COON CREEK WATERSHED DISTRICT
PERMIT REVIEW

MEETING DATE: January 14, 2019
AGENDA NUMBER: 18
FILE NUMBER: 16-168
ITEM: Aberdeen Street Construction

RECOMMENDATION: Table with 14 Stipulations

APPLICANT: City of Ham Lake
15544 Central Avenue NE
Ham Lake, MN 55304

PURPOSE: New road construction

LOCATION: Aberdeen, between 144th and 145th Ave NE, Ham Lake, MN
**APPLICABILITY:**
1. Within 1 mile of an impaired waters.
2. Any work within or adjacent to a Public ditch within the Watershed District.
3. Any work in or adjacent to wetlands, lakes or water courses
4. One or more cumulative acres of land disturbance
5. The lands and waters that have been, or may be covered by the regional flood.
6. Activities upstream from land that is dependent upon removal of water from the soil profile for their continued use (Drainage Sensitive Land Uses)
7. Excavation or filling or a combination of excavation and filling of sand or other excavation or fill material including the laying, repairing, replacing or enlarging of a culvert or an underground pipe or facility where it crosses a public ditch or waters of the state.
8. Endangered, Threatened or Special concern species, elements or communities

**EXHIBITS:**
1. Construction Plan set (24 sheets); by RFC Engineering, dated 1/2/19, received 1/2/19.
2. HydroCAD drainage calculations, by RFC Engineering, dated 1/2/19, received 1/2/19.
4. No-Rise Memo, by SRF, dated 7/30/18, received 8/7/18.

**PREVIOUS ACTION TAKEN:** This is a new application.

**FINDINGS:**
**Pre-application Meeting:** The project as submitted has not received a general review during a pre-application meeting.
Ditches: There are two public ditches on the property. The public ditch is Coon Creek County Ditch 59 and County Ditch 59-1 according to the public drainage map. The approved/as-built elevations for Coon Creek through this property are 874.1 ft MSL at the downstream end and 874.2 ft MSL at the upstream end on Ditch 59. The approved/as-built elevations for CD 59-1 through this property are 877.1 ft MSL at the downstream end and 877.9 ft MSL at the upstream end on Ditch 59-1.

The ditches are a 2\textsuperscript{nd} (59-1) and a 5\textsuperscript{th} (Coon Creek) order stream. The ditches serve the primary role of
a. Storm water conveyance
b. Trunk drainage system

The ditch (59-1) serves approximately 0 acres of agricultural land.
Land use in the area is composed of residential, commercial, undeveloped wetlands and trees.
There are flooding concerns upstream and/or downstream.

The ditch has been inspected.
Existing elevations, slopes and condition of ditch are good/fair.
The ditch is not in need of repair.

Ditch Hydraulics: A crossing of the ditch is proposed. The proposed crossing involves the installation two box culverts. The proposed box culverts are of sufficient hydraulic capacity. The project has submitted and obtained a ’no-rise’ from the MnDNR regarding the Creek crossing.

Erosion and Sediment Control: Soils affected by the proposal are Seelyeville and Zimmerman.

- Stabilizing vegetation is proposed for disturbed areas within seven (7) days of rough grading.
- Soil stockpiles have been proposed to be fitted with sediment-trapping measures to prevent soil loss.
- Adjacent properties and stormwater ponds are not protected from sediment deposition.
- Construction schedules detailing when sediment trapping measures will occur; stabilization of earthen structures and the general timing of construction phases have been provided.
- Stabilization adequate to prevent erosion has been provided at the outlets of all storm sewer pipes.
- All storm sewer inlets are protected from sediment-laden water during construction.
- All work adjacent to water or related resource have not taken precautions to contain sediment, and stabilize the work area during construction.
- Provisions have been made to minimize transport of sediment (mud) by runoff or vehicle racking onto the paved surface.
• Provisions have been made for cleaning road surfaces where sediment is transported by the end of the day.
• Construction entrance points are not clearly located on the erosion and sediment control plan.
• The erosion and sediment control plan does provide for the repair and maintenance of all temporary and permanent erosion and sediment control practices.

Dewatering: It is unknown if shallow ground water does exist on site. The project may require dewatering.

Floodplain: There is floodplain on the property according to the District model and FEMA. The District’s floodplain elevation is at 883.7 feet. The project does propose to place fill within the floodplain. The total floodplain impact is 1.4 AF. The proposed impact is within the floodway and flood fringe. Compensatory storage has been provided to reduce floodplain impacts to < 0.05 ft change in base flood elevation for the region. There are flooding concerns upstream and/or downstream. The project has submitted and obtained a ‘no-rise’ from the MnDNR regarding the Creek crossing. Confirmation of culvert invert needed.

High Water Flooding: Information has not been provided and is not needed, no structures proposed.

Groundwater: Geotechnical information collected in December 2009 indicates long term groundwater elevation is present at 5-7 feet below the surface.

The project site is not within the Emergency Response Area/10 Year Well Head Protection Area/Drinking Water Supply Management Area.

The proposal does not contain a land use discouraged or prohibited by the Safe Drinking Water Supply Act (SDSA).

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.

Property owners affected by changes in drainage must be notified and acknowledge the changes proposed.

Maintenance: The Owner of the Stormwater Management features and treatment practices is City of Ham Lake. The Stormwater Treatment Practices (STPs) consisting of the following:
<table>
<thead>
<tr>
<th>Stormwater Treatment Practices</th>
<th>Number</th>
<th>Maintenance Responsibility</th>
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</thead>
<tbody>
<tr>
<td>Basins</td>
<td>3</td>
<td>City of Ham Lake</td>
</tr>
<tr>
<td>Sumps</td>
<td>3</td>
<td>City of Ham Lake</td>
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</table>

As a requirement of the City’s MS4 program, the city will inspect and maintain the stormwater facilities.

Easements: The proposed project does include ditch maintenance easement. A ditch maintenance easement is required. A maintenance access to all storm water management features is provided.

**Stormwater & Hydrology:** Infiltration is allowed within the project area. The 1-inch infiltration is achieved to the maximum extent practicable. The stormwater management system utilizes infiltration and wet ponds.

Drainage sensitive uses exist downstream 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. Properties and waterways downstream from the project are protected from erosion due to increases in the volume, velocity and peak water flow rates of stormwater runoff. Concentrated storm water leaving a site is discharged directly into a well-defined natural or man-made off-site receiving channel or pipe. No on-site constructed storm water conveyance channels proposed as part of the project.

**Water Quality:** The proposed project does not cause an exceedance of State water quality standards. The project does not contribute to the adverse impact of wetlands through inundation or volume of flow. All discharges into wetlands are pretreated by a sediment basin/water quality pond and are designed correctly. All work adjacent to wetlands, waterbodies and water conveyance systems are protected from erosion. 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.

**Impairments:** This project is within one (1) mile of and drains to an Impaired Water. The Impaired Water is Coon Creek. Coon Creek is impaired for (Aquatic Life (Macro-invertebrates)/Aquatic Recreation (E. coli). The major stressors are Total Suspended Solids (TSS)/Total Phosphorus (TP)/E.coli. There is an EPA approved Total Maximum Daily Load (TMDL) or Waste Load Allocation (WLA) for this water.

There are new impervious surfaces proposed as part of this project.

**Wetlands:** Wetlands do exist on-site according to the 1987 Federal manual, NWI, PWI and Soil Survey. Wetlands have been delineated. The most recent delineation was completed on 5/18/2017. The wetland boundary has been approved on 8/1/2017.

The wetland is not a DNR protected water.
The total proposed wetland impact is 0.26 acres, the joint application indicates 0.21 acres. The impact is through fill in one location as shown below:

The de minimis does not apply to road projects. TEP members have been notified with a complete plan and have been requested to submit comments. The project is not wetland dependent.

The project is not exempt. The applicant does need to contact the DNR area hydrologist and the Corps of Engineers.

Two alternatives, plus the proposed project, have been submitted. The avoidance alternatives are considered good faith efforts. None of the avoidance alternatives are considered feasible and prudent.

1. The applicant suggests that avoidance is not reasonable because there is no alternative. No alternative exists because:
   1) The basic purpose of the project cannot be accomplished at an alternative site.
   2) The no build would still have existing safety issues.
   3) Realignment would increase the acquisition of private property.

**Wetland Replacement Plan:**
A wetland replacement plan has been submitted through the Local Government Road Wetland Replacement Program (LGRWRP). The wetland replacement plan has been sent to TEP members for comment.

Replacement is proposed to be through BWSR State Road Bank at a ratio of 2:1.

The TEP has approved the wetland mitigation plan.

**Wildlife:**
The proposed project does include endangered or threatened species, rare natural communities, colonial waterbird nesting sites, migratory waterfowl concentration areas, deer wintering areas or wildlife travel corridors.

The applicant has contacted the MDNR natural heritage or endangered species program. The applicant has indicated that contact was made August 4, 2017. MDNR has responded to the applicant on January 18, 2018.

If the project is present, the project does (not) propose substantial adverse alteration or significant detrimental impact on a species or removal of a plant species.

**Performance Escrow:** $3,500  
**Wetland Escrow:** $N/A  
There are ditch liens on the property.

### ISSUES/CONCERNS:

<table>
<thead>
<tr>
<th>ISSUE</th>
<th>NEED</th>
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<tbody>
<tr>
<td>Escrows: $2,000 + (3 ac * $500/ac) = $3,500</td>
<td>1. Receipt of escrows.</td>
</tr>
<tr>
<td><strong>Ditch Hydraulics</strong>: A crossing of Coon Creek is proposed with two box culverts with an invert elevation of 875.4’. The District must confirm the invert elevation during construction.</td>
<td>2. Provide an acknowledgement note that Coon Creek Watershed District will be notified one week prior to culvert placement in Coon Creek and two hours prior to completion of each culvert placement to allow surveying of invert.</td>
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| **Stormwater & Hydraulics**: Storm Sewer schedule on sheets 27-29 do not list all CBs and FESs. Sumps listed for CBMH 2, 4 in table but not shown on profile. Sump shown for CBMH 6 but not listed on table. Sheet 27 containing storm drain profiles and tabulations was not provided. Stormwater management plan indicates that County Ditch 59-1 will be abandoned in the future. Abandonment is inconsistent with District policy. No soil borings are provided beneath the infiltration basin or infiltration bench. Wetland elevations imply that seasonal groundwater elevation is as high as 881’ on the north and south sides of Coon | 3. Update Storm Sewer schedule and profile on sheets 27-29 to include all CBs, OCS and FES; sumps and correct routing. 4. Provide Sheet 27. 5. Remove language regarding abandonment of CD 59-1 (page 2). 6. Provide additional soil borings beneath infiltration practices to confirm seasonal groundwater elevations or provide plugged drain tile that can be opened beneath infiltration practices to allow filtration in the event of non-functionality. 7. Update HydroCAD model with the following:  
   a. Infiltrations for Ponds 2 and 3.  
   b. Match outlet details for Ponds 2 and 3. |
Creek. These groundwater elevations will prevent full infiltration functionality.

Storm sewer system draining to Pond 3 not shown in storm sewer schedule or in profile.

HydroCAD model has infiltration for Pond 2 but not for Pond 3. Calculations indicated infiltration at Pond 3 but not Pond 2.

Unclear on OCS for Pond 2. Plans do not show OCS but information is listed on detail.

Pond 2 HydroCAD and outlet detail do not match elevations for Device #2 and #3.

Pond 3 HydroCAD and outlet detail do not match elevation for Device #1 and Device #2

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<tr>
<th><strong>Floodplain:</strong> Compensatory storage basin has bottom elevation of 876 but groundwater was listed as 878.7 feet on the north. Compensatory storage cannot be included between 876 to 878.7 due to groundwater influence. Compensatory storage is not connected to Coon Creek until 883’ due to berm. Floodplain fill is shown to start at 880’. Box culverts are proposed to be installed at existing sediment elevation in Coon Creek.</th>
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<td><strong>Soils &amp; Erosion Control:</strong> Updated ESC plan needed: current perimeter control fence location does not protect the Ditch or adjacent wetlands, seed mixture does not follow basin locations, CBs where inlet protection called out not shown on figure. Not all CBs have inlet protection.</td>
</tr>
<tr>
<td><strong>8.</strong> Increase bottom elevation of storage area to 879’ to avoid groundwater influence.</td>
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<tr>
<td><strong>9.</strong> Lower berm of storage area to 880’ with 3:1 side slopes to existing grade.</td>
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<tr>
<td><strong>10.</strong> District to verify culvert invert elevation.</td>
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<td><strong>11.</strong> Update ESC with the following: a. perimeter control fence location to include locations around storage basin, infiltration basin, bituminous removal for 144th and 145th. Redundant perimeter control needed around wetland and</td>
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Redundant perimeter control between construction activity and wetland and Coon Creek

Noted that there is potential for dewatering during construction activities.

In-water work will be required for this project. No details are provided.

b. Update seed mixture location for Pond 3, Pond 1 and storage area.

c. Show CBs on SWPPP with callouts for inlet protection.

d. Provide inlet protection for the two catch basins at the 143rd Lane NE intersection.

e. Provide redundant perimeter controls for wetland and Coon Creek.

12. Provide permit from DNR for dewatering activities.

13. Contractor must submit construction phasing plan.

**Wetlands:** Wetland credits are proposed to be used through the LGRWRP.

14. Provide proof of purchase for wetland credits.

**RECOMMENDATION:** Table with 14 Stipulations

**Stipulations:**

1. Receipt of escrows.
2. Provide an acknowledgement note that Coon Creek Watershed District will be notified one week prior to culvert placement in Coon Creek and two hours prior to completion of each culvert placement to allow surveying of invert.
3. Update Storm Sewer schedule on sheets 27-29 to include all CBs, OCS and FES; sumps and correct routing.
4. Provide Sheet 27.
5. Remove language regarding abandonment of CD 59-1 (page 2).
6. Provide additional soil borings beneath infiltration practices to confirm seasonal groundwater elevations or provide plugged drain tile that can be opened beneath infiltration practices to allow filtration in the event of non-functionality.
7. Update HydroCAD model with the following:
   a. Infiltrations for Ponds 2 and 3.
   b. Match outlet details for Ponds 2 and 3.
8. Increase bottom elevation of storage area to 879 to avoid groundwater influence.
9. Lower berm of storage area to 880' with 3:1 side slopes to existing grade.
10. District to verify culvert invert elevation.
11. Update ESC with the following:
   a. perimeter control fence location to include locations around storage basin, infiltration basin, bituminous removal for 144th and 145th.
   b. Update seed mixture location for Pond 3, Pond 1 and storage area.
   c. Show CBs on SWPPP with callouts for inlet protection.
   d. Provide inlet protection for the two catch basins at the 143rd Lane NE intersection.
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