



CITY OF HIGHLAND PARK
DIGITAL KIOSK DESIGN

DATE: 04/21/2017

 RATIO



Existing Kiosk



INTRODUCTION

In 2015, the Streetscape Conceptual Design was approved by the City of Highland Park. This project illustrated a new brand and identity for the City's iconic downtown. Replacement of the existing kiosks with digital kiosks was recommended during the streetscape design process. The scope of this project consists of the removal of the four existing kiosk directories located in the CBD that were installed as part of the original Sasaki downtown streetscape plan and replacing them with new electronic message signs. The new signs are intended to be part of the effort to create a more flexible and contemporary streetscape and wayfinding design for the CBD and enhance the pedestrian experience. Working with the project Steering Committee, a number of design iterations were created. The preferred design was then developed and a cost opinion was created. It is recommended that content and logos should be coordinated with the City of Highland Park's branding efforts.

EXISTING KIOSKS

Analysis of existing kiosks:

- Original Sasaki Design
- Coordinates with existing streetscape furniture
- Kiosk Size: Approximately 4'W x 10'H x 10"D
- Information Display: Approximately 2' x 3'
- Analog Display
- Maintenance required
- Concentrated on Central between Green Bay and First Street

Proposed Kiosk Locations



LOCATIONS

A goal of the conceptual streetscape design was to unify both east and west sides of the train tracks along Central Avenue. The proposed locations reinforce this goal by locating two kiosks on the east side of the tracks, where there had previously been none. The kiosk locations along Central Avenue are approximately equidistant from each other and reinforce Central as the main spine. Kiosks located at First Street and Central Avenue and at St. Johns Avenue and Central Avenue will help direct visitors coming from the Metra station into the downtown. Kiosks located at Second Street and Central Avenue and at Sheridan Road and Central Avenue will help direct visitors to locations off Central Avenue.

FINAL DESIGN

The design intent for the new kiosks reflects and aligns with the other streetscape, gateways and pedestrian arcade improvements RATIO has proposed. Utilizing similar materials and design elements as the proposed gateway elements, the design reflects a lighter, more contemporary feel. The new kiosks are oriented towards the sidewalk and are less imposing and do not block views down the street. Maintenance of the new kiosks is minimal. Two iterations were created. Option 1 has a monitor on one side, while the other side has a metal scrim similar to the gateway elements for planting to grow up. Option 2 has monitors on both sides and the planting area becomes a bench. The final design could be either option depending on the needs of the City or two of each.

The characteristics of the new digital kiosks are:

- Overall size: 4'W x 8.5'H x 2'D
- Accommodates Visual Display: 26" x 42"
- Consistent materials and design vocabulary
- Ability to incorporate new city branding and logo

The kiosks are designed to incorporate a digital screen that will allow the City to program a CBD map, business highlights and special event promotions on rotation. The following recommendations are based on current technology options and would need to be reviewed and compared to comparable options in the future.

Electronic Message Board Specifications:

- 47" Full-HD 1080p LED-LCD screen
- Direct-Sun Readable – Anti-reflective Glass
- Rust-proof aluminum exterior
- Protected from rain, dust, insects, humidity and salt-air
- Operates to -40 degrees F.
- Water-tight media compartment for connections
- BrightSign media player
 - Approximately 4"x 6" x 1/2"
 - Controls and stores media content
 - Would be located in compartment in wall behind monitor
 - Has compatible programming software

Proposed Content Manager



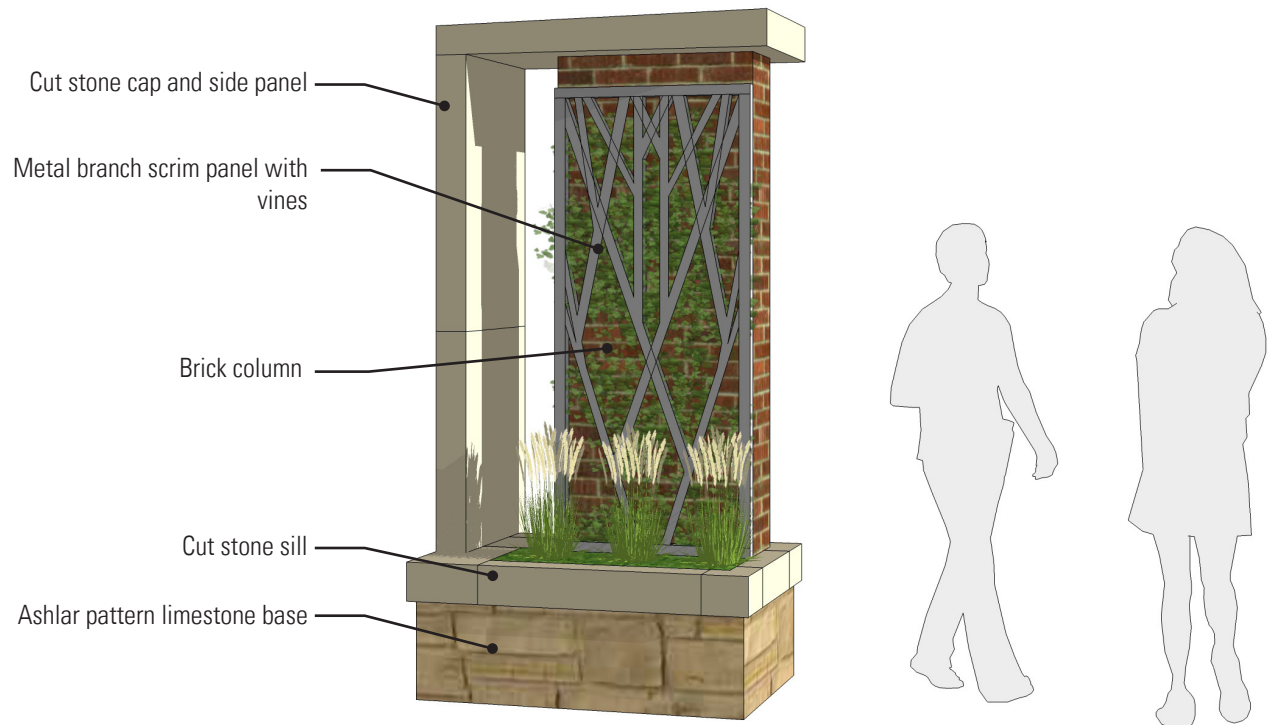
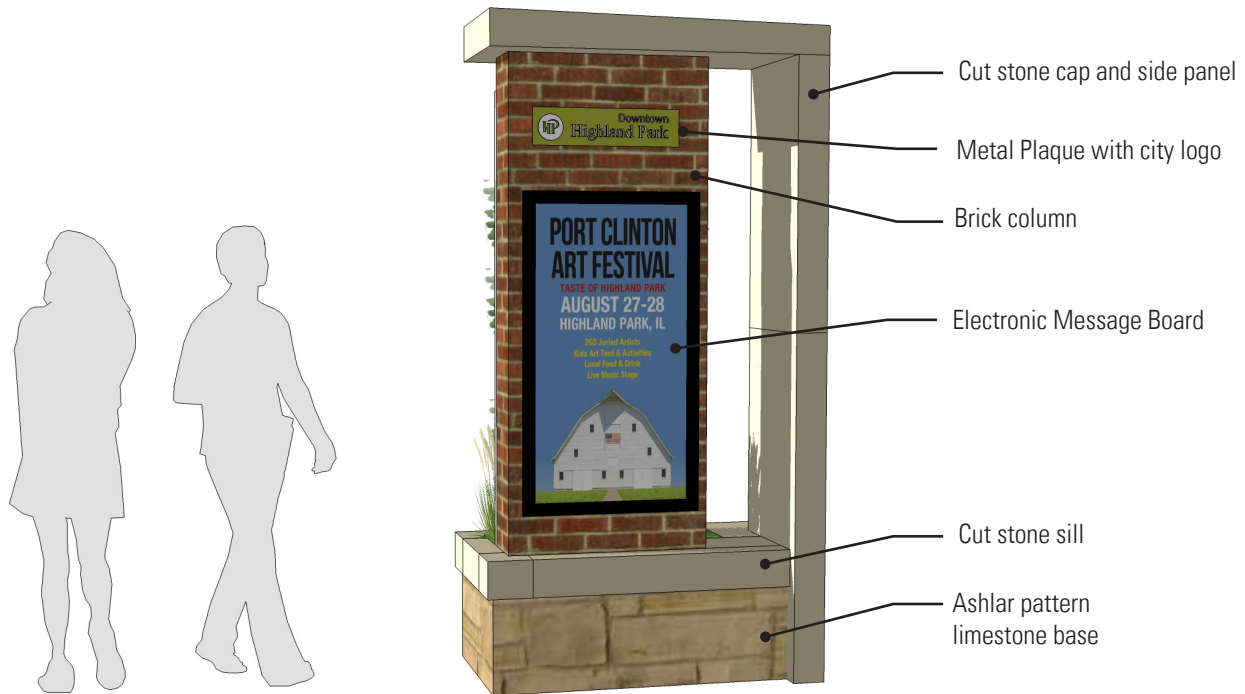
Proposed Gateway Elements



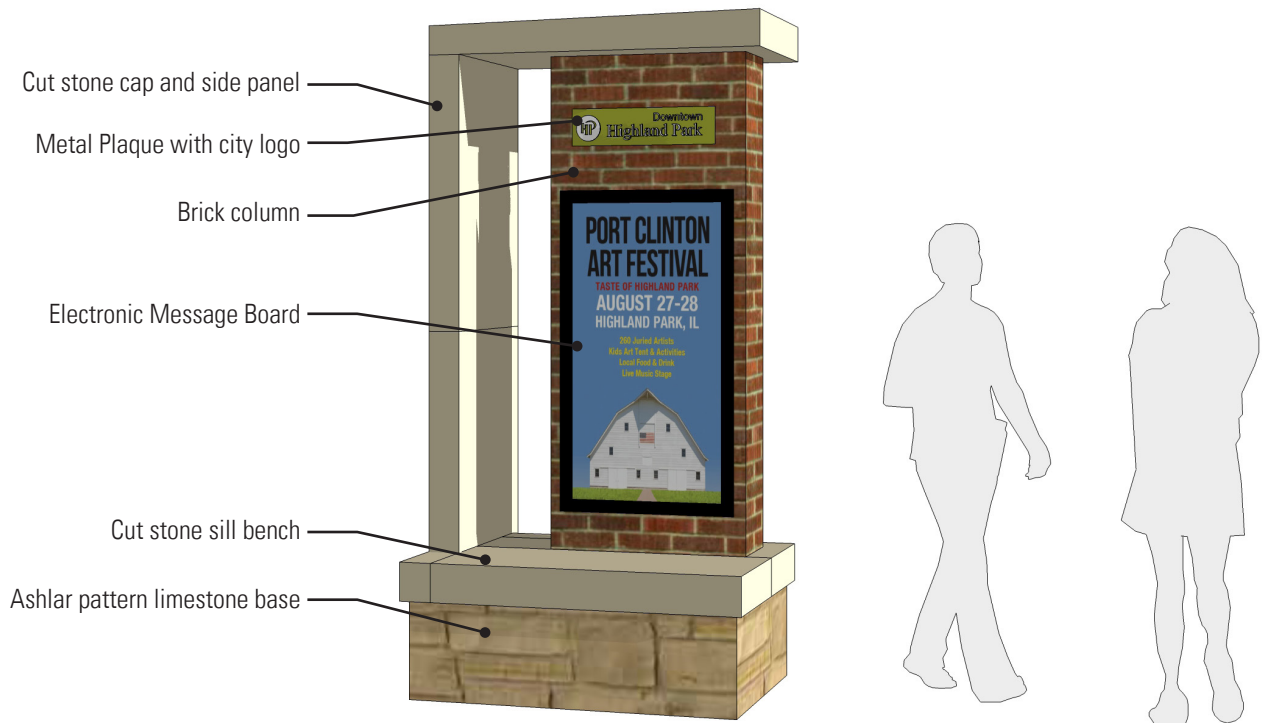
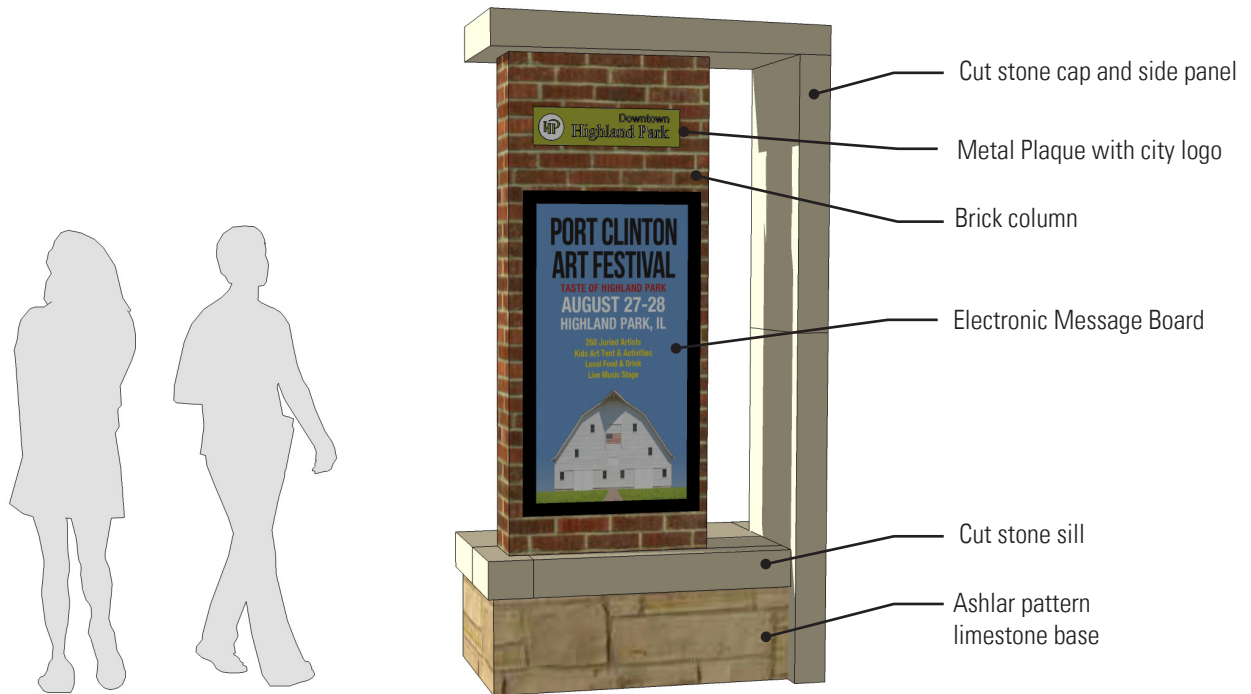
Proposed Digital Screen



OPTION 1 - SINGLE SIDED SCREEN



OPTION 2 - DOUBLE SIDED SCREEN



DIGITAL KIOSK DESIGN

Kiosks in the context of other proposed streetscape and arcade improvements



COST

Preliminary Cost Estimate Assumptions and Caveats

- Assumes that the work will be bid as part of a larger contract and not separately bid – construction fence, demolition, etc.
- Kiosk construction would correspond with phased construction zones
- Assumes Highland Park plaque furnished by others.
- Cost estimate does not take into consideration price escalation over time
- Pricing is for (4) kiosks

Preliminary Cost Estimate — Option 1

Earthwork	\$3,278
Concrete	\$9,576
Masonry	\$36,756
Waterproofing	\$1,856
Specialty (Scrim, Plaque and Monitor install)	\$16,360
(4) Monitors	\$26,000
Electrical	\$20,200
Planting	\$1,046
Irrigation	\$15,568
Design Contingency (10%)	\$10,464
Construction Contingency (10%)	\$11,510
Design Fee (5%)	\$6,330

APPROXIMATE TOTAL: \$158,944

Preliminary Cost Estimate — Option 2

Earthwork	\$3,278
Concrete	\$8,836
Masonry	\$41,118
Waterproofing	\$1,100
Specialty (Plaque and Monitor install)	\$9,520
(8) Monitors	\$52,000
Electrical	\$20,200
Design Contingency (10%)	\$8,406
Construction Contingency (10%)	\$9,452
Design Fee (5%)	\$5,198

APPROXIMATE TOTAL: \$159,106

APPENDIX

Project Title : Sign Kiosk Conceptual Design

Estimate type : Conceptual Design

Project Location : City of Highland Park, Illinois

Date : March 13, 2017

Description	Quantity	Rate \$	Unit	Subtotal \$	Total \$
Option 1					
Kiosk design with one electronic message board, including planter, scrim and planting (total for 2 kiosks)					
Earthwork:					
Excavate for foundations and load on to truck	10	80.50	CY	805	
Dispose of excavated material	10	45.00	CY	450	
Compacted granular backfill	8	48.00	CY	384	1,639
Concrete:					
Concrete foundation and base	4	342.20	CY	1,369	
Formwork to concrete base	124	13.70	SF	1,699	
Formwork to planter box interior	27	13.70	SF	370	
Reinforcement in concrete base and foundation	450	2.55	LB	1,148	
Premium for epoxy coated reinforcement bars	450	0.45	LB	203	4,788
Masonry:					
Two wythe modular face brick masonry (\$750.00 per 1,000 brick allowance)	44	48.25	SF	2,123	
Limestone masonry (4")	31	73.20	SF	2,269	
Cut stone base (6")	11	227.50	CF	2,503	
Cut stone cap (5")	7	151.40	CF	1,060	
Cut stone side panel (5")	15	151.40	CF	2,271	
Masonry weeps/vents	4	60.00	EA	240	
Stainless steel flashing	49	36.20	LF	1,774	
Stainless steel dowel	20	75.40	EA	1,508	
Stainless steel lintel	6	40.15	LF	241	

Project Title : Sign Kiosk Conceptual Design

Estimate type : Conceptual Design

Project Location : City of Highland Park, Illinois

Date : March 13, 2017

Description	Quantity	Rate \$	Unit	Subtotal \$	Total \$
Option 1 (continued)					
Anti graffiti treatment to masonry	366	5.20	SF	1,903	
Masonry scaffold/work platform	1	150.00	LS	150	
Hoisting stone components - truck mounted crane and operator	16	146.05	HR	2,337	18,378
Waterproofing:					
Liquid applied elastomeric waterproofing membrane - planter lining	31	12.20	SF	378	
Caulking and sealants	1	550.00	LS	550	928
Specialties:					
Stainless steel branch pattern scrim panel 3'0"x6'9" - vine trellis	2	2,900.00	EA	5,800	
Install metal City plaque furnished by others	2	240.00	EA	480	
Install digital sign monitor furnished by others	2	950.00	EA	1,900	8,180
Electrical:					
Hook up electrical connections	2	970.00	EA	1,940	
Trenching and backfill	150	30.00	LF	4,500	
Conduit and cable	150	24.40	LF	3,660	10,100
Planting:					
Soil mix planting medium	9	19.25	CF	173	
Miscellaneous plant material allowance	2	75.00	EA	150	
Vines	8	25.00	EA	200	523

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Description	Quantity	Rate \$	Unit	Subtotal \$	Total \$
Option 1 (continued)					
Irrigation system:					
Planter irrigation drip feed/bubbler	4	47.15	EA	189	
Tie in planter irrigation to existing system	1	1,377.60	LS	1,378	
Trenching and backfill	150	30.00	LF	4,500	
Irrigation system piping	150	11.45	LF	1,718	7,784
<u>General conditions and contingencies :</u>					52,320
General conditions, overhead and profit		10.00	%		5,232
Design contingency		10.00	%		5,755
Escalation		-	%		-
Construction contingency		5.00	%		3,165
Total construction cost for two kiosks - Option 1					\$ 66,472

Project Title : Sign Kiosk Conceptual Design

Estimate type : Conceptual Design

Project Location : City of Highland Park, Illinois

Date : March 13, 2017

Description	Quantity	Rate \$	Unit	Subtotal \$	Total \$
Option 2					
Kiosk design with two electronic message boards, no planter, scrim or planting (total for 2 kiosks)					
Earthwork:					
Excavate for foundations and load on to truck	10	80.50	CY	805	
Dispose of excavated material	10	45.00	CY	450	
Compacted granular backfill	8	48.00	CY	384	1,639
Concrete:					
Concrete foundation and base	4	342.20	CY	1,369	
Formwork to concrete base	124	13.70	SF	1,699	
Reinforcement in concrete base and foundation	450	2.55	LB	1,148	
Premium for epoxy coated reinforcement bars	450	0.45	LB	203	4,418
Masonry:					
Three wythe modular face brick masonry (\$750.00 per 1,000 brick allowance)	44	91.15	SF	4,011	
Limestone masonry (4")	31	73.20	SF	2,269	
Cut stone base (6")	11	227.50	CF	2,503	
Cut stone cap (5")	7	151.40	CF	1,060	
Cut stone side panel (5")	15	151.40	CF	2,271	
Masonry weeps/vents	4	60.00	EA	240	
Stainless steel flashing	49	36.20	LF	1,774	
Stainless steel dowel	20	75.40	EA	1,508	
Stainless steel lintel	12	40.15	LF	482	
Anti graffiti treatment to masonry	376	5.20	SF	1,955	

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Project Title : Sign Kiosk Conceptual Design

Estimate type : Conceptual Design

Project Location : City of Highland Park, Illinois

Date : March 13, 2017

Description	Quantity	Rate \$	Unit	Subtotal \$	Total \$
Option 2 (continued)					
Masonry scaffold/work platform	1	150.00	LS	150	
Hoisting stone components - truck mounted crane and operator	16	146.05	HR	2,337	20,559
Waterproofing:					
Caulking and sealants	1	550.00	LS	550	550
Specialties:					
Install metal City plaque furnished by others	4	240.00	EA	960	
Install digital sign monitor furnished by others	4	950.00	EA	3,800	4,760
Electrical:					
Hook up electrical connections	2	970.00	EA	1,940	
Trenching and backfill	150	30.00	LF	4,500	
Conduit and cable	150	24.40	LF	3,660	10,100
<u>General conditions and contingencies :</u>					42,025
General conditions, overhead and profit					4,203
Design contingency					4,726
Escalation					-
Construction contingency					2,599
Total construction cost for two kiosks - Option 2				\$	53,553

