Analyzing Your Resources: What Goes on Around You is Important!
Knowing your territory

- Be aware of WWTP issues for receiving waste
- Local farming manure application trends
- Local trends of public environmental awareness
- Area development: residential and commercial
Current cost of disposal

- Current costs at WWTP
- Time to and from WWTP
- Hours WWTP is open
- Materials that they accept
Company

- Does it run you or do you run it?
- Size
- Public relations
- Employees
- Customers
- State and local authorities
Resources

- NAWT
  - Symposium
  - Cost analysis spread sheet

- Field trips
  - Look at facility lay outs
  - No need to reinvent the wheel
Talk to existing facility owners
  ◦ We usually love to talk dewatering!!
Be involved with the Industry
Do you own your property?
Farmers in your area
Other pumpers to partner with
  ◦ Co-op Other industries do it, why can’t we?
Sighting your facility

- Zoning concerns
- Access
- Centrally located
- Look for existing properties and buildings that could be great opportunities
Your Facility

- Recycling of machines and repurpose of materials (www.govdeals.com)
- KISS (Keep It Simple Stupid)
- Gravity is your friend
- Keep it safe
Your Facility

- Have necessary safeguards to protect the environment
- Be a good neighbor
- Allow room for expansion
- Waste streams to be accepted
- Layout is important
Plan ahead for unique opportunities

Storage
- Importance of mixing
- Incoming wastes
- Supernatant water
- Sludge cake
Don’t forget screening

- Screen out trash early in facility
- The cleaner the better
- Do not grind – will come back to haunt you
Facility project team

- You
- Employees
- Operator
- Accountant
- Engineer
  - Must understand the project and vision
- Regulators
- Construction
  - Hired to do job
  - You and employees
Simple transfer station

- Low volume
- Low cost at WWTP
- Low investment
- Lets trained employees keep servicing customers
Land applying

- May need to purchase equipment
- Fields
  - Rent
  - Purchase
- Follow THE RULES and KEEP PROPER RECORDS
- Must have options for storage
Partnering with farmers

- Farmers understand agronomic loading
- May have existing equipment
- Must have options for storage
- No land purchase expense
- Follow THE RULES and KEEP PROPER RECORDS
Dewatering boxes

- Low investment
- Liners (Bags)
  - permanent or disposable
- Polymer addition necessary
- Plan to move and haul boxes
- Can be done inside or outside
Dewatering boxes

- Need storage
- Now have two materials to dispose of
  - filter cake
  - water
- Good stepping stone
- Expandable
Many different technologies
Two materials to dispose of
Drier cake
Polymer addition necessary
Need storage
Larger expense
Can be designed for larger volumes and expansion
You have separated it – now what?

- Water needs to have further treatment
  - WWTP
    - Will have to purchase capacity at plant
    - Price per gallon will vary by facility
    - Surcharges
  - Spray irrigation
  - Sub surface
You have separated it – now what?

- Sludge cake
  - Landfill
  - Land applied
  - Further treatment
NAWT Symposiaums
Tim Frank Septic

- Family owned since 1966
  - 3rd generation now on board
- Located Northeast Ohio
  - Snow belt
Tim had a philosophy:

We should have the ability to properly dispose of the materials we pump and not rely on others to provide us with disposal options.
Tim Frank Septic

- Options for disposal were minimal
- Site of the first waste symposium
- Treats septage and aerated waste
- Does not accept outside haulers
The Evolution of Disposal

- Started early with land application
- Added holding lagoons for winter storage
- 503 regulations and company growth
  - A press is added outdoors (WHAT WERE WE THINKING??!!)
- 1999 Started construction of 1ST building
2005 wetlands, holding pond, and spray irrigation are put into use

December 2007 – fire levels building and destroys contents
June 2008 building rebuilt and operational again
2012 Ohio EPA issues a NPDES permit for our spray irrigation discharge
Kline Services

- Hosted 2nd waste treatment symposium
- Large full service company located in central Pennsylvania
- Saw need early to have the ability to properly handle the volume and types of waste they were called to dispose of
- Has adapted there waste handling options over the years to provide not only disposal but waste to energy production
Located in Union, Missouri
Started facility from scratch
Treatment included a belt press, circular clarifier, and aerated lagoons which discharge to the Bourbeuse River
Recently a large soil absorption field was designed, once installation is completed the discharge will be abandoned
Located in Orlando, Florida
Totally open air facility
Started as lime stabilization and land application
Belt press added – solids disposed of at landfill and water transported to WWTP
Connection made to WWTP for water
Liquid Assets Disposal

- Located in Wheeling, West Virginia
- Built on bare lot
- Small foot print
Sierra Septic Service

- Located in Sutter Creek, California
- Used site topography to their advantage
- Utilizes dewatering boxes and Alar press
- Sunny California and solar panels provide electric for facility
James Penner’s Facility

- Located in Clayton, Indiana
- Reinvented the wheel using his own technology, In The Round Dewatering
  - Works like a dewatering box but slowly turns
- Low power
- Small footprint
- Partnered with WWTP
QUESTIONS

- 2015 SYMPOSIUM
  - Virginia Beach, Virginia  November 2016