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July 29, 2015
File: 193703078

Attention: Jeffrey Voltz, Project Manager

State of Wisconsin
Department of Natural Resources
101 S. Webster Street
Box 7921
Madison WI 53707-7921

Dear Mr. Voltz,

**Reference: Response to Comments
April 2015 Environmental Impact Report for Proposed Golf Course
Town of Wilson, Sheboygan County**

We appreciate your review of the April 2015 Environmental Impact Report for the Proposed Golf Course project (Project) in the Town of Wilson. We have reviewed your comments and provide this response letter.

Our response to your information requests are provided below by topic/comment/response. This letter follows the format of your May 22, 2015 correspondence entitled "*Initial Review of the April 2015 Environmental Impact Report for Proposed Golf Course, Town of Wilson, Sheboygan Co.*". We look forward to working with you to review our responses in preparation of your final EIS document.

Archeological/Historical (Confidential)

Comment:

1. Since these reports require confidentiality, please provide completed cultural resource investigation reports when they become available under a separate cover. Please include two hard copies as well as a disc/pdf copy. Sections 3.3.4 and 4.3.4.

Response:

Kohler will provide copies of these reports under separate cover when they become available.

Natural Heritage Conservation (Confidential)

Comment:

1. Since these reports require confidentiality, please provide copies of the *Stantec Technical Memo Botanical Survey* and *Stantec Technical Memo [REDACTED] Survey* reports referenced in Sections 3.2.4 and 3.2.5 under a separate cover. Please include two hard copies.

Response:

Kohler will provide copies of these reports under separate cover.



Comment:

2. Discuss aquatic habitat in Lake Michigan and potential impacts to rare species. Sections 3.2.2 and 4.2.2.

Response:

According to the Great Lakes Information Network (GLIN,) Lake Michigan, the second largest Great Lake by volume with just under 1,180 cubic miles of water, is the only Great Lake located entirely within the United States. Approximately 118 miles wide and 307 miles long, Lake Michigan has more than 1,600 miles of shoreline. Averaging 279 feet in depth, the lake reaches 925 feet at its deepest point. The drainage basin is approximately 45,600 square miles with approximately 14,200 square miles located within Wisconsin.

Lake Michigan is a cold water, oligotrophic lake with summer maximum water temperatures below 72 degrees. Common native fish species include lake trout, whitefish and sculpins. Numerous invasive aquatic species are also present throughout Lake Michigan.

The Project will not disturb or place structures within Lake Michigan or associated aquatic habitats. Site development plans will manage stormwater within the Project Area and will not directly discharge to Lake Michigan or the Black River. The Project is not anticipated to impact Lake Michigan aquatic resources or water quality,

Comment:

3. Define and describe "replacement habitat" in Section 4.2.4.

Response:

"Replacement habitat" refers to similar habitat types on adjacent and nearby properties or land converted from existing to proposed conditions.

Comment:

4. The terms "beach" and "dune" appear to be used interchangeably in some sections, however they refer to different habitat types. Clarify the impacts to dunes versus beaches discussed in Sections 4.2.1, 4.2.4, 4.3.5., and 5.1.1. Provide an estimate of the area/number/types of trees to be removed and discuss the impact this will have on the beach/dune community.

Response:

The terms beach and dune refers to the botanical communities as defined in the Stantec Technical Memo Botanical Survey. The Project will completely avoid impacts to the beach. Impacts to the dune community are anticipated to be minimal as major dune structures will be retained and incorporated into the design of the golf course. A map of the botanical communities in relation to golf course features is included with the Stantec Technical Memo Botanical Survey sent under separate cover.

Comment:

5. Describe how the proposed plan will avoid and minimize impacts to [REDACTED] populations.



Response:



Waterways & Wetlands (including Dam and Flood Plain Management):

Wetlands

Comment:

1. Provide an updated exhibit showing wetlands and the locations of proposed golf course facilities including specific hole locations, entrance road, parking lots, clubhouse, maintenance buildings, caddie/cart barn, cart paths, on-course rest stations, septic and irrigation systems, irrigation lines, storm water facilities, and utilities. *Figure 6: Wetland Delineation and Flood Plain Map and Figure 9E: Preferred Alternative.*

Response:

Figure 1 presents a figure showing wetlands and the anticipated location of golf course facilities currently proposed, including, hole locations, entrance road, parking lots, clubhouse, maintenance building, caddie/cart barn. Specific location of ancillary facilities including rest stations, cart paths, septic and irrigation systems, storm water facilities, and utilities will be provided during the final design phase and included in future permit applications. The ancillary facilities are not anticipated to create additional impacts beyond those currently identified.

Comment:

2. Provide a narrative or tabular description of potential wetland impacts (acreage by wetland type) for the proposed golf course facilities including but not limited to caddie/cart barn, cart paths, on-course rest stations, septic and irrigation systems, irrigation lines, storm water facilities, and utilities. *Section 2.4.*

Response:

Please refer to the attached Table 1, describing potential wetland impacts for golf course facilities currently proposed by wetland type. Specific location of ancillary facilities including rest stations, cart paths, septic and irrigation systems, storm water facilities, and utilities will be provided during the final design phase and included in future permit applications. The ancillary facilities are not anticipated to create additional impacts beyond those currently identified.

Comment:

3. Have a wetland delineation completed for the Kohler-Andrae State Park property where the access road, maintenance building, utilities and any other proposed development on state park land is to be located. Once the delineation has been completed, provide a narrative or tabular description of potential wetland impacts (acreage by wetland type) for the proposed facilities on state land.

Response:

The wetland delineation for the Kohler-Andrae State Park property was completed in May 2015 by an Assured Wetland Delineator. Table 1 and Figure 1 summarize the impacted wetland locations and type, and impact areas.



Comment:

4. Provide an exhibit showing the wetlands in the location of the pond and where spoils from the irrigation pond will be placed and if there will be resulting impacts to wetlands for the disposal of the spoils - *Figure 6 Wetland Delineation*.

Response:

Figure 1 shows wetlands and potential impacts to wetlands from the proposed golf course. No wetland impacts are anticipated from stockpiling of spoils from the irrigation pond excavation. The spoils will be used for fill on tees, greens, and fairway areas.

Comment:

5. Discuss potential secondary wetland impacts from tree removal, upland grading, equipment access, and cart path/utility installation on steep slopes adjacent to wetlands. *Section 4.2.3.*

Response:

In general the Project Area is predominantly nearly level to gently rolling with more pronounced topography associated with the dune area on the east portion of the Property. The soil on the property is predominantly sand with extremely high infiltration rates. Therefore erosion in steep sloping areas is limited. Disturbance on steep slopes adjacent to wetlands may result in minimal secondary wetland impacts from tree clearing and erosion. Erosion control will be utilized during construction in accordance with the site-specific NR 216 erosion control permit.

Potential secondary effects of tree removal immediately adjacent to the wetlands may include increased sunlight and potential wetland conversion to more sun tolerant wetland plant species. These areas would remain functional wetlands with no size reduction anticipated and no significant secondary wetland impacts are anticipated.

Tree removal in wetlands may occur in and adjacent to forested wetlands to improve sight lines. Tree removal in these areas may result in a permanent conversion to a non-forested type. To minimize ground disturbance, clearing activity in these wetlands will primarily be conducted in frozen conditions or with hand tools to minimize wetland disturbance.

Wetlands located outside the permitted impact areas will be fenced and marked for protection from construction disturbance. Erosion control will be implemented to minimize secondary wetland impacts during construction in accordance with the site-specific NR 216 erosion control permit.

Comment:

6. Discuss construction access and temporary impacts to wetlands that cannot be avoided. *Section 4.5.*

Response:

Construction access for this Project will utilize the planned access road and is not anticipated to result in additional temporary wetland impacts.

Comment:

7. Assess if special techniques are required to construct the access road near the Black River and muck soils. *Section 2.3.4.*



Response:

The only area where the proposed access road is located near the Black River is immediately west of the 15th green. Two test pits were completed in the approximate location during the wetland delineation work. The test pits identified sand and loamy sand from the surface to the bottom of the test pits. These results are consistent with the USDA "Granby Series" soil classification designation assigned to this area. Sand and loamy sand are suitable materials on which to construct the entrance road, with no special techniques anticipated. However, if muck were encountered, information gathered from other parts of the Project Area indicates it would be limited to a 2-3 foot thick layer that is underlain with sand. In this case, the muck layer would be removed and replaced with suitable backfill material.

Comment:

8. Discuss how the specific aspects of the proposed project will affect any [REDACTED], [REDACTED] or seep wetlands. The analysis should include direct, secondary and cumulative impacts. Section 4.6.

Response:

Kohler has avoided and minimized wetland impacts on this Project to the extent practicable and reduced wetland impacts from approximately 25 acres to 5.01 acres. All wetland impacts associated with this Project will be mitigated per the WDNR and USACE guidelines.

[REDACTED] Secondary

impacts will be minimized by installing exclusion fencing to avoid entry during construction and by implementing BMPs to minimize secondary wetland impacts during construction in accordance with the site-specific NR 216 erosion control permit.

[REDACTED] Secondary impacts will be minimized by installing exclusion fencing to avoid entry during construction and by implementing BMPs to minimize secondary wetland impacts during construction in accordance with the site-specific NR 216 erosion control permit.

[REDACTED] Secondary impacts will be minimized by installing exclusion fencing to avoid entry during construction and by implementing BMPs to minimize secondary wetland impacts during construction in accordance with the site-specific NR 216 erosion control permit.

[REDACTED] Secondary impacts will be minimized by installing exclusion fencing to avoid entry during construction and by implementing BMPs to minimize secondary wetland impacts during construction in accordance with the site-specific NR 216 erosion control permit.

Wetland areas not impacted by the Project will be protected during construction and operation with signage and physical controls, if needed.



Comment:

9. Provide a detailed summary of the vegetation sampling efforts in 2014 which recorded 288 plant species and mapped 13 plant communities on Kohler and State Park property. Section 3.2.

Response:

Please refer to the Stantec Technical Memo - Botanical Survey.

Comment:

10. Clarify if proposed public use of the golf course will include hiking, birdwatching and cross country skiing in addition to golfing and dining. Section 4.3.1.

Response:

The 247 acre property is currently unavailable to the public. The Project creates a unique opportunity to open the property for public enjoyment. In addition to golf, opportunities may exist to provide additional recreational activities on the property as an extension of River Wildlife; a Kohler Co. owned 500 acre wildlife preserve offering memberships to the public.

Comment:

11. Related to the information in the "Wildlife" section below, describe how changes to forest habitat will affect any wetlands including any secondary impacts of grading and tree removal adjacent to wetlands. Section 5.1.1.

Response:

Changes to the forested habitat will occur in the proposed improvement areas by tree removal. Approximately 50 percent of the existing forested areas will remain.

Tree removal to wetland areas may result in a permanent conversion to a non-forested habitat or a habitat more tolerant to increased exposure to sunlight. These areas would remain functional wetlands and provide wildlife habitat and habitat diversity. To minimize site disturbance, clearing activity in or adjacent to wetlands will primarily be conducted in frozen conditions or with hand tools to minimize wetland disturbance.

Wetlands located outside the permitted impact areas will be fenced and marked for protection from construction disturbance. Erosion control will be implemented to minimize secondary wetland impacts during construction in accordance with the site-specific NR 216 erosion control permit.

Comment:

12. Provide information about the potential impacts to wetlands from soil borrow sources including information regarding the amount of topsoil required, sources of topsoil, sources of clay for pond liners, equipment access to place topsoil, and soil stockpile locations.

Response:

There are no impacts to wetlands anticipated from soil borrowing or other soil management activities. The final sources for topsoil and clay, the locations of soil stockpiles, and the configuration of equipment access for soil placement will be determined during the final design and contractor selection phase. Wetlands will be protected during construction activities by installing exclusion fencing and erosion control BMPs.



Comment:

13. Provide information about the potential secondary impacts to wetlands from placement of topsoil for tees, green and fairways adjacent to wetlands.

Response:

Due to the high infiltration rates of the soil, changes in local topography are not likely to significantly alter the local drainage patterns to adjacent wetlands. The final grading plan will consider drainage areas and patterns to minimize wetland hydrology impacts during the final design.

Placement of topsoil adjacent to wetlands may introduce weedy or invasive species. Kohler intends to implement an invasive species control program, which will minimize this secondary effect. Wetlands will also be protected during construction activities by installing exclusion fencing and erosion control BMPs.

Comment:

14. Please provide information on the quality and functional value of each of the wetland areas proposed to be filled.

Response:

As part of the Wetland Delineation, Stantec completed a WisRAM wetland assessment for each of the nine wetland communities on the Property. These forms are included in the Stantec Wetland Delineation Report dated April 9, 2015. Functional values identified for these wetlands include human use values, floristic integrity, wildlife habitat, shoreline protection, flood and stormwater storage, water quality protection and groundwater processes.

Comment:

15. Please explain how the proposed mitigation would replace the type and function of the wetlands proposed to be impacted.

Response:

The preferred mitigation option is to purchase credits from an approved bank site such as Sheboygan County's proposed Amsterdam Dunes wetland mitigation bank or from the WDNRs In-Lieu Fee program. The Amsterdam Dunes are a complex of forest, dunes and wetlands along the Lake Michigan shoreline, with many analogous communities and landscape functions. Mitigation credits acquired from the Amsterdam Dunes bank would replace wetland types and functions in close proximity to the Project and in a similar landscape setting.

Waterways

Comment:

1. Exhibits showing ordinary high water marks (OHWM) for the Black River and Lake Michigan will be needed for the EIS.

Response:

An exhibit titled Figure 2 is attached showing the OHWM for the Black River and Lake Michigan. The OHWM for Lake Michigan was established using an elevation of 582.7' per the Sheboygan County Shoreland Ordinance.



Comment:

2. Indicate if work is proposed below the OHWM of the Black River or Lake Michigan. Section 3.2.2.

Response:

There is no work proposed below the OHWM of the Black River or Lake Michigan.

Comment:

3. What types of river bank stabilization will be needed for the entrance road near the Black River?
Sections 4.1.4 & 4.2.2

Response:

The proposed entrance road will be located east of the Black River to avoid the need for river bank stabilization. Additional surveying and design is planned for this area to determine the final entrance road location.

Comment:

4. Provide utility layout information and indicate if utilities will be installed in/near the Black River.

Response:

Based upon preliminary discussions with utility providers, it is anticipated that service connections will be extended from existing facilities located along County Truck Highway V south of the trails on State land. The service connections are planned to be bored beneath the State Park property wetlands and the Black River within a proposed utility easement.

Comment:

5. Discuss the view corridor and describe proposed changes including tree removal along the lakeshore. Provide visual representations. Discuss Sheboygan Co. shoreland clear cutting standards. Discuss how building setback and vegetation removal will affect natural scenic beauty. Section 4.3.5.

Response:

Sheboygan County is the agency which regulates tree and vegetation removal for the project through its shoreland zoning ordinance. Specifically, the ordinance establishes a vegetative buffer zone 35 feet inland of the Ordinary High Water Mark [Section 72.16(2)], with restrictions on vegetation removal within the zone. Vegetation removal for the Project will be in accordance with the Sheboygan County shoreland zoning ordinance.

The Project will place high value on landscape enhancement: landscape variation and interspersions of native vegetation, long views within the Property and to the lakeshore, and natural-appearing topography. Incorporating these landscape features will enhance visual and aesthetic features of the Kohler Property.

The Project will create gaps in the forest canopy and increase sight distances throughout the Property. Greater variations in the landscape (open areas contrasted with forested areas) will add scenic interest. The distinctive undulating dune topography will be somewhat further exposed and enhanced.



Reference: Initial Review of the April 2015 Environmental Impact Report for Proposed Golf Course
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There will be limited changes to the aesthetics of the dunes and lakeshore vista. Some of the trees bordering the dunes will be removed allowing longer sight lines between the Project and Lake Michigan. The dune habitat will be further exposed providing distinctive scenic attractiveness.

The viewshed associated with adjacent lands will remain unchanged since the Project will be screened on three sides by woody vegetation. The State Park recreational trails west of the Black River and commonly used areas of the State Park to the South will experience no change in views due to the dense vegetation that currently exists along the property lines. A buffer of vegetation will also remain between Timberlake Subdivision and the proposed golf course features. Public access users on the beach and boaters on Lake Michigan may see limited views into the Property and of the canvas and timber clubhouse.

The clubhouse will be designed to be eligible for the LEED certification and include the use of timber and canvas materials as architectural features to complement the natural scenic beauty. Every attempt will be made to use materials from the land. Proposed building locations will be in accordance with building setbacks identified in the Shoreland ordinance.

As part of the Project, Kohler Co. will implement an invasive species removal and management plan. The management of invasive species will have a significant, long term positive benefit to the Property and biological community. Native plant communities would be able to repopulate, significantly enhancing the habitat and the natural scenic beauty.

Floodplain

Comment:

1. Provide a revised exhibit showing all proposed golf course facilities, access roads, utilities, and bridges related to the floodplain and floodway and quantify the amount of fill proposed to be placed in the floodplain of both the Black River and Lake Michigan. *Figure 6 Floodplain Map*

Response:

See Figure 3 for the preferred golf course layout utilizing the existing Beach Park Road Bridge. This exhibit shows the floodway, floodplain, ordinary high water mark, wave run up, and anticipated fill areas (hatched) adjacent to the Black River. The preliminary plan includes anticipated fill within the Black River flood fringe of approximately 52,000cy. Minimal changes to the 100 year floodplain are anticipated. The floodplain and wave run up areas of Lake Michigan are not expected to be affected. Utilities are expected to come from South 12th Street to the west and directionally bored below the Black River and adjacent wetlands. The Project will utilize an on-site well and septic system to handle water and sanitary requirements.

Comment:

2. Detailed bridge design for crossing of the Black River addressing traffic operations and capacity, hydraulics, regional flood elevation, and aquatic habitat connectivity.

Response:

The existing Beach Park Road Bridge is being proposed to provide access for the Project. Utilizing this route, no additional Black River crossing would be required.

Comment:

3. Has any modelling of changes to the floodplain elevation been conducted using the Hydrologic Engineering Centers River Analysis System (HEC-RAS)? *Section 3.1.5.*

Response:



Reference: Initial Review of the April 2015 Environmental Impact Report for Proposed Golf Course
Town of Wilson, Sheboygan Co.

Preliminary HEC-RAS modeling was completed and indicated minimal impact to the 100 year floodplain elevation as reported in the Environmental impact report. Proposed fill areas are included in Figure 3. A Final HEC-RAS model is anticipated to be submitted with the permit applications.

Comment:

4. The proposed access road is in the floodway and shoreland-wetland. Analyze backwater impacts. Section 3.1.5.

Response:

The proposed access road location is outside of the floodway. HEC-RAS modeling was completed and indicated minimal impact to the 100 year floodplain elevation as reported in the Environmental impact report. Proposed fill areas in the flood fringe are included in Figure 3. No fill is anticipated in the floodway. A Final HEC-RAS model is anticipated to be submitted with the permit applications.

Comment:

5. The Federal Emergency Management Agency (FEMA) effective floodplain map is an unstudied A Zone. The area must be studied to determine actual floodplain elevations and floodway boundaries. This map/.study should be used as a base for comparison to the proposed project. Section 3.1.5.

Response:

An approved HEC-RAS model for a previous development was obtained from the DNR's surface viewer mapping system and will be modified to represent the updated golf course layout with the associated fill. A Final HEC-RAS model is anticipated to be submitted with the permit applications.

Comment:

6. Provide documentation that the proposed maintenance building is outside of the floodway. If within the flood fringe, describe how the building will be built to minimum floodplain design standards. Section 4.1.5.

Response:

Figure 3 is attached showing the golf course facilities as it relates to the floodplain and floodway. The proposed maintenance facility is outside of both the floodway and the flood fringe.

Comment:

7. Provide documentation that the proposed changes to land use do not alter hydrology by increasing flows. Section 4.1.5.

Response:

Any flows leaving the Project area will be held to predevelopment levels for the 1 and 2 year storms. However, due to the sandy soils and existing depressions, the runoff is expected to infiltrate prior to reaching the waterways and an increase in flows is not expected. A Stormwater Technical Memorandum is included with additional details.

Comment:

8. Describe the wave run up elevation on Lake Michigan. Note: If the primary dune is graded down below the wave run up elevation areas west of the dune may be brought into the floodplain. Section 3.1.5.

Response:

See Figure 3 for the wave run up elevation of 588.10 as defined by FEMA.



Stormwater

Comment:

1. Describe the storm water practices that will be used to treat roadway and golf course runoff close to the Black River and near any wetland areas where filter strips may not be feasible. Section 4.1.6.

Response:

See the Stormwater Technical Memorandum for typical handling of storm water runoff. Runoff from the access road will be treated for quantity and quality prior to being infiltrated through filter strips. The roadway will be designed with a 12-15 foot wide filter strip prior to entering waters of the state. Runoff is not expected to leave the Project Area. In areas where filter strips are not feasible, the access road runoff will need to: a) shed to the opposite side; or b) detained in a detention basin with sufficient separation to groundwater; or c) biofiltration.

The existing soils on site will infiltrate all stormwater runoff naturally. The existing site has the benefit of being a natural sand filter. Field tested infiltration rates are extremely high and vary from 26in/hr to 52in/hr. Parking areas will be located higher than 5' above the seasonal groundwater elevation. Based on modeling of the existing sand profile, the soil will pretreat the surface flow from the parking and gravel areas (80% TSS) prior to entering the groundwater. SLAMM calculations indicate that 95% TSS removal is achieved from the maintenance parking lot within a 2.5' deep section of the existing sand material on site. These calculations show the removal rate is achieved within the first foot of leaving the asphalt (60'wide x 1' deep = 60sf). This is the most conservative portion of the Project storm runoff to analyze because it generates the highest TSS load. These results show that the existing soil is more than adequate for providing pretreatment to all added impervious areas prior to infiltrating. Additional details are included in the Stormwater Technical Memo.

Comment:

2. Discuss how the golf course's nutrient management plan will prevent nutrient impacts to the Black River, which is a candidate to be listed as a 303d impaired waterway (for Phosphorus). Section 3.1.4.

Response:

Impacts to the Black River are not anticipated as it will be buffered from the golf course by the expansive riparian wetlands. The majority of the playing surfaces are well over 200 feet from the Black River. Protective measures as described in the Stormwater question #3 will also be implemented for playing surfaces near the Black River.

Comment:

3. Discuss the protective measures that will be used to minimize the impacts of the nutrients from the golf course entering the irrigation pond. How frequently is aquatic plant and/or algae management anticipated? Would that impact the availability to irrigate? (Many of the herbicides and algaecides have mandatory waiting periods before the water can be used for irrigation.) Section 4.1.4.

Response:

Protective measures that are currently in use at Kohler's existing golf courses and planned for the proposed golf course in the Town of Wilson include:



Reference: Initial Review of the April 2015 Environmental Impact Report for Proposed Golf Course
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- Select rough grass species around the perimeter of the pond that requires minimal or no additional nutrients for sustained growth. Examples are Tall Fescue, Creeping Red Fescue, Sheep's Fescue, Blue fescue, Hard Fescue and Little Bluestem.
- Prevent surface run-off water from entering the pond by grading the adjacent areas to drain away from the irrigation pond.
- Apply plant nutrients within NR151 rules for golf course nutrient management.
- Utilize fertilizers that are slow-release. Slow release fertilizers reduce run off by solubilizing the nutrients slowly so they have time to adhere to soil particles.
- Maintain thick healthy stand of turf grass to hold the soil in place and prevent soil movement due to erosion. Nutrients adhere to soil particles so preventing soil erosion helps reduce nutrient movement.
- Schedule fertilizer applications when rain is not forecasted and use the irrigation system to move nutrients into the thatch and soil particles. This avoids excess water that could contain nutrients from moving laterally towards surface water.
- Do not apply nutrients to saturated soils or frozen ground.

The Irrigation pond will be designed to be deep so the water is turned over top to bottom by adding well water to the top and removing water from the bottom to irrigate. This significantly reduces the environmental conditions that favor excess aquatic growth. Surfaces around the irrigation ponds are designed to drain away from the shoreline to prevent surface water from entering the irrigation pond. The irrigation ponds at Blackwolf Run have not been treated with an aquatic herbicide for 20 years or longer. The irrigation pond at Whistling Straits is treated on average one to two times per season every other year to prevent invasive Milfoil from becoming established. The Destination Kohler golf courses utilize the expertise and specialized equipment of a contractor to apply Aquatic control products. Kohler Company will be required under NR107 to obtain a WDNR permit and post application reporting to the WDNR for any aquatic control products.

Comment:

4. Provide further details about construction sequencing. Discuss when pond and building construction will occur and what staging and practices can be used to prevent erosion. Section 2.5.1.

Response:

See Construction Sequence table below which will be fine-tuned and included in the Stormwater Pollution Prevention Plan (SWPPP). Prior to starting construction of the pond and/or buildings, the pre-construction actions as described below will be completed.

Table 2. Construction Sequence

Phase	Type of Action
Pre - Construction Action	<ol style="list-style-type: none"> 1. Contractor to call Diggers Hotline at a minimum of 3 Days Prior to Construction. 2. Place all silt fence and ditch checks. 3. Construct tracking stone entrances and any temporary construction roadways. 4. Construct permanent stormwater conveyance systems and best management practices. 5. Construct any temporary stormwater conveyance systems and best management practices. 6. Stabilize all temporary and permanent erosion control and stormwater conveyance systems.



Post Construction Action	<ol style="list-style-type: none">1. Remove temporary erosion control measures upon site stabilization.2. Refer to the Post Construction Maintenance plan for permanent stormwater management systems.
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Comment:

5. Clarify if infiltration basins will be used for stormwater treatment. Dry detention basins are not considered storm water treatment practice. Discuss the separation distance to the high groundwater as well as the type of soils for the detention basin. Section 2.3.8.

Response:

Detention basins will be constructed with the existing on-site sandy soils. These basins will drain naturally by infiltration. Stormwater runoff from paved surfaces will be treated for 80% total suspended solids (TSS) removal through filter strips, swales, or biofiltration prior to entering these basins. Based on the stormwater management model, 98% TSS removal was achieved in a 2 foot deep section of the existing sand material on site. Therefore, runoff can be discharged through the detention basin by infiltration through the sandy soils which will provide adequate pretreatment. Additional details are provided in the Stormwater Technical Memorandum.

Comment:

6. Discuss the temporary sediment and erosion control methods that will be used in each phase and how the phases will be temporarily and permanently stabilized. Describe practices to protect wetlands and waterways on the site from sediment (TSS) during and after construction. Section 2.5.1.

Response:

The final construction drawings and stormwater management plan will include erosion control specifications consistent with the principles described in the Stormwater Management Technical Memo. After construction, the Project area will be fully stabilized with permanent control measures in place prior to removal of the temporary measures.

Comment:

7. Describe soil profiles in the stormwater biofiltration areas. Please provide modeling to document the water quality and quantity performance of the biofiltration features. Section 4.1.1.

Response:

See response #1 for relative information. See the Stormwater Technical Memorandum for additional information.

Comment:

8. Describe the soil types in the storm water detention basins. Discuss basin design features including liner, depth to groundwater, and dewatering if groundwater is encountered during construction.

Response:

See response #1 for relative information. See the Stormwater Technical Memorandum, for infiltration testing data.

Comment:

9. Provide a summary of soil boring information and groundwater depths for all storm water treatment areas. Section 4.1. 6.



Response:

See response #1 for anticipated groundwater depth and included soil boring report including in the Stormwater Technical Memo.

Comment:

10. Describe the storm water management plan showing the details and modeling for all storm water practices. Section 4.1.6.

Response:

The final design of the golf course will use the guidelines and examples included in the Stormwater Technical Memorandum to meet or exceed all necessary code requirements.

Comment:

11. Discuss cart paths, location, soils, storm water treatment, and if the paths meet the protective areas for streams (intermittent and perennial) and wetlands and Lake Michigan. Section 4.1.6.

Response:

Cart paths for holes along the waterways are anticipated to be constructed with a 5-10 foot filter strip. In locations where filter strips are not feasible, the cart paths would be designed to drain away from the water body. Minimal impact from cart paths is anticipated.

Comment:

12. Describe the spills plan for the hazardous materials being handled on site. Section 2.6.2.

Response:

Spill prevention via proper training, certifications, and experience for operators is a key component of the spills plan. Each of Kohler's 18-hole golf courses has a minimum of three management staff who are WDATCP (Wisconsin Department of Agriculture, Trade and Consumer Protection) certified to apply pesticides.

Pest management materials will be stored in an integrated pest management (IPM) control center. The IPM control center will be located in the maintenance facility and consists of an enclosed, self-contained mixing/loading building for sprayers and product storage. The floor will be designed to contain 125% of the contents of the largest sprayer and will drain to a floor sump and pumped to an above ground holding tank within the building for recycling and reuse for their approved use and/or disposal per the product label. The maintenance facility will be equipped with spill kits to capture smaller spills outside the mixing/loading building. Spills would be reported in accordance with NR706 regulations.

Comment:

13. Discuss the long term maintenance plan for the post construction BMPs. Section 4.1.6.

Response:

The long term maintenance plan included in the Stormwater Technical Memo will be included in the project SWPPP. Per NR 151 requirements a recorded long term maintenance agreement will be required and will reference this plan.



Comment:

14. Discuss ability to achieve a maximum discharge of 5 tons per acre per year during any 12-month period between initial disturbance and final stabilization of sediment as required in NR 151.11. Section 4.1.6.

Response:

The existing site will use silt fence and ditch checks to prevent runoff into wetlands and waters of the state. They will be placed downstream of disturbed areas on the final erosion control plan. The Project area also has the benefit of existing sandy soils and depressions which will capture any runoff and sediment providing an added buffer to runoff leaving the Project Area. Additionally, the high infiltration rate of the soil prevents runoff or sediment leaving the Project boundary.

Comment:

15. Describe the plan to minimize soil loss including preserving existing vegetation where feasible, diverting flow around exposed soils, temporary stabilization measures, staging of activities to limit exposure of unstabilized soils, stabilization of drainage channels, and installation of permanent stabilization measures. Section 4.1.6.

Response:

The final construction plans will include an erosion control plan based upon the principles included in the Stormwater Technical Memo. All State and local stormwater regulations are anticipated to be met.

Drinking Water

Comment:

1. Provide documentation of the well monitoring and pump tests discussed in Sections 3.1.3 and 4.1.3 and well construction reports to the Department.

Response:

The irrigation well impact analysis report and the well construction reports are enclosed.

Comment:

2. Describe how the proposed irrigation well(s) may affect the regional bedrock aquifer. Section 4.1.3.

Response:

As further described in the irrigation well impact analysis report, no adverse impacts to the regional bedrock aquifer are anticipated from the proposed irrigation well.

Comment:

3. Compare soil types at the Blackwolf Run, Whistling Straits, and proposed Town of Wilson golf courses and assess differences in irrigation needs. Provide irrigation data from existing golf course with similar soil characteristics to proposed Town of Wilson golf course. Section 3.1.3.

Response:

The soil texture for fairways at the River Course and the Meadow Valley course at Blackwolf Run is classified as silt loam. The fairways at the Irish course at Whistling Straits are also silt loam. The fairways



Reference: Initial Review of the April 2015 Environmental Impact Report for Proposed Golf Course
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at the Straits Course at Whistling Straits have about 4 to 6 inches of sand over silt loam. All the soil under the greens and tees at each of the four courses are classified as sandy. Two factors that will affect water at the proposed Town of Wilson golf course are its direct lakeside location and fine sand. First, similar to Whistling Straits, Lake Michigan has a powerful cooling effect on this property that serves to significantly reduce the evapotranspiration rate of the soil. This part of the shoreline extends into Lake Michigan providing a cooling effect on all wind directions except west. Second, 71% of the sand is in the fine fraction (#140 sieve or .10mm) and 25%-30% are in the medium fraction (#60 sieve or .25 mm). The remainder of the sand is in the very fine (#270 sieve or .05mm) fraction with a trace (.1%) of the sand in gravel, very coarse or coarse fraction. This indicates the sand will have sufficient water holding capacity and still be resistant to compaction.

Golf courses with similar soil characteristics are more commonly found in the State of Michigan in counties that border Lake Michigan. A study encompassing the average golf course annual withdrawal in these counties was completed in 2002/2003/2004 and the results reported by the Michigan Department of Environmental Quality were as follows:

Annual Water Withdrawals for Golf Course Irrigation (per 18 holes)			
<i>Michigan Counties bordering Lake Michigan</i>			
County	2002	2003	2004
Manistee	22,508,333	21,900,000	24,507,143
Mason	15,816,667	7,300,000	15,816,667
Oceana	34,310,000	30,660,000	27,010,000
Muskegan	24,029,167	23,725,000	23,985,714
Ottawa	20,857,143	15,121,429	17,688,462
Allegan	17,945,833	16,729,167	13,383,333
Van Buren	21,900,000	20,440,000	25,550,000
Berrien	16,846,154	15,723,077	16,003,846
Average	21,776,662	18,949,834	20,493,146

As described in the environmental impact report and in the irrigation well impact analysis report, annual withdrawals for the proposed golf course are anticipated to range from 15,000,000 to 25,000,000 gallons per year, which is consistent with the data above.

Comment:

4. Provide data and maps to show the area of potential impact to private wells. Section 3.1.3.

Response:

Maps and data showing potential impacts to private wells are included in the irrigation well impact analysis report. As further described in the report, it was determined that the drawdown associated with the irrigation well is not anticipated to adversely impact neighboring wells. As a further assurance, Kohler will develop a program with the Town of Wilson to mitigate potential impacts to



adjacent private water supply wells. A similar program was successfully implemented at Whistling Straits.

Comment:

5. Please provide information related to the anticipated population your wells will serve. This should include an estimated number of employees and expected amount of customers. This will assist the Department in assigning a Classification and - monitoring requirements for your wells. Additional guidance for a certified operator and system capacity will be issued to you, if applicable. Section 4.1.3.

For more information:

<http://dnr.wi.gov/regulations/opcert/smallwater.html>

<http://dnr.wi.gov/topic/DrinkingWater/CapacityDevelopment.html>

Response:

The clubhouse is anticipated to have a maximum capacity of 283 people including employees and guests. The maintenance facility and caddie/cart barn are anticipated to have 35 and 40 employees respectively on a typical day.

Water Resources and Fisheries

Comment:

1. Provide an exhibit showing the irrigation pond and its overflow runoff channel, if there is one. Section 2.3.7.

Response:

No overflow runoff channel is being proposed as the irrigation pond will be hydraulically separated from groundwater with a liner system and storm water runoff will be directed away from the pond. The water levels within the irrigation pond will be mechanically controlled with pumping stations. The water level will be maintained at an elevation that provides more than enough free board to contain a rain event.

Comment:

2. The Black River fish community within the project area has historically scored 'excellent.' Describe what will be done to protect the Black River, including stream corridor buffer dimensions and buffer vegetation in the project area. Section 4.1.4.

Response:

The existing riparian buffer along the Black River will continue to provide habitat and protect surface water quality from adjacent land uses. In general, a 10 foot natural buffer will be maintained along the majority of the Black River riparian wetland. The riparian wetland will be protected during construction activities by installing exclusion fencing and erosion control BMPs.

According to the WDNR website, the Black River watershed is characterized as poor condition for fish and aquatic life. The following is a summary of the habitat within Segment 1 (River Mile 0.0 to 1.6) and Segment 2 (River Mile 1.6 to 11.0).

Segment 1 – This reach of the Black River, extending upstream from the mouth to Indian Mound Road has poor to fair water quality. This segment of the river is primarily composed of low-flow wetlands, dominated by the introduced plant pest, purple loosestrife. Purple loosestrife is documented to



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severely out-compete native vegetation in wetlands. The Jerving Conservancy, located at the estuary with Lake Michigan, was once a highly valued bird migratory bird site, but is now being severely degraded by the overgrowth of purple loosestrife. The macroinvertebrate community has many tolerant taxa that are limited by poor habitat. Streambed sedimentation contributed by upstream sources of polluted runoff is moderate. Fish diversity is poor, but provides seasonal fishing opportunities during the spawning runs of smelt, trout and salmon.

Segment 2 – This reach extends from Indian Mound Road through the length of Kohler-Andrae State Park to the headwaters in Oostburg. Water quality is poor, with polluted runoff causing excessive sedimentation. As a result, habitat for fish, macroinvertebrates and periphyton is poor. The headwaters area receives wastewater from the Oostburg sewage treatment plant. The historical stream classification for the Black River split the stream into two segments. The upper 9.4 river miles was classified as limited aquatic life and the lower 1.6 river miles as limited forage fish (the recent stream classification eliminates this segmentation, WDNR 1995). According to Fago 1985, a review of historical fish surveys identifies 20 species in the Black River. Trout and salmon (coho salmon, chinook salmon, rainbow trout, brook trout) from Lake Michigan are also found in the stream during their seasonal spawning runs.

WDNR personnel conducted fish surveys in 1994, 1999 and 2000 on the Black River. Only three species (two tolerant, one very tolerant according to Ball 1982) were collected from the Black River in 1994 compared with 20 species collected in the past. WDNR personnel recently conducted fish surveys on the Black River in 1999, upstream of Indian Mound Road (river mile 1.6) and in 2000, downstream of CTH KK. Stream habitat and available fish cover in these two areas of the Black River were rated as fair. Bottom substrate primarily consists of sand and the riparian buffer is mainly wetlands and woodlands. Agricultural and residential land use in the watershed contributes to poor water quality conditions.

Comment:

3. Discuss the potential impacts of the project on aquatic habitat in Lake Michigan. Sections 3.2.2 and 4.2.2.

Response:

There will be no disturbances or structures within the lake.

Construction of the Project will treat storm water to internal treatment facilities during pre- and post-construction phases in accordance with a project-specific NR 216 erosion control permit. This Project is not anticipated to impact Lake Michigan aquatic resources from storm water run-off or any other associated water quality issues.

Comment:

4. Discuss normal conditions in the Black River and Lake Michigan. Sections 3.1.4. and 3.1.5.

Response:

Information on Lake Michigan is included in the response to Natural Heritage Conservation question #2. Site development plans will manage stormwater within the Project Area and will not discharge to Lake Michigan. No impacts to Lake Michigan are anticipated as part of this Project.

As further described in the response to Water Resources and Fisheries question #2, the Black River watershed is characterized as poor condition for fish and aquatic life. The existing Beach Park Road Bridge is being proposed to provide access for the Project which avoids the need for creating an additional river crossing. Site development plans will manage stormwater within the Project Area and



will not discharge to the Black River. The existing riparian buffer along the Black River will continue to provide habitat, floodwater storage, and protect surface water.

Comment:

5. Describe how public access will be maintained to those who utilize the Lake Michigan shoreline. Section 4.3.1.

Response:

The property is currently not available for public access. The project will open all of the property for access by golf and restaurant patrons. As part of this Project, Kohler has also agreed to provide an access easement to the Lake Michigan shoreline for homeowners in the Timberlake Subdivision.

Public access will be maintained for the Lake Michigan shoreline in accordance with local and state regulations and access will not differ from current conditions.

Parks and Recreation

Provide for Sections 2.0 and 4.6:

Comment:

1. A comprehensive traffic study considering the surrounding area and emergency vehicle operations.

Response:

The Traffic impact report is attached. The proposed entrance road to the clubhouse and maintenance facilities are planned to accommodate two-way traffic including emergency vehicles. Kohler Co. has had preliminary discussions with local emergency service providers including the Black River Fire Department, Town of Wilson First Responders, and Orange Cross Ambulance and also plans on jointly developing an emergency action plan prior to opening.

Comment:

2. Detailed design for park traffic queuing and entrance road.

Response:

The completed traffic study concludes that the studied intersections significantly exceed widely-accepted Level of Service (LOS) standards. While no traffic improvements are required, Kohler is proposing to modify the State Park entrance area by adding a roundabout to improve circulation. Two lanes would be dedicated for entering State Park visitors while golf course traffic and existing State Park visitors would utilize the roundabout. Attached Figure 4 is the detailed design of the proposed roundabout.

Comment:

3. Entrance road lighting plan.

Response:

Consistent with other existing roadways within the Park and the Town, lighting for the entrance road is not currently being proposed.



Comment:

4. Park and proposed golf course entrance signage and specimen trees.

Response:

The Entrance sign for the golf course is currently contemplated to be north of the proposed roundabout along the access drive to the golf course. The entrance signage is anticipated to be accompanied by an aesthetically pleasing gate that will complement the surroundings. The final design of the sign and gate along with the location will be submitted to the WDNR for input.

The route for the proposed entrance road was selected and modified with input from State Park staff to avoid and preserve specimen trees.

Comment:

5. Identification of utility corridors and substations in relation to state park features.

Response:

Based upon preliminary discussions with utility providers, it is anticipated that service connections will be extended from existing facilities located along County Truck Highway V south of the Black River Trails. The service connections are planned to be bored beneath the State Park property and the Black River within a proposed utility easement. Utilities would be routed adjacent to the proposed access road to the maintenance facility locations. All utilities are planned to be installed below grade. Transformer/substations/metering equipment would be installed on or near the maintenance facility buildings within the proposed easement area.

Comment:

6. Detailed design of the proposed maintenance building and potential for impacts to the state park users.

Response:

Preliminary floors plans of the maintenance buildings are attached as Figure 5. The maintenance buildings are proposed to be located in an area not utilized by the public due to existing State Park maintenance operations.

Comment:

7. Fencing and property boundary controls in relation to state park features.

Response:

A security fence is being proposed around the perimeter of the Maintenance facility to ensure the safety of State Park visitors. Vehicle gates would be installed north of the roundabout and at the entrance to the maintenance facility. A split rail wood fence is being contemplated between Kohler Co. and State Park properties.

Comment:

8. Describe the potential impacts of any proposed replacement lands to address Land and Water Conservation Fund Act (LAWCON) conversion process for lands proposed to be taken out of public use. Note: the conversion process requires replacement lands have equal or greater size, value, and utility.



Response:

Kohler intends on meeting LAWCON requirements for removal of land from public use. Upon completion of the valuation of the land, Kohler anticipates working with the WDNR to evaluate the options for providing the proper offsets and benefits.

Comment:

9. What are the proposed hours of operation?

Response:

The golfing season begins in spring and ends in fall with dates and times varying based upon weather conditions. During the season, golf play typically takes place from sunrise to sunset. Maintenance activities can begin as early as 5am. In-season dining will be available daily from 6am to 10pm with extended bar service as is common. The restaurant, as with the retail area, is currently planned to be closed January to the start of golf season. At the close of golf season until the New Year, the restaurant is currently planned to be open Thursday to Saturday with hours of operation from 11am to 9pm.

Wildlife

Comment:

1. Provide further analysis of existing forest habitat including an estimate of the area/number/types of trees to be removed, access for tree clearing, grading, top soiling, debris and stump removal, and any re-vegetation plan for those areas. Discuss the potential for impacts to interior forest bird nesting habitat, if it is present. Are there comparable habitat patches in the area? Sections 3.2.1 and 4.2.1.

Response:

Forest habitat on the Project Area includes a mix of [REDACTED] (147.5 acres), [REDACTED] (25.8 acres) pine plantation (32.4 acres), dry forest (11.0 acres), and [REDACTED] (4.7 acres). Predominant forest trees include red maple, red pine, white pine, sugar maple. A species list of vegetation observed within each plant community is provided in Stantec's Botanical Survey Memorandum.

It is estimated that approximately 50 percent of the existing forested habitat will remain following construction. Tree clearing will occur on the Property for each hole, the access road, the clubhouse/parking lot complex, the practice range, the maintenance facility, the restrooms, and the irrigation pond. Tree clearing may also occur in forested areas between tee and fairways to provide line of sight.

Nearby forest habitat that may provide favorable forest bird nesting habitat may be present along the Black River corridor and forested land in the Balzer Wilderness Park, the Henry Mueller Conservation Park, and the Kohler-Andrae State Park. Private forested lands are also present along the lakeshore, including forested lands south along the lakeshore.

Interior forest bird nesting habitat is likely present within the Project Area. Tree clearing will primarily be completed during non-breeding seasons to minimize direct impacts to nesting birds.



Comment:

2. Please provide any wildlife and migratory bird surveys conducted by Kohler or used in the EIR development. Section 3.2.4.

Response:

Kohler will provide copies of these reports under separate cover.

Comment:

3. Discuss potential for reduction in habitat value by breaking up the large forested block and the resulting impacts to migratory birds. Describe impacts to nesting, breeding, etc. from the presence of continuous golf operations, maintenance and other activities. Section 4.2.4.

Response:

The proposed golf course will provide diverse migratory stopover habitats including open space, forests, wetlands, and open water features (Black River and irrigation pond). The Project will maintain approximately 50 percent of the forested habitat on site. The forested habitat would also be improved by the implementation of an invasive species management plan. The Project Area will continue to provide stopover habitat similar to other areas along the Lake Michigan shoreline, including Kohler-Andrae State Park to the south and residential lands to the north.

Comment:

4. Describe how golf course irrigation ponds can provide habitat for water birds and aquatic organisms, and the potential for chemicals that may be present in the ponds to affect water quality, and usage by birds and aquatic organisms. Section 4.2.7.

Proposed irrigation ponds provide habitat for reptiles, amphibians, water birds and aquatic organisms. Large inland waterbodies adjacent to the Lake Michigan shoreline can provide important sheltered stopover habitat for migrants. Surface run off from the playing surfaces is directed away from the irrigation pond to avoid potential nutrient run-off. The majority of the irrigation pond will have a natural shoreline with plant species that are adapted to a shoreline environment with a fluctuation in water levels. One exception could be shoreline areas that are directly within the line of golf. The line of golf is considered to be the center line from tee to fairway to green. These areas may have grasses mowed to about 4 inches high to improve visibility of ball flight.

Comment:

5. Describe any alternative irrigation pond designs considered such as several smaller ponds that could avoid wetlands and have natural aquatic structures and vegetation to provide habitat for wildlife. Section 4.2.4.

A series of smaller irrigation ponds was considered but dismissed as a single pond minimizes the surface area required and the associated land and tree disturbance. The preferred irrigation pond design is one with sufficient depth to allow the water to be turned over top to bottom by adding well water near the top and removing water near the bottom for irrigation. This significantly reduces the environmental conditions that favor excess aquatic growth such as algae and improves the overall habitat of the irrigation pond by minimizing/avoiding the need for aquatic herbicides. A series of smaller ponds constructed to the optimum depth requires more surface area. Additional surface



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area would require additional tree clearing and grading activities, along with additional utility corridors for the added well and pumping infrastructure.

Other

Comment:

1. Does any historic land use have potential for soil and groundwater contamination?

Response:

There are no records of land uses with potential for soil and groundwater contamination for this Property. The Property has been owned by Kohler Co. for 75 years and remained undeveloped during that time.

Comment:

2. Describe plans for how construction traffic will access the site and potential impacts. Section 4.1.

Construction access for this Project will utilize the proposed Beach Park Lane access road and is not anticipated to result in additional impacts.

Comment:

3. Describe how sensitive dune formations will be protected from the potential increase in foot traffic. Section 4.2.

Response:

Sensitive areas adjacent to golf holes would be designated as natural areas to restrict the amount of foot traffic. Measures including signs, out of bounds markers and drop zones could be utilized for public education and foot traffic management.

Thank you for the opportunity to provide additional Project information. We appreciate the Department's time to review this Project.

If there are additional questions please feel free to contact Jay Hoekstra at (920) 457-4441 or Jon Guntow at (920) 980-2800.

Regards,

STANTEC CONSULTING SERVICES INC.

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Attachments: Table 1. Anticipated Wetland Impacts Summary - Proposed Town of Wilson Golf Course
Figure 1 – Wetland Impacts, Project Alternative E (Preferred)



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Figure 2 – Shoreland Map

Figure 3 – Floodplain Map

Figure 4 – Proposed entrance road design

Figure 5 – Preliminary Maintenance building floorplans

Stormwater Technical Memorandum

Irrigation well impact analysis report and the well construction reports

Traffic impact report

c. Jay Hoekstra, Kohler Co.
Jess Barley, Kohler Co.

Table 1. Anticipated Wetland Impacts Summary - Proposed Town of Wilson Golf Course

Wetland ID	Acreage (on-site)	Wetland Delineation Community Type	WWI Classification	Wetland Description/Dominant Plant Species	Proposed Impact (acres)
BR	115.56	Alder Thicket, Hardwood Swamp, Mosaic Beech/Maple Complex, Wet Meadow	T3/E1K, T3K, E2K, T3/S3K	Large wetland complex within the Black River floodplain and tributary streams. Contains mosaic beech/maple complex in the northeast portion. Dominant plant species include American Beech, American hazelnut, blue iris, blue-joint grass, box elder, bristly buttercup, cinnamon fern, common lake sedge, common tussock sedge, common wood sedge, eastern cottonwood, eastern marsh fern, Emory's sedge, giant goldenrod, green ash, Japanese barberry, multiflora rose, northern water-horehound, paper birch, purple meadow-rue, red oak, red raspberry, reed canary grass, showy bush honeysuckle, skunk-cabbage, speckled alder, sugar maple, white avens and yellow birch.	1.99
NE	2.94	Alder Thicket, Wet Meadow	T3/E2K	Linear wetland complex located within the interdunal swale landforms. Dominant plant species include blue-joint grass, Canadain wood-nettle, common lake sedge, common tussock sedge, fowl manna grass, green ash, red maple and speckled alder.	1.03
P-1	0.02	Seasonally Flooded Basin	Not Applicable (N/A)	Swale wetland. Dominant plant species include red raspberry and stinging nettle.	No Impact (NI)
P-10	0.02	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include northern water-horehound.	0.02
P-13	0.09	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass, northern water-horehound and rice cut grass.	0.09
P-14	0.02	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include northern water-horehound.	0.02
P-15	0.02	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include northern water-horehound and stinging nettle.	0.02
P-15b	0.05	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include fowl manna grass and green ash.	0.05
P-15c	0.01	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass, green ash and toothed wood fern.	0.01

Wetland ID	Acreage (on-site)	Wetland Delineation Community Type	WWI Classification	Wetland Description/Dominant Plant Species	Proposed Impact (acres)
P-16	0.04	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and northern water-horehound.	NI
P-19	0.04	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass.	0.04
P-2	0.03	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include common tussock sedge, green ash and red raspberry.	NI
P-20	0.03	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass.	0.03
P-21	0.02	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and eastern willow-herb.	0.02
P-22	0.01	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass.	0.01
P-23	0.02	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and Japanese barberry.	0.02
P-25	0.05	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass, green ash and speckled alder.	0.05
P-26	0.01	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and toothed wood fern.	0.01
P-27	0.01	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass, green ash and Pennsylvania sedge.	0.01

Wetland ID	Acreage (on-site)	Wetland Delineation Community Type	WWI Classification	Wetland Description/Dominant Plant Species	Proposed Impact (acres)
P-29	0.01	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include greater bladder sedge, Japanese barberry and northern water-horehound.	0.01
P-3	0.01	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass.	0.01
P-30	0.04	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and northern water-horehound.	0.04
P-31	0.04	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include fowl manna grass and speckled alder.	0.04
P-32	0.01	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and reed canary grass.	0.01
P-33	0.01	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include toothed wood fern.	0.01
P-34	0.01	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include Canadain wood-nettle.	0.01
P-36	0.01	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include Pennsylvania sedge.	NI
P-36b	0.01	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include Baltic rush and creeping juniper.	NI
P-36c	0.01	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include Baltic rush.	NI

Wetland ID	Acreage (on-site)	Wetland Delineation Community Type	WWI Classification	Wetland Description/Dominant Plant Species	Proposed Impact (acres)
P-37	0.01	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and green ash.	0.01
P-38	0.06	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass, green ash, northern water-horehound and speckled alder.	0.06
P-39	0.02	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and speckled alder.	0.02
P-4	0.11	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and speckled alder.	NI
P-40	0.06	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include green ash, northern water-horehound, reed canary grass and speckled alder.	0.06
P-40b	0.01	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include common tussock sedge.	NI
P-40c	0.03	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and common tussock sedge.	NI

Wetland ID	Acreage (on-site)	Wetland Delineation Community Type	WWI Classification	Wetland Description/Dominant Plant Species	Proposed Impact (acres)
P-40d	0.08	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include Baltic rush, blue-joint grass, paper birch, red pine and white pine.	0.08
P-40e	0.02	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include Baltic rush, prairie sand-reed and red pine.	0.02
P-40f	0.16	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include Baltic rush, common juniper and paper birch.	0.16
P-41	0.01	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and speckled alder.	0.01
P-42	0.02	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass, Japanese barberry, speckled alder and stinging nettle.	0.02
P-43	0.01	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass, green ash, red raspberry and speckled alder.	0.01
P-44	0.05	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass, green ash, Japanese barberry and red raspberry.	NI

Wetland ID	Acreage (on-site)	Wetland Delineation Community Type	WWI Classification	Wetland Description/Dominant Plant Species	Proposed Impact (acres)
P-44b	0.04	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass, green ash, paper birch and red raspberry.	NI
P-45	0.05	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include greater bladder sedge, green ash, Japanese barberry and northern water-horehound.	0.05
P-46	0.06	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and common tussock sedge.	0.06
P-47	0.02	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include common tussock sedge.	0.02
P-48	0.23	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include common tussock sedge, green ash and speckled alder.	0.23
P-49	0.15	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include common duckweed, and green ash.	0.15
P-51	0.11	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include Canadain wood-nettle, green ash, northern water-horehound and speckled alder.	0.11
P-52	0.00	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include Japanese barberry and stinging nettle.	0.00

Wetland ID	Acreage (on-site)	Wetland Delineation Community Type	WWI Classification	Wetland Description/Dominant Plant Species	Proposed Impact (acres)
P-53	0.01	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include green ash, Pennsylvania sedge and sugar maple.	0.01
P-54	0.01	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include fowl manna grass.	0.01
P-55	0.01	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include green ash and Japanese barberry.	0.01
P-57	0.02	Seasonally Flooded Basin	N/A	Swale wetland.No plant species were observed.	0.02
P-58	0.01	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and Pennsylvania sedge.	NI
P-59	0.00	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include fowl manna grass and greater bladder sedge.	NI
P-6	0.02	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass, green ash and sugar maple.	NI
P-60	0.02	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and northern water-horehound.	NI
P-61	0.01	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include northern water-horehound.	0.01

Wetland ID	Acreage (on-site)	Wetland Delineation Community Type	WWI Classification	Wetland Description/Dominant Plant Species	Proposed Impact (acres)
P-62	0.07	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include common eastern wild-rye, fowl manna grass and sensitive fern.	0.07
P-64	0.01	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and northern water-horehound.	NI
P-65	0.02	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include common eastern wild-rye, greater bladder sedge and green ash.	NI
P-66	0.02	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include green ash and stinging nettle.	NI
P-7	0.01	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and sugar maple.	0.01
P-70	0.01	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include common eastern wild-rye, green ash and northern water-horehound.	NI
P-71	0.17	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include common tussock sedge, green ash, northern water-horehound and stinging nettle.	NI
P-72	0.07	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include green ash and northern water-horehound.	0.07

Wetland ID	Acreage (on-site)	Wetland Delineation Community Type	WWI Classification	Wetland Description/Dominant Plant Species	Proposed Impact (acres)
P-73	0.03	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include common eastern wild-rye, red raspberry and speckled alder.	NI
P-74	0.00	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include fowl manna grass and green ash.	NI
P-75	0.01	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include fowl manna grass.	0.01
P-76	0.05	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include common tussock sedge and fowl manna grass.	0.05
P-77	0.03	Wet Meadow	N/A	Wet meadow wetland. Dominant plant species include blue-joint grass.	0.03
P-78	0.03	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include American beech.	NI
P-9	0.01	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and common tussock sedge.	0.01
RT1	0.67	Hardwood swamp	T3K	Hardwood swamp wetland. Dominant plant species include American hornbeam, cinnamon fern, green ash, speckled alder and white avens.	NI

Wetland ID	Acreage (on-site)	Wetland Delineation Community Type	WWI Classification	Wetland Description/Dominant Plant Species	Proposed Impact (acres)
RT2	0.11	Hardwood Swamp	N/A	Hardwood swamp wetland. Dominant plant species include blue-joint grass, fowl manna grass, greater bladder sedge, green ash, Japanese barberry, red oak and sugar maple.	NI
W15	1.36	Hardwood Swamp	T3K	Hardwood swamp wetland. Dominant plant species include bottomland aster, giant goldenrod, green ash, multiflora rose, paper birch, red maple, red raspberry, reed canary grass, showy bush honeysuckle and speckled alder.	NI
W16	0.41	Wet Meadow	N/A	Wet meadow wetland. Dominant plant species include reed canary grass.	NI
W21	0.02	Seasonally Flooded Basin	N/A	Seasonally flooded basin. Dominant plant species include Japanese barberry and speckled alder.	NI
W26	0.05	Wet Meadow	N/A	Wet meadow wetland. Dominant plant species include box elder, Canadian goldenrod, giant goldenrod, green ash and reed canary grass.	NI
P-202	0.08	Seasonally Flooded Basin	N/A	Wet meadow wetland. Dominant vegetation blue-joint grass, Baltic rush, Japanese barberry and shining willow.	0.08

Wetland ID	Acreage (on-site)	Wetland Delineation Community Type	WWI Classification	Wetland Description/Dominant Plant Species	Proposed Impact (acres)
P-203	0.03	Seasonally Flooded Basin	N/A	Wet meadow wetland. Dominant vegetation blue-joint grass, Baltic rush, Japaneses barberry and shining willow.	0.03
P-206	0.01	Seasonally Flooded Basin	N/A	Wet meadow wetland. Dominant vegetation blue-joint grass, Baltic rush, Japaneses barberry and shining willow.	NI
P-207	0.02	Seasonally Flooded Basin	N/A	Wet meadow wetland. Dominant vegetation blue-joint grass, Baltic rush, Japaneses barberry and shining willow.	NI
P-208	0.18	Seasonally Flooded Basin	N/A	Wet meadow wetland. Dominant vegetation blue-joint grass, Baltic rush, Japaneses barberry and shining willow.	NI
P-210	0.08	Seasonally Flooded Basin	N/A	Wet meadow wetland. Dominant vegetation blue-joint grass, Baltic rush, Japaneses barberry and shining willow.	NI
Totals	124.10				5.01

Wetland Impacts by Type								
Wetland ID	Acreage (on-site)	Wetland Delineation	WWI	Wetland Description/Dominant Plant Species	Proposed Impact	Impact Source	Column	
BR	115.555	Alder Thicket, Hardwood Swamp, Mosaic Beech/Maple Complex, Wet Meadow	T3/E1K, T3K, E2K, T3/S3K	Large wetland complex within the Black River floodplain and tributary streams. Contains mosaic beech/maple complex in the northeast portion. Dominant plant species include American Beech, American hazelnut, blue iris, blue-joint grass, box elder, bristly buttercup, cinnamon fern, common lake sedge, common tussock sedge, common wood sedge, eastern cottonwood, eastern marsh fern, Emory's sedge, giant goldenrod, green ash, Japanese barberry, multiflora rose, northern water-horehound, paper birch, purple meadow-rue, red oak, red raspberry, reed canary grass, showy bush honeysuckle, skunk-cabbage, speckled alder, sugar maple, white avens and yellow birch.	1.317027	Fairway, hole, road		
NE	2.944	Alder Thicket, Wet Meadow	T3/E2K	Linear wetland complex located within the interdunal swale landforms. Dominant plant species include blue-joint grass, Canadian wood-nettle, common lake sedge, common tussock sedge, fowl manna grass, green ash, red maple and speckled alder.	0.903366	Road, grading		
P-1	0.022	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include red raspberry and stinging nettle.				
P-10	0.024	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include northern water-horehound.	0.024126	Fairway		
P-13	0.089	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass, northern water-horehound and rice cut grass.	0.088622			
P-14	0.020	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include northern water-horehound.	0.020455			
P-15	0.018	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include northern water-horehound and stinging nettle.	0.018243			
P-15b	0.045	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include fowl manna grass and green ash.	0.045006			
P-15c	0.009	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass, green ash and toothed wood fern.	0.008865			
P-16	0.037	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and northern water-horehound.				
P-19	0.041	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass.	0.0407			
P-2	0.029	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include common tussock sedge, green ash and red raspberry.				
P-20	0.031	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass.	0.03099			
P-21	0.016	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and eastern willow-herb.	0.015807			
P-22	0.007	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass.	0.007259			
P-23	0.016	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and Japanese barberry.	0.015991			
P-25	0.049	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass, green ash and speckled alder.	0.049136			
P-26	0.006	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and toothed wood fern.	0.005637			
P-27	0.008	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass, green ash and Pennsylvania sedge.	0.008472			

Wetland ID	Acreage (on-site)	Wetland Delineation	WWI	Wetland Description/Dominant Plant Species	Proposed Impact	Impact Source	Column
P-29	0.011	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include greater bladder sedge, Japanese barberry and northern water-horehound.	0.010698		
P-3	0.013	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass.	0.013157	Fairway	
P-30	0.039	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and northern water-horehound.	0.039024		
P-31	0.039	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include fowl manna grass and speckled alder.	0.038736		
P-32	0.014	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and reed canary grass.	0.01363		
P-33	0.013	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include toothed wood fern.	0.013187		
P-34	0.011	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include Canadain wood-nettle.	0.011422		
P-36	0.006	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include Pennsylvania sedge.			
P-36b	0.007	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include Baltic rush and creeping juniper.			
P-36c	0.014	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include Baltic rush.			
P-37	0.006	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and green ash.	0.005617		
P-38	0.064	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass, green ash, northern water-horehound and speckled alder.	0.063816		
P-39	0.021	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and speckled alder.	0.020891		
P-4	0.113	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and speckled alder.			
P-40	0.060	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include green ash, northern water-horehound, reed canary grass and speckled alder.	0.060489		
P-40b	0.008	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include common tussock sedge.			
P-40c	0.030	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and common tussock sedge.			
P-40d	0.076	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include Baltic rush, blue-joint grass, paper birch, red pine and white pine.	0.076336		
P-40e	0.024	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include Baltic rush, prairie sand-reed and red pine.	0.023938		
P-40f	0.160	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include Baltic rush, common juniper and paper birch.	0.159801		
P-41	0.012	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and speckled alder.	0.011531		
P-42	0.019	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass, Japanese barberry, speckled alder and stinging nettle.	0.019245		
P-43	0.011	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass, green ash, red raspberry and speckled alder.	0.011194		
P-44	0.049	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass, green ash, Japanese barberry and red raspberry.			
P-44b	0.036	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass, green ash, paper birch and red raspberry.			

Wetland ID	Acreage (on-site)	Wetland Delineation	WWI	Wetland Description/Dominant Plant Species	Proposed Impact	Impact Source	Column
P-45	0.047	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include greater bladder sedge, green ash, Japanese barberry and northern water-horehound.	0.046883		
P-46	0.056	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and common tussock sedge.	0.056078		
P-47	0.017	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include common tussock sedge.	0.016615		
P-48	0.232	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include common tussock sedge, green ash and speckled alder.	0.231505		
P-49	0.147	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include common duckweed, and green ash.	0.147217		
P-51	0.114	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include Canadain wood-nettle, green ash, northern water-horehound and speckled alder.	0.114455		
P-52	0.003	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include Japanese barberry and stinging nettle.	0.002519		
P-53	0.006	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include green ash, Pennsylvania sedge and sugar maple.	0.005587		
P-54	0.007	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include fowl manna grass.	0.007475		
P-55	0.007	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include green ash and Japanese barberry.	0.0067		
P-57	0.016	Seasonally Flooded Basin	N/A	Swale wetland.No plant species were observed.	0.015621		
P-58	0.005	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and Pennsylvania sedge.			
P-59	0.004	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include fowl manna grass and greater bladder sedge.			
P-6	0.023	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass, green ash and sugar maple.			
P-60	0.019	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and northern water-horehound.			
P-61	0.007	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include northern water-horehound.	0.007488		
P-62	0.066	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include common eastern wild-rye, fowl manna grass and sensitive fern.	0.065895		
P-64	0.009	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and northern water-horehound.			
P-65	0.015	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include common eastern wild-rye, greater bladder sedge and green ash.			
P-66	0.024	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include green ash and stinging nettle.			
P-7	0.010	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and sugar maple.	0.009572		
P-70	0.013	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include common eastern wild-rye, green ash and northern water-horehound.			
P-71	0.174	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include common tussock sedge, green ash, northern water-horehound and stinging nettle.			
P-72	0.072	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include green ash and northern water-horehound.	0.07185		
P-73	0.025	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include common eastern wild-rye, red raspberry and speckled alder.			

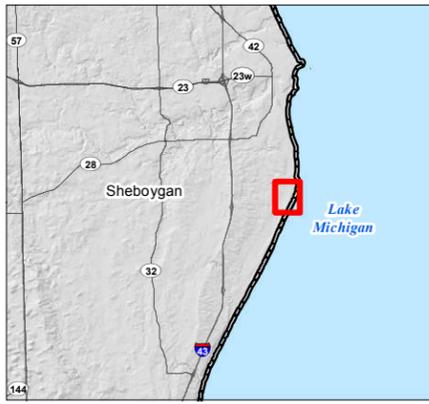
Wetland ID	Acreage (on-site)	Wetland Delineation	WWI	Wetland Description/Dominant Plant Species	Proposed Impact	Impact Source	Column
P-74	0.004	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include fowl manna grass and green ash.			
P-75	0.015	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include fowl manna grass.	0.014775		
P-76	0.045	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include common tussock sedge and fowl manna grass.	0.04503		
P-77	0.033	Wet Meadow	N/A	Wet meadow wetland. Dominant plant species include blue-joint grass.	0.032728		
P-78	0.031	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include American beech.			
P-9	0.012	Seasonally Flooded Basin	N/A	Swale wetland. Dominant plant species include blue-joint grass and common tussock sedge.	0.012204		
RT1	0.672	Hardwood swamp	T3K	Hardwood swamp wetland. Dominant plant species include American hornbeam, cinnamon fern, green ash, speckled alder and white avens.			
RT2	0.112	Hardwood Swamp	N/A	Hardwood swamp wetland. Dominant plant species include blue-joint grass, fowl manna grass, greater bladder sedge, green ash, Japanese barberry, red oak and sugar maple.			
W15	1.357	Hardwood Swamp	T3K	Hardwood swamp wetland. Dominant plant species include bottomland aster, giant goldenrod, green ash, multiflora rose, paper birch, red maple, red raspberry, reed canary grass, showy bush honeysuckle and speckled alder.			
W16	0.414	Wet Meadow	N/A	Wet meadow wetland. Dominant plant species include reed canary grass.			
W21	0.017	Seasonally Flooded Basin	N/A	Seasonally flooded basin. Dominant plant species include Japanese barberry and speckled alder.			
W26	0.051	Wet Meadow	N/A	Wet meadow wetland. Dominant plant species include box elder, Canadian goldenrod, giant goldenrod, green ash and reed canary grass.			
P-202	0.080851	Seasonally Flooded Basin			0.080851		
P-203	0.02627	Seasonally Flooded Basin			0.02627		

Kohler Golf Course Project
Project Area Wetland Summary
November 2014

Wetland ID	Map Page	Acreage (on-site)	Wetland Delineation Community Type	WWI Classification	Wetland Description/Dominant Plant Species	Wetland Sample Points	Wetland Quality	Landownership	
								Kohler	State of WI
BR	1, 2, 4, 5	115.555	Alder Thicket, Hardwood Swamp, Mosaic Beech/Maple Complex, Wet Meadow	T3/E1K, T3K, E2K, T3/S3K	Large wetland complex within the Black River floodplain and tributary streams. Contains mosaic beech/maple complex in the northeast portion. Dominant plant species include American Beech, American hazelnut, blue iris, blue-joint grass, box elder, bristly buttercup, cinnamon fern, common lake sedge, common tussock sedge, common wood sedge, eastern cottonwood, eastern marsh fern, Emory's sedge, giant goldenrod, green ash, Japanese barberry, multiflora rose, northern water-horehound, paper birch, purple meadow-rue, red oak, red raspberry, reed canary grass, showy bush honeysuckle, skunk-cabbage, speckled alder, sugar maple, white avens and yellow birch.	8w, 9/10w, 10bw, 10cw, 12bw, 12dw, 13w, 14bw, 15dw, 17bw, 17cw, 17dw, 18w, 19w, 19bw, 20w, 21bw, 21cw, 25w, 25bw, 25dw, 25ew, 25ew2, br-2a-w, br-3a-w, br-4a-w, br-5a-w, br-6a-w, br-8a-w, br-9a-w, br-9b-w, br-10b-w, br-10c-w, br-11-w, br-12a-w, br-13a-w, br-14a-w, br-14b-w, br-14c-w, rt-6b-w, rt-6c-w, rt-6d-w, rt-6e-w		X	X
NE	3, 6	2.944	Alder Thicket, Wet Meadow	T3/E2K	Linear wetland complex located within the interdunal swale landforms. Dominant plant species include blue-joint grass, Canadain wood-nettle, common lake sedge, common tussock sedge, fowl manna grass, green ash, red maple and speckled alder.	ne-1-w, ne-2-w, ne-3-w, ne-4-w, ne-5-w, ne-6-w		X	
P-1	3	0.022	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include red raspberry and stinging nettle.	p-1w		X	
P-10	3	0.024	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include northern water-horehound.	p-10w		X	
P-13	3, 6	0.089	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass, northern water-horehound and rice cut grass.	p-13w		X	
P-14	3, 6	0.020	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include northern water-horehound.	p-14w		X	
P-15	3	0.018	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include northern water-horehound and stinging nettle.	p-15w		X	
P-15b	3, 6	0.045	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include fowl manna grass and green ash.	p-15bw		X	
P-15c	3	0.009	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass, green ash and toothed wood fern.	p-15cw		X	
P-16	3	0.037	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and northern water-horehound.	p-16w		X	
P-19	3, 6	0.041	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass.	p-19w		X	
P-2	3	0.029	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include common tussock sedge, green ash and red raspberry.	p-2w		X	
P-20	3, 6	0.031	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass.	p-20w		X	
P-21	3, 6	0.016	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and eastern willow-herb.	p-21w		X	
P-22	3, 6	0.007	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass.	p-22w		X	
P-23	3, 6	0.016	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and Japanese barberry.	p-23w		X	
P-25	3, 6	0.049	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass, green ash and speckled alder.	p-25w		X	
P-26	3, 6	0.006	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and toothed wood fern.	p-26w		X	
P-27	6	0.008	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass, green ash and Pennsylvania sedge.	p-27w		X	
P-29	6	0.011	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include greater bladder sedge, Japanese barberry and northern water-horehound.	p-29w		X	
P-3	3	0.013	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass.	p-3w		X	
P-30	6	0.039	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and northern water-horehound.	p-30w		X	
P-31	6	0.039	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include fowl manna grass and speckled alder.	p-31w		X	
P-32	6	0.014	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and reed canary grass.	p-32w		X	
P-33	6	0.013	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include toothed wood fern.	p-33w		X	
P-34	6	0.011	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include Canadain wood-nettle.	p-34w		X	
P-36	6	0.006	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include Pennsylvania sedge.	p-36w		X	
P-36b	6	0.007	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include Baltic rush and creeping juniper.	p-36bw		X	
P-36c	3, 6	0.014	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include Baltic rush.	p-36cw		X	
P-37	6	0.006	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and green ash.	p-37w		X	
P-38	6	0.064	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass, green ash, northern water-horehound and speckled alder.	p-38w		X	
P-39	6	0.021	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and speckled alder.	p-39w		X	
P-4	3	0.113	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and speckled alder.	p-4w		X	
P-40	5, 6	0.060	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include green ash, northern water-horehound, reed canary grass and speckled alder.	p-40w		X	
P-40b	5, 6	0.008	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include common tussock sedge.	p-40bw		X	
P-40c	5, 6	0.030	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and common tussock sedge.	p-40cw		X	
P-40d	6	0.076	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include Baltic rush, blue-joint grass, paper birch, red pine and white pine.	p-40dw		X	
P-40e	6	0.024	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include Baltic rush, prairie sand-reed and red pine.	p-40ew		X	
P-40f	6	0.160	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include Baltic rush, common juniper and paper birch.	p-40fw		X	
P-41	5, 6	0.012	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and speckled alder.	p-41w		X	
P-42	5, 6	0.019	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass, Japanese barberry, speckled alder and stinging nettle.	p-42w		X	

Kohler Golf Course Project
Project Area Wetland Summary
November 2014

Wetland ID	Map Page	Acreage (on-site)	Wetland Delineation Community Type	WWI Classification	Wetland Description/Dominant Plant Species	Wetland Sample Points	Wetland Quality	Landownership	
								Kohler	State of WI
P-43	5, 6	0.011	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass, green ash, red raspberry and speckled alder.	p-43w		X	
P-44	5, 6	0.049	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass, green ash, Japanese barberry and red raspberry.	p-44aw		X	
P-44b	5, 6	0.036	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass, green ash, paper birch and red raspberry.	p-44bw		X	
P-45	5, 6	0.047	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include greater bladder sedge, green ash, Japanese barberry and northern water-horehound.	p-45w		X	
P-46	5, 6	0.056	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and common tussock sedge.	p-46w		X	
P-47	5, 6	0.017	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include common tussock sedge.	p-47w		X	
P-48	5, 6	0.232	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include common tussock sedge, green ash and speckled alder.	p-48w		X	
P-49	6	0.147	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include common duckweed, and green ash.	p-49w		X	
P-51	6	0.114	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include Canadain wood-nettle, green ash, northern water-horehound and speckled alder.	p-51w		X	
P-52	5, 6	0.003	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include Japanese barberry and stinging nettle.	p-52w		X	
P-53	5, 6	0.006	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include green ash, Pennsylvania sedge and sugar maple.	p-53w		X	
P-54	5, 6	0.007	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include fowl manna grass.	p-54w		X	
P-55	3	0.007	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include green ash and Japanese barberry.	p-55w		X	
P-57	2, 3	0.016	Seasonally Flooded Basin	N/A	Interdunal swale wetland.No plant species were observed.	p-57w		X	
P-58	3	0.005	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and Pennsylvania sedge.	p-58w		X	
P-59	3	0.004	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include fowl manna grass and greater bladder sedge.	p-59w		X	
P-6	3	0.023	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass, green ash and sugar maple.	p-6w		X	
P-60	3	0.019	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and northern water-horehound.	p-60w		X	
P-61	3	0.007	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include northern water-horehound.	p-61w		X	
P-62	3	0.066	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include common eastern wild-rye, fowl manna grass and sensitive fern.	p-62w		X	
P-64	3	0.009	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and northern water-horehound.	p-64w		X	
P-65	3	0.015	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include common eastern wild-rye, greater bladder sedge and green ash.	p-65w		X	
P-66	3	0.024	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include green ash and stinging nettle.	p-66w		X	
P-7	3	0.010	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and sugar maple.	p-7w		X	
P-70	3	0.013	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include common eastern wild-rye, green ash and northern water-horehound.	p-70w		X	
P-71	3	0.174	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include common tussock sedge, green ash, northern water-horehound and stinging nettle.	p-68w, p-71w		X	
P-72	3	0.072	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include green ash and northern water-horehound.	p-72w		X	
P-73	3	0.025	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include common eastern wild-rye, red raspberry and speckled alder.	p-73w		X	
P-74	3	0.004	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include fowl manna grass and green ash.	p-74w		X	
P-75	3	0.015	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include fowl manna grass.	p-75w		X	
P-76	3	0.045	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include common tussock sedge and fowl manna grass.	p-76w		X	
P-77	2	0.033	Wet Meadow	N/A	Wet meadow wetland. Dominant plant species include blue-joint grass.	p-77w		X	
P-78	5	0.031	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include American beech.	p-78w		X	
P-9	3	0.012	Seasonally Flooded Basin	N/A	Interdunal swale wetland. Dominant plant species include blue-joint grass and common tussock sedge.	p-9w		X	
RT1	1	0.672	Hardwood swamp	T3K	Hardwood swamp wetland. Dominant plant species include American hornbeam, cinnamon fern, green ash, speckled alder and white avens.	rt-6a-w		X	
RT2	1, 2	0.112	Hardwood Swamp	N/A	Hardwood swamp wetland. Dominant plant species include blue-joint grass, fowl manna grass, greater bladder sedge, green ash, Japanese barberry, red oak and sugar maple.	rt-2a-w		X	
W15	1	1.357	Hardwood Swamp	T3K	Hardwood swamp wetland. Dominant plant species include bottomland aster, giant goldenrod, green ash, multiflora rose, paper birch, red maple, red raspberry, reed canary grass, showy bush honeysuckle and speckled alder.	14w, 15w, 15bw, 15cw			X
W16	1	0.414	Wet Meadow	N/A	Wet meadow wetland. Dominant plant species include reed canary grass.	16w, 17w			X
W21	4	0.017	Seasonally Flooded Basin	N/A	Seasonally flooded basin. Dominant plant species include Japanese barberry and speckled alder.	21dw			X
W26	1	0.051	Wet Meadow	N/A	Wet meadow wetland. Dominant plant species include box elder, Canadian goldenrod, giant goldenrod, green ash and reed canary grass.	26w			X

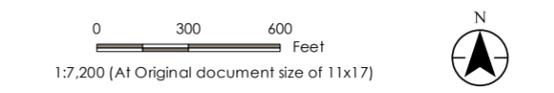


- Notes**
1. Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet
 2. Data Sources Include: Stantec, Kohler, WDNR, WDOT
 3. Orthophotography: 2010 WROC

Disclaimer: Stantec assumes no responsibility for data supplied in electronic format. The recipient accepts full responsibility for verifying the accuracy and completeness of the data. The recipient releases Stantec, its officers, employees, consultants and agents, from any and all claims arising in any way from the content or provision of the data.

Legend	
	Approx. Project Boundary
	Field Delineated Wetland
	Proposed Wetland Impact Area (5.0 ac.)
	Building/Impervious Surface
	DNR 24k Hydrography
	Tee Box/Green
	Perennial Stream
	Fairway/Practice Range
	Intermittent Stream
	Pond
	Waterbody

Figure No. **1**
 Title **Wetland Impacts Project Alternative E (Preferred)**
 Client/Project Kohler Company
 Proposed Golf Course - Town of Wilson
 Project Location T14N, R23E, S11; 14 T. of Wilson, Sheboygan Co., WI
 Prepared by MCP on 2015-06-01
 Technical Review by XXX on 2015-XX-XX
 Independent Review by XXX on 2015-XX-XX



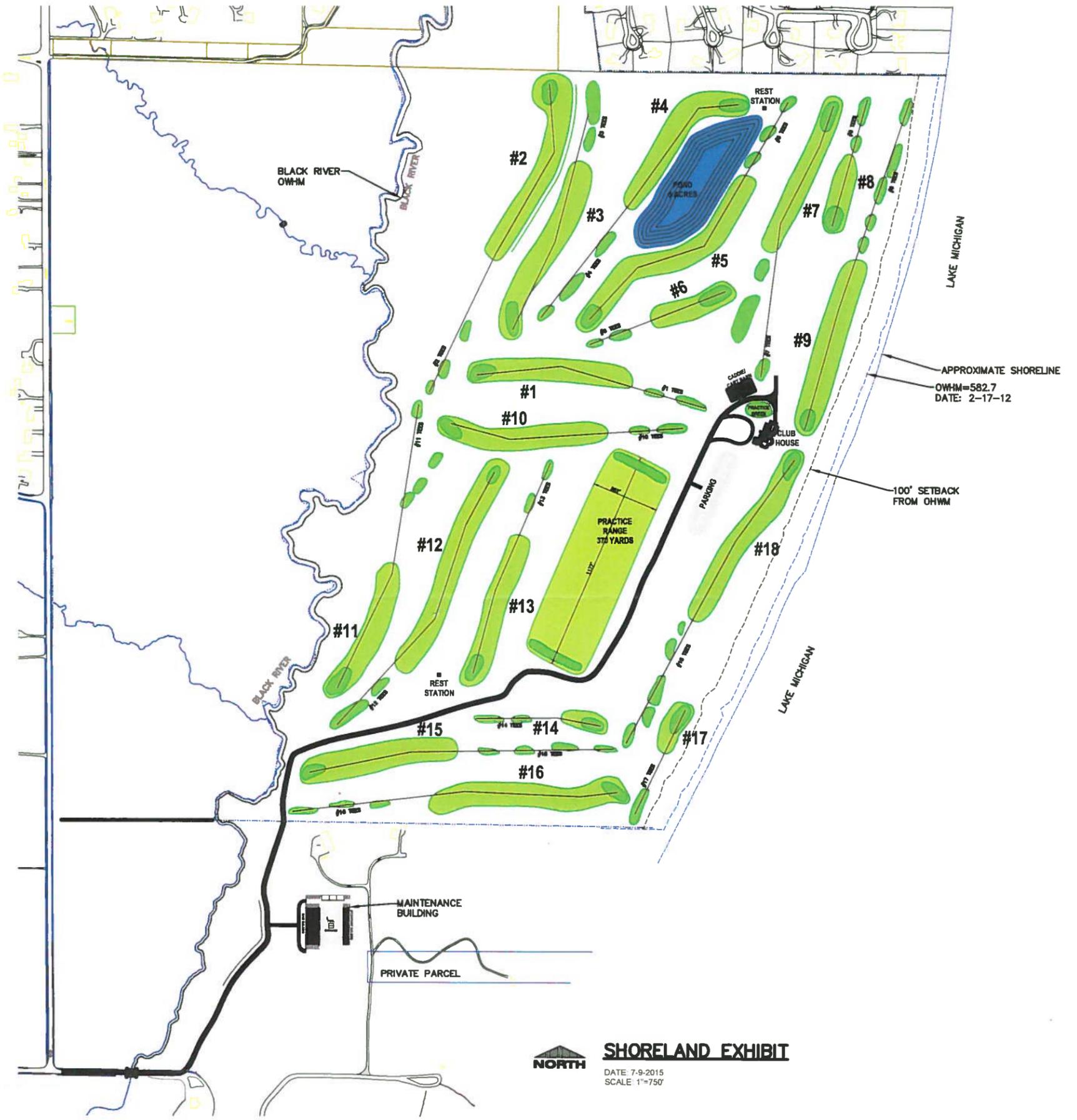


FIGURE 2

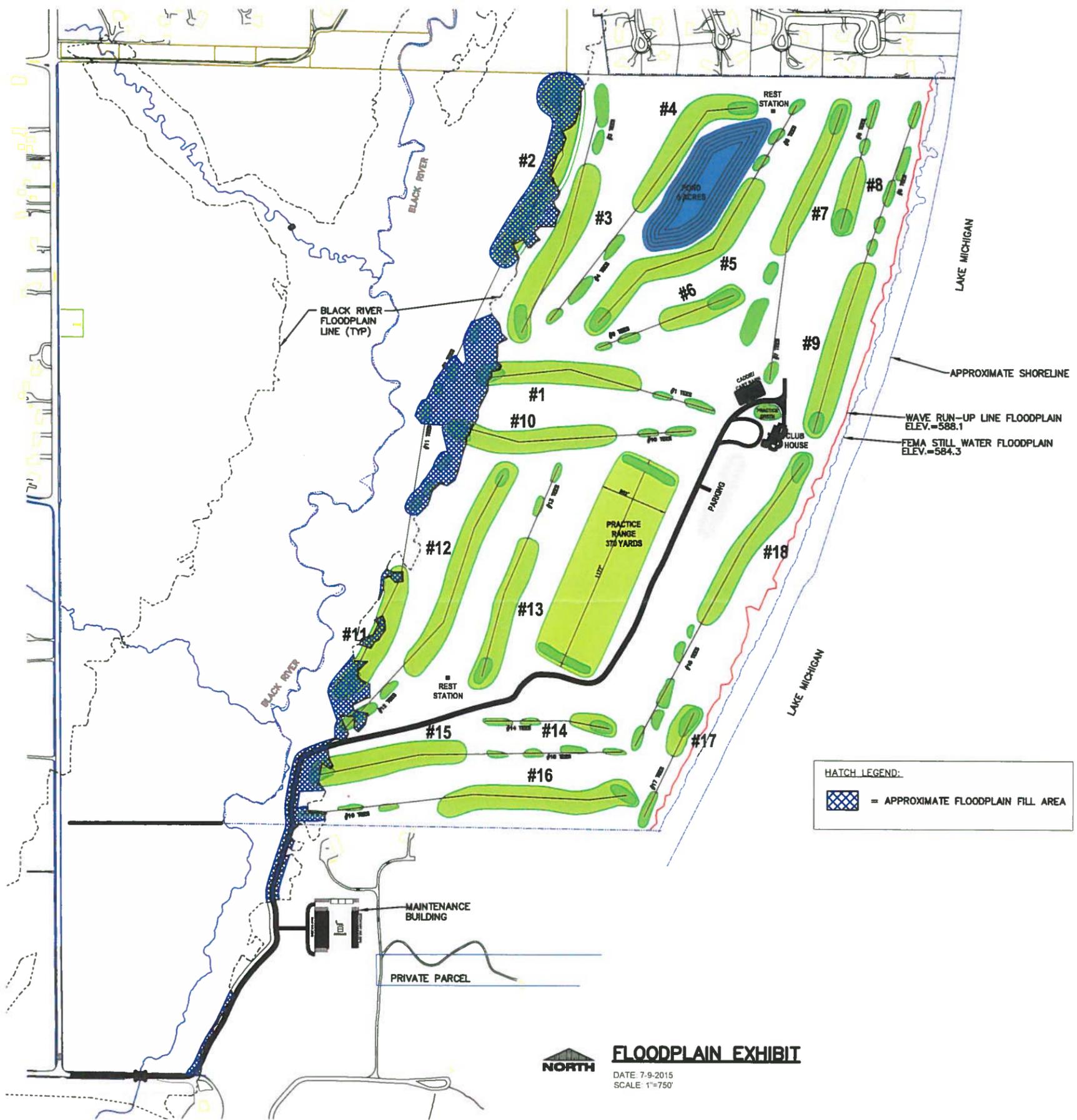
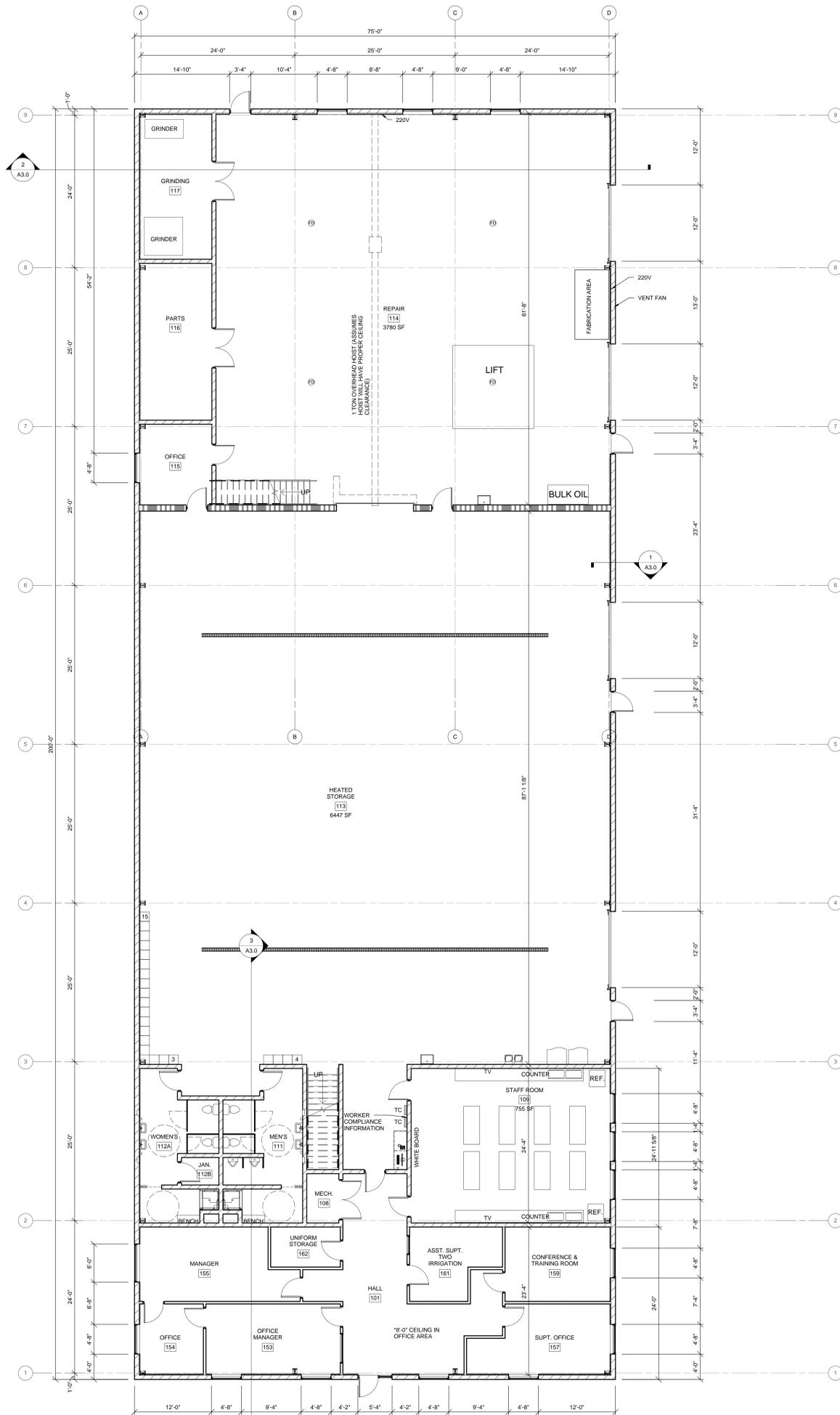


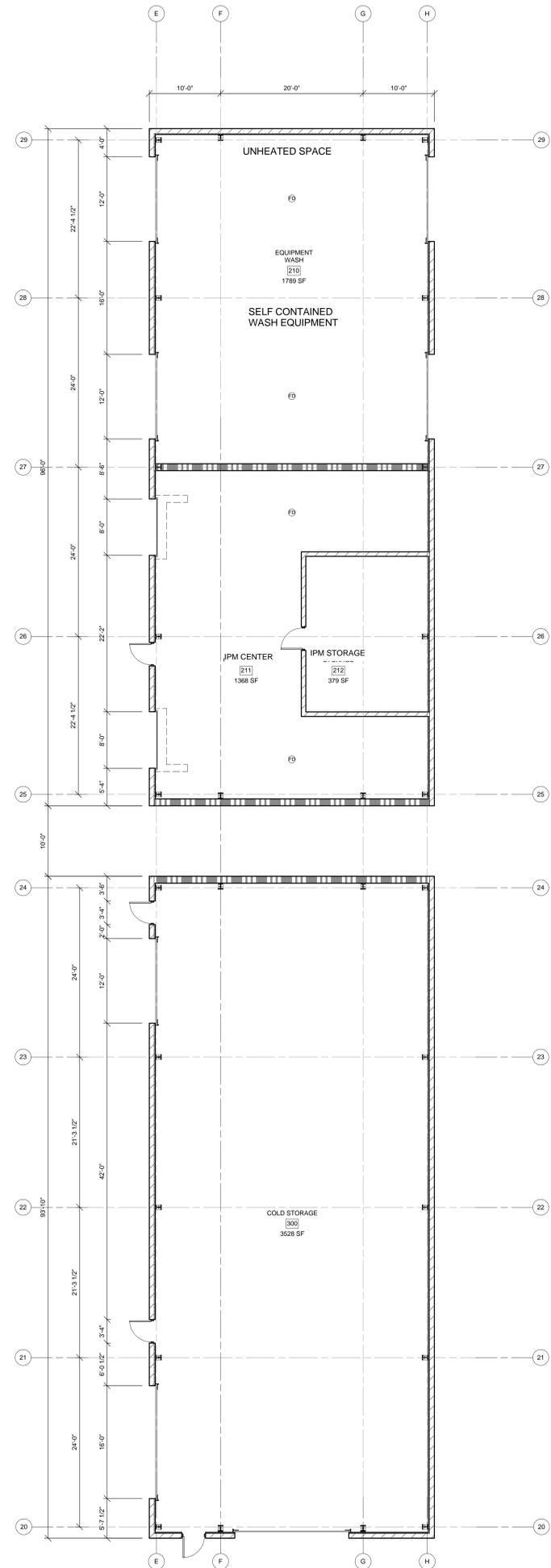
FIGURE 3

FIGURE 5



FIRST FLOOR

SCALE: 1/8" = 1'-0"



PRELIMINARY DRAWING - NOT FOR CONSTRUCTION

OWNER:

PROJECT:
 KOHLER: TOWN OF WILSON GOLF COURSE
 444 HIGHLAND DRIVE
 KOHLER, WI

PRELIMINARY SHEET DATES:
 08-18-2014

JOB NUMBER:
 1402630
 SHEET

A1.1