



June 24, 2024

Mr. Boules Ghaly, EIT  
Engineering Assistant II  
Public Works-Engineering Division  
City of San Bernardino  
201 North E Street, 2<sup>nd</sup> Floor  
San Bernardino, CA 92401

HKA Proposal Number: 24P1010

RE: Task Order Number 001 for Engineering Services  
19<sup>th</sup> Street / Massachusetts Drainage Design, San Bernardino

Mr. Ghaly:

Hernandez, Kroone & Associates, Inc. (HKA) appreciates the opportunity to review this drainage issue and help with a solution. After preliminary review, we believe the following scope of work will address the problem and reduce the damage to public and private property.

#### **Background**

Currently water from storms and nuisance water from areas above this location in the watershed is intercepted and carried east on 19<sup>th</sup> Street from Mt. Vernon Avenue to an insufficient curb outlet at the end of the street. The water is backed up and floods 19<sup>th</sup> Street since the curb outlet is too small.

The water that exits 19<sup>th</sup> Street through the curb outlet meanders southerly to 17<sup>th</sup> Street in an unimproved channel at the base of the slope for a raised portion of North Massachusetts Avenue. The water on the unimproved channel floods several improved yards as it moves to 17<sup>th</sup> Street. The slope along the unimproved channel is too flat for adequate drainage on an earthen surface.

Based on a meeting at the site with the City Staff on April 1, 2024, the following solutions were identified:

- Make improvements along the existing flow patterns
- Turn part of the storm water to flow south at North Davidson Avenue

The scope of work includes design and construction of an additional curb outlet at the 19<sup>th</sup> Street cul-de-sac. This will be built into the existing curb at the east end of 19<sup>th</sup> Street.

The ditch will be shaped and lined to carry water from a 50-year storm. At 17<sup>th</sup> Street and Massachusetts, the water in the ditch will be released onto the pavement and flow south along the west curb of Massachusetts Avenue. Cross gutter will be designed and constructed across 17<sup>th</sup> Street along Massachusetts Avenue and curb and gutters will be installed along Massachusetts from 17<sup>th</sup> Street to 16<sup>th</sup> Street

In addition, a cross gutter will be designed and constructed to direct part of the storm water south at the intersection of 19<sup>th</sup> Street and North Davidson Avenue. The cross gutter will pick up storm water from the dirt area north of 19<sup>th</sup> Street and carry it and part of the storm water on 19<sup>th</sup> Street to the existing gutters on North Davidson Avenue.

ADA curb improvements will be made at:

- Northwest corner of 17<sup>th</sup> Street and Massachusetts Avenue
- Southwest corner of 17<sup>th</sup> Street and Massachusetts Avenue

Some reworking of the existing southeast and southwest ADA curbs may be required at 19<sup>th</sup> Street.

### **Scope of Work**

**1.1 Utility Search** – Identify all utility vendors in the area. Send Notice to Affected Utility Vendors. Request utility as-builts and/or for utilities to be marked prior survey.

**1.2 Field Survey and Base Mapping** – Some surveying has already been completed in the area. HKA field crews will use previously established horizontal and vertical control and complete any additional survey. Additional field surveying will be needed at the curbs at 17<sup>th</sup> Street and Massachusetts Avenue.

A topographic survey along North Davidson Avenue will be completed. Levels will be shot initially. Cross-sections will be shot every 50' from 100' north of 19<sup>th</sup> Street to 20' south of 17<sup>th</sup> Street. Cross-sections will include shots at Right of way, Top of Curb, Flowline, Centerline, Flowline, Top of Curb, Right of way. sidewalks, fences, mailboxes, manmade features, etc. will be located and shot. The centerline of driveways will be shot in addition.

The additional survey and the utility information will be added to the base mapping. Field and record data will be combined to prepare a topographic and boundary map suitable for use as a base map for the design effort. Manmade features will be shown and labeled. All areas outside of the improvement will utilize public County Lidar Topography and may vary in accuracy.

**1.3 Hydrology Study** – HKA staff will complete a hydrology study for the existing and proposed flow pattern, covering a drainage area of up to 50 Acres using the Modified Rational method in the County of San Bernardino Hydrology Manual (current version). HKA will complete the study to provide the anticipated peak discharge and volume for a 25-year, 50-year and 100-year storm.

**1.4 Street Improvement Plans** – HKA staff will complete 60%, 95% and 100% plans, specifications and estimates for the ditch and street improvements listed above. The pavement section and profile to remain the same as much as possible.

Plans will be completed on City Street plan sheets and will include plan view, cross-sections, and profile. Plans will reference City Street guidelines, standards, and specifications. City will review at

60%, 95% and 100% completion. (12 Sheets for plan & profile, plus Title sheets, details, and standard drawings).

*1.5 Meetings with City Staff* – Up to 4 meetings with City Staff or utilities per direction of City Staff.

Deliverables: List of documentation collected (.docx).  
Contacts at City, County and Utilities (.docx).  
Copies of maps, deeds and plans collected (.pdf).  
Correspondence with agencies and utilities (.pdf).  
Topographic Map (.pdf), if completed.  
First version of hydrology report to City of San Bernardino.  
Address comments and provide revised version of hydrology report to City.  
Address comments on the revised version and provide final report to City.  
Plans, Specifications and Estimates at 60%, 95% and 100% completion (.pdf).  
Locations of the utilities to be relocated to be used by City to coordinate with utilities.  
Agendas and Minutes from the meetings.

### **Compensation**

Compensation is to be billed on a time and materials basis.

| <b>Task 1 Services</b>          | <b>Fees</b>     |
|---------------------------------|-----------------|
| 1.1 Utility Search              | 1,610           |
| 1.2 Field Survey – Base Mapping | 15,780          |
| 1.3 Hydrology Study             | 840             |
| 1.4 Street Improvement Plans    | 32,160          |
| 1.5 Meeting with City Staff     | 6,980           |
| <b>TOTAL</b>                    | <b>\$64,930</b> |

- Cost proposal is an estimate based upon existing information at time of solicitation. All actual costs will be billed on time and materials as mentioned.
- Actual invoices may total over or under the amount estimated above.
- The City will approve additional work before it is completed.
- Additional work will be billed on an hourly basis.

### **Exclusions**

Most of these items can be completed by HKA staff as additional work for additional compensation.

- Record of Survey.
- R/W Engineering or Land Boundary Determination.
- Coordination with utilities for relocation.
- Coordination with County Flood Control District.
- Temporary Construction Easements.
- Construction Management Services.
- Construction Staking.

234 East Drake Drive ▲ San Bernardino, California 92408  
Phone: (909) 884-3222 ▲ Fax: (909) 383-1577 ▲ [www.hkagroup.com](http://www.hkagroup.com)

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**Hernandez, Kroone & Associates**

Civil Engineers and Land Surveyors

- SWPPP preparation, inspection, or management.
- Geotechnical Report or Slope Analysis.
- Infiltration Data or Percolation Data.
- Option 1 can only be completed with the Required Scope of Work.
- HKA will not provide fees for plan checks or permits.

Thank you for your consideration. If you have any questions, feel free to call or email me at (909) 884-3222 or [richardh@hkagroup.com](mailto:richardh@hkagroup.com).

Sincerely,

Hernandez, Kroone & Associates, Inc.

City of San Bernardino Public Works

Accepted this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

By:



Name: Richard Hernandez, PE, PLS

Title: Principal

By:

Name: \_\_\_\_\_

Title: \_\_\_\_\_