State of Wisconsin
Runoff Management Section-WT/3
Department of Natural Resources
101 South Webster Street
Madison, WI 53703

or PO Box 7921
Madison WI 53707-7921

Targeted Runoff Management (TRM) Grant Program
Small-Scale Agricultural Application
Form 8700-300 (R 1/13)

30 PAGES TOTAL APP.

Notice: This application form template was created by the Wisconsin Department of Natural Resources. Application is hereby made to the Wisconsin Department of Natural Resources, Bureau of Watershed Management, for grant assistance consistent with s. 281.65, Wis. Stats., and Chapters NR 153 and NR 154, Wis. Adm. Code. Collection of this information is authorized under the authority of s. 281.65, Wis. Stats. Personal information collected will be used for administrative purposed and may be provided to requesters to the extent required by Wisconsin's Open Records Law [ss. 19.31 - 19.39, Wis. Stats.]. *Unless otherwise noted, all citations refer to Wisconsin Administrative Code.*

Please read the instructions prior to completion of this form. Complete all sections as applicable.
Refer to the instructions for attachments

Applicant Information

Calendar Year of Grant Start 2014

Project Name

Hellenbrand--Mack Road

Governmental Unit Applying (name and type) (example: Dane County Land and Water Resources Department)

Columbia County Land & Water Conservation Department

Governmental Unit Web Site Address

http://www.co.columbia.wi.us/ColumbiaCounty/

Name of Responsible Governmental Representative (First Last)			Name of Governmental Contact Person (First Last) (if different)		
Kurt Calkins					
Title			Title		
Director					
Area Code + Phone Number			Area Code + Phone Number		
(608) 742-9670					
Area Code + Fax Number			Area Code + Fax Number		
(608) 742-9840					
E-Mail Address			E-Mail Address		
Kurt.Calkins@co.columbia.wi.us					
Mailing Address - Street or Route			Mailing Address - Street or Route		
P.O. Box 485					
City	State	ZIP Code	City	State	ZIP Code
Portage	WI	53901		WI	

Part I. Project Information

A. Project Category: Total Maximum Daily Load (TMDL) or Non-TMDL (EPA's s. 319 or NR151) Priorities.
Check all that apply.

TMDL ☐ Check this box if the proposed project implements the pollutant-specific goals of an EPA-approved TMDL or an equivalent to a TMDL as approved by the DNR.

319 ☐ Check this box if the project reduces pollutants for which a waterbody is listed as impaired (303(d) list) **and** the area is covered by a plan that meets EPA's Nine Key Elements for watershed plans to control nonpoint source pollution. (Priority Watershed (PWS) plans qualify; see Attachment C.)

NR151 ☒ Check this box if the project is designed to achieve attainment of agricultural performance standards and prohibitions established in NR 151, Subchapter II.

If this is a TMDL project, or a 303(d)+ PWS project, provide the **title** of the TMDL or PWS report this project implements, **the significant pollution sources** the project will control, and the **page numbers** in the report where the water body and its water quality issue and management recommendations are located.

B. Location of Project

See Attachment A and Surface Water Data Viewer (SWDV) at http://dnrmaps.wi.gov/imf/imf.jsp?site=SurfaceWaterViewer for assistance in completing this question.

County: Columbia

State Senate District #: 16 | State Assembly District #: 47

Minor Civil Division Name (city, village, town, etc. - ex. Holland, Town of)	Township (N)	Range	E or W	Section	Quarter	Quarter-Quarter	Latitude (North, 4 to 7 decimal places)	Longitude (West, 4 to 7 decimal places)
Town of Lodi	10 N	8	E	26	NE	SE	43.313988	-89.506104
	N							
	N							
	N							

Method for Determining Latitude & Longitude (check one)

○ GPS ◉ DNR WebView or Surface Water Data Viewer

○ Other (specify): _____

C. Watershed and Waterbody

See Attachment A and SWDV at http://dnrmaps.wi.gov/imf/imf.jsp?site=SurfaceWaterViewer for assistance in completing this questions.

Watershed Name	DNR Watershed Code	Primary Waterbody Name	Nearest Waterbody Name
Lake Wisconsin	LW19	Lake Wisconsin	Spring Creek

12-digit Hydrologic Unit Code (HUC): 070700050204

D. Request for Funding of Fee Title Land Acquisition or Easements

☐ Check this box if funding for either fee title land acquisition or purchase of easements to support eligible BMPs is part of this application. If "Yes," attach the property acquisition proposal, as defined in Attachment B to the completed application form. Also, refer to Attachment G for information on Environmental Hazards Assessments, which are required for projects that include fee title or easement purchase.

E. Endangered and Threatened Resources, Historic Properties, and Wetlands

Check the appropriate box for each question based on what the ***governmental unit knows*** to occur where the project disturbs land.

☐ 1. There are endangered or threatened resources, as identified in s. 29.604, Wis. Stats., and NR 27 in the project area.

☒ 2. There are archaeological sites, historical structures, burial sites, or other historic places identified in s. 44.45, Wis. Stats., in the project area.

☐ 3. There are wetlands in the project area that are governed by water quality standard provisions of NR 103. (Answer with the SWDV map layer **Wetland Indicators** at: http://dnrmaps.wi.gov/imf/imf.jsp?site=SurfaceWaterViewer.wetlands.)

F. Request for Funding for Force Account Work

☐ Check box if requesting reimbursement for technical services to be performed by governmental unit staff (force account).

G. Maps and Photographs

Yes

☒ An 8.5" x 11" topographic map from USGS or the DNR data/map viewers, showing the project area, is attached.

☒ Aerial photo maps and project area photos are also included.

H. Best Management Practices (BMPs) for which DNR TRM funding is requested.

Check all BMPs for which DNR funding is requested and insert the Performance Standard and Prohibition codes the BMP addresses. See instructions **Part I. H.** for the table of code numbers for standards and prohibitions and the effective dates. (See Attachment D for additional BMP information)

Non-TMDL projects must be designed to achieve attainment of one or more agricultural performance standards and prohibitions.

Note: Applicants addressing a TMDL are not required to address performance standards and prohibitions to be eligible for a grant.

Structural Practice (Wis. Adm. Code)	*Enter Code #s: Performance Std.(s) or Prohibition(s) the BMP Addresses*	*Structural Practice (Wis. Adm. Code)*	*Enter Code #s: Performance Std.(s) or Prohibition(s) the BMP Addresses*
☒ Manure Storage Systems (NR 154.04(3))	Code(s) 11,1,3,4,9	☐ Riparian Buffers (NR 154.04(25))	Code(s)
☐ Manure Storage System Closure (NR 154.04(4))	Code(s)	☒ Roofs (NR 154.04(26))	Code(s) 12,8
☒ Barnyard Runoff Control Systems (NR 154.04(5))	Code(s) 12	☒ Roof Runoff Systems (NR 154.04(27))	Code(s) 12,8
☒ Access Roads & Cattle Crossings (NR 154.04(6))	Code(s) 12	☐ Sediment Basins (NR 154.04(28))	Code(s)
☒ Animal Trails and Walkways (NR 154.04(7))	Code(s) 12	☐ Sinkhole Treatment (NR 154.04(30)	Code(s)
☒ Critical Area Stabilization (NR 154.04(10))	Code(s) 1,12	☐ Subsurface Drains (NR 154.04(33))	Code(s)
☒ Diversions (NR 154.04(11))	Code(s) 12,8	☐ Terrace Systems (NR 154.04(34))	Code(s)
☐ Field Windbreaks (NR 154.04(12))	Code(s)	☒ Underground Outlets (NR 154.04(35))	Code(s) 8,12
☐ Filter Strips (NR 154.04(13))	Code(s)	☒ Waste Transfer Systems (NR 154.04(36))	Code(s) 1,3,4,9,11
☐ Grade Stabilization (NR 154.04(14))	Code(s)	☒ Wastewater Treatment Strips (NR 154.04(37))	Code(s) 12
☒ Heavy Use Area Protection (NR 154.04(15))	Code(s) 12,1	☐ Water and Sediment Control Basins (NR 154.04(38))	Code(s)
☐ Lake Sediment Treatment (NR 154.04(16))	Code(s)	☐ Waterway Systems (NR 154.04(39))	Code(s)
☐ Livestock Fencing (NR 154.04(17))	Code(s)	☐ Well Decommissioning (NR 154.04(40))	Code(s)
☐ Livestock Watering Facilities (NR 154.04(18))	Code(s)	☐ Wetland Development or Restoration	Code(s)
☐ Prescribed Grazing (NR 154.04(22))	Code(s)	Streambank and Shoreline Protection (NR 154.03(31)) (includes associated fencing)	
☐ Relocate or Abandon Animal Feeding Ops. (NR 154.04(23))	Code(s)	☐ Stream Crossing	Code(s)
Process Wastewater Handling (NR 154.04(19) & NRCS 629)		☐ Rip-rapping	Code(s)
☒ Milking Center Waste Control Systems	Code(s) 4,12	☐ Shaping & Seeding	Code(s)
☐ Feed Storage Leachate	Code(s)	☐ Fencing	Code(s)
☐ Other Wastewater - specify in "Other" below	Code(s)	☐ Other Protection - e.g. bio-engineering - specify in "Other" below	Code(s)
Cropping Practices (TMDL only)		***Cropping Practices (TMDL only)***	
☐ Contour Farming (NR 154.04(8))	Code(s)	☐ Pesticide Management (NR 154.04(21)	Code(s)
☐ Cover & Green Manure Crop (NR 154.04(9))	Code(s)	☐ Residue Management (NR 154.04(24))	Code(s)
☐ Nutrient Management (NR 154.04(20))	Code(s)	☐ Strip-Cropping (NR 154.04(32))	Code(s)
☐ Other (specify)			

I. Filters *Note: The applicant **must** be able to check "Yes" to questions 1 through 9 and "Yes" or "N/A" (Not Applicable) to questions 10 and 11 below to be eligible for a grant.*

Yes

☒ 1. The project will control agricultural runoff.

☒ 2. The applicant certifies that funding from this grant will ***only*** be used for BMPs to bring ***existing*** cropland, ***existing*** livestock facilities and non-significant expansions of livestock operations into compliance with NR 151 performance standards or prohibitions. (See definitions for existing (existing prior to effective dates of standards and prohibitions) and significant expansion in the instructions at **Part I.H**. Attachment D .)

☒ 3. The applicant certifies that funding from this grant will ***not*** be used for best management practices to bring a livestock facility or cropland back into compliance with a performance standard or prohibition in NR 151 when such compliance had previously been achieved after the ***effective date*** of the standard or prohibition.

☒ 4. The applicant certifies that funding from this grant will ***not*** be used for best management practices for which the DNR or local unit of government included a previous offer of cost sharing as part of a NR 151 notice or county notice that meets requirements of NR 151.09 or NR 151.095.

☒ 5. The project is consistent with the county Land & Water Resources Management Plan (LWRMP), plan amendment, or work plan prepared under s. ATCP 50.12, Wis. Adm. Code, and the approved LWRMP plan amendment, work plan or Inter-Governmental Agreement with DNR includes a qualifying strategy to implement state agricultural performance standards and prohibitions contained in subch. II of NR 151.

Identify the document name and date approved by the Land & Water Board.

Name:	Columbia County Land and Water Resource Management Plan	Date	12/07/2010

a. To demonstrate consistency with the LWRMP, identify the goals, objectives or activities from the LWRMP, plan amendment or work plan related to the resource(s) of concern being addressed by the project.

Pages 44-51 highlight the relationship to the NR 151 performance standards in our LWRM Plan. Including the pro active approach to working with landowners to bring them into compliance. Animal waste management runoff and proper timing and application of manure via a NMP were 2 very important CAC advisory issues captured in the plan. We have direct goals outlined in work plan, pages 57-60 that target us to work with landowners such as application site to provide control of manure discharges from feedlots, divert clean water, and get manure storage on the farm to allow them to properly manage manure and avoid winter spreading. The Lodi Spring creek watershed, drains to Lake Wisconsin, which is on the 303d list of impaired waters. These practices will reduce P loading to this stream and downstream to Lake Wisconsin. Controlling NPS pollution from agricultural sources is an over arching theme in our LWRMP.

b. To demonstrate a qualifying NR 151 implementation strategy, identify the implementation strategy outlined in the approved LWRMP document. Provide page numbers and a web link or attach hard copy of the pages.

Pages 44-51 outline specifically our NR 151 Implementation Plan. This application follows that process, and is the direct tool for us to get $ resources to bring that landowner into compliance. You can find the plan online at http://www.co.columbia.wi.us/columbiacounty/Portals/16/2011%20LWRM%20Plan%20Final.pdf

☒ 6. The project will be completed within 24 months of the start of the grant period.

☒ 7. Staff and contractors designated to work on this project have adequate training, knowledge and experience to implement the proposed project.

☒ 8. Staff or contractual services, in addition to those funded by this grant, will be provided if needed.

☒ 9. The local DNR District Nonpoint Source Coordinator (see http://dnr.wi.gov/topic/nonpoint/NPScontacts.html) has been contacted and the project was discussed.

Name of the District Nonpoint Source Coordinator Contacted	Date Contacted	Subject of Contact
Mike Volrath DNR	04/08/2013	Email notice about TRM Grant submissions
Mike Volrath DNR	04/15/2013	Email with confirmation of final TRM grant summaries

Yes N/A

◉ ○ 10. If this application is for a livestock facility, **an Animal Units Calculation Worksheet** (Form 3400-25a) for existing and future livestock numbers is attached. (Form available at: http://dnr.wi.gov/topic/AgBusiness/documents/Form_3400-025A_WT.doc.)

○ ◉ 11. If this is a joint application among local units of government, a ***draft*** of the **Inter-Governmental Agreement** is attached. (See Attachment H)

Part II. Competitive Elements

A. Project - Describe the water quality problem (or threat if ORW/ERW), the solution (BMP(s)) being proposed, how the project will improve (or protect) water quality and bring a facility into compliance with Performance Standards and Prohibitions. Applicants may include quantitative and qualitative information. Photo documentation is encouraged. If this is a TMDL project, express severity in relation to the sources identified in the TMDL report. If this is a project to achieve compliance with one or more performance standards or prohibitions, express severity in relation to the standards.

1. Pollutant, Pollution Source, Water Quality Problem & Severity

This project is located in the Lake Wisconsin watershed, specifically in the spring creek HUC. Lake Wisconsin is on the 303d list of impaired waters due to NPS nutrients, P & N. It is ranked High for overall NPS. Spring Creek as a tributary is a trout stream with a median mg/l concentration above the state standard of .075 mg/l. Based on our most current data the stream median concentration is around .080 mg/l. Columbia County LWCD is working with City of Lodi relative to its new WPDES permit and we are pursuing an adaptive management watershed approach to reduce in stream P. concentration thru Ag NPS sources. The implementation of the BMP's thru this grant will help us accomplish P loading reduction from sources to this watershed. This 200 cow dairy has an animal lot that discharges directly to both a surface water ditch and close proximity wetlands. Ground water is less than 3 feet from surface in many areas. Anaerobic conditions occur in may of these soil type locations. The landowner is not able to comply with NMP 590 spreading compliance via spreading restriction maps because much of the land base is close to 9% slope, with some land over 12%. These slopes combined with other 300 foot SWQMA spreading restrictions and no current manure storage result in the inability to restrict manure application to proper sites and locations. This manure runoff from spring runoff combined with storm event discharge of manure from feedlot are accounting for excessive P loading in this watershed.

2. Solution to Improve Water Quality (BMP project)

This project will use the basic conservation BMP's typically used to address these types of issues. Clean water diversions combined with underground outlets and the utilization of grassed waterways will allow us to redirect and manage clean water away from feedlot. Remaining lot runoff will be dealt with using a barnyard runoff system that will include a proper sediment basin, heavy use areas and vegetative treatment strips. One other consideration that we may consider using for this site would be to install a roof over the existing concrete feedlot and abandon the earthen lot adjacent to it. If this was done, the need for some of the above mentioned BMP's would be not exist, and they would be removed. More planning will be need to be done once grant is approved and cost effectiveness of the 2 options will be compared and most effective option pursued. The construction of a manure storage structure to provide 6 months storage of animal waste and process wastewater will allow the landowner to manage manure according to NMP 590 standard and avoid winter application of manure in critical landscape areas that dominate his farmstead.

Note! We included the roof construction as part of the recipe of BMP's but did not include the additional costs estimated to be $35,000 in the final total estimated costs. It is assumed that if this route was pursued, the BMP's costs included as part of budget for other practices that would not be needed would replace this cost as part of the budget.

3. Extent of Pollution Control and Expected Environmental Benefits

As stated above this site will control phosphorous discharges from feedlot runoff that are loading Spring Creek via concentrated flow thru a ditch and thru loading to a wetland that drains the same way. Seasonal anaerobic soil conditions are likely adding to the soluable P loss from that site. Based on Pre and Post comparative numbers using the BARNY prediction model, the implementation of BMP's on site will reduce the P delivery from 80.9 lbs annually down to 13.4 lbs annually.

The manure storage structure as stated earlier will allow the farmer to utilize the NMP he currently has and restrict manure application to locations and times of the year that are identified in the 590 standard. This will result in the control off nutrient loss and P loading that is currently happening because of winter spreading. The storage structure will also

allow him to more precisely account for and manage the NPK value of this manure, a benefit not only to surface water but groundwater as well.

B. Timeline and Source of Staff

For each applicable milestone listed below, fill in the appropriate data.

Milestone	Target Completion Date (month/year)	Source of Staff
Completion of design	3/2014	LWCD
Obtaining required permits	8/2014	LWCD
Landowner contacts	8/2014	LWCD
CSA signing	8/2014	LWCD
Bidding	11/2014	LWCD
DNR approvals	11/2014	LWCD
Contract signing	11/2014	LWCD
BMP construction	4/2014	LWCD
Site inspection and certification	9/2014	LWCD
Project evaluation	10/2014	LWCD
Other (specify)		

C. FINANCIAL BUDGET TABLE

Provide the following information for the project. The grant amount is capped at $150,000.

A **Project Activity for Which DNR Funding is Requested**	B **Estimated Total Cost ($)**	C **Amount Eligible for DNR Cost Sharing ($)**
Construction Components:		
Barnyard/VTA/Spreader	24,785.00	24,785.00
Manure Storage	175,208.00	175,208.00
Manure Transfer	3,200.00	3,200.00
Heavy Use	754.00	754.00
Critical Area Seeding	3,000.00	3,000.00
Grassed Waterway/Diversion	450.00	450.00
Roof Gutter/Outlet	7,050.00	7,050.00
Roof over feedlot in lieu of other Barnyard BMP's $35000		
1. Construction Subtotal	214,447.00	214,447.00
2. Local Force Account Activities		
3. Private Engineering Activities		
4. Subtotal: [add Rows 1 through 3]	214,447.00	214,447.00
5. Property Acquisition: Fee Title & Easement		
6. Grand Total: [add Rows 4 and 5]	214,447.00	214,447.00

Cost-Sharing Worksheet

Eligible Costs:			Cost-Share %	
7. Construction, force account, private engineering, etc.			70 %	$ 150,112.90
8. Land Purchase (Fee Title)	$		70 %	$
9. Easements	$		70 %	$
Eligible Cost Share:				
10. Total Eligible Cost Share: [sum rows 7 thru 9]				$ 150,112.90
Cap Test:				

11. Maximum State Share: [row 10 or $150,000, whichever is less]	$	150,000.00
State and Local Share:		
12. Requested State-Share Amount (Requested Grant Amount)	$	150,000.00
13. Local-Share Amount: [row 6, column B less row 12]	$	64,447.00

D. Method Used to Calculate Cost Estimates: Select the appropriate option.

- ○ **1.** Project costs are based on completed design and competitive bid on the project. Construction components and costs above should be detailed. Provide documentation attached to this application.
- ○ **2.** Project costs are based on completed design with materials and labor costs based on similar, recently bid projects. Construction components above should be detailed. Provide documentation in this application.
- ◉ **3.** Project design is not complete; however, the proposed project and costs are based on similar and recent projects and costs. Provide as much construction detail above as possible. Provide documentation for this method in this application
- ○ **4.** Project design is not complete and the cost estimate is based on an average or a range of projects and costs. Provide as much construction detail above as possible. Provide documentation for this method in this application.
- ○ **5.** Project and costs are less specific than choices above. Provide explanation of cost estimates attached to this application.

E. Cost-Effectiveness

1. a. Explain how this project uses cost-effective and appropriate best management practices to achieve water quality goals. Provide supporting information and documentation for your statements (in attachments, if needed).

As with all sites we evaluate all the BMP's options looking for the lowest cost/benefit we can engineer to protect water quality. This application represents the most cost effective long term plan that will provide for lasting management of the BMP's. One unique approach we have built into this project is the value of looking at using a roofing system over the feedlot to be addressed instead of implementing the multiple BMP's that would be used in coordination with the traditional barnyard runoff system. We will likely evaluate the specific value of each option and then look at actual bids to compare the two. At this time we have included the normal BMP's in the cost estimates and tools for this project, but have included, as noted in budget the option to alternate to a roof if its more cost effective. There really are no other options to deal with this site, other than the practices listed. Manure storage is a valuable tool, and really the only tool that will allow landowners to property manage manure during critical times of year and meet obligations of 590 NMP standard. This structure will be sized for 6 months storage.

b. If this project includes a manure storage facility, the state-share should be based on manure storage capacity to meet current (and insignificant growth) AU needs. In the space below, explain the facility size and the duration of storage that is proposed in this project to achieve water quality goals. Reference the NMP, AUs, manure generation, availability of spreadable acres, months of storage, etc.

This is a 206 dairy cow operation that may grow to a > 20% increase of up to 250 cows. Manure storage has been designed for 180 days (6 months). See attached spreadsheet documentation. As you can see from the 590 NMP restriction maps, the majority of the farm is included in the winter restriction area. Supporting documentation is including with the application, that shows this structure is needed based on size/duration and limited winter spreading areas.

Current mixed animal unit #s = 357 AU, Future growth 418.5AU.

2. If other alternative management measures were evaluated, list them here and describe why the alternative(s) is not being recommended.

As mentioned earlier, we will be evaluating the value/cost effectiveness of using a roof over the feedlot area, instead of implementing the barnyard runoff system and its components. We have included the roof as an optional practice, but did not assign any additional costs to the project. If feasible, costs could be shifted to that practice.

F. Project Evaluation Strategy

1. Project Modeling and Measures of Change
The applicant is required to provide a strategy to evaluate the progress toward reaching project goals and water quality improvement or protection. The project evaluation strategy will be based on comparing pre- and post-project changes in modeled pollutant loading to water resources or will be based on the quantity of units managed. Include a description of the pre- and post-project evaluation measures that the applicant will use to ensure success in meeting project goals. *Note: A report of the modeled results or quantity of units managed related to changes in pollution potential is required in the final project report.* See the instructions for the lists of the BMP practices, the performance standards and prohibitions, measurement methods and units of measure.

A combination of 2 different measures can be used to predict and monitor success of this project. The first is the BARNY model that gives us a pre and post P loading comparison. This site will be reduced from a pre (80.9 lbs P/ year) down to 13.4 lbs/P/year in the post situation. This will be accomplished with the installation and use of the BMP's. The manure storage structure will allow the landowner to avoid winter spreading on winter spreading restriction acres that dominate the landscape of his farm. There should be no winter spreading on this farmland and no winter/spring runoff during snowmelt periods. 30% of the P load is estimated to come into this watershed during this critical time of the year. So this will abate that. The 2 dominate DNR performance standards and prohibitions that will be corrected on this site are No discharge of feed lot runoff to waters of the state/and compliance with NMP winter spreading restrictions.

2. Water Quality Monitoring (not eligible for cost sharing at this time)
If, in addition to the above, the project evaluation strategy includes evaluating BMP effectiveness and/or pre- and post-project water resource monitoring, and the information will be provided to DNR.in the final project report, check all that apply below.

- ☐ a. A one-page summary of the project-specific BMP and/or water resource monitoring strategy is attached.
- ☐ b. The project will evaluate BMP pollution reduction effectiveness (*e.g.*, inlet/outlet monitoring).
- ☐ c. The project will evaluate the in-stream physical habitat, fisheries, biological, or chemical conditions.
- ☒ d. The applicant is willing to participate with the Department to do monitoring in the project area should funding becomeavailable

G. Evidence of Local Support that currently exists for the proposed project - check the applicable situation below.

1. Regulatory Situations - The total project cost is attributed to the resolution of a Notice of Discharge (NOD) or a Notice of Intent to Issue an NOD (NOI) under NR 243 or non-compliance with agricultural performance standards and prohibitions under subch. II of NR 151 or a local regulation and *at least one* of the following is attached to this application form: (check all that apply).

- ☐ a. Signed and dated copy of the NOI or NOD issued under NR 243;
- ☐ b. Signed and dated copy of letter signed by the authorized DNR representative stating that DNR will issue a notice under NR 151 or NR 243;
- ☒ c. Signed and dated copy of letter from the authorized county representative that the local regulation will be enforced at the project site.

If you answered "Yes" in G.1., then go to Question H. If this project is not regulatory, continue to number 2.of this question.

2. Non-Regulatory Situations -check the applicable situation below.
The governmental unit has:

- ○ a. Developed a detailed pollution control plan with the landowner(s) that identifies specific BMPs and the affected landowner(s)/land operator(s) indicated that they will sign a cost-share agreement to install the practices requested in this grant application; **or**
- ○ b. Conducted general assessments of the pollution sources within the project area and affected landowner(s)/land operator(s) indicated a general interest to participate in the project; **or**
- ○ c. Contacted the landowner(s)/land operator(s) about the proposed BMP installations; however, landowner participation is undetermined.
- ☐ d. If a. or b. is checked, letters of support for the project from affected landowner)/land operator are attached.

If a., b. or c. is checked above, provide details here.

3. Involvement of Partners - check box if applicable.

☐ Partners, in addition to the unit of government (applicant) and landowner, have committed resources (materials, equipment, staff or financial resources) towards the BMP installation, maintenance or evaluation of the project.

If checked, list the project partner(s).

☐ Letters of support from the project partner(s) are attached.

H. Water Quality Needs (check **one**) - The project must be consistent with at least one of the following seven watershed priorities. Check the one water quality category which best identifies the water quality goals which the project ***directly deals*** with:

Note: For border waters where a DNR approved Basin/Watershed Plan does not exist, another governmental document acceptable to the District Nonpoint Source Coordinator may be used to identify the water quality need.

Surface Water Considerations

◉ **1. Clean Water Act section 303(d) List of Impaired Waters**
A water body (lake or stream) on the latest Clean Water Act (CWA) section 303(d) List of Impaired Waters, where the cause of the water quality impairment is nonpoint source pollution ***and this project*** will reduce the type of nonpoint source pollutants for which the water is listed. (See Attachment A)

Name of Applicable Impaired Water: Lake Wisconsin

Name of Pollutant Causing Impairment: NPS Phosphorus

○ **2. Outstanding or Exceptional Resource Waters or Other Areas of Special Natural Resource Interest**
Prevention of degradation due to nonpoint sources of outstanding resource waters (ORW) (per s. NR 102.10) or exceptional resource waters (ERW) (per s. NR 102.11) or other areas of special natural resource interest (ASNRI) To locate ASNRI using DNR's Surface Water Data Viewer go to http://dnrmaps.wi.gov/imf/imf.jsp?site=SurfaceWaterViewer.deswaters.
For more information about ASNRI go to http://dnr.wi.gov/topic/surfacewater/datasets/designated_waters/asnri.html

Name of Applicable ORW/ERW or ASNRI:

○ **3. Not Fully Supporting Uses or NPS Ranking of High or Medium**
A water body (lake or stream) identified in a DNR-approved Basin/Watershed Plan as not supporting designated uses due to nonpoint sources, but is not on the section 303(d) List. In newer plans, these waters are categorized as "supporting" (as opposed to "fully supporting") designated uses; in plans prior to 2010 they were labeled as "partially meeting" designated uses. Or, the project is located in watershed, lake watershed, or other area ranked high or medium on the NPS Rankings List, where the goals of the project are directly associated with the reason for the ranking on the NPS Rankings List.

○ **4. Surface Water Quality**
Prevention of surface water quality degradation due to nonpoint sources.

Groundwater Considerations For assistance with this section, please consult the DNR District Drinking Water and Groundwater Specialist at http://dnr.wi.gov/topic/drinkingwater/contact.html or the County Extension office.

○ **5. Exceeds Groundwater Enforcement Standard**
Groundwater within the project area where representative information indicates there are levels for NPS contaminants that exceed groundwater enforcement standards.

○ **6. Exceeds Groundwater Preventive Action Limit**
Groundwater within the project area where representative information indicates there are levels for NPS contaminants that exceed groundwater preventive action limits.

○ **7. Groundwater Quality**
The project area is within a geological area defined in s. NR 151.015(18) as susceptible to groundwater contamination. (See Attachment F)

I. Drinking Water Bonus Points:

Yes ○ No ◉ The project water quality goals identified above relate to the reduction of nonpoint source contaminants in community or non-community public drinking water supplies. This includes any of the following: Municipal water supplies governed by chs. NR 809 and 811; Other-Than-Municipal (OTM) water supplies governed by chs. 809 and 811; Non-Transient water supplies governed by chs. NR 809 and 812; Transient water supplies governed by chs. NR 809 and 812.

1. If "Yes" ***and*** you checked box 5, 6, or 7 above, then mark a, b or c below and move on to question J. (You will need assistance from your DNR District Grant Coordinator or Water Supply Specialist to answer.)

○ a. Check this box if the project is located: within the wellhead protection area of a municipal well, ***or*** within 1,200 feet of a municipal well for which a wellhead protection area is not delineated, ***or*** within 1,200 feet of an "Other-Than-Municipal (OTM)" water supply well, or within 1,200 feet of a non-transient water supply well

○ b. Check this box if the project is located within 200 feet of Transient water supply well.

○ c. Check this box if you did not select a or b.

2. If "Yes" ***and*** you checked box 1, 2, 3, or 4 above, then place a check mark next to the drainage area where the project is located (see below).

- ☐ Pike River and Creek
- ☐ Root River
- ☐ Oak Creek
- ☐ Milwaukee River
- ☐ Sauk Creek
- ☐ Sheboygan and Onion Rivers
- ☐ Manitowoc River
- ☐ Twin Rivers
- ☐ Kewaunee and Ahnapee Rivers
- ☐ Menominee River
- ☐ Fish Creek
- ☐ St. Louis and Nemadji Rivers
- ☐ Lake Winnebago

J. Nature of the Water Quality Impact. Check the box if the statement applies to receiving waters that are being affected by the project site.

◉ **1. General water quality impacts.** The receiving waters experience general resource degradation from nonpoint pollution sources. Cause and effect relationships between the impairments and the specific site to be funded are difficult or impossible to establish. *(Note: This may be chosen if 1, 3, 4, 5 or 6 is checked in H. Water Quality Needs.)*

○ **2. Site-specific degradation.** Site-specific impacts on receiving waters from the site to be funded are observable or measurable such that a cause and effect relationship is clearly evident. *(Note: This may be chosen if 1, 3, 4, 5 or 6 is checked in H. Water Quality Needs.)*

☐ Supporting information, such as data summaries or photos, is attached. (Required to earn credit for statement 2.)

○ **3. Threats.** There are no nonpoint source impacts observed or measured in receiving waters but the existence of the pollution source is perceived to be a threat. *(Note: This may be chosen if 2. or 7. is checked in H. Water Quality Needs.)*

K. Consistency with Other Resource Management Plans

☒ Check this box if the proposed project implements a water quality recommendation from a locally approved resource management plan. Examples include Smart Growth plans, Legacy Community plans, Water Star plans, local Storm Water Management plans, wellhead protection, lake management, regional water quality plans, Remedial Action plans and other watershed-based nonpoint source control plans.

(This question does not include a TMDL report, TMDL implementation plan, or County Land and Water Resource Management Plan.)

Cite the name and date(s) of publication of the document. Attach pertinent page(s) or provide URL. Summarize the water quality recommendation(s) and describe how it relates to the goals of this proposed project.

Lower WI Basin Plan(DNR) this caption from the plan, shows the relationship to manure based P loading and impacts from the watershed on Lake Wisconsin.

Source page 310 of 2002 Lower WI Basin Report:

Wisconsin Power & Light Company, owner of the Prairie Du Sac Dam, as part of the Federal Energy Regulatory Commission (FERC) relicensing process conducted water quality, algal,fisheries and sediment contaminant studies during 1992. Continuous dissolved oxygen monitoring at the dam tailrace showed the water quality standard of 5 mg/l was violated more than half of July, a good portion of August and a few days in September, 1992. The worst two-day period occurred July 27-28, when the maximum dissolved oxygen was 3.6 mg/l, the minimum 1.7 mg/l. The suggested cause of the problem is a combination of the existence of the dam and the high nutrient loads in the river. This leads to excessive algae growth in Lake Wisconsin. When the algae die off, they deplete oxygen near the dam. Nutrient loading can come from barnyard runoff and other forms of nonpoint source pollution. One dairy farmer has been found to have multiple manure discharges to the lake. These sources of pollution need to be addressed and curtailed to help improve the health of Lake Wisconsin.

L. Use of Additional Funding

☐ Check this box if the applicant is requesting less State Share on row 12 of question Part II. B. (Cost-Sharing Worksheet) than it was offered on row 11 of that section.

Part III. Eligibility for Local Enforcement Multiplier

Completion of Part III is optional. However, an applicant can increase the final project score by qualifying for a project multiplier. Check the **one** enforcement authority situation which **best** applies to the governmental unit applying for a TRM grant combined with the proposed project.

○ The applicant certifies that it has local authority to enforce all state agricultural performance standards and prohibitions at all sites within the local jurisdiction where such state agricultural performance standards and prohibitions apply. *Multiply the initial project score by a factor of 1.15.*

◉ The applicant certifies that it has local regulations that give local authority to enforce most, but not all, of the state agricultural performance standards and prohibitions at all sites within the local jurisdiction where such state agricultural performance standards apply; **and** this project addresses an enforceable performance standard or prohibition. *Multiply the initial project score by a factor of 1.10.*

○ The applicant certifies that it has local regulations that give local authority to partially enforce some of the state agricultural performance standards and prohibitions at some, but not all, of the sites within the local jurisdiction; **and**, this project addresses an enforceable performance standard or prohibition on a site under local jurisdiction. *Multiply the initial project score by a factor of 1.05.*

○ Applicant has no local authority to enforce state agricultural performance standards and prohibitions within the local jurisdiction **for this proposed project**. *No multiplier is earned.*

Copies of ordinances for which credit is taken in this section are: (choose at least one)

Found at this website (provide most direct web page URL).

☒ http://www.co.columbia.wi.us/columbiacounty/portals/2/ordinance/title15.pdf

☐ Attached to this application.

☐ Already submitted with another application for funding.

Optional Additional Information

Carefully review the answers to all of the questions above. Is there additional information that will add to the understanding of this project? If so, describe here

It is important to note that this project includes the option of either moving forward with a barnyard/sediment basin and or a roof option to address feedlot runoff issues. We will evaluate cost options for both options and move forward with the best choice. We have included the Roof BMP, but have not included it as an additional cost, to represent the choice of shifting the funds if determined the best option.

This landowner currently has a 590 NMP, so development of one will not be a new issue for him. The manure storage structure will allow him to fully utilize it.

This is a unique project, because it will likely be one of many in our Adaptive Management Project Area draining into Lodi Spring Creek. I think everyone is looking forward to making this project successful, and documenting the long term reduction of P concentrations in the stream, so we can document the value of these partnerships with farms and conservation projects.

Cultural and Archaeological hit was found, during earlier project planning. NRCS archaeologist side shovel work, and determined sites were not located in project construction area, more down by river.

Applicant Certification

A Responsible Governmental Representative must sign and date the application form prior to submittal to the DNR.
I certify that, to the best of my knowledge, the information contained in this application and attachments is correct and true.

Signature of Authorized Representative	Date Signed
[signature]	4/12/2013

Name (*Please Print*)	Title
Kurt Calkins	Director

☒ Completed Governmental Responsibility Resolution (signed in blue ink) (see Attachment I) is attached.

Submittal Directions

To be considered for funding, provide the following for each application submitted:

- One copy of the completed application form [DNR Form 8700-300 (R 1/13)] with **original signature in blue ink**
- Three additional copies of the completed, signed application form;
- One electronic copy of the completed application form in **PDFrmat only** plus all attachments and maps on CD.

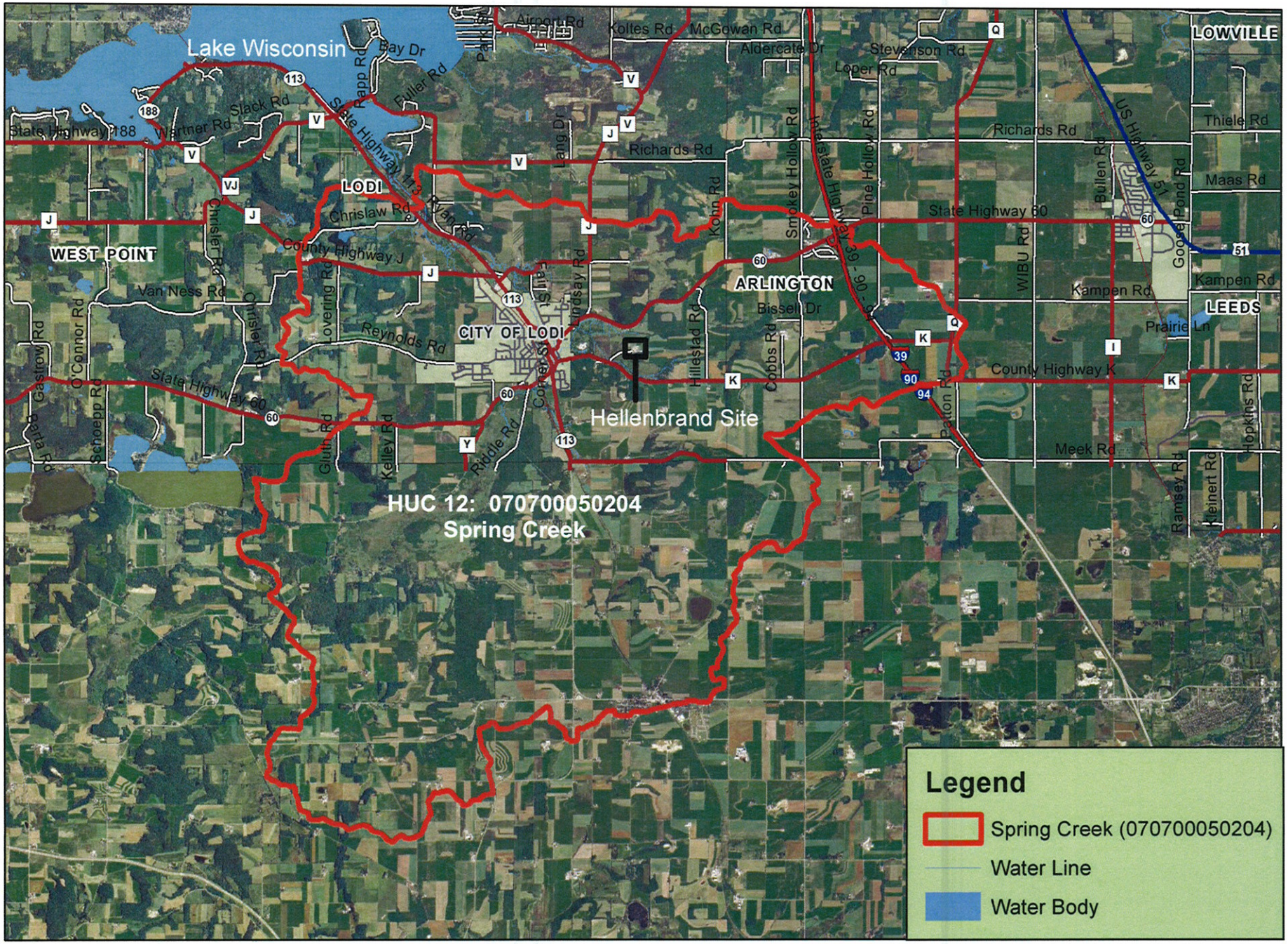
All application materials must be postmarked by midnight **April 15 of the same calendar year**.

Send to: State of Wisconsin
Runoff Management Section-WT/3
Department of Natural Resources
101 South Webster Street
Madison, WI 53703

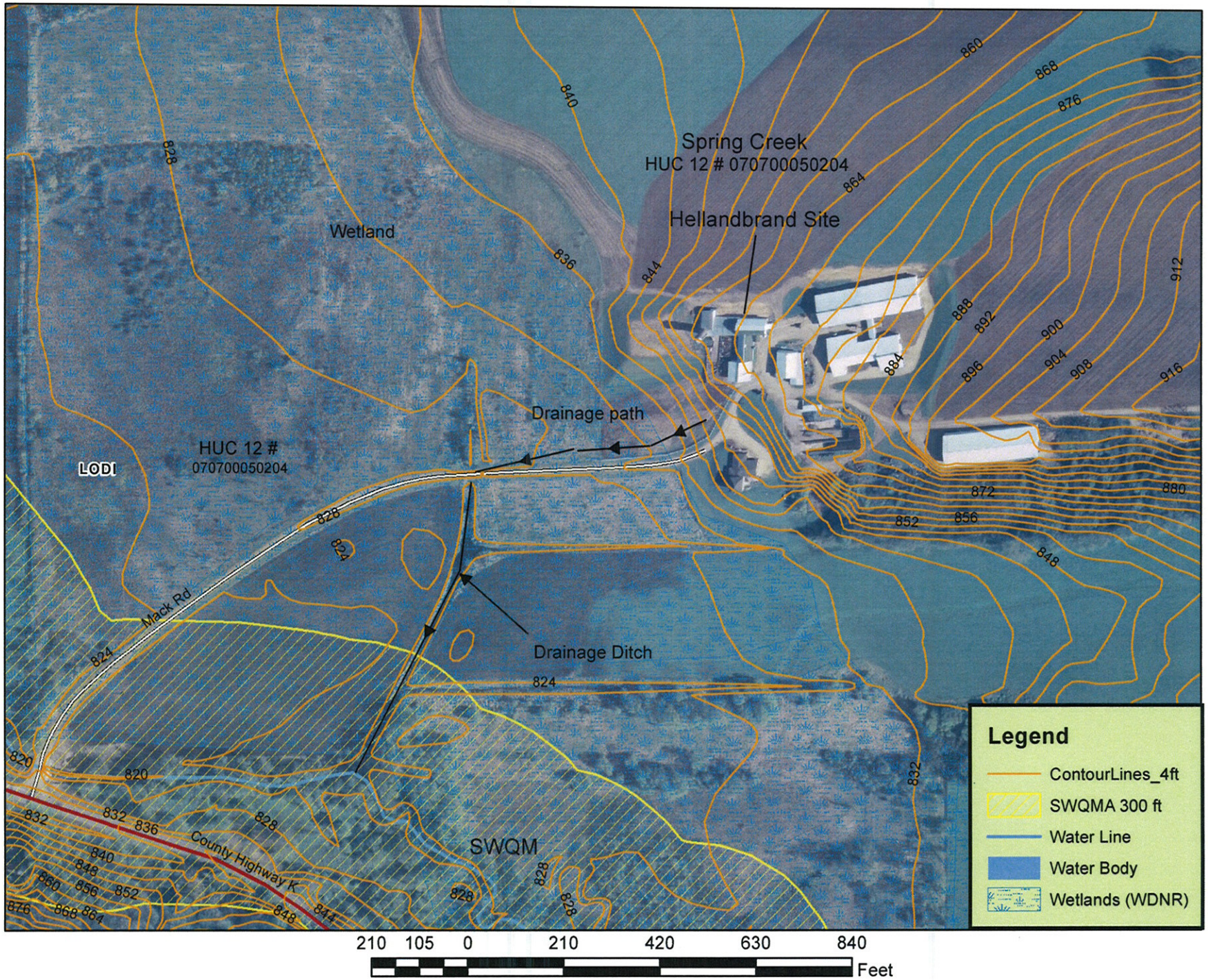
or

PO Box 7921
Madison WI 53707-7921

Paul Hellenbrand TRM Project



Paul Hellenbrand

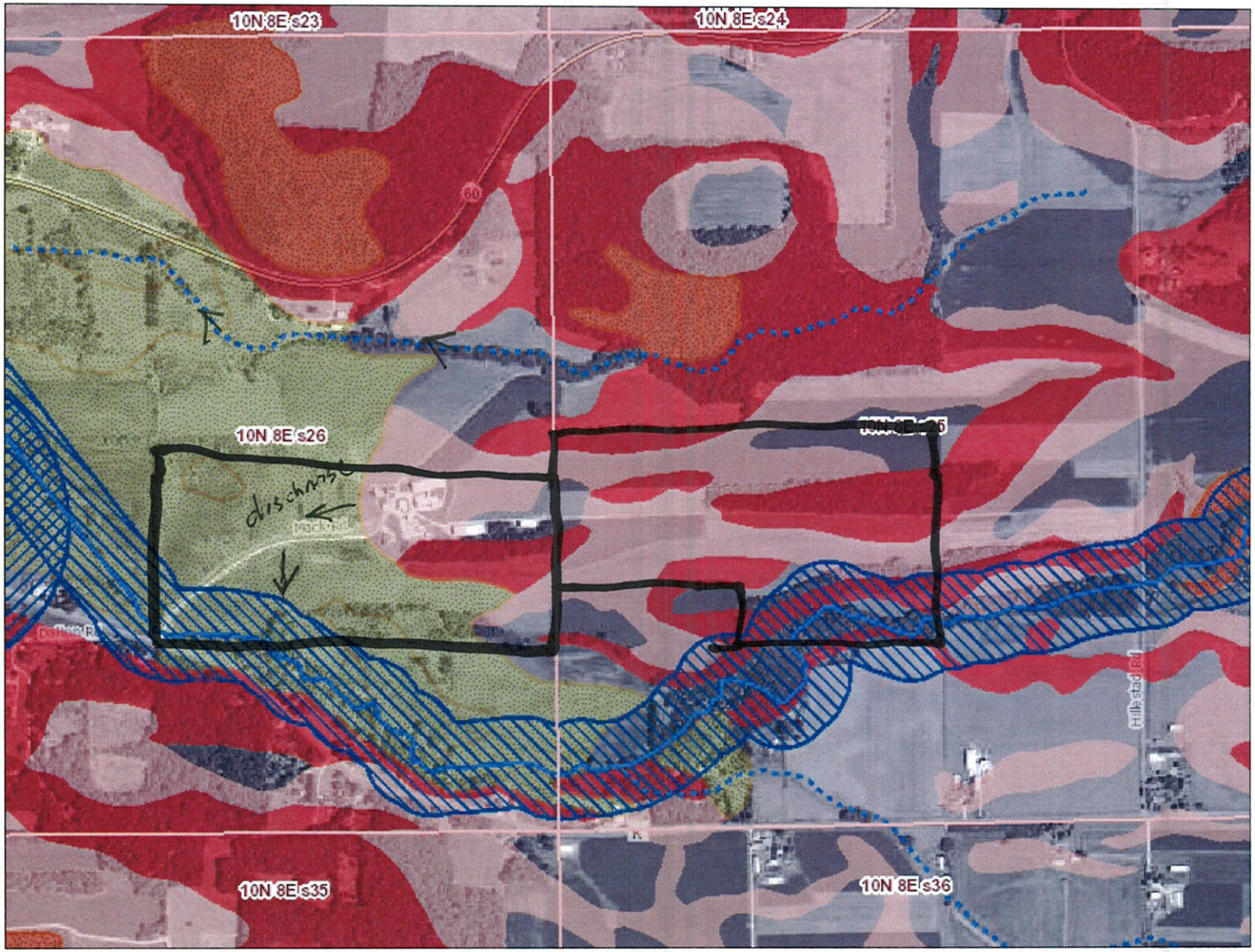


Wisconsin 590 Nutrient Management Application Restrictions

North

Map Generated On: 4/1/2013

County:



0 0.2 Miles

Scale 1: 12,016

This map has been developed utilizing the nutrient application restrictions from the September 2005 Wisconsin NRCS 590 Nutrient Management Practice Standard. This map is an initial inventory of nutrient spreading risks which must be field verified to identify other risk areas such as concentrated flow channels, wetlands, and conduits to groundwater. See the "Considerations" section of the 590 practice standard for additional planning suggestions. http://efotg.nrcs.usda.gov/references/public/WI/590.pdf

Legend*

- Section
- Intermittent Streams
- Perennial Streams
- SWQMA 300 Feet
- SWQMA 1,000 Feet
- Fall N Restriction
- No Winter App. Slope > 12%
- Winter Restriction if Slope > 9%
- Township-Range

*Markup is not included in the Legend

Sources:

Soil Map Units, Fall Restrictions, Winter Restrictions - Based on USDA NRCS SSURGO (updated 7/1/2012)

Surface Water - WI DNR 24K Hydro (acquired 1/9/2012)

SWQMAs - buffers around WI DNR 24K Hydro (based on 1/9/2012 Hydro)

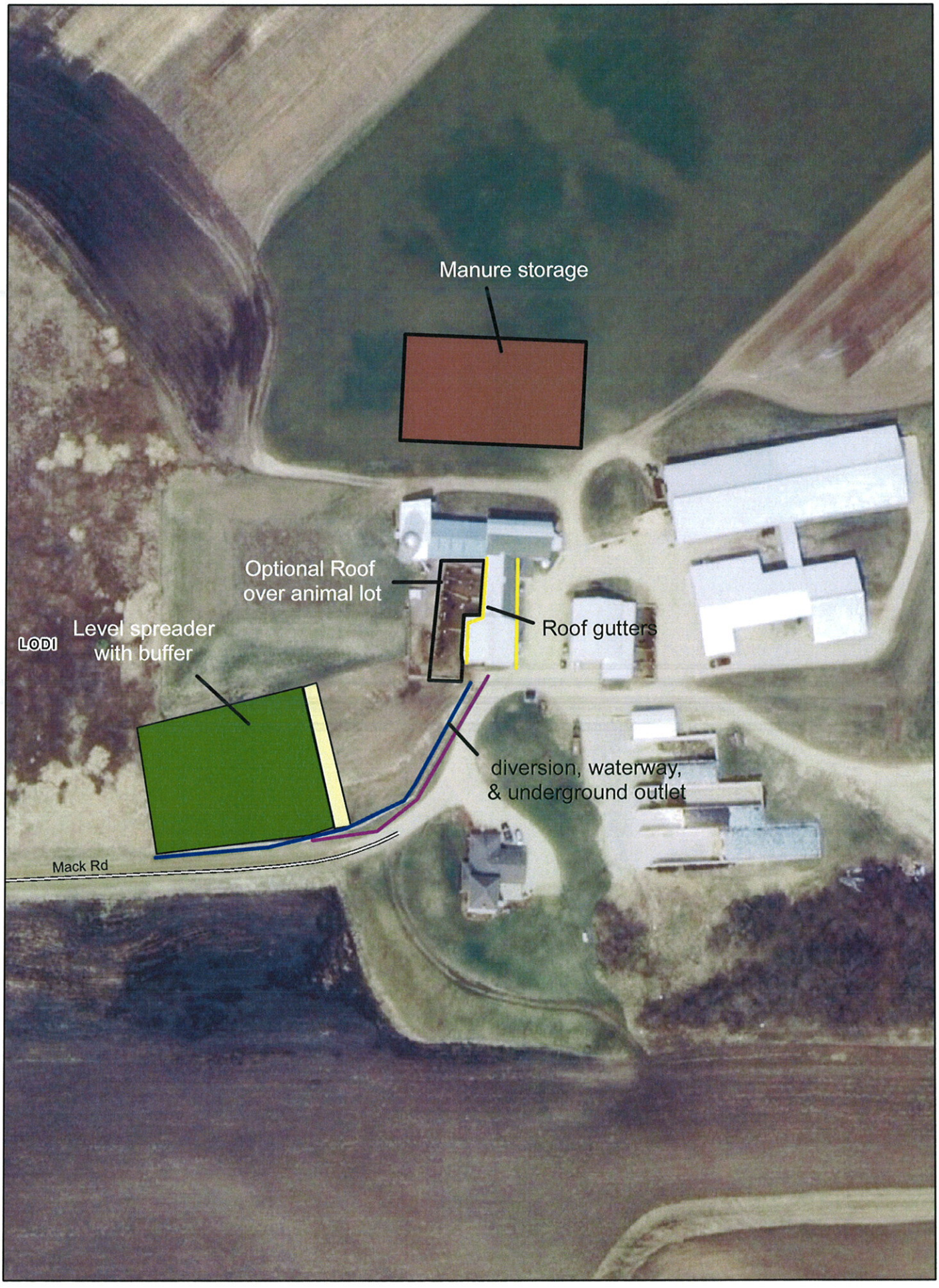
2010 NAIP Imagery - USDA FS

Transportation - WI DOT (acquired 5/22/2012)

Notes

Section Number(s):

Paul Hellenbrand

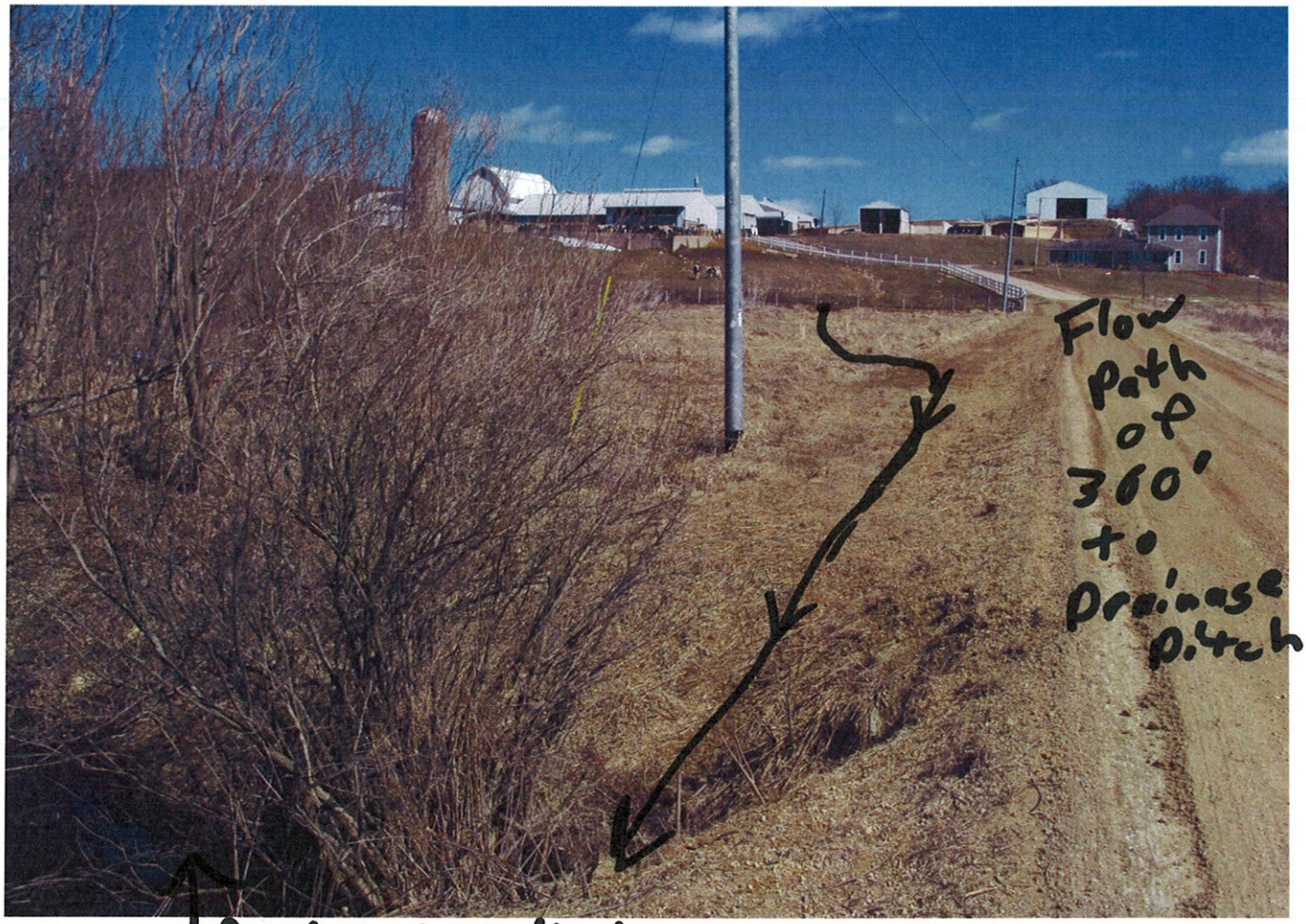


Hellen broad site

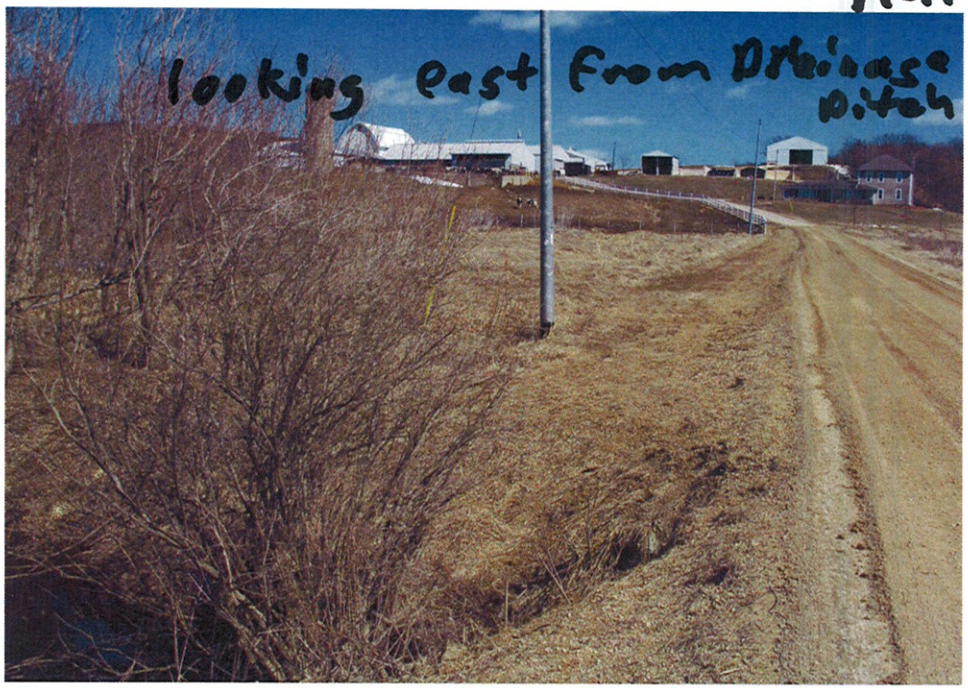
17

[illegible]

Hellenbrand site



Hellenbrand site



20/30

COLUMBIA COUNTY

Land & Water Conservation

608-742-9670
FAX: 608-742-9840
E-MAIL: land.conservation@co.columbia.wi.us
WEBSITE: www.co.columbia.wi.us

120 West Conant Street
P.O. Box 485
Portage, WI 53901

TRM Grant Enabling Responsibility Resolution

WHEREAS, the Columbia County Land and Water Conservation Department is interested in applying for and obtaining a TRM grant from the Wisconsin Department of Natural Resources for the purpose of implementing measures to control agricultural nonpoint source water pollution (as described in the application and pursuant to ss.281.65 or 281.66, Wis Stats., and chs. NR 151,153 and 155, Wis. Adm. Code) and

WHEREAS, a grant award that includes a request for access to cost share funds is being requested to carry out the project and or projects and

WHEREAS, the Columbia County Land and Water Conservation Department has staff resources in place to carry out project deliverables and to secure required local match to cost share grant funds per program guidelines, and

THEREFORE BE IT RESOLVED, that the Columbia County Land and Water Conservation Committee, authorizes Kurt R. Calkins, Director of the Columbia County Land and Water Conservation Department to act on behalf of Columbia County to submit and application to the Wisconsin Department of Natural Resources for TRM grant funding consideration and complete necessary grant related activities such as:

- Signing and Submitting required contract documentation
- Submitting reimbursement claims upon completion
- Take necessary action to undertake, direct and complete the approved project

BE IT FURTHER RESOLVED that the applicant will comply with all state and federal rules and regulations relating to this project, the cost-share agreements and nonpoint source water pollution.

Adopted by Columbia County Land and Water Conservation Committee

Adopted on 1st day of April, 2013

I hereby certify that the foregoing resolution was duly adopted by, and entered into the official minutes of the Columbia County LWCC at a legal meeting on 4/1/2013.

Authorized Signature: John D Stevenson

John Stevenson , Chair LWCC

Hellenbrand 21/30

COLUMBIA COUNTY
Land & Water Conservation

608-742-9670
FAX: 608-742-9840
E-MAIL: land.conservation@co.columbia.wi.us
WEBSITE: www.co.columbia.wi.us

120 West Conant Street
P.O. Box 485
Portage, WI 53901

4/12/2013

Paul & Donna Hellenbrand
N1118 Mach Road
Lodi, WI 53555

Subject: Notice TRM Grant Application & NR 151 Compliance

Dear Paul & Donna

I am corresponding with you regarding the application the Columbia Land and Water Conservation Department is submitting thru the 2013/2014 DNR Targeted Runoff Management Grant Program. This is a statewide competitive program that is targeted and helping landowners come into compliance with the Ag Performance Standards as outlined in NR 151. These conditions are also found in the Columbia County Code of Ordinances Title 15 Animal Waste Management. As a condition of these grant applications, and a way to maximize scoring for County project applications we are required to send you a notice that if we are successful with this grant application, we will use those funds to bring you into compliance with standards that apply to your project area. This letter will serve as that notice.

This grant application seeks funds to help you gain compliance with the following provision of NR 151:

1) Manure Storage Facilities (New NR 151.05(2)
2) Clean Water Diversions (NR 151.06)
3) Nutrient Management (NR 151.07)
4) Direct Discharge From Feedlot (NR 151.08(4)

Todd Rietmann, our technician that you have been working with, will keep you updated and let you know if we are successful securing the funds.

If you have any questions please feel free to give us a call.

Kurt R. Calkins
Director of LWCD
Columbia County

Construction Hellenbrand Estimation Documentation

Paul Hellenbrand (Waste Storage Facility and VTA or Roof Option)

ITEM	UNIT	QUANTITY	UNIT COST	TOTAL COST
SITE PREPERATION	JOB	1	$3,000.00	$3,000.00
CONCRETE FLATWORK	SQFT	13,280	$4.00	$53,120.00
2FT R/C WALL	LIN. FT	64	$40.00	$2,560.00
4FT R/C WALL	LIN. FT	0	$50.00	$0.00
6FT R/C WALL	LIN. FT	0	$70.00	$0.00
8FT R/C WALL	LIN. FT	657	$140.00	$91,980.00
10FT R/C WALL	LIN. FT	0	$150.00	$0.00
FILL SAND/GRAVEL	YD^3	334	$12.00	$4,008.00
HEAVY USE CRUSHED STONE	YD^3	23	$13.00	$299.00
HEAVY USE BREAKER RUN ROCK	YD^3	35	$13.00	$455.00
GRASSED WATERWAY	LIN. FT	150	$2.00	$300.00
DIVERSION	LIN. FT	50	$3.00	$150.00
EXCAVATION	YD^3	3000	$3.00	$9,000.00
FILL ON SITE	YD^3	3000	$3.00	$9,000.00
Clay liner moved to site	YD^3	0	$6.00	$0.00
CLAY LINER ON SITE	YD^3	0	$3.00	$0.00
Fill Moved to site 1 mile	YD^3	0	$6.00	$0.00
TOPSOIL STRIP AND RESPREAD	YD^3	1000	$2.00	$2,000.00
Houle Pump	Num	0	$20,000.00	$0.00
Transfer Huffcutt	LIN. FT	0	$80.00	$0.00
Transfer Manure Pipe 12 3/4"	LIN. FT	0	$22.00	$0.00
Transfer Manure Pipe	LIN. FT	80	$40.00	$3,200.00
Seeding storage	Acre	2	$1,000.00	$2,000.00
Waste storage abandonment	Num	0	$10,000.00	$0.00
Fence	LIN. FT	600	$2.00	$1,200.00
I beam saftey fence	LIN. FT	35	$20.00	$700.00
Waterstop installation	LIN. FT	190	$20.00	$3,800.00
Underground outlet	LIN. FT	230	$20.00	$4,600.00
Roof Gutters	LIN. FT	175	$14.00	$2,450.00
VTA shaping and development	acre	2	$5,000.00	$10,000.00
concrete level spreader	SQFT	1500	$3.75	$5,625.00
concrete level spreader curb wall	LIN. FT	100	$20.00	$2,000.00
Critical area seeding	acre	2	$1,500.00	$3,000.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
				$0.00
			TOTAL	$214,447.00
		COST ESTIMATE +	5.00%	$225,169.35
			Total cost of project	**$225,169.35**
*Optional Roof over existing animal lot	cost	1	$35,000.00	$35,000.00

Hellenbrand

State of Wisconsin
Department of Natural Resources
PO Box 7185, Madison, WI 53707-7185
dnr.wi.gov

Animal Unit Calculation Worksheet
Form 3400-025A (R 3/2012)

The Current Animal Unit Calculation Worksheet must be filled out separately for the "main" site and each site which are owned or operated by your farm for the purposes of housing animals associated with your operation. The site name, for which you are filling this worksheet out, must be provided below and correlate with Form 3400-025 Site Information (Section II).

Current Animal Unit Calculation Numbers

Name of Site: Hellenbrand

Animal Type		I. Mixed Animal Units b. Equiv. factor	c. Current Number	d. No. of AUs	II. Non-mixed Animal Units e. Equiv. factor	f. Current Number	g. No. of Aus
Example - Broilers (non-liquid manure):		*0.005 x*	*150,000*	*= 750*	*0.008 x*	*150,000*	*= 1200*
Dairy/Beef Calves (under 400 lbs)		0.20 x		=	*Fed numbers in this column comply with 40 CFR s. 122.23*		
Dairy Cattle	Milking & Dry Cows	1.40 x	206	= 288.4	1.43 x	206	= 294.6
	Heifers (800 lbs to 1200 lbs)	1.10 x	35	= 38.5			
	Heifers (400 lbs to 800 lbs)	0.60 x	50	= 30	1.00 x	85	= 85
Beef	Steers or Cows (400 lbs to market)	1.00 x		=			
	Bulls (each)	1.40 x		=	1.00 x		=
Veal Calves		0.50 x		=	1.00 x		=
Swine	Pigs (up to 55 lbs)	0.10 x		=	0.10 x		=
	Pigs (55 lbs to market)	0.40 x		=			
	Sows (each)	0.40 x		=			
	Boars (each)	0.50 x		=	0.40 x		=
Chickens	Layers (each) -non-liquid manure system	0.01 x		=	0.0123 x		=
	Broilers/Pullets (each) -non-liquid manure system	0.005 x		=	0.008 x		=
	Per Bird -liquid manure system	0.033 x		=	0.0333 x		=
Ducks	Ducks (each) -liquid manure system	0.2 x		=	0.2 x		=
	Ducks (each) -non-liquid manure system	0.01 x		=	0.0333 x		=
Turkeys (each)		0.018 x		=	0.018 x		=
Sheep (each)		0.1 x		=	0.1 x		=
Horses (each)		2 x		=	2 x		=
Total Animal Units:		Total Mixed Animal Units = (add all rows above) 357			Total Non-Mixed Animal Units = (Enter the single highest number from any row above; DO NOT add the totals) 294		

☒ Check here if there are no proposed increases in animal numbers at this site within the next five years.

L 20% Increase

Heller Brand

24/30

State of Wisconsin
Department of Natural Resources
PO Box 7185, Madison, WI 53707-7185
dnr.wi.gov

Animal Unit Calculation Worksheet
Form 3400-025A (R 3/2012)

The Projected Animal Unit Calculation Worksheet must be filled out separately for the "main" site and each site which are owned or operated by your farm for the purposes of housing animals associated with your operation. The site name, for which you are filling this worksheet out, must be provided below and correlate with Form 3400-025 Site Information (Section II).

Projected Animal Unit Calculation Numbers

Name of Site: Heller brand

Animal Type		I. Mixed Animal Units			II. Non-mixed Animal Units		
		b. Equiv. factor	c. Projected Number	d. No. of AUs	e. Equiv. factor	f. Projected Number	g. No. of Aus
Example - Broilers (non-liquid manure):		*0.005 x*	*150,000*	*= 750*	*0.008 x*	*150,000*	*= 1200*
Dairy/Beef Calves (under 400 lbs)		0.20 x		=	*Fed.numbers in this column comply with 40 CFR s. 122.23*		
Dairy Cattle	Milking & Dry Cows	1.40 x	250	= 350	1.43 x	250	= 357.5
	Heifers (800 lbs to 1200 lbs)	1.10 x	35	= 38.5			
	Heifers (400 lbs to 800 lbs)	0.60 x	50	= 30	1.00 x	85	= 85
Beef	Steers or Cows (400 lbs to market)	1.00 x		=			
	Bulls (each)	1.40 x		=	1.00 x		=
Veal Calves		0.50 x		=	1.00 x		=
Swine	Pigs (up to 55 lbs)	0.10 x		=	0.10 x		=
	Pigs (55 lbs to market)	0.40 x		=			
	Sows (each)	0.40 x		=			
	Boars (each)	0.50 x		=	0.40 x		=
Chickens	Layers (each) -non-liquid manure system	0.01 x		=	0.0123 x		=
	Broilers/Pullets (each) -non-liquid manure system	0.005 x		=	0.008 x		=
	Per Bird -liquid manure system	0.033 x		=	0.0333 x		=
Ducks	Ducks (each) -liquid manure system	0.2 x		=	0.2 x		=
	Ducks (each) -non-liquid manure system	0.01 x		=	0.0333 x		=
Turkeys (each)		0.018 x		=	0.018 x		=
Sheep (each)		0.1 x		=	0.1 x		=
Horses (each)		2 x		=	2 x		=

Total Animal Units:

Total Mixed Animal Units = 418.5 (add all rows above)

Total Non-Mixed Animal Units = 357.5 (Enter the single highest number from any row above; DO NOT add the totals)

Date of Proposed Expansion (MM/YY): 11/2013

Hellen brand 6 months storage

25/30

WASTE STORAGE FACILITY DESIGN - 313 STANDA

CLIENT: Hellenbrand | COUNTY: COLUMBIA | DATE: 4/11/13

DSN BY: TAR | CHK BY: _____ | DATE: _____

COMMENTS:

ANIMAL TYPE> 1 (1 = DAIRY, 2 = BEEF, 3 = VEAL, 4 = SWINE(finishing), 5 = SWINE(farrowing) 6 = POULTRY, 0 = OTHER)

For Dairy: Rolling Herd Average 20,000 lbs/cow/yr Is it a stanchion barn? n (Y or N)

MANURE AND WASTEWATER

LIVESTOCK		AVG. WT.	DAILY OUTPUT, CU FT			DAYS OF	VOLUME	ANIMAL
KIND	NUMBER	PER HEAD	MANURE	BEDDING	TOTAL	STORAGE	REQUIRED	UNITS
Cows	250	1,400	2.25		562.5	180	101,250	350
Heifers		700						
Calves		350						

WASTEWATER: 664 GAL/DAY 88.8 CU FT/DAY 350 TOT. A.U.

TOTAL DAILY VOLUME: 651.3 CU FT / DAY

876,870 GALLONS

Total Manure and Wastewater **117,229 CU FT**

Expected % solids in waste (Includes runoff and precip.) 10.3 %

RUNOFF VOLUME

MONTHLY RUNOFF

RCN 95 | 12.2 / 12 IN. X _____ Ft2 Drainage Area = 0 CU FT (Do not include storage area)

25-Year, 24-HOUR RUNOFF

RCN 95 | 4.12 / 12 IN. X 0 Ft2 Drainage Area = 0 CU FT (Do not include storage area)

876,870 GALLONS

Total for Manure, Milking Center, Runoff Volume, and 25 Yr Runoff **117,229 CU FT**

PRECIPITATION Does the facility collect precipitation? (No roof or lid) 1 (1 for yes, 2 for no)

Beginning Month for Precip. Collection 11 (1 = Jan, 2 = Feb, etc.)

Precipitation minus evaporation

Average Precipitation on Storage Surface	9.7 INCH	0.8 FT
Average Evaporation from Storage Surface -	4.8 INCH	0.4 FT
Net Precipitation on Storage Surface	4.9 INCH	0.4 FT
25-Yr, 24-Hr Precip on Storage Surface	4.7 INCH	0.4 FT

REMAINING WASTE (If no sump, use these minimums: ponds -2', tanks-1') 0.0 FT

EXTRA DEPTH FOR SAFETY (1-ft. Minimum) 1.0 FT

SETTLEMENT (5% of Embankment Height) 0.0 FT

M.O.L. DEPTH (Depth to hold Manure, Wastewater, Runoff, and Precip.) 6.61 FT

Total Depth of the Storage Facility 8.0 FT

See page # Two Total w.v

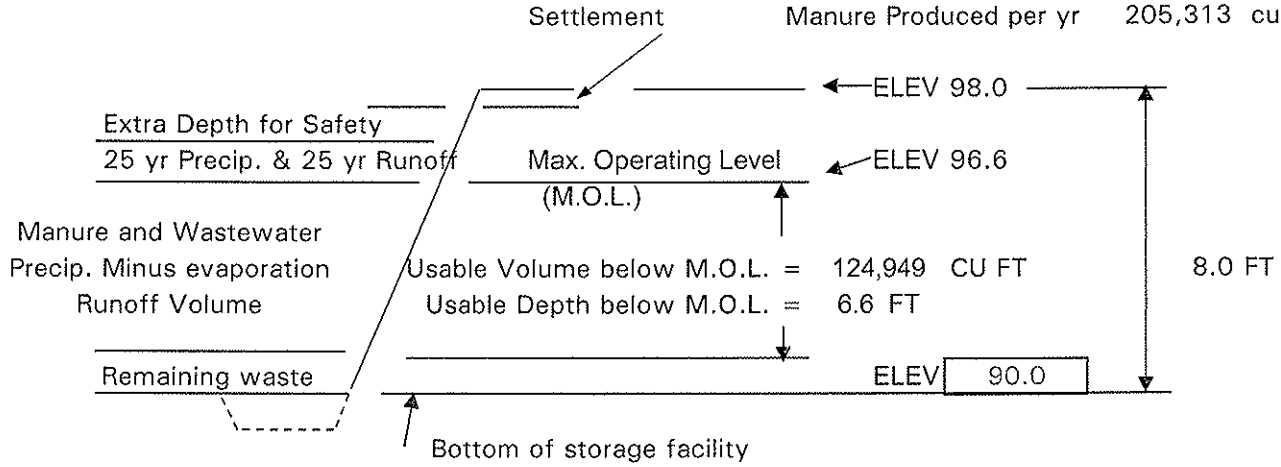
Volume of 1,131,945 gallons

Hellon brand 6 months storage 26/30

REMAINING WASTE	(If no sump, use these minimums: ponds -2', tanks-1')	0.0	FT
EXTRA DEPTH FOR SAFETY	(1-ft. Minimum)	1.0	FT
SETTLEMENT	(5% of Embankment Height)	0.0	FT
M.O.L. DEPTH	(Depth to hold Manure, Wastewater, Runoff, and Precip.)	6.61	FT
	Total Depth of the Storage Facility	8.0	FT

STORAGE FACILITY ELEVATIONS

Design Storage Volume 132,355 cu ft
Manure Produced per yr 205,313 cu ft



STORAGE SIZING	IS STORAGE RECTANGULAR OR ROUND ?	1	(1 = Rectangular; 2 = Round)
	SIDE SLOPES OF STORAGE	0.0 :1	(Use "0" for walls)
	CHOOSE A BOTTOM WIDTH	125 FT	
	BOTTOM LENGTH REQUIRED	151	FT
	ROUND STORAGE BOTTOM DIAMETER REQUIRED	N.A.	FT

STORAGE SIZING SUMMARY

RECTANGULAR	BOTTOM SIDE 1:	125	FT	
	BOTTOM SIDE 2:	151	FT	
	M.O.L. VOLUME PROVIDED:	124,949	CU FT	934,621 GALLONS
	DAYS STORAGE PROVIDED:	180	DAYS	
	TOTAL VOLUME FROM BOTTOM TO SETTLED TOP:	151,263	CU FT	1,131,445 GALLONS
ROUND	CHOOSE BOTTOM:	N.A.	FT DIAM	
	M.O.L. VOLUME PROVIDED:	0	CU FT	0 GALLONS
	DAYS STORAGE PROVIDED:	0	DAYS	
	TOTAL VOLUME FROM BOTTOM TO SETTLED TOP:	0	CU FT	0 GALLONS

Barnyard / Pre-Fab Hellenbrand 27/30

BUFFER DESIGN USING BARNY

OWNER: Paul Hellenbrand DESIGNER: TAR DATE: 4/11/2013
CHK BY: DATE:

	Input	Output	
Closest City of similar climate:	1		1 Madison, 2 Appleton, 3 Wausau, 4 Eau Claire
Paved lot area:	4,500		sq ft
Earth lot area:	32,000		sq ft
Animal Lot size:		36,500	sq ft
Is there a DESIGNED settling basin	2		Yes= 1; No= 2

Animals on lot:	26	number	35	number
Type of animal:	1		1	(Dairy = 1; Beef=2)
Ave. Animal Weight:	1,200	lbs	800	lbs
Lot Use:	1			1= Heavy; 2= Medium; 3= Light)

TRIBUTARY AREAS

Tributary area:	20,000	sq ft	sq ft
Runoff Curve Number:	75		
Roof area:	5,500	sq ft	

80.9 lbs P per year at D.S. Lot edge:

Maximum permissible P Output that can be released: 15 lbs — Your choice based on impacted resources- Max is 15

BUFFERS - Size by trial and error

First Buffer	Length:		ft (See Note Below)
	Slope:		
	"c" :		→
Second Buffer	Length:		ft
	Slope:		
	"c" :		

"c" Value Table	
Permanent Meadow	0.59
Woods, Heavy Litter	0.59
Woods, Lt Ltr	0.29
Well managed grazing	0.44
Fair managed grazing	0.29
Good Pasture	0.22
Fair Pasture	0.15
Small Grain	0.29
Legume	0.29
Contoured Row Crop	0.29
Non-contoured row crop	0.05

Before Practices

P (lbs) after the buffers: 80.9 lbs P per year

NO GOOD - Too much P released

BUFFER SIZING

	38,750	sq ft	Min. Acceptable Buffer Area
Chosen Buffer Width		feet	
	0	feet	Min. Bfr. Len. Based on BARNY
	#DIV/0!	feet	Min. Bfr. Len. Based on Area
Chosen Buffer Length		feet	#DIV/0!

Hellenbrand 28/30

BUFFER DESIGN USING BARNY

OWNER: Paul Hellenbrand DESIGNER: TAR DATE: 4/11/2013
CHK BY: DATE:

	Input	Output	
			1 Madison
			2 Appleton
Closest City of similar climate:	1		3 Wausau
			4 Eau Claire
Paved lot area:	4,500		sq ft
Earth lot area:	32,000		sq ft
Animal Lot size:		36,500	sq ft
Is there a DESIGNED settling basin	2		Yes= 1; No= 2

Animals on lot:	26	number	35	number
Type of animal:	1		1	(Dairy = 1; Beef=2)
Ave. Animal Weight:	1,200	lbs	800	lbs
Lot Use:	1			1= Heavy; 2= Medium; 3= Light)

TRIBUTARY AREAS

Tributary area:	0	sq ft	sq ft
Runoff Curve Number:	75		
Roof area:	0	sq ft	

54.2 lbs P per year at D.S. Lot edge:

Maximum permissible P Output that can be released: 15 lbs — Your choice based on impacted resources- Max is 15

BUFFERS - Size by trial and error

First Buffer	Length:	150	ft (See Note Below)
	Slope:	4	%
	"c" :	0.59	→
Second Buffer	Length:		ft
	Slope:		
	"c" :		

"c" Value Table	
Permanent Meadow	0.59
Woods, Heavy Litter	0.59
Woods, Lt Ltr	0.29
Well managed grazing	0.44
Fair managed grazing	0.29
Good Pasture	0.22
Fair Pasture	0.15
Small Grain	0.29
Legume	0.29
Contoured Row Crop	0.29
Non-contoured row crop	0.05

After Practices

P (lbs) after the buffers: 13.4 lbs P per year

GOOD - Buffer length, slope, and type is OK; proceed with final area sizing calcs below

BUFFER SIZING

38,750 sq ft — Min. Acceptable Buffer Area

Chosen Buffer Width [ ] feet

150 feet — Min. Bfr. Len. Based on BARNY

#DIV/0! feet — Min. Bfr. Len. Based on Area

Chosen Buffer Length [ ] feet — No Good- Less than BARNY length

Wisconsin DNR - Identify Results

Report generated March 28, 2013 - 11:26 AM

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Coordinate Position

Lat/Lon: 43° 18' 50" N, 89° 30' 22" W
Decimal Lon/Lat: -89.506050, 43.314027
UTM 16N: 296775, 4798738
WTM91 (x,y): 560055, 315806

NAIP 2010 Color Air Photo
Request X: 560055.4799294767
Request Y: 315806.3651646237
Raster ID: 1
Band 0: 236
Band 1: 229
Band 2: 202
Band 3: 56

Civil Towns
MCD Fips Code: 45375
Name: Lodi
City Class Code: 0
Area (Sq. Miles): 28.58618576
MCD Type Code: T

12-digit HUCs (Subwatersheds)
Hydrologic Unit Code (HUC): 070700050204
HUC Name: Spring Creek
HUC Type: S
Hydro Modifications: TF
States Spanned: WI
HUC Area (Acres): 30000
Noncontributing Area (Acres): 0
10 digit HUC: 0707000502
10 digit HUC Name: Prairie du Sac Dam-Wisconsin River
10 digit HUC Hydro Modifications: TF
10 digit HUC Type: S
8 digit HUC Name: 07070005
Next 12 digit HUC downstream: 070700050205
Next 10 digit HUC downstream: 0707000503

Watersheds

About the Watershed

Watershed Code: LW19
Name: Lake Wisconsin
Area (acres): 137575.62
Area (sq miles): 214.96
Total Stream Miles: 299.58
Total Lake Acres: 521.55
Total Wetland Acres: 6644.9
NPS Priority Watershed Year: 0
NPS Stream Ranking: Med
NPS Lake Ranking: Low
NPS Groundwater Ranking: High
NPS Overall Ranking: High

Great Lakes & Mississippi Basins
Name: Mississippi River
Major Basin Code: MRB

DNR Water Mgmt Units
Name: Lower Wisconsin
Water Mgmt Unit Code: LW
Water Mgmt Unit No.: 12

County Boundaries

Headwaters

30/30

LAKE WISCONSIN WATERSHED (LW19)

The Lake Wisconsin Watershed is located mostly in Sauk and Columbia Counties although the southernmost tip extends into Dane County. The watershed is named for Lake Wisconsin, an impoundment of the Wisconsin River created by the Wisconsin Power & Light dam at Prairie du Sac. Overall population in the Lake Wisconsin Watershed for 2000 was estimated to be around 14,300. Main municipalities include the villages of Dane, Merrimac and Poynette and the City of Lodi. Population growth in the watershed is high, most likely as a result of the watershed's proximity to the City of Madison.

Table 1: Growth in Municipalities in the Watershed

Municipality	*1990*	*2000*	*% Change*
Dane	621	799	28.7%
Lodi	2,093	2,882	37.7%
Merrimac	392	416	6.1%
Poynette	1,662	2,266	36.3%

As with virtually all the other watersheds in the basin, agriculture predominates. Other land cover in the watershed consists of broad-leaf deciduous forest, and grassland. Lake Wisconsin is also a major feature and covers 6.5% of the watershed's area.

Table 2: Land Cover in the Watershed

Land Cover	*Percent of Watershed*
Agriculture	45.9%
Forest (Total)	26.6%
Broad-Leaf Deciduous	*23.5%*
Coniferous	*1.6%*
Mixed Deciduous/ Coniferous	*1.5%*
Grassland	14.3%
Open Water	6.6%
Wetland (Total)	4.8%
Forested	*1.8%*
Emergent/Wet Meadow	*1.6%*
Lowland Shrub	*1.4%*
Other	1.1%
Development	0.7%

Watershed At A Glance

Drainage Area (m^2): 199.5

Total Stream Miles: 95.5

Trout Stream Miles: 39.6

Sport Fishery Miles: 8.9

Lakes: Lake Wisconsin

Exceptional/Outstanding Resource Waters: Parfrey's Glen, Prentice (Durward) Rowan, Spring (Lodi)

Municipalities: Poynette, Lodi, Merrimac

Major Public Lands:
- Dekorra Public Hunting Grounds
- Hinkson and Rowan Creek State Fishery Areas
- Lodi State Wildlife Marsh
- Parfrey's Glen State Natural Area

Concerns and Issues:
- Development pressure
- Nonpoint source pollution
- Stream channelization
- Lack of shoreline fishing
- Atrazine
- Nutrient loading

Initiatives and Projects:
- Friends of Rowan Creek
- River Planning Grant for education and planning on Rowan Creek
- River Planning Grant to assess the Rowan Creek Watershed
- The Riverland Conservancy - land management and habitat restoration
- Wetland restoration
- Wild trout restoration
- Cold water habitat work
- Badger Army Ammunition Plant restoration
- Harmony Grove Lake Protection and Restoration District sediment study
- River Planning Grant on Spring Creek
- Aquatic habitat restoration in Gruber's Grove Bay