Wetland Delineation Report

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S&P Properties LLC

Town of Rutland, Dane County Wisconsin

November 22nd, 2017

Prepared for:

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Prepared by:

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TAYLOR CONSERVATION LLC

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Wetland Delineator Qualifications

Scott Taylor holds a Master of Science degree in Forest Ecology and Management from the University of Wisconsin-Madison (1999). Taylor has attended the "Critical Methods in Wetland Delineation" training course annually since 2006. Taylor is an **Assured Wetland Delineator** under Wisconsin Department of Natural Resources guidelines. Taylor also completed the following courses that prepared him for performing wetland determinations and delineations in Wisconsin using the Army Corps of Engineers 1987 Manual Method:

- Wetland Plant Identification (July 2003, Delafield, WI. – Biotic Consultants, Inc.)
- Basic Wetland Delineation Training (August 2006, Cable, WI. – University of Wisconsin, La Crosse Continuing Education & Extension)
- Advanced Wetland Delineation Training (July 2012, LaCrosse, WI – University of Wisconsin, La Crosse Continuing Education & Extension).
- Hydric Soils Identification (June 2014, UW-Waukesha Field Station - University of Wisconsin, La Crosse Continuing Education & Extension).

Introduction

On August 17th of 2017, Scott Taylor of Taylor Conservation, LLC performed wetland determinations and delineations on a vacant property in the Town of Rutland (on the outskirts of the Village of Oregon) Dane County, Wisconsin (Figure 1). Most of the property was a crop field, however it also contained grassy areas with scattered brush and trees, and an old utility building (Figure 2).

A basin at the base of the crop field and roadside ditches were found to be wetlands.

The investigation area was approximately 19 acres. A total of approximately 2 acres of wetlands were delineated. The site is in Section 7 (NENW), T5N, R10E.

S&P Properties is planning to develop the site and ordered a wetland delineation for planning purposes.

The purpose of this report is to explain the results of the wetland delineation and to describe the features of the wetlands and non-wetlands (uplands) in the project area.

Methods

The following reference materials were reviewed prior to performing fieldwork:

1) Natural Resource Conservation Service, Web Soil Survey.
2) Wisconsin Wetland Inventory (WDNR Surface Water Data Viewer).

3) United States Geological Survey 7.5-minute quadrangle map, Rutland Quadrangle.

The wetland determinations and the delineations followed the procedures for the Routine Method set forth in The Corps of Engineers Wetlands Delineation Manual (US Army Corps of Engineers 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral & Northeast Region. They also followed the methods set forth in the Basic Guide to Wisconsin Wetlands and their Boundaries (WI Dept. of Administration 1995).

Method of Data Collection

Vegetation, hydrology and soil information were gathered in sample plots and recorded on U.S. Army Corps of Engineers "Wetland Determination Data Forms" for the appropriate region. At each plot, a plot center was established and the presence or absence of normal circumstances or disturbances was noted. Next, herbaceous vegetation was sampled within a circular 5-foot radius plot. After that, vines, shrubs and trees were sampled within a circular 30-foot radius plot, centered on the herbaceous plot. Next, a 20 inch-deep (at minimum) soil pit was dug at the plot center. The presence or absence of hydrology indictors in the soil pit and within the surrounding 30-foot circular plot was noted. Finally, the soil profile in the pit was examined and described. A determination was then made as to whether the site was wetland or upland.

For investigation areas located in agricultural fields, air photos were inspected for "wetland signatures", or evidence of saturated soil, standing water or crop drown-out or stress. Air photos for 6 normal rainfall years, 8 wet years and 0 dry years between 1996 and 2015 (Appendixes I & II) were inspected (normal rainfall years were determined using methods from "Hydrology Tools for Wetland Determination", NRCS 1997). If a site possessed wetland signatures for at least 4 of the 6 normal rainfall years, it was judged to have wetland hydrology. However, if field evidence, e.g. presence of wetland obligate plants or stunted crops, strongly suggested an area was wetland, it was determined to be so in spite of lacking wetland signatures 4 of 6 normal rainfall years on crop slides.

Location of Transects

Transect beginning points (sample plots) were located inside of areas that appeared to have potential to be wetlands based on maps and field observations. These areas included mapped hydric soil locations, Wisconsin Wetland Inventory-mapped wetlands, and areas that showed pronounced wetland signatures on more than one year of aerial photography. They also included field observed plant communities typical of wetlands or field observed landscape features that collect water, like swales, depressions and drainage-ways.

If the sample plot data suggested that the location was inside of a wetland, a second plot was placed in an upslope location with a different plant community. If data collected at this plot suggested that the location was inside of the upland, no further plots were

sampled. Otherwise, the process was repeated. A total of 10 plots were sampled, 4 inside of wetlands and 6 on the uplands (Figure 2).

Procedure for Locating Wetland Boundaries

The wetland boundaries were located by observing increases in elevation and changes in plant community composition. The presence of healthy, dominant populations of upland plants, such as brome grass (*Bromus inermis*-Upl), milkweed (*Asclepias syriaca*-FacU), and Queen Anne's lace (*Daucus carota*-Upl), as one moved upslope, away from the wetland, was generally considered a reliable indicator of the wetland boundary.

Some portions of the wetland boundary (in the area of Plot 1D) were delineated by cattail plants in the lower margins of the crop field

Results and Discussion

Soils of the Wetland Investigation Area

The Natural Resource Conservation Service-mapped soils of the wetland investigation area are (Figure 4):

Soil	Percent Hydric
Batavia silt loam (BbB)	0%
Dresden silt loam (DsB, DsC2)	0%
Dodge silt loam (DnB)	0%
Kidder loam (KdD2)	0%
McHenry silt loam (MdC2)	0%
Sable silty clay loam (SaA)	85%

Wisconsin Wetland Inventory Map of the Investigation Area

The Wisconsin Wetlands Inventory (W.W.I.) identifies an emergent plant-dominated wetland (E1H) on the site (Figure 5). Overall, the mapped wetland boundaries matched the field-identified wetland boundaries. Discrepancies between the W.W.I. and field-identified wetland boundaries reflect the greater accuracy of field methods over interpretation of wetland boundaries from aerial photographs, which is the method used in the W.W.I.

Wetlands

Overview of Wetlands

The wetlands were open, grassy habitats with scattered trees (Figure 2). They were mostly empty of brush. They included roadside ditches and small areas of cropland. Located within an agricultural watershed, the wetlands are probably subject to inflow of large volumes of nutrient-laden surface water runoff.

The wetland was bisected by a field access road.

Wetland ID Number (Figure 2)	**Wetland Type**	**Wetland Quality** (Susceptibility to Stormwater Runoff Impacts)	**Approximate Area Delineated (Acres)**
None	Fresh (Wet) Meadow	Medium	2
			Total: 2

	Wetlands (Plots 1A, 1C, 2A & 3A)
Normal Circumstances Present?	Yes
Significant Disturbance?	No
Naturally Problematic?	No

Wetland Boundary Characteristics

The boundary was marked by vegetative transitions from ground layer vegetation heavily dominated by reed canary grass (*Phalaris arundinacea*-FacW) and cattails (*Typha angustifolia*-Obl), among other species, in the wetlands to ground layer vegetation dominated by Kentucky blue grass (*Poa pratensis*-FacU) and brome grass (*Bromus inermis*-Upl), among other species, in the uplands.

Wetland Vegetation

- The wetlands were dominated by reed canary grass, cattails and marsh aster (*Symphyotrichum lanceolatum*-FacW) in the ground layer; and by silver maple (*Acer saccharinum*-FacW) and cottonwood (*Populus deltoides*-Fac) in the tree layer.

- Dominance values for hydrophytes were 100% in all wetland sample plots.

Wetland Hydrology

- The wetland's chief water source is surface water runoff from the surrounding uplands. The wetlands probably saturate from spring to early summer of most years and following rainy periods.

- Rainfall for the preceding 3 months was higher than normal (see analysis below). In addition, 3.4 inches of rain were recorded at the nearby Stoughton, WI weather station in the month of August prior to fieldwork.

- As a result of higher than usual antecedent rainfall, the investigator did expect to directly observe water in the wetlands. Accordingly, standing water was observed in 3 of 4 wetland sample plots.

- Three of 4 wetland sample plots showed a primary hydrology indicator, including "Surface Water", "High Water Table" or "Saturation".

- All wetland sample plots showed at least two secondary hydrology indicators, including "Dry-Season Water Table", "Geomorphic Position" (because plots located in low basins subject to high volumes of surface water runoff) and "FAC Neutral Test".

- Air photos for 6 normal rainfall years and 8 wet years did not show clear wetland signatures in any year (Appendixes I & II).

Prior Rainfall Analysis:

(USDA Field Office Climate Data – WETS Station: Stoughton, Wisconsin.)

	30% chance will have precipitation (inches)						
	less than:	more than:	**2017 precipitation:**	Condition	Condition value (Dry=1, Normal =2, Wet=3)	Month weight value	Product of previous two columns
May	2.15	4.05	**3.62**	**Normal**	**2**	**1**	**2**
June	2.61	4.61	**7.55**	**Wet**	**3**	**2**	**6**
July	2.74	4.52	**6.60**	**Wet**	**3**	**3**	**9**
						Sum:	**17**
						Antecedent Moisture Conditions: Wet	

(If sum is 6-9, prior period dry; 10-14, prior period normal; 15-18, prior period wet. From USDA, Natural Resource Conservation Service. 1997. Hydrology Tools for Wetland Determination. Part 650. Engineering Field Handbook.)

Wetland Soils

- The soil surface layers in the wetland sample plots were comprised of 10 YR 2/1 & 3/2-colored silt loam.

- B-horizons were not observed at the soil depths examined (20 inches), possibly due to deep deposition of dark sediment from upslope runoff and erosion from surrounding agricultural lands over many decades.

- Two of 4 wetland sample plots (1C & 3A) showed the hydric soil indicator "Redox Dark Surface" (F6). Two wetland sample plots (1A & 2A) possessed standing water and vegetation dominated by FacW & Obl-rated species, therefore

no soil pits were dug and the soils were assumed hydric without direct examination.

Uplands

Overview of Uplands

The uplands (non-wetlands) were the crop field that comprised the majority of the investigation area and the grassy and brushy areas immediately surrounding the wetland basin (Figure 2).

	Uplands (Plots 1B, 1D, 2B, 3B 3C & 4)
Normal Circumstances Present?	Not for plots 1B, 2B & 3C, due to recent mowing. Not for plots 1D & 3B due to tillage.
Significant Disturbance?	Yes, see above.
Naturally Problematic?	Not applicable to uplands.

Upland Vegetation

- The upland crop field supported a soybean crop.
- Outside of the crop field, the uplands were dominated by Kentucky blue grass (*Poa pratensis*-FacU), brome grass, Queen Anne's lace, Canada goldenrod (*Solidago Canadensis*-FacU), and red clover (*Trifolium pretense*-FacU) in the ground layer; by honeysuckle (*Lonicera X bella*-FacU), buckthorn (*Rhamnus cathartica*-Fac) and sandbar willow (*Salix interior*-FacW) in the sapling/shrub layer; by riverbank grapes (*Vitis riparia*-Fac) in the vine layer; and by box elder (*Acer negundo*-Fac) in the tree layer.
- Dominance values for hydrophytes was 0% in 5 of 6 upland sample plots.
- One upland sample plot (2B) showed dominance by hydrophytes. However, the vegetation did not met the FAC-Neutral Test and Prevalence Index was >3. Moreover the absence of wetland hydrology indicators strongly suggested this site was capable of supporting upland vegetation.

Upland Hydrology

- No hydrology indicators were noted in any of the upland sample plots.
- All parts of the uplands occupied high-lying or sloping ground where water would be unlikely to linger for long periods.
- Analysis of air photos for 6 normal rainfall years and 8 high rainfall years (Appendixes I & II) did not show evidence of wetland hydrology in any part of the upland crop fields.

Upland Soils

- The soil surface layers in the upland sample plots were comprised predominantly of 10 YR 3/2 & 3/3-colored silt loam.

- The subsoils (B-horizons) in the upland sample plots were comprised predominantly of 10 YR 4/4, 4/3 & 3/3-colored sandy loam.

- One of 6 upland sample plots (2B) showed the hydric soil indicator "Thick Dark Surface" (A12). This plot did not show wetland hydrology or strong wetland vegetation indicators.

Conclusion

The wetland boundary marked in the field is the best estimate of the location of the boundary based on the available vegetation, hydrology and soil evidence on August 17th of 2017. Wetland boundaries can change over time with changes in vegetation, precipitation, or regional hydrology. The wetlands identified for this report may be subject to federal regulation under the jurisdiction of the U.S. Army Corp of Engineers, state regulation under the jurisdiction of Wisconsin Department of Natural Resources, and local jurisdiction under your local county, town, city or village. The U.S. Army Corps of Engineers and/or the Wisconsin DNR have authority to make the final decision regarding the wetland boundary. Personnel from these agencies may adjust the boundary upon field inspection.

Activities within or close to the delineated wetland boundaries generally require permits from the Army Corps of Engineers, WDNR or local authorities. If the client proceeds with any work within or close to the delineated wetland boundaries without authorization or permits from the appropriate regulatory authorities, Scott Taylor or Taylor Conservation LLC shall not be responsible or liable for any resulting damages.

Scott Taylor is an **Assured Wetland Delineator** under Wisconsin Department of Natural Resources guidelines (http://dnr.wi.gov/topic/wetlands/assurance.html). Taylor's wetland delineations are considered dependable by the WDNR for purposes of Wisconsin wetland and waterway permits, shoreland-wetland zoning or other state-mandated local wetland programs. Therefore Taylor's clients do not require concurrence letters from WDNR before project planning or permit applications that are based on Taylor's wetland delineations. However, concurrence from the Army Corps of Engineers is still necessary. The WDNR and Army Corps have final authority over wetlands in Wisconsin. They may adjust Taylor's wetland boundaries. Assurance does not change decisions about wetland fill. Assurance is not a guarantee of accuracy or relief from landowner responsibility in the event an error occurs and wetlands are filled. While it is unlikely for a professional whose work is assured, inadvertent wetland fill that may result from errors must be remedied.

References

Hurt, G.W. & Vasilas, L.M. 2016. Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils, Version 8.1. Natural Resource Conservation Service, United States Department of Agriculture.

Figures

Figure 2: Investigation Area, Wetlands & Sample Plots.

Source: National Agricultural Imagery Program, 2013.

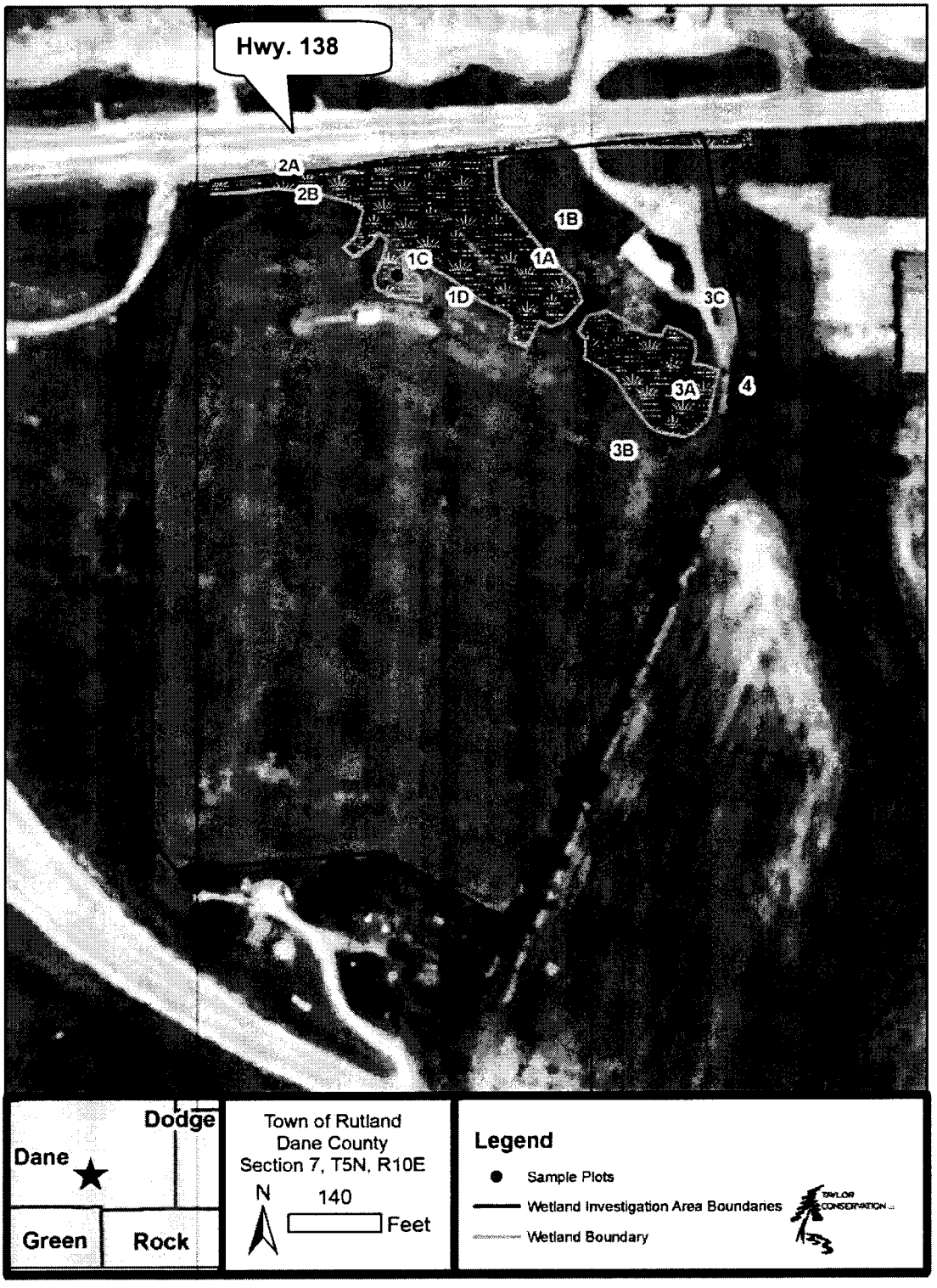

Figure 4: Soils.

Source: Natural Resource Conservation Service.

Soil	Percent Hydric
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Dresden silt loam (DsB, DsC2)	0%
Dodge silt loam (DnB)	0%
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McHenry silt loam (MdC2)	0%
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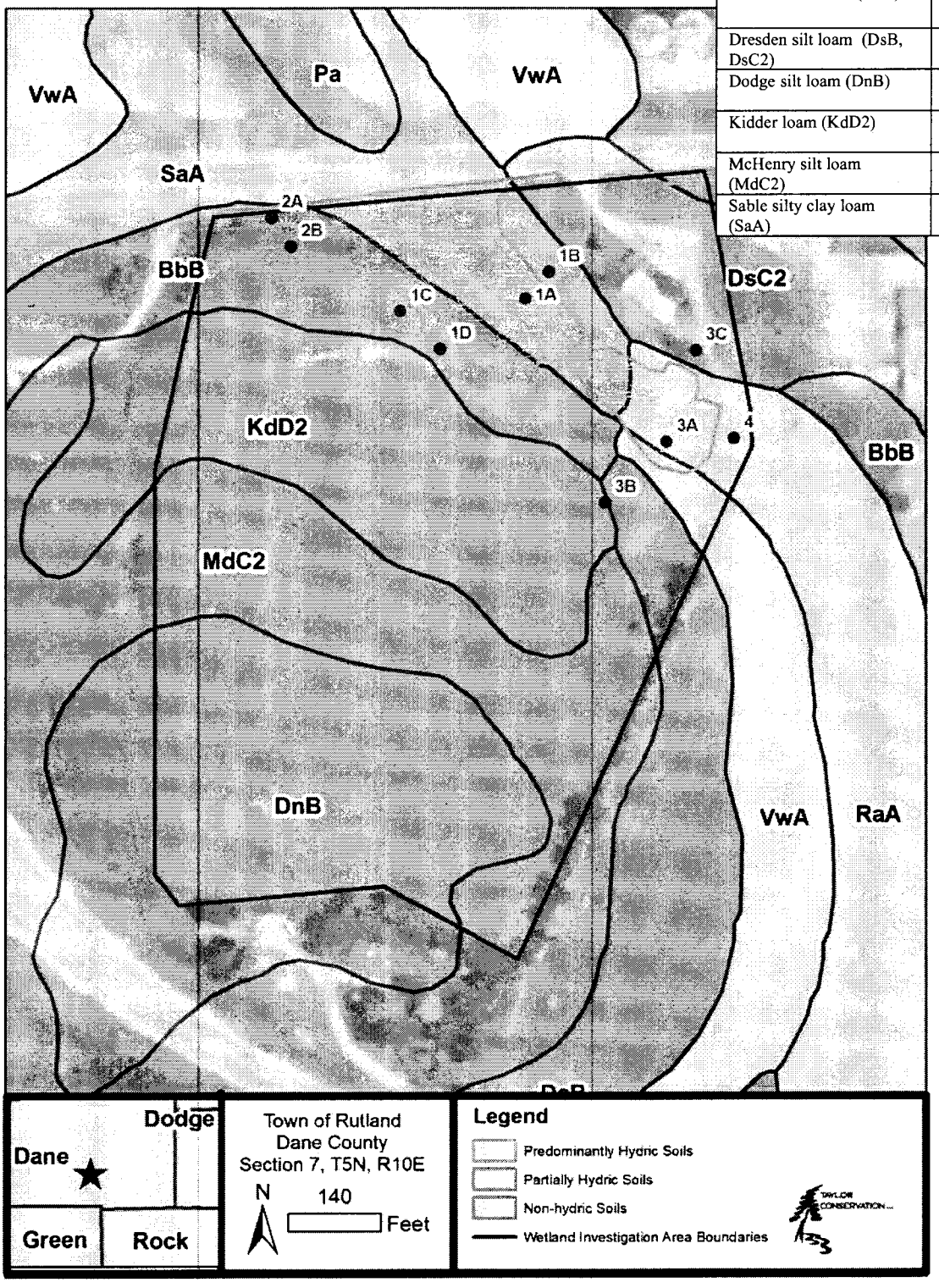
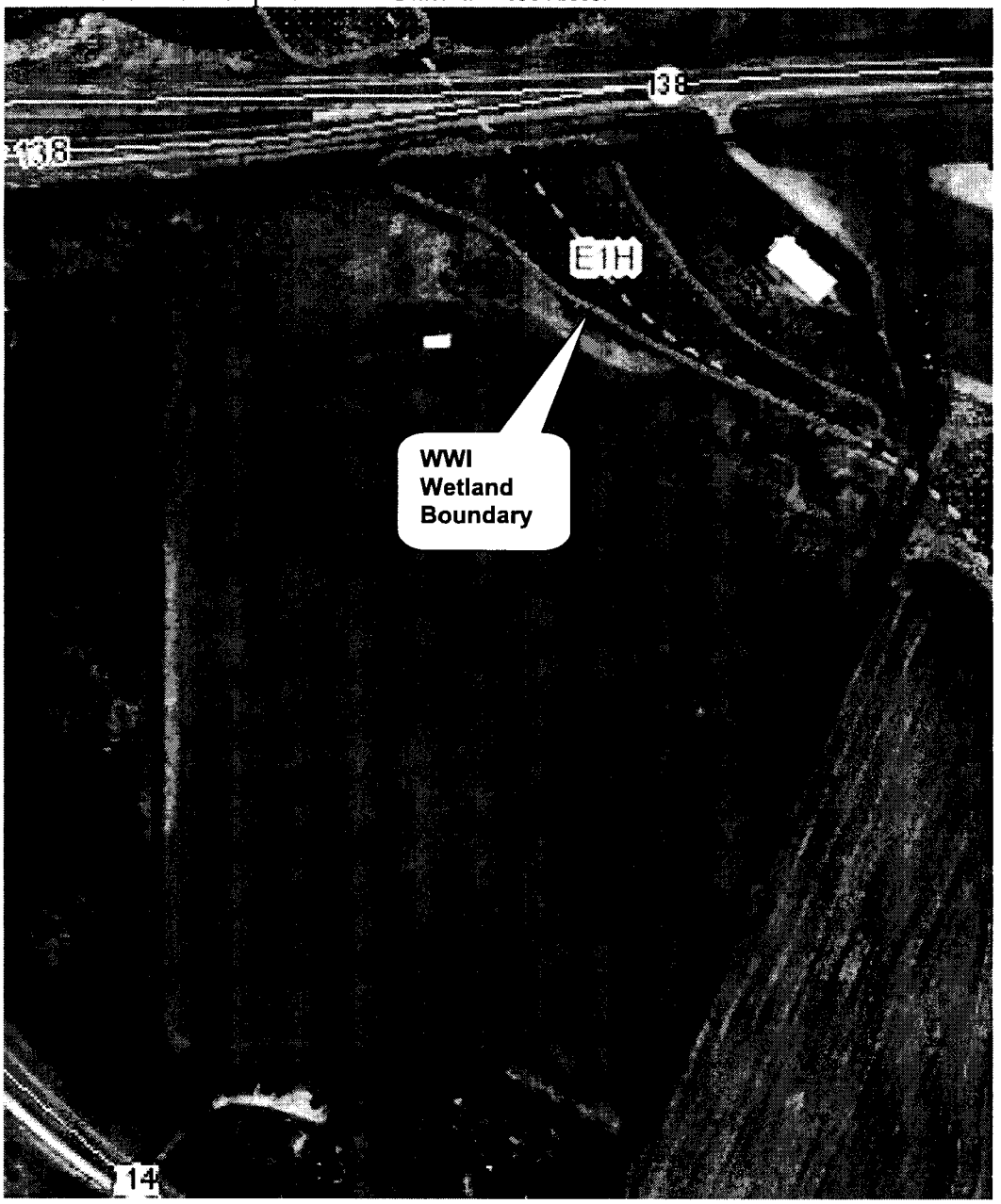
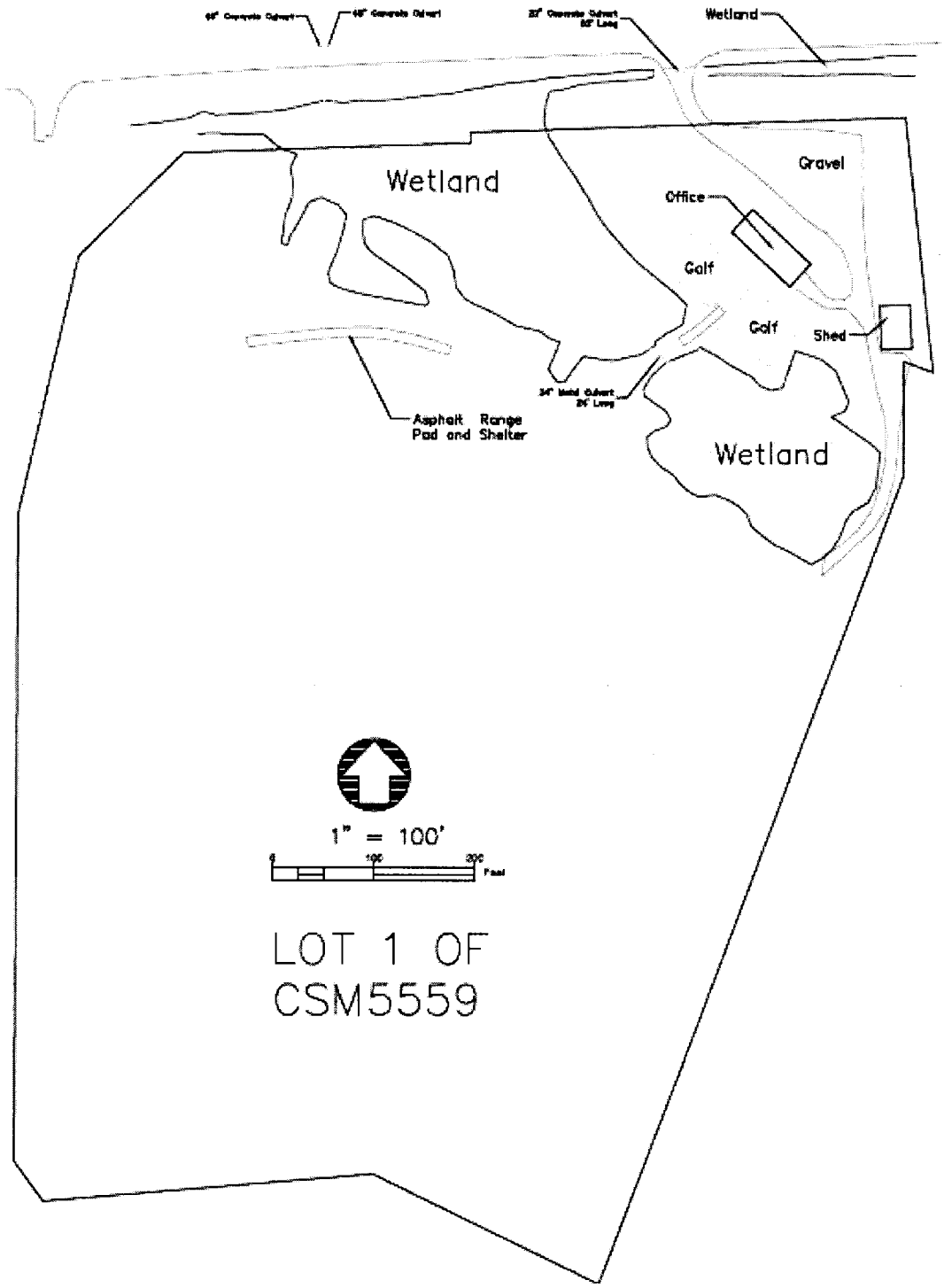


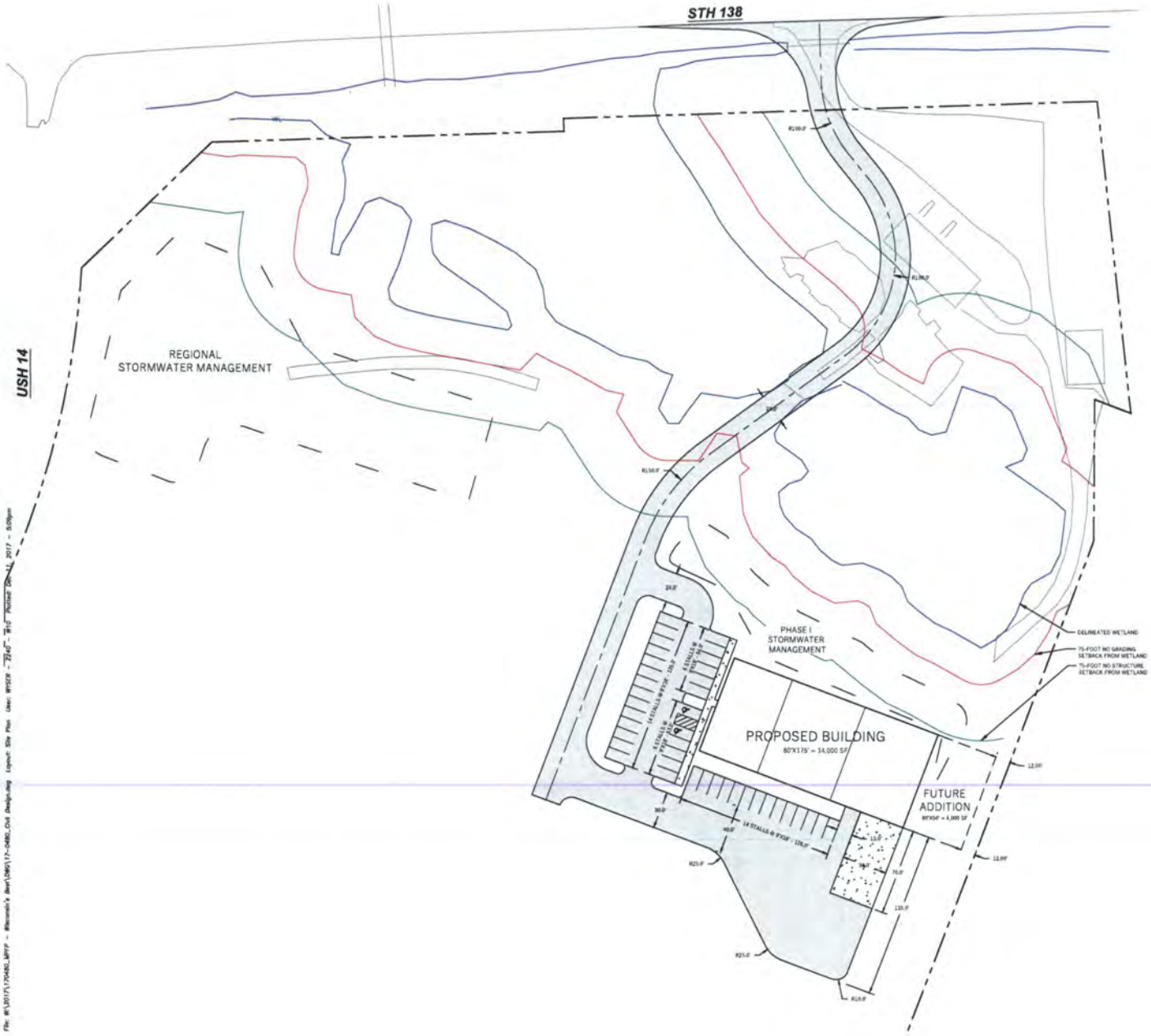
Figure 5: Wisconsin Wetland Inventory Map.

Source: Wisconsin Department of Natural Resources.



Appendix III: Survey Map of Wetland Boundary.





LEGEND (PROPOSED)

- PROPOSED PROPERTY BOUNDARY
- EASEMENT
- BUILDING FOOTPRINT
- 18" CURB AND GUTTER
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- STORMWATER TREATMENT FACILITY

NORTH

0' 20' 40' 60'

1"=40' ON 22"X34"
1"=80' ON 11"X17"

GENERAL NOTES

1. UNDERLYING SITE CONTOURS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITY DATA AS PROVIDED TO WYSER ENGINEERING. WYSER ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CONFIRM ALL ELEVATIONS, GENERAL DRAINAGE AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
2. THE BENCHMARK LOCATIONS ARE SHOWN FOR REFERENCE ONLY ON THIS PLAN. THE BENCHMARKS SHALL BE VALIDATED BY LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION. CONTRACTOR ASSUMES RISK ASSOCIATED WITH BENCHMARK ELEVATIONS UNTIL CONFIRMED.
3. CONTRACTOR TO OBTAIN APPROPRIATE PERMITS FOR STREET OPENINGS & TO WORK WITHIN THE TOWN'S LAND IF REQUIRED.
4. WYSER ENGINEERING SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER OR CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY REGULATORY AGENCIES.
5. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WITHIN THE PLAN BECOME APPARENT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
6. ALL MUNICIPAL UTILITY CONNECTIONS, WORK IN ROW, PUBLIC OUTLOTS AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

SITE INFORMATION BLOCK:

SITE ADDRESS: 4645 STH 138
SITE ACREAGE: 825,384 SQ.FT. (18.953 AC)
USE OF PROPERTY: COMMERCIAL
ZONING: RE-1 TO BE REZONED TO COMMERCIAL (C-2)

SETBACKS:
FRONT YARD: 100' TO CL OR 42' TO ROW
SIDE YARD: 10-FEET
REAR YARD: 14-FEET

MAXIMUM IMPERVIOUS LOT COVERAGE: 85%

LOCATED WITHIN URBAN SERVICE AREA

TOTAL NUMBER OF PARKING STALLS: 48
NUMBER OF STALLS DESIGNATED ACCESSIBLE: 2

EXISTING IMPERVIOUS SURFACE AREA: - SQ.FT.
ROOFTOP: - SQ.FT.
PAVED: - SQ.FT.

NEW IMPERVIOUS SURFACE AREA: -
ROOFTOP: 14,000 SQ.FT.
ADDITION: 4,000 SQ.FT.
PAVED: - SQ.FT.
FUTURE: - SQ.FT.

DISTURBANCE LIMITS: - SQ.FT.
IMPERVIOUS SURFACE AREA WITHIN DISTURBANCE LIMITS: - SQ.FT.
PERCENT IMPERVIOUS WITHIN DISTURBANCE LIMITS: -%

DIGGERS HOTLINE
Toll Free (800) 242-8511 -or- 811
Hearing Impaired TDD (800) 542-2289
www.DiggersHotline.com

WYSER ENGINEERING

BULLSI, LLC

4645 STH 138
OREGON, WI 53575

TOWN OF RUTLAND DEVELOPMENT

TOWN OF RUTLAND, DANE COUNTY, WI

Sheet Title:

Revisions:

No.	Date:	Description:

Graphic Scale	0' 5' 10' 20' 30'
Wyser Number	17-0480
Set Type	PERMIT
Date Issued	12/12/2017
Sheet Number	C101

LEGEND (PROPOSED)

- PROPERTY BOUNDARY
- EASEMENT
- BUILDING FOOTPRINT
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED STORM SEWER
- PROPOSED PERFORATED STORM SEWER
- SILT FENCE
- CLASS II, TYPE B SWALE EROSION MATTING
- INLET PROTECTION
- DITCH CHECK
- SPOT GRADE
- DRAINAGE GRADE BREAK
- DRAINAGE ARROW
- EROSION MATTING
- CLASS III, TYPE C EROSION MATTING

NORTH

0' 10' 20' 30'

1"=20' ON 22"X34"
1"=40' ON 11"X17"

GENERAL NOTES

1. UNDERLYING SITE CONTOURS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITY DATA AS PROVIDED TO WYSER ENGINEERING. WYSER ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CONFIRM ALL ELEVATIONS, GENERAL DRAINAGE AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
2. THE BENCHMARK LOCATIONS ARE SHOWN FOR REFERENCE ONLY ON THIS PLAN. THE BENCHMARKS SHALL BE VALIDATED BY LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION. CONTRACTOR ASSUMES RISK ASSOCIATED WITH BENCHMARK ELEVATIONS UNTIL CONFIRMED.
3. CONTRACTOR TO OBTAIN APPROPRIATE PERMITS FOR STREET OPENINGS & TO WORK WITHIN THE TOWN'S LAND IF REQUIRED.
4. WYSER ENGINEERING SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER OR CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY REGULATORY AGENCIES.
5. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WITHIN THE PLAN BECOME APPARENT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
6. ALL MUNICIPAL UTILITY CONNECTIONS, WORK IN ROW, PUBLIC OUTLOTS AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

CONSTRUCTION SITE EROSION CONTROL REQUIREMENTS

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IMPLEMENTED IN ACCORDANCE WITH THE CURRENT WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR) EROSION AND SEDIMENT CONTROL TECHNICAL STANDARDS (dnr.wi.gov).
2. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SITE DISTURBANCE.
3. ENGINEER / DANE COUNTY LAND AND WATER RESOURCES DEPARTMENT / WDNR HAS THE RIGHT TO REQUIRE CONTRACTOR TO IMPLEMENT ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY. CONTRACTOR MUST NOTIFY DANE COUNTY LAND AND WATER RESOURCES DEPARTMENT TWO (2) WORKING DAYS IN ADVANCE OF ANY SOIL DISTURBANCE ACTIVITIES.
4. EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSPECTED ONCE PER WEEK AND FOLLOWING EACH RAINFALL EVENT. INSPECTION REPORTING SHALL BE IN ACCORDANCE WITH MUNICIPAL REQUIREMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN EROSION AND SEDIMENT CONTROL PRACTICES IN WORKING ORDER. EROSION CONTROL MEASURES SHALL BE REMOVED ONLY AFTER SITE CONSTRUCTION IS COMPLETE WITH ALL SOIL SURFACES HAVING AN ESTABLISHED VEGETATIVE COVER.
6. DEWATERING PRACTICES SHALL COMPLY WITH TECHNICAL STANDARD 1061.
7. DUST CONTROL SHALL BE MITIGATED IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1068.
8. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED IMMEDIATELY FOLLOWING FINAL GRADING ACTIVITIES.
9. SEED MIX AND RATE SHALL BE, AT A MINIMUM, IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1059.
10. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL PROVIDE VEGETATION PLAN FOR ENGINEER / OWNER APPROVAL. VEGETATION PLAN AND BIORETENTION INSTALLATION SHALL BE IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1004.
11. CONTRACTOR TO PROVIDE SOLID LID OR METAL PLATE ON ALL OPEN MANHOLES DURING CONSTRUCTION TO MINIMIZE SEDIMENT FROM ENTERING THE STORM SEWER SYSTEM.
12. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A COPY OF THE MUNICIPAL EROSION CONTROL PERMIT AND WDNR NOI AND FOLLOWING ALL APPLICABLE REQUIREMENTS.

GRADING, SEEDING & RESTORATION NOTES

1. ALL GRADES SHOWN ARE FINAL FINISHED SURFACE GRADES.
2. AREAS TO BE SEEDED SHALL HAVE A MINIMUM 6 INCHES TOPSOIL UNLESS OTHERWISE NOTED.
3. RESTORATION SHALL OCCUR AS SOON AS PRACTICABLE AFTER THE DISTURBANCE, WITHIN 7 DAYS OF TOPSOILING.
4. AREAS NOT RESTORED WITH EROSION MATTING OR OTHER STABILIZATION MEASURES SHALL BE STABILIZED WITH MULCH.
5. APPLY ANIONIC POLYMER TO DISTURBED AREAS IF EROSION BECOMES PROBLEMATIC.
6. INSTALL EROSION CONTROLS ON THE DOWNSTREAM SIDE OF STOCKPILES AND PROVIDE TEMPORARY SEEDING ON STOCKPILES WHICH ARE TO REMAIN IN PLACE FOR MORE THAN 7 DAYS.
7. CONTRACTOR SHALL CHISEL-PLOW OR DEEP TILL WITH DOUBLE TINES THE STORMWATER MANAGEMENT FACILITY JUST PRIOR TO SEEDING AND MULCHING TO PROMOTE INFILTRATION.
8. CONTRACTOR TO DEEP TILL ALL COMPACTED PERVIOUS SURFACES PRIOR TO SEEDING AND MULCHING.
9. MULCH SHALL BE WEED-FREE STRAW AND SHALL BE INSTALLED AT THE RATE OF 2 TONS PER ACRE PER SECTION 627 OF "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION" (WISDOT 2014).
10. PERMANENT SEEDING SHALL NOT OCCUR BETWEEN SEPTEMBER 15TH AND APRIL 15TH. ALTERNATE SEEDING/PLANTING METHODS AND/OR EROSION PROTECTION MAY BE NECESSARY FOR SEEDING/PLANTING THAT OCCURS DURING THAT TIME. COORDINATE WITH THE OWNER AS NECESSARY.
11. TEMPORARY STABILIZATION SHALL CONSIST OF ONE OR MORE OF THE FOLLOWING OPTIONS:
    a. TEMPORARY SEEDING CONSISTING OF ANNUAL RYE GRASS APPLIED AT A RATE OF 1.5 LBS PER 1000 SQUARE FEET.
    b. WISDOT PAL CLASS I TYPE B URBAN EROSION CONTROL MAT.
12. ALL SLOPES EXCEEDING 5:1 AND DRAINAGE SWALES SHALL INCLUDE SOIL STABILIZATION AS INDICATED ON THE PLANS (PERMANENT SEEDING AND CLASS I, TYPE B EROSION MATTING ON SLOPES OR CLASS II, TYPE B MATTING IN DRAINAGE SWALES).

WYSER ENGINEERING

BULLSI, LLC
4645 STH 138
OREGON, WI 53575

TOWN OF RUTLAND DEVELOPMENT
TOWN OF RUTLAND, DANE COUNTY, WI

Sheet Title: GRADING AND EROSION CONTROL PLAN - BUILDING AREA

Revisions:		
No.	Date:	Description:

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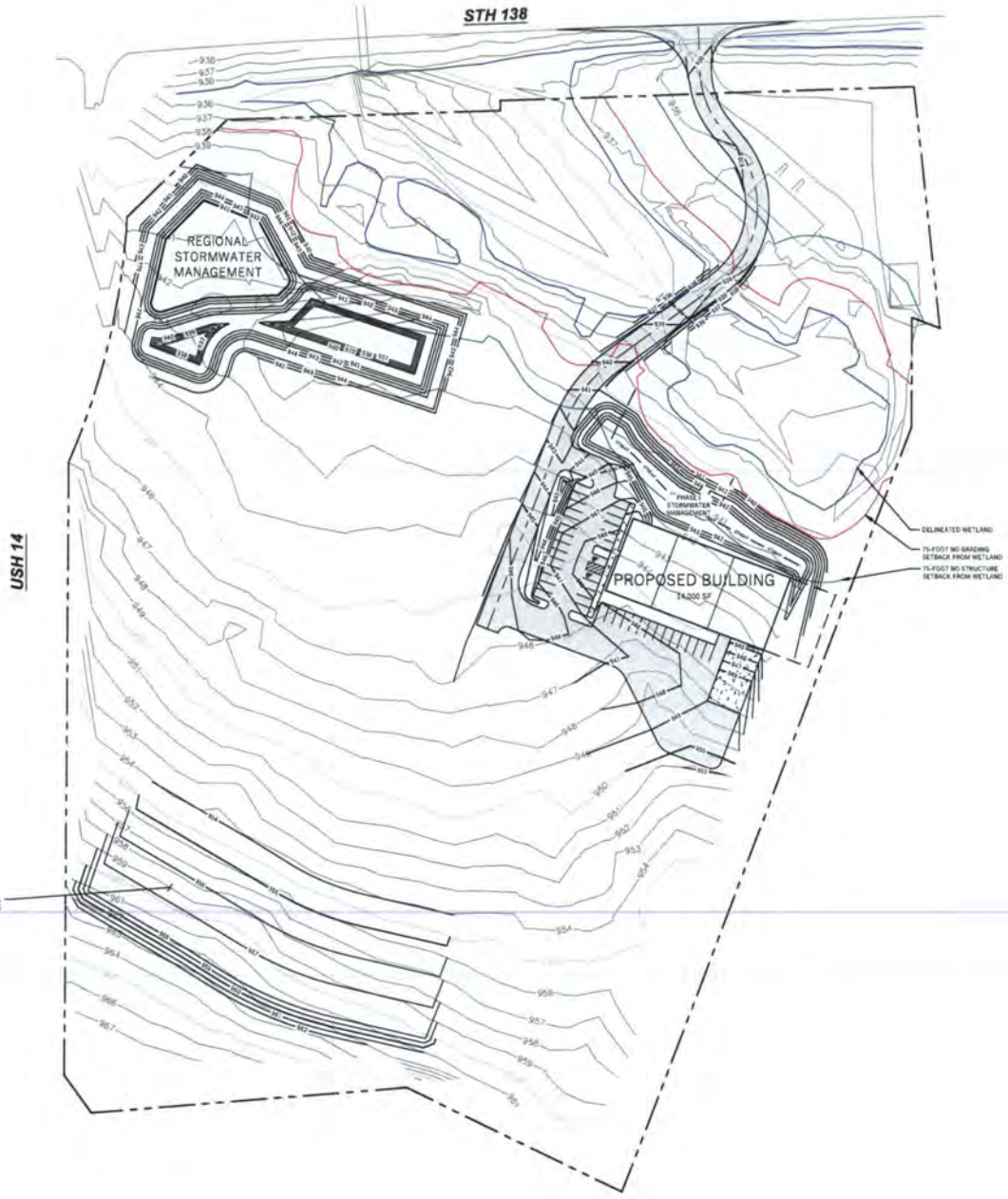
Set Type	PERMIT
Date Issued	12/12/2017
Sheet Number	C201



LEGEND (PROPOSED)

- PROPERTY BOUNDARY
- EASEMENT
- BUILDING FOOTPRINT
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- 955 — PROPOSED MAJOR CONTOUR
- 956 — PROPOSED MINOR CONTOUR
- 5% — 5% — PROPOSED STORM SEWER
- SILT FENCE
- 938.21 FF — SPOT GRADE
- DRAINAGE GRADE BREAK
- 1.0% — DRAINAGE ARROW

NORTH

0' 30' 60' 90'

1"=60' ON 22"X34"
1"=120' ON 11"X17"

GENERAL NOTES

1. UNDERLYING SITE CONTOURS AND INFORMATION BASED ON TOPOGRAPHIC & UTILITY DATA AS PROVIDED TO WYSER ENGINEERING. WYSER ENGINEERING SHALL NOT BE HELD RESPONSIBLE FOR ANY ERRORS OR OMISSIONS THAT MAY ARISE AS A RESULT OF ERRONEOUS OR INCOMPLETE INFORMATION PROVIDED BY OTHERS. CONTRACTOR TO CONFIRM ALL ELEVATIONS, GENERAL DRAINAGE AND EARTHWORK REQUIREMENTS PRIOR TO CONSTRUCTION.
2. THE BENCHMARK LOCATIONS ARE SHOWN FOR REFERENCE ONLY ON THIS PLAN. THE BENCHMARKS SHALL BE VALIDATED BY LICENSED LAND SURVEYOR PRIOR TO CONSTRUCTION. CONTRACTOR ASSUMES RISK ASSOCIATED WITH BENCHMARK ELEVATIONS UNTIL CONFIRMED.
3. CONTRACTOR TO OBTAIN APPROPRIATE PERMITS FOR STREET OPENINGS & TO WORK WITHIN THE TOWN'S LAND IF REQUIRED.
4. WYSER ENGINEERING SHALL BE HELD HARMLESS AND DOES NOT WARRANT ANY DEVIATIONS BY THE OWNER OR CONTRACTOR FROM THE APPROVED CONSTRUCTION PLANS THAT MAY RESULT IN DISCIPLINARY ACTIONS BY REGULATORY AGENCIES.
5. IF ANY ERRORS, DISCREPANCIES, OR OMISSIONS WITHIN THE PLAN BECOME APPARENT, IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO CONSTRUCTION SO THAT CLARIFICATION OR REDESIGN MAY OCCUR.
6. ALL MUNICIPAL UTILITY CONNECTIONS, WORK IN ROW, PUBLIC OUTLOTS AND PUBLIC EASEMENTS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

CONSTRUCTION SITE EROSION CONTROL REQUIREMENTS

1. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE IMPLEMENTED IN ACCORDANCE WITH THE CURRENT WISCONSIN DEPARTMENT OF NATURAL RESOURCES (WDNR) EROSION AND SEDIMENT CONTROL TECHNICAL STANDARDS (dnr.wi.gov).
2. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO SITE DISTURBANCE.
3. ENGINEER / DANE COUNTY LAND AND WATER RESOURCES DEPARTMENT / WDNR HAS THE RIGHT TO REQUIRE CONTRACTOR TO IMPLEMENT ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY CONTRACTOR MUST NOTIFY DANE COUNTY LAND AND WATER RESOURCES DEPARTMENT TWO (2) WORKING DAYS IN ADVANCE OF ANY SOIL DISTURBANCE ACTIVITIES.
4. EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE INSPECTED ONCE PER WEEK AND FOLLOWING EACH RAINFALL EVENT. INSPECTION REPORTING SHALL BE IN ACCORDANCE WITH MUNICIPAL REQUIREMENTS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN EROSION AND SEDIMENT CONTROL PRACTICES IN WORKING ORDER. EROSION CONTROL MEASURES SHALL BE REMOVED ONLY AFTER SITE CONSTRUCTION IS COMPLETE WITH ALL SOIL SURFACES HAVING AN ESTABLISHED VEGETATIVE COVER.
6. DEWATERING PRACTICES SHALL COMPLY WITH TECHNICAL STANDARD 1061.
7. DUST CONTROL SHALL BE MITIGATED IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1068.
8. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED IMMEDIATELY FOLLOWING FINAL GRADING ACTIVITIES.
9. SEED MIX AND RATE SHALL BE, AT A MINIMUM, IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1059.
10. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL PROVIDE VEGETATION PLAN FOR ENGINEER / OWNER APPROVAL. VEGETATION PLAN AND ENDURETENTION INSTALLATION SHALL BE IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1064.
11. CONTRACTOR TO PROVIDE SOLID LID OR METAL PLATE ON ALL OPEN MANHOLES DURING CONSTRUCTION TO MINIMIZE SEDIMENT FROM ENTERING THE STORM SEWER SYSTEM.
12. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A COPY OF THE MUNICIPAL EROSION CONTROL PERMIT AND WDNR NOI AND FOLLOWING ALL APPLICABLE REQUIREMENTS.

GRADING, SEEDING & RESTORATION NOTES

1. ALL GRADES SHOWN ARE FINAL FINISHED SURFACE GRADES.
2. AREAS TO BE SEEDED SHALL HAVE A MINIMUM 6 INCHES TOPSOIL UNLESS OTHERWISE NOTED.
3. RESTORATION SHALL OCCUR AS SOON AS PRACTICABLE AFTER THE DISTURBANCE, WITHIN 7 DAYS OF TOPSOILING.
4. AREAS NOT RESTORED WITH EROSION MATTING OR OTHER STABILIZATION MEASURES SHALL BE STABILIZED WITH MULCH.
5. APPLY ANIONIC POLYMER TO DISTURBED AREAS IF EROSION BECOMES PROBLEMATIC.
6. INSTALL EROSION CONTROLS ON THE DOWNSTREAM SIDE OF STOCKPILES AND PROVIDE TEMPORARY SEEDING ON STOCKPILES WHICH ARE TO REMAIN IN PLACE FOR MORE THAN 7 DAYS.
7. CONTRACTOR SHALL CHISEL-PLOW OR DEEP TILL WITH DOUBLE TINES THE STORMWATER MANAGEMENT FACILITY BOTTOM PRIOR TO SEEDING AND MULCHING TO PROMOTE INFILTRATION.
8. CONTRACTOR TO DEEP TILL ALL COMPACTED PERVIOUS SURFACES PRIOR TO SEEDING AND MULCHING.
9. MULCH SHALL BE WEED-FREE STRAW AND SHALL BE INSTALLED AT THE RATE OF 2 TONS PER ACRE PER SECTION 627 OF "STANDARD SPECIFICATIONS FOR HIGHWAY AND STRUCTURE CONSTRUCTION" (WISDOT 2014)
10. PERMANENT SEEDING SHALL NOT OCCUR BETWEEN SEPTEMBER 15TH AND APRIL 15TH. ALTERNATE SEEDING/PLANTING METHODS AND/OR EROSION PROTECTION MAY BE NECESSARY FOR SEEDING/PLANTING THAT OCCURS DURING THAT TIME. COORDINATE WITH THE OWNER AS NECESSARY.
11. TEMPORARY STABILIZATION SHALL CONSIST OF ONE OR MORE OF THE FOLLOWING OPTIONS:
    a. TEMPORARY SEEDING CONSISTING OF ANNUAL RYE GRASS APPLIED AT A RATE OF 1.5 LBS PER 1000 SQUARE FEET.
    b. WISDOT FAL CLASS I TYPE B URBAN EROSION CONTROL MAT.
12. ALL SLOPES EXCEEDING 5:1 SHALL USE PRESCRIPTIVE COMPLIANCE INCLUDING SLOPE INTERRUPTION PER WDNR TECH. STD. 1072, SOIL STABILIZATION (PERMANENT SEEDING AND CLASS I, TYPE B EROSION MATTING ON SLOPES OR CLASS III, TYPE B MATTING IN DRAINAGE SWALES) AND LIMITING THE MAX PERIOD OF BARE SOIL TO 60 DAYS FOR LAND DISTURBANCE BETWEEN SEPTEMBER 16 AND MAY 1, AND 30 DAYS FOR LAND DISTURBANCE BETWEEN MAY 2 AND SEPTEMBER 15.

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TOWN OF RUTLAND DEVELOPMENT

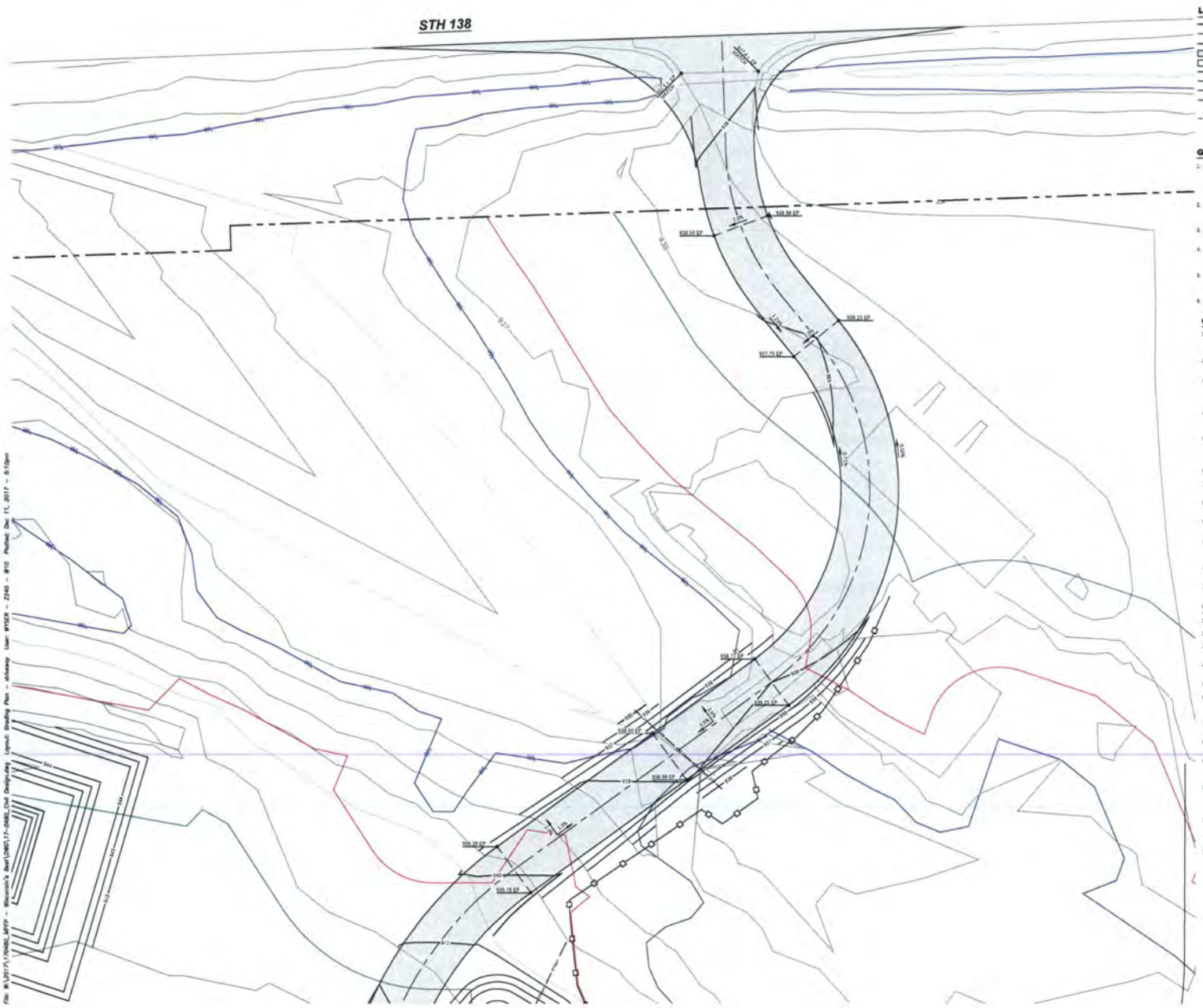
TOWN OF RUTLAND, DANE COUNTY, WI

Sheet Title: GRADING PLAN - OVERALL

Revisions:

No.	Date:	Description:

Graphic Scale	0' 8' 10' 20' 30'
Wyser Number	17-0480
Set Type	PERMIT
Date Issued	12/12/2017
Sheet Number	C200



LEGEND (PROPOSED)

- PROPERTY BOUNDARY
- EASEMENT
- BUILDING FOOTPRINT
- ASPHALT PAVEMENT
- CONCRETE PAVEMENT
- 935 PROPOSED MAJOR CONTOUR
- 936 PROPOSED MINOR CONTOUR
- PROPOSED STORM SEWER
- SILT FENCE
- SPOT GRADE
- DRAINAGE GRADE BREAK
- DRAINAGE ARROW

NORTH

0' 10' 20' 30'

1"=20' ON 22"X34"
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7. DUST CONTROL SHALL BE MITIGATED IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1068.
8. ALL DISTURBED AREAS SHALL BE SEEDED AND MULCHED IMMEDIATELY FOLLOWING FINAL GRADING ACTIVITIES.
9. SEED MIX AND RATE SHALL BE, AT A MINIMUM, IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1059.
10. PRIOR TO CONSTRUCTION, CONTRACTOR SHALL PROVIDE VEGETATION PLAN FOR ENGINEER / OWNER APPROVAL. VEGETATION PLAN AND BIORETENTION INSTALLATION SHALL BE IN ACCORDANCE WITH WDNR TECHNICAL STANDARD 1004.
11. CONTRACTOR TO PROVIDE SOLID LID OR METAL PLATE ON ALL OPEN MANHOLES DURING CONSTRUCTION TO MINIMIZE SEDIMENT FROM ENTERING THE STORM SEWER SYSTEM.
12. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING A COPY OF THE MUNICIPAL EROSION CONTROL PERMIT AND WDNR NOI AND FOLLOWING ALL APPLICABLE REQUIREMENTS.

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    b. WISDOT PAL CLASS I TYPE B URBAN EROSION CONTROL MAT.
12. ALL SLOPES EXCEEDING 5:1 SHALL USE PRESCRIPTIVE COMPLIANCE INCLUDING SLOPE INTERRUPTION PER WDNR TECH. STD. 1071, SOIL STABILIZATION (PERMANENT SEEDING AND CLASS I, TYPE B EROSION MATTING ON SLOPES OR CLASS II, TYPE B MATTING IN DRAINAGE SWALES) AND LIMITING THE MAX PERIOD OF BARE SOIL TO 45 DAYS FOR LAND DISTURBANCE BETWEEN SEPTEMBER 16 AND MAY 1, AND 30 DAYS FOR LAND DISTURBANCE BETWEEN MAY 2 AND SEPTEMBER 15.

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TOWN OF RUTLAND DEVELOPMENT

TOWN OF RUTLAND, DANE COUNTY, WI

Sheet Title: GRADING AND EROSION CONTROL PLAN – DRIVEWAY ENTRY

Revisions:

No.	Date:	Description:

Graphic Scale	0' 5' 10' 20' 30'
Wyser Number	17-0480
Set Type	PERMIT
Date Issued	12/12/2017
Sheet Number	C202

File: W:\2017\17-0480_MFP - Wisconsin's Best\CIVIL\17-0480_Civil Design.dwg Layout: Grading Plan - driveway User: WYSER - 2240 - #10 Plotted: Dec 11, 2017 - 8:10am

Figure 2: Investigation Area, Wetlands & Sample Plots.

Source: National Agricultural Imagery Program, 2013.