



Item No. 17 Town of Atherton

CITY COUNCIL STAFF REPORT – REGULAR AGENDA

**TO: HONORABLE MAYOR AND CITY COUNCIL
GEORGE RODERICKS, CITY MANAGER**

**FROM: MICHAEL KASHIWAGI
COMMUNITY SERVICES DIRECTOR**

DATE: DECEMBER 18, 2013

**SUBJECT: SELECTION OF DESIGN ALTERNATIVE AND DIRECTION TO
NEGOTIATE A DESIGN CONTRACT WITH BIGGS CARDOSA
ASSOCIATES FOR THE MARSH ROAD RETAINING WALL
REPAIR**

RECOMMENDATION

1. Approve the selection of a concrete cast-in-place open culvert option 2A to repair the Marsh Road Wall segment of the Atherton Channel and incorporate design elements to accommodate a future bike/pedestrian path,
2. Authorize staff to perform environmental assessment of Option 2A,
3. Authorize staff to negotiate an agreement for design with Biggs Cardosa Associates, Inc. to be brought to City Council for approval, and
4. Select a preferred concept for a possible bike/pedestrian path.

BACKGROUND

The purpose of this report is to review prior City Council direction, reference information on environmental issues prepared by the Planning Department and seek Council action. Attached are two documents, the November 20, 2013 Staff Report and the requested environmental review.

FINDINGS

See attached November 20, 2013 Staff Report.

ENVIRONMENTAL ANALYSIS

See attached for detailed information.

Marsh Road Retaining Wall Design Alternative Selection and Authorization to Negotiate Design Contract

December 18, 2013

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The Planning Department has determined that option 2A repair of the Marsh Road portion of the Atherton Channel is Categorical Exempt, pursuant to CEQA Guidelines Section 15302(c), replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity. They estimate the environmental analysis of Option 2A, with either a concrete cap with openings or a boardwalk, to take 4 to 6 months, at a cost of \$50,000.

The estimated duration for a closed box culvert environmental analysis is 12 months, at a cost of \$115,000. This estimate does not include Army Corps of Engineers or resources agencies' permitting, nor any mitigation measures that may be required.

FISCAL IMPACT

The project is included in the Five Year Capital Improvement Program with four sources of funds for a total of \$2,764,000. The current FY 13-14 budget is \$210,000. The major source is the Special Parcel Tax, with Road Construction Impact fees, Measure A and Atherton Channel funds making up the balance. These funds are adequate for construction of Alternative 2A. Funds would need to be identified and appropriated in the future for environmental analysis and mitigation and for construction of a cover, if such a project was budgeted by City Council.

Prepared By:

Approved:

Michael Kashiwagi, P.E.
Community Services Director

George Rodericks
City Manager

ATTACHMENTS

Attachment 1- Environmental Analysis from Planning Department
November 20, 2013 City Council Staff Report

ATTACHMENT 1

ENVIRONMENTAL ANALYSIS

Staff reviewed the proposed alternatives for the Marsh Road retaining wall repair project with the California Environmental Quality Act. Based on the preliminary design concepts, it is anticipated that the channel repair project that does not include a cover over the channel can be determined to be exempt from further environmental analysis (CEQA section 15302; replacement or reconstruction of existing structures and facilities where the new structure will be located on the same site as the structure replaced and will have substantially the same purpose and capacity as the structure replaced). A Mitigated Negative Declaration may need to be prepared for this project if it is determined that heritage trees will be removed.

The other repair scenarios that involve some type of cover over the channel will require the preparation of a Mitigated Negative Declaration or an Environmental Impact Report. As the detailed analysis has not been completed at this time, the following are estimates of the environmental document preparation timeline and cost. During the preparation of the environmental document, if a significant impact is identified, it would be necessary to prepare an Environmental Impact Report. The cost of the reports will range from \$50,000 to \$115,000 depending on additional studies that will need to be prepared.

	Possible Environmental Review	Timing Estimate**	Cost Estimate**
Cast in Place (no cover)* (if no heritage tree removal)	Categorical Exemption	One day	0
2a-1 Cast In Place with Concrete Cover (<i>place concrete walls & invert capable of having a cover added; hydraulic capacity of channel remains the same</i>)	Mitigated Negative Declaration	4-6 months	\$50,000
2a-2 Cast In Place with Boardwalk Cover (<i>boardwalk suspended over channel allowing light & air access; hydraulic capacity of channel remains the same</i>)	Mitigated Negative Declaration	4-6 months	\$50,000
4-a Box Culvert (<i>concrete cover but would increase hydraulic capacity of channel</i>)	Environmental Impact Report	12 months	\$115,000

* If the project involves the removal of heritage trees, a Mitigated Negative Declaration will be required

**In any of the scenarios noted above, *an additional approximately \$50,000* would be added to the total cost estimate if the final scope of the specific project construction details requires additional permitting/agency coordination to be facilitated by the

environmental consultants and *an additional twelve months* added to the timeline depending on the types of permits required.

The project will also require review and approval from the California Department of Fish and Game and the Army Corps of Engineers. These agencies may require the preparation of additional reports and analysis (biological study, etc.). These agencies will also require additional review time which can take up to 24 months.



**Item No.
Town of Atherton**

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**TO: HONORABLE MAYOR AND CITY COUNCIL
GEORGE RODERICKS, CITY MANAGER**

**FROM: MICHAEL KASHIWAGI
COMMUNITY SERVICES DIRECTOR**

DATE: NOVEMBER 20, 2013

**SUBJECT: APPROVAL OF DESIGN ALTERNATIVE AND DIRECTION TO
NEGOTIATE A DESIGN CONTRACT WITH BIGGS CARDOSA
ASSOCIATES FOR THE MARSH ROAD RETAINING WALL
REPAIR**

RECOMMENDATION

1. Approve the selection of a concrete cast-in-place culvert option 2A to repair the Marsh Road Wall segment of the Atherton Channel and incorporate design elements to accommodate a future bike/pedestrian path,
2. Select a preferred concept for a possible bike/pedestrian path, and
3. Direct staff to negotiate an agreement for design with Biggs Cardosa Associates, Inc. to be brought to City Council for approval.

BACKGROUND

The purpose of this report is to summarize analyses performed on the Marsh Road portion of the Atherton Channel and to also review prior City Council direction, answer questions and provide sufficient information to allow for informed decisions.

The Marsh Road portion of the Atherton Channel not only provides one side of the Channel, which carries storm water, but also serves to support Marsh Road. The Town constructed emergency repairs in 2006 to reinforce a failing section of the Marsh Road Wall. Currently, both side walls and the bottom (invert) of the Channel have deteriorated and are in need of repair. In September, 2012, City Council authorized a contract with Biggs Cardosa Associates, Inc. (BCA) for analysis and preliminary design services for the Marsh Road Retaining Wall Design (Phase I). Their scope of work was to inspect the Channel and to recommend a repair alternative. In March 2013, BCA presented their analysis of the existing Channel's capacity and current conditions, which include cracks and voids behind and under the Marsh Road wall as well as the rock wall on the Channel's south side. BCA described four preliminary designs to fix the Channel walls. BCA analyzed factors including cost, construction impacts, longer-term impacts

and other qualitative factors. Two alternatives stood out as superior, based on their ability to implement repairs at least cost (both approximately \$2.1 million): Option 2A, Cast-in-place Wall and Option 3, Soil Nail Wall. Both options could accommodate a future cover. Council reached consensus to drop options 1 and 2B based on the consultant's recommendations. City Council requested analysis of two additional options: a steel pipe and a covered concrete box culvert (Option 4A), and also requested additional analysis of long-term impacts, including maintenance costs. At a workshop in October, 2013, BCA presented their findings that these options would be significantly more expensive than Options 2A and 3 and also would require more intensive environmental review and documentation, as well as more intensive environmental compliance measures.

At the October workshop, Council reached consensus to eliminate options 3 and 4B from further consideration, due to higher costs, limited future flexibility and other drawbacks as noted in the Table 1. Council then focused its interest on the two highest scoring remaining options, options 2A, cast-in-place walls and invert and option 4A, a box culvert. Table 1 summarizes BCA's conclusions.

TABLE 1			
OPTION	TYPE	SCORE	COMMENTS
1	Soldier pile	29	Higher cost
2A	Cast-in-place	30	Preferred, allows future 2 nd pipe
2B	Pre-cast	25	Higher cost, greater construction impacts
3	Soil nail	33	Desirable, same cost as 2A, precludes 2 nd pipe
4A	Box culvert	29	Same as 2A, but longer permitting time, higher cost
4B	Steel pipe	26	Higher cost, less durable

As a result of City Council discussion at the October workshop, staff and BCA performed additional analysis on the following items:

- Could a solid concrete cover be placed over the Channel, what are its costs, schedule impacts, and impact hydraulic capacity?
- Could an open cover supporting a boardwalk be placed over the Channel, what are its costs, schedule and hydraulic capacity impacts?
- If the Channel were repaired and not covered at this time, what would the additional cost be to place a cover in the future?
- Environmental, permitting and scheduling implications of covering the Channel
- Urgency of repairs?

FINDINGS

BCA prepared a supplemental report as a follow-up to their September 16, 2013 Type Selection Memorandum. In the follow-up, they performed additional analysis on three options, two of which are variants of Option 2A. In two alternatives, a cover is added later and in one, shown as option 4A, the cover is formed and cast along with construction of the Channel sides and bottom to form a box culvert. All three options restore structural integrity and address the risk of wall and road failure.

Cast-in-place Alternative with Possible Concrete Cover

Alternative 2A-1 would construct cast-in-place concrete walls and invert at a construction cost of \$2,384,000 in current dollars, which excludes a safety railing. It would be capable of having a cover added, at a cost in current dollars of \$1,057,000. The additional cost would be up to 20% higher, plus inflationary impacts, if the cover were built later than the initial construction. Replacement of the existing chain link fence would cost between \$160,000 and \$590,000, depending on the railing selected. The Channel capacity would initially remain unchanged at 467 cubic feet per second (cfs). Staff assumes that this repair project would be environmentally approved under a Negative Declaration. Staff also assumes that a CA Fish and Game permit could be relatively easy to acquire, and that no other regulatory permits are needed, since the Channel invert in this area is already paved with concrete. Without a cover, it is assumed that no additional environmental mitigation would be required.

Cast-in-place Alternative with Possible Boardwalk

Alternative 2A-2 would be the same construction of the walls and invert at the same cost of \$2,384,000. The cover, which could be added later, would be taller than the concrete lid, since the bottom would need to be raised higher above the Channel to avoid snagging debris. The boardwalk and supporting structure is estimated to cost \$2,006,000 in current dollars. The boardwalk would be suspended over the Channel and would allow light and air into the Channel. The Channel capacity would remain unchanged at 467 cubic feet per second (cfs) with or without the boardwalk.

Box Culvert

The last alternative to be considered, 4A, was previously discussed at the October workshop. It would have a concrete cover constructed at the same time as the Channel walls and invert. Its estimated construction cost is \$2,859,000 in current dollars. No safety railing would be installed. By connecting to the existing box culvert immediately west of Bay Road, the box culvert could carry 650 cfs if the culvert operated under pressure. However, BCA recommends that relief openings be installed so that there would be no change in hydraulic conditions. Alternative 4A, as well as Alternative 2A-1 with a cover, would therefore not change flooding north of Marsh Road in the Athlone Terrace neighborhood or west of Route 101.

If Council wants to consider changes to design which would increase hydraulic capacity, additional studies and environmental clearance concerns would need to be analyzed. Even without any change in hydraulics, construction of a cover over the existing open channel would require additional environmental analysis, at an estimated cost of \$400,000. In addition, regulatory agency permitting and environmental mitigation would probably be required. Staff has no estimate of these costs at this time. Engineering consultants have suggested that this effort could add 24 to 36 months to the project's schedule.

Possible Bike/Pedestrian Path and Funding

Council requested that consideration be given to the installation of a bike/pedestrian path atop the Channel. All three of the alternatives under consideration can accommodate a bike/ped path. However, some additional actions would need to be taken. In order to pursue grant funding, whether competitive or matching, a path would need to be incorporated into local and regional bikeway master plans showing connections at the beginning and end of the route. Not only is this essential for project funding, but it is also necessary as a practical matter for users. Without these connections, a path would terminate without a safe alternative for users. Staff is working with adjacent jurisdictions to develop alternatives. By the time the Channel repair project's design is nearly complete, an alternative may be adopted, thus allowing an additive alternate to the bid; however, at this time a possible path does not allow for regional connections. Also, as noted elsewhere, additional environmental and permitting activities would be required to implement a path.

Once the path is included in both Atherton's and the County's Bike Master Plan, staff would pursue funding for the path and for the Channel's cover, which would be required to support the path. Pursuit of funding would occur in parallel with design and permitting for the Channel repair.

ENVIRONMENTAL ANALYSIS

The Planning Department has determined that repair of the Marsh Road portion of the Atherton Channel is Categorically Exempt, pursuant to CEQA Guidelines Section 15302(c), replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity.

FISCAL IMPACT

The project is included in the Five Year Capital Improvement Program with four sources of funds for a total of \$2,764,000. The current FY 13-14 budget is \$210,000. The major source is the Special Parcel Tax, with Road Construction Impact fees, Measure A and Atherton Channel funds making up the balance. These funds are adequate for construction of Alternative 2A with no cover or path. Funds would need to be identified and appropriated in the future for environmental analysis and mitigation and for construction of a cover, if this were directed by City Council.

Prepared By:

Approved:

Michael Kashiwagi, P.E.
Community Services Director

George Rodericks
City Manager

Enc: Type Exhibit 2A-1
Type Exhibit 2A-2
Type Exhibit 4A
BCA Supplemental Memo dated 11/14/13