SCOPE OF WORK

6.1 Additional Landscape Architectural Design Development

The purpose of this work is to expand the landscape architectural design development to include the additional features. At the end of this process will be the production of the Design Development plan set and Design Memo that combines all design development work in an organized fashion. In this particular case we will make sure that phasing of the project is clearly explained. Cost estimates will be detailed according to phase and funding source. The following features will be added to the previously contracted design work:

- Larger plaza design for the outdoor classroom area.
- Benches and other amenities
- Addition of seating walls throughout
- Additional walled planters as needed
- A board walk structure at the wetland
- Fitness stations throughout
- Additional interpretive elements
- Two water play features
- Additional preliminary grading plans and volume calculations
- Expanded sheet set
- Expanded cost estimates
- Expanded design memos
- Expanded outline specifications and product sheets
- Expanded sustainability and cost benefit quantifications

6.2 Expanded Architectural Design of a Covered Outdoor Classroom

This scope will include the schematic design and design development for the expanded covered outdoor classroom with footprint and elevations. This will be particularly helpful in seeking additional funds. It also makes sure that utility connections and the general layout and style of the structure is compatible with the remainder of the park assuming a phased approach. BlueGreen will work collaboratively with Alan Bernstein AIA+ASLA (project architect) to produce a complete design development package.

The proposed outdoor classroom structure would likely be a multi-purpose structure constructed of heavy timbers and beams and natural stone. We are assuming that this would be a simple custom structure that

integrates well into the park environment. The footprint will be approximately 1000 square feet. The roofed open air structure will be grounded with a substantial stone foundation. The flexible indoor/outdoor space will be designed to be used as an interpretive and educational facility which accommodates both smaller groups and larger school classes.

Some built-in storage will be designed into the foundation structure in a vandal resistant fashion. Water tanks, pumps, and other hardware needed for the management of the wetland and irrigation system will also be integrated into the foundation and accessible through heavy doors or vault covers. The roof material could be standing seam core-ten steel or asphalt/concrete shingle. Photo-voltaic panels may be integrated into the roof structure.

This design development phase will include the preparation of a building program with proposed use and exact locations and sizing of the structure. Review of building orientation and the relationship to sun, river and surrounding uses resulting in a final plan layout. At least one elevation will be produced to give a sense of the structure and materials for discussion. The design team will provide additional photos, images, or sketches for the proposed project. Preliminary floor plans and roof plans will be included. The design team will base the design development and style to match the remaining park elements and the proposed programming of other site amenities, orientation and placement of uses, and focal points of the existing schematic park plans.

BlueGreen will coordinate and facilitate design and review meetings with MRCA staff to solicit and incorporate agency comments. BlueGreen will produce the design development document package to includes a draft set of plan sheets, standard or placeholder design details, and a design memo with a list of materials and suppliers, outline specifications, and an initial cost estimate. Finally, we will meet with City Departments or other entities with regulatory, zoning, easement, utility, access, land use jurisdiction, or other interests in the project site to identify constraints and potential permitting time lines and requirements. Not included in this phase of work are structural and civil engineering calculations, utilities design, submittal for fire department review and any fees. We would coordinate the work done by the Structural Engineer to provide the necessary calculations and recommendations for the design of footings and walls at a later stage.

6.3 Wetland Pre-Design

Since the wetland is a non-standard feature a substantial pre-design is required. This is to make sure that the wetland is feasible within the hydrologic context of the site, and so that cost of hardscape and technology elements are in line with the actual benefits of the system. Without the initial design of the wetland topography and several detail features within the wetland it is not possible to make calculations about required pumps, power supplies, and the amount of water that needs to be circulated on a daily

basis. This requires the observation of flow conditions in Caballero Creek and the development of operational models that take evapotranspiration into account. For this reason, the design development and pre-design will require a much larger amount of staff time than is commonly the case for architectural design development.

The following elements will be accomplished during this phase:

a. Develop exact sizing and water requirements

- Observations and estimates of stream flow in Caballero Creek to confirm that enough water can be extracted to maintain a wetland.
- A more detailed design of a wetland topography
- Calculations of volumes and flow rates
- Preliminary specifications for plants, liners, substrate, and building materials
- Estimates of water consumption through evapotranspiration model
- Estimates of required flow

b. Pre-design of a water extraction vault or well

- Well along channel wall
- Intake structure with well reservoir
- Pre-filtration system in well
- Water lines to outdoor classroom

c. Photo-voltaic pump system

- Size and specify a roof mounted photo-voltaic system
- Specify pumps that run on low voltage
- Converter/transformer for external emergency power feed
- Dosing water clock with flow meter
- Size and specify water tanks or vaults for gradual 24 hr. water feed
- Water level sensors to regulate and control pumps automatically
- UV-Radiation device to treat incoming water for bacteria and pathogens

d. Design wetland water feed

- Inlet fountain or other feeder device
- Plumbing and calculations for gravity water feed from tanks
- Optional aeration element for a stilling basin

e. Design/calculations for wetland outlet structure

- Adjustable weir to manage flows through wetland
- Potential alternate vault with plumbing to regulate, retain, release, store water
- Gravity outlet pipe to bioswale

f. Irrigation System

- Irrigation water vault to store enough water for appropriate irrigation cycles
- Additional solar pump and filtration
- Additional UV-radiation device
- Emergency line water feed

g. Optional recirculating outlet structure at end of bioswale

- Additional solar pump that feeds stormwater from bioswale subdrain into wetland
- Optional feed of water into direct irrigation system

Additional Services: Los Angeles River and Caballero Creek

Fee Estimate (5/6/2015)

	BlueGreen Consulting						JMC²			Alan Bernstein AIA+ASLA		TOTALS		
	Lynne Dwyer Principal	Martin Kammerer Principal	Kim Trimiew, Landscape Designer	Carlos Flores, Landscape Designer	Verna Jigour Native Plant Ecologist	FEE	Project Manager	Project Engineer	FEE	Alan Bernstein AIA+ASLA	FEE	Total Hours per Task	Total Fee per Task	Total Fee per Item
Labor Rate ($/hr)	165	165	95	95	165		165	145		175				
Item														
6. Additional Design Development (expanded design)						$ 38,610			$ 3,480		$ 2,100			$ 44,190
6.1 Landscape Architectural Design Development	24		40									64	$ 7,760	
6.2 Architectural Design Development	8		40	20						12		80	$ 9,120	
6.3 Wetland Pre-Design		110	32		16			24				182	$ 27,310	
Labor Total Fee						$ 38,610			$ 3,480		$ 2,100			$ 44,190.00
Direct Cost/Expenses						$ 500								$ 500.00
Plan Set Printing						$ 200								$ 200.00
Grand Total:														$ 44,890.00