

MEETING DATE: 8/23/10

AGENDA ITEM: (1) Accept Work Performed by Corona Constructors and Kimley-Horn Associates, Inc.,
(2) Authorization to File Notices of Completion
(3) Authorization to Release the Balance of Retention Payment and (4) Acceptance of the Fox Hills Area Signal Synchronization Project, P-852 in its Entirety

ATTACHMENTS

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City Council Agenda item

August 23, 2010

Project Details Relating to Corona Constructors Contract

On May 3, 2010, the City Council awarded a construction contract to Corona Constructors for a total lump sum of \$43,425 with a change order authority of \$6,500 provided to the Public Works Director/City Engineer. The contract period was 30 calendar days. Staff took on the role of construction management with the Building and Safety conducting inspection.

Construction of the Traffic Management Center (TMC) comprised of removing two large size closets, constructing a video wall, expansion of the electrical sub-panel and renovating the corridor window for improved visibility to passersby. The intent was to turn an existing office into a traffic operations center, allowing staff to monitor and control signalized intersections at the touch of a button. This required adequate connection to the newly acquired traffic control system, the existing CCTV's and media broadcasts.

During construction, it was discovered that the floor plates specified by the architect did not include the spare data/phone ports originally intended. A second core to the concrete flooring was added to the scope. Per the City inspector's requirement (not previously shown on the project plans) the contractor applied fire retardant paint to the approved plywood panel (support for wall mounted electronics). Also the contractor performed minor sprinkler relocation for aesthetics. In summary, the contractor was requested to perform additional work in the amount of \$5,394.

The following table provides a summary of the project cost.

Final Contract Cost (Construction of Traffic Management Center)	
Original Project Cost	\$43,425
Total Change Orders	\$5,394
Total Project Cost	\$48,819

Under the advice of the City of Westminster and Fountain Valley, staff separated the electronic integration portion of the project from the contractor. Hence, Iteris was contracted to purchase all electronic components of the TMC and performed the integration of the four (4) 46" LCD monitors and the City's existing CCTV feeds from the field. This equipment was also integrated with the City's two newly purchased Traffic Control System workstations, residing in the TMC.

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Project Details Relating to Kimley-Horn Associates, Inc.

A Notice to Proceed was issued to KHA on February 18, 2009 due to KHA's request for verbiage change on the contract on liability. This was discussed with the City Attorney office and resolved.

The installation began with KHA taking an inventory of the City's existing signal timing. This was a laborious and tedious process as the City's signal timing documents were not centralized or properly updated rendering the need to visit each intersection and retrieving the actual timing from each controller. Upon the complete inventory of the timing, KHA embarked on the task of translating the collected data to a new controller firmware or software: Bi-Trans 233. The City elected during the Traffic Control System selection process to move away from the old controller firmware: Bi-Trans 172.3. Bi-Trans 172.3 firmware was inherited from Los Angeles Department of Transportation (LADOT) as part of City's participation on ATSAC in early part of 1990s. Due to its age, Bi-Trans 172.3 firmware is no longer supported by the manufacturer McCain, Inc. and thus staff concluded it was prudent to modernize as part of this project.

Next, KHA deployed the newly translated signal timing in the field between 5 and 10 locations at a time. Simultaneously KHA undertook the software development of Bus Signal Priority (BSP) component of the project. The BSP development is comprised of modifying the controller software to accept calls from arriving and exiting buses. The arrival time of the bus is then compared with the intended schedule (residing on the bus' AVL system) and then the traffic controller will grant an extended green time to allow the bus to traverse through the intersection sooner or do nothing. This development work was included in the KHA's scope in anticipation of the City's Transportation Department implementing the Rapid Transit lines along Sepulveda Boulevard. The signalized locations along Sepulveda Boulevard within the City of Los Angeles are already utilizing this feature.

During deployment of the translated signal timing, it was discovered that the automated translation developed by KHA was not adequately placing data where they need to be, causing signals to operate improperly in particular at larger and more complex intersections like Harter/Tilden and Washington Boulevard. It was suggested to KHA that they need additional

expertise from the controller software side during deployment as the City was concerned for the motoring public with improperly operating signals.

After an extensive discussion and several more translated signal timing deployment at less complex locations, KHA hired McCain, Inc. to assist with deployment. KHA indicated that the hiring of McCain was not accounted for in their original budget and that the hiring of McCain was prompted by the City. KHA requested additional compensation of \$13,000 for McCain's effort on the deployment. After several meetings with key KHA staff, the City approved the cost of McCain's assistance on the deployment.

KHA also utilized McCain to develop the BSP component. In the original project schedule, KHA estimated that it would take 2 months for the BSP component to be completely developed but it was discovered that they were not aware of a revised protocol put out by Metro. Development of the BSP, if to be funded by Metro, must adhere to the revised protocol. The City's Transportation Department conveyed to staff that it was their intention to use Metro funds for the deployment of the Rapid Transit line.

The intent of the project is to be able to control and monitor traffic signals from a remote location. KHA's approach to this component of the project was to install KITS after the completion of the field deployment. This was logical since KITS can only communicate with controllers running Bi-Trans 233 firmware. When the central system was installed, it was reported to the City that only 10 locations out of approximately 100 locations were communicating. All the rest either had erroneous addresses, pair assignments, bad modems or connection issues. There was a handful of possibilities that all needed to be eliminated or rectified accordingly. KHA was approved to spend out of the \$100,000 communication fund to rectify communication issues. This first task order was to investigate these possibilities. This initial effort was capped at \$8,000.

KHA provided a report of their finding as part of the first task order and staff concluded that it would be more efficient to have another entity perform the communication repairs. It appeared that KHA's expertise was within system development and not field components. Since another company, Crosstown, was already on-contract with the City for the same type of work, staff mobilized Crosstown for this effort. KHA agreed to filter payment to Crosstown for their work through their contract and thus another \$19,327 was spent out of the \$100,000 fund. Shortly after, the City Council approved to compensate Crosstown directly from the project funds outside of KHA's contract and the \$100,000 fund.

KHA informed staff that their effort on the communication part was beyond the capped \$8,000 and while Crosstown performed the physical work,

KHA explained that they were on-hand to coordinate at the central level to confirm resolution. Staff approved an additional payment of \$6,400 for KHA's effort on the communication as outlined.

KHA was tasked to translate and deploy 105 intersections with the understanding that all locations were equipped with Type 170 series controllers except one Type 2070 at Sawtelle/Jefferson and Sepulveda. (Currently, the City has less than 105 signalized locations; this number was set as an upper limit.) As part of the I-405 widening project, Caltrans upgraded 4 signalized locations maintained by Culver City to Type 2070 controllers. Although the total count of deployment includes the 4 locations, they were not specified to be Type 170 series controller. Thus the City approved an additional \$5,400 for KHA for changed conditions. Furthermore, the City provided an additional \$5,000 to KHA to migrate the already installed KITS servers to the City's new Information Technology (IT) network recognizing it was a changed condition. Finally, staff requested KHA to revise the signal timing output in Excel spreadsheet to a specific format tailored to the format utilized in the Los Angeles region. In this fashion, future signal timing changes performed by consultants would not need to be translated to the Culver City KITS output format and vice versa. This modified feature will have immediate benefits as the TLSP P-928 will be utilizing the Excel Import/Export capabilities of KITS in the modified format to distribute re-timed signals. For this effort, KHA is being compensated \$32,500.

The following table provides a summary of the project cost.

Final Contract Cost (TCS Installation)	
Original Project Cost	\$473,516
CCO 1 (405 Widening Locations)	\$5,400
CCO 2 (McCain Assist)	\$13,000
(Network Migration)	\$5,000
(Excel Import/Export)	\$32,500
\$100,000 Communication Fund	
Task 1	\$8,000
Task 2 (Filter Payment to Crosstown)	\$19,327
Task 3 (T/M Comm Assist)	\$6,400
Total	\$563,143