Current Trends & Strategy Development for Increasing Septage Disposal at Wastewater Treatment Facilities

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Background
Background- Septage Regulations

• Latest major statute change
  – 2005 Act 347

• Recent major code changes
  – 1987
  – 1994
    • addition of 40 CFR 503 requirements
  – 2005
    • Changes in Maintenance, Treatment Plant requirements, Site approvals
  – Pending 2019/2020
Background-WWTF

- **Solids**
  - 40% of Capital Costs
    - Equipment for solids handling
  - 40% of Operating Costs
    - Power/Aeration
    - Material handling
    - Solids Handling

- **Wastewater**
- **Holding Tank Wastes**
  - Stronger-Water Conservation
- **Septic Tank Wastes**
  - More Solids, BOD, N, P
- **Grease Interceptor wastes**
  - More FOG, BOD
- **Portable Restroom Wastes**
  - More Debris, High N
Background-Maintenance Program

• 3 year cycle

• Little/No Differences for:
  – Number of Bedrooms
  – Number of Occupants
  – Seasonal/Permanent

• Counties implement differently

• Inspection vs. Pumping
  – Who can perform what?
  – Are they qualified?
  – What are they doing?
  – No set requirements
Background-Other Issues

• Land applied phosphorus from wastes contributes to:
  – Soils that are high in phosphorus concentrations
  – Eutrophication
  – Algae growth in surface waters
    • Dead zones
• Nutrient Management Plan Requirements
  – Current exemptions for septage
Background-Septage Servicing

• Trucks Expensive
  – New
  – Used

• Land Application w/ road truck increases vehicle maintenance costs

• Many haulers wish to “pump”, “haul” and “dispose”

• “Disposal” at WWTF when available and if not costly

• Land application out of necessity...no other reasonable options
  – Storage (Small/Larger)
  – Direct Land Application

• Easier disposal solutions favor large companies

• Expertise & problem solving keeps smaller companies in the “game”
Trends
Trends-Wastewater Treatment Fac

• Larger Treatment Facilities have ability to accept outside wastes
• Facilities are not always accepting outside wastes
  – Ex: Stevens Point
• Many Treatment Plants use contractors for sludge disposal
  – Ex: Bytec, PATS, United, etc
• Treatment Plants answer to rate payers & “owners”

• Limit wastes due to:
  – Late Payers
  – Folks that create messes
  – Easier to eliminate all then to put one entity on the spot
• More stringent phosphorus discharge limits
  – $$ to treat wastes
• Septage Receiving Evaluation Requirement
  – “Chicken & Egg”
  – Who will commit?
• Septage Receiving Stations
Trends-Septage

• Septage Characteristics
  – Less solids
  – Less nitrogen
  – Nutrient Loading
    • Nitrogen ~Phosphorus
    • Crop uptakes—
      – 4 +/- time more N needed

• More Grease Generated
  – Collection Systems regulating
    • Restaurants, delis, other
    • Costs associated with collection system maintenance

• No. of Septage Businesses are decreasing
  – Fewer businesses
  – Larger trucks
  – Similar numbers of trucks

• Newer Operators
  – Businesses are being transferred
Trends-Septage (Cont)

• General Increase in Disposal Volumes at WWTFs
• Fewer Land Application Sites available...competition from
  – Animal wastes
  – Industrial wastes
  – Contract Haulers
  – Development

• More difficult to obtain Land Application Sites
  – Good sites no longer readily available
  – Site Reviews follow code requirements

• Increase in No. of Portable Restroom Servicing Companies
  – Out of State
  – More folks use them
Strategies
Potential Strategies

• Who?
  – Department
  – Septage Industry
  – Treatment Facilities
  – Other State Agencies
    • DSPS
    • DATCP
  – Counties
  – Equipment Manufacturers
    • Pre-Treatment
    • Solids Removal
  – Investors
  – Researchers

• What?
  – Focus on Incremental increases at WWTF
  – Add one or two loads per day at small WWTFs?
  – What do WWTFs need?
    • Equipment?
    • Monitoring Incoming Wastes
    • Ordinance Assistance?
    • Better Monitoring of incoming wastes or a protocol
  – Incentives to accept more septage
  – Assist facilities w/ adhering to s. 281.49 Wis. Stats.
Potential Strategies

- **What? (cont)**
  - Focus on reducing septage generated
    - Inspection instead of Pumping
    - Develop consistent Pumping (Cleaning) Guidelines
      - Inspection vs Content Removal
    - Convert Holding Tanks to other types of POWTS
      - Research
      - GW protection/public health concerns

- **Re-Consider Maintenance requirements**
  - Convert 3 year cycle to??
  - Use usage/solids accumulation rather then time?
  - Additional Funding mechanisms for local maintenance programs
    - Revise billing process?

- **Evaluate maintenance costs of POWTS**
  - Compare to “city sewer” charges
  - How can this information be used?
    - WWTF charges?
    - Tax/Fees for implementing funds for storage, other?
Potential Strategies

• What (Cont)
  – Reassess land application
    • Is it still beneficial
      – Nitrogen is less
      – Phosphorus is a concern
    • Is there a better way?
  – Septage Only Treatment Facilities
    • Explore these options
    • Michigan did this
    • What do other states do?
Specific Strategies

- WWTF Survey - underway
  - Needs to be representative
  - Mapped by region/county
  - DNR is working on survey for all wastewater treatment facilities
    - Which WWTFs accept septage?
    - What kind of septage is accepted?
    - Types of Septage Receiving stations
    - Rates
    - Concerns

- Survey Goals
  - What works?
  - What is needed?
    - Receiving and Treatment Equipment
    - Billing
    - Buy-in from “owners” and “rate payers”
    - Buy in from “operators”
  - What can be learned
  - What can be shared?
Specific Strategies

- Funding for septage receiving stations
  - Revolving Loan Program
  - Community Assistance
  - Low Interest Loans
  - Loan Forgiveness