



Office of the City Manager

46b

ACTION CALENDAR

April 29, 2014

To: Honorable Mayor and Members of the City Council

From:  Christine Daniel, City Manager

Submitted by: Andrew Clough, Public Works Director

Subject: Allston Way Permeable Paver Demonstration Project

RECOMMENDATION

1. Select Option A or B:
 - A. Approve construction of the Allston Way Permeable Paver Demonstration Project.
 - OR-
 - B. Reject all bids and re-allocate the project funds into the paving program, where it will be implemented in FY 2015 for traditional asphalt restoration and maintenance.
2. If Council adopts Option A, the following additional actions are required:
 - a. Approve plans and specifications for the Allston Way Permeable Paver Demonstration Project, Specification No. 14-10826-C; and
 - b. Accept the bid of Ghilotti Construction Company as the lowest responsive and responsible bidder, and adopt a Resolution authorizing the City Manager to execute a contract with Ghilotti Construction and any amendments, extensions or change orders until completion of the project in accordance with the approved plans and specifications in an amount not to exceed \$1,444,214; and
 - c. Adopt a Resolution authorizing the City Manager to execute an amendment to Contract No. 9211 with URS Corporation for design services for the Permeable Paver Demonstration Project, increasing the amount by \$62,840 for a total not to exceed amount of \$295,710; and
 - d. Authorize the City Manager to execute a Reimbursement Agreement with the East Bay Municipal Utility District for the construction of their water line.

OPTION A FISCAL IMPACTS

Ghilotti Construction Company

Funding for the Ghilotti Construction contract is available from the State Transportation Tax Fund (Fund 369) and CIP Fund (Fund 610). The CIP Fund will be used to pay for water line relocation costs for which the City will be reimbursed by EBMUD. No other funding is required, and no other projects will be delayed due to this expenditure. The City will be reimbursed by East Bay Municipal Utility District (EBMUD) for all of the costs associated with the construction of their water line, estimated at \$261,000.

Low bid by Contractor	\$1,313,214
<u>10% Contingency</u>	<u>\$131,000</u>
Total estimated construction cost	\$1,444,214

Funds are available from these accounts:

Fund 369	\$1,183,214
<u>Fund 610</u>	<u>\$261,000</u>
Total funding	\$1,444,214

The contract management system number for this contract is CMS No. H7DVW.

The Living Wage Ordinance does not apply to this project since Public Works construction contracts are, pursuant to City policy, subject to State prevailing wage laws. Ghilotti Construction has submitted a Certification of Compliance with the Equal Benefits Ordinance. The Community Workforce Agreement applies to this project because the estimated value of the project exceeds \$1 million. As a result, the successful bidder and all subcontractors will be required to sign an agreement to be bound by the terms of the Agreement.

URS Contract Amendment

Funding of \$62,840 for the URS Corporation contract amendment is available from the State Transportation Tax Fund (Fund 369).

The contract management system number for this contract amendment is CMS No. DHQST

The City retained URS in March 2013 to provide engineering design services for the Project. The increase to the URS contract not-to-exceed amount will fund the pre-construction monitoring, and additional post-construction monitoring not included in their original contract. It will also restore funding for the originally scoped post-construction monitoring which was re-allocated during the project design phase to pay for potholing of existing utilities and hazardous materials soil profiling.

EBMUD Reimbursement Agreement

EBMUD informed staff during project design coordination that their water line located within the project limits which provides service to Berkeley High School was scheduled to be replaced in 2015 or 2016. In an effort to reduce future traffic disruptions for the High School and the downtown corridor, the City collaborated with EBMUD to include replacement of their water line in the project at EBMUD’s expense. EBMUD and the City will enter into a cost-sharing agreement for EBMUD to reimburse the City for the actual cost of replacing the water line and related work, including project management and the cost of any change orders. EBMUD’s Board of Directors is scheduled to have taken action on the agreement on April 22, 2014.

If Option A is chosen, construction would begin in June 2014, upon commencement of the Berkeley High School summer recess, and continue through October 2014. Based on consultation with the Berkeley Fire Department, Berkeley High School, and other

project stakeholders, the street will be closed to through traffic during construction. However, emergency vehicle access to the front doors of the Berkeley Community Theater will be maintained at all times during construction. The Allston Way entrance to the parking lot behind City Hall will be closed during construction, and both ingress and egress will be from Center Street. Parking spaces within the lot will be temporarily modified to facilitate Center Street access, and several spaces will need to be temporarily removed. Those affected by removed parking spaces will be provided with passes for the Center Street Garage, with fees for these passes paid by project funds.

Plans and specifications for the Project are on file in the Public Works Engineering Division. In accordance with the requirements of the California Environmental Quality Act (CEQA), this project has been determined to be categorically exempt because it consists of maintenance of an existing street and does not expand its use beyond existing conditions.

CURRENT SITUATION AND ITS EFFECTS

On February 20, 2014 a total of 5 bids were opened for the project, with base bids ranging from \$1,099,191 to \$1,681,000 (see Attachment 3: Abstract of Bids). The low base bidder (Argonaut Constructors) subsequently requested relief from their bid pursuant to Public Contract Code section 5100 to 5107, claiming a mathematical error during the development of their bid. Staff evaluated their request and granted the requested relief, causing the second low base bidder (Ghilotti Construction) to become the new low base bidder. Ghilotti Construction Company bid is:

Base Bid\$1,313,214
Bid Alternate\$121,000 (additional amount)

The bid alternate would install a thicker layer of foundational rock under the permeable pavers. Staff recommends not selecting this alternate, as the base bid provides adequate foundational support at a significantly lower cost.

Ghilotti's base bid is approximately 2% above the Engineer's Estimate of \$1,288,048. Staff has verified that Ghilotti Construction has a valid and active contractor's license and experience to perform the work.

After the project bids validated the Engineering Estimate, staff felt it prudent to carefully evaluate the cost/benefits of the project. The project has a high initial installation cost compared to traditional asphalt pavement however, compared to the lifespan of traditional asphalt (17 years) the anticipated project life span will be 3 to 5 times longer (50 to possibly 100 years) and will require significantly less maintenance over its lifespan than traditional asphalt. A Life Cycle Cost Analysis (LCCA) for the project indicates that at over a span of 65 years, the planned permeable pavers will have the same uniform annual cost as that of a well maintained asphalt pavement surface. Essentially if the pavers last for at least 65 years, they will be a more cost effective roadway surface than traditional asphalt pavement. It is noted that the pavers will provide benefits which asphalt paving does not such as reduction of storm water flow, increasing storm water quality, traffic calming, and aesthetics which all have value but

these values are difficult to model and were therefore not included as part of the LCCA analysis. It should also be noted that when compared to traditional asphalt, permeable pavers may generate more road noise, may be more difficult to navigate for bicycles, and may be more challenging for utility companies to restore after repair of their infrastructure.

BACKGROUND

In 2009 the Public Works Commission (PWC) issued a report summarizing the benefits and typical construction costs associated with Permeable Interlocking Concrete Pavement (PICP). The report notes that construction costs for PICP are typically 45% to 60% more expensive on like-to-like construction (reconstructed street) with an expected durability of 3 to 5 times longer (50-100 year life cycle) versus traditional asphalt pavement.

Also in 2009, Council adopted Resolution No. 64,733-N.S. (update of the 5-year street paving plan 2010-2014) which contains language endorsing the concept of a trial permeable paving installation and allocated for this purpose discretionary funding of approximately \$410,600 (from the FY 2010 adopted street paving budget).

In 2012, Council adopted Resolution No. 65,951-N.S. (update of the 5-Year Street Paving Plan for 2013-2017) including approval for allocation of up to \$420,000 for a trial installation of permeable paving. A Request for Proposals (RFP) was issued in July 2012 seeking qualified firms or individuals for design and consulting engineering services for the installation and construction of a permeable paver system on a section of vehicular right-of-way (Street).

URS Corporation was selected and Council authorized the City Manger to execute a contract with URS Corporation in the amount of \$232,870 (Resolution No. 65, 949-N.S. in November 2012), and Contract No. 9211 was executed with URS Corporation in March 2013, and the project design began.

During the planning phase, staff assisted evaluation of several candidate sites for installation of the permeable pavers. The Allston Way site was identified as the most ideal candidate based on several factors, including the existing deteriorated condition of the asphalt roadway, available soil infiltration data, high profile location, moderate traffic flows, and traffic calming effects adjacent to Berkeley High School and Martin Luther King, Jr. Civic Center Park.

The project also involved extensive coordination with outside utility companies (including PG&E, AT&T, EBMUD, and Comcast), the Berkeley Fire and Police Departments, and Berkeley High School. Extensive and detailed surveys, field investigations, and laboratory testing were also completed during project design.

During the design phase staff worked closely with URS Corporation to value engineer the project plans in an attempt to reduce construction costs wherever possible. Once plans were completed URS prepared an Engineering Estimate for project construction which totaled \$1,038,048 (including 10% contingency). With design costs (\$232,870)

and staff costs (\$84,513) added to the construction estimate of \$1,038,040 required additional funds be added to the allotted \$1,000,000 budget to cover total anticipated costs. In addition, as plans were being developed for the project, EBMUD informed the City that in 2015 or 2016, they planned to replace the existing 12" water line located within the proposed paver limits. It was determined that it would be beneficial to the City to install the new EBMUD water line as part of the planned permeable paver work. EBMUD prepared plans and specifications for the water line replacement work and these plans and specifications were wrapped into the bid package for the project. The EBMUD engineer's estimate for water line replacement was \$250,000. To structure the work as one project, the City will pay the contractor for installation of the new water line and EBMUD will reimburse the City for all construction costs we incur related to the construction of the new water line. A reimbursement agreement will be needed to define the terms for EBMUD reimbursement to the City.

Required additional project funding was secured to increase the project budget to approximately \$1,700,000 of which approximately \$250,000 shall be reimbursed by EBMUD following construction of their new water line. The project was put out to bid on January 31, 2014.

ENVIRONMENTAL SUSTAINABILITY

The project was designed as a way of reducing the volume of storm water entering the City storm drain system; improving the quality of urban runoff from the roadway that is conveyed to Strawberry Creek and the Bay; and reducing greenhouse gas emissions by installing a product that has been shown to require significantly less maintenance than traditional asphalt concrete.

RATIONALE FOR RECOMMENDATION

Either of the 2 recommended options would be part of the City's ongoing annual program to rehabilitate deteriorated streets throughout the City. Option A would include an emphasis on installing green infrastructure and traffic calming measures. Option B would address significantly more areas of rehabilitation compared to Option A, for deteriorated streets throughout the City by utilizing traditional asphalt paving.

Both options require contracted services, as the City does not possess the in-house labor or equipment resources necessary to complete the construction phase for either option.

Under Option A, with respect to awarding the contract to the second lowest bidder, the project could have been rebid; however this would likely require delaying construction for a year to accommodate the High School schedule and seasonal weather conditions. Accepting the second lowest bidder increases the project cost by about \$200,000 and any required additional funds could be acquired from Fund 369.

ALTERNATIVE ACTIONS CONSIDERED

Staff evaluated other options for green infrastructure at the subject site. Possible options for other green infrastructure could include asphalt pavement traffic lanes with permeable pavers installed within the parking lanes only, and/or a bio-swale installed in

Civic Center Park, which would treat street runoff. Consideration was also given to possible alternate sites for full-width permeable paver installation with emphasis on smaller scale streets. Each of these alternative actions is worthy of consideration, but would require significant time and investment to prepare bid plans and specs, therefore only the options recommended were provided for consideration.

CONTACT PERSON

Sean R. Rose, Supervising Civil Engineer, Public Works, 981-6435

Donald Irby, Assistant Civil Engineer, Public Works, 981-6439

Attachments:

- 1: Resolution for Ghilotti Construction Company contract
- 2: Resolution for URS Corporation contract amendment
- 3: Abstract of Bids

RESOLUTION NO. ##,###-N.S.

CONTRACT: GHILOTTI CONSTRUCTION COMPANY FOR ALLSTON WAY
PERMEABLE PAVER DEMONSTRATION PROJECT

WHEREAS, the Allston Way Permeable Paver Demonstration Project is part of the City's ongoing Street Capital Improvement Program to rehabilitate deteriorated streets located throughout the City, and incorporate green infrastructure where feasible; and

WHEREAS, the City has neither the labor nor the equipment necessary to undertake this Allston Way Permeable Paver Demonstration Project; and

WHEREAS, an invitation for bids was duly advertised and, after the lowest bidder was released from the process, Ghilotti Construction Company was the next lowest responsive and responsible bidder; and

WHEREAS, funding is available in the current year budget in the State Transportation Tax Fund (Fund 369) and the CIP Fund (Fund 610); and the contract has been entered into the Citywide contract database with CMS No. H7DVW.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that the Plans and Specification No. 14-10826-C for the Allston Way Permeable Paver Demonstration Project are approved.

BE IT FURTHER RESOLVED that the Council of the City of Berkeley authorizes the City Manager to execute a contract and any amendments, extensions or change orders, until completion of the project in accordance with the approved plans and specifications with Ghilotti Construction Company for the Allston Way Permeable Paver Demonstration Project, in an amount not to exceed \$1,444,214, which includes a 10% contingency for unforeseen circumstances. A record signature copy of said agreement and any amendments to be on file in the Office of the City Clerk.

RESOLUTION NO. ##,###-N.S.

CONTRACT NO. 9211 AMENDMENT: URS CORPORATION FOR DESIGN SERVICES FOR THE PERMEABLE PAVER DEMONSTRATION PROJECT

WHEREAS, on March 7, 2013 Council authorized Contract No. 9211 with URS Corporation for design services for the Permeable Paver Demonstration Project (Resolution No. 65,949 N.S.), in an amount not to exceed \$232,870 for a 2-year term from December 1, 2012 through December 31, 2014; and

WHEREAS, the City does not have sufficient in-house resources to perform the design services in the time frame needed; and

WHEREAS, funding is available in the current year budget in the State Transportation Tax Fund (Fund 369); and the contract amendment has been entered into the Citywide contract database with CMS No. DHQST.

NOW THEREFORE, BE IT RESOLVED by the Council of the City of Berkeley that the City Manager is authorized to execute an amendment to Contract No. 9211 with URS Corporation increasing the amount by \$62,840 for a total not to exceed amount of \$295,710. A record signature copy of said contract and any amendments to be on file in the Office of the City Clerk.

ATTACHMENT 3

CITY OF BERKELEY
ABSTRACT OF BIDS

For: Alston Way Permeable Paver Demonstration Project Spec. No. 14-10826-C Bid Opening: 2 PM 02-20-2014

Item No.	Description	Qty	Unit	McGuire and Hester		Ghiloti Construction Company, Inc		Argonaut Constructors	
				Unit Price	Total Price	Unit Price	Total Price	Unit Price	Total Price
1	Mobilization and Demobilization	1	LS	\$110,000.00	\$110,000.00	\$120,000.00	\$120,000.00	\$31,900.00	\$31,900.00
2	Traffic Control	1	LS	\$46,435.50	\$46,435.50	\$171,000.00	\$171,000.00	\$67,400.00	\$67,400.00
3	Saw Cut Asphalt Concrete Pavement and Concrete Gutter	1,190	LF	\$3.00	\$3,570.00	\$5.00	\$5,950.00	\$5.00	\$5,950.00
4	Remove and Dispose of Concrete Gutter, Asphalt Concrete Paving, and Pavement Base	1,114	CY	\$80.00	\$89,120.00	\$40.00	\$44,560.00	\$45.00	\$50,130.00
5	Mass Excavation	1,282	CY	\$120.00	\$153,840.00	\$80.00	\$102,560.00	\$55.00	\$70,510.00
6	2-inch Perforated Underdrain Pipe	400	LF	\$26.00	\$10,400.00	\$32.00	\$12,800.00	\$24.00	\$9,600.00
7	6-inch Underdrain Collector Pipe	550	LF	\$45.00	\$24,750.00	\$40.00	\$22,000.00	\$44.50	\$24,475.00
8	Underdrain Cleanouts including 6"X2" Tees	13	EA	\$1,000.00	\$13,000.00	\$1,100.00	\$14,300.00	\$350.00	\$4,550.00
9	8-Inch Thick Cellular Confinement	23,072	SF	\$3.50	\$80,752.00	\$3.00	\$69,216.00	\$3.20	\$73,830.40
10	16-Inch Thick ASTM No. 2 Open Graded Sub Base	1,140	CY	\$117.00	\$133,380.00	\$90.00	\$102,600.00	\$67.00	\$76,380.00
10A	4-Inch Thick Class 2 Permeable Sub Base	285	CY	\$123.00	\$35,055.00	\$90.00	\$25,650.00	\$100.00	\$28,500.00
11	HDPE Check Dam	1,675	SF	\$7.00	\$11,725.00	\$5.00	\$8,375.00	\$4.70	\$7,872.50
12	4-Inch Thick ASTM No. 57 Open Graded Base	285	CY	\$125.00	\$35,625.00	\$120.00	\$34,200.00	\$100.00	\$28,500.00
13	2-Inch Thick ASTM No. 8 Bedding Course	156	CY	\$105.00	\$16,380.00	\$95.00	\$14,820.00	\$100.00	\$15,600.00
14	Adjust Valve Covers	8	EA	\$420.00	\$3,360.00	\$350.00	\$2,800.00	\$400.00	\$3,200.00
15	Adjust SSMH Covers	2	EA	\$800.00	\$1,600.00	\$650.00	\$1,300.00	\$700.00	\$1,400.00
16	Permeable Interlocking Concrete Pavers	25,294	SF	\$6.25	\$158,087.50	\$7.00	\$177,058.00	\$6.10	\$154,293.40
17	Concrete Ribbon Curb	125	LF	\$50.00	\$6,250.00	\$45.00	\$5,625.00	\$58.00	\$7,250.00
18	Patch Asphalt Concrete in Street	600	SF	\$9.00	\$5,400.00	\$10.00	\$6,000.00	\$35.00	\$21,000.00
19	Thermoplastic Striping/Pavement Markings	250	SF	\$4.00	\$1,000.00	\$5.00	\$1,250.00	\$12.00	\$3,000.00
20	Tree Protection	11	EA	\$200.00	\$2,200.00	\$100.00	\$1,100.00	\$300.00	\$3,300.00
21	Tree Protection No Dig Zone	11	EA	\$1,500.00	\$16,500.00	\$200.00	\$2,200.00	\$1,600.00	\$17,600.00
22	Tree Protection Hand Dig Zone	10	EA	\$2,500.00	\$25,000.00	\$400.00	\$4,000.00	\$1,650.00	\$16,500.00
23	Inlet Protection (SWPPP Allowance)	1	LS	\$2,200.00	\$2,200.00	\$600.00	\$600.00	\$15,000.00	\$15,000.00
24	Monument Replacement	1	EA	\$1,500.00	\$1,500.00	\$2,250.00	\$2,250.00	\$1,450.00	\$1,450.00
25	EBMUD Main Water Line	1	LS	\$247,000.00	\$247,000.00	\$261,000.00	\$261,000.00	\$260,000.00	\$260,000.00
26	Supplemental Work	1	LS	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00
27A	BID ALTERNATIVE 1 - 32-Inch Thick ASTM No. 2 Open Graded Sub Base	1	LS	\$126,000.00	\$126,000.00	\$121,000.00	\$121,000.00	\$96,000.00	\$96,000.00

Base Bid Total \$1,334,130.00
 BID ALTERNATE 1 \$1,460,130.00
 \$1,313,214.00
 \$1,434,214.00

Verified by: Donald Irby
 Submitted by: Donald Irby

ATTACHMENT 3

CITY OF BERKELEY
ABSTRACT OF BIDS

Spec. No. 14-10826-C Bid Opening: 2 PM 02-20-2014

For: Allston Way Permeable Paver Demonstration Project

Item No.	Description	Qty	Unit	W.R. Forde Associates Unit Price	W.R. Forde Associates Total Price	O.C. Jones & Sons, Inc. Unit Price	O.C. Jones & Sons, Inc. Total Price
1	Mobilization and Demobilization	1	LS	\$100,000.00	\$100,000.00	\$110,000.00	\$110,000.00
2	Traffic Control	1	LS	\$75,000.00	\$75,000.00	\$69,997.00	\$69,997.00
3	Saw Cut Asphalt Concrete Pavement and Concrete Gutter	1,190	LF	\$5.00	\$5,950.00	\$1.50	\$1,785.00
4	Remove and Dispose of Concrete Gutter, Asphalt Concrete Paving, and Pavement Base	1,114	CY	\$80.00	\$89,120.00	\$60.00	\$66,840.00
5	Mass Excavation	1,282	CY	\$115.00	\$147,430.00	\$85.00	\$108,970.00
6	2-inch Perforated Underdrain Pipe	400	LF	\$75.00	\$30,000.00	\$10.00	\$4,000.00
7	6-inch Underdrain Collector Pipe	550	LF	\$80.00	\$44,000.00	\$46.00	\$25,300.00
8	Underdrain Cleanouts including 6"x2" Tees	13	EA	\$800.00	\$10,400.00	\$1,000.00	\$13,000.00
9	8-Inch Thick Cellular Confinement	23,072	SF	\$4.00	\$92,288.00	\$4.25	\$98,056.00
10	16-Inch Thick ASTM No. 2 Open Graded Sub Base	1,140	CY	\$100.00	\$114,000.00	\$100.00	\$114,000.00
10A	4-Inch Thick Class 2 Permeable Sub Base	285	CY	\$100.00	\$28,500.00	\$120.00	\$34,200.00
11	HDPE Check Dam	1,675	SF	\$6.00	\$10,050.00	\$4.00	\$6,700.00
12	4-Inch Thick ASTM No. 57 Open Graded Base	285	CY	\$100.00	\$28,500.00	\$210.00	\$59,850.00
13	2-Inch Thick ASTM No. 8 Bedding Course	156	CY	\$100.00	\$15,600.00	\$98.00	\$15,288.00
14	Adjust Valve Covers	8	EA	\$500.00	\$4,000.00	\$600.00	\$4,800.00
15	Adjust SSMH Covers	2	EA	\$1,000.00	\$2,000.00	\$2,500.00	\$5,000.00
16	Permeable Interlocking Concrete Pavers	25,294	SF	\$6.50	\$164,411.00	\$6.00	\$151,764.00
17	Concrete Ribbon Curb	125	LF	\$50.00	\$6,250.00	\$50.00	\$6,250.00
18	Patch Asphalt Concrete in Street	600	SF	\$12.00	\$7,200.00	\$25.00	\$15,000.00
19	Thermoplastic Striping/Pavement Markings	250	SF	\$11.00	\$2,750.00	\$12.00	\$3,000.00
20	Tree Protection	11	EA	\$500.00	\$5,500.00	\$1,000.00	\$11,000.00
21	Tree Protection No Dig Zone	11	EA	\$1,500.00	\$16,500.00	\$2,900.00	\$31,900.00
22	Tree Protection Hand Dig Zone	10	EA	\$2,000.00	\$20,000.00	\$2,000.00	\$20,000.00
23	Inlet Protection (SWPPP Allowance)	1	LS	\$15,000.00	\$15,000.00	\$2,000.00	\$2,000.00
24	Monument Replacement	1	EA	\$1,500.00	\$1,500.00	\$2,300.00	\$2,300.00
25	EBMUD Main Water Line	1	LS	\$210,000.00	\$210,000.00	\$600,000.00	\$600,000.00
26	Supplemental Work	1	LS	\$100,000.00	\$100,000.00	\$100,000.00	\$100,000.00
27A	BID ALTERNATIVE 1 - 32-Inch Thick ASTM No. 2 Open Graded Sub Base	1	LS	\$190,000.00	\$190,000.00	\$150,000.00	\$150,000.00

Base Bid Total \$1,345,949.00
 BID ALTERNATE 1 \$1,535,949.00
 Total \$1,681,000.00
 \$1,831,000.00

Verified by: Donald Irby
 Submitted by: Donald Irby