

CROCKETT SANITARY DEPARTMENT  
OF  
CROCKETT COMMUNITY SERVICES DISTRICT  
CONTRA COSTA COUNTY, CALIFORNIA

ADDENDUM NO. 2

FOR

ATHERTON-COOKE SEWER PROJECT  
Project No. C-1002

October 4, 2019

Bidders are hereby notified that the Project manual for the subject Project has been modified as follows:

*The scope of project has changed. Atherton Avenue sewer is principal work and Cooke Avenue is Alternate. Open trench on Cooke Avenue is now primary method and Horizontal Directional Boring is alternate. Bid line item and specifications added to address rock excavation.*

I. Changes, Modifications and Clarifications to PART I - BID DOCUMENTS:

Page NC.1 – Items of work is replaced in entirety. Revised list on addendum page 3.

Page NC.3 – District Bid Estimate has been changed to \$198,480.

Pages BP.3 to BP.5 – BID SCHEDULE is replaced in entirety. Use BID SCHEDULE provided on addendum pages 4 through 7 when submitting bid proposal. Item 11 and A11 added for Excavate Rock.

Page BP.5 – BASIS OF AWARD. First sentence of the first paragraph is replaced in entirety with “*The basis of Award of Contract is the lowest Total Amount bid of principal items of work, excluding alternate items, by responsible Contractor.*”

II. Changes, Modifications and Clarifications to PART III - SPECIAL CONDITIONS:

Special Conditions Section S1.25 Pages SC-7 and SC-8 –B through I updated to reflect primary BID ITEMS and ALTERNATE ITEMS. S1.25 J. added to address excavate rock. Modified pages provided on addendum pages 8 and 9.

III. Changes, Modifications and Clarifications to PART IV - TECHNICAL CONDITIONS:

Question was asked if a soils report exists and what happens if they hit rock? *The District does not have a soils report. Excavation of rock added to bid documents.*

Section 16.06 – HARD ROCK EXCAVATION – added new section to Part IV - Technical Conditions. Section provided as part of addendum page 10.

Question was asked if monolithic sidewalk/curb/gutter at 20 Atherton has to be replaced or can saw cut be done so that only the sidewalk would need replacement? *Contractor can saw cut and dowel according to County specifications. Added doweling detail.*

Section 28 – STANDARD DRAWINGS – added new drawing (*Contra Costa County Public Works Department Doweling Details for Curb and Sidewalk CA74*) to end of section, provided at end addendum as page 11.

IV. No changes to PART V – DRAWINGS. Drawing Sheet 3 remains principal work, drawing Sheet 4 is for Alternate work.

In addition to Addendum changes above, questions were asked during the Pre-Bid meetings on September 18, 2019 and September 30, 2019 that did not require modification to the Project Manual or Drawings. They are provided below:

- Can the test wye, which is required for air test testing the new main PVC sewer and vacuum testing the new manholes, be left to serve as the cleanout for the lateral, can it be temporary or permanent, and if bi-directional cleanout is required? *Bid according to all requirements in Project manual and drawings. Part IV – Technical Conditions addresses cleaning and testing requirements in Sections 18-03 and 28-37. Bid documents include requirement to install cleanout with backflow device per location determined by Crockett Sanitary Department. Contractor can choose temporary or permanent test wyes, test wyes can remain and be used for lateral building cleanout if they meet requirements addressed in Part IV -Technical Conditions. Based on site conditions, depth, and location of existing lateral the required cleanout may be wye, bi-directional cleanout, or shallow tee.*
- Do we know the depth of the EBMUD water lines and whether the sewer will be over or under the water lines near 11 Cooke Avenue? *The District does not have information on the depth of water lines. Bid according to all requirements in Project manual and drawings taking care to preserve property as required in Part II – General Conditions G7.18. Additional work beyond the Scope of Work requiring a Change of Condition may be warranted.*
- What will happen if PG&E or other utilities delay the work because of their own special requirements to support the poles located in the sidewalk of Atherton Avenue? *Bid according to all requirements in Project manual and drawings. It is up to the contractor who is awarded the project to work with PG&E and other utilities to consider and plan for any potential delays.*

**Addendum No. 2 – Principal and Alternate Items of Work – page NC.1**

The principal items of work are:

<u>Quantity</u>	<u>Unit</u>	<u>Item</u>
1	LS	Mobilization, complete in place Atherton sewer
269	LF	Abandon and seal existing 6" VCP pipe and install new parallel 8" PVC pipe SDR 26 with vertical and horizontal bend as shown, via open trench, complete in place, on Atherton Avenue, per Lin. Ft. installed.
1	EA	Connect new pipe to existing manhole and manhole rehabilitation, complete in place, per manhole
1	EA	Install new manhole and connect to new 8" PVC pipe, complete in place, per Manhole.
1	EA	Remove and replace existing manhole to provide specified rim and base elevations and reconnect to sewer system, complete in place, per Manhole.
1	EA	Remove existing manhole and restore site to match existing conditions.
9	EA	Reconnect existing laterals to new pipe, including replacement and extension of existing 4" lateral with PVC pipe to the new sewer main, extending back to a location up to five feet behind the current end of lateral, and install cleanout with backflow device per location determined by Crockett Sanitary Department staff.
1	LS	Complete all remaining site improvements on Atherton Avenue not already included in other bid items, including saw cutting, restoration, removal and replacement of curb, gutter, and sidewalk, adjusting existing utilities, providing new driveway cuts, restoring existing water and gas laterals, and all other site improvements necessary to complete the work.
1	LS	Allowance for Encroachment Permit
1	LS	Sheeting and Shoring, complete in place
40	CY	Excavate rock (revocable if not needed)

The alternate items of work are:

<u>Quantity</u>	<u>Unit</u>	<u>Item</u>
1	LS	Mobilization, complete in place Cooke sewer
112	LF	Abandon and seal existing 6" VCP pipe and install new parallel 8" PVC pipe SDR 26 as shown, via open trench, complete in place, on Cooke Avenue per Lin. Ft. installed.
110	LF	Install, 8" PVC pipe SDR 26 via open trench, complete in place, lower Cooke Avenue per Lin. Ft. installed. <i>(Optional: Install new 8" HDPE pipe SDR 17 via horizontal directional pipe boring).</i>
3	EA	Install new manhole and connect to new 8" PVC or HDPE pipe, complete in place, per Manhole.
1	EA	Remove and replace existing manhole to provide specified rim and base elevations and reconnect to sewer system, complete in place, per Manhole.
1	EA	Remove existing manhole and restore site to match existing conditions.
2	EA	Reconnect existing laterals to new pipe, including replacement and extension of existing 4" lateral with PVC pipe to the new sewer main, extending back to a location up to five feet behind the current end of lateral, and install cleanout with backflow device per location determined by Sanitary Department staff.
1	EA	Extend existing 4" lateral by slip lining abandoned 6" VCP pipe with 4" HDPE pipe, slurry remaining 6" abandoned sewer.
1	LS	Complete all remaining site improvements on Cooke Avenue not already included in other bid items, including saw cutting, restoration, removal and replacement of curb, gutter, and sidewalk, adjusting existing utilities, providing new driveway cuts, restoring existing water and gas laterals, and all other site improvements necessary to complete the work.
1	LS	Sheeting and Shoring, complete in place
35	CY	Excavate rock (revocable if not needed)

**Addendum No. 2 – Replaces Bid Schedule on pages BP.3 to BP.5**

**BID SCHEDULE**

ITEM	QTY	UNIT	DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
1.	1	LS.	MOBILIZATION, COMPLETE IN PLACE ATHERTON SEWER, FOR THE LUMP SUM OF		\$ _____
2.	269	LF	ABANDON SEAL AND SLURRY EXISTING 6" Ø VCP PIPE, AND FURNISH AND INSTALL PARALLEL 8"Ø PVC PIPE WITH HORIZONTAL AND VERTICAL BENDS, SDR 26, VIA OPEN TRENCH, INCLUDING EXCAVATION, LINE PLACEMENT RECONNECTIONS, BEDDING, BACKFILL, COMPACTING, AND SURFACE RESTORATION, COMPLETE IN PLACE, ATHERTON AVE., PER LINEAR FOOT AT	\$ _____	\$ _____
3.	1	EA	CONNECT NEW 8" Ø PVC PIPE TO EXISTING MANHOLE AND REHABILITATE MANHOLE AS NEEDED TO RESTORE MANHOLE, PIPE CONNECTION, AND CHANNEL, INCLUDING EXCAVATION, BEDDING, CONNECTION TO MANHOLE, WALL AND CHANNEL REPAIR, BACKFILL,COMPACTING, AND SURFACE RESTORATION, COMPLETE IN PLACE, EACH AT	\$ _____	\$ _____
4.	1	EA	INSTALL NEW MANHOLE AND CONNECT TO NEW 8"Ø PVC PIPE INCLUDING FORMING NEW CHANNEL(S), INCLUDING EXCAVATION, BEDDING, CONNECTION TO MANHOLE, WALL AND CHANNEL REPAIR, BACKFILL,COMPACTING, AND SURFACE RESTORATION, COMPLETE IN PLACE, EACH AT	\$ _____	\$ _____
5.	1	EA	REMOVE AND REPLACE EXISTING MANHOLE TO PROVIDE SPECIFIED RIM AND BASE ELEVATIONS, AND CONNECT TO NEW 8"Ø PVC PIPE DOWNSTREAM INCLUDING FORMING NEW CHANNEL(S), CONNECT EXISTING UPSTREAM PIPE(S), EXCAVATION, BEDDING, CONNECTION TO MANHOLE, WALL AND CHANNEL REPAIR, BACKFILL,COMPACTING, AND SURFACE RESTORATION, COMPLETE IN PLACE, EACH AT	\$ _____	\$ _____
6.	1	EA	REMOVE EXISTING MANHOLE INCLUDING EXCAVATION, BEDDING, BACKFILL, COMPACTING, AND SURFACE RESTORATION, COMPLETE IN PLACE, EACH AT	\$ _____	\$ _____

**Addendum No. 2 – Replaces Bid Schedule on pages BP.3 to BP.5**

- |     |    |    |  |          |                    |
|-----|----|----|--|----------|--------------------|
| 7.  | 9  | EA | EXTEND EXISTING 4" Ø LATERALS WITH NEW 4" Ø PVC PIPE AS NEEDED TO RECONNECT LATERALS TO NEW PIPE, TO A LOCATION UP TO FIVE FEET BEHIND THE END OF THE EXISTING SEWER LATERAL, AND INSTALL CLEANOUT WITH BACKFLOW DEVICE PER LOCATION DETERMINED BY CROCKETT SANITARY DEPARTMENT STAFF.   | \$ _____ | \$ _____           |
| 8.  | 1  | LS | COMPLETE ALL REMAINING SITE IMPROVEMENTS ON ATHERTON NOT ALREADY INCLUDED IN OTHER BID ITEMS, INCLUDING ADDITIONAL SAW CUTTING, RESTORATION, REMOVAL AND REPLACEMENT OF CURB, GUTTER, AND SIDEWALK, ADJUSTING EXISTING UTILITIES TO GRADE, PROVIDING NEW DRIVEWAY CUTS, RESTORING EXISTING WATER AND GAS LATERALS, AND ALL OTHER SITE IMPROVEMENTS NECESSARY TO COMPLETE THE WORK. |          | \$ _____           |
| 9.  | 1  | LS | ALLOWANCE FOR ENCROACHMENT PERMIT  |          | \$ <u>1,300.00</u> |
| 10. | 1  | LS | SHEETING AND SHORING, COMPLETE IN PLACE, FOR THE LUMP SUM OF   |          | \$ _____           |
| 11. | 40 | CY | EXCAVATE ROCK (REVOCABLE IF NOT NEEDED)  | \$ _____ | \$ _____           |

**TOTAL AMOUNT BID**

\_\_\_\_\_ (DOLLARS IN WORDS)

\_\_\_\_\_ (\$ IN FIGURES)

**Addendum No. 2 – Replaces Bid Schedule on pages BP.3 to BP.5**

**ALTERNATE – COOKE AVENUE**

ITEM	QTY	UNIT	DESCRIPTION	UNIT PRICE	TOTAL AMOUNT
A1.	1	LS.	MOBILIZATION, COMPLETE IN PLACE COOKE SEWER, FOR THE LUMP SUM OF		\$ _____
A2.	112	LF	ABANDON SEAL AND SLURRY EXISTING 6" Ø VCP PIPE, AND FURNISH AND INSTALL PARALLEL 8"Ø PVC PIPE, SDR 26, VIA OPEN TRENCH, INCLUDING EXCAVATION, LINE PLACEMENT RECONNECTIONS, BEDDING, BACKFILL, COMPACTING, AND SURFACE RESTORATION, COMPLETE IN PLACE, COOKE AVENUE, PER LINEAR FOOT AT	\$ _____	\$ _____
A3.	110	LF	FURNISH AND INSTALL 8" Ø PVC PIPE SDR 26, OPEN TRENCH, INCLUDING EXCAVATION, LINE PLACEMENT RECONNECTIONS, BEDDING, BACKFILL, COMPACTING, AND SURFACE RESTORATION, COMPLETE IN PLACE, PER LINEAR FOOT AT	\$ _____	\$ _____
<u>A3.1.</u>	<u>110</u>	<u>LF</u>	<u><b>OPTION TO ALTERNATE ITEM A3 - FURNISH AND INSTALL 8" Ø HDPE PIPE, SDR 17, VIA PIPE BORING INSTEAD OF OPEN TRENCH METHOD, INCLUDING EXCAVATION OF BORING PITS, PROTECTION OF EXISTING UTILITIES AND STRUCTURES, LINE INSTALLATION, RECONNECTIONS, AND SURFACE RESTORATION, COMPLETE IN PLACE, COOKE AVENUE, PER LINEAR FOOT AT</b></u>	\$ _____	\$ _____
A4.	3	EA	INSTALL NEW MANHOLE AND CONNECT TO NEW 8"Ø HDPE OR PVC PIPE INCLUDING FORMING NEW CHANNEL(S), INCLUDING EXCAVATION, BEDDING, CONNECTION TO MANHOLE, WALL AND CHANNEL REPAIR, BACKFILL,COMPACTING, AND SURFACE RESTORATION, COMPLETE IN PLACE, EACH AT	\$ _____	\$ _____
A5.	1	EA	REMOVE AND REPLACE EXISTING MANHOLE TO PROVIDE SPECIFIED RIM AND BASE ELEVATIONS, AND CONNECT TO NEW 8"Ø PVC PIPE DOWNSTREAM INCLUDING FORMING NEW CHANNEL(S), CONNECT EXISTING UPSTREAM PIPE(S), EXCAVATION, BEDDING, CONNECTION TO MANHOLE, WALL AND CHANNEL REPAIR, BACKFILL,COMPACTING, AND SURFACE RESTORATION, COMPLETE IN PLACE, EACH AT	\$ _____	\$ _____

**Addendum No. 2 – Replaces Bid Schedule on pages BP.3 to BP.5**

A6.	1	EA	REMOVE EXISTING MANHOLE INCLUDING EXCAVATION, BEDDING, BACKFILL, COMPACTING, AND SURFACE RESTORATION, COMPLETE IN PLACE, EACH AT	\$ _____	\$ _____
A7.	2	EA	EXTEND EXISTING 4" Ø LATERALS WITH NEW 4" Ø PVC PIPE AS NEEDED TO RECONNECT LATERALS TO NEW PIPE, TO A LOCATION UP TO FIVE FEET BEHIND THE END OF THE EXISTING SEWER LATERAL, AND INSTALL CLEANOUT WITH BACKFLOW DEVICE PER LOCATION DETERMINED BY CROCKETT SANITARY DEPARTMENT STAFF.	\$ _____	\$ _____
A8.	1	EA	EXTEND EXISTING 4" LATERAL BY SLIP LINING ABANDONED 6" VCP WITH 4" HDPE PIPE, SLURRY REMAINING 6" ABANDONED SEWER.	\$ _____	\$ _____
A9.	1	LS	COMPLETE ALL REMAINING SITE IMPROVEMENTS NOT ALREADY INCLUDED IN OTHER BID ITEMS, INCLUDING ADDITIONAL SAW CUTTING, RESTORATION, REMOVAL AND REPLACEMENT OF CURB, GUTTER, AND SIDEWALK, ADJUSTING EXISTING UTILITIES TO GRADE, PROVIDING NEW DRIVEWAY CUTS, RESTORING EXISTING WATER AND GAS LATERALS, AND ALL OTHER SITE IMPROVEMENTS NECESSARY TO COMPLETE THE WORK.		\$ _____
A10.	1	LS	SHEETING AND SHORING, COMPLETE IN PLACE, FOR THE LUMP SUM OF		\$ _____
A11.	35	CY	EXCAVATE ROCK (REVOCABLE IF NOT NEEDED)	\$ _____	\$ _____

**TOTAL AMOUNT ALTERNATE**  
*(Excluding Alternate Option Item 3.A.1)*

\_\_\_\_\_

(DOLLARS IN WORDS)

\_\_\_\_\_

(\$ IN FIGURES)

**Addendum No. 2 – Replaces Special Conditions Pages SC-7 and SC-8**

- B. BID ITEM 1 AND ALTERNATE ITEM A1. Mobilization. Payment shall be based on a lump sum with payments made based on percentage of completed items as billed. This item includes all work, equipment, and materials, not included in other bid items, necessary to complete project. Payment shall be full compensation for, but not limited to, the following: obtaining all bonds; obtaining all required permits, licenses, agreements, certifications, notices of intent, and temporary easements; preparing and implementing any required Storm Water Pollution Prevention Plan (SWPPP); moving onto the site of all equipment, materials and staff including set up of Contractor's staging area/yard; furnishing and erecting all needed construction facilities, fencing, project signage, project security; demobilization; all work as required for the proper performance and completion of the project, including preconstruction photographs, video recording of surface features, progress schedules and reports, contract meetings, and record drawings.
- C. BID ITEM 2 AND ALTERNATE ITEMS A2 THROUGH A3. Furnish and install new PVC pipe via open trench or HDPE pipe via horizontal pipe boring and abandon, seal, and slurry existing 6" VCP pipe. These bid items include removal of existing sewer and construction of a new sewer in or near the same location. Includes all work, equipment, and materials necessary to construct sewer main complete in place. Measurement for payment shall be per horizontal "Linear Foot" of pipe installed measured from the center of the upstream and downstream manholes or station locations if not connected to manhole. Payment shall be full compensation for, but not limited to, the following: all submittals; coordination and protection of existing utilities; potholing; coordination and protection of existing utilities; surveying and construction staking; sewage flow control; traffic control including preparation of traffic control plans and all traffic control staff, devices, and incidentals; installing PVC sewer pipe by open trench, including fittings, warning tape, and couplings; saw cutting, removal, and legal disposal of asphalt concrete pavement; excavation, spoil handling and legal disposal; standard dewatering within trench; removal and legal disposal of existing sewer pipe and fittings; furnishing, installing, and compacting pipe sub base, pipe bedding, pipe backfill, trench backfill, aggregate base for pavement subgrade, and paving; protection and restoration of all miscellaneous surface improvements and features disturbed by the work; daily cleanup, dust control, testing, post installation video inspection, record drawings and all incidentals required by these Specifications and Drawings.
- D. BID ITEM 3. Connect to and Modify Existing Manhole. Includes all work, equipment, and materials necessary to connect the sewer main to an existing manhole complete in place. Measurement for payment shall be for "Each" manhole rehabilitation. Payment shall be full compensation for, but not limited to, the following: all submittals; sewage flow control and all incidentals to provide uninterrupted sewer service; partial demolition of existing manhole as necessary; connect pipe to manhole with waterstop and grout pipe connection; and rechannel manhole channel and base to provide smooth flow transition.
- E. BID ITEMS 6 THROUGH 6 AND ALTERNATE ITEMS A4 THROUGH A6. Install New Manholes. Remove and Replace Existing Manhole. Remove Existing Manholes. Remove and replace manhole as required for pipe bursting, or install new manhole as shown on Project C-1002 Drawings, Sheet 3 and Sheet 4. These bid items include removal of existing manholes and construction of new manholes in the same location as well as construction of new manholes in new locations. Measurement for payment shall be for "Each" manhole constructed including removal of existing manhole in the same location. Payment shall be full compensation for, but not limited to, the following: all submittals; coordination and protection of existing utilities; surveying and construction staking; sewage flow control; traffic control including preparation of traffic control plans and all traffic control staff, devices, and incidentals; legal disposal of existing manhole and all existing components; furnishing and installing manhole base and manhole structure, frame, cover, and appurtenances, complete; saw cutting, removal and legal disposal of asphalt concrete pavement; excavation, spoil handling and legal disposal; standard dewatering within trench; furnishing, installing, and compacting sub base, backfill, aggregate base for pavement subgrade, and paving; protection and restoration of all miscellaneous surface

## **Addendum No. 2 – Replaces Special Conditions Pages SC-7 and SC-8**

improvements and features disturbed by the work; daily cleanup, dust control, testing, post installation testing, record drawings and all incidentals required by these Specifications and Drawings.

- F. BID ITEM 7 AND ALTERNATE ITEMS A7 AND A8. Reconnect Existing Laterals. Includes all work, equipment, and materials necessary to reconnect the existing lateral to the new main complete in place. Measurement for payment shall be for "Each" lateral reconnected. Payment shall be full compensation for, but not limited to, the following: all submittals; verification of location of existing laterals through CCTV inspection; furnishing and installing sewer lateral pipe, fittings, and couplings as necessary to connect existing lateral to new main; and extending or cutting back lateral as necessary to connect lateral to new sewer. Includes removal and replacement of up to 5 feet of lateral pipe, if necessary, to connect to sound pipe (lateral pipe) material and install cleanout with backflow device per location determined by Crockett Sanitary Department staff.
- G. BID ITEM 8 AND ALTERNATE ITEM A9. Complete all remaining site improvements not already included in other bid items, including additional saw cutting, restoration, removal and replacement of curb, gutter, and sidewalk, adjusting existing utilities to grade, providing new driveway cuts, restoring existing water and gas laterals, and all other site improvements necessary to complete the work. Measurement for payment shall be per "Lump Sum". Payment shall be full compensation for, but not limited to, the following: all submittals; saw cutting, restoration, removal and replacement of curb, gutter, and sidewalk, adjusting existing utilities to grade, providing new driveway cuts, restoring existing water and gas laterals.
- H. BID ITEM 9. Allowance for Encroachment Permit. This item includes the cost of any County encroachment permit up to a maximum of \$1,300, as set forth in the bid schedule.
- I. BID ITEM 10 AND ALTERNATE ITEM A10. Sheeting and Shoring. This bid item is to cover standard sheeting, shoring, and bracing for the installation of sewer mains including sewer manholes and lateral reconnections. Separate payment for providing standard sheeting, shoring and bracing associated with all manhole work and lateral reconnections will not be made. Includes all work, equipment, and materials necessary to provide standard sheeting shoring, and bracing using speed shores (trench jacks), speed shores in combination with plywood or steel plates, and trench boxes in conformance with Federal and California safety codes. Measurement for payment shall be per "Lump Sum" of trench excavation including manholes and lateral connections. Payment shall be full compensation for, but not limited to, the following: all submittals; installation and removal of sheeting, shoring, and bracing speed shores, plywood, steel plates, and trench boxes.
- J. BID ITEM 11 AND ALTERNATE ITEM A11. Excavate Rock. This bid item shall be paid at the unit price bid per cubic yard of rock removed as measured in the trench excavation. Rock is defined in SECTION 16.06. Hard Rock Excavation and determined by the Construction Manager or General Manager. This bid item includes excavating existing rock inside the required trench width and depth, and providing suitable backfill and compaction of material to fill the void created by rock excavation outside the required trench width and depth, including furnishing all equipment, materials and personnel associated therewith, and in accordance with the Contract Documents. No adjustment in unit price will be made for increase or decrease of quantities for this bid item as set forth in PART I, BID SCHEDULE, herein, and SECTION 4, G4.08 PROTEST PROCEDURES related to "Increased or Decreased Quantities" shall not apply.

**Addendum No. 2 – Part IV – Section 16.06 Hard Rock Excavation**

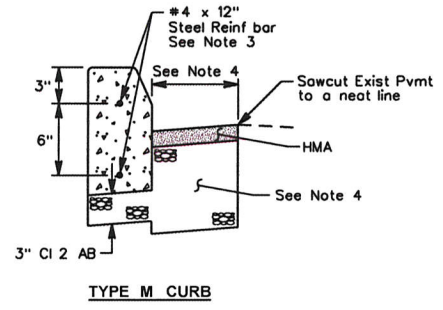
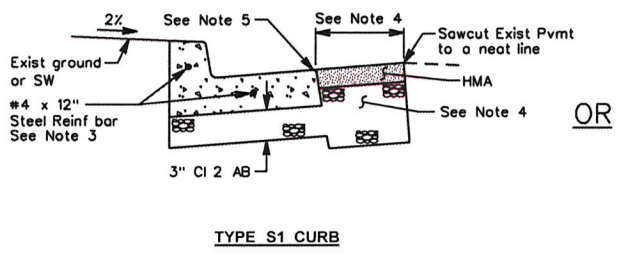
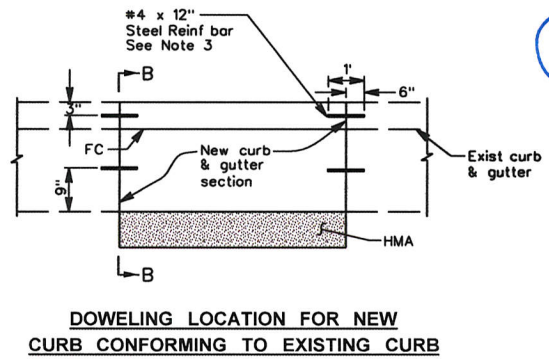
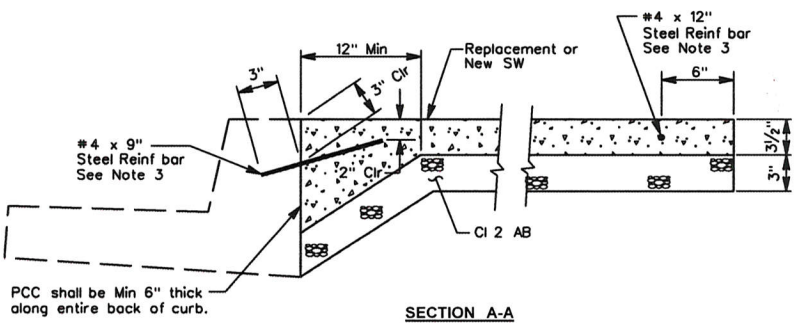
**16.06 HARD ROCK EXCAVATION**

- A. Rock or hard material may be encountered.
- B. Where rock is encountered in an open cut excavation, excavate trench to a minimum depth of four (4) inches below the sewer bottom and backfill to sewer subgrade with pipe embedment material.
- C. Rock excavation shall include removal and disposal of the following from open-cut excavations:
1. All boulders measuring 1/3 of a cubic yard or more in volume.
  2. Concrete or masonry structures which have been abandoned.
  3. Rock which exceeds moderately hard rock hardness, as defined in "Subsurface Manual for Design and Construction of Buildings," 1976, published by the American Society of Civil Engineers. These definitions are summarized in the following:
    - a. Very Hard - Cannot be scratched with knife or sharp pick. Breaking of hand specimen requires several hard blows of geologist's pick.
    - b. Hard - Can be scratched with knife or pick only with difficulty. Hard blow of hammer required to detach hand specimen.
    - c. Moderately Hard - Can be scratched with knife or pick. Gouges or grooves to 1/4 inch deep can be excavated by hard blow of point of a geologist's pick. Hand specimens can be detached by moderate blow.
    - d. Medium - Can be grooved or gouged 1/16 inch deep by firm pressure on knife or pick point. Can be excavated in small chips to pieces about 1 inch maximum size by hard blows of the point of a geologist's pick.
    - e. Soft - Can be gouged or grooved readily with knife or pick point. Can be excavated in chips to pieces several inches in size by moderate blows of pick point. Small thin pieces can be broken by finger pressure.
    - f. Very Soft - Can be carved with knife. Can be excavated readily with point of pick. Pieces 1 inch or more in thickness can be broken with finger pressure. Can be scratched readily by fingernail.
- D. Material exceeding moderately hard rock hardness shall be excavated by mechanical means and paid for at the unit prices tabulated for the Excavate Rock bid item.

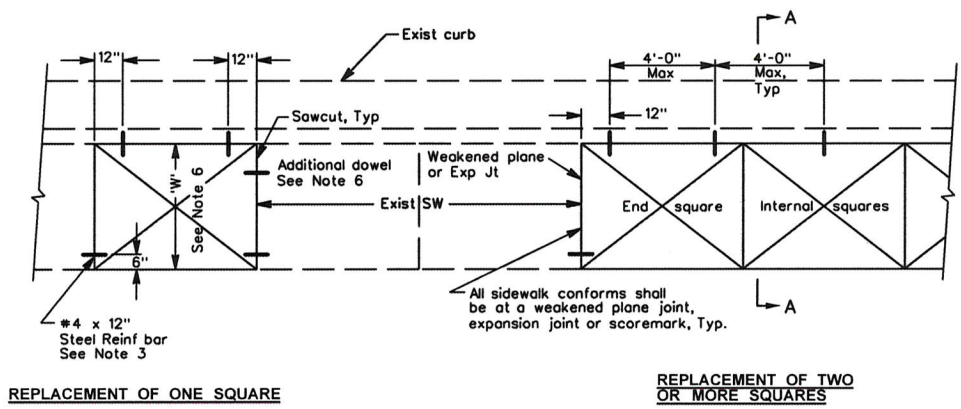
*Julia R. Bueren*  
 PUBLIC WORKS DIRECTOR  
 March 11, 2014  
 PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER  
 JULIA R. BUEREN  
 No. 37937  
 CIVIL  
 STATE OF CALIFORNIA

*The County of Contra Costa or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.*



- NOTES:**
1. All curb, gutter, and sidewalk shall conform to Standard Plans CA70 and CA71.
  2. Concrete sidewalk removed for replacement construction shall be sawcut to a neat line at the nearest weakened plane joint, expansion joint or scoremark.
  3. Dowels shall be placed in a 3/4" diameter drilled hole filled with 1:1 sand cement grout.
  4. When replacing existing curb on existing alignment and grade, sawcut existing pavement 6" from gutter lip (or face of curb for Type 'B' curb replacement). Remove existing HMA and base to minimum 6" depth, compact subgrade and replace with full depth HMA. If placing new curb, sawcut pavement minimum of 12" inside existing edge of pavement, EP, unless otherwise directed on project plans. New pavement structural section shall be 0.5' HMA, 0.0' AB minimum unless otherwise specified on the plans or as required by the Public Works Department.
  5. Paving at the gutter lip shall conform to Detail A of Standard Plan CA70. When the street slopes away from the curb, the paving shall match the gutter lip.
  6. If W>5' add additional doweling, 4' maximum spacing between dowels.



**LOCATIONS FOR REPLACEMENT SIDEWALK**

NO.	DATE	REVISION DESCRIPTION	BY

COUNTY OF CONTRA COSTA  
 PUBLIC WORKS DEPARTMENT  
 MARTINEZ, CALIFORNIA  
 STANDARD PLAN

**DOWELING DETAILS FOR CURB AND SIDEWALK**

SCALE: NO SCALE      DATE: 3/14  
 DRAWN BY: H. HUSSEY      PLAN NO. CA74  
 CHECKED BY: M. HOLLINGSWORTH

STD. PLAN CA74

15