

# BMP Summary Sheet

**MS4 Name:** University Minnesota Duluth

**Minimum Control Measure:** 5-POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

**Unique BMP Identification Number:** 5a-1 (Revised 2007)

**\*BMP Title:** Development and Implementation of Structural and/or Non-structural BMPs

**\*BMP Description:**

To reduce the existing foot print of the Duluth campus we will look into building infiltration / retention / detention centers (IRDC) in drainage zones 1, 2, 5, and 6. This would include design and possible modifications to existing wet ponds for retention capabilities, and the design and possible construction of new facilities. New facilities may include rain gardens, bio-retention, sand filters, etc. Our ability to construct as scheduled is dependent on State of Minnesota Legislative funding. If state funding is not available, other potential funding sources will be reviewed and projects will be delayed. In some locations it is not know whether construction of some type of IRDC is even possible due to space limitations, high water tables, clay soils, and / or possible wetlands.

We will also be looking for ways to protect our creeks by develop setback requirements, improving shade for trout streams and protecting shorelines against erosion where necessary.

Location(s) in SWPPP of detailed information relating to this BMP:

This summary sheet details all SWPPP information for this BMP.

**\*Measurable Goals:**

Design for Low Impact Development Demonstration at Glensheen  
Design Rain Garden Demonstration on campus  
Construct for Low Impact Development Demonstration at Glensheen  
Develop construction and development stream bank setback policies  
Design for shoreline protection at Glensheen  
Construct shoreline protection at Glensheen  
Construct Rain Garden Demonstration on campus  
Review the West Branch of Tischer Creek (WBTC) for erosion and shade problems  
Investigate and design (if feasible) modifications to Eric Clarke Pond  
Investigate feasibility of IRDC for Zone 1  
Investigate and design (if feasible) IRDC modifications to Fire Hall Pond  
Review Oregon Creek (lower Campus) for erosion structural integrity problems  
Recommendations for erosion and shade problems in WBTC  
Construct IRDC (if feasible) modifications to Eric Clarke Pond  
Construct IRDC (if feasible) modifications to Fire Hall Pond  
Design (if feasible) IRDC in Zone 1  
Recommendations for Oregon Creek at lower campus  
Construct repairs for Oregon Creek at lower campus  
Investigate and design (if feasible) IRDC in Zone 2  
Construct (if feasible) IRDC in Zone 1  
Construct IRDC (if feasible) IRDC in Zone 2

**\*Timeline/Implementation Schedule:**

Design for Low Impact Development Demonstration at Glensheen – Done 2003  
Design Rain Garden Demonstration on campus – Done 2004  
Construct for Low Impact Development Demonstration at Glensheen – Done 2004  
Develop construction and development stream bank setback policies – Done 2004  
Design for shoreline protection at Glensheen – Done 2005  
Construct shoreline protection at Glensheen – Done 2005

Construct Rain Garden Demonstration on campus – Done 2005  
Review the West Branch of Tischer Creek (WBTC) for erosion and shade problems – Done 2006  
Investigate and design (if feasible) modifications to Eric Clarke Pond – Done 2007  
Investigate feasibility of IRDC for Zone 1 – Done 2007  
Investigate and design (if feasible) IRDC modifications to Fire Hall Pond – Done 2007  
Review Oregon Creek (lower Campus) for erosion structural integrity problems – 2008  
Recommendations for erosion and shade problems in WBTC – 2008  
Construct IRDC (if feasible) modifications to Eric Clarke Pond – 2009  
Construct IRDC (if feasible) modifications to Fire Hall Pond – 2010  
Design (if feasible) IRDC in Zone 1 – Not Financially Feasible  
Recommendations for Oregon Creek at lower campus – 2008  
Construct repairs for Oregon Creek at lower campus – 2009  
Investigate and design (if feasible) IRDC in Zone 2 – 2010  
Construct (if feasible) IRDC in Zone 1 - Not Financially Feasible  
Construct IRDC (if feasible) IRDC in Zone 2 – 2011

**Specific Components and Notes:**

The MNDNR has asked that we review the West Branch of Tischer Creek for ways to cool the water. Shading of the creek will be looked at as a possible solution.  
In the early 1900's Oregon Creek was confined to a rock walled channel along some of the lower campus property. This area needs to be investigated for the stability of the walls.  
The IRDC should address water temperature, suspended solids, storm surge, floatables, and parking lot oils and greases, with the goal of reducing the impact of existing impervious surfaces and future small maintenance type construction projects.  
If feasible, size the IRDC (or design for expansion) for future planned development  
Work with the DNR on water temperature issues in Zone 2.  
Zone 2 plans may change based off future of Stadium Apartments.

**\*Responsible Party for this BMP:**

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*\*Indicates a REQUIRED field. Failure to complete any required field will result in rejection of the application due to incompleteness.*