ARLINGTON COUNTY, VIRGINIA

County Board Consent Agenda Item
Meeting of April 25, 2009

DATE: March 31, 2009

SUBJECT: Approve the Award of a Contract for the Construction of the National Center Sanitary Sewer project, Invitation to Bid No. 239-08, Project No. 06-451-S.

C. M. RECOMMENDATIONS:

1. Approve the award of a contract for the construction of the National Center Sanitary Sewer project to Bradshaw Construction Corporation in the amount of $3,248,850 and authorize an allocation of $324,885 as a contingency for change orders, increased quantities and stipulated price items. The total project authorization is therefore $3,573,735.

2. Authorize the Purchasing Agent to execute the contract documents subject to review by the County Attorney.

ISSUES: This is an award of a contract to the lowest responsible and responsive bidder for the construction of the National Center Sanitary Sewer project. The low bid submitted by the contractor was higher than engineer's estimate. However, DES staff has negotiated with the contractor to lower the construction costs to within the project budget. No other issues have been identified.

SUMMARY: This project consists of the installation of approximately 1,900 linear feet of new 24-inch gravity sanitary sewer main using a trenchless construction method. The alignment of the new sanitary sewer main follows approximately along the centerline of Jefferson Davis Highway (State Route 1) from just north of the Airport Viaduct (State Route 233) to 32nd Street South. A trenchless method is desirable for construction within the limits of a busy thoroughfare such as Jefferson Davis Highway due to its significantly fewer disturbances to surface features, existing utilities and traffic on the roadway than the traditional open-cut method.

BACKGROUND: Buildings located within an area known as National Center, bounded by Jefferson Davis Highway (State Route 1), 23rd Street South, Crystal Drive and Airport Viaduct (State Route 233) are currently being served by a sewage collection system that flows to the National Center Lift Station. The sewage flow is then pumped from the lift station into the existing 66-inch diameter sewer main known as the Potomac Interceptor along South Eads Street. The wastewater is carried by the Potomac Interceptor as gravity flow south along South

County Manager: _____

County Attorney: _____

Staff: Jerry Kuo, Department of Environmental Services

Eads Street and eventually enters into the County's Water Pollution Control Plant at South Glebe Road for treatment.

National Center Lift Station has been planned for abandonment due to its location on a federally owned property and the increasing costs in operation and maintenance because of the age of the infrastructure. The removal of this lift station is now made possible by the recent completion of the new Potomac Yard Sanitary Sewer Pumping Station located at the junction of 31st Street South and South Eads Street within the County's Water Pollution Control Plant. Prior to the removal of the National Center Lift Station, the sewage flowing to that lift station has to be re-routed by the construction of this project in order to connect to an existing sewer main flowing toward the Potomac Yard Pumping Station.

This project consists of the installation of approximately 1,900 linear feet of new gravity sanitary sewer main along Jefferson Davis Highway from just north of the Airport Viaduct to an existing manhole located near 32nd Street South and upstream from the Potomac Yard Sanitary Sewer Pumping Station. The proposed alignment of this sewer main runs approximately along the centerline of Jefferson Davis Highway. Due to the depth of the new sewer main (over 20 feet deep) and the potential disruption to traffic and utilities during construction, the trenchless construction method of microtunneling was proposed to be used. Microtunneling requires excavation of several access shafts from which the new sewer pipe would be tunneled into place between two access shafts with little to no disruption to the surface features, the existing utilities, and the traffic on the roadway. Staff has worked extensively with the Virginia Department of Transportation ("VDOT") in an effort to minimize all possible traffic delays during construction.

DISCUSSION: The Purchasing Agent received the following responsive bids on December 4, 2008, at 3:00 p.m.:

Bidders	Bid Amount
Bradshaw Construction Corporation	$3,877,600
Corman Construction, Inc.	$4,179,800
Midwest Mole, Inc.	$4,692,613

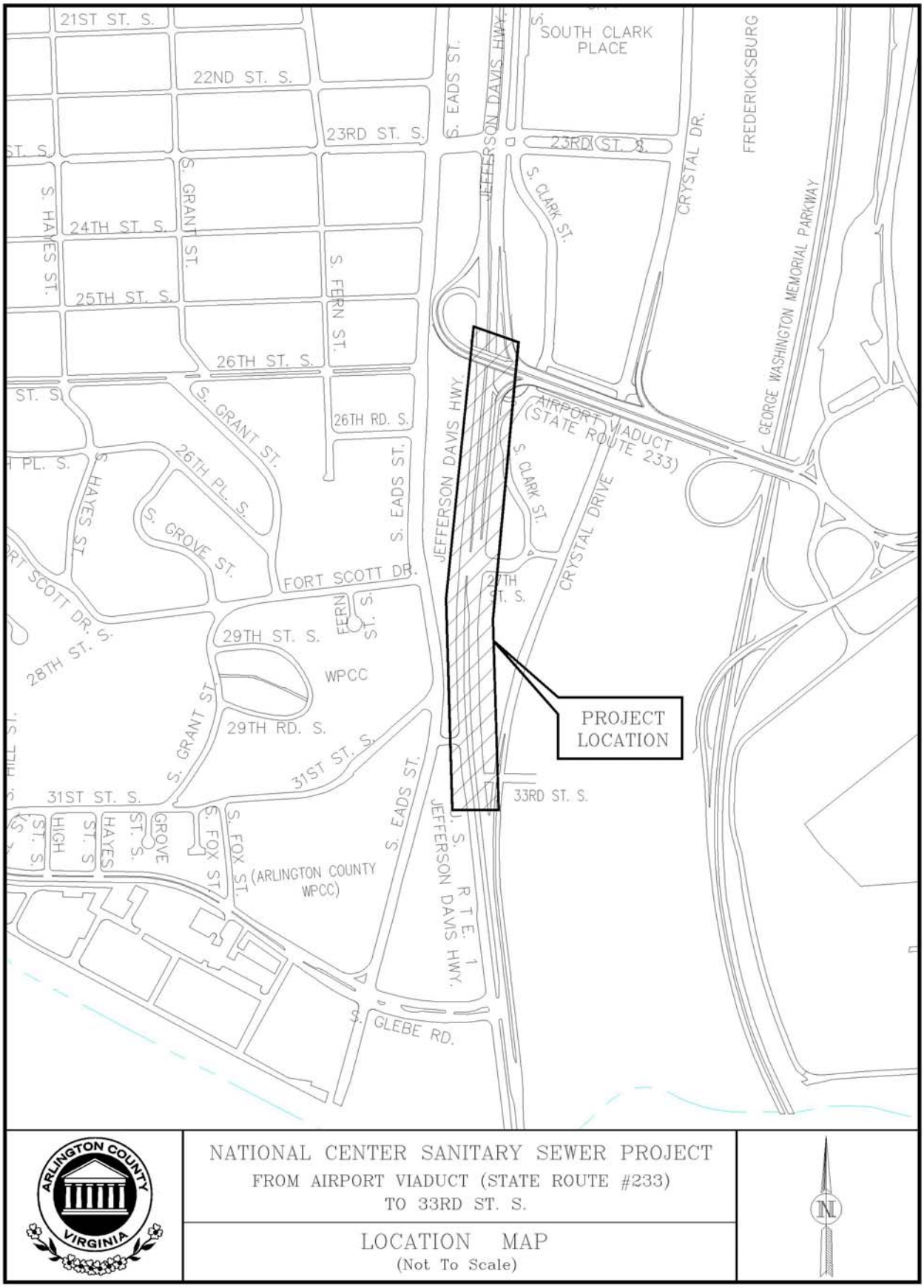
The low bidder, Bradshaw Construction Corporation ("Bradshaw"), was found to be a responsible bidder and the bid submitted was found to be responsive to the Invitation to Bid #239-08. However, the bid amount received was higher than the engineer's estimate and the project budget. After analyzing Bradshaw's bid, several significant factors that might have contributed to the high costs were identified. These factors included continued escalation of prices for the construction materials, limited daily working hours due to strict VDOT permit requirements, the high number of access shafts required by the originally specified trenchless construction method of pilot bore microtunneling, and the extensive traffic control measures required to protect the access shafts in the work zones and to minimize the interruption to traffic.

In order to avoid any further delay of this project and to bring the cost within the budgetary limits, DES staff requested and received permission from the Purchasing Agent to negotiate with Bradshaw. The final plan worked out between Bradshaw and the County was the approach of employing a conventional trenchless method of tunneling that requires fewer access shafts than

the microtunneling method originally specified in the bid documents. With only two access shafts required in the existing highway median area, this tunneling method will minimize the need for installing elaborate traffic control measures during construction and will result in significant savings for the County. Another important advantage of this conventional trenchless method of tunneling over the microtunneling method is that the contractor will be able to manually clear any unforeseen obstacles without open-cut rescue operations for the equipment or long delay during construction. The potential savings of time and money, if any construction difficulty occurs, will be beneficial to the County. In consideration of the possible future maintenance issues due to the longer distance between manholes, the revised construction will increase the diameter of the sanitary sewer pipe from the originally specified 12-inch to 24-inch. The revised contract amount after negotiation is $3,248,850 which represents a total saving of $628,750 from the original bid amount submitted by Bradshaw. Staff recommends the award of this contract to the Bradshaw Construction Corporation.

A contingency fund of $324,885 is also recommended for any necessary change orders, increased quantities and stipulated price items. Therefore, the total project authorization is $3,573,735.

FISCAL IMPACT: This project is part of the overall budget for the Master Plan 2001 (MP01) upgrade and expansion project at the DES Water Pollution Control Plant, and will be paid for with general obligation bond funds. The debt service costs are included in the annual projections for the Water Sewer Rate. Rate increases are projected to range from 5-10% per year for several years to properly fund Utilities Fund projects and operating expenses. Project expenditures will be charged to the following account: 530.43541.W7CC.PJF.0000.


21ST ST. S.
22ND ST. S.
23RD ST. S.
24TH ST. S.
25TH ST. S.
26TH ST. S.
26TH RD. S.
26TH PL. S.
28TH ST. S.
29TH ST. S.
29TH RD. S.
31ST ST. S.
33RD ST. S.
FORT SCOTT DR.
FORT SCOTT DR. S.
S. HAYES ST.
S. GRANT ST.
S. GROVE ST.
S. FERN ST.
S. EADS ST.
S. CLARK ST.
JEFFERSON DAVIS HWY.
U. S. RTE. 1
SOUTH CLARK PLACE
CRYSTAL DR.
CRYSTAL DRIVE
FREDERICKSBURG
GEORGE WASHINGTON MEMORIAL PARKWAY
AIRPORT VIADUCT (STATE ROUTE 233)
WPCC
(ARLINGTON COUNTY WPCC)
S. FOX ST.
GLEBE RD.
PROJECT LOCATION
NATIONAL CENTER SANITARY SEWER PROJECT
FROM AIRPORT VIADUCT (STATE ROUTE #233)
TO 33RD ST. S.
LOCATION MAP
(Not To Scale)
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