COON CREEK WATERSHED DISTRICT
PERMIT REVIEW

MEETING DATE: February 9, 2015
AGENDA NUMBER: 18
FILE NUMBER: 15-014
ITEM: Willowfield Development

RECOMMENDATION: Table with 9 Stipulations

APPLICANT: Harpers Street Woods, LLC
14015 Sunfish Lake Blvd., Suite 400
Ramsey, MN 55303

PURPOSE: Develop an empty lot in Blaine, MN

LOCATION: The open lot between Harpers St. NE and Jamestown St. NE (running N/S) and 129th Ave NE and 128th Ave NE.
APPLICABILITY:
1. One or more cumulative acres of land disturbance.
2. Endangered, Threatened or Special concern species, elements of communities.

EXHIBITS:
1. Soil Boring Log, by Braun Interrec, dated 01/05/14, recd. 1/14/15.
2. Grading, Drainage, and Erosion Control Plan, by E.G. Rud & Sons, Inc., dated 01/09/15, recd. 01/14/15.
3. Willowfield Plan Set (sheet C1.2, C 3.1, C4.1, and C 4.2), by Plowe Engineering, Inc., dated 01/09/15, recd. 01/14/15.

HISTORY & CONSIDERATIONS:

FINDINGS:

Ditches and Drainage: There is not a public ditch on the property. The project site is tributary to County Ditch 59-7. The trend in land use for this drainage area is toward residential. There are no flooding concerns downstream. Alternatives to additional drainage considered and reviewed include storage.

Floodplain: There is no floodplain on the property according to FEMA. The District Atlas 14 model predicts the 100-year elevation for the subwatershed at 897.8 feet.

Groundwater: Surficial ground water is present at 896.8 feet. The site does not include groundwater sensitive areas. Information has been provided to substantiate low floor elevations. Low floor elevations meet the criteria for the City of Blaine (2 ft above mottled soil elevation, 2 ft above 100-year)

Historic Sites: The proposed project does not include sites of historic or archeological significance.

Local Planning & Zoning: The proposed project is consistent with local planning and zoning. There is an approved local water plan.

Maintenance: The proposed project does include a ditch maintenance easement or utility line crossings. A drainage and utility easement is not provided for the storm water/infiltration pond shown on the drainage plan. Property owners affected by changes in drainage have not been notified and have not acknowledged the changes proposed.

Soils & Erosion Control: Soils affected by the proposal are Lino and Zimmerman. Stabilizing vegetation is proposed for disturbed areas within two weeks of rough grading. Adjacent properties are protected from sediment deposition. All wetlands, waterbodies, ponds, infiltration basins and water conveyance systems are not protected from erosion and sedimentation. Project site is greater than 1 acre; an NPDES permit is required.
**Stormwater & Hydraulics:** The applicant is not meeting the volume management requirement equivalent to infiltrating runoff from the first inch of precipitation. Stormwater leaving the site is discharged into a well-defined receiving channel or pipe and routed to a public drainage system. Drainage sensitive uses do not exist down-stream from the proposed site. The rate of post development runoff from the site does not exceed predevelopment rates, or rates which would interfere with sensitive downstream land uses.

**Water Quality:** Project does include new impervious drainage areas greater than 1 acre. The proposal will not detrimentally affect the existing water quality of the receiving water. The proposal will not cause extreme fluctuations of water levels or temperature changes.

**Wetlands:** Wetlands do exist on-site according to the 1987 Federal manual, NWI, PWI and Soil Survey. The site was reviewed by the TEP. No impacts are proposed.

**Wildlife:** The proposed project includes the threatened Blanding’s Turtle (*Emydoidea blandingii*). Measures to avoid and minimize impacts to the threatened species should be implemented.

**Performance Escrow:** $4,250.00

**ISSUES/CONCERNS:**

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<tr>
<th>Stormwater &amp; Hydraulics: The applicant is not meeting the volume management requirement equivalent to infiltrating runoff from the first inch of precipitation.</th>
<th>1. Provide stormwater runoff calculations that show the site is meeting the volume management requirement equivalent to infiltrating runoff from the first inch of precipitation.</th>
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<td>2. Water Quality Treatment Volume: a. The required treatment volume for the site is 5,250 cf. Update the water quality treatment volume calculations. i. As per CCWD rules, the 0.9 coefficient is not used in the stormwater calculations.</td>
<td>3. The HydroCAD model does not match the utility plan set. Update the following portions of the HydroCAD</td>
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model and/or utility plan:

a. Proposed Pond:
   i. There is not an outlet shown in the Proposed Pond on the utility plan. The HydroCAD model has a 15” X 193’ long culvert has the primary outlet for the pond (inlet/outlet invert = 901.5’/900.9’). *This pipe matches the storm sewer from Manhole 11, which discharges into PX3.
   ii. The discharge inlet in the HydroCAD model (899.00’) does not match the NWL listed on the utility plan (896.00’).
   iii. Provide a location and detail for the 4.0’ long sharp-crested weir listed in the HydroCAD model.

b. PX3: Existing Pond:
   i. The invert elevations for Device #1 (Primary) and #5 (Discharged) do not match the elevations listed in the water quality treatment volume calculations. Correct the water quality treatment volume calculations.
   ii. Device #2 (orifice in weir wall invert elevation):
      1. HydroCAD invert
iii. Device #2 (orifice in weir wall diameter):
   1. HydroCAD diameter: 4”
   2. Utility plan diameter: 6”

iv. Device #4 (top of grate of outlet structure):
   1. HydroCAD invert elevation: 901.99’
   2. Utility plan invert elevation: 902.49’

v. Provide a detail for the outlet structure. Include:
   1. Rim elevation
   2. Inlet/outlet invert elevations
   3. Inlet/outlet Pipes sizes
   4. Weir orifice diameter and elevation
   5. Top of weir elevation

c. Pond P4X:
   i. Add details for the outlet device on the utility plan.

4. Erosion Control:
   a. The proposed catch basin inlets onsite are not protected
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|   | after installation.  
   | i. Add inlet protection for the proposed back yard catch basins.  
| 5. | Lots 1A and 2A should include temporary easement for stormwater pond.  
| 6. | PX3 currently has a 100-year HWL of 900.9’. The HydroCAD model shows the 100-year HWL of 902.53’.  
   | a. Provide low floor opening elevations for adjacent Savanna Grove lots that surround PX3 to ensure houses are protected from increase in HWL.  
| 7. | PX4 currently has a 100-year HWL of 900.8’. The HydroCAD model shows the 100-year HWL of 902.21’.  
   | a. Provide low floor opening elevations for adjacent Harper Street Meadows lots that surround PX4 to ensure houses are protected from increase in HWL.  
|   | A post construction test on the infiltration basin will be required to verify the assumed infiltration rates are obtained. The applicant must acknowledge that they will conduct a post construction test on the infiltration basin by filling the basin to a minimum depth of 6 inches with water and monitor the time necessary to drain. The Coon Creek Watershed District shall be notified prior to the test to witness the results.  
| 8. | The applicant must acknowledge that they will conduct a post construction test on the infiltration basin by filling the basin to a minimum depth of 6 inches with water and monitor the time necessary to drain. The Coon Creek Watershed District shall be notified prior to the test to witness the results.  
| Escrows: | $2,000 + (4.5 ac *$500/ac) = $4,250.00  
| 9. | Receipt of escrows.  

RECOMMENDATION: Table with 9 Stipulations

Stipulations:
1. Receipt of escrows.
2. The applicant must acknowledge that they will conduct a post construction test on the infiltration basin by filling the basin to a minimum depth of 6 inches with water and monitor the time necessary to drain. The Coon Creek Watershed District shall be notified prior to the test to witness the results.
3. Provide stormwater runoff calculations that show the site is meeting the volume management requirement equivalent to infiltrating runoff from the first inch of precipitation.
4. Water Quality Treatment Volume:
   a. The required treatment volume for the site is 5,250 cf. Update the water quality treatment volume calculations.
      i. As per CCWD rules, the 0.9 coefficient is not used in the stormwater calculations.
5. The HydroCAD model does not match the utility plan set. Update the following portions of the HydroCAD model and/or utility plan:
   a. Proposed Pond:
      i. There is not an outlet shown in the Proposed Pond on the utility plan. The HydroCAD model has a 15” X 193’ long culvert has the primary outlet for the pond (inlet/outlet invert = 901.5'/900.9’). *This pipe matches the storm sewer from Manhole 11, which discharges into PX3.
      ii. The discharge inlet in the HydroCAD model (899.00’) does not match the NWL listed on the utility plan (896.00’).
      iii. Provide a location and detail for the 4.0’ long sharp-crested weir listed in the HydroCAD model.
   b. PX3: Existing Pond:
      i. The invert elevations for Device #1 (Primary) and #5 (Discharged) do not match the elevations listed in the water quality treatment volume calculations. Correct the water quality treatment volume calculations.
      ii. Device #2 (orifice in weir wall invert elevation):
           1. HydroCAD invert elevation: 898.4’
           2. Utility plan invert elevation: 899.42’
      iii. Device #2 (orifice in weir wall diameter):
           1. HydroCAD diameter: 4”
           2. Utility plan diameter: 6”
      iv. Device #4 (top of grate of outlet structure):
           1. HydroCAD invert elevation: 901.99’
           2. Utility plan invert elevation: 902.49’
      v. Provide a detail for the outlet structure. Include:
           1. Rim elevation
           2. Inlet/outlet invert elevations
           3. Inlet/outlet Pipes sizes
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c. Pond P4X:
   i. Add details for the outlet device on the utility plan.
6. Erosion Control:
   a. The proposed catch basin inlets onsite are not protected after installation.
      i. Add inlet protection for the proposed back yard catch basins.
7. Lots 1A and 2A should include temporary easement for stormwater pond.
8. PX3 currently has a 100-year HWL of 900.9’. The HydroCAD model shows the 100-year HWL of 902.53’.
   a. Provide low floor opening elevations for adjacent Savanna Grove lots that surround PX3 to ensure houses are protected from increase in HWL.
9. PX4 currently has a 100-year HWL of 900.8’. The HydroCAD model shows the 100-year HWL of 902.21’.
   a. Provide low floor opening elevations for adjacent Harper Street Meadows lots that surround PX4 to ensure houses are protected from increase in HWL.