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GOVERNOR

STATE OF MICHIGAN  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
LANSING



STEVEN E. CHESTER  
DIRECTOR

# SAMPLE APPLICATION PACKAGE

For Transportation Related Projects Needing a Permit from Land and  
Water Management Division

- a) Tips on Filling out the Application
- b) Wetland Guidance
- c) Hydraulic Concerns
- d) Sample Application
  - 1) Cover Letter
  - 2) Authorization Letter
  - 3) Wetland Impacts/ Minimization Information
  - 4) Hydraulic Review Information
  - 5) An application package addressing the following project components
    - a) Culvert Replacement (fill out sections 10A,B,C, 13 & 14, attach sketches)
    - b) Stream Relocation (fill out sections 10A,B,C, & 15, attach sketches)
    - c) Stormwater Outlet Pipe (fill out sections 10C & 10J, attach sketches)
    - d) Wetland Fill (fill out section 12, attach sketches)
    - e) Utility Crossing (fill out sections 10 A,B, & 18, attach sketches)

Please note, this is a sample application package only. We have attempted to highlight those portions of projects that are most likely to be encountered when dealing with a public road project. Your specific project may require additional portions of the application form to be filled out. You only need to submit the applicable sections that apply to your project.

**Tips On Filling Out The Application  
And Other Information To Assist In Project Review  
(October 2008)**

- 1) If a consultant/contractor is going to act as an agent for the transportation agency (box #3) and sign the application (box #9), we must have a letter of authorization from the Transportation Agency (sample copy enclosed).
- 2) The project purpose should be clearly defined. Alternatives in design to avoid and methods of construction used to minimize impacts to a watercourse or wetland should be clearly outlined (see box #4 on the application form- a separate page may be attached if needed).
- 3) List the names and addresses of riparian owners for all 4 quadrants of each bridge or culvert crossing and along wetlands that are impacted (see box # 8 on the application form, a separate page may be attached if needed). (Riparians are needed for applications that will be Public Noticed and are not needed for those considered to be minor projects. Minor project categories are listed in the applicable rules.)
- 4) Boxes #10 A - # 13 are often the most confusing, particularly if there is more than one stream or wetland being impacted. This can be handled in one of two ways. The first option is to copy and fill out the appropriate sections for each stream/drain, lake or wetland location as described below:
  - a) Use box # 10 A to indicate the total volume of all fill including riprap being placed within the stream, floodplain and wetland for the project. In boxes 10C, 12 and 13 you will break down the volume of riprap and fill/dredging, within wetlands and within the floodplain. In #10A also indicate the volume of fill including riprap being placed below the Ordinary High Water Mark (OHWM). This box should be copied and filled out for each stream/drain or lake that is impacted. (The OHWM is defined as the line between upland and bottomland that persists through successive changes in water levels, below which the presence and action of the water is so common or recurrent that the character of the land is marked distinctly from the upland and is apparent in the soil itself, the configuration of the surface of the soil, and the vegetation.) See figure below.



- b) Use box # 10 B to indicate the total volume of dredging or excavation that is taking place within the stream, floodplain and wetland for the project. In 10B also indicate the volume of dredging/excavation below the OHWM. This box should be copied and filled out for each stream/drain or lake that is impacted.
- c) Use box # 10 C to indicate the volume of riprap being placed at a stream/drain or lake. This box should be copied and filled out for each stream/drain or lake that is impacted.
- d) In box # 12, we need to know the acreage of wetlands being impacted and the total volume of dredge or fill (cubic yards) being removed or placed in a wetland. For road widening projects, this would be the acreage and fill amount between the existing foot print and the proposed foot print within the wetland. Include cross-sections indicating how the wetlands are impacted (see sample drawing). This box should be copied and filled out for each wetland complex that is impacted.
- e) Be sure to include the total volume of fill and cut "below" the 100-year floodplain elevation, if applicable in box # 13. Generally, compensating cut must be provided if the fill volume exceeds 300 cubic yards or an evaluation is provided that it is not feasible. This box should be copied and filled out for each floodplain that is impacted.

The other option is to use boxes # 10A - # 13 to describe the total project impacts and then provide a separate breakdown (that includes all of the required information) for each location.

- 5) Bridge and culvert information in box # 14 should be filled out **completely**. Box #14 should be copied and filled out for **each** bridge and culvert crossing of a stream or drain and attached to the application. For wetland equalizer culverts that require a permit, we need to know the culvert size, length and invert elevations for existing and proposed conditions. Generally, we like to have the invert elevation remain the same to avoid altering the existing hydrology in the wetland, unless it is verified that the existing culvert is too high.
- 6) All of box #15 on the application form must be filled out any time part of a stream/drain is being relocated, altered, or enclosed. This box should be copied and filled out for each stream/drain that is impacted.
- 7) Include dimensioned drawings of existing and proposed conditions. Drawings should include a location map, plan view, elevation view, profile view and a typical cross section of the road and the stream. There are sample drawings that can be referenced or used that are available with the standard application found on the internet at [www.michigan.gov/deq](http://www.michigan.gov/deq), click on environmental permits, click on MDEQ/USACE Joint Permit Application .
- 8) We prefer two (2), 8 1/2 x 11 or 11" x 17" copies of the plans/drawings. Make sure they are clear and easy to read. There may be a rare occasion where larger plans are also needed to show adequate detail.
- 9) If the drainage area of the watercourse is two square miles or greater, hydraulic computations must be provided when it is not readily apparent that the proposed structure provides equal or greater hydraulic capacity when compared to the existing conditions (see handout, Part 31 - Hydraulic Concerns).
- 10) Provide a description of how work activities will be isolated from stream flow, the soil erosion and sedimentation control measures to be used and the staging of work that will be used to prevent sediment from entering a stream/drain, lake or wetland.
- 11) Photographs of the upstream and downstream areas along with the existing crossing are often helpful to the reviewer. Photographs should be labeled and dated.

# Wetland Guidance

## (December 2008)

If a project proposed by a Public Transportation Agency (PTA) would impact a wetland, then the following information should be provided with the permit application:

- 1) Project purpose including all associated activities.
- 2) A demonstration that there are no feasible and prudent alternatives that will result in avoiding or having less impact to the wetland. The applicant may provide information regarding factors such as alternative construction technologies, alternative project layout and design, local land use regulations and infrastructure, and pertinent environmental and resource issues.

An alternative is feasible and prudent if both of the following apply:

- a) The alternative is available and capable of being done after taking into consideration cost, existing technology, and logistics.
- b) The alternative would have less adverse impact on the wetland.

A feasible and prudent alternative may be considered feasible and prudent even if it entails higher costs or reduced profit. A feasible and prudent alternative may include any or all of the following:

- a) Use of a location other than the proposed location. This could include areas not presently owned by the applicant but which could reasonably be obtained, utilized, expanded or managed in order to fulfill the basic purpose of the proposed activity.
  - b) A different configuration.
  - c) Size of project.
  - d) Method that will accomplish the basic project purpose.
- 3) If it is determined that a project cannot avoid wetland impacts due to lack of feasible and prudent alternatives, then the applicant must demonstrate that they have used all practical means to minimize the potential impacts to the wetland. Some options that the applicant should consider include:
    - a) Minimize road and shoulder widths. When feasible, PTA's should consider asking for design exceptions to reduce potential impacts to wetlands.
    - b) Use guardrails in combination with steeper (1V to 2 H) side slopes when working in wetland areas.
    - c) Use headwalls, guardrails and steeper side slopes to shorten culvert lengths thereby reducing the amount of fill.
    - d) Permanent protection of wetlands on the site that are not directly impacted by the proposed activity may be considered.
  - 4) If 0.33 acres or more of a wetland are impacted, then mitigation is required to ensure that there will be no net loss of wetlands. The mitigation shall be of a similar ecological type as the impacted wetland where feasible and practical. The restoration of previously existing wetlands is preferred over the creation of new wetlands where none previously existed. Enhancement of existing wetlands is not considered mitigation. In lieu of mitigation the PTA's may, upon department approval, acquire credits from an approved wetland mitigation bank.
    - a) For projects that use any federal funds and that impact between 0.1 and 0.33 acres of wetland, the Memorandum of Understanding between the MDEQ and the PTA's requires

mitigation at a 1.0 to 1.0 ratio for impacts that meet the general permit category as identified in Part 303. In order to qualify for the general permit category, wetland fill must not exceed one-third acre per wetland complex, and two acres total for the project. Safety improvement projects which may be authorized under the general permit category are:

- 1) Flattening of road slopes to meet the minimum safety standard.
- 2) Construction of standard shoulder widths.
- 3) Installation of guardrail flares.
- 4) Intersection improvements.
- 5) Elimination of roadside obstacles such as sign platforms and utility poles.
- 6) Addition of a lane for safety reasons.
- 7) Open construction highway fencing elevated above the wetland on poles limited to five feet in height.

The design and location of mitigation sites for General Permit Category wetland impacts is very flexible. A general plan will be needed, as well as a permanent conservation easement (or similar instrument) that provides for the permanent protection of the natural resource functions and values of the mitigation site. The mitigation site must be reviewed and approved by a Transportation Review Unit specialist before construction begins.

- b) For permits which do not meet the General Permit Category, mitigation is required at the following ratios if the replacement wetland is of a similar ecological type as the impacted wetland:
- 1) 5.0 to 1.0 for impacts to rare or imperiled wetland types.
  - 2) 2.0 to 1.0 for impacts to forested wetlands, coastal wetlands and wetlands that border an inland lake.
  - 3) 1.5 to 1.0 for impacts to all other wetland types.
  - 4) A 10.0 to 1.0 credit ratio for impacts to wetlands may be allowed where the mitigation is in the form of preservation of existing wetlands. In order to use preservation for mitigation, the existing wetlands must be rare or endangered or perform exceptional physical or biological functions that are essential to the preservation of the natural resources of the state. The preserved wetlands must also be under a demonstrable threat of loss or substantial degradation due to human activities.
  - 5) Ratios will be doubled for violations that are permitted after the fact.
  - 6) Ratios may be increased if the proposed replacement wetland is of a different ecological type than the impacted wetland.

Mitigation shall be provided on site where it is practical and beneficial to the wetland resources. If it is not practical to provide mitigation on site, then it shall be provided in the immediate vicinity (same watershed) of the permitted activity.

A mitigation plan, including a monitoring plan, and conservation easement, must be provided by the applicant. An applicant shall complete mitigation activities before initiating other permitted activities, unless a concurrent schedule is agreed upon between the department and applicant, and an adequate financial assurance mechanism is provided by the applicant.

## **Part 31 - Hydraulic Concerns (December 2008)**

Bridge or culvert projects at a stream or drain location with a drainage area of 2 square miles or more will be reviewed under the State's Floodplain Regulatory Authority found in Part 31, Water Resources Protection, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (Part 31). If the proposed project does not provide equal or greater hydraulic capacity when compared to the existing structure, it will be necessary to provide a hydraulic analysis or computations with the application package that indicates that the proposed project is not causing a harmful interference as defined in Part 31. If the hydraulic information is not provided at the time of application there will be a delay in the application review time.

### **Example of when hydraulic computations would not be required:**

If you are replacing a 36-inch corrugated metal pipe (cmp) with a 42-inch cmp of the same length (or a cmp with a concrete pipe of the same size), with the same entrance configuration, and with no raise in road grade, then you can assume that you are providing equal or greater hydraulic capacity and no hydraulic computations would have to be submitted with the application package. Also, the minor project categories listed in the Part 31 rules normally do not require hydraulic computations. Please note that even though the project may be exempt under Part 31, the applicant would still be liable if the project caused damage to upstream property owners.

### **Examples of when hydraulic computations would likely be required to verify equal or greater hydraulic capacity:**

- 1) Putting in a structure with less end area. Or reducing the span and increasing the rise when the water does not get high enough to use the extra area.
- 2) Putting in a longer structure (when measured along the stream) even though it has the same end area as the existing structure. A longer structure with the same entrance configuration may have more friction loss and therefore may cause an increase in upstream water surface elevations. Please note that under Part 31, extensions to an existing structure that total less than 24 feet over the life of the structure are exempt and would therefore not require any hydraulic computations. It would not be an exemption if you replaced an existing structure with a new, longer, structure.
- 3) Replacing a structure with a hydraulically less efficient structure. For example, going from a concrete culvert to a metal culvert of the exact same size will cause an increase in upstream water surface elevations.
- 4) Replacing the entrance configuration with a hydraulically less efficient entrance design. For example, going from a structure with headwalls to one that is mitered or projecting will cause an increase in upstream water surface elevations.
- 5) Raising the road grade. Any time the road grade is raised (even in combination with a larger structure); hydraulic computations will be needed to determine if there was weir flow over the existing road. If weir flow exists then hydraulic computations will be needed to verify that raising the road grade does not cause an increase in upstream water surface elevations. (Note: If the project only involves the addition of a new wearing course (4 inches or less), then it is exempt from Part 31 requirements.)
- 6) Any combination of the above. If you replace an existing corrugated metal pipe with a larger concrete pipe that is longer, you will need to provide hydraulic computations verifying that the larger concrete pipe offsets the increased length.
- 7) An in-kind replacement where the existing structure is experiencing channel scour and/or bank erosion.

If your project causes an increase in the upstream energy grade line you will be required to certify that the proposed project does not cause a harmful interference as defined by Part 31. If the increase goes off your property/R.O.W., you will be required to notify all affected upstream property owners of the proposed increase. The Land and Water Management Division will then make a determination on whether the project is likely to cause a harmful interference. If it is determined that the project is likely to cause a harmful interference, the project will be denied.

For additional information on hydraulic report guidelines and certification requirements, please visit our web site at [www.michigan.gov/deqtransportationreview](http://www.michigan.gov/deqtransportationreview), then go to "Hydraulic Programs and Report Guidelines".

# Spalding Design

January 15, 2008

(Sample Application Cover Letter)

Michigan Department of Environmental Quality  
Land and Water Management Division  
Transportation and Flood Hazard Management Unit  
P.O. Box 30458  
Lansing, Michigan 48909-7958

SUBJECT: MDEQ-LWMD Application for Pratt Road

Enclosed is a permit application to remove and replace the existing culvert at the Pratt Road crossing of the Tibbetts Drain. Additional work includes the installation of a utility crossing under Tibbetts Drain, a stormwater outlet pipe at Watson Drain and 390 feet of relocation of the Watson Drain. Wetland fill in the amount of 89 cubic yards impacting 0.013 acres of wetland is proposed. The project is located in Sections 15, 16, 21, and 22, T6N, R3W, Riley Township, River County.

As this application is for a public transportation agency involving work on a public road, application fees are not required under the Memorandum of Understanding between the MDEQ and the transportation agencies.

I have enclosed a letter of authorization from the River County Road Commission to act on their behalf. Also enclosed are a letter and my findings regarding the hydraulic impacts of the proposed structures and justification for the wetland impacts.

If you have any questions, please feel free to contact me.

Sincerely



Jane Smith  
Spalding Design

Enclosure:

cc: Mr. John Doe, River County Road Commission

# River County Road Commission

January 15, 2008

(Sample Authorization letter)

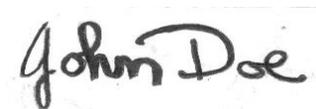
Jane Smith  
Spalding Design  
P.O. Box 555  
Lansing, MI 48909

Dear MS. Smith

SUBJECT: Pratt Road over Tibbetts Drain, and Watson Drain.

This letter is written in regards to the Pratt Road over Tibbetts Drain, and Watson Drain. I am authorizing Spalding Design to act as our agent to apply for and secure a Michigan Department of Environmental Quality Permit for the above subject project. Please call if you have any questions. Thanks

Sincerely,

A handwritten signature in black ink that reads "John Doe". The signature is written in a cursive style with a horizontal line above it.

John Doe, Manager  
River County Road Commission

# Spalding Design

January 15, 2008

Sample Wetland Impacts Justification and Minimization

**(This is the type of additional information that would be needed in box number 4 and 12 of the application. If there is not enough room in the box then additional information may be attached.)**

SUBJECT: Wetland Impacts for Pratt Road

The proposed widening of Pratt Road near the Bad Creek will impact 0.013 acres of wetland through the placement of 89 cubic yards of fill. The road widening was necessitated to meet current road safety standards. On this type of road system, with a design speed of 55 mph, the minimum lane width is 11 feet with 3 feet of shoulder. Impacts have been minimized in the wetland areas by using these minimum road widths and side slopes allowed. It is our understanding that because the wetland impacts are less than 0.1 acre that no mitigation is required.

If you have any questions please feel free to contact me.

Sincerely

A handwritten signature in cursive script that reads "Jane Smith".

Jane Smith  
Spalding Design

# Spalding Design

January 15, 2008

(Sample Additional Hydraulic Information)

SUBJECT: Hydraulic Reviews for Pratt Road

The following additional hydraulic information is provided with this application to replace the Tibbetts Drain and Bad Creek crossings

1) Pratt Road at Tibbetts Drain

The proposed 40 foot long, 5 foot span by 4 foot rise concrete box culvert is designed with an equal or greater hydraulic capacity when compared to the existing 20 foot long, 5 foot span by 3 foot rise concrete box culvert. The proposed road grade matches the existing road grade. The hydraulic computations to support this conclusion are attached.

Sincerely

A handwritten signature in cursive script that reads "Jane Smith".

Jane Smith, P.E.  
Spalding Design

<b>AGENCY USE</b>	Previous USACE Permit or File Number	Date Received	Land and Water Management Division, MDEQ File Number	<b>AGENCY USE</b>
	USACE File Number		Pre-application Number or Marina Operating Permit Number	
	District Office		Fee received \$	

Read Instructions pages i - iii. All of the following boxes below must be checked and information provided for the application to be processed:

- All items in Sections 1 through 9 are completed
- Items in Sections 10 through 21 that apply to the project are completed
- Dimensions, volumes and calculations are provided
- Reproducible location map, site plan(s), cross sections and photographs are provided, one set must be black and white on 8 1/2 by 11 inch paper.
- List any additional attachments, tables, etc.:
- Date project was staked
- Application fee is attached
- All requested supplementary attachments (➔) are included

**1 PROJECT LOCATION INFORMATION**

• Refer to your property's legal description for the Township, Range, and Section information, and your property tax bill for your Property Tax Identification Number(s).

Site location Address (road, if no street address) <i>Pratt Road</i>	Zip Code	Township Name(s) <i>Riley</i>	Township(s) <i>6N</i>	Range(s) <i>3W</i>	Section(s) <i>15, 16, 21, 22</i>
City/Village <i>Riley</i>	County(ies) <i>River</i>	Property Tax Identification Number(s)			
Name of Waterbody <i>Tibbetts Drain, Watson Drain, and Bad Creek</i>	Project Name or Job Number <i>Pratt Road</i>	Subdivision/Plat	Lot Number	Private Claim	
Project types (check all that apply)	<input type="checkbox"/> private <input type="checkbox"/> building addition <input type="checkbox"/> project is receiving federal transportation funds	<input checked="" type="checkbox"/> public/government <input type="checkbox"/> new building or structure	<input type="checkbox"/> industrial <input type="checkbox"/> building renovation or restoration <input type="checkbox"/> other (explain)	<input type="checkbox"/> commercial <input type="checkbox"/> river restoration	<input type="checkbox"/> multi-family <input type="checkbox"/> single-family
The proposed project is on, within, or involves (check all that apply)		<input type="checkbox"/> a legally established County Drain (date established) (M/D/Y) / /			
<input checked="" type="checkbox"/> a stream	<input type="checkbox"/> a pond (less than 5 acres)	<input type="checkbox"/> a Great Lake or Section 10 Waters	<input type="checkbox"/> a natural river	<input type="checkbox"/> a new marina	
<input type="checkbox"/> a river	<input type="checkbox"/> a channel/canal	<input type="checkbox"/> a designated high risk erosion area	<input type="checkbox"/> a dam	<input type="checkbox"/> a structure removal	
<input checked="" type="checkbox"/> a ditch or drain	<input type="checkbox"/> an inland lake (5 acres or more)	<input type="checkbox"/> a designated critical dune area	<input checked="" type="checkbox"/> a wetland	<input checked="" type="checkbox"/> a utility crossing	
<input checked="" type="checkbox"/> a floodway area	<input checked="" type="checkbox"/> a 100-year floodplain	<input type="checkbox"/> a designated environmental area	<input type="checkbox"/> 500 feet of an existing waterbody		

**2 DESCRIBE PROPOSED PROJECT AND ASSOCIATED ACTIVITIES, AND THE CONSTRUCTION SEQUENCE AND METHODS (attached additional sheets)**

Written Summary of All Proposed Activities. *Proposing to remove and replace culvert at Pratt Road crossing Tibbetts Drain. Installing utility crossing at Tibbetts Drain. Relocating Watson Drain to flow into Tibbetts Drain. Installing outlet pipe into Watson Drain. Wetland fill to widen road near Bad Creek.*

Construction Sequence and Methods. *Install temporary soil erosion and sedimentation control measures. Remove existing culvert, install watermain, replace culvert, relocate Watson Drain, install outlet pipe, and stabilize with riprap and mulch blanket. Place wetland fill and widen Road.*

**3 APPLICANT, AGENT/CONTRACTOR, AND PROPERTY OWNER INFORMATION**

Owner/Applicant (individual or corporate name) <i>River County Road Commission</i>	Agent/Contractor (firm name and contact person) <i>Spalding Design</i>
Mailing Address <i>P.O. Box 30458</i>	Address <i>P.O. Box 555</i>
City <i>Rapid</i> State <i>MI</i> Zip Code <i>48905</i>	City <i>Lansing</i> State <i>MI</i> Zip Code <i>48909</i>
Daytime Phone Number with Area Code <i>517-222-2222</i> Cell Phone Number <i>517-333-3333</i>	Daytime Phone Number with Area Code <i>517-487-1212</i> Cell Phone Number <i>517-428-9874</i>
Fax <i>517-222-2123</i> E-mail <i>doe.john@crc.com</i>	Fax <i>517-487-5555</i> E-mail <i>smith.jane@sd.com</i>
<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes Is the applicant the sole owner of all property on which this project is to be constructed and all property involved or impacted by this project? ➔ If no, attach letter(s) of authorization from all owners. A letter signed by each property owner authorizing the agent/contractor/other owner to act on his or her behalf or a copy of easements or right-of-ways must be provided. If multiple property owners, also attach a list of all owners along with their names, mailing addresses, and telephone numbers. If the applicant is a corporation, a corporate officer must provide written document authorizing any agent/contractor listed above to act on its behalf. A letter of authorization must be provided from an owner receiving dredge spoils on their property, or where access through their property is required..	
Property Owner's Name (If different from applicant)	Mailing Address
Daytime Phone Number with Area Code - - Cell Phone Number - -	City State Zip Code
<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Is there a MDEQ conservation easement or other easement, deed restriction, lease, or other encumbrance upon the property in the project area? ➔ If yes, attach a copy.	

**4 PROPOSED PROJECT PURPOSE, INTENDED USE, AND ALTERNATIVES CONSIDERED (Attach additional sheets if necessary)**

Purpose/Intended Use: The purpose must include any new development or expansion of an existed land use.

Alternatives: Include a description of alternatives considered to avoid or minimize resource impacts. Include factors such as, but not limited to, alternative construction technologies; alternative project layout and design; and alternative locations. For utility crossings, include both alternative routes and alternative construction methods.

*The purpose of the stream relocation is to correct a poor alignment and severe erosion problem that is accruing at the Pratt Road crossing of the Watson Drain. Other alternatives considered were to replace the existing culvert on Pratt Road crossing Watson Drain instead of relocating the stream. This would have maintained the poor alignment which is creating a safety concern for the traveling public. See additional write-up on wetland impacts*

**5 LOCATING YOUR PROJECT SITE**

➔ Attach a black and white, legible copy of a map that clearly shows the site location and road from the nearest major intersection, and includes a north arrow.

Is there an access road to the project?  No  Yes (If Yes, type of road, check all that apply)  private  public  improved  unimproved

Name of roads at closest main intersection *Pratt Road* and *Francis Road*

Directions from main intersection *Go west from Francis Road approximately 0.5 mile on Pratt Road to Tibbetts Drain and Watson Drain crossing.*

Style of house or other building on site  ranch  2-story  cape cod  bi-level  cottage/cabin  pole barn  none  other (describe)

Color Color of adjacent property house and/or buildings House number Street name

Fire lane number Lot number Address is visible on  house  garage  mailbox  sign  other (describe)

How can your site be identified if there is no visible address?

Provide directions to the project site, with distances from the best and nearest visible landmark and waterbody *From Riley City travel south on Forest Hill Road 1 mile turn left (East) on Pratt Road go 0.5 mile to Tibbetts Drain and Watson Drain crossing.*

Does the project cross the boundaries of two or more political jurisdictions? (City/Township, Township/Township, County/County, etc.)

No  Yes ➔ If Yes, list jurisdictions:

**6 List all other federal, interstate, state, or local agency authorizations required for the proposed activity, including all approvals or denials received.**

Agency	Type approval	Identification number	Date applied	Date approved / denied	If denied, reason for denial
<i>County Drain Commission</i>					

**7 COMPLIANCE**

If a permit is issued, date activity will commence (M/D/Y) *06/19/2009* Proposed completion date (M/D/Y) *08/29/2009*

Has any construction activity commenced or been completed in a regulated area?  No  Yes  
➔ If Yes, identify the portion(s) underway or completed on drawings or attach project specifications and give completion date(s) (M/D/Y) */ /*  
Were the regulated activities conducted under a MDEQ permit?  No  Yes  
If Yes, list the MDEQ permit number

Are you aware of any unresolved violations of environmental law or litigation involving the property?  No  Yes (If Yes, explain)

**8 ADJACENT/RIPARIAN AND IMPACTED OWNERS (Attach additional sheets if necessary)**

- Complete information for all adjacent and impacted property owners and the lake association or established lake board, including the contact person's name.
- If you own the adjacent lot, provide the requested information for the first adjacent parcel that is not owned by you.

Property Owner's Name	Mailing Address	City	State	Zip Code
<i>See Attached</i>				

Name of  Established Lake Board  or Lake Association and the Contact Person's name, phone number, and mailing address

**9 APPLICANT'S CERTIFICATION READ CAREFULLY BEFORE SIGNING**

I am applying for a permit(s) to authorize the activities described herein. I certify that I am familiar with the information contained in this application; that it is true and accurate; and, to the best of my knowledge, that it is in compliance with the State Coastal Zone Management Program. I understand that there are penalties for submitting false information and that any permit issued pursuant to this application may be revoked if information on this application is untrue. I certify that I have the authority to undertake the activities proposed in this application. By signing this application, I agree to allow representatives of the MDEQ, USACE, and/or their agents or contractors to enter upon said property in order to inspect the proposed activity site and the completed project. I understand that I must obtain all other necessary local, county, state, or federal permits and that the granting of other permits by local, county, state, or federal agencies does not release me from the requirements of obtaining the permit requested herein before commencing the activity. I understand that the payment of the application fee does not guarantee the issuance of a permit.

<input type="checkbox"/> Property Owner <input checked="" type="checkbox"/> Agent/Contractor <input type="checkbox"/> Corporation/Public Agency – Title	Printed Name <i>Jane Smith</i>	Signature <i>Jane Smith</i>	Date (M/D/Y) <i>01/15/08</i>
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**10 PROJECTS IMPACTING WETLANDS OR FLOODPLAINS OR LOCATED ON AN INLAND LAKE OR STREAM OR A GREAT LAKE**

- Check boxes A through M that may be applicable to your project and provide all the requested information.
- If your project may affect wetlands, also complete Section 12. If your project may impact regulated floodplains, also complete Section 13.
- To calculate volume in cubic yards (cu yd), multiply the average length in feet (ft) times the average width (ft) times the average depth (ft) and divide by 27.
- Some projects on the Great Lakes require an application for conveyance prior to Joint Permit Application completeness.
- ➔ Provide a cross-section and overall site plan showing existing lakes, streams, wetlands, and other water features; existing structures; and the location of all proposed structures, land change activities and soil erosion and sedimentation control measures. Review Appendix B and EZ Guides for completing site-specific drawings.
- ➔ Provide tables for multiple impact areas or multiple activities and provide fill and excavation/dredge calculations.

**Water Level Elevation**

On a Great Lake use IGLD 85  surveyed  converted from observed still water elevation. On inland waters,  NGVD 29  NAVD 88  other *Local datum*  
 Observed water elevation (ft) **97.6** date of observation (M/D/Y) **10/03/08**

**A. PROJECTS REQUIRING FILL** (See All Sample Drawings)

- Attach both overall site plan and cross-section views to scale showing maximum and average fill dimensions.

(Check all that apply)  floodplain fill  wetland fill  riprap  seawall, bulkhead, or revetment  bridge or culvert  
 boat launch  off-shore swim area  beach sanding  boatwell  crib dock  other *OHWM*

Fill dimensions (ft) length **5** width **5** maximum depth **2** Total fill volume (cu yd) **109.2** Maximum water depth in fill area (ft) **5**

Type of clean fill  pea stone  sand  gravel  wood chips Will filter fabric be used under proposed fill?  
 other *Excavated Material*  No  Yes (If Yes, type)

Source of clean fill  on-site, ➔ If on-site, show location on site plan.  commercial  other, ➔ If other, attach description of location.

Fill will extend **4** feet into the water from the shoreline and upland **3** feet out of the water. Fill volume below OHWM (cu yd) **1.8**

**B. PROJECTS REQUIRING DREDGING OR EXCAVATION** (For dredging projects see Sample Drawing 7, for excavation see other applicable Sample Drawings)

- Attach both overall site plan and cross-section views to scale showing maximum and average dredge or excavation dimensions and dredge disposal location.
- Refer to [www.michigan.gov/jointpermit](http://www.michigan.gov/jointpermit) for disposal requirements and authorization.

(Check all that apply)  floodplain excavation  wetland dredge or draining  seawall, bulkhead, or revetment  
 navigation  boat well  boat launch  other *OHWM*

Total dredge/excavation volume (cu yd) **88.5** Dimensions length **5** width **5** depth **2** Dredge/excavation volume below OHWM (cu yd) **1.8** Method and equipment for dredging *In the dry with backhoe*

Has proposed dredge material been tested for contaminants?  No  Yes Dredged or excavated spoils will be placed  on-site  off-site.  
 ➔ If Yes, provide test results with a map of sampling locations. ➔ Provide detailed disposal area site plan and location map.  
 ➔ Provide letter of authorization from owner, if disposing of spoils off site.

Has this same area been previously dredged?  No  Yes If Yes, date and permit number: / / /  
 If Yes, are you proposing to enlarge the previously dredged area?  No  Yes

Is long-term maintenance dredging planned?  No  Yes If Yes, when and how much?

**C. PROJECTS REQUIRING RIPRAP** (See Sample Drawings 2, 3, 8, 12, 14, 17, 22, and 23. Others may apply)

Riprap waterward of the  shoreline OR  ordinary high water mark Dimensions (ft) length **5** width **5** depth **2** Volume(cu yd) **1.8**

Riprap landward of the  shoreline OR  ordinary high water mark Dimensions (ft) length **10** width **6** depth **5** Volume(cu yd) **11**

Type of riprap  field stone  angular rock  other Will filter fabric be used under proposed riprap?  No  Yes  
 (If Yes, type) *Non Woven*

**D. SHORE PROTECTION PROJECTS** (See Sample Drawings 2, 3, and 17) Complete Sections 10A, B, and/or C above, as applicable.

(check all that apply)  riprap – length (ft)  seawall/bulkhead – length (ft)  revetment – length (ft) Distances of project from both property lines (ft)

**E. DOCK - PIER – MOORING PILINGS – ROOFS** (See Sample Drawing 10)

Dock Type  open pile  filled  crib Permanent Roof?  No  Yes Mounted on  
 Seasonal support structure?  No  Yes Maximum Dimensions: length width height

Proposed structure dimensions (ft) length width Dimensions of nearest adjacent structures (ft) length width

**F. BOAT WELL** (See EZ Guides)

Type of sidewall stabilization  wood  steel  concrete  vinyl  riprap  other

Boat well dimensions (ft) length width depth Number of boats

Volume of backfill behind sidewall stabilization (cu yd) Distances of boat well from adjacent property lines (ft)

**G. BOAT LAUNCH** (See EZ Guide) (check all that apply)  new  existing  public  private  commercial  replacement

Proposed overall boat launch dimensions (ft) length width depth Type of material  concrete  wood  stone  other

Existing overall boat launch dimensions (ft) length width depth Boat launch dimensions (ft) below ordinary high water mark length width depth

Distances of launch from both property lines (ft) Number of adjacent Skid pier dimensions (ft) length width  
 Skid piers

**H. BOAT HOIST** (See EZ Guide)

(Check all that apply)  seasonal  permanent  cradle  side lifter  other located on  seawall  dock  bottomlands

<b>10 Continued - PROJECTS IMPACTING WETLANDS OR FLOODPLAINS OR LOCATED ON AN INLAND LAKE OR STREAM OR A GREAT LAKE</b>					
<input type="checkbox"/> <b>I. BOARDWALKS AND DECKS IN</b> <input type="checkbox"/> <b>WETLANDS - OR -</b> <input type="checkbox"/> <b>FLOODPLAINS</b> (See Sample Drawings 5 and 6. Provide table if necessary)					
Boardwalk <input type="checkbox"/> on pilings <input type="checkbox"/> on fill		Dimensions (ft) length      width		Deck <input type="checkbox"/> on pilings <input type="checkbox"/> on fill	
				Dimensions (ft) length      width	
<input checked="" type="checkbox"/> <b>J. INTAKE PIPES</b> (See Sample Drawing 16) <input checked="" type="checkbox"/> <b>OUTLET PIPES</b> (See Sample Drawing 22)					
Type <input type="checkbox"/> headwall <input type="checkbox"/> end section <input checked="" type="checkbox"/> pipe <input type="checkbox"/> other			If outlet pipe, discharge is to <input type="checkbox"/> wetland <input type="checkbox"/> inland lake <input checked="" type="checkbox"/> stream, drain, or river <input type="checkbox"/> Great Lake <input type="checkbox"/> other		
Dimensions of headwall OR end section (ft) length <b>8'</b> width <b>4'</b> depth <b>4'</b>			Number of pipes <b>1</b>		Pipe diameters and invert elevations <b>48" 3' above stream bottom</b>
<input type="checkbox"/> <b>K. MOORING AND NAVIGATION BUOYS</b> (See EZ Guide for Sample Drawing) ➔ Provide an overall site plan showing the distances between each buoy, distances from the shore to each buoy, and depth of water at each buoy in feet. ➔ Provide cross-section drawing(s) showing anchoring system(s) and dimensions.					
Number of buoys		Boat Lengths		Purpose of buoy <input type="checkbox"/> mooring <input type="checkbox"/> navigation <input type="checkbox"/> swimming	
Dimensions of buoys (ft) width      height      swing radius      chain length			Do you own the property along the shoreline? <input type="checkbox"/> No <input type="checkbox"/> Yes ➔ Attach Authorization Letter from the property owner(s), if No above.		
<input type="checkbox"/> <b>L. FENCES IN WETLANDS, STREAMS, OR FLOODPLAINS</b> (No Sample Drawing available) • Provide an overall site plan showing the proposed fencing through wetlands, streams, or floodplains. • Provide drawing of fence profile showing the design, dimension, post spacing, board spacing, and distance from ground to bottom of fence.					
(check all that apply) <input type="checkbox"/> wetlands <input type="checkbox"/> streams <input type="checkbox"/> floodplains		Total length (ft) of fence through wetlands      streams      floodplains		Fence height (ft)	
Fence type and material					
<input type="checkbox"/> <b>M. OTHER</b> - e.g., structure removal or construction, breakwater, aerator, fish shelter, and structural foundations in wetlands or floodplains					
<b>11 EXPANSION OF AN EXISTING OR CONSTRUCTION OF A NEW LAKE OR POND</b> (See Sample Drawings 4 and 15)					
Which best describes your proposed waterbody use (check all that apply) <input type="checkbox"/> wildlife <input type="checkbox"/> stormwater retention basin <input type="checkbox"/> recreation <input type="checkbox"/> wastewater basin <input type="checkbox"/> other					
Water source for lake/pond <input type="checkbox"/> groundwater <input type="checkbox"/> natural springs <input type="checkbox"/> Inland Lake or Stream <input type="checkbox"/> stormwater runoff <input type="checkbox"/> pump <input type="checkbox"/> sewage <input type="checkbox"/> other					
Location of the lake/basin/pond <input type="checkbox"/> floodplain <input type="checkbox"/> wetland <input type="checkbox"/> upland					
Maximum dimensions (ft) length      width      depth			Spoils will be placed <input type="checkbox"/> onsite <input type="checkbox"/> offsite outside of wetland and floodplain <input type="checkbox"/> other ➔ Provide a Detailed Disposal Area Site Plan with location map, address and disposal dimensions ➔ Provide a Letter of Authorization from off site disposal site owner ➔ Provide elevations and cross sections for outlets and/or emergency. Complete Section 10J,		
Maximum Area: <input type="checkbox"/> acres <input type="checkbox"/> sq ft					
Will project involve construction of a dam, dike, outlet control structure, or spillway? <input type="checkbox"/> No <input type="checkbox"/> Yes (If Yes, complete Section 17)					
<b>12 ACTIVITIES THAT MAY IMPACT WETLANDS</b> (See Sample Drawings 8 & 9, and complete sections 10 A and 10 B for dredge or excavation as applicable) • For information on the MDEQ's Wetland Identification Program (WIP) visit <a href="http://www.michigan.gov/deqwetlands">www.michigan.gov/deqwetlands</a> or call 517-373-1170. • Complete the wetland dredge and wetland fill dimension information below for each impacted wetland area. ➔ Attach tables for multiple impact areas or activities • Label the impacted wetland areas on a site plan, drawn to scale or with dimensions. ➔ Attach at least one cross-section for each wetland dredge and/or fill area. • If dredge/excavation material will be disposed of on site, show the location on site plan and include soil erosion and sedimentation control measures.					
(check all that apply) <input checked="" type="checkbox"/> fill (Section 10A) <input type="checkbox"/> dredge or excavation (Section 10B) <input type="checkbox"/> boardwalk or deck (Section 10I) <input type="checkbox"/> dewatering <input type="checkbox"/> fences (Section 10L) <input type="checkbox"/> bridges and culverts (Section 14) <input type="checkbox"/> draining surface water <input type="checkbox"/> stormwater discharge <input type="checkbox"/> restoration <input type="checkbox"/> other					
wetland dredge/excavation dimensions	maximum length (ft)	maximum width (ft)	dredge/excavation area <input type="checkbox"/> acres <input type="checkbox"/> sq ft	average depth (ft)	dredge volume (cu yd)
wetland fill dimensions <b>A 90 B 50</b>	maximum length (ft) <b>A5 B3</b>	maximum width (ft) <b>A5 B3</b>	fill area <input checked="" type="checkbox"/> acres <input type="checkbox"/> sq ft <b>A .01 B .003</b>	average depth (ft) <b>A 1.0 B 0.5</b>	fill volume (cu yd) <b>A 8.3 B 1.4</b>
Total wetland dredge/excavation area <input type="checkbox"/> acres <input type="checkbox"/> sq ft		Total wetland dredge/excavation volume (cu yd)		Total wetland fill area <input checked="" type="checkbox"/> acres <input type="checkbox"/> s <b>0.01+.003=0.013</b>	
				Total wetland fill volume (cu yd) <b>9.7</b>	
The proposed project will be serviced by: <input type="checkbox"/> public sewer <input type="checkbox"/> private septic system ➔ Show system on plans			If septic system, has an application for a permit been made to the County Health Department? <input type="checkbox"/> No <input type="checkbox"/> Yes		If Yes, has a permit been issued? <input type="checkbox"/> No <input type="checkbox"/> Yes ➔ Provide a copy.
Has a professional wetland delineation been conducted for this parcel? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes ➔ Provide a copy of the delineation. ➔ Supply data sheets.				Applicant purchased property <input type="checkbox"/> before OR <input type="checkbox"/> after October 1, 1980.	
Is there a recorded MDEQ easement on the property? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If Yes, provide the easement number)					
Has the MDEQ conducted a wetland assessment for this parcel? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes ➔ If Yes, provide a copy of assessment or WIP number:					
Describe the wetland impacts, the proposed use or development, and any alternatives considered: <b>See attached</b>					
Does the project impact more than 1/3 acre of wetland? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes ➔ If Yes, submit a Mitigation Plan that includes the type and amount of mitigation proposed. For more information go to <a href="http://www.michigan.gov/deqwetlands">www.michigan.gov/deqwetlands</a>					
Describe how impacts to waters of the United States will be avoided and minimized:					
Describe how impact to waters of the United States will be compensated. OR Explain why compensatory mitigation should not be required for the proposed impacts.					
Is any grading or mechanized land clearing proposed? <input type="checkbox"/> No <input type="checkbox"/> Yes ➔ Show locations on submitted site plan.			Has any of the proposed grading or mechanized land clearing been completed? <input type="checkbox"/> No <input type="checkbox"/> Yes ➔ Show labeled locations on site plan.		

**13 FLOODPLAIN ACTIVITIES** (See Sample Drawing 5. Others may apply.) For more information go to [www.michigan.gov/floodplainmanagement](http://www.michigan.gov/floodplainmanagement)

- Complete Sections 10 A and 10 B and other Sections, as applicable.
- A hydraulic analysis or hydrologic analysis may be required to fully assess floodplain impacts. ➔ Attach hydraulic calculations.
- ➔ Attach additional sheets or tables with the requested information when multiple floodplain activities are included in this application.

(check all that apply)  fill  excavation  other

Site is **97.6** feet above  ordinary high water mark (OHWM) OR  observed water level. Date of observation (M/D/Y) **10/3/08**

Fill volume below the 100-year floodplain elevation (cu yd) **22 cu yd fill placed in the 4 quadrants for slope stabilization.**

Compensating cut volume below the 100-year floodplain elevation (cu yd) **0**

**14 BRIDGES AND CULVERTS** (Including Foot and Cart Bridges) (See Sample Drawings 5, 14A, 14B, 14C, 14D, and EZ Guides)

- Provide detailed site-specific drawings of existing and proposed Plan and Elevation View, (Sample Drawing 14A), Elevation View (Sample Drawing 14B), Stream and Floodplain Cross-Section (Sample Drawing 14C), Stream Profile (Sample Drawing 14D) and Floodplain Fill (Sample Drawing 5) at a scale adequate for detailed review.
- Provide the requested information that applies to your project. If there is not an existing structure, leave the "Existing" column blank.
- If you choose to have a Licensed Professional Engineer "certify" that your project will not cause a "harmful interference" for a range of flood discharges up to and including the 100-year flood discharge, then you must use the "Required Certification Language." You may request a copy by phone, email, or mail. A hydraulic report supporting this certification may also be required. Is Certification Language attached?  No  Yes
- ➔ Attach additional sheets and table with the requested information for multiple crossings. Include hydraulic calculations.

	Existing	Proposed		Existing	Proposed
Culvert type (box, circular, arch) and material (corrugated metal, timber, concrete, etc.)	<b>CMP</b>	<b>CMP</b>	Bridge span (length perpendicular to stream) OR culvert <input checked="" type="checkbox"/> width <input type="checkbox"/> diameter (ft)	<b>3</b>	<b>5</b>
Bridge type (concrete box beam, timber, concrete I-beam, etc.)			Bridge width (parallel to stream) OR culvert length (ft)	<b>52</b>	<b>68</b>
Entrance design (projecting, mitered, wingwalls, etc.)	<b>projecting</b>	<b>projecting</b>	Bridge rise (from bottom of beam to streambed) OR Culvert rise (fill from top of culvert to streambed) (ft)	<b>3</b>	<b>5</b>
Total structure waterway opening above streambed (sq ft)	<b>9</b>	<b>25</b>	Approach slope fill from existing grade to culvert or bridge	<b>&gt;10</b>	<b>&gt;10</b>
<input checked="" type="checkbox"/> elevation of culvert crown <input type="checkbox"/> bottom of bridge beam (ft)	Upstream	<b>99.2</b>	Higher elevation of <input checked="" type="checkbox"/> culvert invert OR <input type="checkbox"/> streambed within culvert (ft)	Upstream	<b>95.7</b>
	Downstream	<b>99.2</b>		Downstream	<b>95.6</b>
Elevation of road grade at structure (ft)	<b>104.4</b>	<b>104.5</b>	Distance from low point of road to mid-point of bridge crossing (ft)	<b>275</b>	<b>275</b>
Elevation of low point in road (ft)	<b>104.3</b>	<b>104.4</b>			

Cross-sectional area of primary channel (sq ft) (See Sample Drawing 14C) **32**

Average stream width at OHWM outside the influence of the structure (ft) Upstream **4** Downstream **4**

Reference datum used (show on plans with description)  NGVD 29  NAVD 88  IGLD 85 (Great Lakes coastal areas)  other **Local datum**

High water elevation – describe reference point and highest known water level above or below reference point and date of observation. **97.6**

**15 STREAM, RIVER, OR DRAIN CONSTRUCTION ACTIVITIES** (No sample drawing available)

- Complete Section 10A for fill, Section 10B for dredge or excavation, and Section 10C for riprap activities.
- If side casting or other proposed activities will impact wetlands or floodplains, complete Sections 12 and 13, respectively.
- ➔ Provide an overall site plan showing existing lakes, streams, wetlands, and other water features; existing structures; and the location of all proposed structures and land change activities.
- ➔ Provide cross-section (elevation) drawings necessary to clearly show existing and proposed conditions. Be sure to indicate drawing scales.
- ➔ For activities on legally established county drains, provide original design and proposed dimensions and elevations.

(check all that apply)  maintenance  improvement  relocation  enclosure  new drain  wetlands  other

Dimensions (ft) of existing stream/drain channel to be worked on. length **390** width **4** depth **1.5**

Dimensions (ft) of new, relocated, or enclosed stream/drain channel. length **390** width **4** depth **1.5** Volume of dredge/excavation (cu yds) **86.7**

Existing channel average water depth in a normal year (ft) **0.5** Proposed side slopes (vertical / horizontal) **1:2**

How will slopes and bottom be stabilized? **Riprap over geotextile fabric, erosion control mulch blankets and new vegetation**

Will old/enclosed stream channel be backfilled to top of bank grade?  No  Yes Length of channel to be abandoned (ft) **390** Volume of fill (cu yds) **86.7**

If an enclosed structure is proposed, check type  concrete  corrugated metal  plastic  other  
Dimensions of the structure: diameter length volume of fill

Will spoils be disposed of on site?  No  Yes ➔ Show location of spoils on site plan if spoils disposed of on an upland area.)

Water elevation **97.6** Reference datum used  NGVD 29  NAVD 88  IGLD 85 (Great Lakes coastal areas)  other **local datum**  
➔ Show elevation on plans with description.

**16 DRAWDOWN OF AN IMPOUNDMENT**

• If wetlands will be impacted, also complete Section 12.

Type of drawdown  over winter  temporary  one-time event  annual event  permanent (dam removal)  other

Reason for drawdown

Has there been a previous drawdown?  No  Yes (If Yes, provide date (M/D/Y) / / Previous MDEQ permit number, if known

Does waterbody have established legal lake level?  No  Yes  Not Sure Dam ID Number, if known

Extent of vertical drawdown (ft)	Impoundment design head (ft)	Number of adjacent or impacted property owners
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Date drawdown would start (M/D/Y) / /	Date drawdown would stop (M/D/Y) / /	Rate of drawdown (ft/day)
---------------------------------------	--------------------------------------	---------------------------

Date refilling would start (M/D/Y) / /	Date refilling would end (M/D/Y) / /	Rate of refilling (ft/day)
--	--------------------------------------	----------------------------

Type of outlet discharge structure to be used <input type="checkbox"/> surface <input type="checkbox"/> bottom <input type="checkbox"/> mid-depth	Impoundment area at normal water level (acres)	Sediment depth behind impoundment discharge structure (ft)
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**17 DAM, EMBANKMENT, DIKE, SPILLWAY, OR CONTROL STRUCTURE ACTIVITIES (See Sample Drawing 15)**

- For more information go to [www.michigan.gov/deqdamsafety](http://www.michigan.gov/deqdamsafety)
- If wetlands will be impacted, also complete Section 12.
- ➔ Attach site-specific conceptual plans for construction of a new dam, reconstruction of a failed dam, or enlargement of an existing dam for resource impact review.
- Detailed engineering plans are required once the activity has been determined to be permissible from an environmental standpoint.
- ➔ Attach detailed engineering plans for a dam repair, dam alteration, dam abandonment, or dam removal.

Which one best describes your project?  new dam construction  reconstruction of a failed dam  enlargement of an existing dam  dam repair  dam alteration  dam abandonment  dam removal  other

Dam ID Number If known	Type of outlet discharge structure <input type="checkbox"/> surface <input type="checkbox"/> bottom <input type="checkbox"/> mid depth	Will proposed activities require a drawdown of the waterbody to complete the work? <input type="checkbox"/> No <input type="checkbox"/> Yes (If Yes, also complete Section 16)
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Riprap Volume (cu yd)	Dredging/excavation Volume (cu yd)	Fill volume (cu yd)	Does structure allow complete drainage of waterbody? <input type="checkbox"/> No <input type="checkbox"/> Yes
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Benchmark elevation (ft)	Datum used <input type="checkbox"/> Local <input type="checkbox"/> NGVD 29 <input type="checkbox"/> other	Describe benchmark and show on plans
--------------------------	---	--------------------------------------

Have you engaged the services of a Licensed Professional Engineer?  No  Yes If Yes, provide name, registration number, and mailing address.  
 Name Registration Number Mailing Address

Will a water diversion during dike construction be required?  No  Yes If Yes, describe how the stream flow will be controlled through the dam construction area during the proposed project activities:

**COMPLETE THE FOLLOWING FOR A NEW DAM, RECONSTRUCTION OF A FAILED DAM, OR ENLARGEMENT OF AN EXISTING DAM**

Describe the type of dam and how you will design the dam and embankment to control seepage through and underneath the dam.

Embankment top elevation (ft)	Streambed elevation at downstream embankment toe (ft)	Structural height (difference between embankment top elevation and streambed elevation at downstream embankment toe) (ft)
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Embankment length (ft)	Embankment top width (ft)	Embankment bottom width (ft)	Embankment slopes Upstream (vertical / horizontal) Downstream
------------------------	---------------------------	------------------------------	---

Proposed normal pool elevation (ft)	Impoundment flood elevation (ft)	Maximum vertical drawdown capability (ft) (Attach operational procedure of the proposed structure, if available)
-------------------------------------	----------------------------------	--

Have soil borings been taken at dam location? <input type="checkbox"/> No <input type="checkbox"/> Yes ➔ If Yes, attach results.	Will a cold water underspill be provided? <input type="checkbox"/> No <input type="checkbox"/> Yes If Yes, invert elevation (ft)	Do you have flowage rights to all proposed flooded property at the design flood elevation? <input type="checkbox"/> No <input type="checkbox"/> Yes
--	--	---

**18 UTILITY CROSSINGS (See Sample Drawings 12 and 13, and EZ Guide)**

- If side casting is required, complete Sections 10A and 10B. If spoils will be placed in wetlands or wetlands may be impacted, complete Section 12.
- ➔ Attach additional sheets or tables with the requested information as needed for multiple crossings.

What method will be used to construct the crossings?  flume  plow  open trench  jack and bore  directional drilling Crossing of  Inland Lake or Stream  floodplain  international waters  wetlands (also complete Section 12)

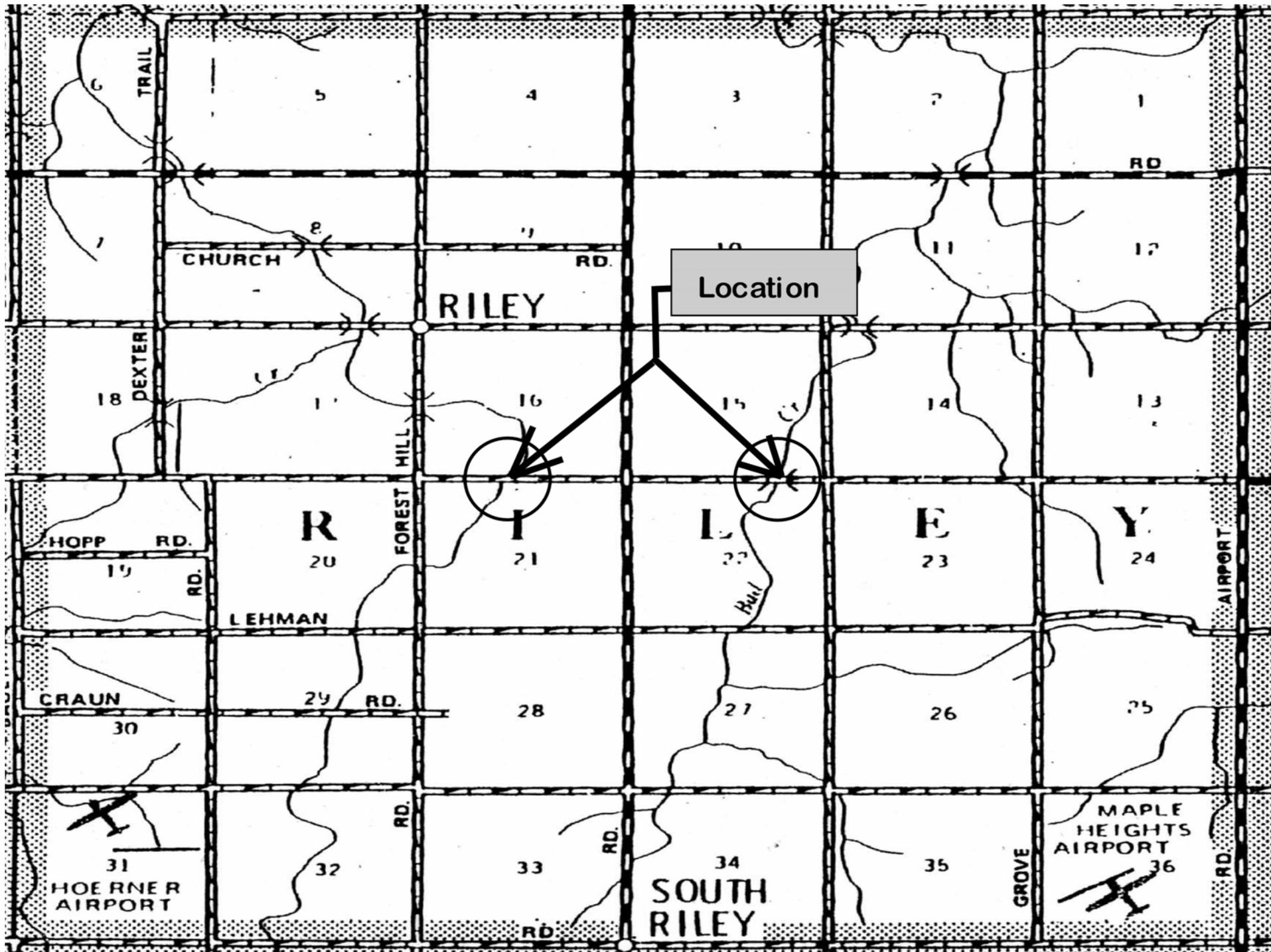
Type	Number of wetland crossings	Number of inland lake or stream crossings	Pipe diameter (in)	Pipe length per crossing (ft)	Distance below streambed or wetland (in)	Trench width (ft)
<input type="checkbox"/> sanitary sewer						
<input type="checkbox"/> storm sewer						
<input type="checkbox"/> watermain	0	1	24"	35'	36"	5
<input type="checkbox"/> cable						
<input type="checkbox"/> oil/gas pipeline						

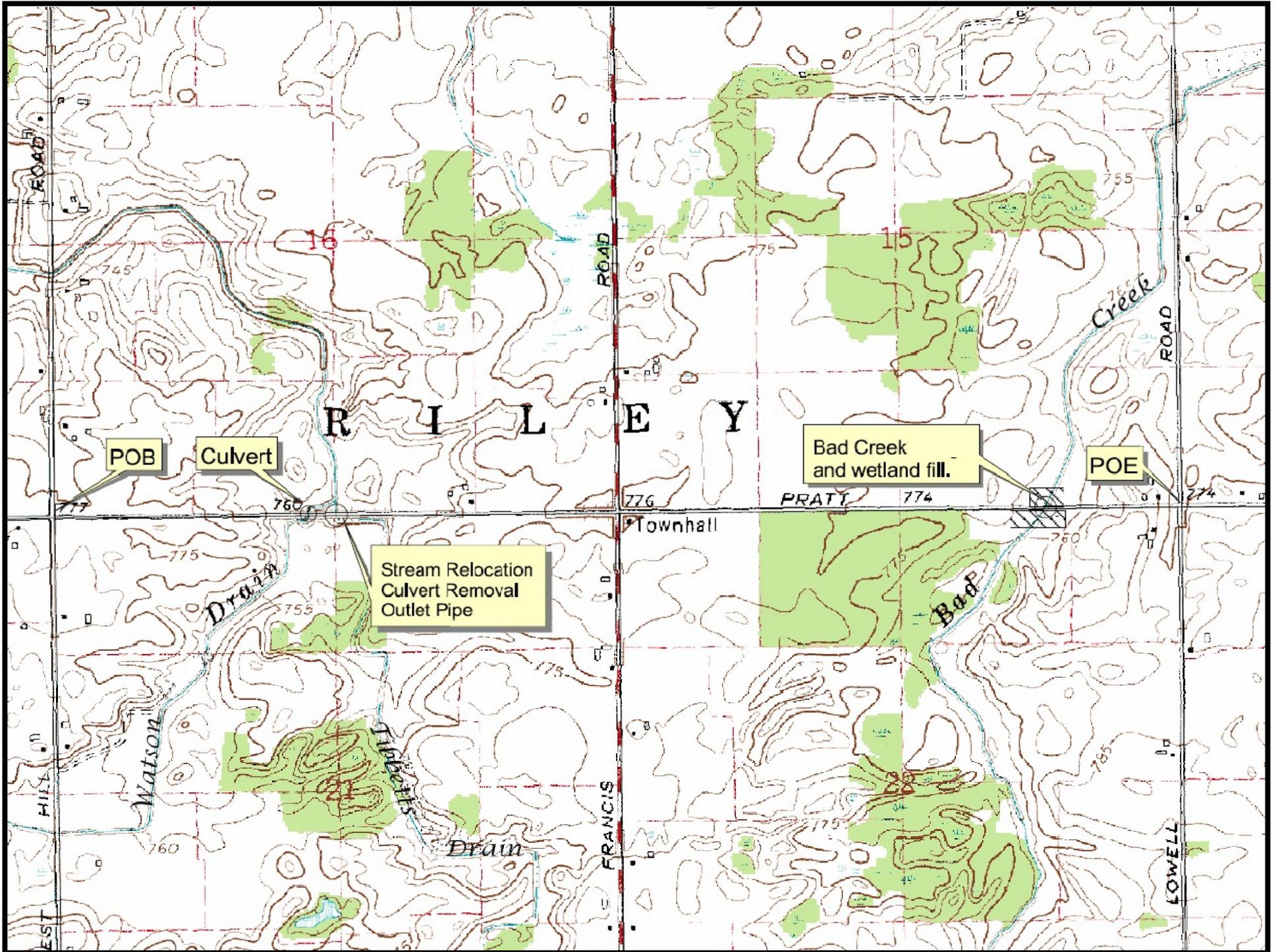
## Riparians

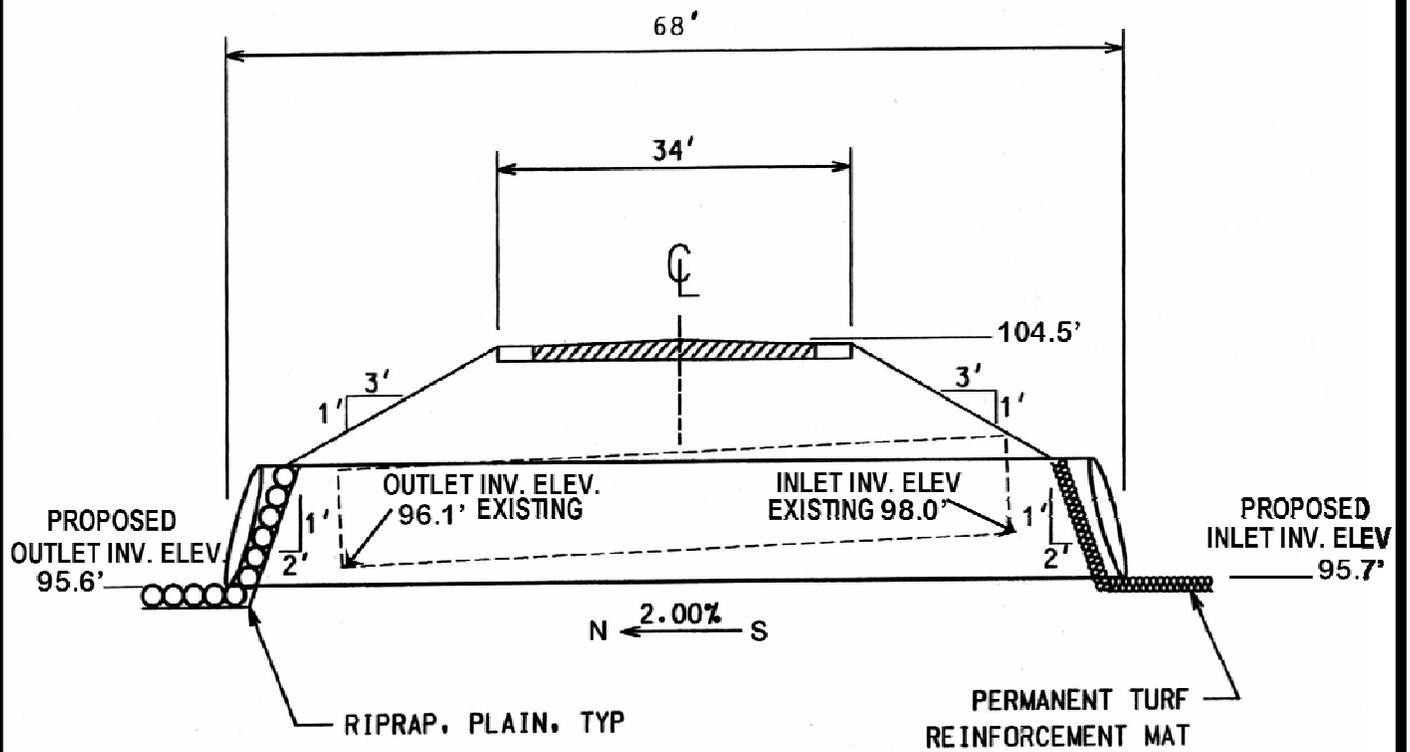
### Tibbetts Drain and Watson Drain Culvert crossing Pratt Road

Holly Vickers	503 Pratt Road	Riley, MI	48505
Alex Sanchez	602 Pratt Road	Riley, MI	48505
Jeff Silagy	523 Pratt Road	Riley, MI	48505
Jerry Fulcher	606 Pratt Road	Riley, MI	48505

**Because wetland impacts meet the minor project category the riparians are not needed in those areas.**



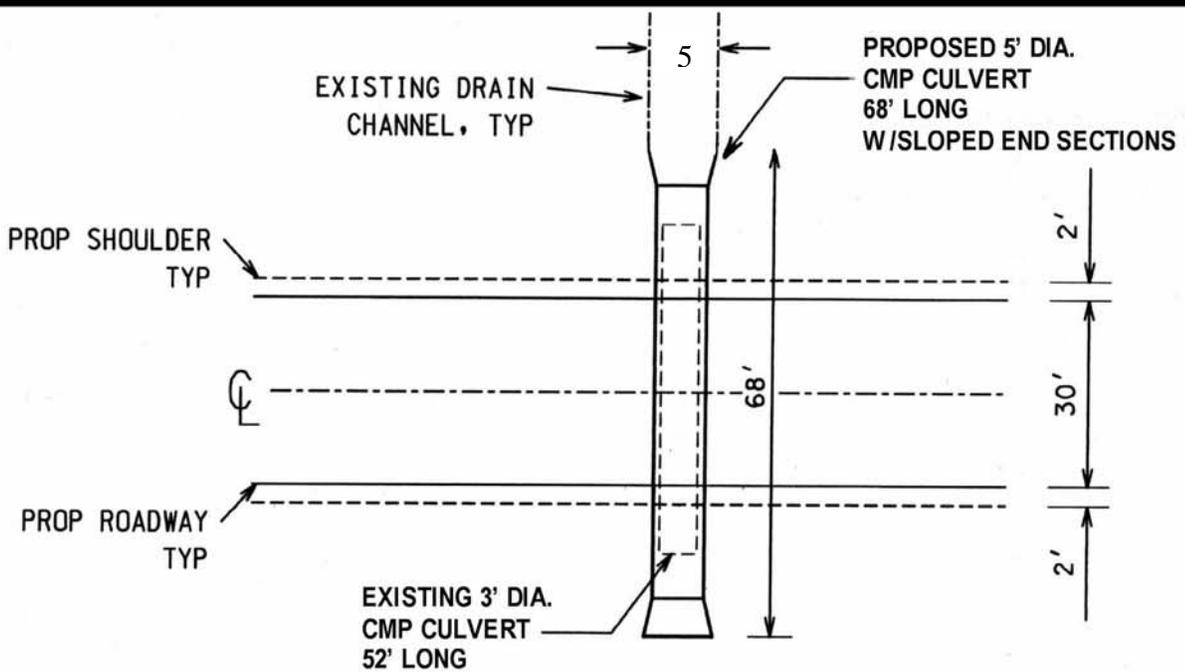




**CROSS SECTION**

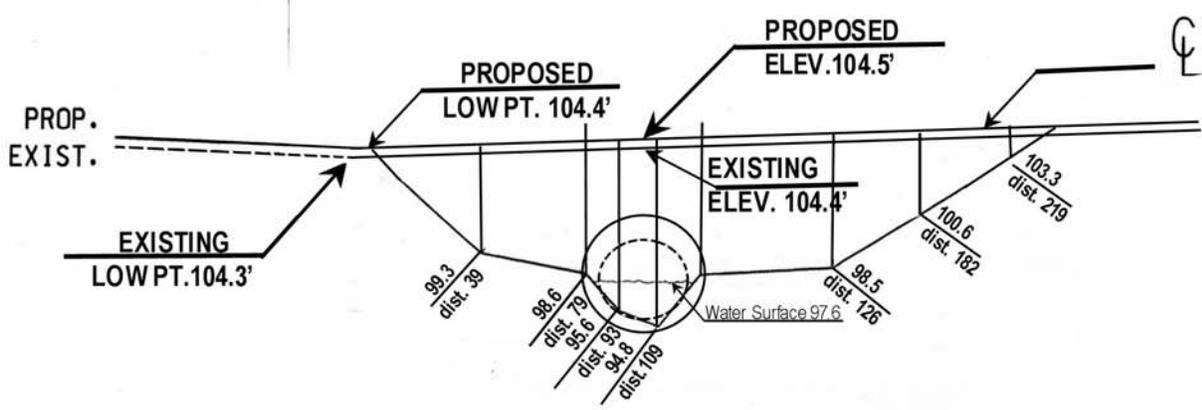
PROPOSED & EXISTING

CULVERT AT PRATT ROAD CROSSING TIBBETTS DRAIN  
 RILEY TOWNSHIP  
 RIVER COUNTY  
 T06N R03W SECTIONS 16 AND 21



**PLAN**

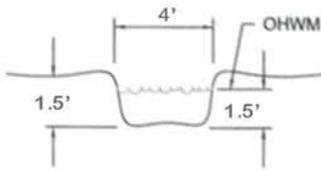
PROPOSED & EXISTING



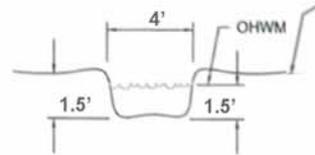
**PROFILE**

PROPOSED & EXISTING

CULVERT AT PRATT ROAD CROSSING TIBBETTS DRAIN  
 RILEY TOWNSHIP  
 RIVER COUNTY  
 T06N R03W SECTIONS 16 AND 21



**EXISTING CHANNEL SECTION**



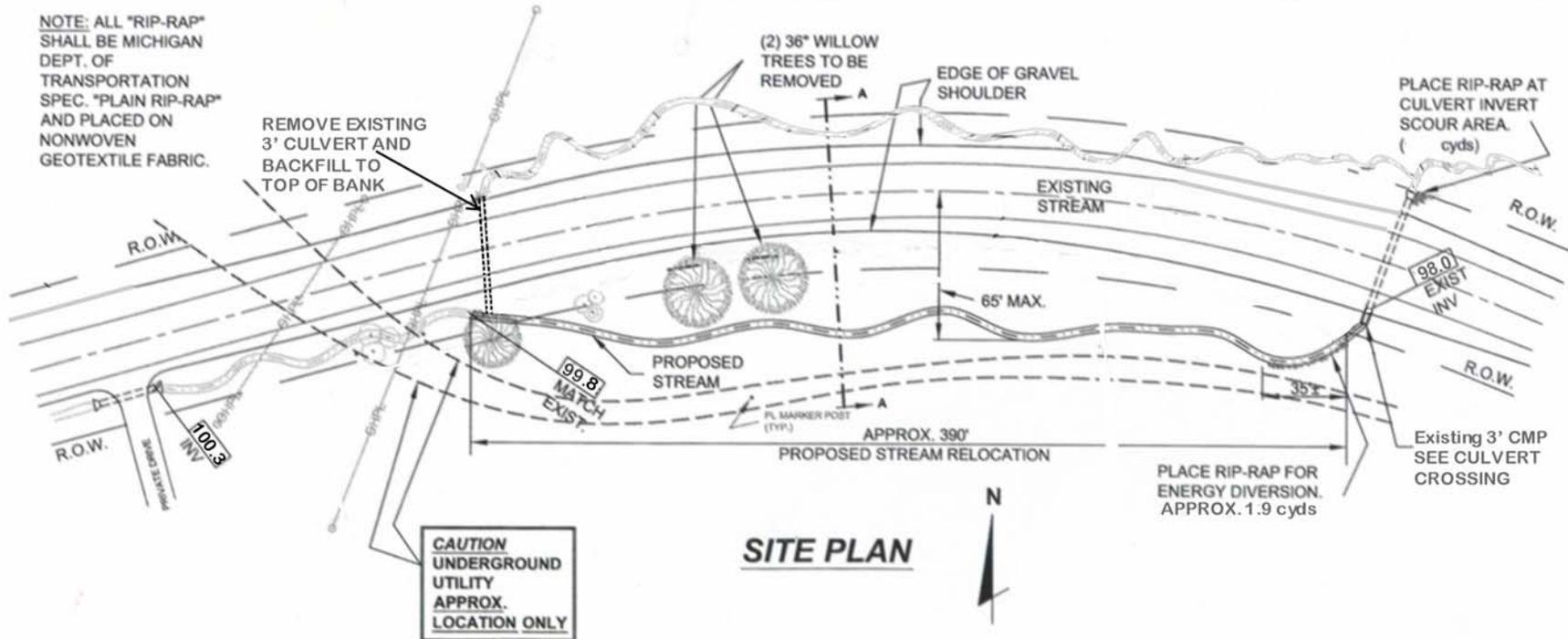
**PROPOSED CHANNEL SECTION**

STABILIZE BTM. OF NEW CHANNEL WITH CLEAN WASHED 1" TO 2" STONE. EXTEND STONE MIN. 6" ABOVE OHWM.

STABILIZE ALL DISTURBED AREAS WITH SEED AND MULCH OR MULCH BLANKET OVER MIN. 3" TOPSOIL.

**NOTES:**  
THE NEW CHANNEL SHALL BE COMPLETELY CONSTRUCTED BEFORE ANY WATER WILL FLOW.

NOTE: ALL "RIP-RAP" SHALL BE MICHIGAN DEPT. OF TRANSPORTATION SPEC. "PLAIN RIP-RAP" AND PLACED ON NONWOVEN GEOTEXTILE FABRIC.

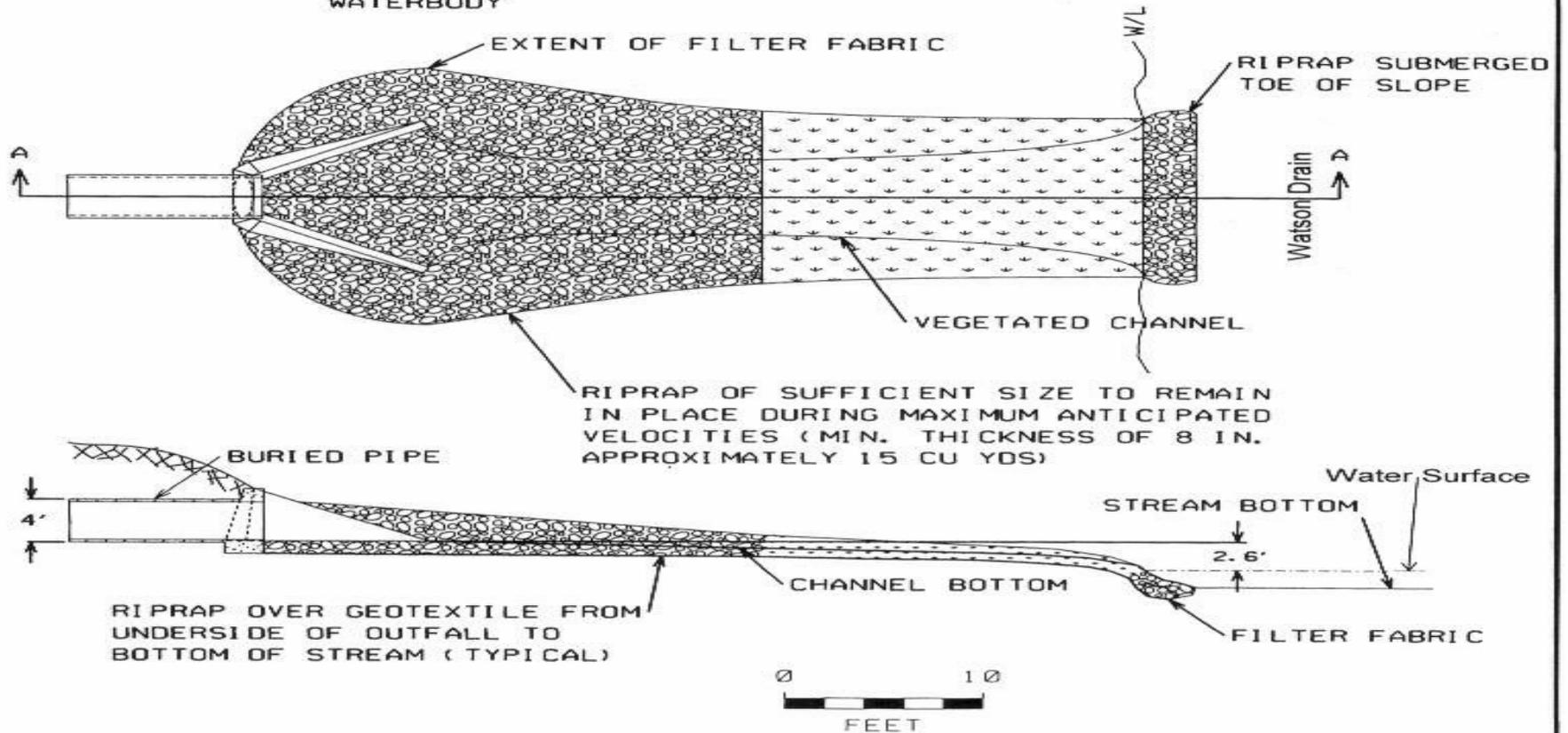


**SITE PLAN**

**CAUTION**  
UNDERGROUND  
UTILITY  
APPROX.  
LOCATION ONLY

Date	Revisions	Proposed Work
		Stream Relocation
		Waterway
		Watson Drain
		Sec., Town, Range
		T06N R03W Sections 16 and 21
		Twp., Co., State
		Riley Township, River County

WHERE POSSIBLE THE OUTLET SHOULD BE SET BACK AWAY FROM THE BANK ALLOWING THE STORMWATER TO PASS THROUGH A VEGETATED CHANNEL BEFORE ENTERING THE WATERBODY

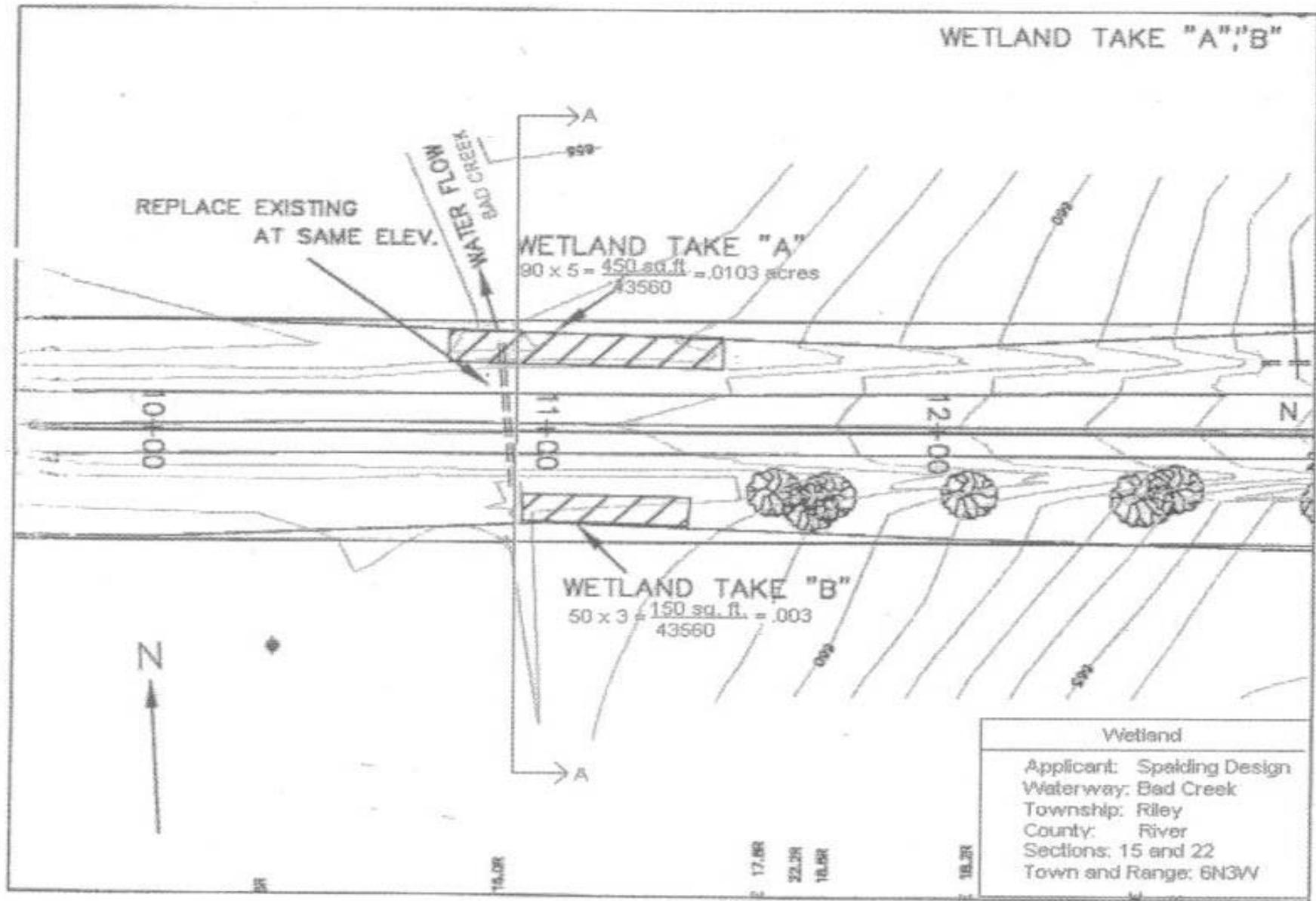


CROSS-SECTION A - A

PROPOSED OUTLET PIPE

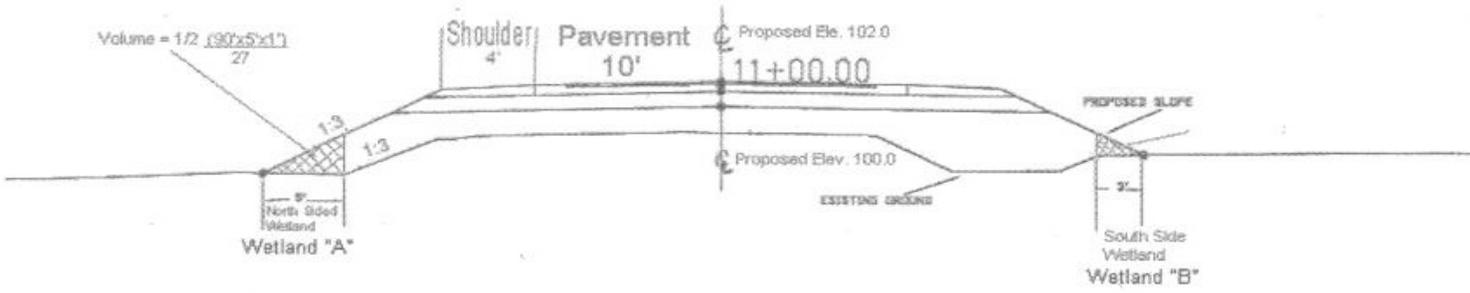
Applicant: Spalding Design  
 Waterway: Watson Drain  
 Township: Riley  
 County: River  
 Sections: 16 and 21  
 Town and Range: 6N3W

WETLAND TAKE "A","B"



Wetland	
Applicant:	Spalding Design
Waterway:	Bad Creek
Township:	Riley
County:	River
Sections:	15 and 22
Town and Range:	6N3W

Wetland TAKE 'A', 'B'

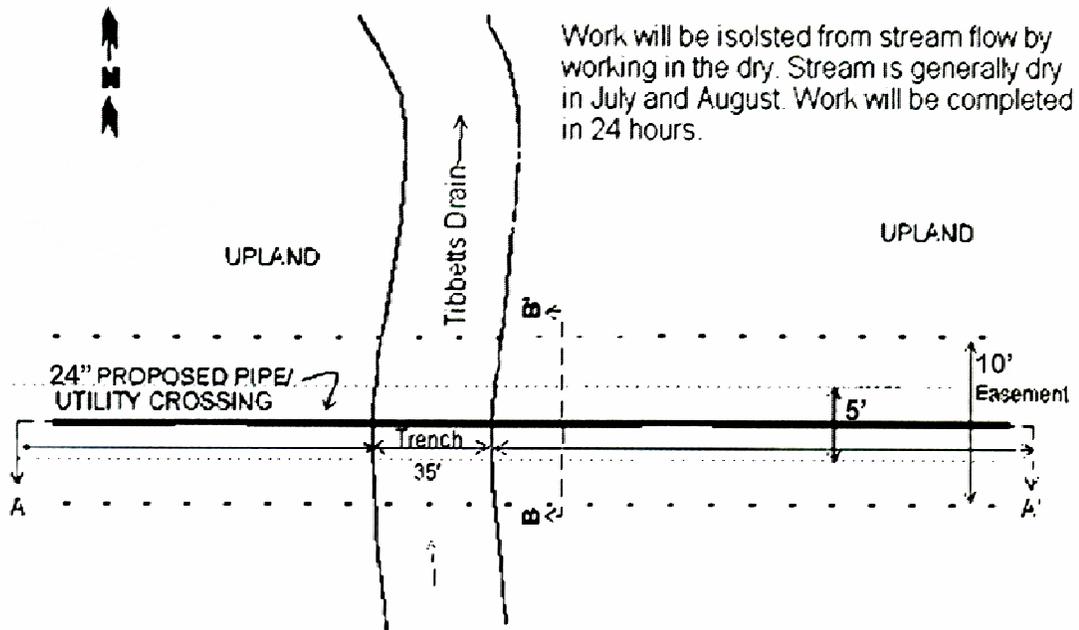


Road Cross-Section  
At Wetland Area

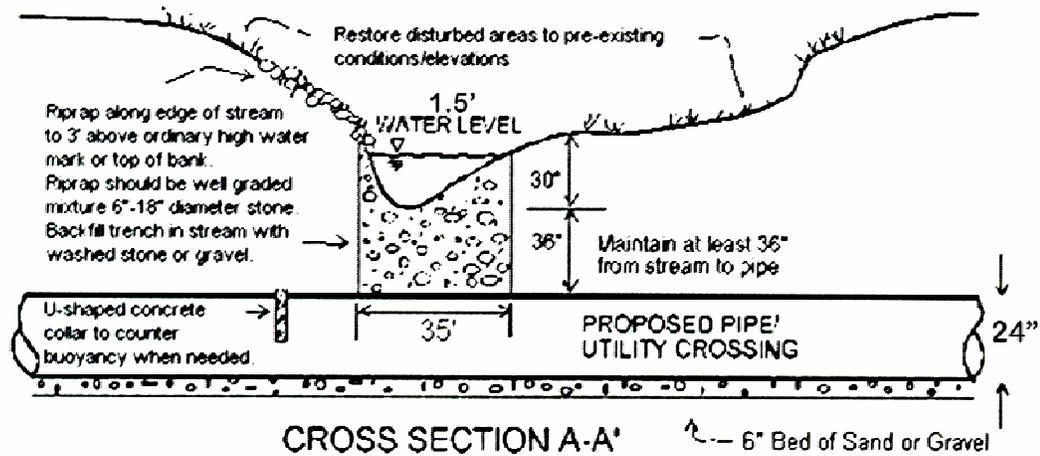
Applicant: Spalding  
Waterway: Bad Creek  
Township: Riley  
County: River  
Sections 15 and 22  
Town and Range 6N3W

Tibbetts Drain  
Utility Crossing

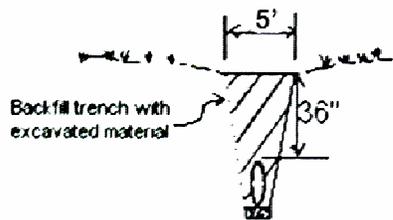
Work will be isolated from stream flow by working in the dry. Stream is generally dry in July and August. Work will be completed in 24 hours.



PLAN DRAWING



CROSS SECTION A-A'



CROSS SECTION B-B'

**PROPOSED PIPE/UTILITY CROSSING  
IN A TRENCH**

Applicant: Spalding Design  
Waterway: Tibbetts Drain  
Township: Riley  
County: River  
Sections: 16 and 21  
Town and Range: 6N3W