



California's First Design-Build Biosolids Thermal Dryer

CWEA Biosolids Specialty Workshop
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Presentation Outline

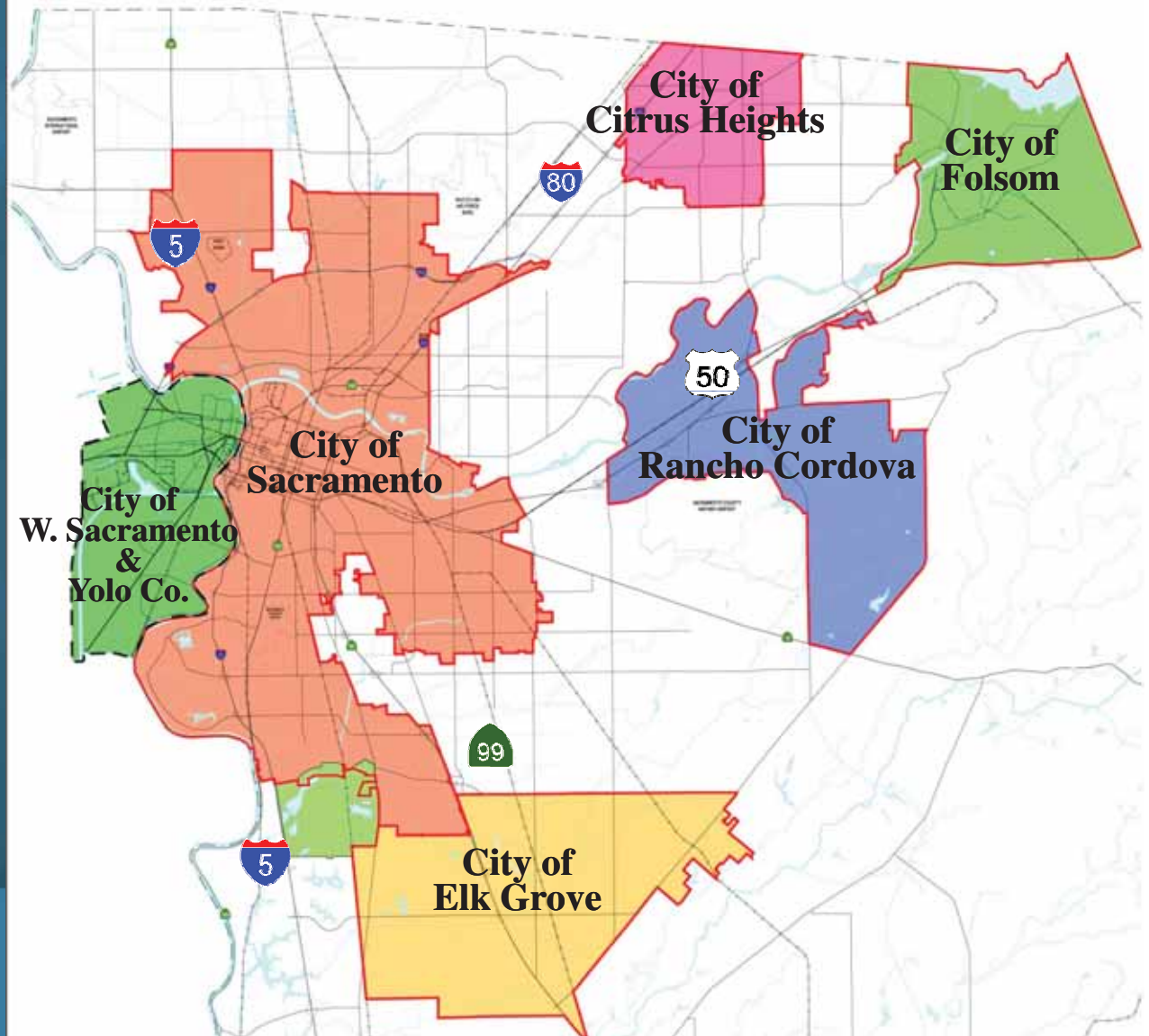
- SRCSD Background
- Why DBOO?
- Procurement Process
- Agreement Highlights
- Operational Issues
- Contract Issues & Lessons Learned
- Questions

The background features a dark blue, textured pattern on the left and a lighter blue gradient on the right. In the top right corner, there is a rectangular inset showing a close-up of stacked, circular pipes or tubes. A white crosshair is positioned over the top edge of this inset.

SRCSD Background

REPRESENTATIVE LOCALITIES

- City of Sacramento
- City of Rancho Cordova
- City of Elk Grove
- City of Folsom
- City of Citrus Heights
- City of W. Sacramento
- Sacramento County
- Yolo County



Sacramento Regional County Sanitation District

- Over 1.3 million customers
- 80 miles of interceptors
- Large regional treatment plant
- 165 average dry weather flow

SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT

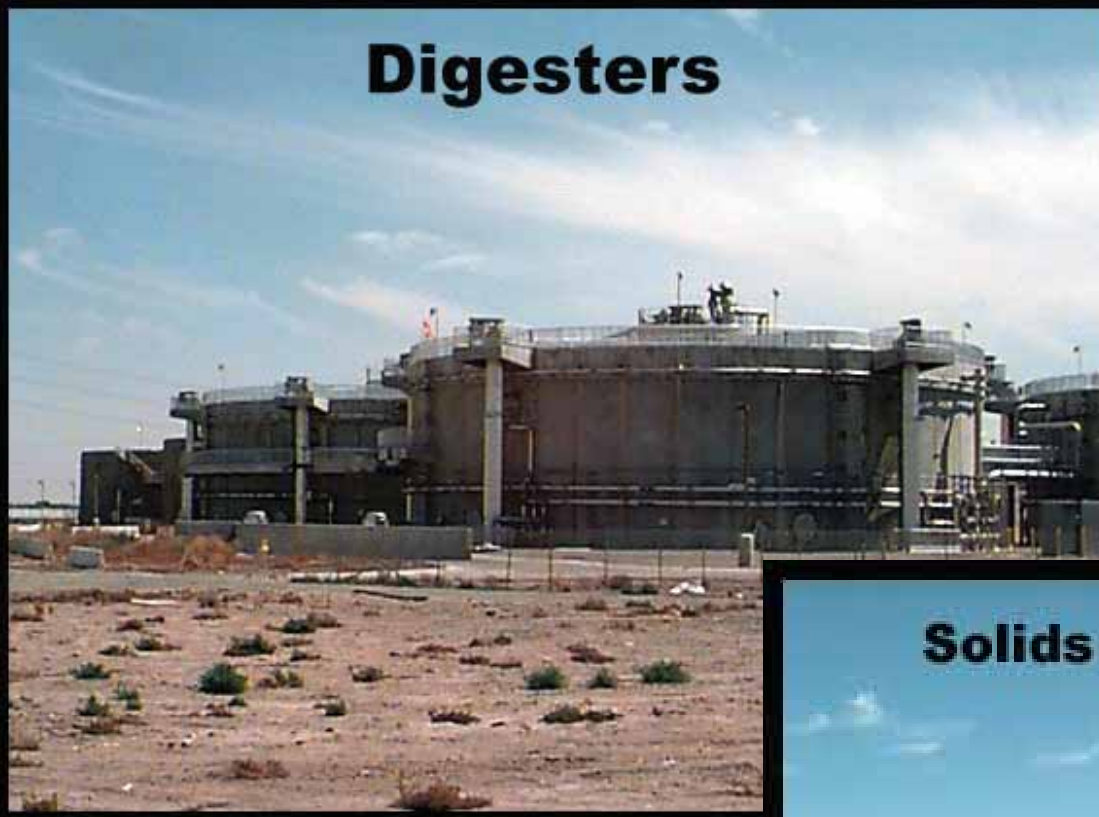
- Located on 3,600 acres
- Discharge to Sacramento River
- 181 MGD permitted flow
- Pure oxygen plant



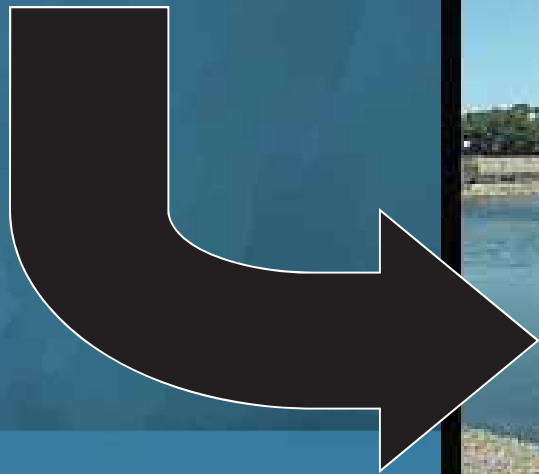


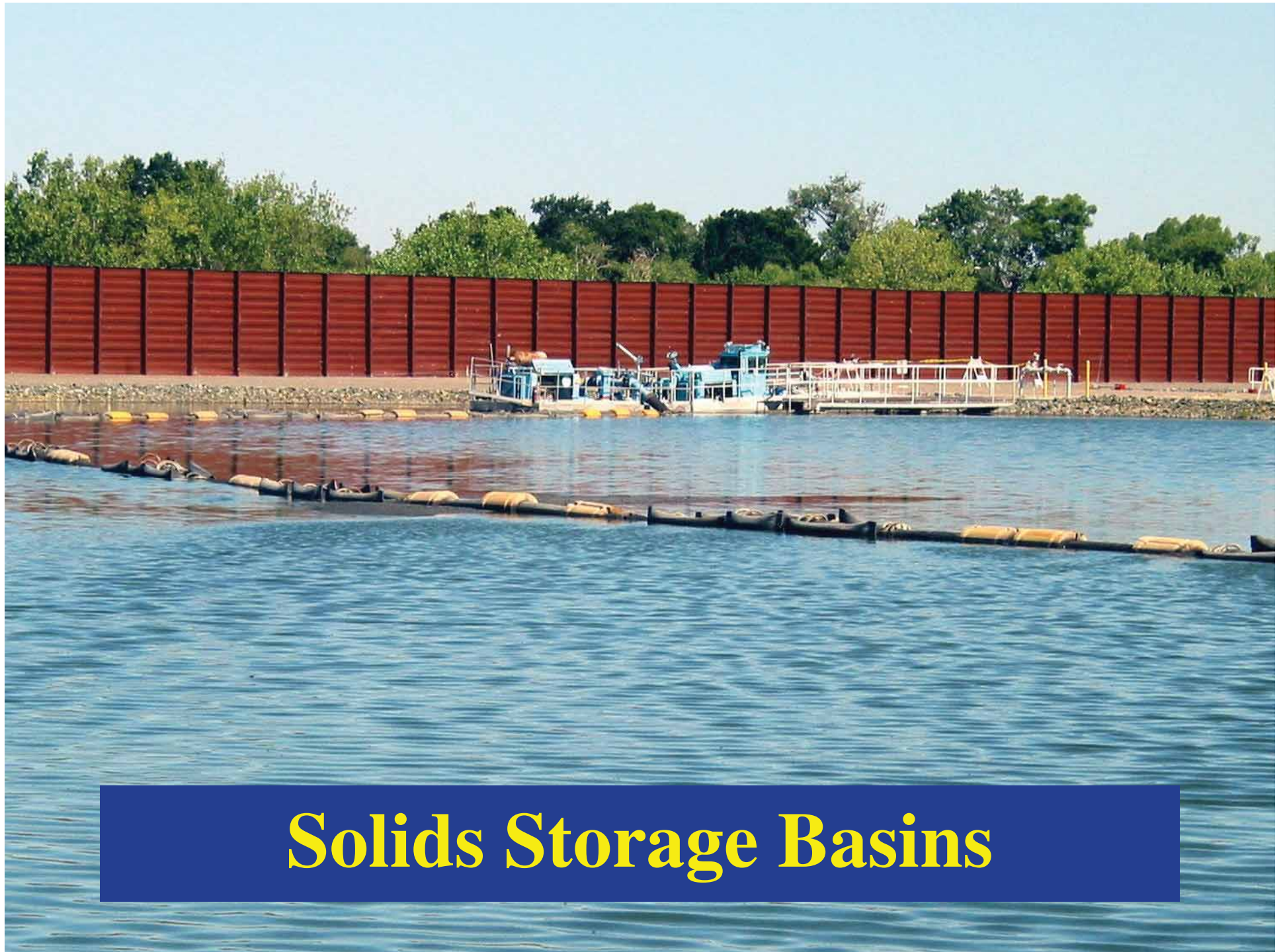
Historical Biosolids Program

Digesters



Solids Storage Basins (SSBs)





Solids Storage Basins

Lined Dedicated Land Disposal





Drivers For Biosolids Recycling Facility

Regulatory Requirement

RWQCB Waste Discharge Requirement:

Discontinue use of existing DLDs by
November, 2001



Biosolids Program Objectives

- Sustainable & Reliable
- Diversification
- Recycling if at reasonable cost
- Meet regulatory requirements



Anaerobic
Digestion
(Existing)

~ 28%



20 Dry Ton/Day
BRF

Biosolids
Recycling Facility



Solids Storage Basins
(SSBs)
(Existing)



Lined Dedicated Land
Disposal
(L-DLDs)

"Beneficial Use"



3 Lined DLDs

Why DBOO?

- Marketing of biosolids product
 - to be sold or distributed
- Private sector experience
 - can meet marketing needs
 - modify operations for optimum product quality
- Contractual single point of contact
 - all functions; design, construction, finance, ops.

Why DBOO? (cont.)

- Reduced District risk
 - no service fee payment until facility operational and accepted by District
- Unproven technologies
- Bonding capacity preserved
- Financial protection against project failure



Procurement Process

BRF Procurement Overview

Two Stage Selection Process:

- Phase I
 - Request for Qualifications
 - Statements of Qualifications evaluation
- Phase II
 - Request for Proposals
 - Financial analysis of Biosolids Management Program and BRF size selection
 - Proposal evaluation
 - Site visits
 - Service contract negotiations

Qualifications Evaluation Criteria

| Category | Criteria Weighting |
|--|--------------------|
| Project Experience <ul style="list-style-type: none">- Design, construction, operation experience- Biosolids Management | 20 |
| Technology Viability <ul style="list-style-type: none">- Technology operating experience- Regulatory compliance | 30 |
| Project Team Capabilities <ul style="list-style-type: none">- Project team structure- References- Prior experience working as a team | 20 |
| Financing Capabilities <ul style="list-style-type: none">- Private sector internal financing- Project guarantor qualifications | 30 |
| | 100% |

Proposal Evaluation Criteria

| Category | Criteria Weighting |
|--|--------------------|
| Technical Reliability and Viability <ul style="list-style-type: none">– Technical reliability– Technical viability | 20 |
| Environmental Impacts | 15 |
| Price Competitiveness of Service Fee | 40 |
| Financial Qualifications, Financial Plan, Legal Standing, and Contract Position <ul style="list-style-type: none">– Financial qualifications*– Financing plan– Legal standing*– Contract position | 20 |
| Proposer Team Experience* | 5 |
| Total | 100 |

**Evaluated as part of the SOQ evaluation process.*

Results of RFQ/SOQ Process

- Received 14 SOQs
 - Short listed 5 teams and 6 technologies
- Received 4 proposals
 - One proposal deemed non-responsive to the RFQ
 - Site visits to 6 facilities
- Selected highest ranked proposal for negotiations
 - if necessary, would negotiate with second ranked team

Technologies included:

fertilizer pellets, biosolids to oil, chemical stabilization, compost, land application

Earth Tech – Kingwood, TX



Bioset process (foreground) and belt press (background).

Earth Tech – Kissimmee, FL



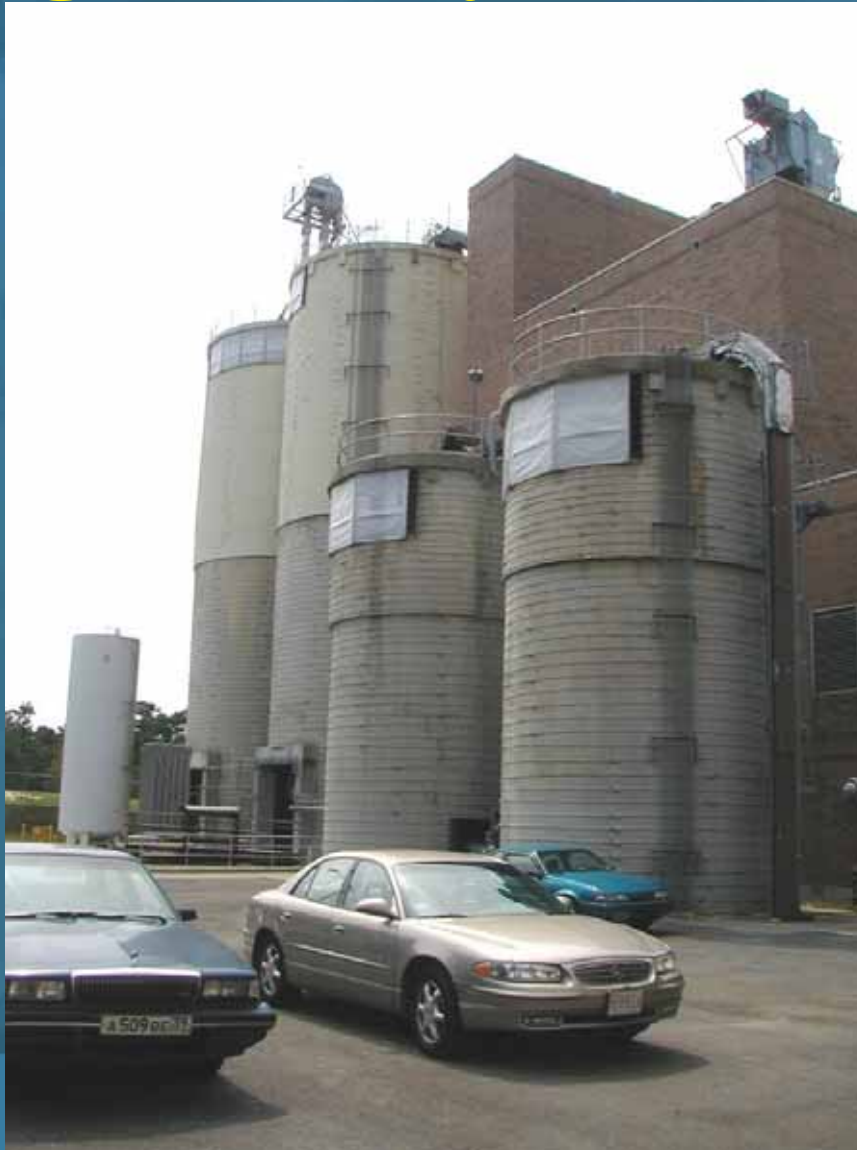
View of the facility.

Synagro – Baltimore, MD



Centrifuges (foreground) and Seghers Pelletizers (background).

Synagro – Bayville, NJ



Side view of the facility (includes finished product storage silos).

Synagro – Bayville, NJ



**Biosolids feed line into an
Andritz Direct Drum Dryer.**

US Filter – Forest City, NC



US Filter Dragon Dryer.

US Filter – Toronto, Canada



View of the facility (includes finished product storage silos).

US Filter – Toronto, Canada



Inside view of a pelletizer (picture taken perpendicular to the side of a dryer from the access door).



BRF Agreement Highlights

SRCSD/Synagro Agreement Highlights

- 20 Year Contract, 20 dtpd
- Private financing & ownership
- Design (B&V), Construction (Whiting Turner), Operations & Maintenance (Synagro)
- Andritz centrifuge/heat dryer

Agreement Highlights (cont.)

- Service fee payments begin after acceptance test
- Company responsible for permitting and regulatory compliance
- Company responsible for marketing
- Odors & emissions - BACT, completely enclosed operation

BRF: Project Schedule

- Contract approved - July 2002
- Design/Permitting Complete - Spring 2003
- Construction Complete - mid- 2004

Performance Testing Complete
and Operations Began - **Jan. 2005**

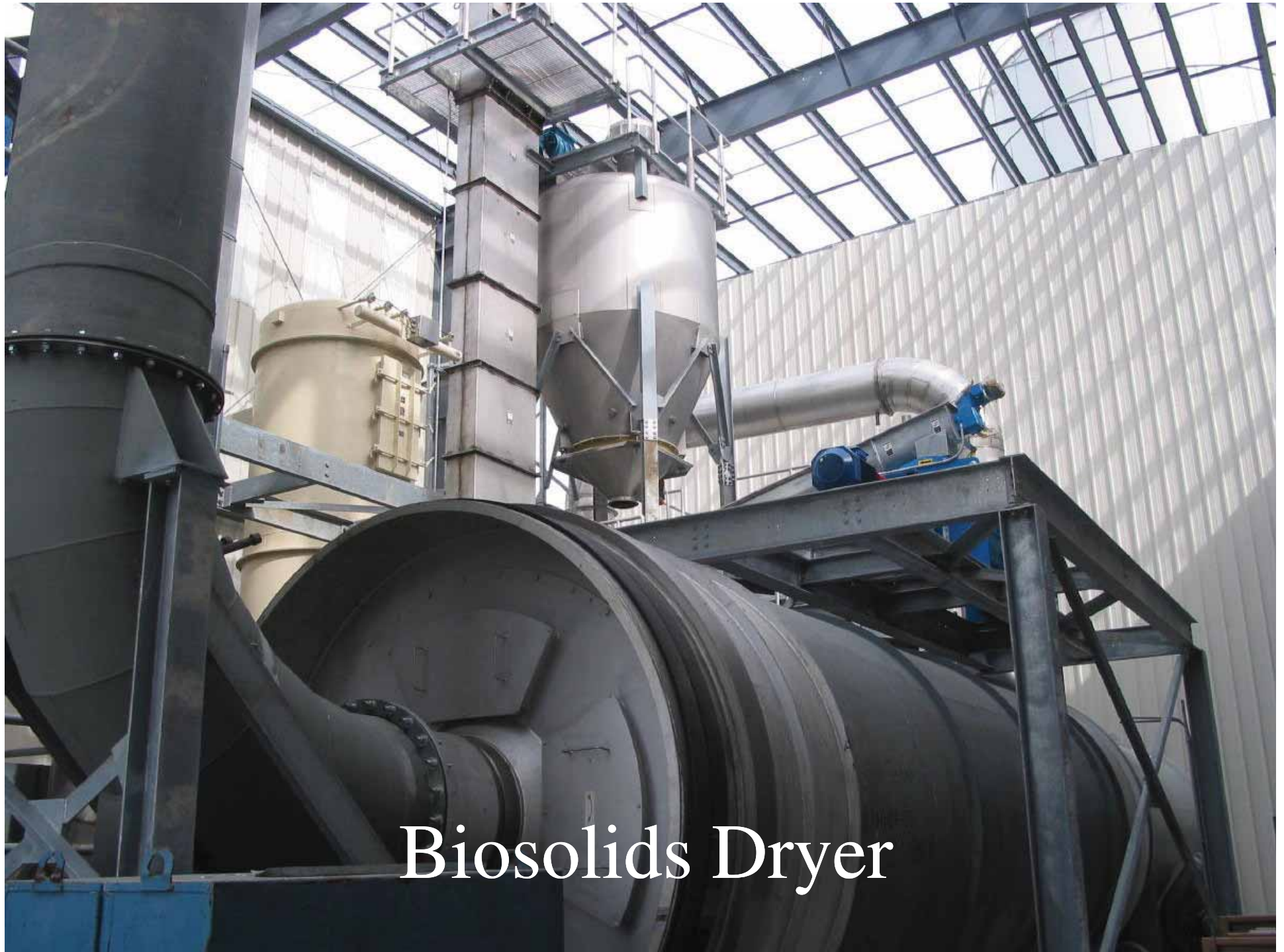


Biosolids Recycling Facility



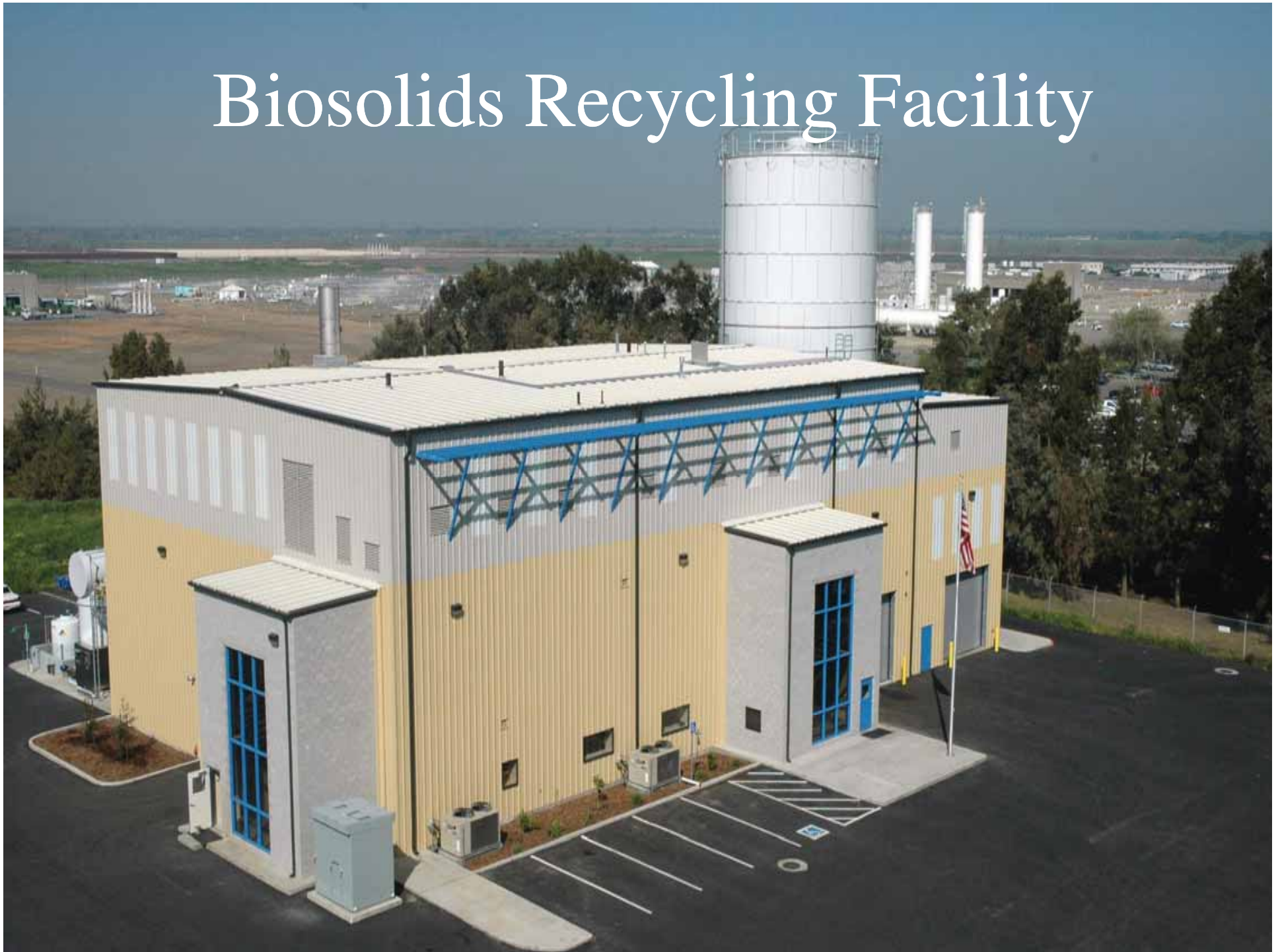


Biosolids Storage Silo



Biosolids Dryer

Biosolids Recycling Facility





Biosolids Used on Agriculture



Contractual Issues & Lessons Learned

Issues / Lessons Learned

- Risk allocation Options
 - Minimize SRCSD risk at all cost
 - SRCSD assumes majority of risk
 - Risk allocated to party best able to assume risk
- Permitting
 - DB team permitting responsibility
- Financing
 - Private sector financing
- Labor & prevailing wages
 - Involve labor, pay prevailing wages

Issues / Lessons Learned (cont.)

- Performance based contract & inspection
 - Must avoid public sector changes
- Legal & negotiations
 - Consider in house support only, depending on expertise
- CEQA
 - Programmatic and project specific by SRCSD
- Safety
 - Responsibility of contractor, but SRCSD oversight

Issues & Lessons Learned (cont.)

- Procurement process
 - Must be open and transparent
- Facility transfer
 - Facility audit
- Energy consumption & price risk
 - Appropriate sharing of risk
- Performance testing & acceptance
 - Rigorous performance test, not prescriptive contract

Issues & Lessons Learned (cont.)

- Operator certification
 - Not required by SWRCB
- BRF input & return streams
 - Potential problems: input solids, return constituents
- Insurance, bonding, guarantees
 - Involve public sector risk managers and legal team
- Odor Control
 - More oversight by SRCSD, good neighbor policy

Conclusions

- Recycling more costly, but:
 - Provides diversification – already needed
 - Reduces district risk
 - Environmentally “friendly”
- Design-build-own-operate:
 - reduced construction oversight staff
 - reduced project implementation time
 - reduced District risk

Conclusions (cont.)

- Best Value selection very important
- Public agency team expertise required
- Private financing is insurance against project failure.....at a cost
- Public-Private partnership has proven to be VERY successful

What's Next ?????



CONTINUED SUCCESS !!!!
& 15 More years of operation

Questions?

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Procurement Strategy

Q: Process to ensure open, fair competition and selection of most qualified DB team?

- Legal authority:
 - CA Gov. Code 5956
 - Two step process (RFQ – RFP)
- SOQ: Two step (min. & enhanced quals.)
- Simultaneous negotiations

Procurement Strategy (cont.)

Q: What financing approach and ownership will provide SRCSD with most cost effective solution?

- Public vs. private financing
- Public vs. private ownership
- Risk based assessment

Procurement Strategy (cont.)

Q: What is the overall responsibility and risk position of the SRCSD?

- Develop risk matrix that outlines allocation of responsibility
 - Regulatory, construction, operational, legal, financial, start-up
- Process of contract terms/conditions require ID of risk allocation