Wyoming Water Development Commission

COKEVILLE RESERVOIR

LEVEL I STUDY

PROJECT MEETING

March 22, 2004

Sunrise Engineering, Inc.

PREVIOUS TOPICS OF DISCUSSION:

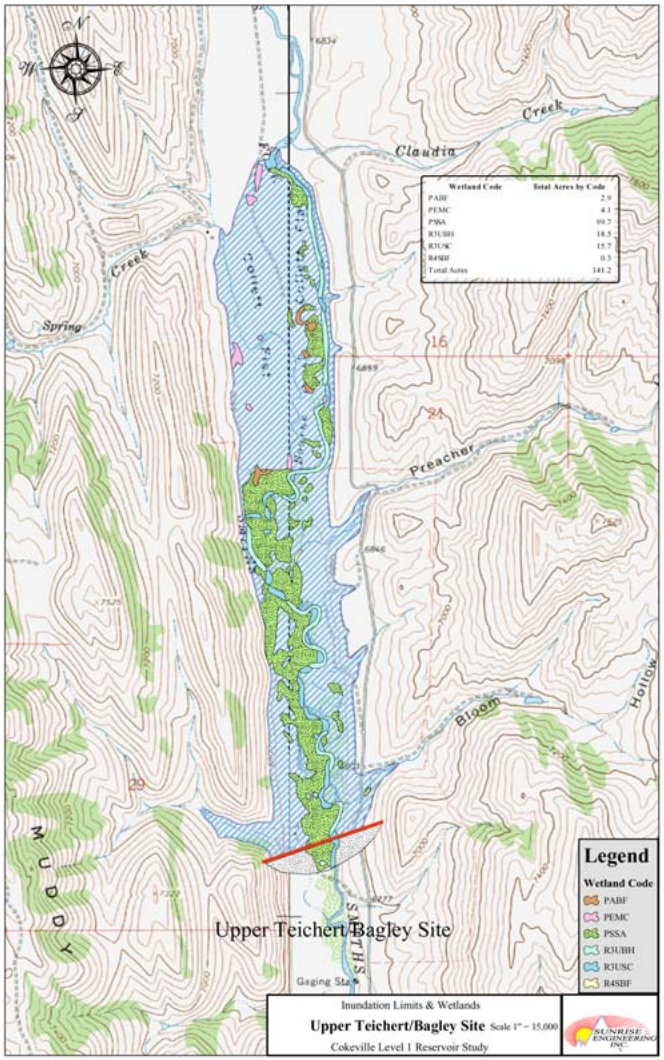
- Reasons For Reservoir
- Potential Locations
- Site Selection Criteria
- Reservoir Model & Results
- Potentially Interested Parties

TODAY'S TOPICS OF DISCUSSION:

- Environmental and Wetlands
- Recommended Sites
- Conceptual Designs
- Estimated Costs
- Upcoming Work

WETLANDS INVENTORY

- National Wetlands Inventory Map
- Overlay on Inundation Limits



RESULTS OF WETLANDS INVENTORY

SITE	RESERVOIR SIZE (ACRE FEET)	WETLAND TYPE											
		PABF	PABGb	PEMB	PEMA	PEMC	PEMF	PSSA	PSSC	R3UBH	R3USC	R4SBF	TOTAL INUNDATED WETLANDS
Lower Teichert/Bagley	14,000	2.9	0	0	0	2.1	1.2	122.7	0	22.3	19.3	0.3	170.8
Upper Teichert/Bagley	14,000	2.9	0	0	0	4.1	0	99.7	0	18.3	15.7	0.3	141
Smiths Fork	17,000	1.9	0.4	0.2	0	1.6	0	94.9	0.1	8.7	17	0	124.8
Ashby	18,000	1.2	0.1	0	0	1.7	0	85.6	0.6	1.2	8.3	0	98.7
Ferney Glade	25,000	0	2.5	0	0.1	1	0	188.4	0.4	2.7	9	0	204.1
Trespass	19,900	0.1	0.4	0	0	0.1	0	94	7.7	2.8	0	0	105.1

SUNRISE ENGINEERING INC.

SITE SELECTION CRITERIA

- IRRIGATION RELIABLITY
- WETLANDS IMPACTS
- INUNDATED ACREAGE
- EMBANKMENT VOLUME
- CONSTRUCTION COSTS
- ACCESS
- MITIGATION POSSIBILITIES
- RECREATION OPPORTUNITIES
- FLOOD CONTROL
- MATERIAL SOURCES

SITE SELECTION GENERAL OBSERVATIONS

- The Smiths Fork and Ashby Sites Have Very Similar Characteristics
- The Upper and Lower Teichert/Bagley Sites Are Very Similar

SITES RECOMMENDED FOR CONCEPTUAL DESIGN

Smiths Fork Site

- Smallest Embankment Volume
- Relatively Lower Cost
- Room For Mitigation of Wetlands
- Attractive Recreational Features
- Achieves Irrigation Reliability

SITES RECOMMENDED FOR CONCEPTUAL DESIGN

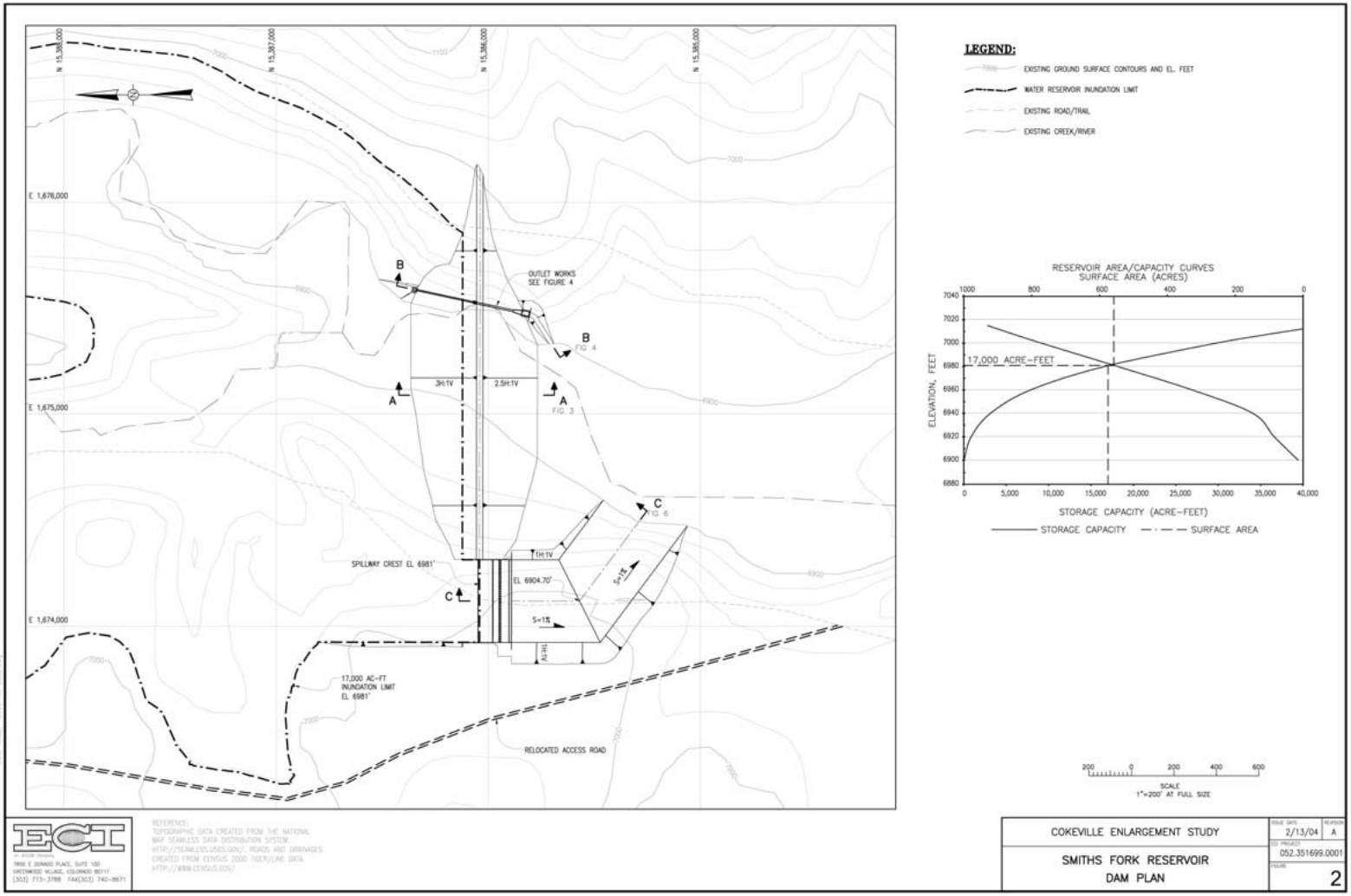
Upper Teichert/ Bagley Site

- Smallest Pool Volume
- Between Upper and Lower, The Upper Has Least Impact To Irrigable Land
- Between Upper and Lower, The Lower Has Smallest Embankment Volume
- Low Impact To Public Access and Existing Roads
- Mitigation Areas Below Site

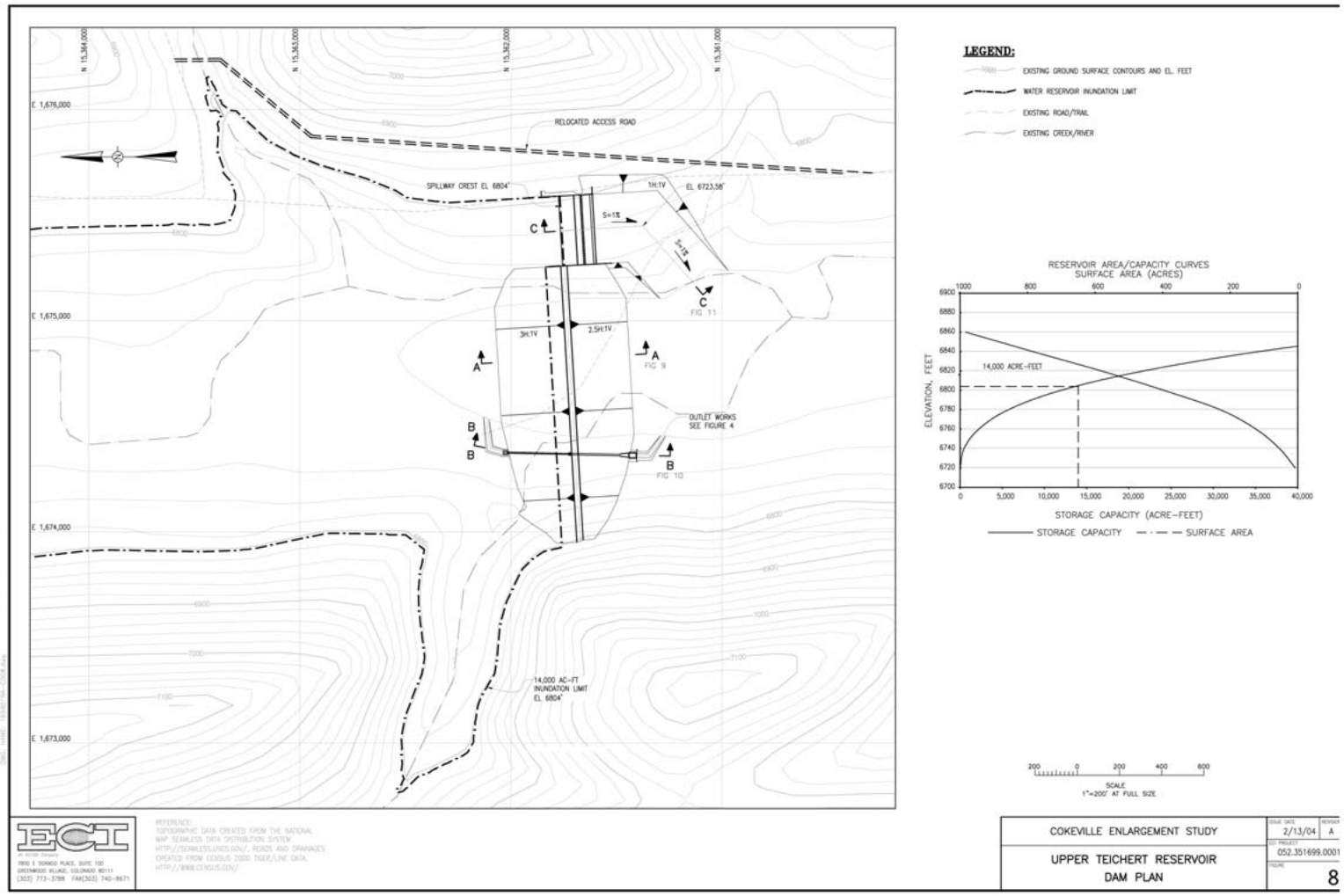
CONCEPTUAL DESIGN CONSIDERATIONS

- MATERIAL SOURCES
- SPILLWAY LAYOUT
- SPILLWAY SIZING
- FOUNDATION CONDITIONS
- CREST ELEVATION
- OUTLET WORKS LAYOUT
- EROSION PROTECTION

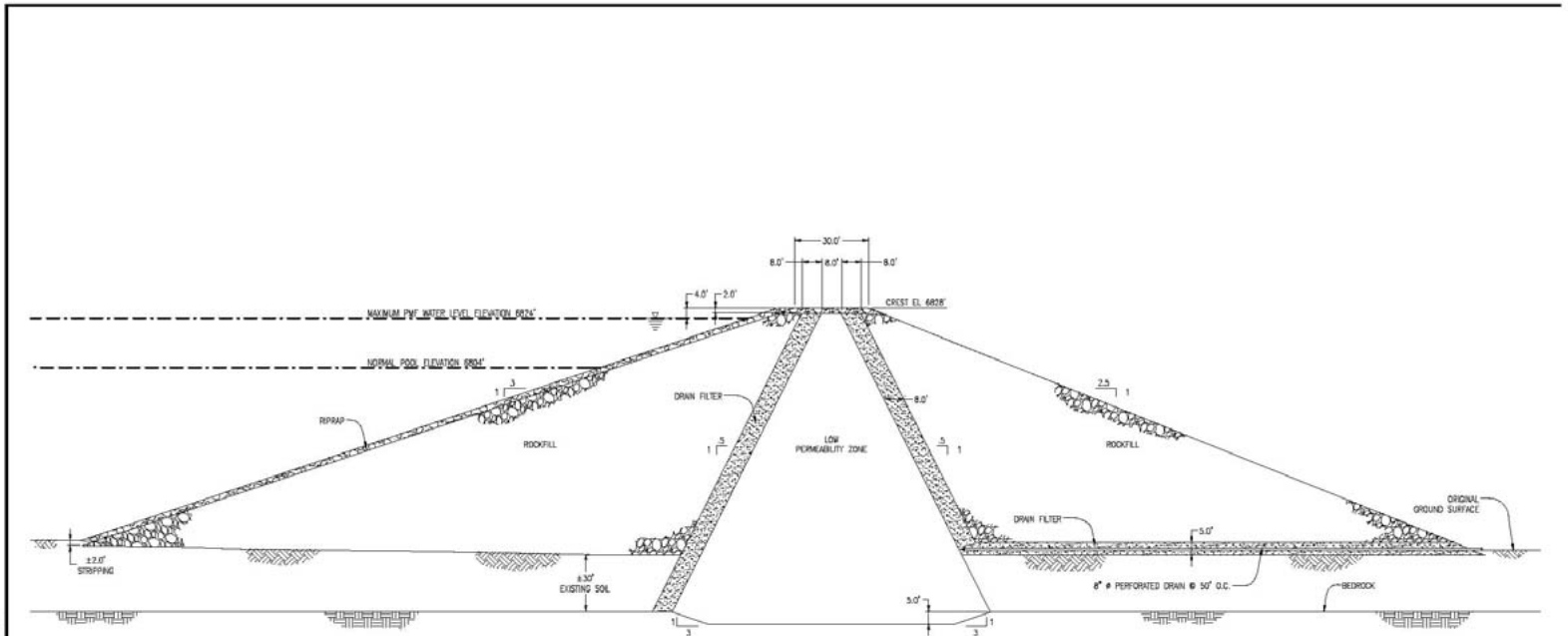
SMITHS FORK
CONCEPTUAL LAYOUT



UPPER TEICHERT/BAGLEY CONCEPTUAL LAYOUT



TYPICAL DESIGN DETAILS
EMBANKMENT CROSS SECTION



UPPER TEICHERT RESERVOIR

NTS

EMBANKMENT SECTION A-A

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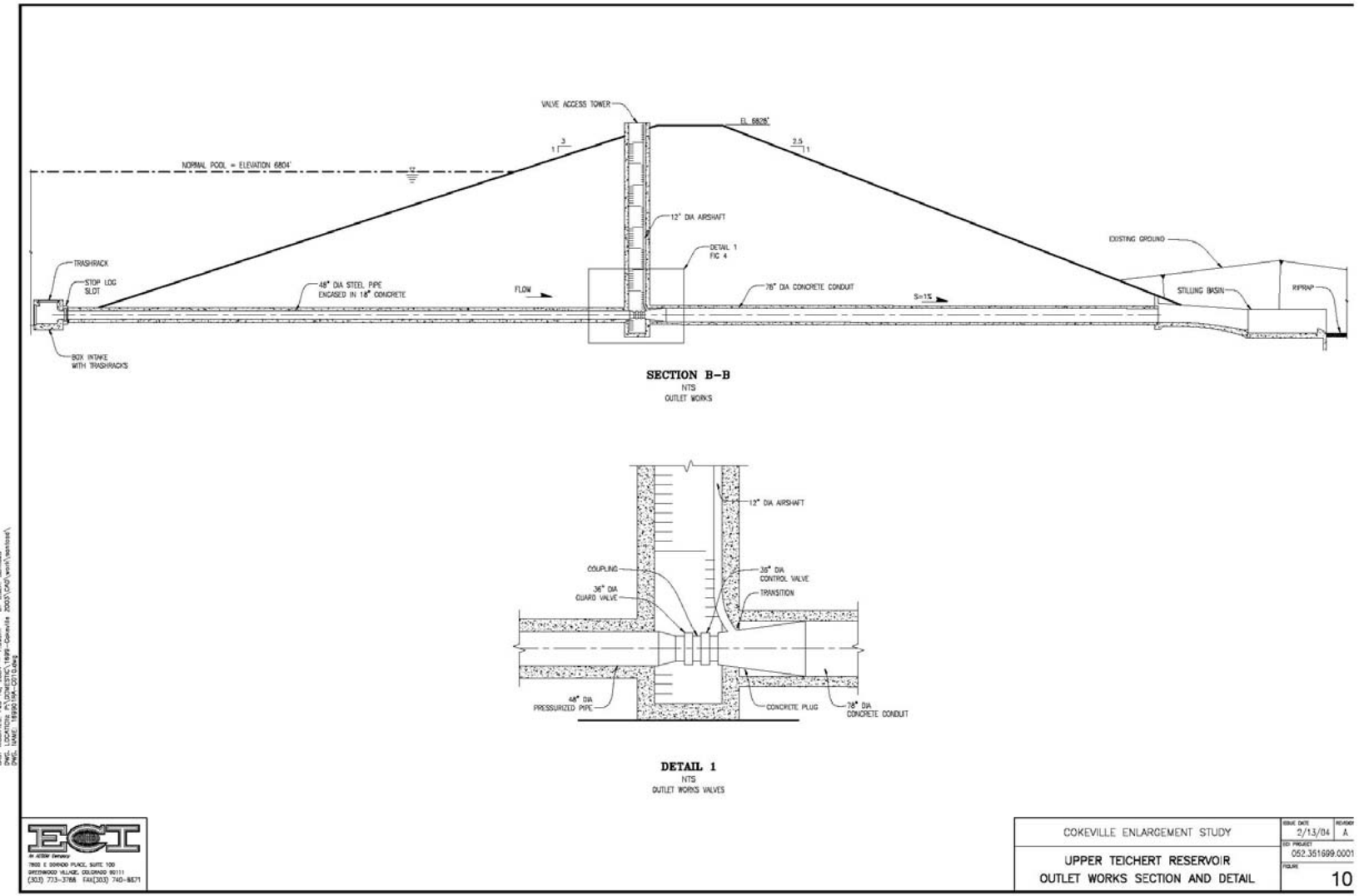
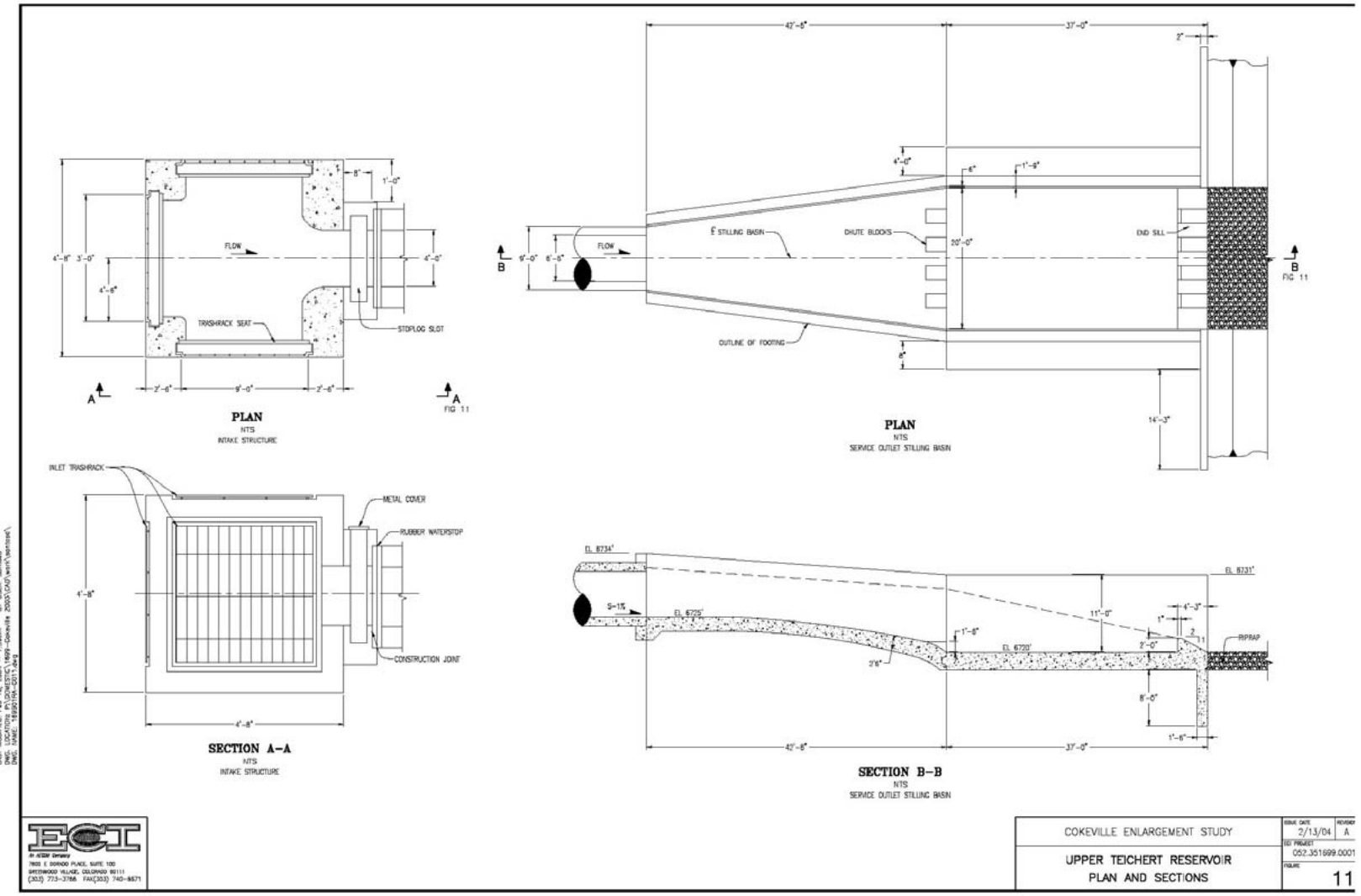
COKEVILLE ENLARGEMENT STUDY	
UPPER TEICHERT RESERVOIR TYPICAL DAM CROSS SECTION	
ISSUE DATE: 2/13/04	REVISION: A
ECI PROJECT: 052.351699.0001	
FIGURE: 9	

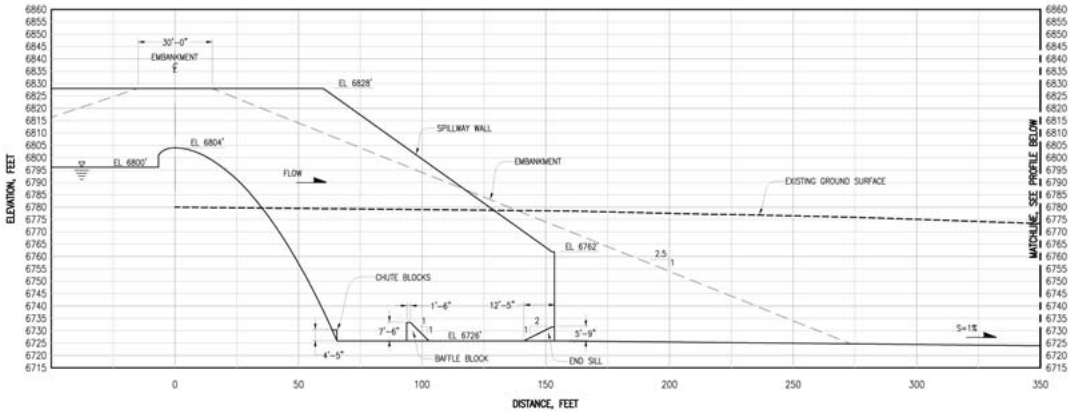
TYPICAL DESIGN DETAILS
OUTLET WORKS



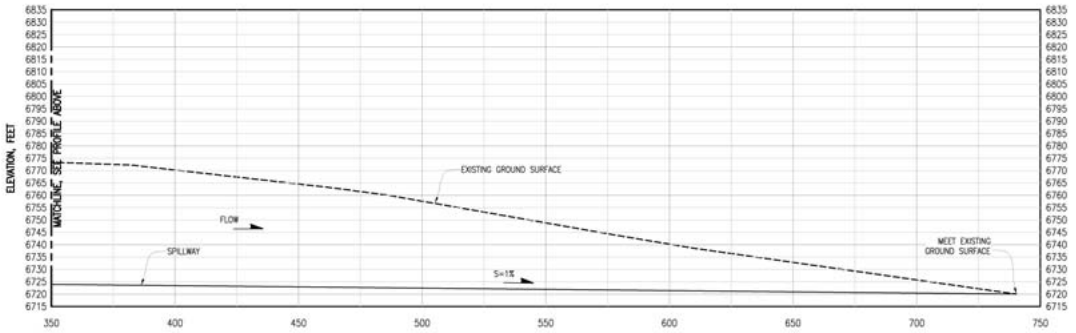
TYPICAL DESIGN DETAILS
OUTLET WORKS



TYPICAL DESIGN DETAILS
SPILLWAY



SPILLWAY
NTS
SECTION C-C



SPILLWAY
NTS
SECTION C-C

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COKEVILLE ENLARGEMENT STUDY	ISSUE DATE 2/13/04 REVISION A
UPPER TEICHERT RESERVOIR SPILLWAY SECTION	ECI PROJECT 052.351699.0001 FIGURE 12

ESTIMATED COSTS

SMITHS FORK

Embankment Cost	$ 10,817,000
Spillway Cost	$ 9,803,000
Outlet Works	$ 1,192,000
Other Contractor Costs	$ 6,908,000
SUBTOTAL	$ 28,720,000
Construction Engineering	$ 2,872,000
Construction Contingency	$ 4,739,000
Plans and Specifications	$ 2,906,000
Permitting & Legal	$ 2,542,000
Land Purchase/Easements	$ 600,000
Environmental Mitigation	$ 2,480,000
TOTAL PROJECT COST	$ 44,859,000

ESTIMATED COSTS

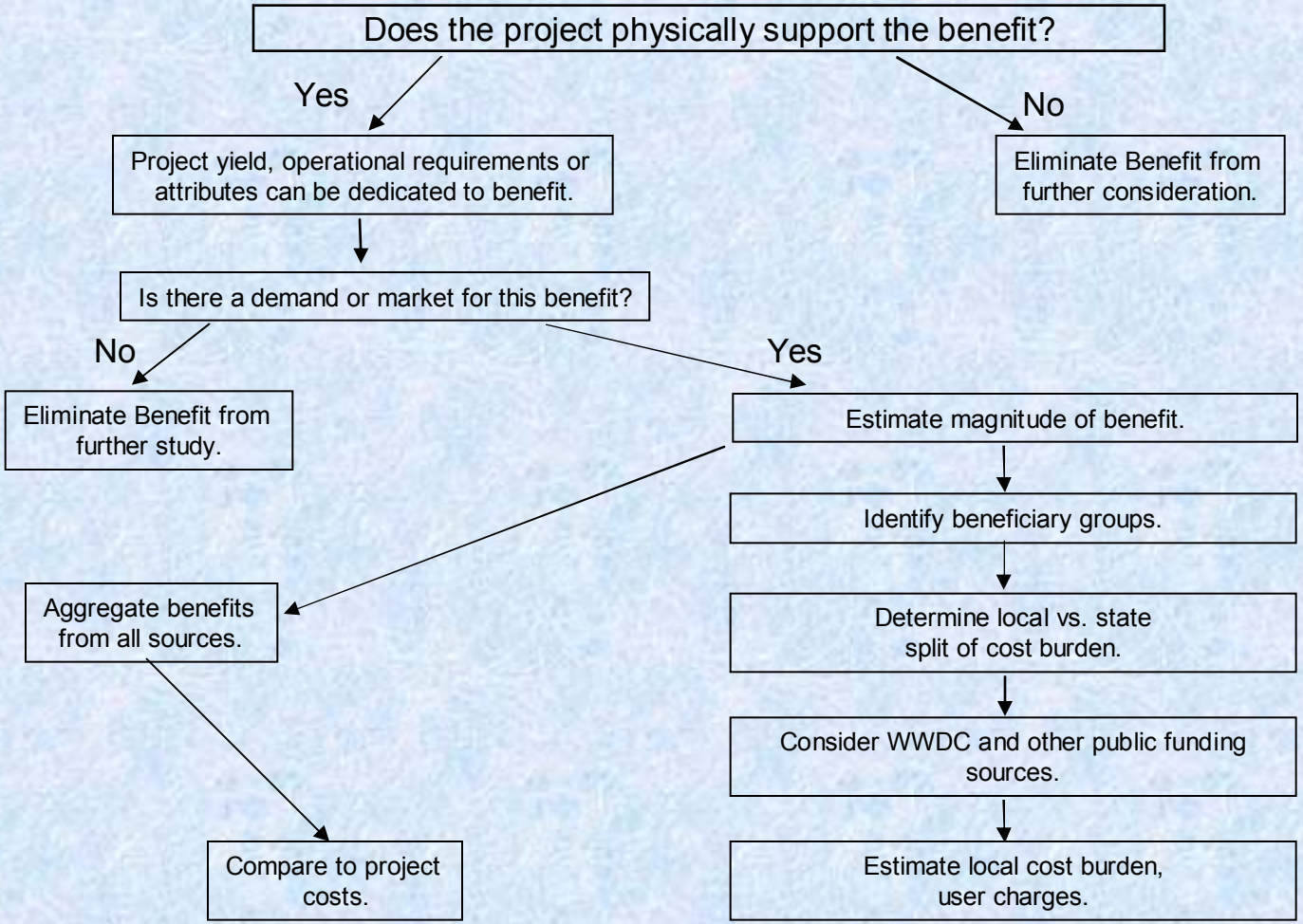
UPPER TEICHERT/BAGLEY

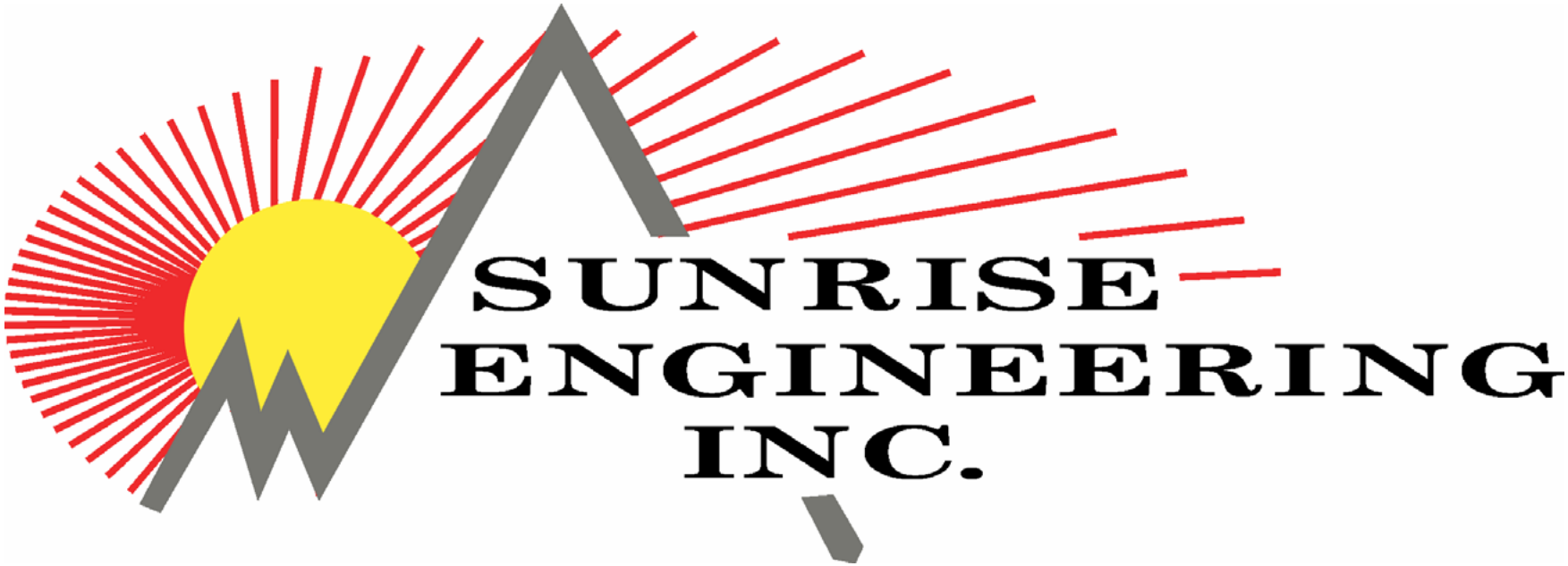
Embankment Cost	$ 11,110,000
Spillway Cost	$ 6,562,000
Outlet Works	$ 1,200,000
Other Contractor Costs	$ 6,078,000
SUBTOTAL	$ 24,950,000
Construction Engineering	$ 2,495,000
Construction Contingency	$ 4,117,000
Plans and Specifications	$ 2,525,000
Permitting & Legal	$ 2,210,000
Land Purchase/Easements	$ 400,000
Environmental Mitigation	$ 2,820,000
TOTAL PROJECT COST	$ 39,517,000

UPCOMING WORK

- **Detailed Economic Analysis and Financing Plan**

Cokeville Reservoir
Economic Benefit Evaluation Model

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