

# Project #21-031 Logan City Compost Facility Located at approx. 2100 West 200 North

#### REPORT SUMMARY

Project Name:
Proponent/Owner:

Project Address: Request:

Current Zoning:
Date of Hearing:
Type of Action:
Submitted By:

Logan City Compost Facility
Tyler Richards / Logan City

2100 West 200 North Conditional Use Permit

Public (PUB) June 10, 2021 Quasi-Judicial

Russ Holley, Senior Planner

#### RECOMMENDATION

Staff recommends that the Planning Commission **conditionally approve** a Conditional Use Permit for Project #21-031 Logan City Compost Facility, located at approx. 2100 West 200 North, TIN# 05-057-0001; -0004; -0005; -0006.

Land use adjoining the subject property

North:	PUB: Public Uses	East:	PUB: Vacant	
South:	Outside of City Boundary	West:	PUB: Public Uses	

#### Request

The proponent is requesting a Conditional Use Permit (CUP) to construct a new 17-acre compost facility containing a green waste drop off, aerated static piles, and compost components areas near the north border of the project site. The proposal also includes a community garden area, 40'x40' red barn, parking lot and new access road. Landscaping berms are proposed around the site for visual buffering and aesthetic purposes. The proposed plan shows some small shops and equipment storage areas. The proposed facilities are adjacent to the new Logan City wastewater treatment facility north of 200 North (HWY 30).



Figure #1 Shows the Project Proposal

#### Conditional Use Permit

The CUP process provides a system for discretionary consideration for applications that are not typically associated with the zoning district or considered conditional. CUP approvals should preserve and enhance neighborhood character and protect public health, safety and general welfare. LDC 17.52.050 states that an expansion of a conditional use must first obtain a CUP. Below are the criteria for CUP approvals in the LDC.

#### §17.42.050 Planning Commission Action

The Commission may approve or conditionally approve a conditional use permit only upon substantiating the following findings:

- A. The maximum established density has not been exceeded, unless a density bonus has been approved in conformance with General Plan policy and City ordinance.
- B. The proposed use conforms to the requirements of Title 17 of the Logan Municipal Code and is listed as a conditional use in the Use Table.
- C. The use is compatible with surrounding land uses and will not interfere with the use and enjoyment of adjoining or area properties.
- D. The streets providing access and other infrastructure to the subject property have adequate capacities or a suitable level of service for the conditional use.
- E. The proposed use is compatible with neighborhood uses and character while preserving and enhancing the character of the neighborhood.
- F. Access to adjoining streets is designed to be constructed in conformance with City standards and specifications. Where adjoining streets are regulated by the Utah Department of Transportation, access to street(s) shall conform to the requirements of the Cache Access Management Plan.
- G. The proposed use provides adequate off-street parking in conformance with this Title.
- H. The project provides open space and landscaping in conformance with this Title.

When approving a CUP, the Planning Commission must substantiate the above list of criteria. The majority of the list is quantifiable standards such as density, parking, open space and access. The more difficult parts of CUP approvals include substantiating the "preservation and enhancement of neighborhood character" and "compatibility and interference with use and enjoyment of neighboring properties". Public Facilities are conditionally permitted within the PUB zone and this particular use has some distinct impacts. Smell and odors are the biggest impacts associated with this proposal. As compost materials are turned and aeriated, oxygen and decomposition with produce odors. Traffic is another impact as both citizens and employees visit the property. UDOT controls the adjacent street access. UDOT's traffic congestion mitigation and large volumes on this road should make traffic impacts minimal.

#### Setbacks

The Land Development Code (LDC) requirements for setbacks in the PUB zone are as follows (as measured from property lines):

Front: 20" Side: 20' 10' Rear:

River: 25' from top of bank Canal: 15' from top of bank

The submitted site plan shows buildings outside of setback area. As proposed, the project meets the setback requirements in the LDC.

2

#### Parking

The LDC does not specifically assign a parking requirement for composting facilities. Alternative parking plans provide flexibility for unique land uses and unique parking situations like this one. The submittal shows a 36-stall parking lot for the community garden area. Employee parking would be the only other parking demand as folks that are coming to the property in an automobile drop off green waster or pick up compost material are not parking, only waiting, loading/unloading and then driving away. Two employees currently work at the existing compost facility. The larger flexible space for composting could accommodate employee vehicles and composting equipment in numerous areas around the perimeter of the facility as it is all a paved surface. The Planning Commission has the flexibility to review and approve or deny alternative parking proposals.

#### Lot Coverage

The LDC does not prescribe a density maximum or a minimum amount of open space in the PUB zone like it does for most other zones but does limit lot coverage to 50% maximize. Lot coverage is a ratio between landscaping/native/open space areas and building/development areas of a property. At over 75 acres in total site area, the compost facility and community garden are at approximately 20 acres and below the 50% maximum lot coverage. As proposed with a lot coverage below 50%, the project complies the LDC requirements.



#### Summary

With smells/odor being the biggest impact of the proposal, this is a well-suited site located over a mile from the nearest business or residence inside the city boundary. This site is ideal from a logistics standpoint with the wastewater treatment plant being located directly adjacent. Being proposed at a setback of approximately 500 feet from 200 North (HWY 30), visual impacts can be minimized through strategic landscaping and berming techniques. The community gardens will offer an opportunity for citizens to grow produce and interact with like-minded folks. A nicely design barn could become a landmark and welcoming entry feature to the city, reminding folks of the City's agricultural heritage.

#### AGENCY AND CITY DEPARTMENT COMMENTS

Comments were solicited from the following departments or agencies:

•	Water	
•	Engineering	

#### **PUBLIC COMMENTS**

Notices were mailed to property owners within 300 feet of the subject property. As of the time of this report, there have been no comments from the public.

#### **PUBLIC NOTIFICATION**

The project was noticed in the Herald Journal on 05/24/21 and posted on the Utah Public Meeting Notice website on 05/31/21. Public hearing notices were sent to property owners within 300' on 05/29/21.

#### RECOMMENDED CONDITIONS OF APPROVAL

This project is subject to the proponent or property owner agreeing to comply with the following conditions as written, or as may be amended by the Planning Commission.

- 1. All standard conditions of approval will be recorded with the Design Review and are available in the Community Development Department.
- 2. This Conditional Use Permit authorizes the Logan City Compost Facility on the indicated properties and in accordance with the proposed plans.
- 3. Vehicular access specifications shall be determined by UDOT.
- 4. The Planning Commission reviewed and approved the parking plan showing 36 parking stalls as proposed for the barn and community garden.
- 5. Employee parking for the compost facility, which is currently two employees, can be accommodated at the wastewater treatment operation building or on the perimeter of the compost facility.
- 6. The final barn design will be reviewed and approved by the Planning Commission when that phase is proposed for construction at a later date.
- 7. The landscaping berm and screen shall be utilized for the wastewater treatment facility and the compost facility to visually screen uses/structures. The barn and community gardens should not be visually screened and designed to be a welcoming landmark to the valley.
- 8. Lot coverage shall not exceed 50%.
- 9. Prior to a building permit being approved and issued, a stamped licensed property survey shall be submitted verifying 25-foot river setbacks (top of bank), other required setbacks and overall property dimensions.
- 10. Prior to issuance of a Building Permit, the Director of Community Development shall receive a written memorandum from each of the following departments or agencies indicating that their requirements have been satisfied:
  - a. Engineering —contact 716-9153
    - The Environmental Department will need to schedule a meeting with UDOT CAMP for access requirements to SR-30.
    - Will coordinate any water/sewer connections during design review for building permits. This will include water shares or in-lieu fees for water.
    - Must comply with current storm water design standards and construction permits with State
  - b. Water/Cross Connection—contact 716-9627
    - If Logan City water is to be used for this project, the line serving this project must be after a RP (ASSE1013) backflow assembly for containment protection. (assembly in heated building for year-round use). Then points of use protection will be needed per code.
    - All points of use of water must comply with the 2018 IPC and State of Utah Amendments and the Utah Admin Code 309-305 during and after construction.
    - Project shall comply with all current plumbing codes, Utah State Amendments, Utah Division of Drinking Water rules and regulations including, but not limited to, those pertaining to backflow protection and cross connection prevention.

#### RECOMMENDED FINDINGS FOR APPROVAL FOR THE CONDITIONAL USE PERMIT

The Planning Commission bases its decisions on the following findings supported in the administrative record for this project:

- 1. The proposed project as conditioned is compatible with surrounding land uses and will not interfere with the use and enjoyment of adjacent properties because of the site layout, lot coverage, landscaping and setbacks.
- 2. The Conditional Use Permit conforms to the requirements of Title 17 of the Logan Municipal Code.
- 3. The proposed project provides off-street parking in compliance with the LDC.
- 4. The project met the minimum public noticing requirements of the Land Development Code and the Municipal Code.
- 5. The surrounding streets provide access, utilities and are adequate in size and design to sufficiently handle all traffic modes and infrastructure related to the land use.

This staff report is an analysis of the application based on adopted city documents, standard city development practices, and available information. The report is to be used to review and consider the merits of the application prior to and during the course of the Planning Commission meeting. Additional information may be revealed by participants at the Planning Commission meeting which may modify the staff report and become the Certificate of Decision. The Director of Community Development reserves the right to supplement the material in the report with additional information at the Planning Commission meeting.



# APPLICATION FOR PROJECT REVIEW

For Staff, Only			
Planning Commission	□ Land Use Ap	□ Administrative Review	
Date Received Received By	Scheduled Meeting Date	Zone	Application Number
5 7 7	JUNE 13	PUB	PC 71-031
Ту	pe of Application (Check	(4.1.1	
☐ Design Review			
			nistrative Design Review
_ : ippod:	☐ Zone C	hange □ Other	
PROJECT NAME Logan City Compost Facility			
PROJECT ADDRESS			COUNTY PLAT TAX ID #
200 N 2100 W Logan, UT 84321			05-057-0001, 0004, 0005, and 0006
AUTHORIZED PROJECT REPRESENTATIVE FOR OW	NER		PHONE #
NA TYLER KICHARDS			FIIORE #
MAILING ADDRESS	CITY		
MALINO ADDICES	CITY	STATE	ZIP
EMAIL ADDRESS			
	104)		
TYLER. KICHARDE 1064MU	H41.0/24		
PROPERTY OWNER OF RECORD			PHONE #
Logan City			(435) 716-9755
MAILING ADDRESS	CITY	STATE	ZIP
153 N 1400 W	Logan		UT 84321
EMAIL ADDRESS			
lssa.hamud@loganutah.org			
DESCRIBE THE BRODOSED BRO JECT AS IT SHOULD	DE NOTIOES AND SECOND		
DESCRIBE THE PROPOSED PROJECT AS IT SHOULD (Include as much detail as possible - attach a separate	BE NOTICED AND PRESENTE sheet if needed)	D	Total Lot Size (acres) Total of four lots is 75.4 acres
, and a position and a copulation	, should house a		rotal of four lots is 75.4 acres
			Size of Proposed New Building
			(square feet) 6000 ft <sup>2</sup> shop, 1500 ft <sup>2</sup>
See atta	ched letter		garden shed, 200 ft <sup>2</sup> sale house
			Number of Proposed New Units/Lots
			3 Buildings
			15-acre compost pad
I certify that the information contained in this application a	and all Signature	of Property Owner's Author	orized Project Representative
supporting plans are correct and accurate. I also certify the	hat I	NEW MAY	
am authorized to sign all further legal documents and per on behalf of the property owner.	and		
I certify that I am the property owner on record of the subj	ect Signature	of Property Owner	
property and that I consent to the submittal of this project.			
I understand that all further legal documents and permits be sent to my authorized agent listed above.	will _	Alum	0,
and the state of t		I would be a second of the sec	



May 7, 2021

Logan City Planning Commission 290 North 100 West Logan, UT 84321

#### Dear Commissioners:

Logan City Environmental Department (LCED) is applying for a Conditional Use Permit for a new Logan City Compost Facility. The new location is at 200 North 2100 West adjacent to Logan Regional Wastewater Treatment Plant (LRWTF) that is under construction, on parcel numbers; 05-057-0001, 05-057-0004, 05-057-0005, and 05-057-0006. This letter will address the needs for a new and larger compost facility as well as the phasing of construction and implementation time line.

LCED has operated a windrow composting facility next to the Logan Landfill since 1996. The current facility consists of 7.75 acres of improved asphalt and concrete, where all types of green waste are processed. The processing includes grinding, screening, composting, and coloring of mulch products. In the last 10 years there has been a significant increase in the amount of green waste received. In 2010, we accepted 8,397 tons of green waste. In 2020 we received 18,051 tons of green waste which equates to an average increase of 1,000 tons annually. This is only expected to increase with continued growth in Cache Valley. We have run out of room at the current location to compost all the green waste received.

When the new wastewater treatment plant is complete and operational it will begin producing biosolids which can be beneficially reused by composting and applied to lawns and gardens as a soil amendment. The estimated biosolids production is 50 wet tons daily, which is an additional 18,000 tons of material annually that will need to be composted. One issue with composting biosolids is the increased potential for foul odors. The odor potential is significantly reduced by using an aerated static pile method of composting versus windrow composting.

We currently compost a green waste mixture of leaves, grass, ground garden waste, ground limbs and manure using the windrow method. With windrow composting a large windrow turner is driven through the pile multiple times a week mixing the compost and entraining air into the mixture. The correct ratio of temperature, moisture, and air inside the windrow is imperative for the composting process. The draw back to turning the windrows is that it is a release mechanism for odors. The aerated static pile method of composting does not require the compost to turned, thereby eliminating the large odor release mechanism. Instead, an air plenum is placed inside the compost pile and air is forced



through the pile to supply the microorganisms with oxygen to facilitate the composting process. The benefits of the aerated static piles are reduced odors and faster composting times. The new composting site will utilize the aerated static pile system.

The new Logan City Compost Facility will include 15 acres of asphalt/concrete composting area, 4.85 acres for a community garden center, a UDOT approved access road from 200 North (SR-30), Storm water control measures, site landscaping to visually screen the facility, and a "Welcome to Logan" sign for the west gateway into Logan. Construction of this facility will be broken into three phases to coincide with the expected Biosolids production from the LRWTF beginning early 2022. The attached drawings show the proposed site layout and phase sequencing.

Phase I will be constructed this year. This phase will include 5 acres of elevated asphalt surface for composting, blowers and related equipment to supply air to aerated static piles. An access road connecting the LRWTF to the asphalt pad will also be constructed on the north side of the property. The 5-acre area that will be used for Phase I was previously delineated for wetlands as part of the LRWTF project, thus no wetlands will be impacted with this phase. Storm water will be managed in a manner similar to the LRWTF with sheet flow into curb and gutter which will convey the water into a storm drain box. Storm water will then be pumped from the box into the lagoons for storage. Once construction of Phase I is completed the composting of biosolids and green waste will begin on this site. All receiving, grinding, and sales of compost will remain at the current compost location next to the landfill until Phase II is complete.

Phase II will be constructed in 2022, allowing this year for design and environmental permitting. The 10 acres the Phase II project is located on appears to have significant wetlands. LCED has begun the delineation and wetland mitigation process with the US Army Corps of Engineers. Phase II includes 10 additional acres of compost area. This additional area will allow LCED to move the entire green waste program to the new location. Phase II also includes the UDOT approved access, community garden, site screening landscape berms, and the "Welcome to Logan" sign. Once Phase II is complete all green waste will be received, ground, composted and sold at the new location. Odors will be managed through the use of aerated static piles and bio-filters as need. LCED is developing an odor management plan to monitor and mitigate odor levels.

The construction of Phase III is not anticipated for 10-15 years, depending on population growth in the valley. Future expansion of the LRWTF will consume the area where Phase I of the Logan City Compost facility is located. As the LRWTF expands in capacity, so will the bio solids production. This expansion will increase the need for a larger compost pad as growth occurs. The new location will accommodate this growth, and is also conveniently located to the residents of Logan City to easily access for their green waste disposal needs. The current compost site next to the Logan landfill can be repurposed as the landfill closes for green space, commercial or other uses.

If you have any questions of comments regarding the information presented in this letter please feel free to reach out to me by email: <a href="mailto:tyler.richards@loganutah.org">tyler.richards@loganutah.org</a> or Madeline Tennant at



madeline.tennant@loganutah.org . As this project is in the planning stages, we would love to incorporate your ideas for this public facility to best serve the citizens of Logan.

Sincerely,

Tyler Richards, P.E.

Logan City Environmental Engineer/Landfill Manager

Tyler Rulu S

Attachments; Logan City Compost Facility Site Plans

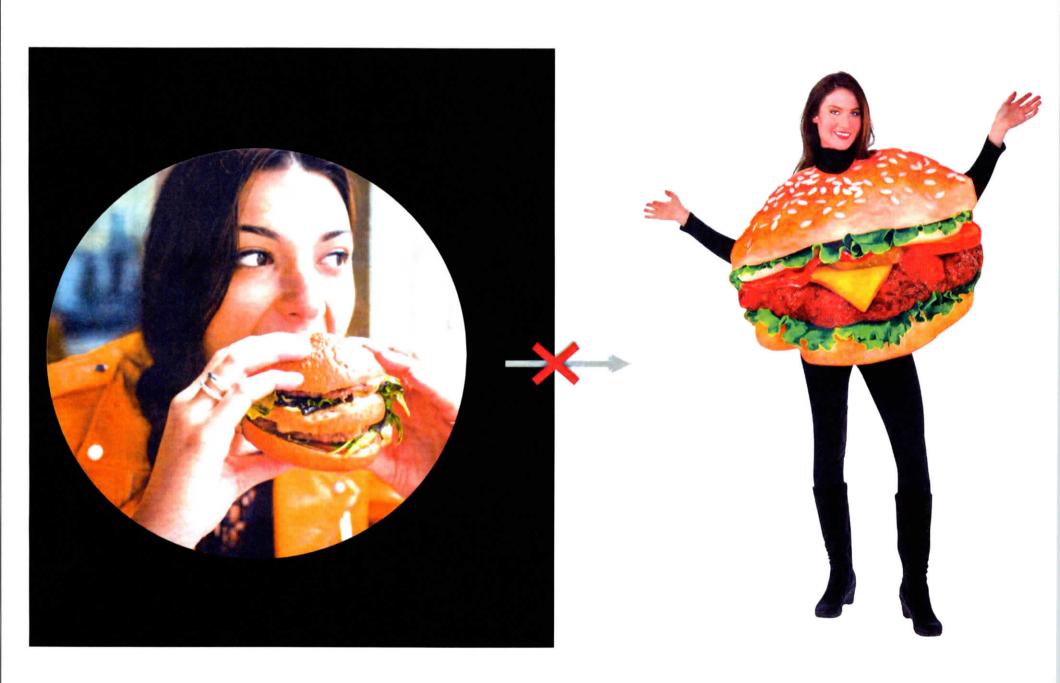
Logan City Compost Facility Presentation



ogan City Compost Facility







#### Microorganisms that Clean our Wastewater Click on the drawing to see a video of the organism.

















- Sacteria: Our water-water treatment plant works like a roort. Our occution basins have two kinds of maker orestly flowings water that does not have a lost of expens White water that has bost of expens to pump but of compressed are not some of our sectation fusions to make them forthy, like white water

Some bacteria like white water better. Some prefer gently flowing water better. We need both kinds of bacteria to clean the water.

Swimming Ciliates: These one celled microorganisms are covered with cilia, or hair-like projections. The cilia are used to more the ciliase around and to capture food. Food secutivities are formed which are like little momitisane sacks that store food as well as digesting it.

The swimming ciliates reproduce by dividing, but can also share DNA with another cell before dividing.

Crauding Chlates: Crauding chlates are the commung chlates except that their chlate in found on the lower uniface of their body. The cills had also fursed together to from what is called "corn" or thicker cills. These com-look legit and they are used for creating. The crawling collates are not very good at swemming.

Stalked Cliates: Stalked cliates are single-celled organisms that grow a stalk as filament that can rapidly end up like a spring to avoid danger.

These cells reproduce by division into two daughter cells. One of the cells will keep the stalk, but the other side became a five vanishman cell ordist finds a place to distach. It will then grew a talk and stay there. Side other cells can there DNA with another cell can there DNA with another cell cell before division.

To find food, stalked cikates use the cika which are located assued the top of the cell.

Amorebase When anisobas sense food readtry they extend a presudposed felse boot and sumound the food, bringing into their cell.

Shelled amoelsas make a shell either by secretory risemicals or by collecting particles to build the shell Spaces are left in the shell so preudopods can move

past the shell and into the water to reach the food. Armoebas out bacteria, algoe, and other single-colled

organisms

Flagellates: These single-celled organisms more by whisping around their flagella, a threadlike projection from the front of the cell.

Rotifees: The most common animals in the wastewater are rotifees. These microscopic animals feed on bacteria or algae or even microbes.

The body of a rotifer cursists of three parts, the head owith cilia to bring in food) a trunk, and a tail or foot that it uses to attack itself.

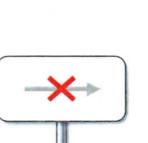
Botilers can reproduce sexually and lay eggs.

Except for their gyespot, notifers are concreas.

Water Search Although difficult, it might be possible to see a water bear without a microscope. These listle animals can be as single as 1 mm or about one thirtiesth of an soft. They do not swim and prefer to crawl. They such the pieces of plants or annal animals.

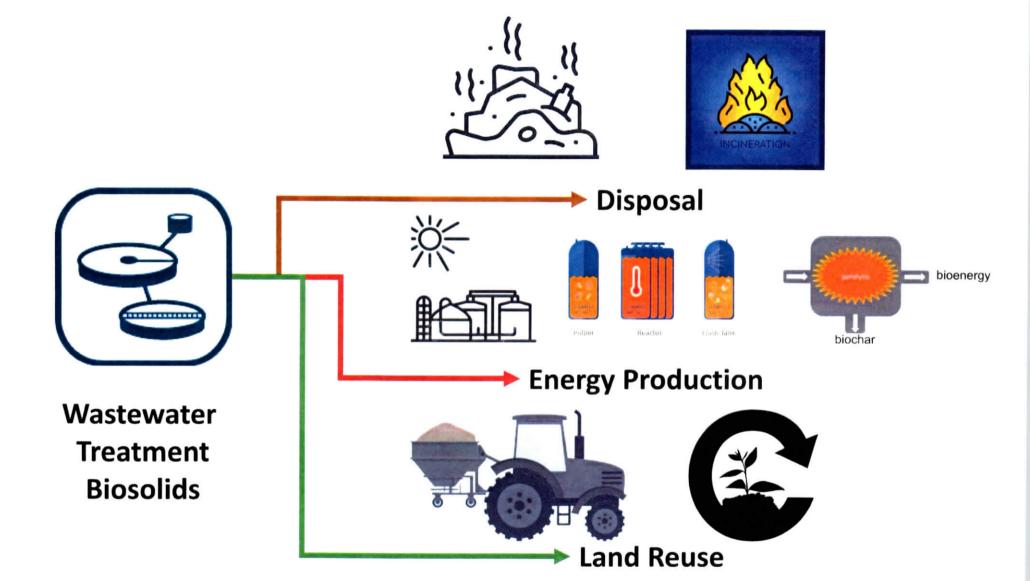
Water boars are amazing animals and worth study. Under extreme candillions, the animals can reduce body moisture from 85% down 45%. They can survive in this state fee years. In 2007, mater boars servived a top with space for 10 days and sovered with no air, no water, and interise tops from the sun.

Bristle Worms: These long, segmented worms have bright earning or pink spots. The segmentic by budding at a particular segment. They use their bristle-like state to move. These animals are the largest animals in seatlewater and can be as large as one quarter of as onch long.





Human Waste

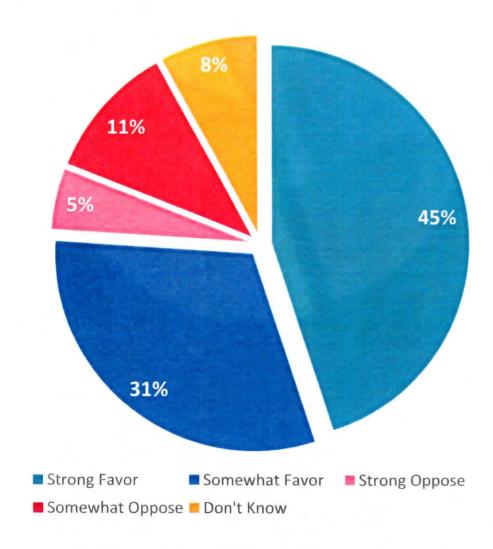


REGARDLESS of the method used, Logan City will be held ACCOUNTABLE to meet biosolids regulations under State and Federal code:

UT Admin Code R317-1-6
40 CFR Part 503



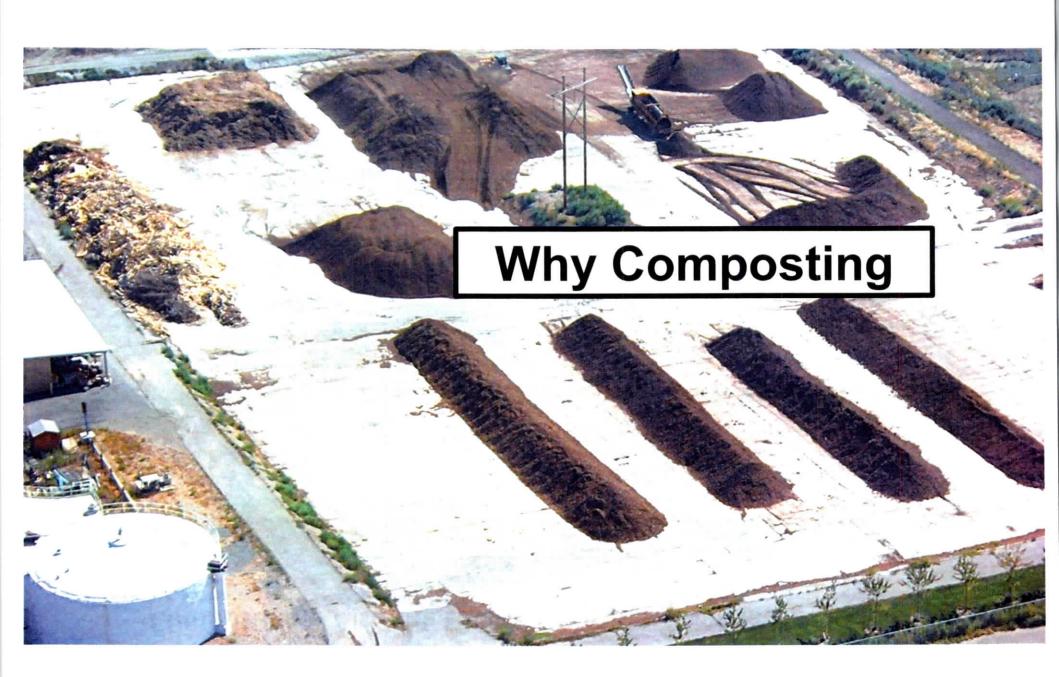




# Opinion About Recycling Biosolids

## Composting is Also the Lowest Cost Beneficial Reuse Option

Alt	Alternative Description	20-year Present Worth	\$/connection/ month	Notes
1	Phased Composting - selected alternative. Split disposal between Class A public distribution and landfilling	\$7,577,000	\$1.05	10 acre compost pad initially - 39 tons/day, eventually growing to 50 tons/day. Aerated static piles to mitigate odors. Generate revenue through compost sales. Alternative disposal backup including landfilling or land disposal.
1	landining	\$7,577,000	\$1.05	or land disposal.
				No landfill backup, compost all biosolids. Generate revenue through
				compost sales. If/when odor issues occur there is no backup disposal
	Class A public distribution using			option available. Increased capital cost due to larger compost pad and
2	composting with winter storage.	\$10,047,000	\$1.40	additional equipment to process all biosolids
	Landfill year round-City landfill mixed			
	with cover in summer, disposal in			
3	winter	\$13,704,000	\$1.90	Landfill fills up faster, no beneficial reuse of biosolids
	Class A land application using			
4	thermal dryer with winter storage.	\$36,911,000	\$5.13	High capital and O&M requirements, complex maintenance
	Veris disposal year round (land			
5	application by private contractor)	\$24,689,000	\$3.43	Need to treat to Class B prior to land application by private contractor
	Class B land application using lime			
6	treatment with winter storage.	\$70,023,000	\$9.73	Lime is difficult to deal with, expensive with high O&M
				Facility is not ready to accomodate biosolids and is currently dealing with
7	Wasatch Resource Recovery	Not Feasible	Not Feasible	odor issues
	Carne Solutions - Industrial Land			Regulatory issues with transporting biosolids across state lines, "cradle-to-
8	Application in Idaho	Not Feasible	Not Feasible	grave" liability
		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	This alternative was not evaluated because the treatment facility is
	Install primary clarifiers and			already designed, it would be extremely expensive, and would release
	anaerobic digesters at new WWTP to			nitrogen and phosporus back into the liquid stream causing issues with
9	achieve Class B biosolids	Not Feasible	Not Feasible	UPDES permit compliance.
	Class A public distribution using Solar	140t reasible	itot i casible	Cannot reliably achieve Class A or Class B solids during the winter, high
10	Dryer and Winter Storage	Not Feasible	Not Feasible	capital cost
10		NOT reasible	NOT reasible	capital cost
	Class B land application using air	No. 15 Oct.		the thirty of the state of the
11	drying with winter storage.	Not Feasible	Not Feasible	Unable to reliably reach 90% dry solids and strong potential for odors
12	Sludge lagooning - dispose of	New Females	No. Femilia	Lagoons needed for new WWTP equalization and not available for
12	biosolids in abandoned lagoon cell	Not Feasible	Not Feasible	biosolids storage



## Composting Meets the Goal of Beneficial Reuse and is

Low Cost, Low Energy, and Stable Technology;

Easy to Operate;

Significant
Pathogen
Reduction (Class A);

Low Vector Attraction;

Good Public
Acceptance of the
Product

Saleable;



BENEFITS OF BIOSOLIDS IN LAND APPLICATION

# Need to move current compost site

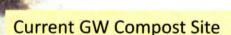
## **New Wastewater Treatment Facility**

(18,000 tons of biosolids/year)

## Wood Waste/Green Waste

(Increase from 8,397 tons in 2010 to 18,051 tons in 2020)

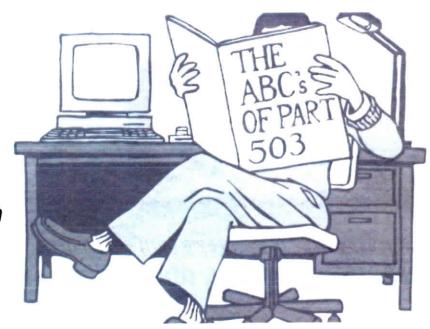




- East of Logan Landfill
- > 7.75 Acres
- Outgrowing the Space!

# Composting Regulations (40 CFR Part 503)

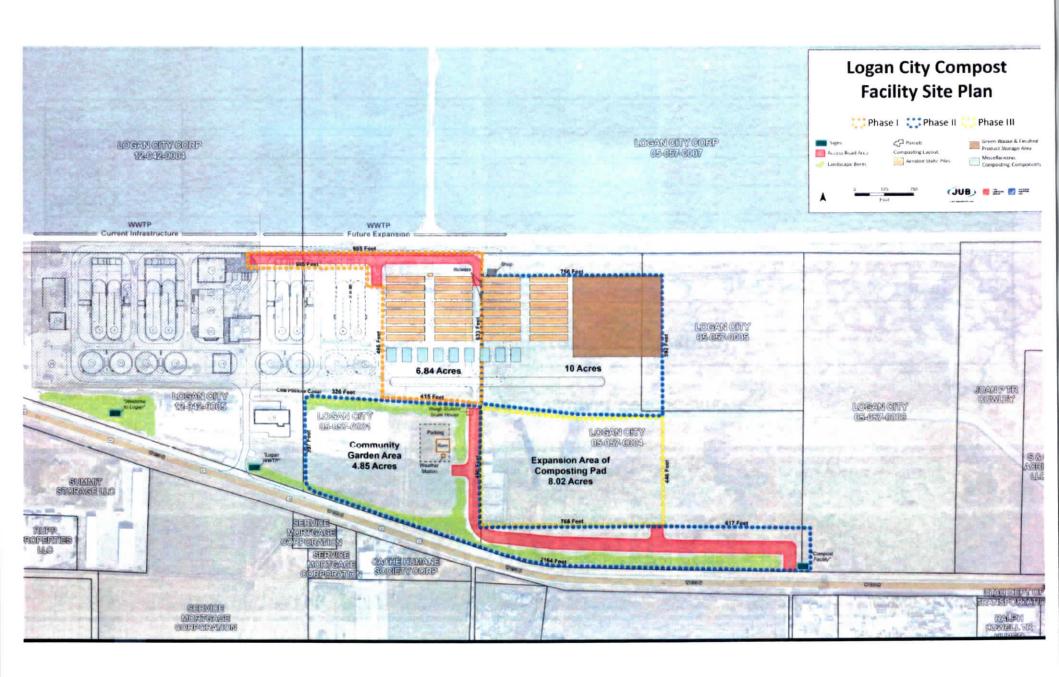
- Pathogen Reduction Regulations
  - Class B Time and Temperature
  - Class A Time and Temperature
  - Pathogen Reduction by Testing
- Vector Attraction Reduction Requirements
  - Stability for Further Degradation
  - Suitable for Distribution
- Metals/Pollutants Testing for Safety
- Annual Compliance Reporting

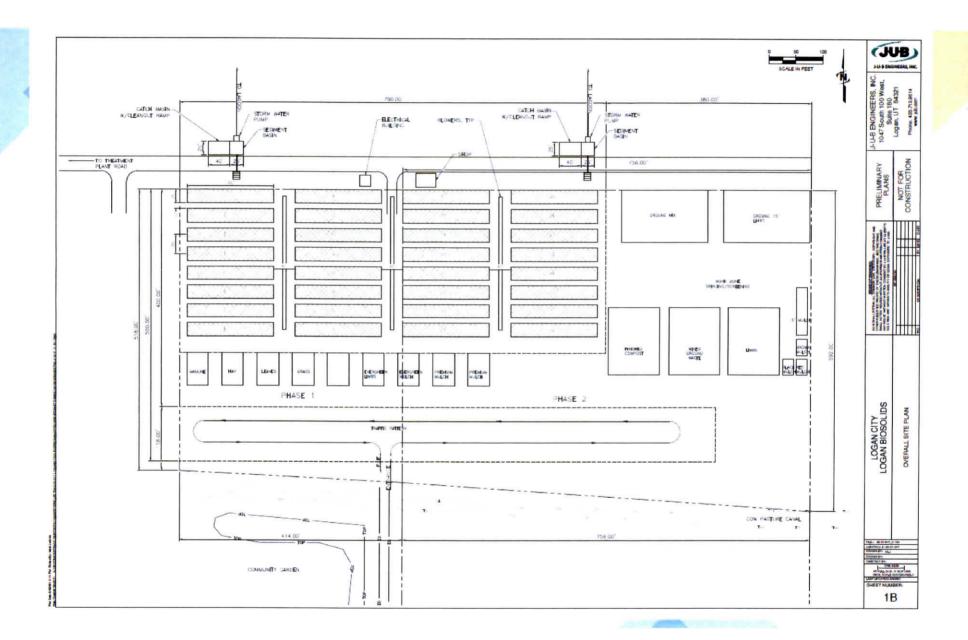


# Metals Testing and Limits

### TABLE 3 OF \$503.13—POLLUTANT CONCENTRATIONS

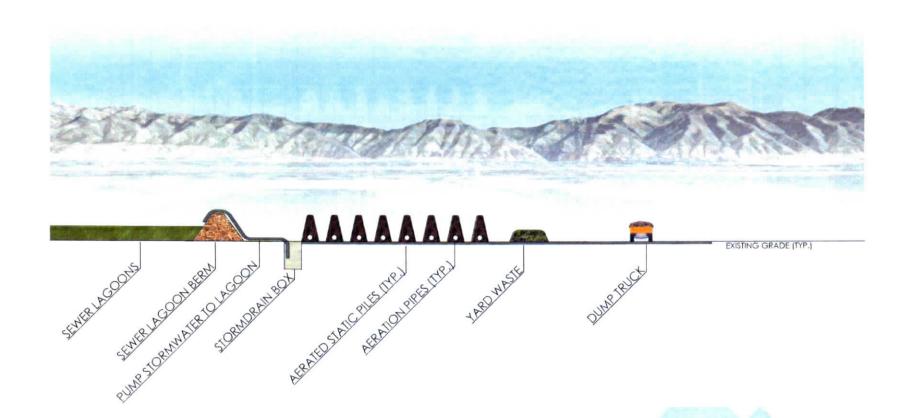
Pollutant	Monthly average concentration (milligrams per kilogram) <sup>1</sup>	
Arsenic		41
Cadmium		39
Copper		1500
Lead		300
Mercury		17
Nickel		420
Selenium		100
Zinc		2800





## LOGAN CITY | PRELIMINARY BIOSOLIDS FACILITY - TYPICAL SECTION LOGAN (JUB)

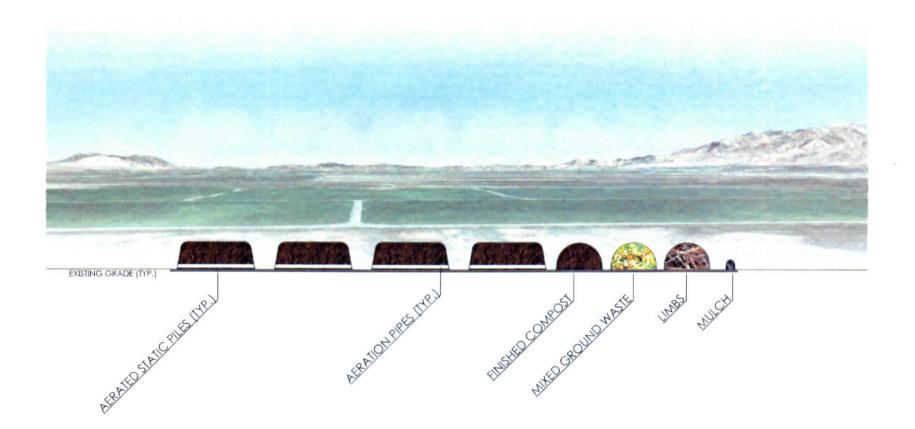


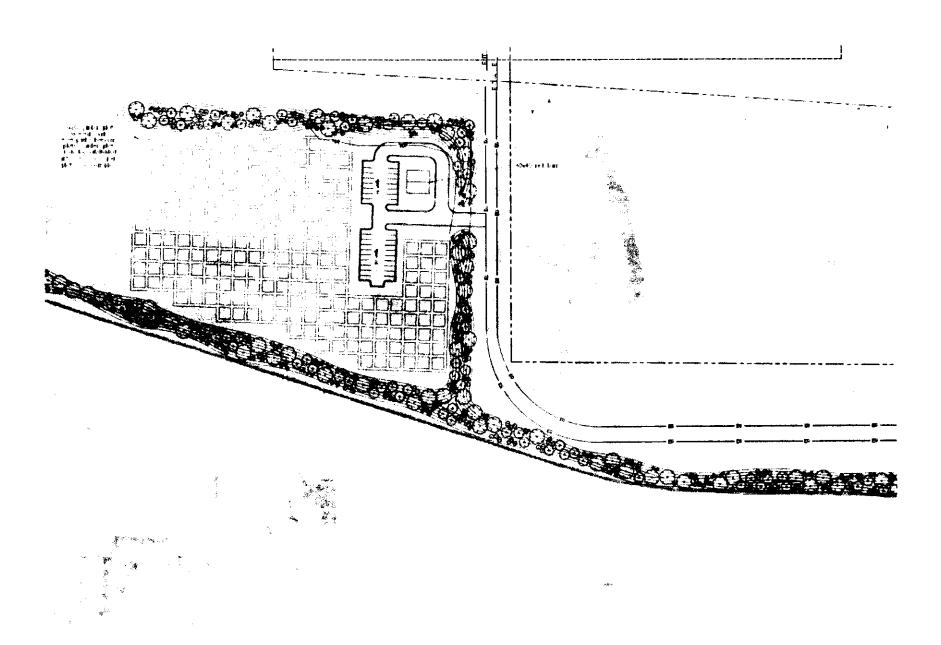


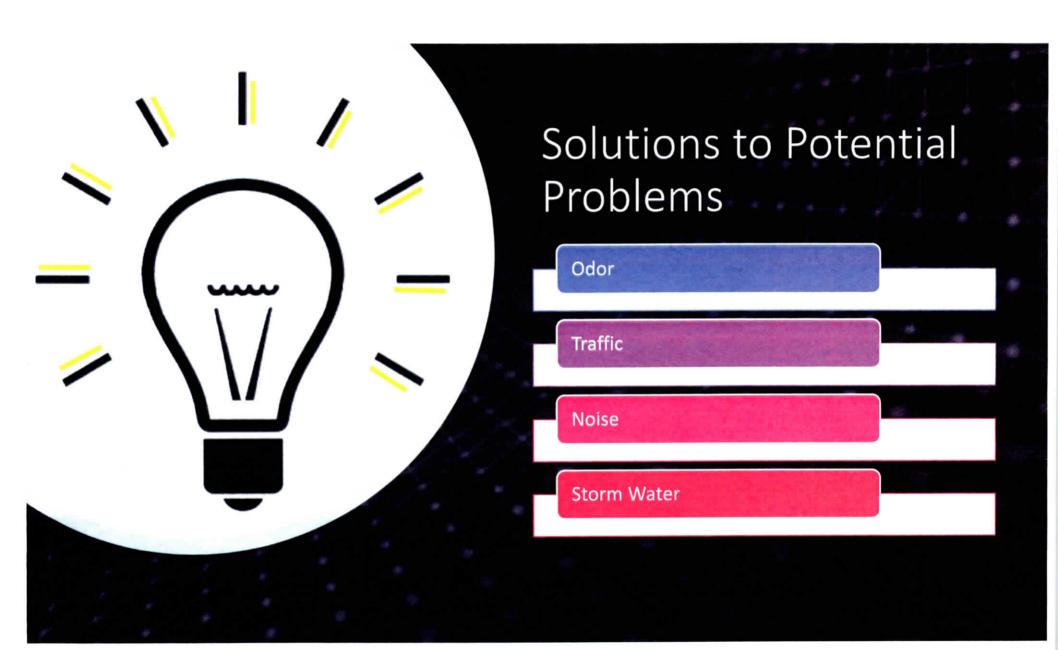
## LOGAN CITY | PRELIMINARY BIOSOLIDS FACILITY - TYPICAL SECTION LOGAN (JUB)







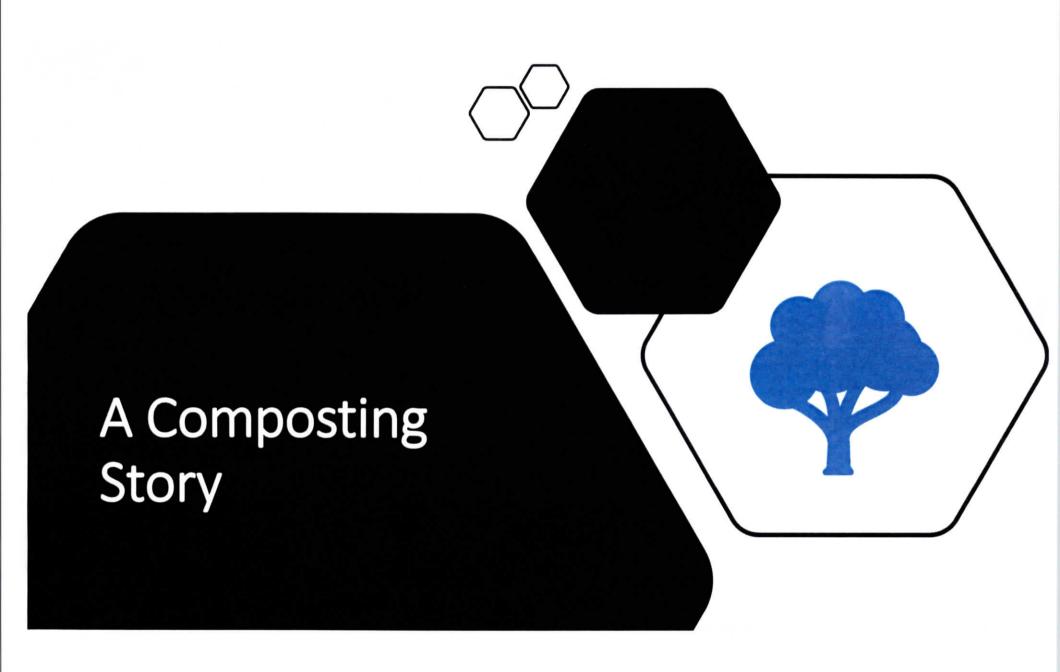


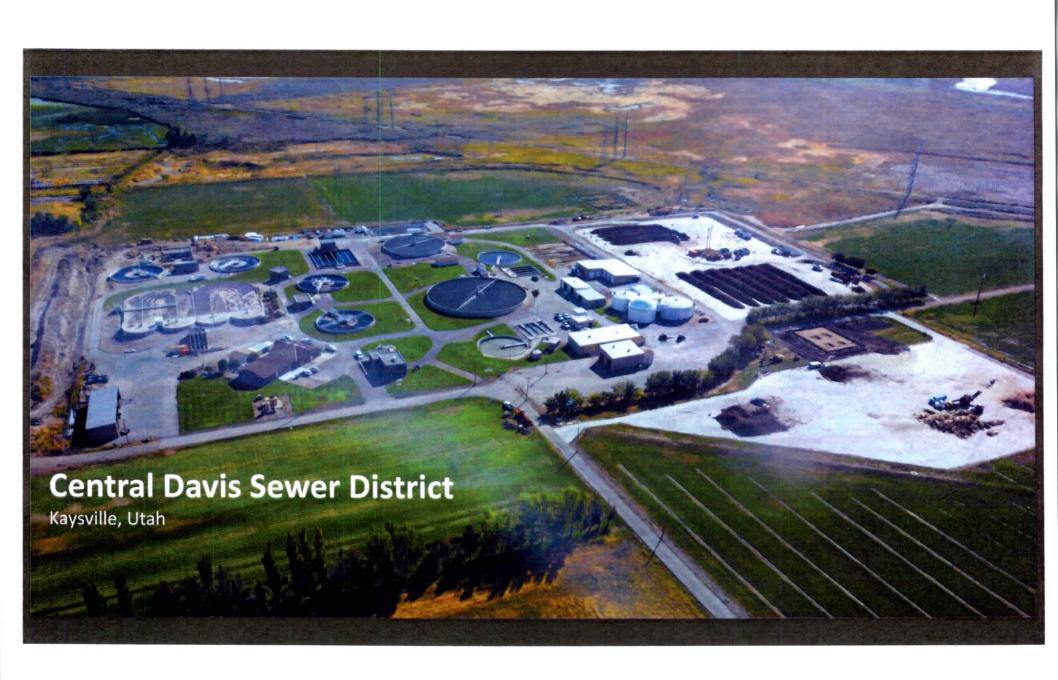






# Odor Management





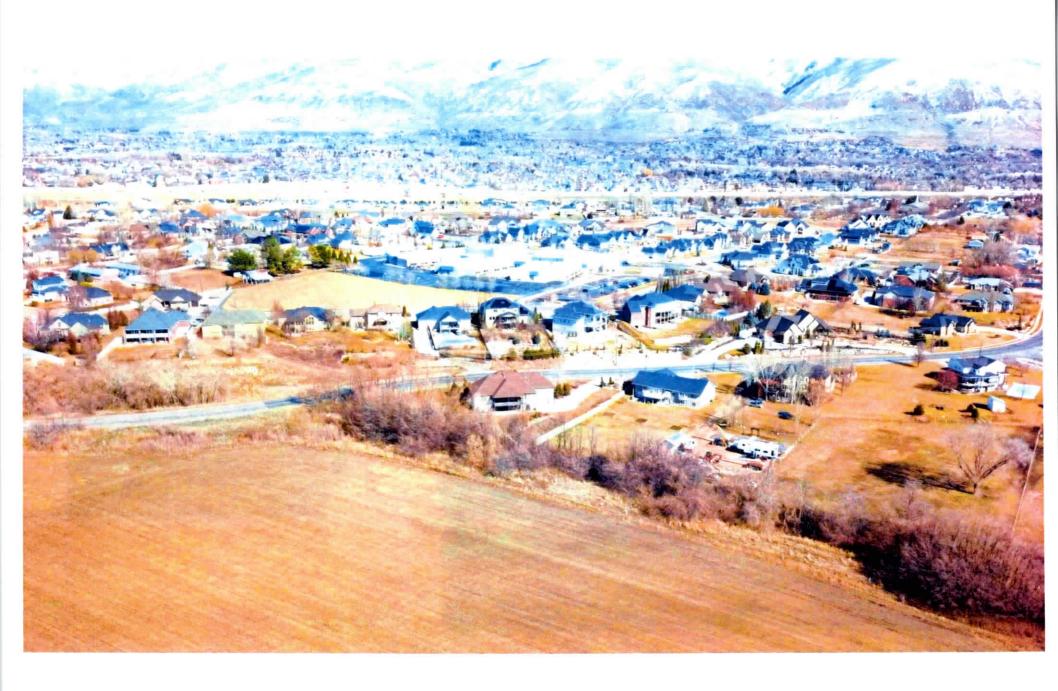
Basic Information Began Composting in 1996

10 MGD Wastewater Facility

2,000 Tons of Compost per Year

**Aerated Static Pile Process** 

Facility Evolved Over Time (Which is a Nice Way of Saying We Made all the Mistakes so Others Don't Have To.)





All Under The Nose and Ears of Neighbors

#### Lessons Learned

(and why you must be ready to adapt)



Compost company sued for \$425 million over smell in Utah County

## Special service district reaches deal to mitigate odor in Pleasant Grove

Laura Giles Correspondent | Mai 17 2016 Voidated Nov 7 2016 | 🗪 0



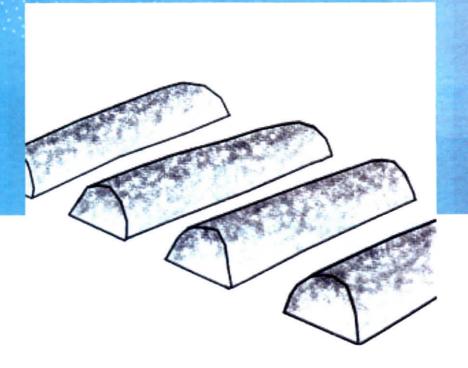
Machinery grinds up green waste for composting on Tuesday, Nov. 24, 2015 at the Timpanogus Special Service District in American Fork. SPENSER HEAPS, Daily Herald.

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# Timpanogos: Windrow Compost

- Complaints Began
- Response Was Slow
- Member Cities Also Engaged
- Lost Confidence
- Lawsuit
- Settlement



## Unintended consequences of no compost at TSSD



Jonathan Brown







Lesson 1: The correct process for your conditions. . - From Windrow to Aerated

**Static Piles** 

Failure = Odors





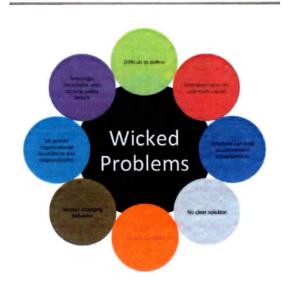
**Curing Challenges** 

Failure = Odors

Lesson 3 Willingness to Adapt to **Changing Conditions** Failure =Odors



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Logan City Will Begin
Their Biosolids
Composting
Operations Where
These Other Facilities
Are Now Operating

#### LOGAN CITY COMPOST ODOR MANAGEMENT PLAN

#### ODOR MONITORING ELEMENTS

- Establish fence line dilution to threshold limits including allowable exceedances
- Perform air modeling of compost site including frequency and direction
- Establish odor monitoring program with sampling frequency:
  - » Increased sampling frequency when complaints occur
  - » Decrease frequency when odor free
- · Establish complaint response procedure:
  - » 15-minute response time
  - » Meeting with individual who issued complaint
  - » Odor measurement procedure
  - » Return evaluation procedure
- Triggers for additional actions:
  - » Operational adjustments action
  - » Facility adjustments options

#### OPERATIONAL ADJUSTMENTS ELEMENTS

- Aeration system adjustments to ensure porosity
- Adjustments to initial mixing intensity to ensure porosity
- Increase pile cap thickness for minor odors
- Ensure correct pile construction and mixing frequency considerations
- Potential hauling to landfill when increased odor potential exists
- Move piles to land application when odor exceeds limits and piles meet Class B and VAR
- Move piles with significant odors to the landfill for daily cover
- · Use of odor reducing additives

#### DESIGN ELEMENTS

- The system is designed to allow for positive and negative aeration with biofiltration of odorous gasses
- The air filtration system will have the capacity for chemical addition
- The system will allow for chemical augmentation equipment for odor treatment
- The system is designed for the use of pile covers and will include:
  - » Increased thickness of wood chip pile caps
  - » Gortex pile fabric covers
- A contingency plan will include enclosing active compost area with air filtration
  - » Facility design adjustments are secondary to operational adjustments and will be implemented when deemed necessary











#### Contingency Plans:

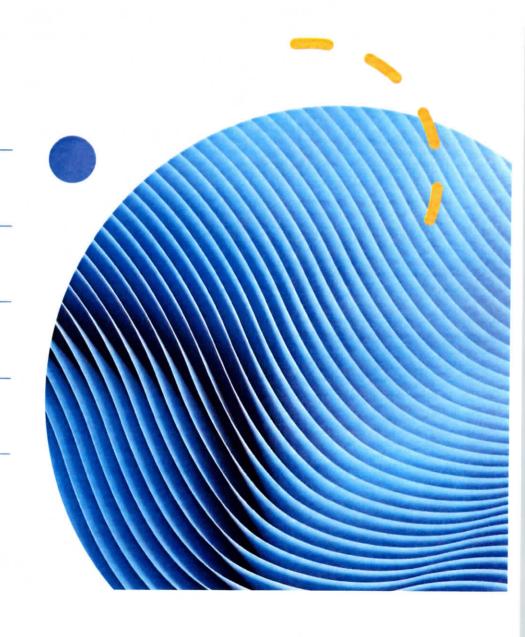
Containment of odors by negative aeration

Containment by impervious cover

Land apply as Class B compost

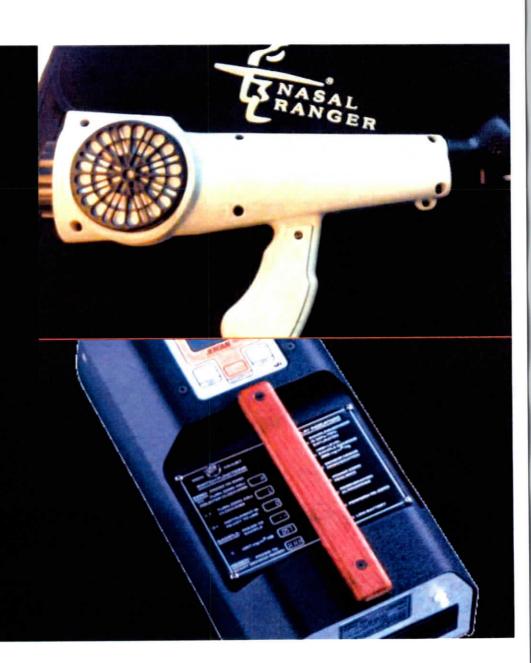
Use as daily cover at the landfill

Landfill



#### Required Elements

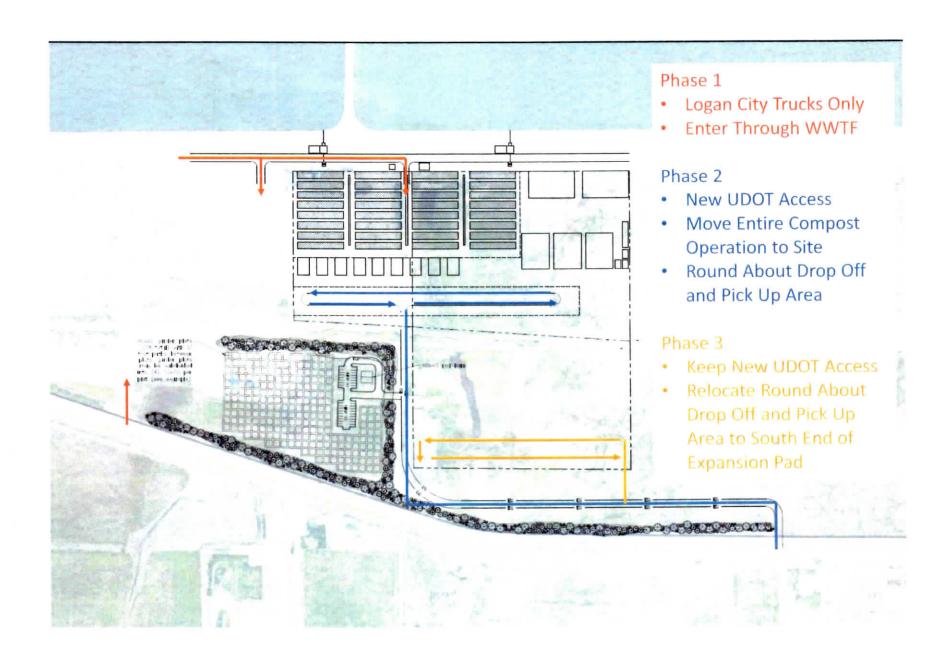
- Detailed Plan of Operations
- Well Trained Operators
- Detailed Odor Management Plan
- Odor Monitoring







## Traffic Patterns

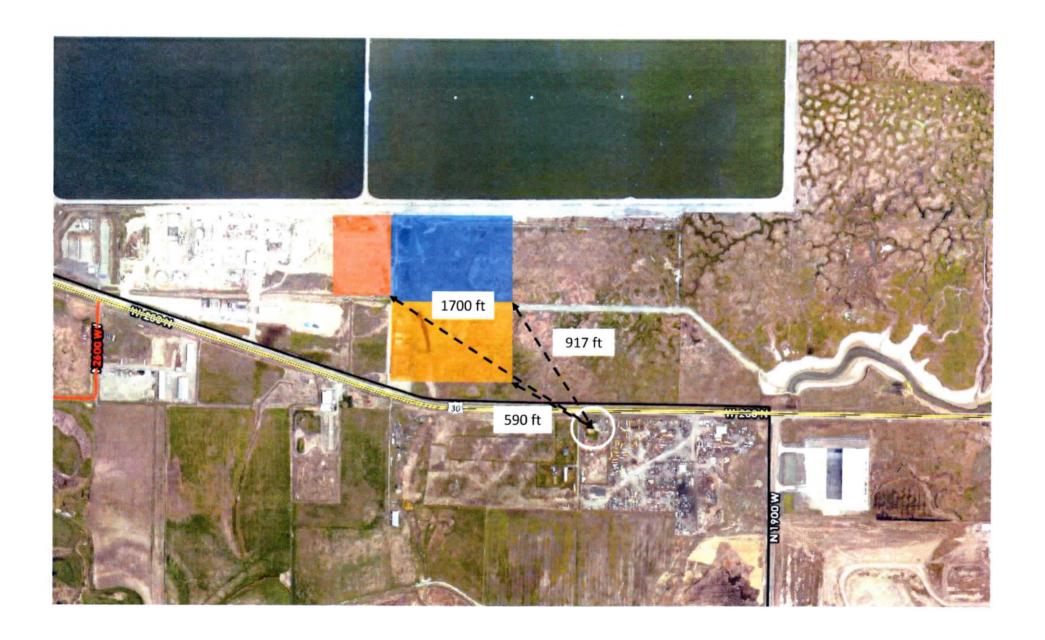






## **Noise Barriers**

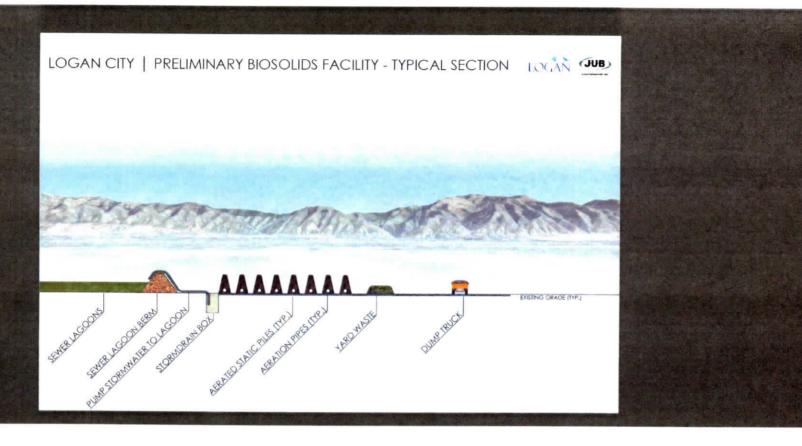






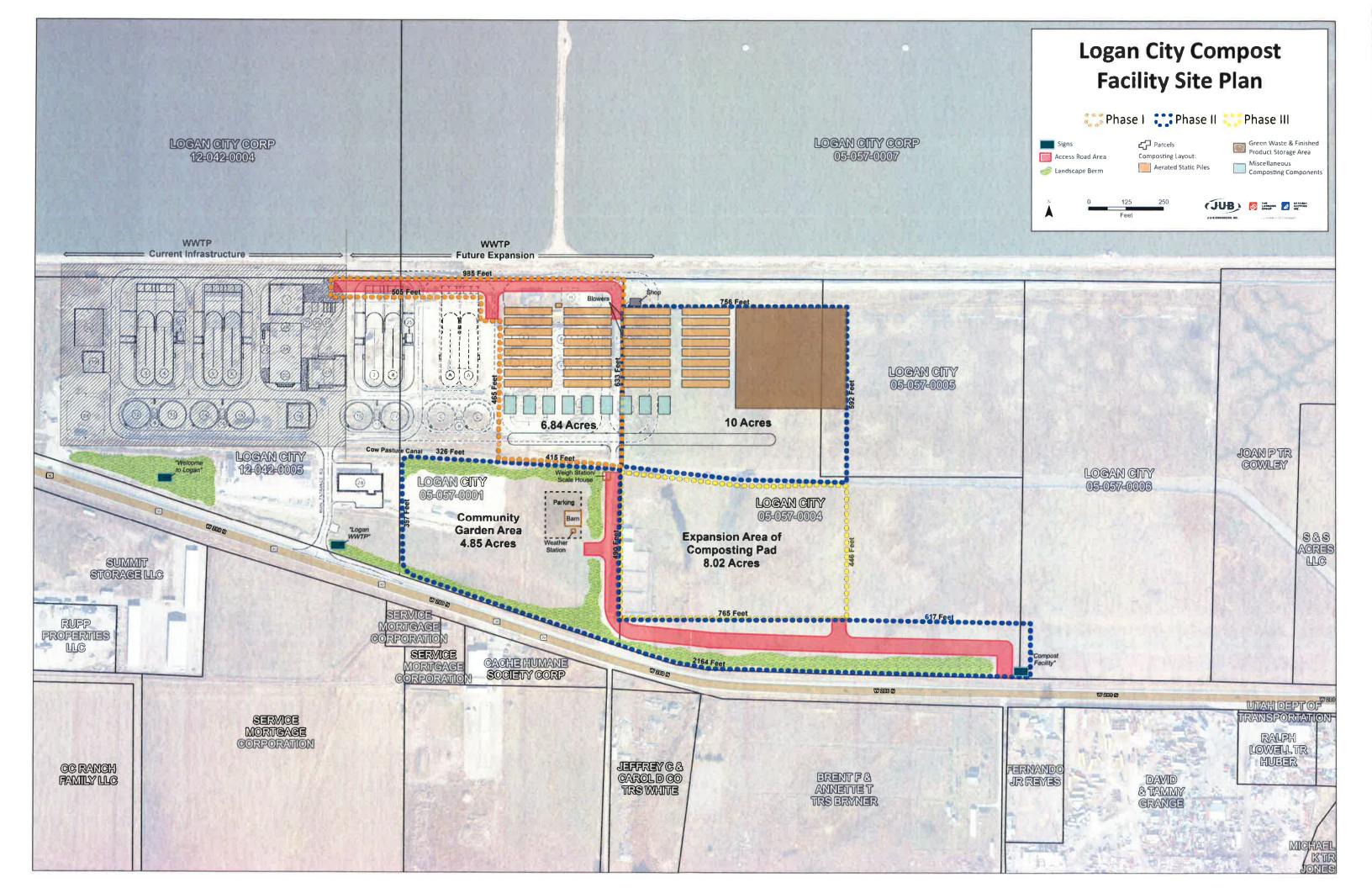


## Storm Water Control



- Raised Pad to Prevent Run On
- Pad Sloped to Intermittent Storm Drain Boxes on North End of Pad
- Storm Water Run Off Pumped from Box Into the WWT Lagoons for Evaporation

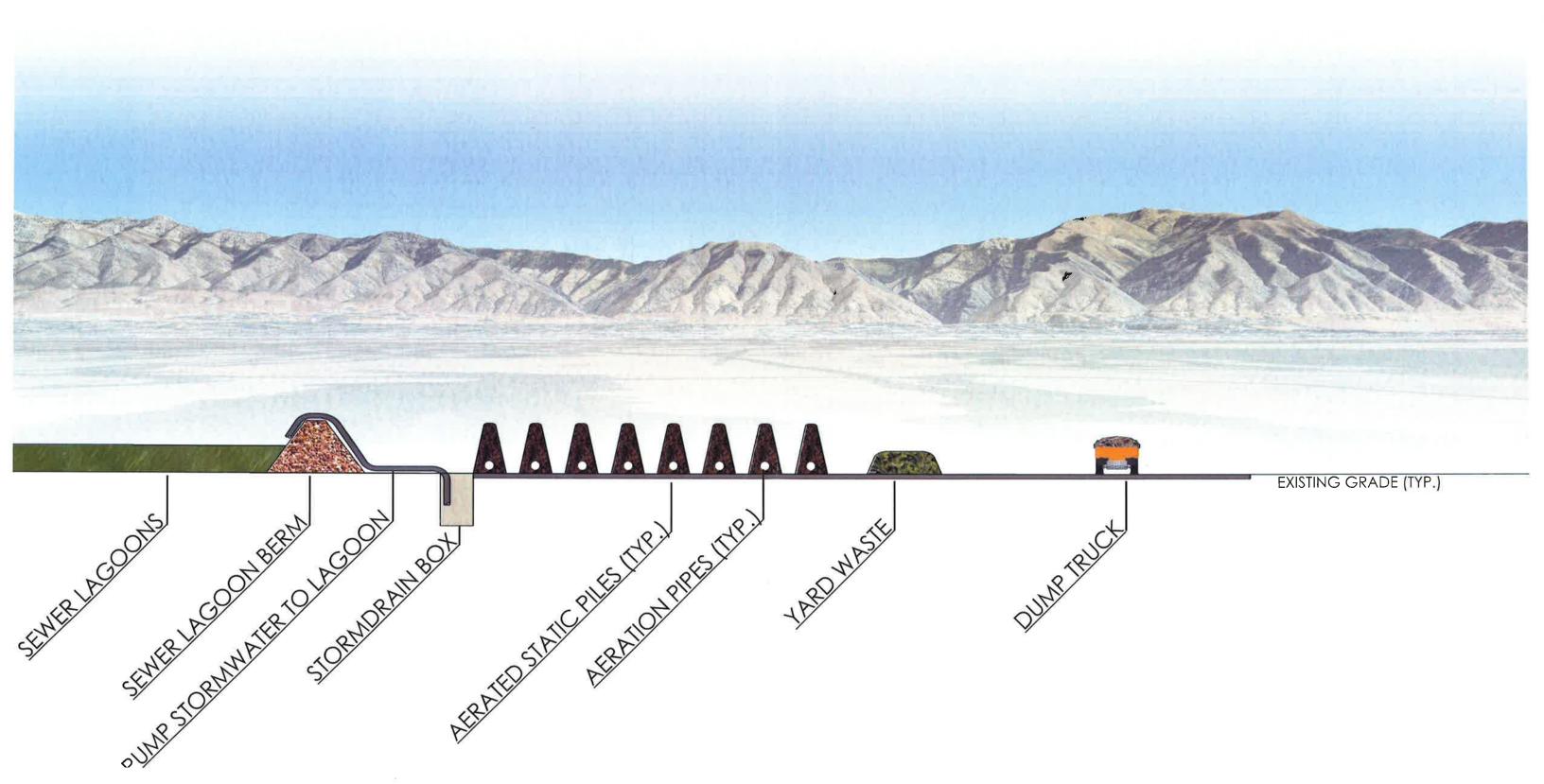




#### LOGAN CITY | PRELIMINARY BIOSOLIDS FACILITY - TYPICAL SECTION







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