

Deep Row Hybrid Poplar Project Update

OWEA Biosolids Workshop



THE CITY OF
COLUMBUS

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Compost Facility



Mayor's Green Team

Green Principles

March 17, 2006

The **City of Columbus** is committed to achieving an environmentally sustainable community that meets today's needs without compromising the ability of future generations to meet their needs, and accepts the responsibility to promote these **Green Principles** in policy decisions and programs.

1. **Promote and implement environmental quality** for current and future generations when making decisions regarding growth management, transportation, energy, water, air quality and economic development.
2. **Provide for the needs of a growing population in a manner that enhances prosperity and sustains a diverse, resilient and healthy environment** when establishing policy on land use, infrastructure development, open space preservation, healthy lifestyles, preservation of natural resources, growing food locally, and the greening of the city through tree planting and parks development. Prioritize the impact of regional consequences and opportunities.
3. **Strengthen economic vitality** and economic security within the community through environmentally based policies that create jobs, promote entrepreneurship, and expand green business opportunities. Promote products and services that enhance environmental, social and economic vigor by adopting and implementing sustainable procurement practices. Utilize research & development as a vital tool in promoting green economic development, seeking advancements and break-through technologies.
4. **Reduce demand for natural resources** through energy efficiency, water conservation and sustainable land use. Promote construction of high-performance, green buildings based on long-term environmental impact and operating costs.
5. **Promote waste management strategies** that seek to reduce, reuse and recycle. Vastly improve awareness and participation in recycling programs in the community. Seek opportunities to reduce the waste stream of solid waste. Implement programs that address all forms of waste, including solid waste, wastewater and organic waste.
6. **Encourage transportation and mobility alternatives** that decrease use and dependence on petroleum-based fuels while improving outdoor air quality. Promote energy independence by seeking non-petroleum, renewable fuel sources. Support a variety of choices to the community that promote pedestrian access, transit, bikeways and healthy lifestyles.

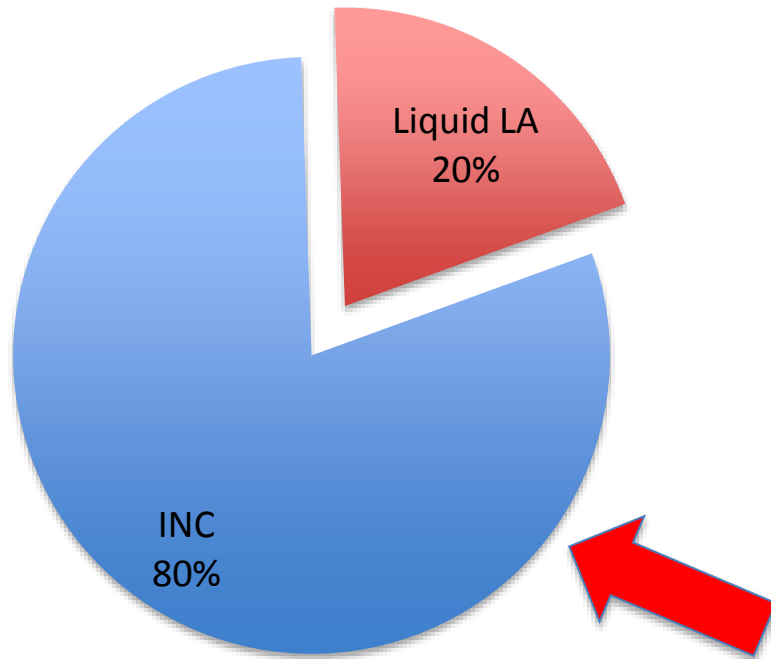
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**Solids Treatment
Utilization
Master Plan
Considerations
(STUMP)
2009**

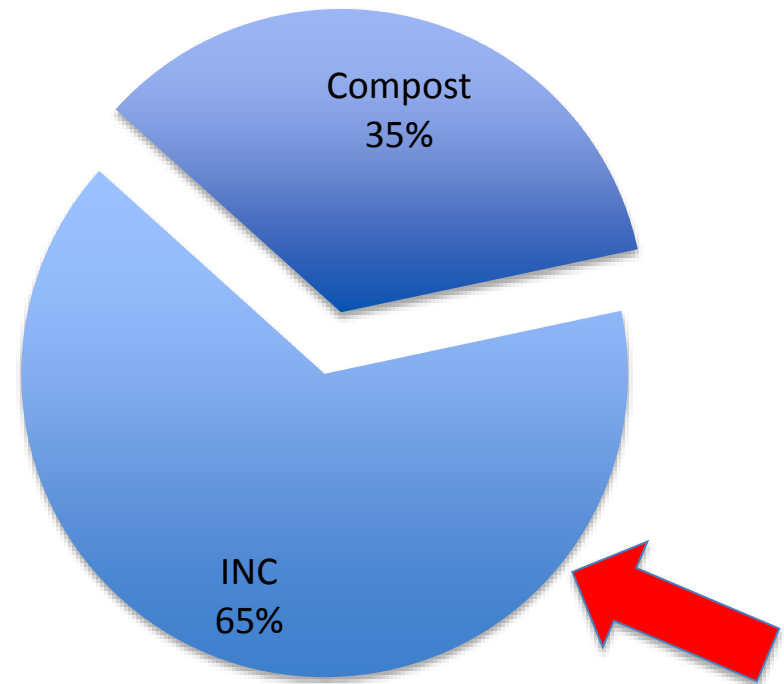


Where we were..... Incineration Dependent!

**Jackson Pike Biosolids
2009, Dry Tons**

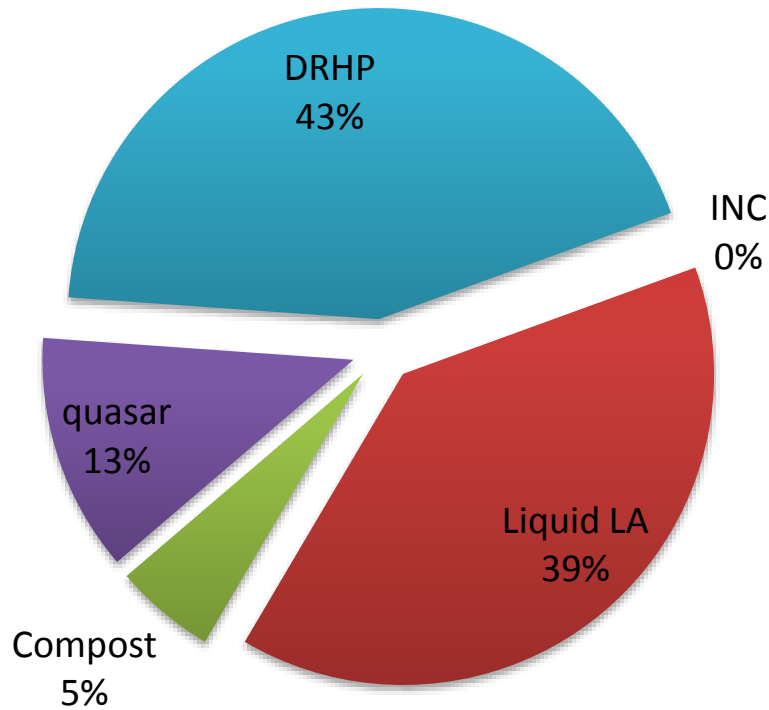


**Southerly Biosolids
2009, Dry Tons**

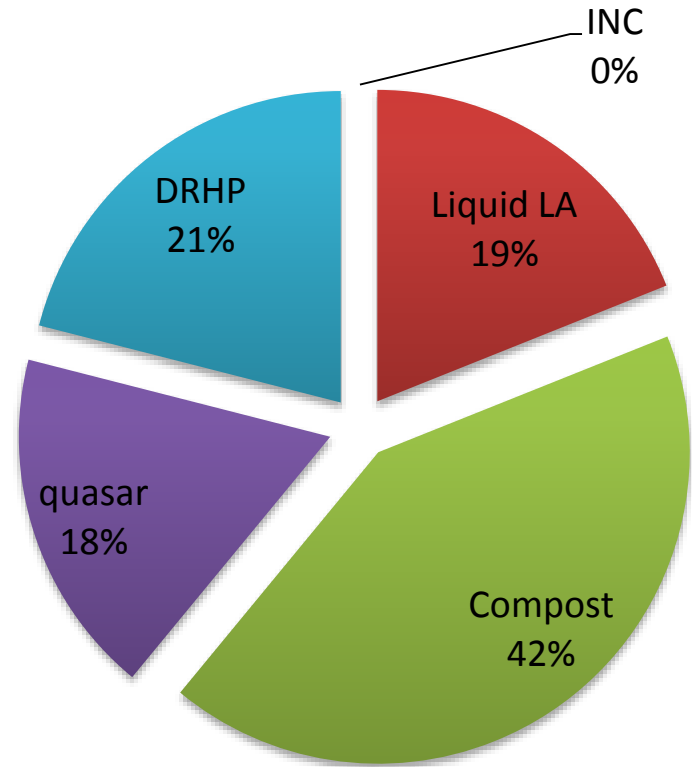


Where we are going..... 100 Percent Beneficial Reuse!

**Jackson Pike Biosolids
2016+, Dry Tons**

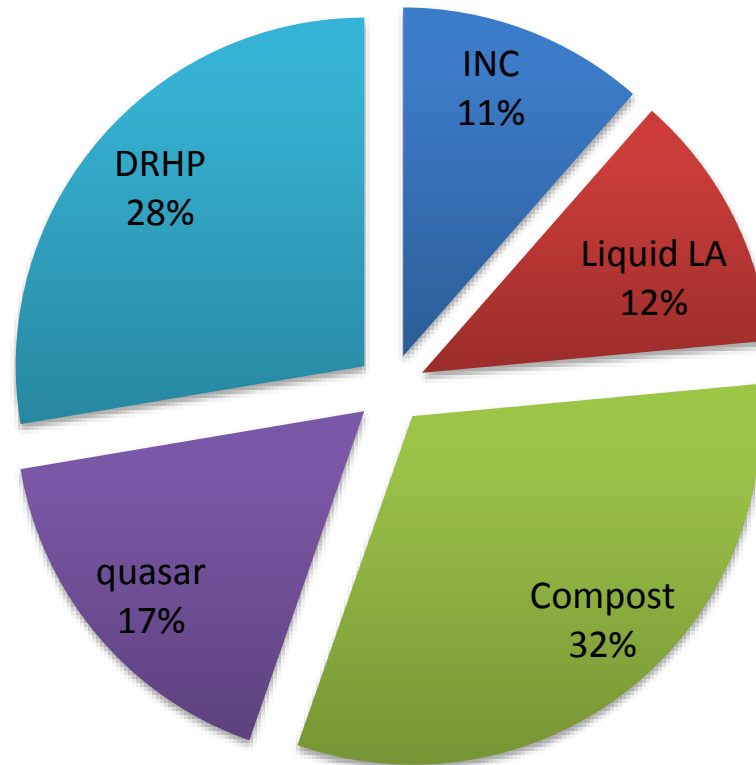


**Southerly Biosolids
2016+, Dry Tons**



2014 Plants Combined

Southerly and Jackson Pike Biosolids 2014, Dry Tons



- The City of Columbus Wastewater Treatment Plants have a combined annual production of 24,500 Dry tons of biosolids.
- 125,000 wet tons of Class B biosolids at 20 percent total solids (TS) are produced per year.
- 125,000 wet tons of Class B = 5,500 semi loads per year.



NEW LEXINGTON TREE FARM – DEEP ROW HYBRID POPLAR PROJECT

**OHIO
MULCH**

MULCH • SOIL • STONE

**INTRINSIC
SERVICES**

 **MATERIAL
MATTERS, Inc.**



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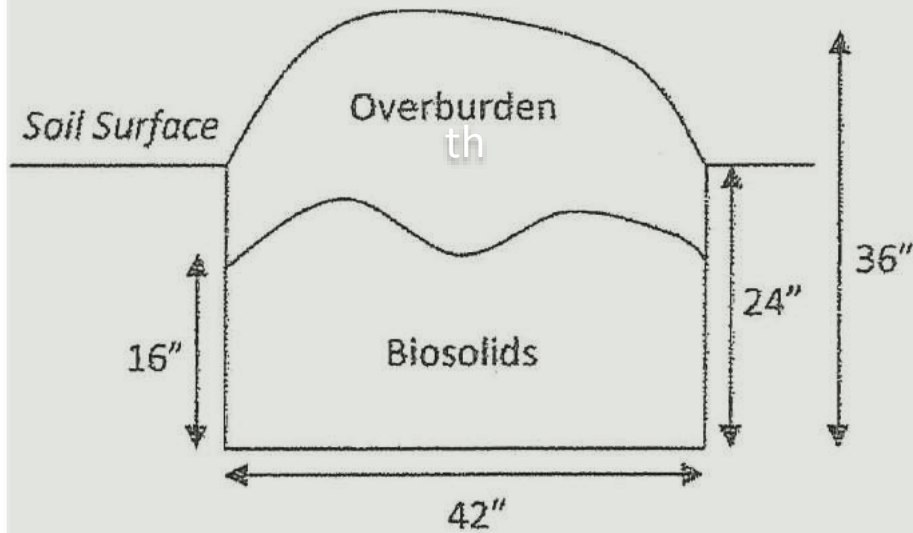
30,000 WET TONS/YR =

~ 1500 TRUCK LOADS PER YEAR

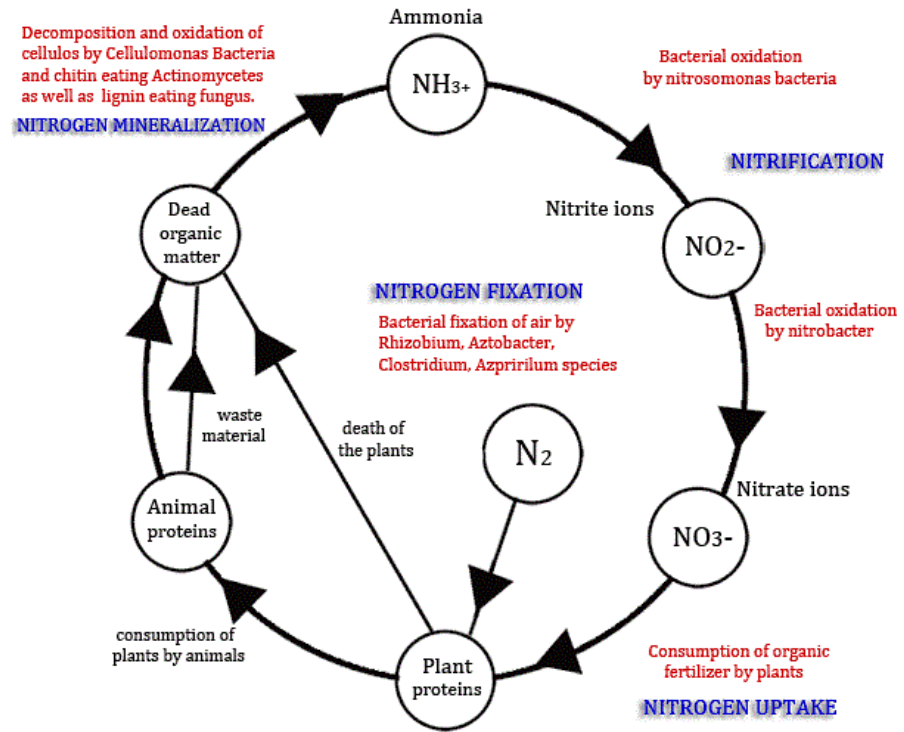


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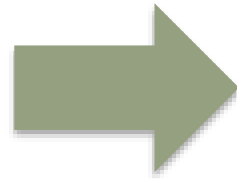
TRENCH CONSTRUCTION



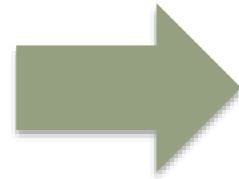
NITROGEN CYCLE



HARVEST POPLARS AFTER 6-9 YEARS GROWTH



IMPROVING SOIL, REDUCING RUNOFF



**MINE
SPOIL**

**PLANT
AROUND THE
BOULDERS**



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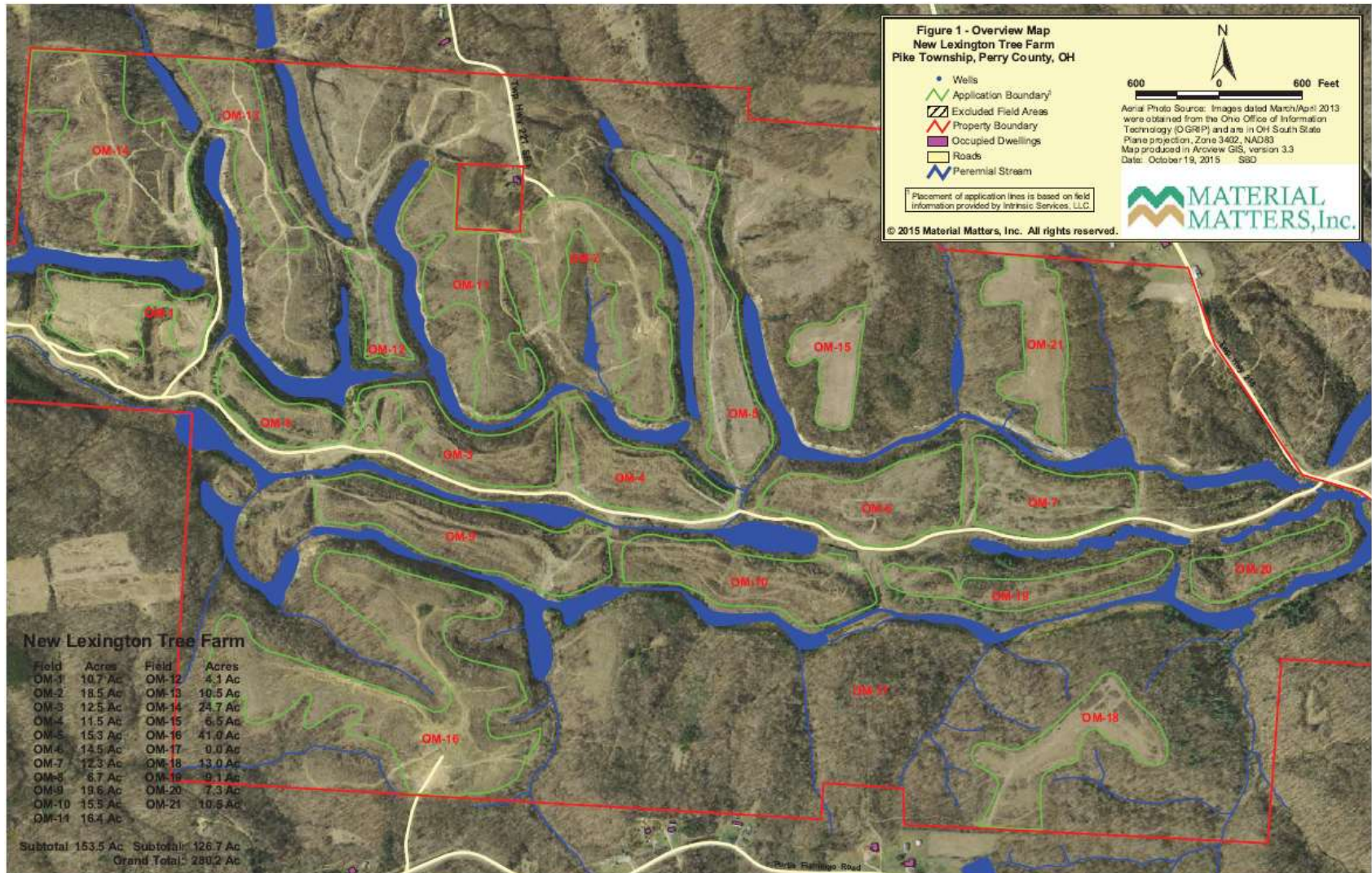
New Lexington Tree Farm – Pike Township, Perry County





ENVIRONMENTAL REGULATION





Ohio Mulch - New Lexington Tree Farm Capacity as of WE112215

Field	Permitted Acres	Target Wet Tons	Wet Tons Applied	Status
OM-1	10.7	6,625.44	6,690.32	Complete, lime delivered.
OM-2	18.5	11,455.20	11,518.01	Complete, limed and partially planted.
OM-3	12.5	7,740.00	4,452.24	In Progress
OM-4	11.5	7,120.80	5,892.09	In Progress
OM-5	15.3	9,473.76	8,499.92	In Progress
OM-6	14.5	8,978.40	8,968.10	In Progress
OM-7	12.3	7,616.16	6,439.90	In Progress
OM-8	6.7	4,148.64	4,015.40	Complete
OM-9	19.6	12,136.32	7,830.07	In Progress
OM-10	15.5	9,597.60	7,817.06	In Progress
OM-11	16.4	10,154.88	10,101.44	Complete
OM-12	4.1	2,538.72	0.00	Ready
OM-13	10.5	6,501.60	0.00	Ready
OM-14	24.7	15,294.24	352.30	In Progress
OM-15	6.5	4,024.80	0.00	Ready
OM-16	41	25,387.20	0.00	Ready
OM-18	13	8,049.60	0.00	Ready
OM-19	9.1	5,634.72	0.00	Ready
OM-20	7.3	4,520.16	0.00	Ready
OM-21	10.5	6,501.60	0.00	Ready
	280.2	173,499.84	82,576.85	



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Google Earth Image shows application IN ACTION!





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**BARE
ROOT
POPLARS**

**READY TO
PLANT**



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POPLAR GROWTH

**ONE YEARS
WORTH OF
GROWTH
SHOWN**

**2 years
growth**



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OPERATIONS CHALLENGES



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DIRT ROADS

**IMAGINE
THIS ROAD
DURING
THE JUNE
2015
RAINS....**



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REALITY CHECK

BIOSOLIDS
AVAILABILITY



MATERIAL
MOVES

GOOD ROAD
CONDITIONS



SOLUTIONS



ALL TERRAIN TRUCK

**SHORT TERM STORAGE BUILDING
ON SITE**

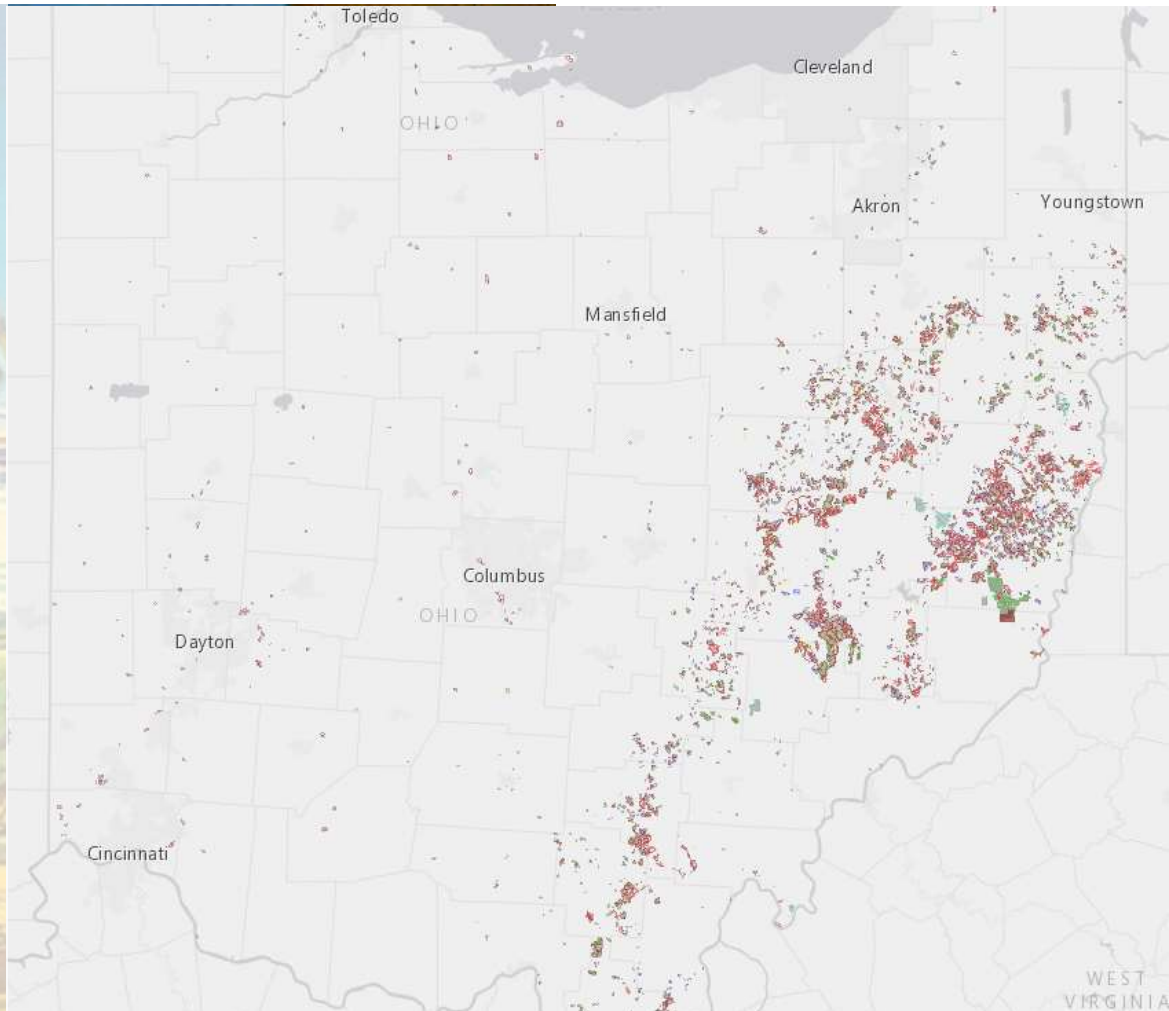
**QUICK RESPONSE TO AVAILABLE
MATERIAL AND GOOD WEATHER**

**“MAKE HAY WHILE
THE SUN SHINES”**



**THINGS
HAPPEN.**

THE FUTURE



Mines of Ohio
ODNR



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QUESTIONS?



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**Bringing
biosolids
and
agriculture
into the
public
eye...
on Mars.**

Credit: The Martian, 2015

