

# **Jennings County Sanitary Sewer Master Plan and Preliminary Engineering Report**

## **SRF PRELIMINARY ENGINEERING REPORT PUBLIC HEARING**

**April 15, 2025 – 5:30 PM**



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## **Agenda**

- 1.** Introduction & Background
- 2.** Need for Project
- 3.** Review of Alternatives
- 4.** Recommended Project
- 5.** Cost Estimate & Funding Options
- 6.** Schedule
- 7.** Questions



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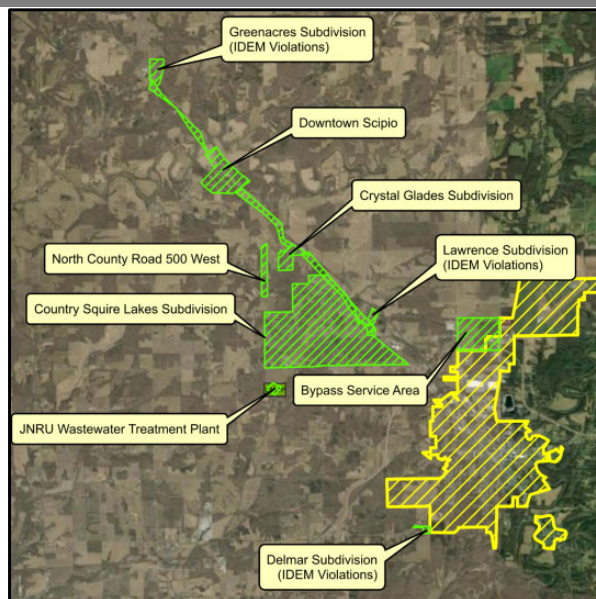
## Introduction/Project Background

- County cited by IDEM for discharge of improperly treated wastewater from failing septic systems. Notice of Violation issued followed by and Agreed Order (AO).
- Evaluate wastewater collection & treatment improvement alternatives for the county in neighborhoods with failing septic systems as part of AO Compliance Plan. Other areas not cited by IDEM to be considered as part of a county-wide sanitary master plan.
- Review methods/locations to treat selected unsewered areas at City of North Vernon or JNRU.
- Evaluate wastewater treatment alternatives at JNRU to address deteriorating facilities, handle potential new service area connections and address an Agreed Order with IDEM.
- Preliminary Engineering Report (PER) required for Indiana Finance Authority's State Revolving Loan Fund (SRF) funding.

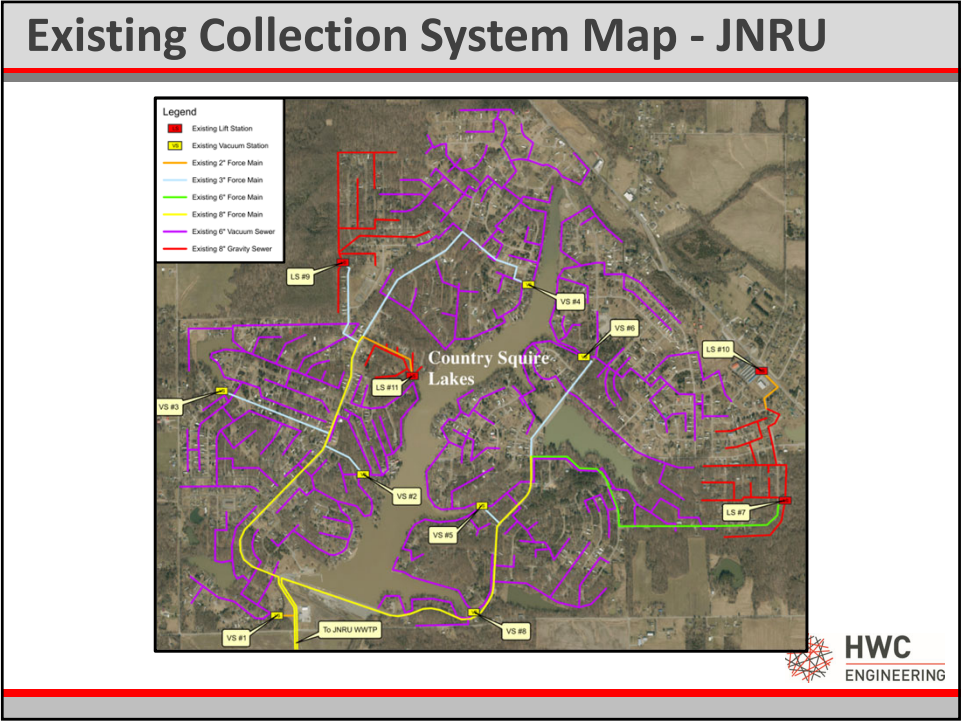


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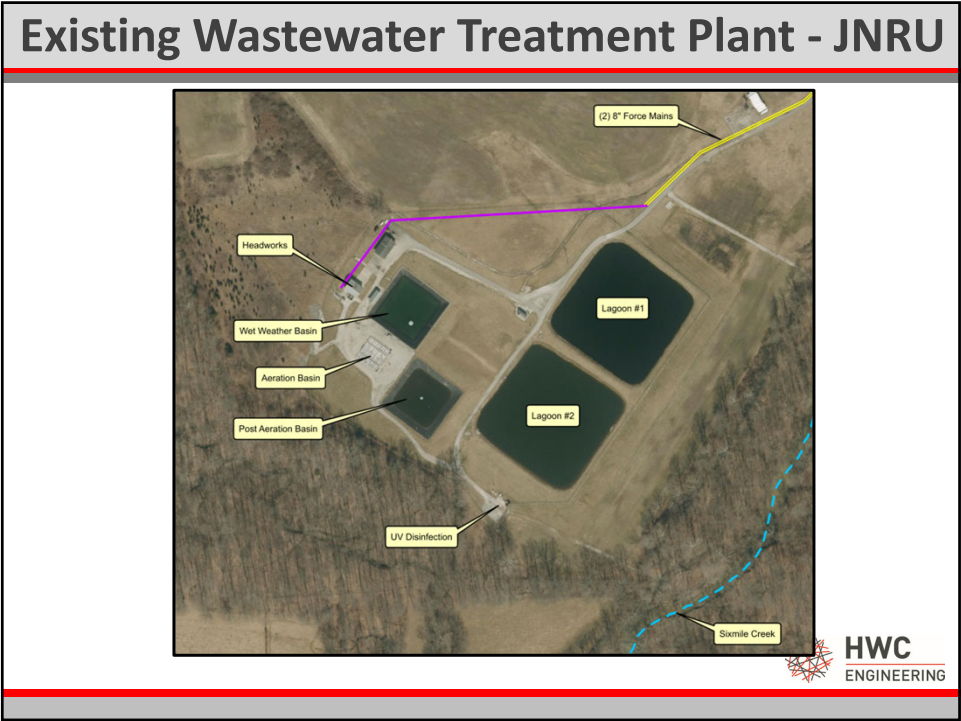
## Study Area



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## Need for Project

### ■ Collection System

- Greenacres, Downtown Scipio, Crystal Glades, Lawrence, and Delmar are known to have failing septic systems. Greenacres, Lawrence and Delmar have been included in the current IDEM Agreed Order.
- The failures allow untreated sewage to enter creeks and ditches in the county. Additional input provide by County Health Dept.
- Improvements to existing JNRU Lift Station due to additional flows.
- A collection system for North County Rd 500 West Residents was also evaluated.
- US Hwy 50 Bypass Service Area was evaluated for potential commercial developments.



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## Need for Project (Cont.)

### ■ Wastewater Treatment Facility

- The existing Multi-Stage Aerated Biological Process (MSABP) is a very unique system and does not have means to remove solids/sludge. With the inability to remove solids, they have built up in the lagoons and IDEM issued an Agreed Order to resolve the sludge build-up
- The aerated grit removal system equipment has deteriorated due to hydrogen sulfide gases. If the MSABP is removed, the grit system can be eliminated rather than replaced.
- The non-potable water system has been destroyed due to the excessive solids passing thru the MSABP.
- The plant does experience occasion peak flows due to collection system inflow and infiltration, therefore continued flow qualization is needed.
- Verify the plant capacity to potentially handle additional flows/connections from new service areas.
- Ability to treat for pending regulatory requirements for total nitrogen and potentially phosphorus in the future.



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## Review of Alternatives – Collection System

- Greenacres Subdivision - Gravity Sewer vs Low Pressure Sewer and Lift Station
- Scipio Area - Gravity Sewer and Lift Station
- Crystal Glades Subdivision - Gravity Sewer vs Low Pressure Sewer and Lift Station
- Lawrence Subdivision - Gravity Sewer vs Low Pressure Sewer and Lift Station.
- JNRU Lift Station #7 – Upgrades (Depreciation & Capacity)



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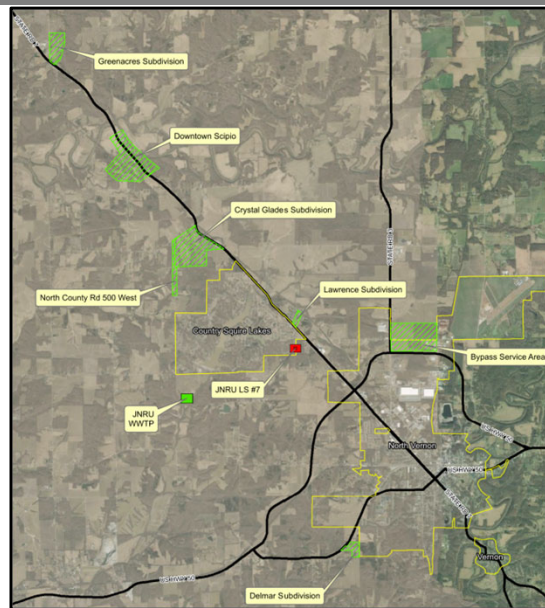
## Review of Alternatives – Collection System

- North County Rd 500 West - Gravity Sewer and Lift Station
- Delmar Subdivision - Gravity Sewer and Lift Station (Regionalization with City of North Vernon)
- US Hwy 50 Bypass - Service Area Gravity Sewer and Lift Station (Service by City of North Vernon)



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## Review of Alternatives – Collection System



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## Review of Alternatives – JNRU WWTP Main Treatment Processes

- Alternative No. 1 – Oxidation Ditch System with Secondary Clarifiers
- Alternative No. 2 – Aero-Mod System including Secondary Clarifiers
- Alternative No. 3 – Conversion of MSABP to Extended Aeration Tank with Secondary Clarifiers
- All Alternatives include Horizontal Dewatering Bagging and sludge removal from lagoons per Agreed Order



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## Wastewater Collection Recommended Project Graphic



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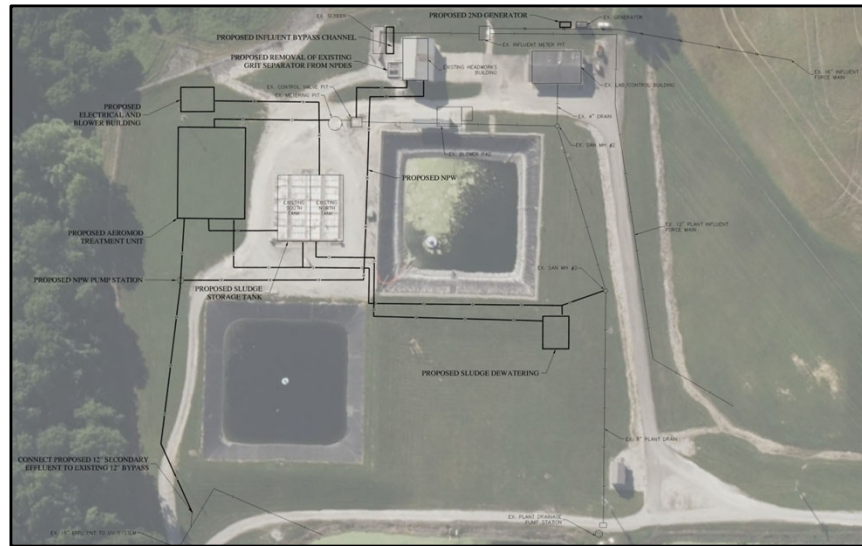
## Recommended Project – JNRU WWTP

- Wastewater Treatment System – Alternative 2 (Aero-Mod System with Dumpster Horizontal Dewatering Bagging)
  - Includes the Aero-Mod process consisting of aerated biological treatment, clarification, RAS/WAS pumping and a new blower/controls building. It also includes conversion of existing MSAPB tankage to aerobic digestion, a new non-potable water system, removal of the grit system, removal of sludge from the lagoons, continued use of the existing UV disinfection system and miscellaneous electrical/controls upgrades, and other site improvements.
  - Alternative required regardless of new system connections.



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## Wastewater Treatment Facility Recommended Project Graphic



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## Recommended Project Cost Estimate

- **Estimated Construction Cost**
  - Collection Systems - \$13,500,000
  - Treatment (JNRU Improvements) - \$ 9,639,000
  - Contingency (10%) - \$ 2,314,000
  - **Subtotal Construction - \$25,450,000**
- **Estimated Non-Construction Cost**
  - **Subtotal Non-Construction - \$4,750,000**  
(Approximately 19%)
- **Total Capital Cost Estimate - \$30,200,000**



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## Project Financing/Implementation

- Anticipated to be funded in part from State Revolving Fund (SRF) Loan
  - Low Interest Loan (~2.0 - 2.5%)
  - 20 Year Term Typical (35 year term allowed for underground piping)
  - Forgivable Loans/Grants Possible
- Apply for Indiana Office of Community & Rural Affairs Grant for a portion of the financing.



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## Estimated Schedule & Next Steps

Description	Target Completion Date
Preliminary Engineering Report (PER) Submittal	April 2025
SRF FY 2026 PPL Issued	July 1, 2025
Design & Plan Development	November 2025 – June 2026 (Flexible - *)
Submit Construction Permits	June 2026
Advertise, Bid & Contract Award	October 2026 – December 2026
Close SRF Loan & Begin Construction	January 2027
End Construction	February 2028

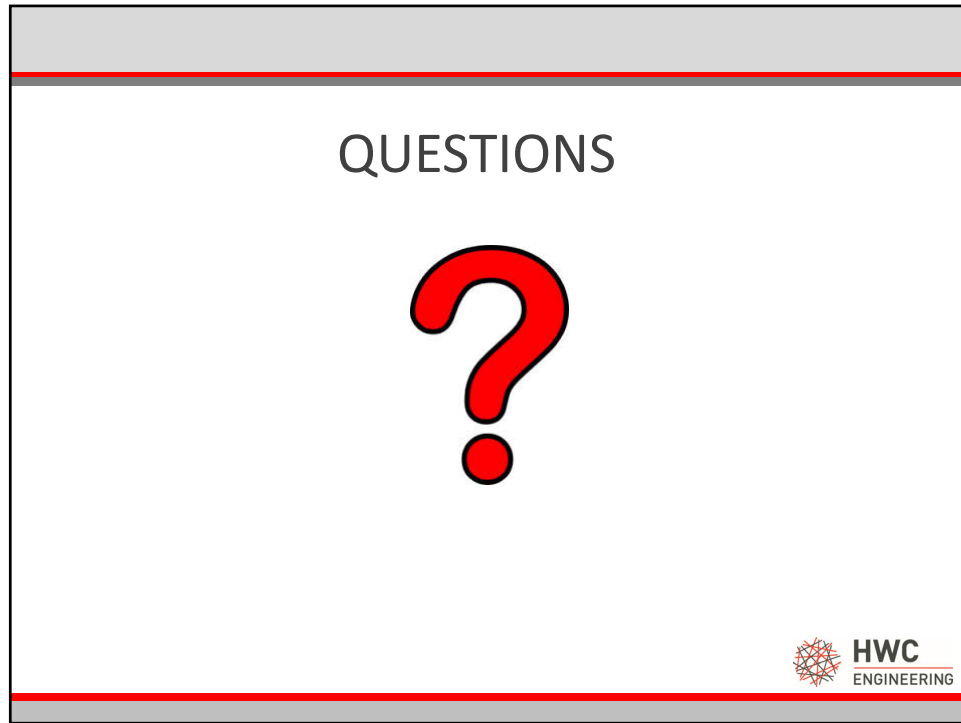
\* Actual Dates to Begin Engineering Phase of Project Can be accelerated if desired



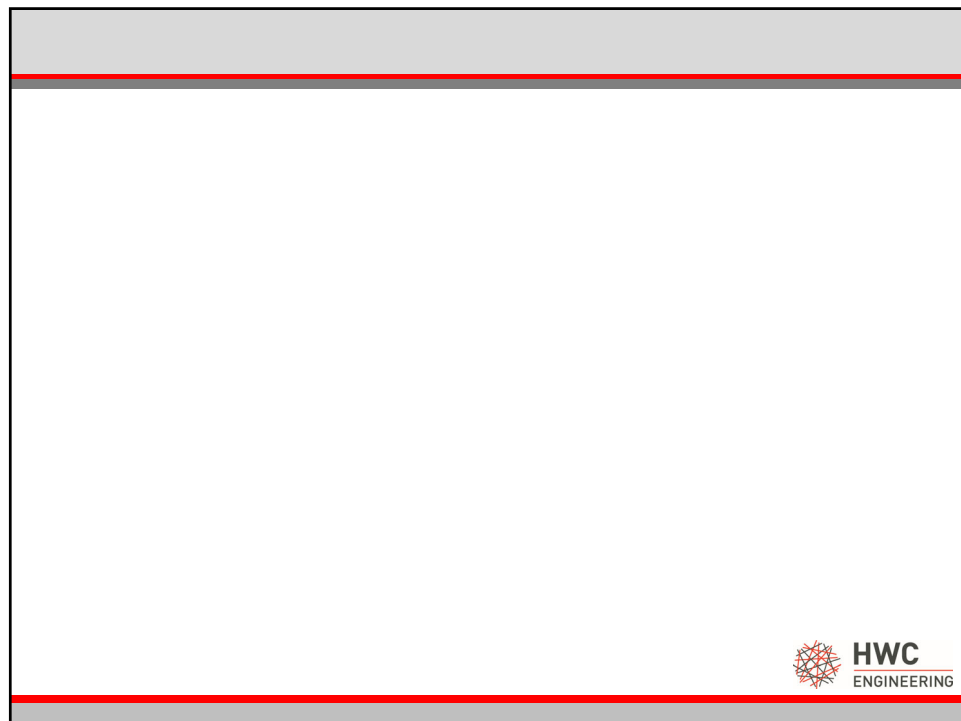
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