Des Plaines River Watershed Hotel and Casino Development

Existing Development Site

- Kilbourne Road Ditch
  - Immediately East of I-94
  - Tributary to Des Plaines River
- Existing Drainage Patterns
  - West to East through site
- Current Agricultural Use

Conceptual Site Plan

- Proposed Development Includes
  - Casino
  - Hotel
  - Associated Parking
  - Three Stormwater Basins

- Plan Shared at Public Meetings

Topics

1. Previous Study and Recommendations
2. Current Development Standards
3. Proposed Development
4. Stormwater Management Requirements
5. Des Plaines River Water Quality
6. Recommendations
7. Questions

Previous Study and Recommendations

- 2019 Upper Des Plaines River Impact Analysis
  - Prepared by Christopher B. Burke Engineering, Ltd. for Lake County Stormwater Management Commission

- Analysis to evaluate the Electronics and Information Technology Manufacturing (ETIM) Zone
  - Exemptions to State Permitting

Previous Study and Recommendations

- Illinois Environmental Protection Agency (IEPA) designated the Des Plaines River in Illinois as an impaired water
  - Sedimentation
  - Total Suspended Solids
- Land Development or Redevelopment (Site Clearance)

Previous Study and Recommendations

- Large Scale Recommendations
  - Update hydrologic and hydraulic study of the DPR
  - Require hydraulically equivalent for regulatory floodplain fill

- Development Focused Recommendations
  - Quantify and compensate on-site depressional storage area
  - Require a more restrictive allowable release rate within the DPR Watershed
  - Wetland mitigation provided within watershed
  - To prevent water quality degradation of the DPR, require comprehensive SE/SC measures

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Current Development Standards

- Des Plaines River Watershed Release Rate
  - 2-Year Design Storm – 0.04 cfs/ac
  - 100-Year Design Storm – 0.3 cfs/ac
- 80% reduction in total suspended solid load
- Best Management Practices designed to infiltrate stormwater runoff
- Stormwater runoff pretreatment designed to protect infiltration system
- Maintenance Plan for Stormwater System

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Proposed Development

- Three Development Envelopes
  - 85-95% Impervious Surfaces

- 42.8 acres west of 122nd Avenue
  - Primary development and Parking
    - Stormwater Management Basin
- 10.5 acres east of 122nd Avenue
  - Additional Parking Area
    - One Stormwater Management Basin
- 5.8 acres east of 122nd Avenue
  - Additional Parking Area
    - One Stormwater Management Basin

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Stormwater Management Requirements

- Stormwater Storage Volume
  - Calculated using National Oceanic and Atmospheric Administration (NOAA) Atlas 14 Rainfall Depths
    - 2-year, 24-hour: 2.72 inches
    - 100-year, 24-hour: 5.95 inches

- 80% TSS Reduction
- Infiltration Volume equal to 60% of the pre-development infiltration volume

Stormwater Management Requirements

- Stormwater Storage Volume (NOAA Rainfall)

Development	Disturbed Area	2-Year Detention Volume	100-Year Detention Volume
(ID)	Acres	(Ac-Ft)	(Ac-Ft)
Primary	42.8	6.3	12.0
Parking Area (S)	10.5	1.6	2.9
Parking Area (N)	5.8	1.0	1.6

- Only includes stormwater detention volume, does not include additional water quality requirements or on-site depressional storage*

Stormwater Management Requirements

- Stormwater Storage Volume (NOAA Rainfall)

Development	Disturbed Area	100-Year Detention Volume	Storage Basin Live Storage Depth	Storage Basin Surface Area @ HWL 100-Year
(ID)	(Ac)	(Ac-Ft)	(Ft)	(Ac)
Primary	42.8	12.0	4	3.5
Parking Area (S)	10.5	2.9	4	1
Parking Area (N)	5.8	1.6	4	0.6

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Des Plaines River Water Quality

- Water Quality Reports for Upper Des Plaines River
  - 2020
  - 2018
  - 2016
- Monitoring Site ID 13-6
  - Tier 1
  - Located at Russel Road
  - Most Northern Monitoring Site
  - First Gage in Lake County

Des Plaines River Water Quality

- Total Suspended Solids
  - 2022, 2020 – Notes State Very High TSS, Poor TSS Condition
- Dissolved Oxygen
  - 2022, 2020 – Multiple Occurrence of Exceedance of Minimum Criteria
  - Poor D.O. Fluctuation
- Water Temperature
  - 2020 – Near Maximum Measurement Criteria (31.5 C)
  - 2022 – Maximum Value Exceeding 29.4 C

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Recommendations

- Stormwater Management Facilities designed to City requirements.
- Total Suspended Solids Removal meeting the requirement of the City.

AND

- Compensatory Storage for loss of on-site depressional storage volume.
- Wetland Mitigation within the Des Plaines River Watershed for Waters of the US or wetland impacts.

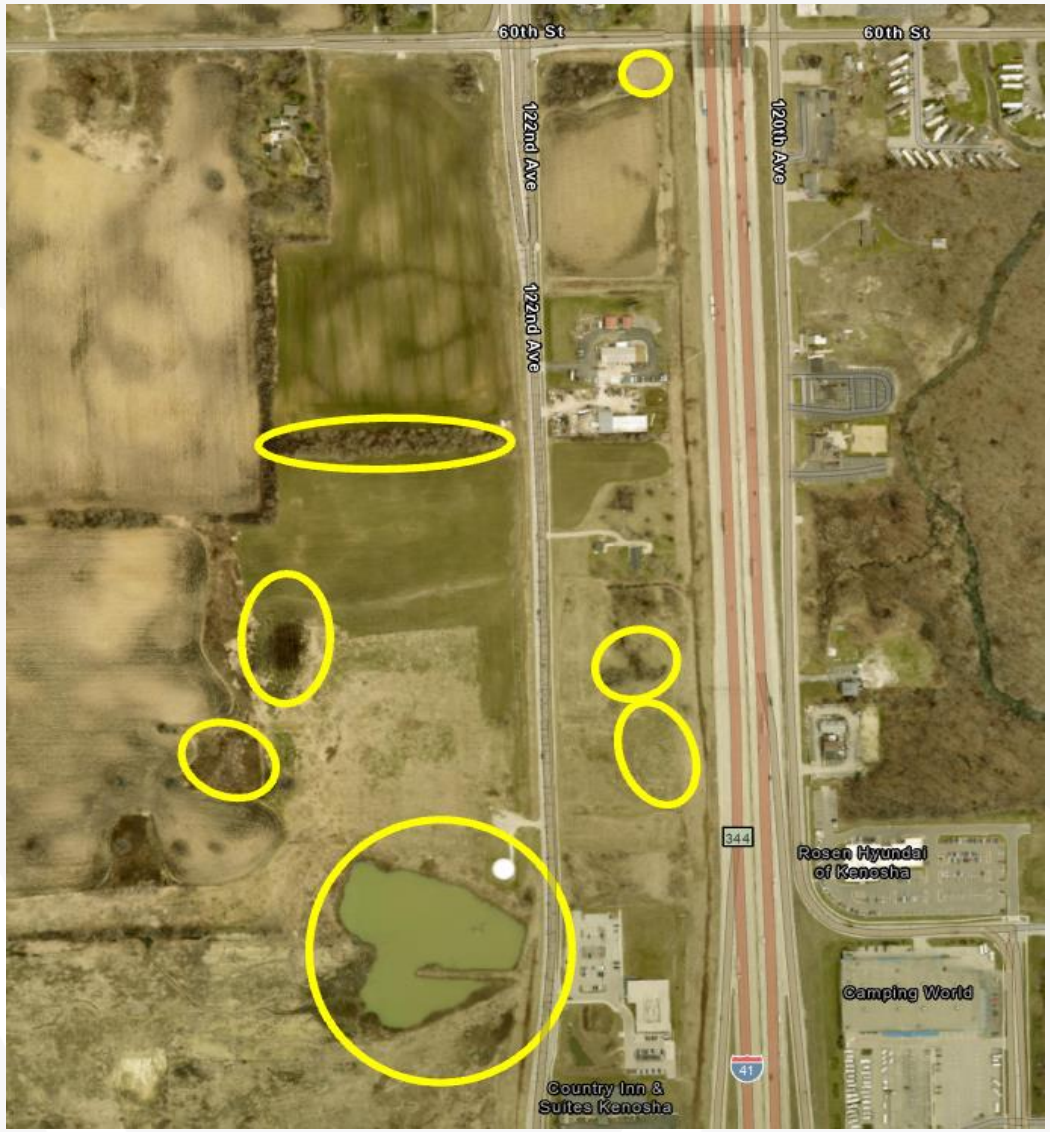
Recommendations

- Compensatory Storage for loss of on-site depressional storage volume.
  - Non-Riverine area that become inundated with stormwater.

- Wetland Mitigation within the Des Plaines River Watershed for Waters of the US or wetland impacts.
  - No Net Loss of Wetlands and Waters in the watershed
  - If paying for mitigation, cost should reflect land cost, maintenance, monitoring and long-term stewardship

Recommendations

- Desktop review of aerial images
  - Full site investigation should be performed
  - Several Wetlands and Depressional Storage Areas that may be impacted



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Questions?

The End