

**ENGINEER'S REPORT
HARRIS COUNTY MUNICIPAL UTILITY DISTRICT NO. 248**

JANUARY 9, 2019

(✓)
Action
Item

1. White Oak Springs and White Oak Falls Trail Cost Estimates

The Board can bid the projects in phases (separate bids for each phase), bid the projects together (one large project), or bid the project as base bid (phase I) plus alternate (phase II).

✓

There are potential benefits to designing and bidding the project as one large project or base bid plus alternate (less design cost, only bid the project once, lock in material prices to avoid increases).

We present the attached cost comparison which shows the potential savings when the phases are combined into one larger project. For the comparison, it was assumed the trails would be concrete and 5-foot wide.

Summary of Preliminary Estimates of Probable Costs

White Oak Springs

| | |
|---------------------------------|--------------|
| White Oak Springs Phase I Only | \$139,110.00 |
| White Oak Springs Phase II Only | \$183,900.00 |
| Subtotal | \$323,010.00 |
| White Oak Springs Phase I & II | \$266,739.00 |
| Savings | \$56,271.00 |

White Oak Falls

| | |
|-------------------------------|--------------|
| White Oak Falls Phase I Only | \$213,360.00 |
| White Oak Falls Phase II Only | \$189,090.00 |
| Subtotal | \$402,450.00 |
| White Oak Falls Phase I & II | \$337,773.00 |
| Savings | \$64,677.00 |

White Oak Springs and White Oak Falls

| | |
|--------------------------|--------------|
| WOS Ph I Only | \$139,110.00 |
| WOS Ph II Only | \$183,900.00 |
| WOF Ph I Only | \$213,360.00 |
| WOF Ph II Only | \$189,090.00 |
| Subtotal | \$725,460.00 |
| WOS Ph I&II, WOF Ph I&II | \$585,912.00 |
| Savings | \$139,548.00 |

One Phase Per Subdivision Recommendation

| | |
|--------------------------------|--------------|
| White Oak Springs Phase I Only | \$139,110.00 |
| White Oak Falls Phase II Only | \$189,090.00 |
| Subtotal | \$328,200.00 |
| WOS Ph I & WOF Ph II | \$271,410.00 |
| Savings | \$56,790.00 |

White Oak Springs - 5' Wide Concrete

| Phase I Only | Cost | Description |
|---------------------------------|---------------------|---|
| Design | \$13,300.00 | Plans and Specifications |
| Construction | \$77,125.00 | Construction Cost |
| Bidding Phase Services | \$10,500.00 | Bidding and Advertising Coordination, Newspaper Ads, Pre-bid meeting, ROA, NOA Letters, Contracts |
| Construction Phase Services | \$10,000.00 | Pre-construction meeting, submittal and RFI review, progress meetings, pay estimate review and approval |
| Project Representation Services | \$4,000.00 | Periodic Inspection |
| Reimbursable Expenses | \$1,000.00 | Mileage, copies, etc. |
| Contingency (20%) | \$23,185.00 | |
| Total | \$139,110.00 | |

| Phase II Only | Cost |
|---------------------------------|---------------------|
| Design | \$18,200.00 |
| Construction | \$109,550.00 |
| Bidding Phase Services | \$10,500.00 |
| Construction Phase Services | \$10,000.00 |
| Project Representation Services | \$4,000.00 |
| Reimbursable Expenses | \$1,000.00 |
| Contingency (20%) | \$30,650.00 |
| Total | \$183,900.00 |

| Phase I & II Combined | Cost | Comment |
|---------------------------------|---------------------|--------------|
| Design | \$26,775.00 | 15% less |
| Construction | \$168,007.50 | 10% less |
| Bidding Phase Services | \$10,500.00 | Same |
| Construction Phase Services | \$10,000.00 | Same |
| Project Representation Services | \$6,000.00 | \$2,000 more |
| Reimbursable Expenses | \$1,000.00 | Same |
| Contingency (20%) | \$44,456.50 | |
| Total | \$266,739.00 | |

| | |
|-------------------|--------------|
| Separate Phases | \$323,010.00 |
| One Large Project | \$266,739.00 |
| Savings | \$56,271.00 |

Assumptions:

- No unit cost price increase between phase I and phase II
- 15% engineering savings
- 10% construction cost reduction
- \$2,000 increase in inspection services



HCMUD 248 White Oak Springs
Preliminary Concept
City of Houston ED, Harris County



White Oak Falls - 5' Wide Concrete

| Phase I Only | Cost | Description |
|---------------------------------|---------------------|---|
| Design | \$21,000.00 | Plans and Specifications |
| Construction | \$131,300.00 | Construction Cost |
| Bidding Phase Services | \$10,500.00 | Bidding and Advertising Coordination, Newspaper Ads, Pre-bid meeting, ROA, NOA Letters, Contracts |
| Construction Phase Services | \$10,000.00 | Pre-construction meeting, submittal and RFI review, progress meetings, pay estimate review and approval |
| Project Representation Services | \$4,000.00 | Periodic Inspection |
| Reimbursable Expenses | \$1,000.00 | Mileage, copies, etc. |
| Contingency (20%) | \$35,560.00 | |
| Total | \$213,360.00 | |

| Phase II Only | Cost |
|---------------------------------|---------------------|
| Design | \$18,200.00 |
| Construction | \$113,875.00 |
| Bidding Phase Services | \$10,500.00 |
| Construction Phase Services | \$10,000.00 |
| Project Representation Services | \$4,000.00 |
| Reimbursable Expenses | \$1,000.00 |
| Contingency (20%) | \$31,515.00 |
| Total | \$189,090.00 |

| Phase I & II Combined | Cost | Comment |
|---------------------------------|---------------------|--------------|
| Design | \$33,320.00 | 15% less |
| Construction | \$220,657.50 | 10% less |
| Bidding Phase Services | \$10,500.00 | Same |
| Construction Phase Services | \$10,000.00 | Same |
| Project Representation Services | \$6,000.00 | \$2,000 more |
| Reimbursable Expenses | \$1,000.00 | Same |
| Contingency (20%) | \$56,295.50 | |
| Total | \$337,773.00 | |

| | |
|-----------------|--------------|
| Separate Phases | \$402,450.00 |
| One Project | \$337,773.00 |
| Savings | \$64,677.00 |

Assumptions:

- No unit cost price increase between phase I and phase II
- 1.5% engineering savings
- 10% construction cost reduction
- \$2,000 increase in inspection services



HCMUD 248 White Oak Falls
Preliminary Concept
 City of Houston ETJ, Harris County

© 2014 Jacobs Engineering Group, Inc. All rights reserved. This document is the property of Jacobs Engineering Group, Inc. and is intended for the use of the City of Houston ETJ, Harris County. It is not to be distributed, copied, or used for any other purpose without the written consent of Jacobs Engineering Group, Inc.

JACOBS
 ENGINEERING
 GROUP, INC.
 10000 North Central
 Expressway, Suite 2000
 Houston, Texas 77060
 281.261.2000
 www.jacobs.com

White Oak Springs and White Oak Falls - 5' Wide Concrete

| | | |
|--|---------------------|---------------------|
| WOS Ph I Only | \$139,110.00 | |
| WOS Ph II Only | \$183,900.00 | |
| WOF Ph I Only | \$213,360.00 | |
| WOF Ph II Only | \$189,090.00 | |
| | Subtotal | \$725,460.00 |
| WOS Ph I & II, WOF Ph I & II Combined | Cost | Comment |
| Design | \$60,095.00 | 15% less |
| Construction | \$388,665.00 | 10% less |
| Bidding Phase Services | \$15,000.00 | \$4,500 more |
| Construction Phase Services | \$15,000.00 | \$5,000 more |
| Project Representation Services | \$8,000.00 | \$4,000 more |
| Reimbursable Expenses | \$1,500.00 | \$500 more |
| | Contingency (20%) | \$97,652.00 |
| | Total | \$585,912.00 |
| Separate Phases | \$725,460.00 | |
| One Project | \$585,912.00 | |
| Savings | \$139,548.00 | |

Assumptions:

No unit cost price increase between phase I and phase II

15% engineering savings

10% construction cost reduction

\$4,500 increase in bidding phase services

\$5,000 increase in construction phase services

\$4,000 increase in inspection services