

Business Item 2013-193: Adoption of Facility Plan for Empire WWTP Solids Processing Improvements

Bryce Pickart, Assistant General Manager, Technical Services

Environment Committee, July 9, 2013



Empire WWTP

Digestion Process

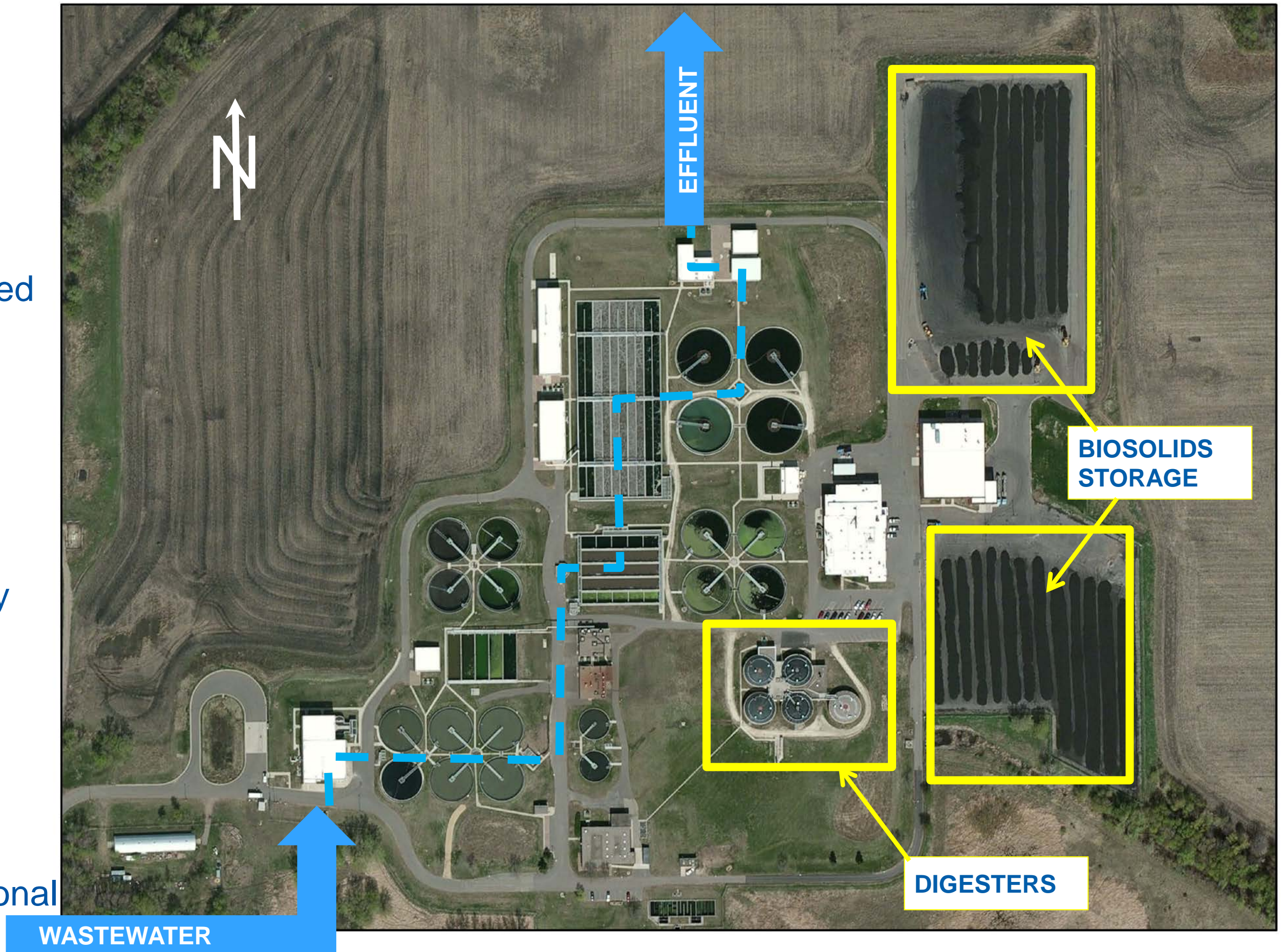
- Converts solids into methane and stabilized biosolids
- Need solids, heat, time, and mixing

Energy

- Digester gas currently fuels boilers
- 30% digester gas is flared

Pad Capacity

- Need 9 months seasonal storage



 Needed Improvements

Recommended Project

Estimated capital cost = \$15M

Design 2014

Construction: 2015-16

Objective	Project Element
Increase digester capacity	Convert 2 existing digesters, currently used as storage tanks, to primary digesters
Increase beneficial use of digester gas	Add 800 kW combined heat & power (CHP) system
	Add digester gas treatment & storage
	Add high strength waste receiving
Increase pad storage capacity, reduce precipitation impacts	Pad storage demonstration of alternatives to achieve & maintain drier cake solids
	Increase & equalize pad drainage

Combined Heat and Power System

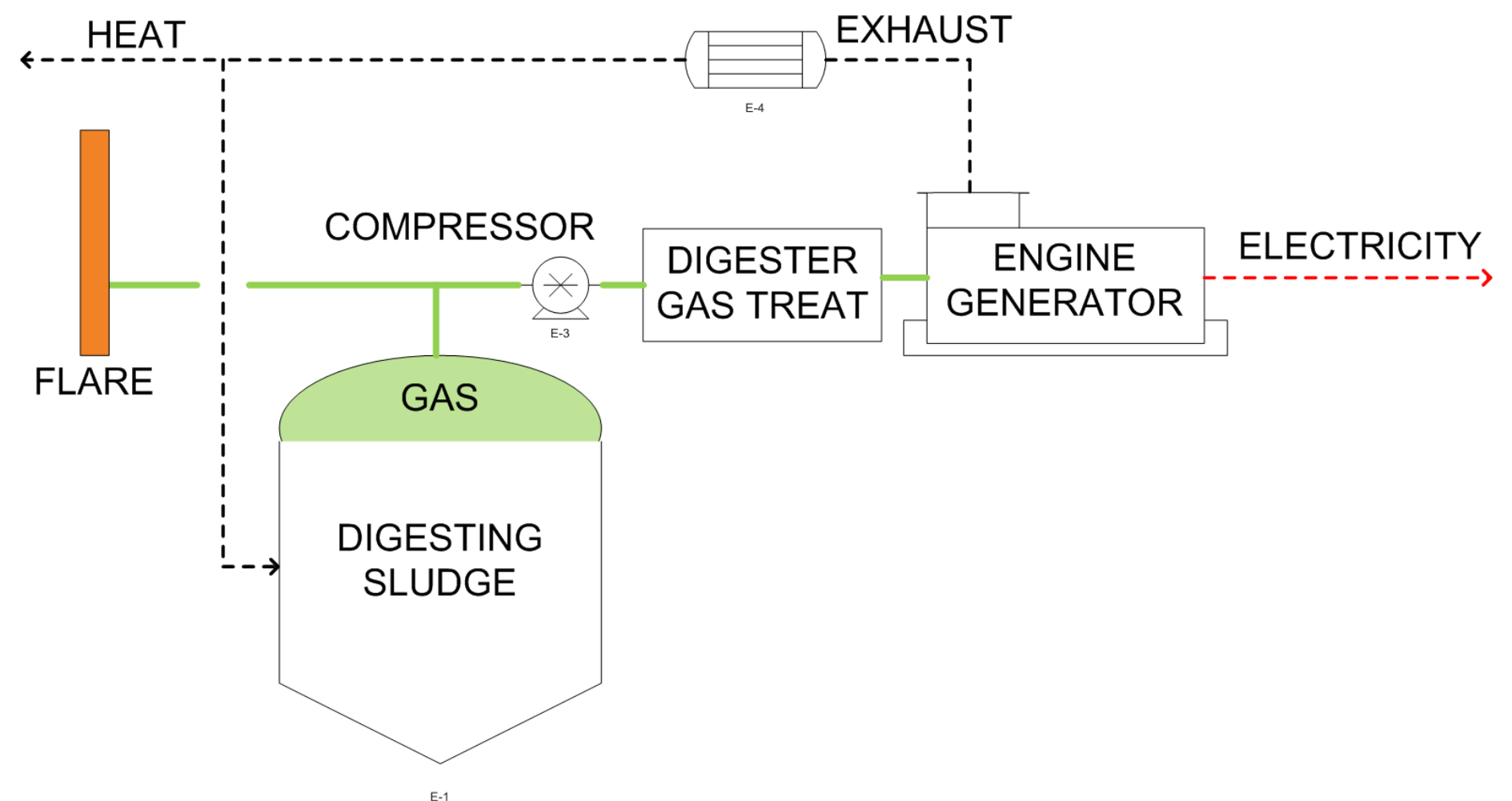
Digester gas treatment & storage will reduce flaring and improve gas quality

Electricity Production

- >1/3 of the plant's power needs
- \$350k/yr electrical
- Net greenhouse gas benefit = 480 cars off the road

Recovered Heat

- meets digester heating needs
- additional heat for buildings



Public hearing held May 30, 2013 at the Empire Town Hall and
Comments were addressed.

No additional comments were received during the 30-day public
comment period.

RECOMMENDATION

Council to Adopt the Empire Wastewater Treatment Plant Solids Improvements Facility Plan, MCES Project No. 807400, by Council Resolution