



## Audit of the EAA A-1 Reservoir CM at Risk Contract

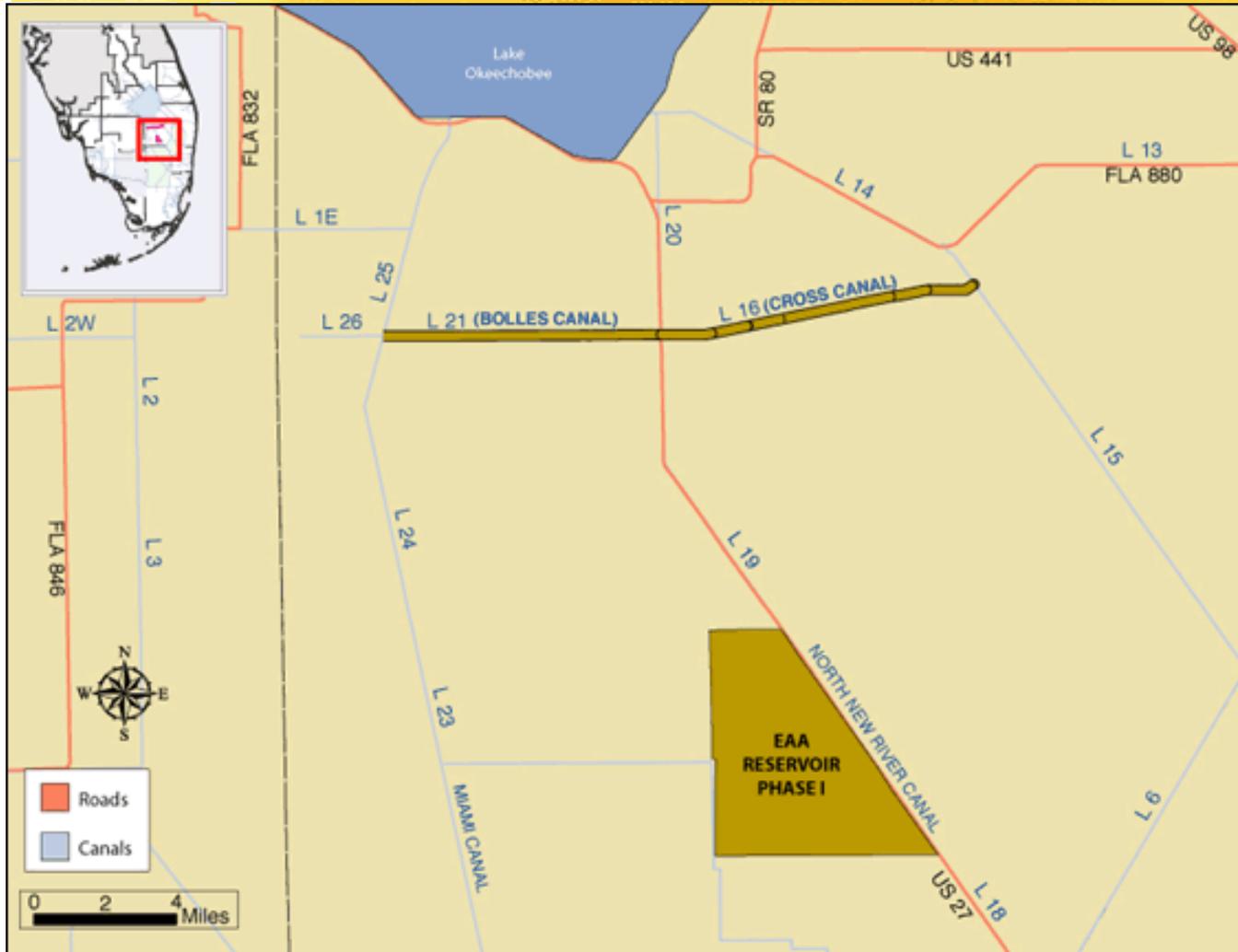


# Background



- The Everglades Agricultural Area Reservoir A-1 is one of three above ground reservoirs to be built in support of the Comprehensive Everglades Restoration Plan.
- The Project is located on a 16,700 acre site in western Palm Beach County in the Everglades Agricultural Area
- Cost will likely exceed \$700 million.

# Background



# Background



Project is divided into 7 Phases (GMP's):

- 1 - General Management. Includes:  
mobilization, canal excavation, vegetation clearing, muck removal
- 2 – Construction and Operation of On-site  
Aggregate Processing Plant
- 3 – Completion of Canal Excavation
- 4 – Construction of the Embankment
- 5 – Pump Purchasing
- 6 – Construction of Structures
- 7 – Construction of U.S. 27 Bridge

# Parsons Barnard Joint Venture Contract



- Executed June, 2006
- Design/Build
- Cost Reimbursement
- Not-to-exceed guaranteed maximum price (GMP) negotiated for each Packet.
- Joint Venture invoices monthly for actual labor, equipment, materials, subcontract, overhead, and a management fee in accordance with specific contract provisions – up to the guaranteed maximum price.

# Contract Terms



- **Labor** – Average salary rate of each employee classification plus a labor burden factor of 56.45% for craft personnel and 68% for supervisory personnel.
- **Materials** – actual cost paid
- **Subcontract** – actual cost paid
- **Equipment** – billed in accordance with the negotiated rates for each GMP using the current version of the Rental Rate Blue Book and adjusted in accordance with provisions outlined in contract Exhibit “D-3” (see below).

# Contract Terms



- **General and Administrative** – 11% of cost of the work, except of subcontract expenses (proposed to be reduced to 8.1% for GMP #4, but also would be applied to subcontract expenses).
- **Management Fee** – negotiated rate of 6.9% the cost of the work (proposed to be reduced to 5% for GMP #4).

# Parsons Barnard Joint Venture Contract



<b>GMP#</b>	<b>Status</b>	<b>Guaranteed Maximum Price</b>	<b>Total Charges as of [Date]</b>
<b>1</b>	<b>Completed</b>	<b>\$ 53,700,000</b>	<b>\$ 43,400,000</b>
<b>2</b>	<b>In Progress</b>	<b>112,700,000</b>	<b>24,000,000</b>
<b>3</b>	<b>In Progress</b>	<b>95,900,000</b>	<b>49,900,000</b>
<b>4</b>	<b>Negotiation</b>	<b><u>330,900,000</u></b>	<b><u>0</u></b>
<b>Total</b>		<b><u>\$ 593,200,000</u></b>	<b><u>\$ 117,300,000</u></b>

# Audit Objectives



## Phase 1 - Contract Charges

Determine whether charges were:

- Incurred
- Reasonable
- Valid
- Allocable
- According with Contract Terms

## Phase 2 – Equipment Hourly Rates

Objectives expanded to address concerns as to whether equipment hourly rates fairly represent the true cost to own and operate equipment

# Audit Objectives



## Audit Phase 1

### Specific Audit Objectives

- Ensuring labor costs were calculated and charged in accordance with the contract
- Determining that equipment rental rates and charges were established in accordance with the contract;
- Determining the propriety of the charges for materials, supplies and subcontractor services; and
- Determining, salary benefits rates, overhead rates, and management fees were reasonable, calculated correctly, and charged in accordance with the terms of the contract

# Audit Methodology – Contract Charges – Phase 1



- Reviewed the contract, amendments, and other relevant documents.
- Met with District staff and contractors responsible for managing the project to obtain an overview of accounting procedures, records, and documentation.
- Selected a sample of expenses detailed in the contractor's payment requests and reviewed supporting invoices at Barnard's headquarters in Bozeman, Montana
- Reviewed and tested the contractor's process for billing labor rates and hours worked.

# Audit Methodology – Contract Charges – Phase 1



- Reviewed and tested payroll documentation, recalculated payroll amounts and traced payments to employees.
- Tested equipment charges to determine that they were billed in accordance with negotiated contract rates.
- Examined process for tracking and verifying equipment usage.
- Reviewed and tested the contractor's process for billing materials and subcontractor's costs, and calculating overhead and management fees.
- We plan to continue conducting periodic audits of the Contract charges through completion of the contract.
- We also plan to audit Parson's charges.

# Audit Results



## Contract Charges

- Presented the results for this audit phase to management in September 2007
- Most of these issues have been resolved and recommendations implemented.



# Most Expenses Billed in Accordance with Contract Terms

- Labor rate based on actual salaries paid
- Payroll burden factors (i.e. fringe benefits) were supportable
- General and administrative overhead rate supportable
- However, Contract provisions regarding procuring subcontractors were not always followed.



# General and Administrative Overcharges Due to Misclassified Expenses

## *Audit Issue*

- Material expense is subject to an 11% general and administrative (overhead) charge, subcontractor expense is not.
- Due to the misclassification subcontractor expense as material expense, the 11% overhead rate has been charged on items it should not have been.
- Questioned costs of approximately \$52,400.
- Contract provisions regarding procuring subcontractors were not always followed.



# General and Administrative Overcharges Due to Misclassified Expenses

## *Resolution of Audit Issue*

- Clear definition of “material cost” is being developed and will be incorporated into the contract.
- Staff enforcing contract procedures regarding subcontractor selection.
- Terms for GMP #4 provided for lower general and administrative rate (8.1% vs. 11%) but will also be applied to subcontract expenses.
- Thus, this will not be an issue for GMP #4 – but will remain an issue through completion of GMPs 2 & 3.



# General and Administrative Overcharges Due to Misclassified Expenses

## Recommendation

- Eliminate any confusion over the classification of material versus subcontractor expense.

## Management Response

- Staff has proposed amended language to address this issue in the contract.
- Barnard Parsons is reviewing this language and a resolution will be reached prior to the execution of the amendment.
- More detail will be required as explanation for the expenses.

# Inventory of Property Purchased for Job Site Should be Maintained



## *Audit Issue*

- Approximately \$311,500 of network and computing equipment, survey equipment, and office furnishings to establish the on-site project offices have been purchased.
- Contract requires transfer of this property to the District upon project completion.
- Neither the contractor nor the District maintained an inventory list of such items making it difficult to identify, control and account for these assets.
- Questioned whether there was a compliance issue with the statutory requirements regarding tangible personal property requirements – F.S. Ch. 274

# Inventory of Property Purchased for Job Site Should be Maintained



## *Resolution of Audit Issue*

- A inventory list of property has been compiled.
- Office of Counsel determined that F.S. Ch. 274 requirements will not apply until the property is turned over to the District upon project completion.

# Invoice Review Revealed Inadequate Descriptions and Other Questioned Costs



A review of Barnard's records revealed:

## *Audit Issue*

- Insufficient descriptions of materials or services provided on vendor invoices.
- Documentation lacking as to delivery and receipt of equipment and materials.
- Double payment of an \$8,550 one invoice
- Other questionable direct cost charges.

# Invoice Review Revealed Inadequate Descriptions and Other Questioned Costs



## **Resolution of Audit Issue**

- Barnard credited the District for the \$8,550 double payment
- Other issues still need resolution

## **Recommendation**

- Research the remaining unresolved issues identified regarding direct charges for materials and subcontract expenses

## **Management Response**

- Remaining issues will be resolved and credits requested if warranted.

# Cost Saving Opportunity by Directly Purchasing Vehicles for District Staff



## **Audit Issue**

- GMP #1 required Barnard to purchase two vehicles to be used by District staff members that supervise the project.
- Procurement method cost the District an additional \$14,000 by due to sales tax (6%), overhead (11%) and profit (6.9%).
- Cost partially offset due to requirement for Barnard to provide insurance for the vehicles and not charge such cost directly to the District.

## **Resolution of Audit Issue**

Additional vehicle needs for District staff will be purchased directly through the District's procurement process

# Process for Monitoring Equipment Hours Should be Strengthened



## **Audit Issue**

- District did not require actual engine hour readings to substantiate the billing hours for equipment usage.
- Instead, they relied on an Equipment Utilization Report that contractor submitted.
- The Equipment Utilization Report was based on supervisor's estimates, and would therefore not be as accurate as the actual engine readings.

## **Resolution of Audit Issue**

Contractor worker assigned to monitor hour meters

# Enhance Contract Definition and Monitoring of Standby Equipment



## **Audit Issue**

- Charges terminated for equipment inactive >15 days.
- Contract provision covering inactive equipment leaves a loophole which could allow equipment with low utilization rates to be considered active and remain on the site.
- With this criteria, equipment could be used for one hour just two days per month (15 days apart) and still meet the criteria for “active”

## **Resolution of Audit Issue**

- Same contract worker monitoring meters to monitor equipment utilization
- Contract language strengthened regarding 15 day inactivity criteria

# Holiday Pay Billed as Both Direct and Indirect Charges



## **Audit Issue**

- Holiday pay for contractor's salaried employees was being directly charged.
- Holiday pay is already included in the overhead rate – in accordance with the contract.
- Thus - holiday pay was charged twice, once in the overhead rate, and again as a direct charge.

## **Resolution of Audit Issue**

Barnard agreed to credit the District for ≈\$93,000

# Ambiguous Contract Language Re: Management Fee on G&A Expenses



## *Audit Issue*

- Contract provided for a 6.9% management fee on the “Cost of Work” as defined by the Contract
- Contract language appeared to exclude general and administrative expense from the “Cost of Work”
- Management fee was charged on G&A expense
- Estimated impact of this interpretation over the life of the contract would be  $\approx$  \$4.1 million

# Ambiguous Contract Language Re: Management Fee on G&A Expenses



## *Resolution of Audit Issue*

- Law firm that represented the District with writing the original contract provided a different interpretation, which concluded that the 11% G&A factor should be included in the “Cost of Work”.
- Board Counsel concurs with the firm’s interpretation
- Also documents prepared during original contract negotiations show the 11% factor being added to cost before applying the management fee.

# Consider Other Alternatives for Builder's Risk Insurance



## Audit Issue

- District's practice - require builders risk during construction  
- self-insure existing structures

## Cost of Barnard's Insurance Policy

GMP	Premium	G&A & Mgt Fee	Total Cost
1 – 3	\$ 7,435,000	\$ 1,387,000	\$ 8,822,000
4 (Est.)	<u>8,025,000</u>	<u>1,497,000</u>	<u>9,522,000</u>
Total	\$ 15,460,000	\$ 2,884,000	\$ 18,344,000

- Deductible – 5%
- Potential exposure as much as \$35 million

# Consider Other Alternatives for Builder's Risk Insurance



## **Audit Issue**

- Recommended considering other insurance options:
  - District provided policy
  - Self insurance

## **Resolution of Audit Issue**

- Several alternatives presented to Governing Board
- Direction for District to directly purchase insurance coverage with limits that better address the District's risk exposures

## **Estimated Cost Savings**

GMP's 1 – 3	\$ 3,078,000
GMP 4	<u>5,392,000</u>
<b>Total</b>	<b>\$ 8,470,000</b>

# Small Business Enterprise Participation Goals Met



## Audit Issue

GMP	SBE Goal	Utilization as Of 12/31/07
1	N/A	N/A
2	13.0%	13.8%
3	16.0%	18.6%
4	11.0%	N/A

- GMP 1 – SBE Rule not in effect yet.
- Contract required compliance with SBE Rule if adopted.
- Applies to GMP's subsequent to #1
- Contractor made good faith effort to use local vendors.

# High Utilization of Local and In-State Subcontractors & Suppliers



<b>Geographic Area</b>	<b>Amount* (Millions)</b>	<b>Percentage</b>
Florida	\$ 26.3	79%
SFWMD	\$ 21.0	63%
Glades & Clewiston	\$ 7.5	22%

\* Total subcontract and supplier expenses = \$33.4 million

\* Amounts as of December 31, 2007

# Reconsider Assignment of New Hope Lease Responsibilities



## *Audit Issue*

- Lease executed to settle dispute regarding when the District could terminate their right to farm.
- Lease Agreement provides for New Hope to continue farming certain sections during construction.
- Provides compensation up to \$9 million to New Hope to operate and maintain water infrastructure
- Lease Responsibility assigned to Barnard to avoid potential claims



# Reconsider Assignment of New Hope Lease Responsibilities

## **Audit Issue**

- District pays the 6.9% Management fee (5% for GMP #4) but not 11% overhead or  $\approx$  \$525,000 over the project's life.
- Could save  $\approx$  \$250,000 by District resuming responsibility over remaining project.

## **Recommendation**

**Reconsider whether the additional cost of assigning the lease to Barnard compared to the risk of the District managing the lease.**

## **Management Response**

**In managements opinion Barnard should continue to manage the lease due to necessary daily interaction.**

# Audit Objectives – Equipment Rates– Phase 2



## Audit Phase 2

### Specific Audit Objectives

- Assessed whether Rental Rate Blue Book was a good standard
- Determined whether adjustments made to Blue Book Standard Rates were reasonable and acceptable
- Determined whether daily rates for pickup trucks were reasonable

# Audit Methodology – Equipment Hourly Rates



- Selected a sample of 16 pieces of equipment used the most frequently
- Obtained breakdown of various cost components (e.g., depreciation, maintenance, repairs, tires, etc.)
- Analyzed each cost component to determine whether standard cost factors fairly represent the current market cost for such component.
- Analyzed adjustments made to the Rental Rate Blue Book cost components to determine whether they are reasonable and warranted.

# Audit Results



## Equipment Rates

- Presented the results for this audit phase to management in November 2007
- Management and staff used this information to assist with negotiations for GMP #4



# Rental Rate Blue Book is an Appropriate Standard When Properly Applied

## *Audit Issue*

### ➤ Ownership Cost

- Depreciation
- Cost of Facilities Capital
- Overhead
- Overhaul Labor
- Overhaul Parts

### ➤ Operating Cost

- Field Repair Labor
- Field Repair Parts
- Ground Engaging Components
- Electric/Fuel
- Lube



# Rental Rate Blue Book is an Appropriate Standard When Properly Applied

## *Audit Issue*

- Blue Book provides ability to make custom adjustments to standard rates.
- We found that Blue Book provides a good basis and methodology for establishing hourly equipment rates.

# Rental Rate Blue Book Uses and Appropriate Depreciation Methodology



Formula for Hourly Depreciation Rates		Example
Manufacturers List Price		\$500,000
Less: Typical Dealer Discount (10%)	—	<u>(50,000)</u>
Discounted Purchase Price	=	\$450,000
Plus: Sales Tax (6%)	+	27,000
Plus: Freight Cost	+	<u>10,000</u>
Total Acquisition Cost	=	487,000
Less: Salvage Value (20%)	—	<u>(97,400)</u>
Depreciable Basis	=	\$389,600
Divided by Useful Life (Hours)	÷	<u>10,000</u>
Depreciation Cost Per Hour	=	<u>\$38.96</u>

➤ **Adjusting any factor effect hourly rate**

# Equipment Purchase Prices are Overstated



## *Audit Issue*

- Barnard asserted that Blue Book's list price were not current and should be adjusted upward.
- They also contended that most of their equipment was Caterpillar brand and that Caterpillar dealers do sell their equipment at discounts from list price, and thus discounts should be adjusted to zero.
- We selected 16 equipment pieces (mostly Caterpillar) that will be used the most frequently on GMP #4
- District's Fleet manager assisted us with obtaining quotes from local equipment dealers

# Equipment Purchase Prices are Overstated



## *Audit Issue*

- We confirmed Barnard's assertion that Blue Book's list price were below those we obtained – thus list price adjustments were warranted.
- We also found that Caterpillar dealers do provide discounts to contractors.
- Average discount for the pieces selected for testing was  $\approx 10.8\%$  from list price.
- Adjusting Blue Book discounts to zero resulted in overstating equipment cost for GMP #4 by approximately \$5.1.

# Equipment Purchase Prices are Overstated



## *Audit Issue*

- Equipment demand exceeded supply in early 2006 when the initial contract was negotiated.
- Dealers still provided smaller discounts at that time but still provided some discount.
- Equipment demand had softened significantly since the project started due to the housing downturn.

## *Resolution of Audit Issue*

To be shown on subsequent slide

# Incorrect Sales Tax Rate Used



## **Audit Issue**

- Sales tax rate of 6.71% used instead of 6.0% in calculating total equipment cost.
- The 0.5% local tax rate only applies to first \$5,000 and is insignificant (\$25 max).
- The 0.21% Use Tax does not exist

## **Audit Issue**

- Barnard agreed to adjust the sales tax rate to 6.0%

# Depreciation Overstated Due to Understating Residual Values on Some Equipment



## **Audit Issue**

- Blue Book did not provide salvage values for some pieces of equipment.
- Salvage value appeared to be arbitrarily set low.
- We found an another independent source of information (U.S. Corps) that confirmed that the residual values were too low.
- Results in overstating depreciation cost.

## **Resolution of Audit Issue**

To be shown on subsequent slide

# Actual Cost for Aggregate Processing Plant Equipment Appears Reasonable



## *Audit Issue*

- Total actual cost is not yet known.
- We compared the actual purchase cost to the estimated cost for 13 of 16 components that had already been purchased.
- Actual cost was about 6.5% less than estimates
- According to staff the final plant configuration will include some additional components that were not included in the estimates, thus total actual cost is projected to exceed the total estimate.
- Billing rate will be based on the estimates.

# Actual Cost for Aggregate Processing Plant Equipment Appears Reasonable



## Recommendation

Compare the final cost of the aggregate plant to the estimated cost to determine that the hourly rates are reasonable.

## Management Response

Final cost will be reviewed and compared to negotiated estimates once all equipment has been purchased.

# Hourly Rate Cost Factors Were Appropriate for Many Components



## Audit Issue

### Standard Value Used or Adjustments Appropriate

- Economic Useful Life
- Overhaul Labor
- Field Repair Parts
- Ground Engagement Components

### Direct Billed Items Appropriately Adjusted to Zero

- Field Repairs Labor
- Field Repair Parts
- Fuel
- Lube Labor
- General and Administrative



# Cost of Capital Overstated

## *Audit Issue*

- Facilities cost of money is an imputed cost related to the cost of contractor capital committed to facilities.
- It is not a form of interest on borrowing by the firm
- Cost of Money rate is based on the interest rates specified semi-annually by the Secretary of the Treasury.
- Barnard asserted that the prime rate should be used – (8% at that time).



# Cost of Capital Overstated

## **Audit Issue**

- Blue Book uses the appropriate rate.
- Rate established by Secretary of the Treasury was 5.75% during second half of 2007.
- Average over last four years was 4.89%
- Rate dropped to 4.75% on January 1, 2008

## **Resolution of Audit Issue**

- Barnard agreed to reduce the Cost of Facilities Capital rate to 5.25%. Resulted in savings of approximately \$5.4 million

# Consider Establishing an Equipment Overtime Rate



## **Audit Issue**

- Blue Book formula assumes normal annual usage in establishing hourly rate for each cost component
- Hence, Cost of Facilities Capital is fully recovered once the normal usage number of hours is billed
- Thus, Cost of Facilities Capital should be reduced to zero for hours billed in excess of the normal annual usage.
- Significance of this issue is that double shifts will be running during the embankment construction (GMP #4)

## **Resolution of Audit Issue**

- Barnard agreed to a lower overtime rate based on 82% of regular hourly rate.
- Results in savings of  $\approx$  \$2.1 million



# Proposed Insurance Factor Acceptable

## **Audit Issue**

- Blue Book provides a general and administrative cost factor
- This component was adjusted to zero since an overall overhead factor is added to all labor material and equipment.
- However, Blue Book included equipment insurance in this cost component and equipment insurance is not included in Barnard's general and administrative expense.
- Barnard proposed adding 2% to hourly rates to cover equipment insurance.
- Our analysis concluded that 2% was appropriate

## **Resolution of Audit Issue**

- Two percent was included in hourly rates to cover equipment insurance



# Tire Prices Inflated

## **Audit Issue**

- Tire prices were adjusted upward due to a tire shortage causing price premiums.
- Tire useful life was also adjusted down due to site conditions
- We confirmed with a local equipment dealer that there was a tire shortage at one time but that the shortage no longer exists. Thus, the premium prices are no longer warranted.
- Tire price quotes we obtained confirmed that the Blue Book standard rates for tires were reasonable.
- However, we concluded that adjusting the useful tire life down was warranted.

## **Resolution of Audit Issue**

To be shown on subsequent slide

# Pickup Truck Daily Rates Exceed Actual Cost



## Audit Issue

Pickup Size	Current Daily Rate	Reasonable Daily Rate
1/2 ton	\$ 56	\$30 - 35
3/4 ton	\$ 72	\$40 - 45

- Estimated Cost impact for GMP #4 ≈ \$1.8 Mil

## Resolution of Audit Issue

To be shown on subsequent slide



# Questionable Pickup Truck Usage

## **Audit Issue**

- Most are used by Barnard employees for commuting to work
- Most live in Palm Beach or Broward County
- District also pays for the fuel for these trucks
- We questioned whether District management and the Governing Board intended to provide this benefit
- Per staff, this is a normal practice in the construction industry for remote projects.

# Ensure that District is Charged for Correct Equipment Model



## ***Audit Issue***

- Potential for contractor to bill for a larger piece of equipment that was actually used.
- Should be monitored to ensure that the District is billed for the correct equipment models.

## ***Resolution of Audit Issue***

- Same contract worker monitoring meters to ensure that charges are for correct models

# Resolution of Equipment Cost Issues – GMP #4



<b>Audit Issue</b>	<b>Estimated Cost Impact</b>	<b>Negotiated Change-GMP4</b>
Cost of Capital	\$ 6,200,000	\$ 5,400,000
Overtime Rate*	2,100,000	2,100,000
Depreciation	5,100,000	-
Tires Prices	2,900,000	-
Pickup Truck Rates	1,800,000	-
Change in Overhead Rate	-	5,900,000
Management Fee	-	<u>6,000,000</u>
<b>Total</b>	<b><u>\$ 18,100,000</u></b>	<b><u>\$ 19,400,000</u></b>

\* Actual

# Summary of Cost Savings



Cost Savings	Amount (1)
<b><u>GMPs 1 – 3</u></b>	
Credit for Double Payment	\$ 9,000
Credit for Holiday Pay	93,000
District Provided Builders Risk Insurance	<u>3,078,000</u>
<b>Subtotal - Cost Savings – GMPs 1-3</b>	<b><u>\$ 3,180,000</u></b>
<b><u>GMP #4</u></b>	
District Provided Builders Risk Insurance	\$ 5,392,000
Reduced Rate for Cost of Facilities Capital	5,379,000
Overtime Rate for Second Shift Equipment Usage	2,115,000
Change in G&A* Rate Methodology	5,942,000
Management Fee Reduction from 6.9% to 5.0%	<u>6,015,000</u>
<b>Subtotal - Cost Savings – GMP 4</b>	<b><u>\$ 24,843,000</u></b>
<b>Total Cost Savings</b>	<b><u>\$ 28,023,000</u></b>

# Final Negotiated Amount ≈ 16% Below Initial Proposal



Negotiation Rounds	Millions
Barnard's Initial Proposal	\$ 400.0
First 2 Negotiation Rounds – (Focused primarily on unit quantities)	360.0
Subsequent Negotiation Rounds – (Focused primarily on pricing issues)	\$ 330.9
Change from Initial proposal	(\$ 69.1)
Scope of Work Change (Builders Risk)	5.4
Net Change	(\$ 63.7)



# Use Fixed Bid Approach in Future

## *Audit Issue*

- Consider Using Conventional Fixed Bid Procurement Approach for Future Construction Projects
- However, if it is decided to continue using the construction management at risk contract approach, consider retaining the negotiating team composition used for GMP #4 (i.e. combination of District staff and Board Counsel) that possesses the familiarity and experience with the process.

# Audit of the EAA A-1 Reservoir CM at Risk Contract



**Questions ?**