

**CITY OF OAKLAND**  
**AGENDA REPORT**

OFFICE OF THE CITY CLERK

2006 NOV 21 PM 3: 24

TO: Office of the City Administrator  
ATTN: Deborah Edgerly  
FROM: Public Works Agency  
DATE: December 5, 2006

**RE: Supplemental #2 - Report Related to Resolution Authorizing Award Of A Contract To Andes Construction, Inc. For The Amount of One Million Nine Hundred Eighty-One Thousand Three Hundred Thirty-Seven Dollars (\$1,981,337.00)**

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**SUMMARY**

On November 14, 2006, the Public Works Committee requested additional information regarding the market availability analysis which supported the action to increase the local trucking participation requirement from 20% to 100% and decrease the Local/Small Local Business Enterprise (L/SLBE) participation requirement from 20% to 10%.

**KEY ISSUES AND IMPACTS**

***Nature and Scope of the Project***

The majority of the work on this project involves micro-tunneling (MT). The Public Works Agency (PWA) advised the Compliance Office that MT is a trench-less method of installing subsurface pipes. The process of micro-tunneling involves the excavation of two pits, a jacking shaft and a reception shaft. The micro-tunnel boring machine (MTBM) is an articulated cutting head which simultaneously removes spoils and steers itself from the jacking shaft to the reception shaft using hydraulic cylinders to maintain the desired alignment. The MTBM is forced along the alignment by means of the jacking system. The jacking system consists of a jacking frame, placed inside the jacking shaft, and hydraulic jacks which typically range from 100 tons to 1000 tons.

As the MTBM moves further along the alignment, excavated spoils are conveyed from the MTBM using a slurry system. Slurry is a mixture of bentonite, a powdery clay material, and water. The spoils are removed from the slurry at a separation unit, and then, the slurry will be continuously cycled back to the cutting head to remove more excavated material.

The MTBM is guided by a laser beam which is transmitted from inside the jacking shaft to a target inside of the MTBM. The line and grade information is processed remotely at a computer control system which can make adjustments to the hydraulic cylinders of the MTBM to maintain the desired alignment. As the MTBM advances, pipe segments are inserted into the jacking frame forcing the cutting head further along. The entire process repeats until the MTBM is recovered at the reception shaft.

Micro-tunneling is a preferred trench-less method for this project for the following reasons:

- Depth. The new sewer pipe is proposed to be installed at a depth of 18 feet. The present soil conditions make it extremely difficult to excavate and maintain a trench of that depth.

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- Utility Clearances. The proximity of the proposed pipe to adjacent underground utilities makes micro-tunneling a preferred method of pipe installation in that it presents less conflict with other utilities.
- Surface Disruption. Micro-tunneling requires minimal excavation compared to trenching. This technology is the least disruptive to the public, vehicular traffic, etc.

Micro-tunneling technology is highly sophisticated and specialized. It is considered a specialty because there are only a few manufacturers worldwide who make the equipment and only a handful of contractors on the west coast who have invested in this technology. Experience and expertise of its operator combined with consideration of soil and groundwater conditions influence the selection of appropriate technology and methods that ultimately determine the success of the tunneling operation and installation of the pipeline.

### ***Engineer's Estimate, Prime and Sub-contractible Dollars***

Potential contracting and subcontracting opportunities are directly related to the categories and cost of the work. The best estimate of cost is the Engineer's Estimate. The estimate for this project is provided as Attachment 1. Please note "Item 8" of Attachment 1 shows the estimated cost of the micro-tunneling referred to as "Install new SS by Microtunneling method using 18' ID pipe per specification 306-8.5". The estimated value of this work is approximate \$985,000.00 or 63.% of the total contract, with the remaining work totaling 37%.

The contractor must self-perform at least one half of 37% or 18.5%. The "GREENBOOK Standard Specifications for Public Works Construction" section 2-3.2 states the requirement as follows:

*"The Contractor shall perform, with its own organization, Contract work amounting to at least 50 percent of the Contract Price except that any designated "Specialty Items" may be performed by subcontract and the amount of any such "Specialty Items" so performed may be deducted from the Contract Price before computing the amount required to be performed by the Contractor with its own organization. "Specialty Items will be identified by the Agency in the Bid or Proposal. Where an entire item is subcontracted, the value of work subcontracted will be based on the Contract Unit Price."*

Micro-tunneling is considered a specialty item and is therefore deducted as described above.

### ***C-42 License /Minimum Requirement for Prime Contractor***

Under this project, the prime contractor must not only hold a C-42 license, but must also be able to self perform micro-tunneling. The minimum required license for this project is a C-42<sup>1</sup> under which MT falls. Contractors choose whether to invest in this technology and the associated equipment in order to provide this service. Typically, however, because of the specialized nature and equipment cost, micro-tunneling is subcontracted out by the prime.

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<sup>1</sup> "C-42 Sanitation System Contractor-A sanitation system contractor fabricates and installs cesspools, septic tanks, storm drains and other sewage disposal and drain structures. This classification includes the laying of cast-iron, steel, concrete, vitreous and non-vitreous pipe and any other hardware associated with these systems. (Authority cited: section 7008 and 7059 B & P Code. Reference section 7058 and 7059 B & P Code.)"

Based on past experiences and conversations with licensed C-42 local and non-local prime and sub-contractors, staff subject matter experts could reasonably assume that the market would not bear even a minimum 20% level of local participation. It is this type of underground work specifically that regularly generates one to two bids only.

Compliance staff took the active steps described below in order to validate or refute the assumption that the market did not have a representative number of local certified firms able to perform the micro-tunneling work.

#### ***Why an Availability Analysis?***

An availability analysis seeks to determine the number of (Oakland certified) firms that are ready, willing and able to perform a certain category or categories of work.

City Council moved from a goal based local business participation policy to a minimum requirement business participation requirement which, unlike “goals”, is material to the bid. Because bids then may be rejected because of the requirement, and because availability is a key factor for businesses seeking to meet that requirement, Council opted to provide flexibility to determine if the standing 20% minimum requirement is consistently realistic in specialty markets not represented by local Oakland certified firms and non-Oakland firms.

An availability analysis is considered only in cases when there are clearly limited numbers of local certified firms to satisfy the minimum requirement. Essentially, this approach allows staff to set project specific participation requirements. The result of an availability analysis can also initiate an increase in the local business participation requirement, as is the case on this project with the increase in Trucking.

As City participation policy stands now, Compliance Officers cannot set out to establish project specific goals unless asked by the City agency responsible for the project. Council’s policy established a flat, across the board minimum, with flexibility to adjust the requirement when there is reason to believe there are fewer than 3 Oakland certified firms. Consideration of availability is then prompted by the using agency when it is believed the market cannot respond to a minimum 20%.

#### ***Availability and the Rule of Three***

The “Rule of Three” means that there must be at least three certified Oakland firms ready, willing and able to respond to bids and proposals as primes and/or subs depending upon the nature and scope of the project.

The using agency must request an availability determination before publishing a Notice Inviting Bids (NIB), Request for Qualification (RFQ) or a Request for Proposals (RFP) or any other solicitation against which Council policies apply as follows:

*“Based on the “Rule of Three”, there must be at least three certified businesses listed in the industry, trade or profession that constitutes a major category of work. If at least three L/SLBEs are not certified, then the requirement is either waived, or the 20% requirement may be set from 19 % to 0%.*

*“The awarding authority shall request an availability analysis if there is reason to believe that the availability of certified firms will not satisfy the 20% requirement. And the request must be made in time for completion prior to issuing an invitation for bids, request for proposals or any other solicitation. “*

***Why not update availability data?***

In a construction bidding environment, construction contractors shape their bids based on requirements published by the using agency. Adjusting participation requirements after the bids can be done only if all bids are rejected and Council gives staff permission to negotiate or if the City makes substantive amendments to the scope of work. In a non-bidding environment where negotiations routinely occur, such changes may be made.

This particular project was under a construction bidding environment. As such, the participation requirements did not change even though the recommendation to award occurred some time after the availability determination was made.

The most recent review completed November 17, 2006 of the certification records, however, shows no fluctuation in the number of firms listed with C-42 license and zero with capacity to self perform micro-tunneling.

***Why a Survey?***

Even though zero available local certified micro-tunneling firms satisfy the “rule of three”, additional steps were taken to make sure firms were not overlooked. The C-42 license appears on the surface to support availability, but in actuality micro-tunneling represented at least 63 % of the total project. The remainder of the work may be self performed or subcontracted out up to the maximum allowed by law.

A simple survey letter was structured and sent out to eleven (11) firms who currently hold the C-42 license. Statistically, the response level was 37% with one written response from McGuire & Hester (Attachment 2) and two phone calls to the Compliance Officer from Andes Construction and a non-local bidder K.J. Woods Construction. Both firms confirmed that that they must subcontract out the MT to non-local firms as there were zero local firms providing that work. As Attachment 2 shows, McGuire Hester also does not self perform micro-tunneling; while this firm did not bid, it commended the City for establishing project specific goals under such situations. Of the 11 firms surveyed, the majority are known to provide the following services in general: (1) open trench and smaller sewer jobs, (2) excavating and earth work (3) storm drains and repair of water mains (5) plumbing and (6) underground work excluding micro-tunneling.

***Trucking***

There are more than 10 local Oakland certified trucking firms ready, willing and able to provide trucking on this project. Because the L/SLBE non-trucking requirement was reduced, the L/SLBE trucking requirement was increased from 20% to 100% to stimulate more local participation.

**Setting the Goals**

As noted above, approximately 63% of the work included MT. Per GREENBOOK specifications, the prime has to perform at least 18.5% leaving 18.5% of the work for potential sub-contracting.

Of the potential key sub-contractible opportunities such as (1) micro-tunneling (2) trucking (3) saw cutting and (4) paving and (5) supply purchases, the level of participation was set at 100% trucking and 10% local businesses participation.

The tables below outline estimates used to determine 10% L/SLBE participation.

According to the Engineer's Estimate, micro-tunneling work represented 63% of the total contract amount leaving 37% for prime and other subcontracting work. According to the specifications, a prime contractor with specialty work must perform at least 50% of the remainder of the work. It was 18.5% for this particular project. See Table 1.

**Table 1**

<b>Total Engineer's Estimate</b>	<b>\$ 1,569,360.00</b>	<b>100%</b>
<b>Micro tunneling</b>	<b>\$ 985,000.00</b>	<b>63%</b>
<b>Balance</b>	<b>\$ 584,360.00</b>	<b>37%</b>
<b>GREENBOOK 50% minimum</b>	<b>\$ 292,180.00</b>	<b>18.5%</b>

Sixteen separate categories of work were identified by the Engineer's Estimate. Of those categories, trucking, saw cutting, and material purchases, for example, fall into the realm of potential subcontracting in as much as all the other categories such as traffic control, mobilization, and project sign, for example, fall specifically under the prime. See Table 2 below.

**Table 2**

<b>Estimated Level of Responsibility of Prime</b>		
1	traffic control	<b>\$ 50,000.00</b>
2	mobilization	<b>\$ 120,000.00</b>
3	project sign	<b>\$ 2,400.00</b>
4	electronic payroll submittal	<b>\$ 3,000.00</b>
5	pipe expanding/pipe busting	<b>\$ 174,560.00</b>
6	surface settlement	<b>\$ 6,000.00</b>
7	install drop connection	<b>\$ 3,000.00</b>
8	trench shoring	<b>\$ 25,000.00</b>
9	re-connect sewer to new main	<b>\$ 11,000.00</b>
10	remove replace manhole	<b>\$ 28,000.00</b>
		<b>\$ 422,960.00 27%</b>

Table 3 below represents those categories that are most likely subject to subcontracting.

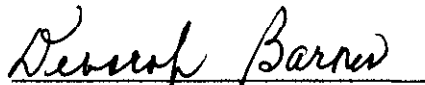
Estimated	
Potential sub-contractible Dollars	
additional bedding(soil)	\$ 600.00
saw cutting	\$ 25,000.00
trucking	\$ 80,500.00
	Adjustment
	\$106,100.00
	7%
	3%
	L/SLBE
	10%

With potential sub-contractible dollars estimated at 7%, the prime categories of work at 27% and the micro-tunneling at 63%, staff increased the 7% to 10% for the estimated L/SLBE with 100% for trucking.

**ACTION REQUESTED OF THE CITY COUNCIL**

Staff recommends that the City Council accept this supplemental information and approve the resolution.

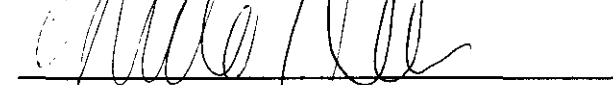
Respectfully submitted,



Deborah Lusk-Barnes, Manager  
 Contract Compliance & Employment Services  
 Office of the City Administrator

Prepared by:  
 Dasco Munoz  
 Contract Compliance Officer  
 Contract Compliance & Employment Services

APPROVED AND FORWARDED TO THE  
 PUBLIC WORKS COMMITTEE:



Office of the City Administrator

**DOCUMENT 00302**  
**BID SCHEDULE/ENGINEER'S ESTIMATE**  
for  
(Project No. C79310)

**CONSTRUCTION OF SANITARY RELIEF SEWER ALONG CLAY STREET, 8TH  
STREET, JEFFERSON STREET, 6TH STREET, AND  
MARTIN LUTHER KING JR. WAY**

The estimate of quantities in the following schedule is for the purpose of canvassing and determining bids. Bidders are to state unit prices for the separate items, which prices shall include full compensation, including all applicable taxes, for furnishing all labor, materials, water, tools, and equipment and for doing all the work involved in furnishing and installing the separate items in place as specified herein, to wit:

ITEM NO	SPEC SEC. NO.	APPROX QTY.	UNIT OF MEAS	ITEM	UNIT PRICE	TOTAL
1	9-3.4	1	LS	MOBILIZATION	\$120,000	\$120,000
2	7-12.1	2	EA	PROJECT SIGN	\$1,200	\$2,400
3	7-10.1	1	LS	TRAFFIC CONTROL	\$50,000	\$50,000
4	7-10.4.1	1	LS	TRENCH SHORING	\$30,000	\$30,000
5	500-1.6	1091	LF	REPLACE EXISTING 18" SS BY PIPE EXPANDING WITH 24" OD HDPE SDR-17	\$160	\$174,560
6	306-1.6	56	LF	INSTALL NEW SS BY OPEN TRENCH METHOD USING 18" ID HIGH STRENGTH VCP OR 22" OD HDPE SDR-11	\$350	\$19,600
7	306-8.4	1	LS	SURFACE SETTLEMENT/HEAVE MONITORING	\$6,000	\$6,000
8	306-8	985	LF	INSTALL NEW SS BY MICRO TUNNELING METHOD USING 18" ID PIPE PER	\$1,000	\$985,000
9	500-1.6	808	LF	REPLACE EXISTING 10" SS BY PIPE EXPANDING WITH 18" OD HDPE SDR-17	\$150	\$121,200
10	7-8.6.3	10,000	GAL	ADDITIONAL DEWATERING OF EXCAVATIONS AND TRENCHES	\$0.50	\$5,000
11	303-8.3	4	EA	CONSTRUCT NEW TYPE I MANHOLE	\$7,000	\$28,000
12	500-2.7(f)	1	EA	REMOVE EXISTING AND CONSTRUCT NEW TYPE I MANHOLE	\$10,000	\$10,000
13	303-8.3	1	EA	INSTALL DROP CONNECTION	\$3,000	\$3,000
14	306-1.2	20	TON	ADDITIONAL BEDDING	\$30	\$600
15	500-4.6	22	EA	RECONNECT ACTIVE HOUSE CONNECTION SEWER TO NEW MAIN	\$500	\$11,000
16	7-2.2.1	1	LS	ELECTRONIC PAYROLL SUBMITTAL	\$3,000	\$3,000

<b>TOTAL OF 16 ITEMS</b>		<b>\$1,569,360</b>	
		\$985,000	63%
		-\$584,360	-37%
<b>BIDDER:</b>		\$(292,180)	-18.6%

NOTE: The City of Oakland reserves the right to accept or reject any or all bids

-----Original Message-----

**From: Mike Hester [mailto:mhester@McGuireandHester.com]**

**Sent: Tuesday, November 22, 2005 7:41 AM**

**To: 'dmunoz@oaklandnet.com'**

**Subject: Microtunneling and bore / jack installations**

Dasco;

We received your questionnaire regarding microtunneling and bore/jack installations.

Many of our projects include this type of work but McGuire and Hester does NOT self-perform this specialty.

I commend the City for being realistic with their Small / Local Business requirements in situations like this.

If you have any questions, please do not hesitate to call.

**Michael Hester**

President



Heavy Civil Engineering Construction Company, Since 1926  
Paving, Pipelines, Concrete Structures, Grading

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**ATTACHMENT 2**