VALUE ENGINEERING PROPOSAL

PROPOSAL NO: S-8 PAGE NO: 1 OF 4

DESCRIPTION: Use Composite Piles for Chamber Foundation

ORIGINAL DESIGN:

Specified 14" precast concrete piles, (750 per gate). (See Drawings Nos 1 and 2)

PROPOSED DESIGN:

Specify composite piles for the foundation. (See Appendix E)

ADVANTAGES:

1. Overall reduction in project costs.
2. Fewer piles to drive.
2. Improved service life.
3. Minimal deterioration from marine environment.

DISADVANTAGES:

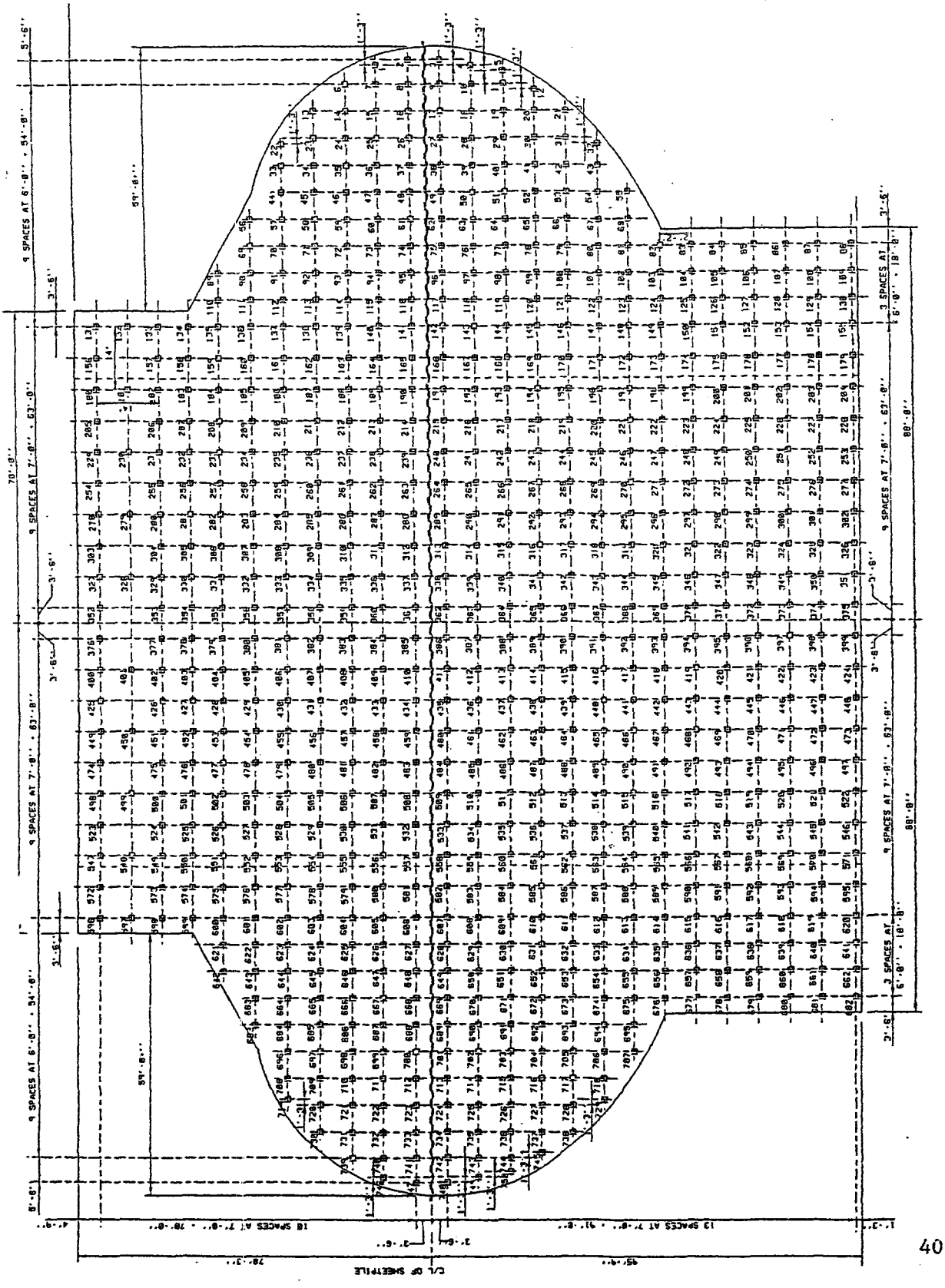
1. A different design.
2. Increased unit costs.

JUSTIFICATION:

The overall justification for this proposal is the reduction in project costs and the reduction in construction requirements. Composite piles have greater skin friction values than concrete and their life cycle costs are better. Technically and economically the composite piles appear to be superior to concrete piles.

NOTE: This proposal describes a design change and has not been subject to a rigorous structural analysis. The dimensions are approximate and must be verified against geotechnical information, little of which was considered when this proposal was developed. Additionally, no estimate for concrete pile was available at the time of this proposal.

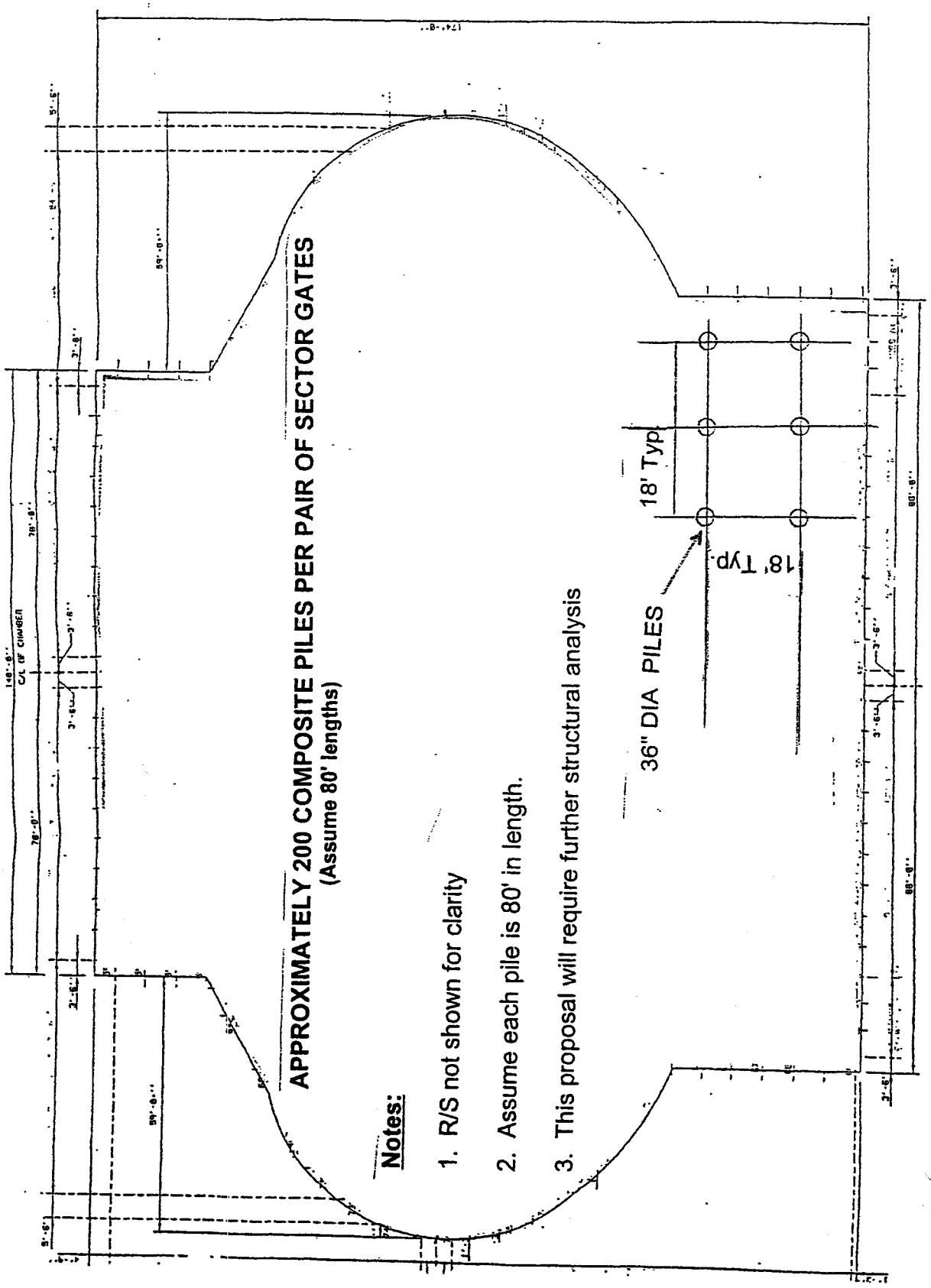
DRAWING NO. 1



750 Pile Foundation Plan

DRAWING NO. 2

PROPOSED COMPOSITE PILE DESIGN



COST ESTIMATE WORKSHEET

PROPOSAL NO.: S-8

DELETIONS

ITEM	UNITS	QUANTITY	UNIT COST	TOTAL
14" Diameter Precast Pile	LF	120,000	$12.00	$1,440,000
Assume 80' Pile Lengths, 750 Piles Per				
Gate x 2 Gates = 1500				
		Total Deletions		$1,440,000

ADDITIONS

ITEM	UNITS	QUANTITY	UNIT COST	TOTAL
36" Diameter Composite Pile	LF	32,000	$30.00	$960,000
Assume 80' Pile Lengths, 200 Piles Per				
Gate x 2 Gates = 400				
		Total Additions		$960,000
		Net Savings		$480,000
	*	Markups	25.00%	$120,000
		Total Savings		$600,000

* Markups are include: Contingency; Escalation; Engineering/Design; and SIOH