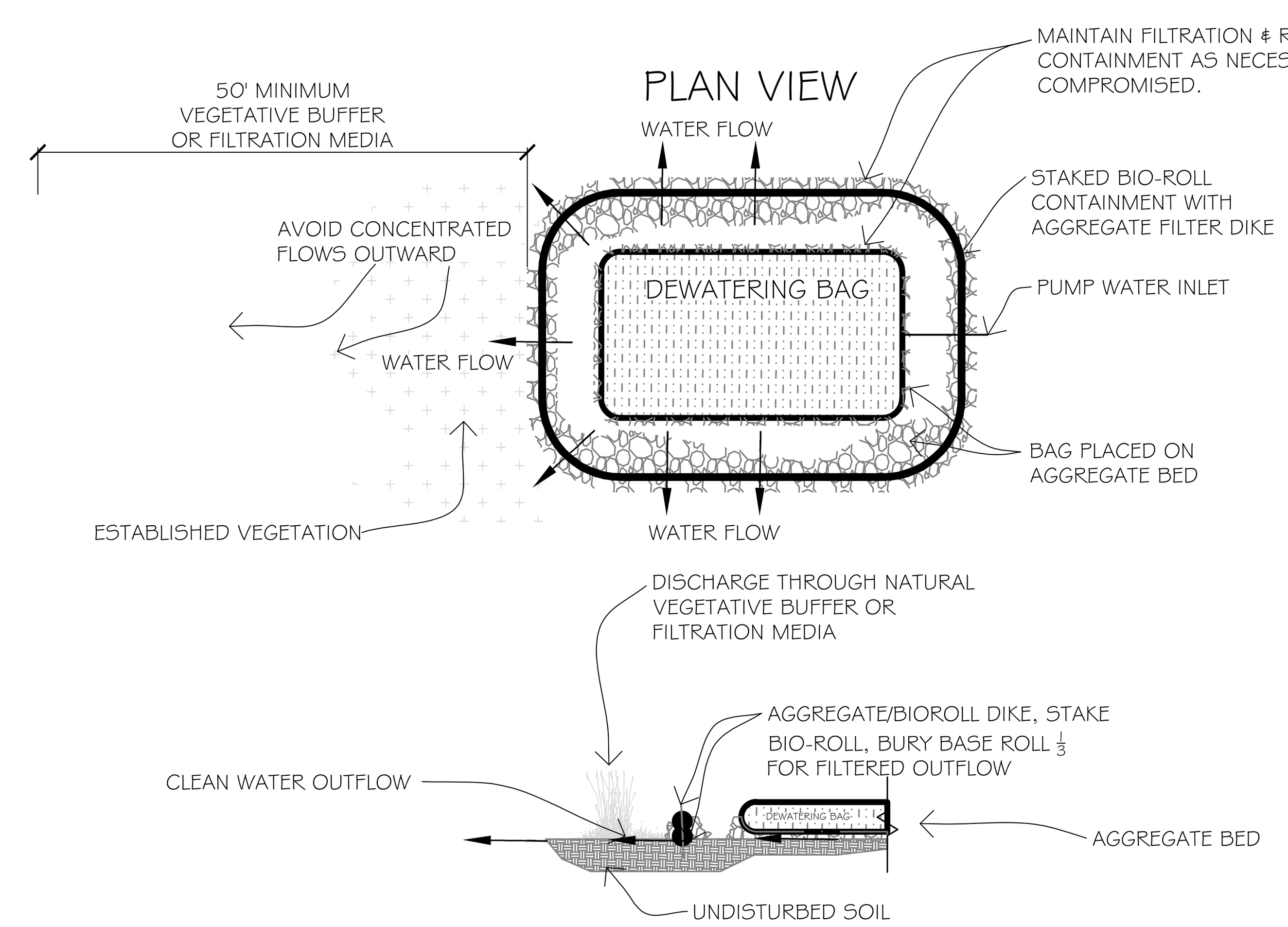


STAKE DETAILS (ON BARE SOIL) 3/18
NO SCALE



STAKE DETAIL (FRONT VIEW) 5/18
NO SCALE

BIO ROLL INSTALLATION ("LOG WEEPERS")
EROSION CONTROL



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

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

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

KWIK TRIP
KWIK STAR

KWIK TRIP, Inc.
P.O. BOX 2107
1626 OAK STREET
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763.383.8400
fax 763.383.8440

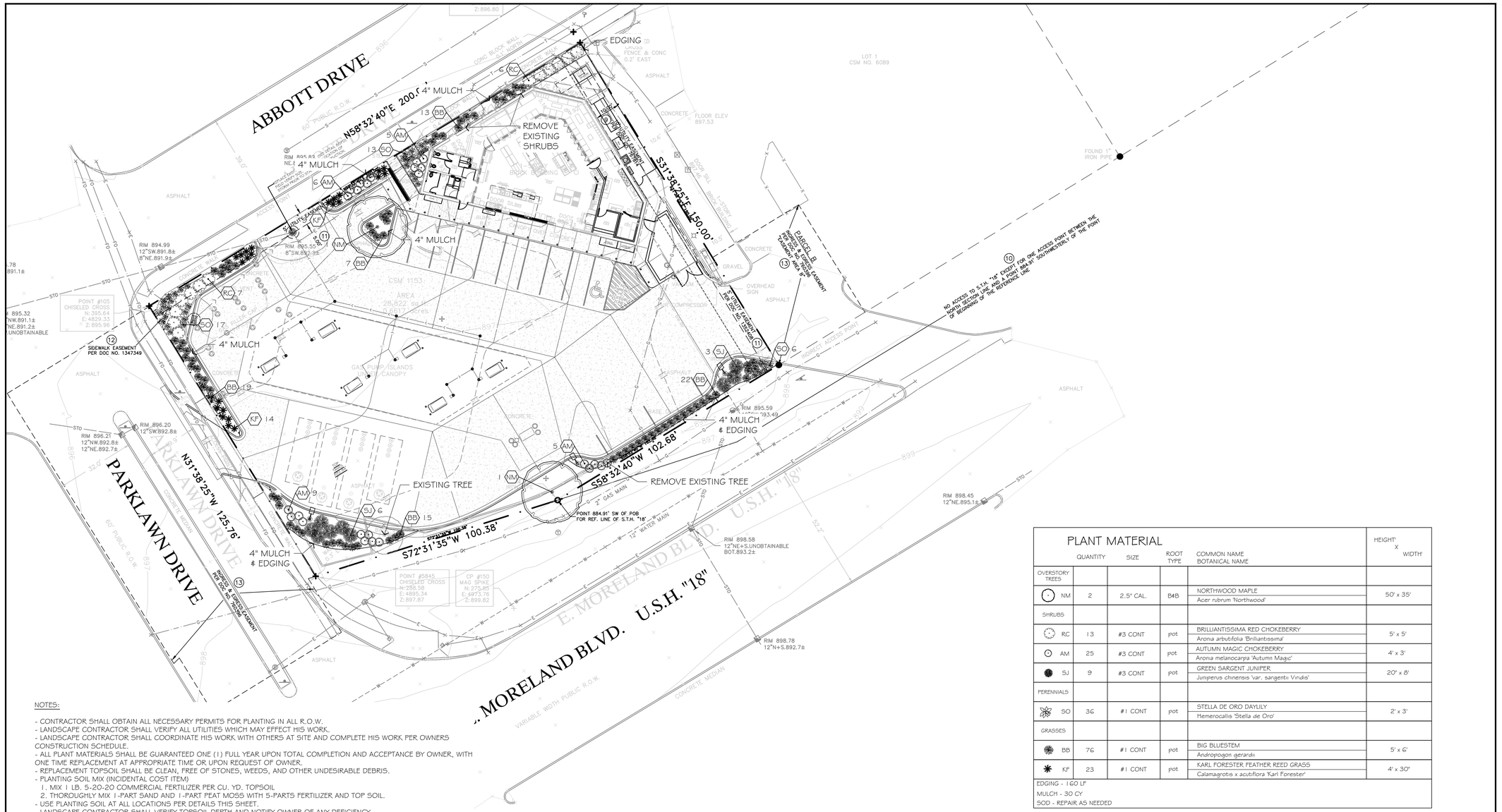
STATE OF WISCONSIN REGISTERED LANDSCAPE ARCHITECT
ROBERT J. MUELLER
LA-378
PLYMOUTH, MN
06MAR18

EROSION CONTROL DETAILS
CONVENIENCE STORE 968
2302 E MORELAND BLVD
WAUKESHA, WISCONSIN

NO.	DATE	DESCRIPTION
-	06MAR18	CITY COMMENTS

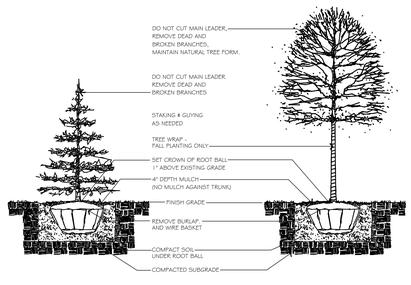
DRAWN BY	
SCALE	GRAPHIC
PROJ. NO.	17968
DATE	09JAN2018
SHEET	SWP4

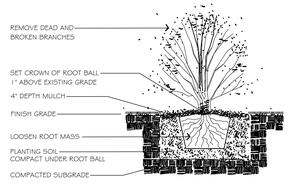
insites 17-052 PM C.N.



NOTES:

- CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FOR PLANTING IN ALL R.O.W.
- LANDSCAPE CONTRACTOR SHALL VERIFY ALL UTILITIES WHICH MAY EFFECT HIS WORK.
- LANDSCAPE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHERS AT SITE AND COMPLETE HIS WORK PER OWNERS CONSTRUCTION SCHEDULE.
- ALL PLANT MATERIALS SHALL BE GUARANTEED ONE (1) FULL YEAR UPON TOTAL COMPLETION AND ACCEPTANCE BY OWNER, WITH ONE TIME REPLACEMENT AT APPROPRIATE TIME OR UPON REQUEST OF OWNER.
- REPLACEMENT TOPSOIL SHALL BE CLEAN, FREE OF STONES, WEEDS, AND OTHER UNDESIRABLE DEBRIS.
- PLANTING SOIL MIX (INCIDENTAL COST ITEM)
  1. MIX 1 LB. 5-20-20 COMMERCIAL FERTILIZER PER CU. YD. TOPSOIL
  2. THOROUGHLY MIX 1-PART SAND AND 1-PART PEAT MOSS WITH 5-PARTS FERTILIZER AND TOP SOIL.
- USE PLANTING SOIL AT ALL LOCATIONS PER DETAILS THIS SHEET.
- LANDSCAPE CONTRACTOR SHALL VERIFY TOPSOIL DEPTH AND NOTIFY OWNER OF ANY DEFICIENCY.
- SOD SHALL BE CULTURED WITH PREDOMINATELY KENTUCKY BLUEGRASS SEED OF RECENT DISEASE RESISTANT INTRODUCTIONS. NO GUARANTEE ON SOD EXCEPT ANY SOD NOT SATISFACTORY AT TIME OF COMPLETION INSPECTION SHALL BE PROMPTLY REPLACED PRIOR TO COMPLETION OF JOB. STAKE SOD ON SLOPES 3:1 AND GREATER.
- WHERE EXISTING CONCRETE/ ASPHALT AREAS ARE TO BE REPLACED WITH LANDSCAPING, PROVISIONS SHOULD BE TAKEN TO COORDINATE EXCAVATION OF SUBSOIL TO A DEPTH OF 2' WITH GRADING CONTRACTOR. REPLACE WITH COMPACTED TOPSOIL. ALL AREAS TO BE LANDSCAPED AND SODDED SHALL BE GRADED SMOOTH AND EVEN.
- LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR SODDING ALL AREAS WHICH ARE DISTURBED BY CONSTRUCTION INCLUDING ALL R.O.W. AND ADJACENT PROPERTIES.
- LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR PROVIDING BLANKET ON ALL SEEDED AREAS THAT ARE SLOPED. MULCH APPLICATION FOR ALL OTHER SEEDED AREAS SHALL BE EITHER HYDROMULCH OR DISKED STRAW DEPENDING ON SEED TYPE, APPLICATION, AND OWNER REQUEST.
- LANDSCAPE CONTRACTOR TO INSTALL 'VALLEY VIEW', "BLACK DIAMOND" EDGING AROUND ALL PLANTING BEDS AS SHOWN ON THIS PLAN.
- ALL MULCH TO BE FINELY SHREDDED HARDWOOD ORGANIC BARK MULCH, NO DYED MULCHES, INSTALL 4" DEPTH. NO FILTER FABRIC BENEATH ORGANIC MULCHES. NO EDGING AROUND ALL TREES OUTSIDE SHRUB BEDS.
- IF SPECIFIED; ALL GRAVEL MULCH SHALL BE 1"+ DIA. WASHED "RIVER ROCK". INSTALL 4" DEPTH WITH APPROVED WEED FABRIC BARRIER IF INDICATED PLAN.
- LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR IRRIGATION SYSTEM INSTALLATION PER SHEET 11. DESIGN SHALL BE APPROVED BY OWNER PRIOR TO INSTALLATION. IRRIGATION DESIGN SHOULD ENCOMPASS ALL LANDSCAPE AREAS WITH SOD AND/ OR PLANTINGS, FROM CURB TO CURB. R.O.W. SHOULD BE IRRIGATED FROM SPRINKLER HEADS LOCATED WITHIN PROPERTY BOUNDARY. CARE SHOULD BE TAKEN IN VICINITY OF ALL WALKS AND DRIVES TO MINIMIZE OVER SPRAY. COORDINATE INSTALLATION OF ALL PVC SLEEVE UNDER DRIVE AREAS WITH GENERAL CONTRACTOR.
- LANDSCAPE CONTRACTOR SHALL CLEAN ALL PAVEMENT AREAS AFTER ALL LANDSCAPE INSTALLATION IS COMPLETE AND ACCEPTED BY OWNER AND DAILY AS DEEMED NECESSARY BY THE CITY.
- GENERAL CONTRACTOR TO SWEEP PAVEMENT AREAS PRIOR TO TURN OVER TO OWNER.





PLANT MATERIAL

	QUANTITY	SIZE	ROOT TYPE	COMMON NAME BOTANICAL NAME	HEIGHT' x WIDTH'
OVERSTORY TREES					
NM	2	2.5" CAL.	B&B	NORTHWOOD MAPLE *Acer rubrum 'Northwood'*	50' x 35'
SHRUBS					
RC	13	#3 CONT	pot	BRILLIANTISSIMA RED CHOKEBERRY *Aronia arbutifolia 'Brilliantissima'*	5' x 5'
AM	25	#3 CONT	pot	AUTUMN MAGIC CHOKEBERRY *Aronia melanocarpa 'Autumn Magic'*	4' x 3'
SJ	9	#3 CONT	pot	GREEN SARGENT JUNIPER *Juniperus chinensis 'var. sargenti Viridis'*	20" x 8'
PERENNIALS					
SO	36	#1 CONT	pot	STELLA DE ORO DAYLILY *Hemerocallis 'Stella de Oro'*	2' x 3'
GRASSES					
BB	76	#1 CONT	pot	BIG BLUESTEM *Andropogon gerardii*	5' x 6'
KF	23	#1 CONT	pot	KARL FORESTER FEATHER REED GRASS *Calamagrotis x acutiflora 'Karl Forester'*	4' x 30"

EDGING - 160 LF
MULCH - 30 CY
SOD - REPAIR AS NEEDED

Know what's below. Call before you dig.

NORTH
SCALE: 1" = 20'

20 10 0 20 40

PLOTTING NOTE: PLANS PLOTTED TO 11x17 SHEET SIZE ARE ½ SCALE- 1"=40'.

KWIK TRIP
KWIK STAR

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1626 OAK STREET
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STATE OF WISCONSIN
REGISTERED LANDSCAPE ARCHITECT
OGMAR18

LANDSCAPE PLAN

CONVENIENCE STORE 968

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DRAWN BY
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SHEET L1

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