City of Afton

COUNCIL WORK SESSION AGENDA

AFTON CITY COUNCIL CHAMBERS
3033 St. Croix Trail South
Tuesday, June 16, 2015
At 6:00 p.m.

1. **CALL TO ORDER**

2. **ROLL CALL**

3. **APPROVAL OF AGENDA** – June 16, 2015 Council Work Session

4. **CITY COUNCIL BUSINESS**

   a) Downtown Improvement Projects (including but not limited to the following)
      1) CR-21 Design Review Committee Aesthetic Design Elements Recommendations

5. **ADJOURN**

A quorum of the City Council or Other Commissions may be present to receive information at, but not limited to, any of the following meetings: Planning Commission; the Public Works Committee; Parks Committee; Design Review and Heritage Preservation Commission; Lower St. Croix Cable Commission; LSCWMO; MSCWMO; I-94 Corridor Coalition and the 5-City Mayor's Alliance.

City of Afton
3033 St. Croix Trl, P.O. Box 219
Afton, MN 55001

Meeting Date June 16, 2015
Council Memo

To: Honorable Mayor Bend and Members of the City Council

From: Ron Moorse, City Administrator

Date: June 11, 2015

Re: CR 21 Aesthetic Recommendations

The CR 21 Design Review Committee has developed a set of recommendations regarding the aesthetic elements of the CR 21 Reconstruction Project. Materials related to the aesthetic recommendations are attached. Washington County transportation staff will present the recommendations at the work session. Members of the Design Review Committee have also been invited to attend. Large scale renderings will be used in the presentation. The renderings and related materials are also available on the County's CR 21 project website.

Below is a link to the CR 21 project website.

www.co.washington.mn.us/AftonCR21

Click on the **Public Involvement** tab on the left to find the materials relating to the Committee's recommendation for the Downtown Afton Streetscape.

- CR 21 Aesthetics Cost Estimate
- CR 21 Afton Landscape Plan
- CR 21 Afton Lighting Plan
- CR 21 DRC Meeting No 12 42015 Minutes
- CR 21 Light Fixture Specification
- CR 21 Streetscape Boards

Council Direction Requested

Motion regarding the CR 21 aesthetic design recommendations.

St. Croix Trail Roadway Improvements in Downtown Afton

DRC Meeting #12
Tuesday, April 14, 2015
3:00 p.m. – 5:00 p.m.
Afton City Hall

Attendance:

DRC Members
Jim Cox
Rebecca Nickerson
Bill Palmquist
Stan Ross
Dave Schmidt
Martin Stern
Keith Hoffman

Washington County
Jane Krebsbach, Project Manager
Cory Slagle, Transportation Manager

City of Afton
Diane Hankee, City Engineer
Ron Moorse, City Administrator

Washington County Consultants
Sean Delmore, Project Manager
Candace Amberg, Landscape Architect
Jeff Deitner, Landscape Architect
Jack Corkle, Public Involvement

Meeting Summary

I. **Welcome/Introductions** (Sean and Jack)

- Sean welcomed everyone and asked for introductions since there were a couple of new faces.
- Jack provided an overview of the meeting agenda and the purpose of today's meeting:
  -Recognize that the DRC prefers the "ultimate build" option – but need to work the project backwards to identify priorities should there be a shortage of funds to construct the ultimate build with the project
  -To understand priorities and options – a review of the ultimate build items (visuals) and their associated costs will be presented
  -Cost spreadsheets and design element handout will be provided to committee members
  -Exercise with DRC members – break into groups to identify and draw up priorities. Come back together to review options and priorities
  -Identify group priorities if possible

II. **Aesthetic Element Review** (Candace, Sean and Jack)

Presentation of Ultimate Build (Unconstrained) Alternative

- Candace provided an update on different treatments and options for the project – these items included follow-up and direction from the previous meeting. She highlighted:

  -Tree grates
  -Crosswalk treatment options – concrete (brushed) or painted
  -Bumpout treatment options: stamped, colored, brushed
  -Lighting fixtures
  -Wayfinding signage
  -Treatment for Kelle's Creek wall

- The committee discussed the different options as they were presented.

Washington County

Tree grates – the original concept (kelp) and one of the new ones (marina) were the two preferred with Jim representing the HPC indicating that the original concept would likely be preferred but that he would bring the options to the group. They preferred to match the lights in terms of color.

Crosswalks – the committee discussed using concrete crosswalks that were brushed (similar to an option identified for the bumpouts) versus a painted option. One committee member felt strongly that concrete crosswalks would provide an immediate impact and would look nicer than painted crosswalks. Other committee members expressed concern about the long-term maintenance of concrete crosswalks.

Bumpouts – the committee discussed the colored concrete that was stamped versus the brushed which was not colored. In general, the group indicated a preference for brushed treatment.

Lighting fixtures – the committee discussed the lights. They like the style identified by Candace and were testing different lumens at night to evaluate brightness and light dispersion. The group discussed the height. One individual felt strongly that the 14-foot poles were too tall and that 12-foot would be preferred. Most others were ok with the 14-foot. The committee discussed that trees, planters, banners and other treatments could help reduce the scale of the light. Candace also pointed out that a different perspective is also achieved when driving.

Wayfinding signage – the committee agreed that wayfinding was a low priority for the amenities given the size of the town. The committee liked the design/style that was provided by Candace and shown on the handouts. No preference on color scheme was identified. The signage would likely work better on a 14-foot pole versus a 12-foot pole due to pedestrian/bicycle clear zone requirements of 10 feet off the ground. Committee indicated that signs could also be on their own poles or could be added later.

Kelle's Creek wall – Candace presented the different treatment options for the wall. She indicated that the field stone example had a version that was smaller in scale and would be more appropriate than the sample that was brought in. The schematic for the wall included treatment on the front and back which DRC members were pleased with. Jim representing the HPC indicated that they would likely prefer the smaller scale fieldstone with the five color treatment. The committee as a group indicated a preference for the smaller scale fieldstone with the five colors identified by the manufacturer.

Clarifications on Costs and Treatments

- Sean provided the committee members with a handout that included pictures of the different elements and their associated costs.

The committee discussed the costs of a few items – lighting and tree grates. They discussed the cost associated with installation on the lights. They also indicated that the pedestrian amenities should try to be obtained via donation – similar to programs in other communities.

Action: Jim will take fieldstone recommendation back to the HPC and ask for input on a preferred tree grate.

III. Group Exercise

A. Break into 2 Groups

The committee split into two groups to identify priority treatments for the corridor. The intent of the exercise was to note what were the "must haves" and rank those treatments in the event that funding provided by the county and the city do not have enough money to construct the ultimate build option that is the preferred alternative of the DRC.

Candace and Jeff worked with committee members in the different groups to draw up priorities and to work through testing different scenarios (e.g., reduce lights in a certain location, add more trees in certain spots, eliminate signage, etc.). Sean, Jane and Jack asked questions and preferences during the exercise to help focus efforts.

Reporting Group 1: Jim, Rebecca and Martin

Group 1 worked through options that could potentially reduce the number of lights based on the tests that they were doing with the light poles. The group determined that the number of lights inside the downtown business district (32nd to Upper 34th) could be reduced to 13 and that the lighting outside the business district could be reduced to 17 for a total of 30 lights. The group felt that this number would not detract from the vision/ultimate build. Price of the poles (to accommodate banners and wayfinding in the future) was a primary concern – need to obtain a better price.

The group discussed bumpout treatments. They agreed with the brushed concrete look rather than the colored and stamped concrete for the bumpouts. They also indicated that there would be less maintenance with the brushed concrete and that the look was much simpler, consistent with the existing downtown area.

The group also discussed crosswalk treatments. They felt it was important to have the three primary crosswalk locations to be delineated more than paint/epoxy. Having the concrete incorporated was a high priority for some group members.

The group reviewed the landscaping treatments along the corridor and agreed that the number of trees could likely be reduced in some locations. They should not be reduced in areas by the town square park and in locations where there is going to be tree removal without additional trees remaining. The group was ok with tree removal near the southern end of the corridor where there were rows of trees behind those being removed. An overall reduction (no more than 35 percent) may be acceptable to the group depending upon the final plan.

With regard to the medians, the group indicated that they should be landscaped and that the plants not be limited to grass.

Planters should be a part of the plan if possible.

The group agreed that amenities should be a later addition and not a focus of the project. Future efforts could be utilized to raise funding for trash receptacles, bicycle parking and benches.

The group discussed wayfinding opportunities and also indicated that if funding was an issue, the signs could come at a later date, but that the light poles should accommodate them in locations where identified on the plan. No preference was indicated by the group for the wayfinding sign color.

In terms of priorities – Group 1 had the following:

1. Lighting

2. Crosswalk/bumpouts treatments
3. Landscaping
4. Amenities/wayfinding

Reporting Group 2: Bill, Stan, Dave and KeithTrees/Planting
Group 2 came to the same conclusion as Group 1 that based on the experiment over the past day, the number of lights could be reduced and still achieve the vision that the DRC was looking for.

Group 2 spent a lot of time focusing on the landscaping. Landscaping was a high priority for the group, especially maintaining tree coverage and backfilling tree coverage where trees will be removed as part of the project. This group wanted to ensure that planters were incorporated and that the medians were adequately landscaped. The group did agree that the medians could be less dense than shown on the concepts to help reduce costs.

Bumpout treatments were discussed, with a majority of the group ok with brushed concrete rather than the colored concrete – although some members were not opposed to the colored concrete look.

Crosswalk treatments were discussed, with many group members concerned about the long-term maintenance costs associated with having concrete and bituminous materials adjacent to one another. The group wanted something more than painted treatments, but did not want the city to have to regularly pay for and maintain the look with concrete.
This group reached the conclusion that amenities and wayfinding were of lower importance and could be added after the project was completed. No preference was indicated by the group for the wayfinding sign color.

In terms of priorities – Group 2 had the following:

1. Lighting
2. Landscaping
3. Crosswalk/bumpout treatments
4. Amenities/wayfinding

B. Come Back Together as a Big Group
Groups 1 and 2 reported their findings and discussed their different recommendations. Consent was achieved on the following:

1. Lighting is the highest priority – however, the groups believe that some reductions can be made in the number of poles and still achieve the look that is desired. If possible – if lighting would go in all four quadrants of the CSAH 18 intersection – eliminate the cobra light.

2. Landscaping is a high priority for both groups, with it being slightly higher for Group 2. Maintaining planted medians, replacing lost trees and ensuring a green canopy in the future. Planters, if possible to be included. Willing to consider some more strategic landscaping at the southern end of the corridor and locations where trees will remain behind those that are removed. Overall, however, limited reductions to this if funding becomes an issue.

3. Crosswalk treatments were a high priority for Group 1 to help create visual appeal in the area immediately following the project. The group understood that there was additional maintenance associated with this option.

4. Brushed concrete was an acceptable treatment for the bumpouts.

5. Amenities and wayfinding could come at a later date if needed. Should be included in ultimate plan to identify number and type.

6. Prefer to have landscaping rather than hardscaping in the Afton House block.

7. Leaving small strips of buffer (e.g., not plantable due to limited size) to be determined in final plans and discussions with property owners.

Actions:

- **Candace will draw up a new lighting plan that is reflective of the reductions indicated by the group**
- **Candace will draw up a landscaping alternative that scales back the trees in the southern end of the corridor and slightly decreases the number of trees in other areas.**
- **Jane will check on eliminating the cobra light by CSAH 18 if decorative lights were used in all four quadrants. If feasible, the cobra light will be removed.**
- **Jim's information from the HPC will be incorporated into the final design regarding Kelle's Creek and tree grates.**

IV. Summary (Jack)

- Jack reiterated that the DRC's preferred option would be the ultimate version that includes all elements (with a slightly reduced lighting plan based on the group exercise and lighting experiments) that Candace had originally drafted and presented at the March meeting.
- Not knowing what the final funding available will be for the project – the DRC has established some general priorities for the City Council for when they determine their aesthetic budget for the corridor. These priorities include:

1. Lighting – Lights within the downtown and outside the downtown are both a priority over other treatments. Poles should be able to accommodate banners and wayfinding signage if needed. This indicates a minimum of a 12-foot pole. Most committee members were ok with 14-foot poles. One was opposed and preferred a 12-foot pole.

2. Bumpouts – Both groups gave a high priority to having bumpouts at the identified locations. Both groups favored the brushed concrete look.

3. Landscaping and Crosswalks -
   One of the groups strongly favored landscaping treatments while the other group favored prioritizing crosswalk treatments.

   The group favoring the crosswalk treatments indicated that it would be an immediate impact to the corridor visual. Both groups did agree that they did not like the plain paint/epoxy option.

   The group favoring the landscaping felt that the trees and shrubs would provide for a better long-term look on the corridor than focusing on crosswalks which would require more ongoing maintenance in order to look nice. They also felt that the landscaping would be more appreciated by the public.

   Both groups agreed that medians should be landscaped. All properties along the corridor

should have landscaping rather than hardscaping. Trees are especially important in locations where there is going to be removal of existing trees and there are no trees left in place in the boulevard or in adjacent private property. It is especially important to have trees by town square park.

Selective reductions in landscaping near the southern end of the corridor may be acceptable in locations where there are a number of trees in place on adjacent property. Median intensity of landscaping may also be able to be reduced.

4. Amenities and wayfinding - These were lower-priority items that were viewed as being more easy to incorporate at a later date if funding did not allow for their incorporation into the plans.

V. **Next Steps** (Sean and Jane)

Plan Updates

- Candace will update the ultimate plan as well as the reduced plan with information from the DRC and HPC.
- Washington County and city staff will review revised plans to ensure they reflect comments and input provided.
- Washington County will provide drafts of concepts in electronic format to DRC members.

City Council Workshop

- Washington County will attend a city council workshop in May to present the recommendations established by the DRC. DRC members are encouraged to attend the meeting.
- Washington County will provide the date of the meeting to the DRC members. If desired, a representative from the DRC may assist in the presentation of the recommendations.

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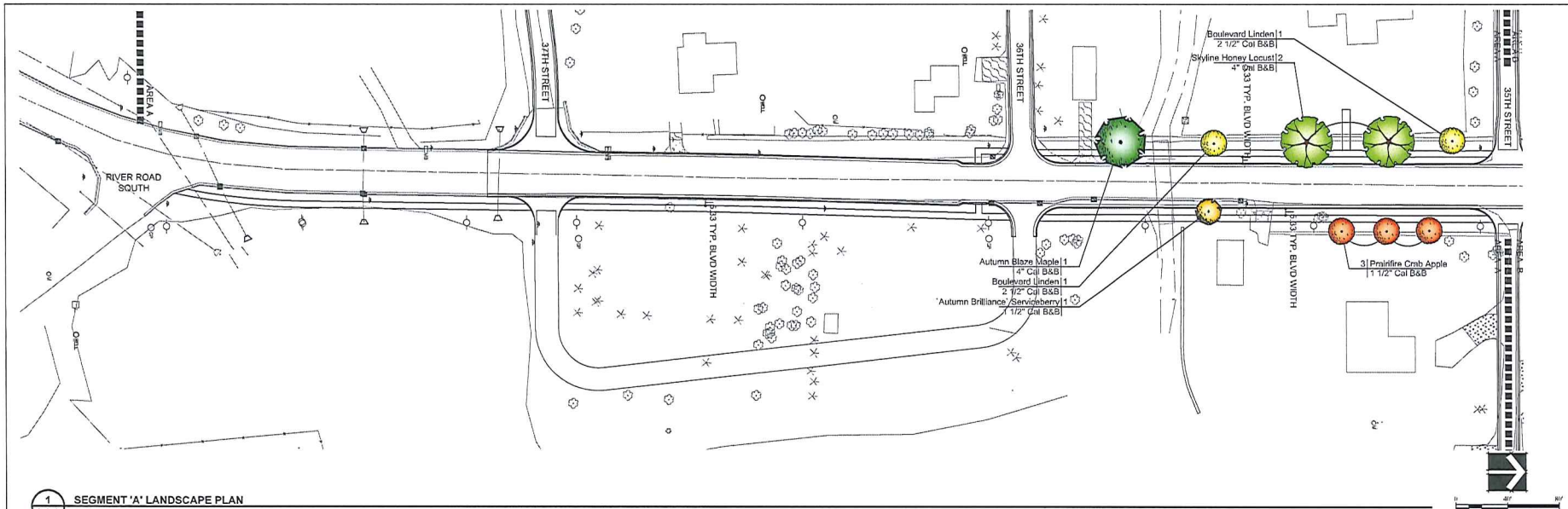

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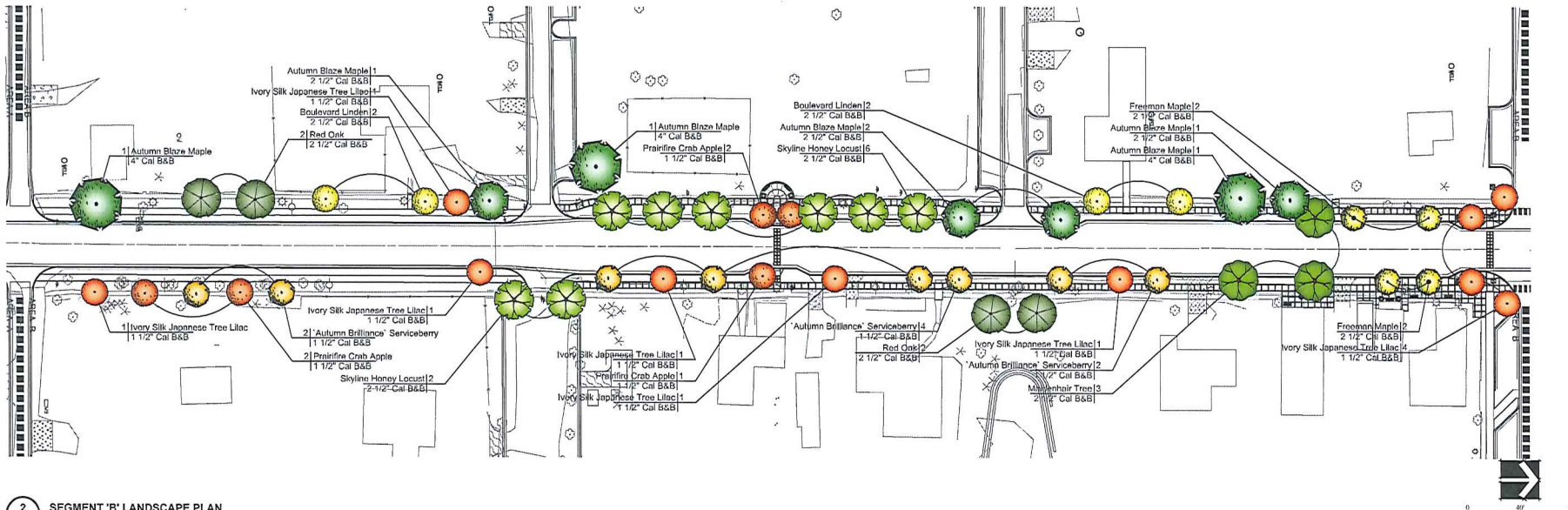

2 L1.1 SEGMENT 'B' LANDSCAPE PLAN
1"=40'

Washington County
WASH - CSAH 21 Reconstruction Project

Landscape Plan

SHEET
L1.1

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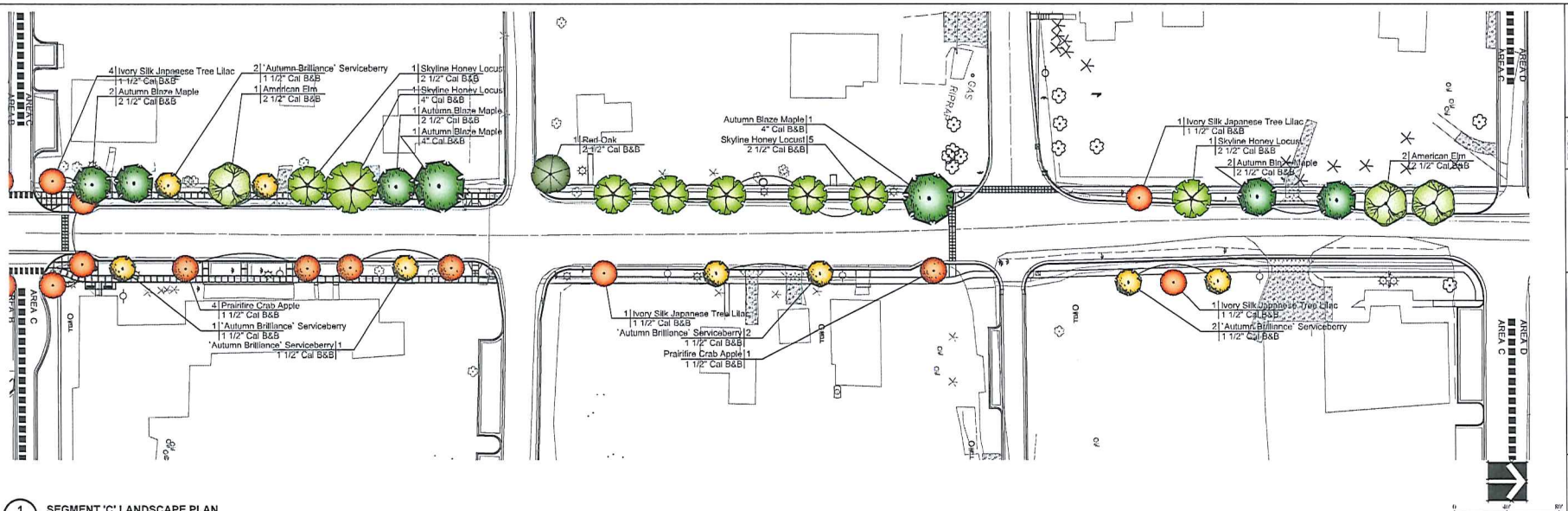

1 L1.2 SEGMENT 'C' LANDSCAPE PLAN
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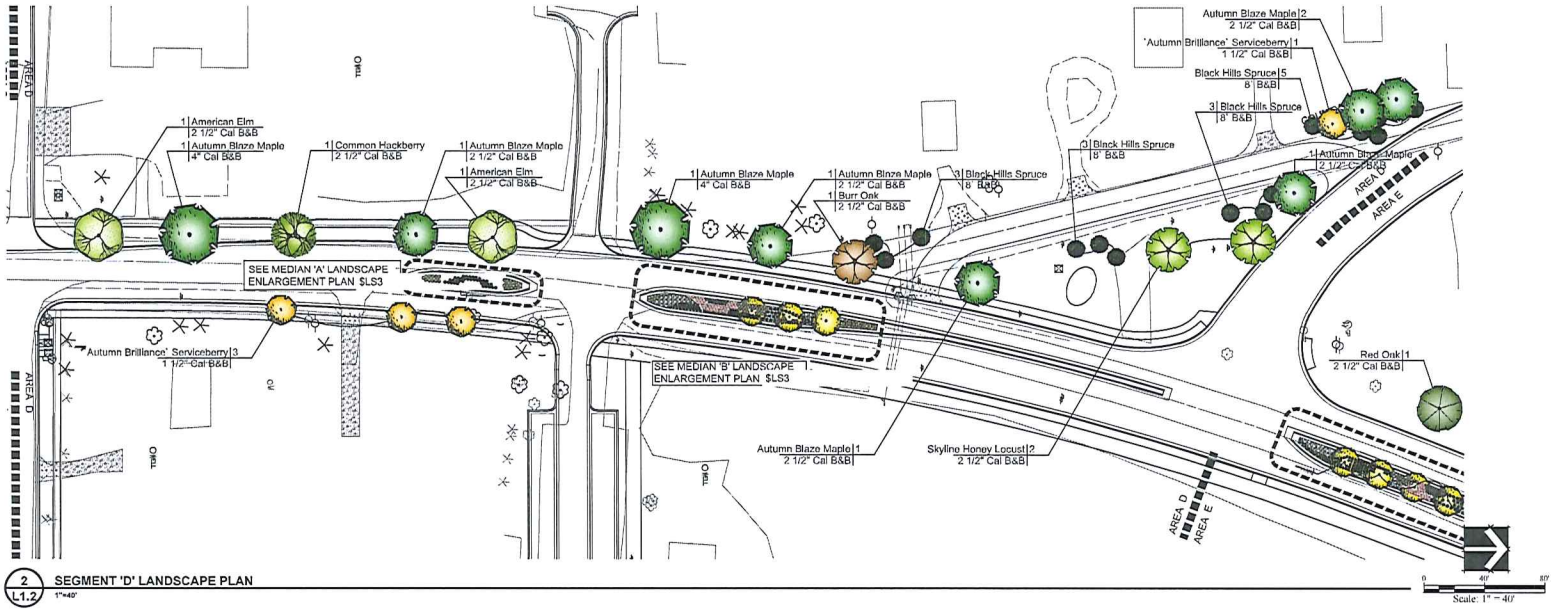

2 L1.2 SEGMENT 'D' LANDSCAPE PLAN
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AS NOTED

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Landscape Plan

SHEET
L1.2

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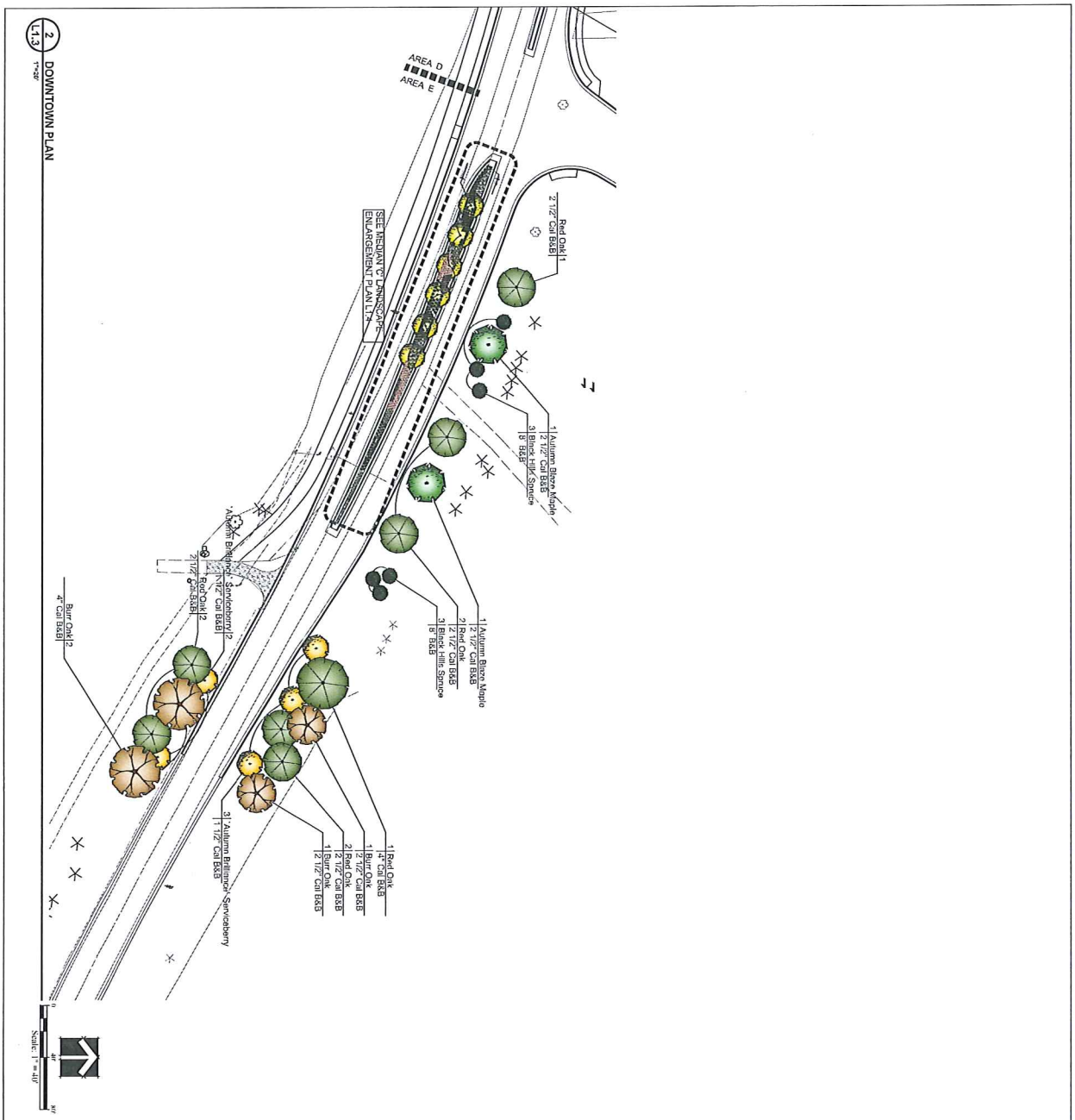

SHEET L1.3

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Landscape Plan

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED REGISTERED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA.

NOT FOR CONSTRUCTION

printed name

DATE _____, 2016 LIC. NO. _____

SCALE	AS NOTED
PLOTTED	—
DESIGNED	—
DRAWN BY	—
CHECKED BY	—
PROJECT NO.	—-—
RECORD DRAWN	DATE

REVISION NO. DATE	EXPLANATION

Date:

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Median Planting Plan

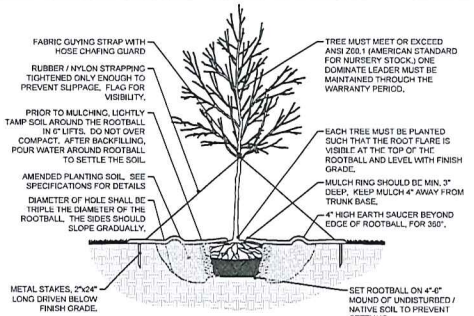
SHEET L1.4

PLANT SCHEDULE

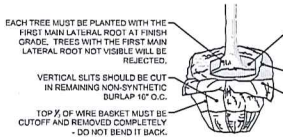
TREES	BOTANICAL NAME / COMMON NAME	CONT	QTY	UNIT COST	TOTAL
	Acer freemanii 'Armstrong' / Freeman Maple	2 1/2" Cal B&B	13	$450	$5,850
	Acer freemanii 'Autumn Blaze' / Autumn Blaze Maple	2 1/2" Cal B&B	17	$450	$7,650
	Acer freemanii 'Autumn Blaze' / Autumn Blaze Maple	4" Cal B&B	8	$600	$4,800
	Amelanchier x grandiflora 'Autumn Brilliance' / 'Autumn Brilliance' Serviceberry	1 1/2" Cal B&B	26	$325	$8,450
	Celtis occidentalis / Common Hackberry	2 1/2" Cal B&B	1	$450	$450
	Ginkgo biloba 'Autumn Gold' TM / Maidenhair Tree	2 1/2" Cal B&B	3	$450	$1,350
	Gleditsia triacanthos 'Skyline' / Skyline Honey Locust	2 1/2" Cal B&B	17	$450	$7,650
	Gleditsia triacanthos 'Skyline' / Skyline Honey Locust	4" Cal B&B	3	$600	$1,800
	Malus x 'Prairifire' / Prairifire Crab Apple	1 1/2" Cal B&B	13	$325	$4,225
	Picea glauca 'Densata' / Black Hills Spruce	6' B&B	20	$450	$9,000
	Quercus macrocarpa / Burr Oak	2 1/2" Cal B&B	3	$450	$1,350
	Quercus macrocarpa / Burr Oak	4" Cal B&B	2	$600	$1,200
	Quercus rubra / Red Oak	2 1/2" Cal B&B	12	$450	$5,400
	Quercus rubra / Red Oak	4" Cal B&B	1	$600	$600
	Syringa reticulata 'Ivory Silk' / Ivory Silk Japanese Tree Lilac	1 1/2" Cal B&B	17	$325	$5,525
	Tilia americana 'Boulevard' / Boulevard Linden	2 1/2" Cal B&B	6	$450	$2,700
	Ulmus americana 'Princeton' / American Elm	2 1/2" Cal B&B	5	$450	$2,250

SHRUBS	BOTANICAL NAME / COMMON NAME	SIZE	QTY	UNIT COST	TOTAL
	Amsonia tabernaemontana 'Blue Ice' / Blue Ice Star Flower	1 gal	119	$10	$1,190
	Hemerocallis x 'Stella Supreme' / Daylily	1 gal	222	$25	$5,550
	Nepeta x faassenii 'Walkers Low' / Walkers Low Catmint	1 gal	50	$25	$1,250
	Sedum x 'Autumn Joy' / Autumn Joy Sedum	1 gal	136	$25	$3,400
	Sedum x 'Dazzleberry' / Dazzleberry Sedum	1 gal	117	$10	$1,170
	Sporobolus heterolepis / Prairie Dropseed	1 gal	154	$25	$3,850
				TOTAL:	$86,660

ROCK:
1,100 SF @ $3-$8/SF =
$3,300 - $8,800



1 L2.0 DECIDUOUS TREE PLANTING DETAIL SCALE: NTS



2 L2.0 B&B PLANTING INSTRUCTIONS SCALE: NTS

PLANT EXAMPLES

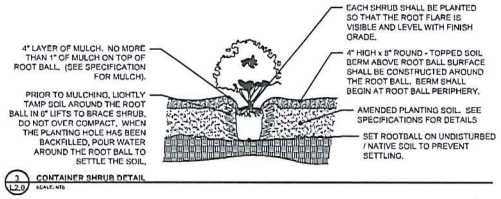
CATMINT:

Fast growing/spreading perennial. Blue-lavender spring bloom with aromatic foliage.

HEIGHT: 12"-18"
WIDTH: 20"-36"

PRAIRIE DROPSEED:
Perennial Grass - mounding habit

HEIGHT: 24"-30"
WIDTH: 24"-30"



3 L2.0 CONTAINER SHRUB DETAIL SCALE: NTS

GINKGO TREE -
A pyramidal shaped tree with gray-brown bark. Unique, fan shaped, bright green leaves.

MATURE HEIGHT: 45'-50'
MATURE WIDTH: 30'

SKYLINE HONEY LOCUST -
Pyramidal shaped tree with ascending branches. Bright, golden-yellow fall color.

MATURE HEIGHT: 30'-35'
MATURE WIDTH: 30'-35'

PRAIRIEFIRE CRABAPPLE -
A upright spreading tree becoming more rounded with age. Red buds open to single, purple-red flowers.

MATURE HEIGHT: 15'-20'
MATURE WIDTH: 20'

BURR OAK -
Large native tree with a broad canopy. Large, dark green leaves turn to a yellow, dark brown fall color.

MATURE HEIGHT: 60'-80'
MATURE WIDTH: 60'-80'

IVORY SILK JAPANESE TREE LILAC -
Compact, dense growth habit. The canopy has creamy-white flower clusters bloom in mid-June.

MATURE HEIGHT: 20'-25'
MATURE WIDTH: 15'

COMMON HACKBERRY -
Fast-growing native tree with unique gray bark.

MATURE HEIGHT: 50'-75'
MATURE WIDTH: 50'

AMERICAN ELM -
American Elm cultivar that is disease resistant with a classic elm vase-shaped canopy.

MATURE HEIGHT: 60-65'
MATURE WIDTH: 40'-45'

AUTUMN BLAZE MAPLE -
Fast growing cultivar with a dense, rounded canopy. Red-orange fall color

MATURE HEIGHT: 55-65'

AUTUMN BRILLIANCE SERVICEBERRY -
White flowers bloom in the spring. Foliage turns a brilliant red in the fall

MATURE HEIGHT: 20-25'
MATURE WIDTH: 15'

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Planting Details

SHEET
L2.0

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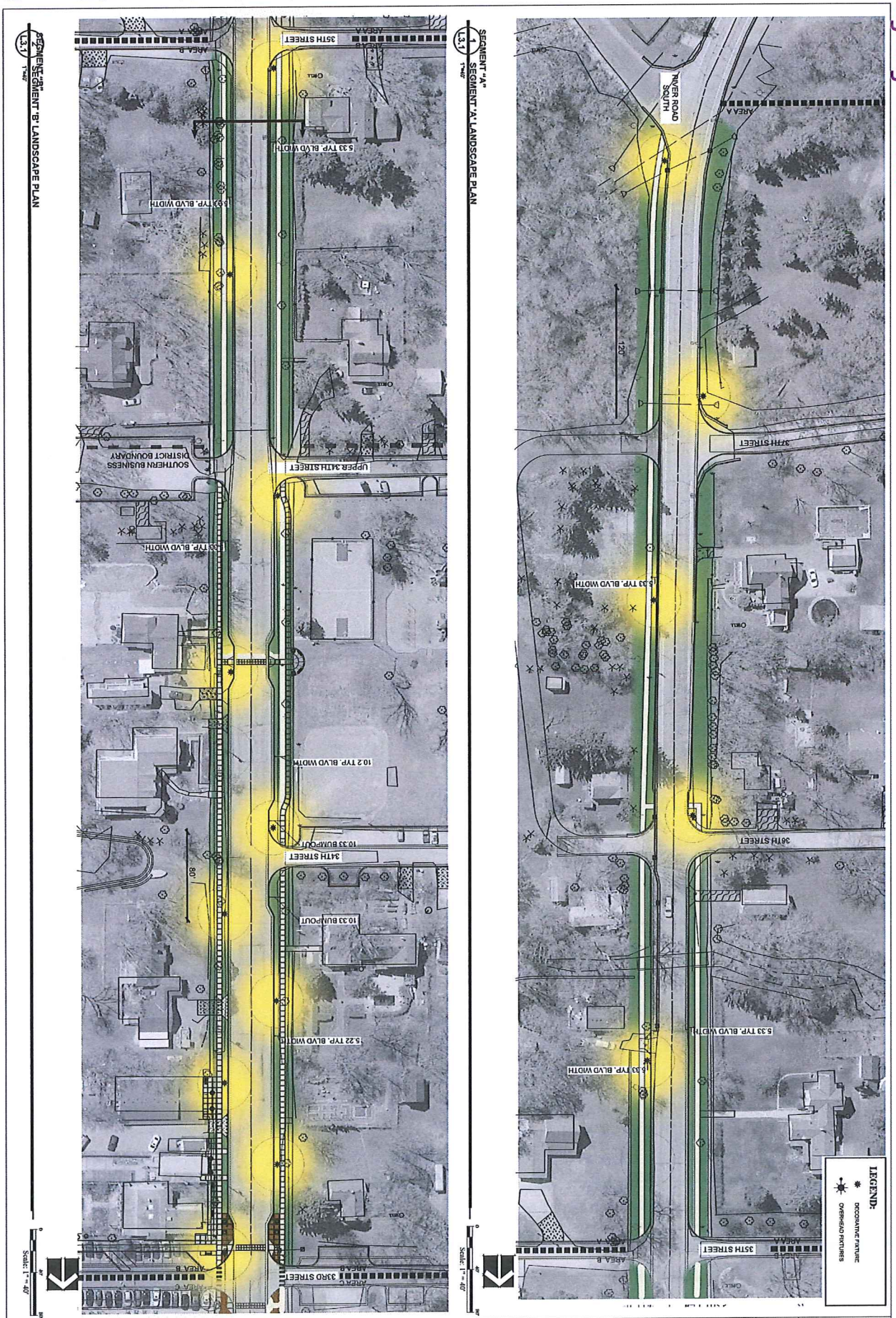

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SHEET L3.1

Washington County
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Lighting Plan

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED REGISTERED LANDSCAPE ARCHITECT UNDER THE LAWS OF THE STATE OF MINNESOTA

__ printed name __
DATE ____ 2014 LIC NO. ____

SCALE: AS NOTED
PLAN BY: ---
DESIGN BY: ---
CHECKED BY: ---
PROJECT NO: ---
RECORD COPY BY: DATE

REVISION NO.	DATE	EXPLANATION

Lighting: & Concrete

SEGMENT "C"
SEGMENT 'C' LANDSCAPE PLAN
L3.2 1"=40'

SEGMENT 'D' LANDSCAPE PLAN
L3.2 1"=40'

Washington County
WASH - CSAH 21 Reconstruction Project

Lighting Plan

SHEET
L3.2

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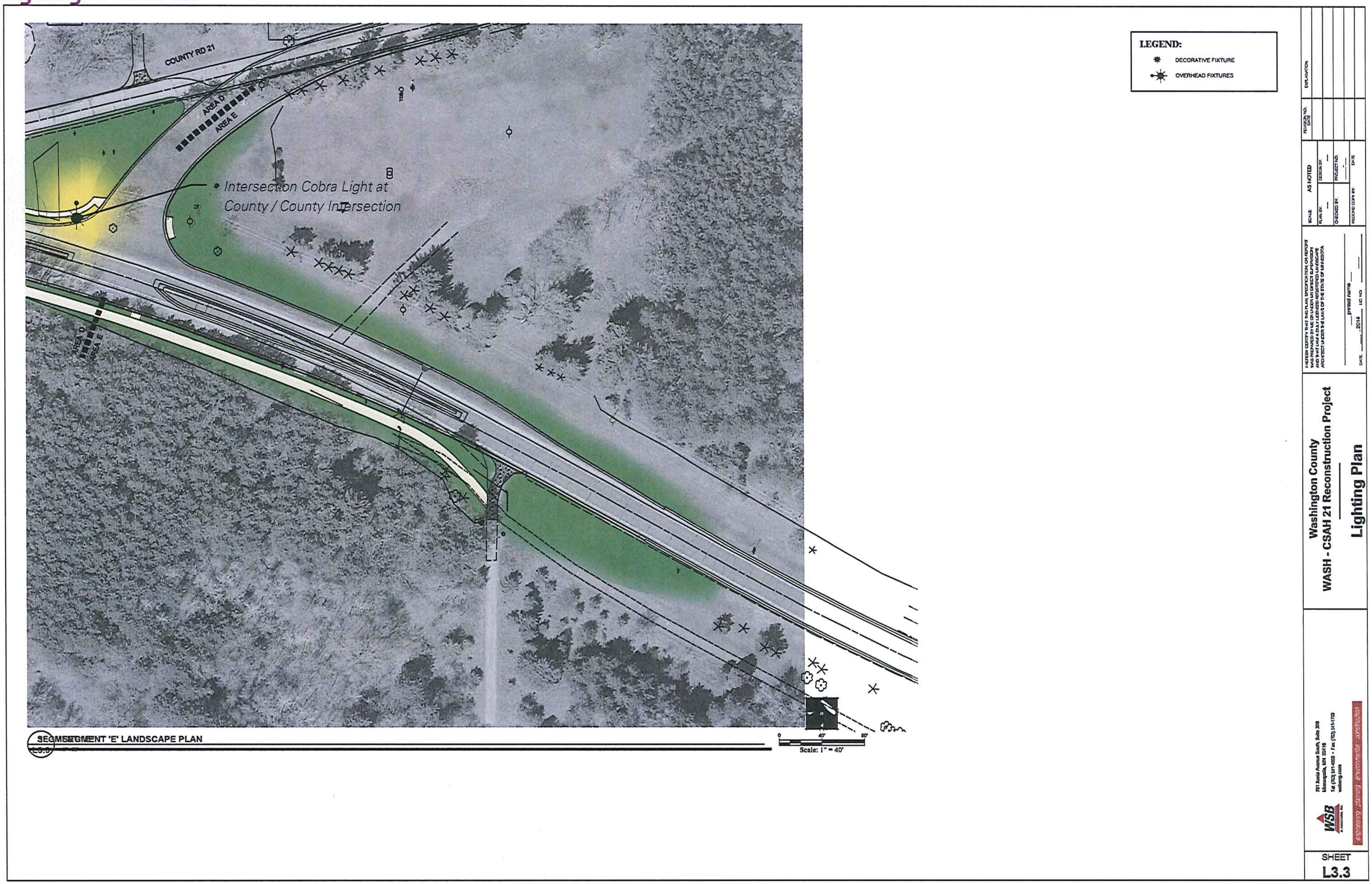
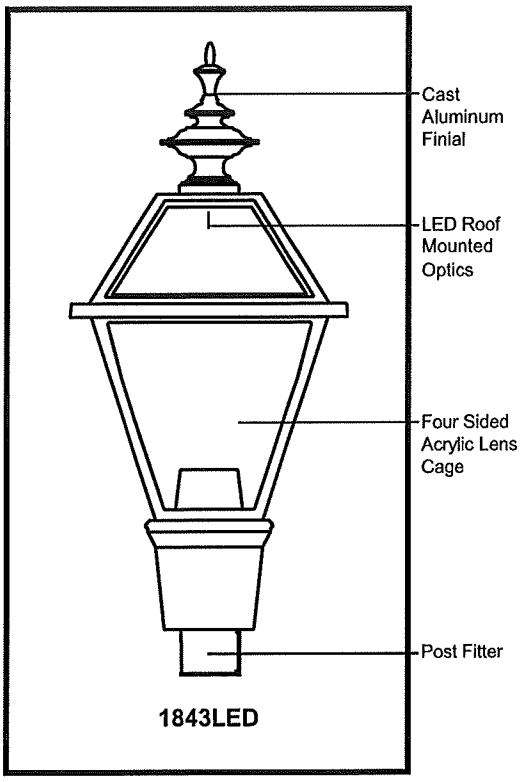
Lighting: & Concrete



1843 LED CARSON CITY SERIES SPECIFICATIONS

LUMINAIRE DESIGN

- The 1843 LED Carson City series is large scale, traditionally styled colonial fixture featuring a tapered four-sided cage and roof.
- The four-paneled roof shall be appointed with a decorative cast aluminum finial.
- The luminaire shall measure 18 1/4" wide and 41 3/4" tall.
- The luminaire shall have a hinged roof for easy inside access.
- The luminaire shall be supplied with line-ground, line-neutral and neutral-ground electrical surge protection in accordance with IEEE/ANSI C62.41.2 guidelines.
- The luminaire shall be U.L. or E.T.L. listed in U.S. and Canada.



EPA = 3.77 (ft²)
WEIGHT = 55 LBS

POST FITTER

- The fitter or base shall be heavy wall cast aluminum, alloy for high tensile strength.
- The fitter shall have an inside diameter opening to accept a 3" diameter pole or tenon. When ordered with a Sternberg aluminum pole, the fitter shall be secured to the pole top or tenon with set screws.

DRIVER HOUSING

- The LED driver housing shall be heavy wall cast aluminum for high tensile strength.
- The LED driver shall be attached to the driver housing to ensure high capacity heat sinking of driver thermals, keeping the driver cooler and ensuring long life.
- The LED driver shall be supplied with a quick-disconnect electrical connector on the power supply, providing an easy power connection.

LIGHT SOURCES

- The luminaire shall use high output, high brightness LEDs.
- The LEDs shall be mounted in arrays, on printed circuit boards designed to maximize heat transfer to the heat sink surface.
- The LED arrays shall be mounted to minimize up-light.
- The LEDs shall be attached to the printed circuit board with not less than 90% pure silver to insure optimal electrical and thermal conductivity.
- The LEDs and printed circuit boards shall be protected from moisture and corrosion by a conformal coating of 1 to 3 mils.
- The LEDs and printed circuit board construction shall be environmentally friendly and 100% recyclable. They shall not contain lead, mercury or any other hazardous substances and shall be RoHS compliant.
- The LED life rating shall be determined in accordance with IESNA LM-80.

(Continued on next page)

1843 LED CARSON CITY SERIES SPECIFICATIONS

LIST NO. 1843 LED CARSON CITY SERIES

OPTICS

- The luminaire shall be provided with individual, acrylic, refractor type optics applied to each LED.
- The luminaire shall provide Type ___ (II, III or V) light distribution per the IESNA classifications. Testing shall be done in accordance with IESNA LM-79.

PERFORMANCE

- The LED arrays are built in series-parallel circuits which maintain overall light output in the event of single LED failures.
- The LEDs and LED driver shall operate over a -40°C (-40°F) to +50°C (122°F) ambient air temperature range.
- The High Performance white LEDs will have a life expectancy of approximately 70,000 hours with not less than 70% of original brightness (lumen maintenance), rated at 25°C.
- The High Brightness, High Output LED's shall be 4500K (3500K or 6000K option) color temperature with a minimum of 75 CRI.
- The luminaire shall have a minimum _____ (see table) initial delivered lumen rating when operated at steady state with an average ambient temperature of 25°C (77°F).

Light Source	Initial Delivered Lumens	Fixture Watts	Light Source	Initial Delivered Lumens	Fixture Watts
10A1R60T5	**12500**	**189**	**10A1R60T3**	**11475**	**189**
10A1R45T5	**10325**	**189**	**10A1R45T3**	**9300**	**189**
10A1R35T5	**9180**	**189**	**10A1R35T3**	**8155**	**189**
6A1R60T5	**8800**	**125**	**6A1R60T3**	**7580**	**125**
6A1R45T5	**7360**	**125**	**6A1R45T3**	**6140**	**125**
6A1R35T5	**6600**	**125**	**6A1R35T3**	**5380**	**125**
6ARC60T5	**6715**	**97**	**6ARC60T3**	**5850**	**97**
6ARC45T5	**5615**	**97**	**6ARC45T3**	**4750**	**97**
6ARC35T5	**5035**	**97**	**6ARC35T3**	**4170**	**97**
4ARC60T5	**4170**	**66**	**4ARC60T3**	**3750**	**66**
4ARC45T5	**3660**	**66**	**4ARC45T3**	**3290**	**66**
4ARC35T5	**3430**	**66**	**4ARC35T3**	**3050**	**66**
3ARC60T5	**3470**	**52**	**3ARC60T3**	**2970**	**52**
3ARC45T5	**2920**	**52**	**3ARC45T3**	**2420**	**52**
3ARC35T5	**2630**	**52**	**3ARC35T3**	**2130**	**52**

1843 LED CARSON CITY SERIES SPECIFICATIONS

LIST NO. 1843 LED CARSON CITY SERIES

ELECTRONIC DRIVER

- The driver shall be U.L. or E.T.L. Recognized
- The driver shall have overload as well as short circuit protection.
- The driver shall be a DC voltage output, constant current design, 50/60HZ.
- The driver shall have a minimum efficiency of 90%.
- The driver shall be rated at full load with THD<20% and a power factor of greater than 0.90.
- The driver shall contain over-heat protection which reduces output to less than half rating if the case temperature reaches 85°C.

LUMINAIRIE HOUSING

- The luminaire shall be made of heavy wall cast aluminum alloy.
- The luminaire shall be provided with a cast aluminum roof with optimized heat sinks to provide maximum life and performance for the LED light sources.
- The lens panels shall be made of vandal resistant, clear seeded acrylic (CSA). Available in optional clear textured acrylic (CTA), prismatic acrylic (PA) or white acrylic (WA).

ARMS

- The arms shall be cast aluminum and/or extruded aluminum.
- Arms with decorative filigree shall have meticulously detailed scroll work and gracefully curved brackets.
- The arms shall be pre-wired for ease of installation.
- The arms shall be bolted to a post mount adaptor which is welded to the pole to ensure proper alignment to the base.
- (Twin TA and Twin 579 arms) The arms shall be attached to a decorative center hub which will fit the center tenon of the pole (not shown).

PHOTOCELL OPTIONS

Electronic Button Cell Option

- Photocells shall electronic button type.
- On single or multi-fixture poles, the photocell shall be mounted in the pole shaft on an access plate.

The photocell is not pre-wired since driver are mounted in the fitters and packaged separately.

- The photocell shall turn on at 1.5 foot-candle and turn off 5-10 seconds at no more than 2-3 foot-candles.
- The photocell is 120-277 volt.

1843 LED CARSON CITY SERIES SPECIFICATIONS

LIST NO. 1843 LED CARSON CITY SERIES

FINISH

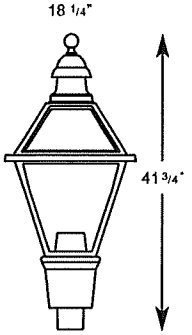
- Prior to coating, the luminaire shall be chemically cleaned and etched in a 5-stage washing system which includes alkaline cleaning, rinsing, phosphoric etching, reverse-osmosis water rinsing and non-chrome sealing to ensure corrosion resistance and excellent adhesion for the finish coat.
- The finish coat shall be an electrostatically applied semi-gloss, super durable polyester powder coat, baked on at 400°F, to provide a durable, color retentive finish.
- *The optional _____ (Verde Green or Swedish Iron) finish shall be hand-brushed using a 3-step process. * (OPTION)

WARRANTY

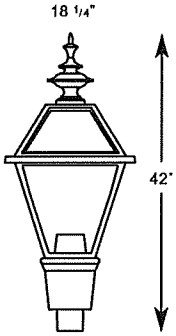
- The luminaire shall be free from all defects in materials and workmanship for a period of seven (7) years from the date of manufacture.
- The luminaire manufacturer shall warrant the LED boards/system, during the stated warranty period, against failure defined as more than three (3) simultaneous non-operating LEDs.
- The driver shall be warranted for seven (7) years.

1843 LED CARSON CITY FIXTURES / FITTERS / ARMS PM - WB

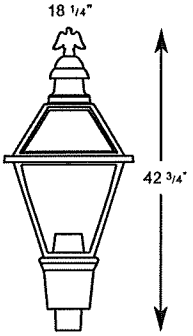
FIXTURES



1843LED
Solid Roof
Ball Finial



1843LEDTF
Solid Roof
Tall Finial

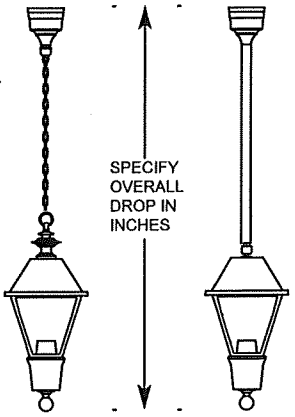


1843LEDBE
Solid Roof
Brass Eagle Finial

FHC
Frosted
Chimney

HANGING BRACKETS*

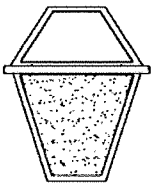
*NOTE:
Fixture weight = 55lbs.
Use sufficient hardware
to support fixture weight.



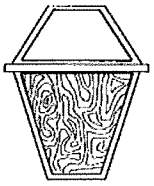
CH44
Chain
Hung

SH44
Stem
Hung

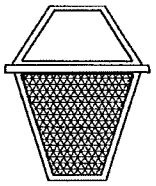
LENSES



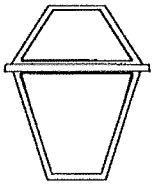
CSA
Clear
Seeded
Acrylic



CTA
Clear
Textured
Acrylic



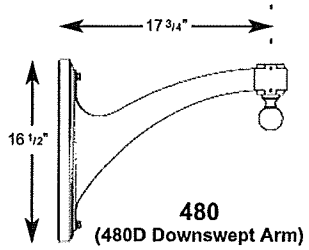
PA
Prismatic
Acrylic



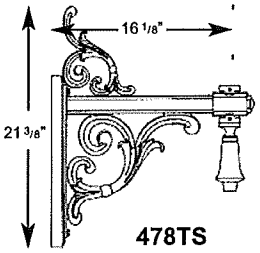
WA
White
Acrylic

ARMS - POST MOUNT (PM) or WALL BRACKETS (WB)

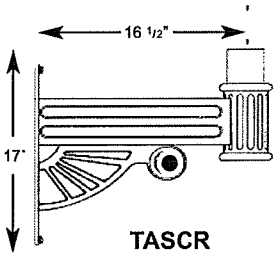
See Arms Section for more information



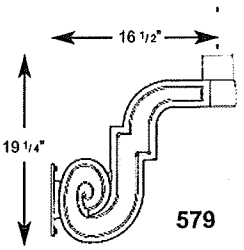
480
(480D Downswept Arm)



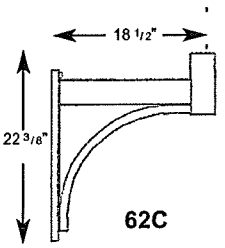
478TS



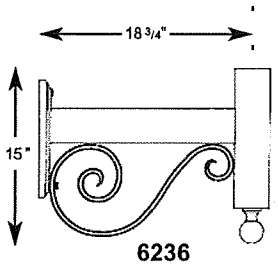
TASCR



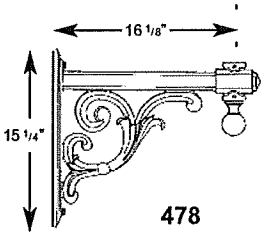
579



62C



6236



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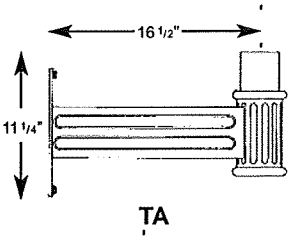
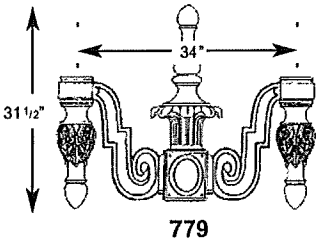


TA



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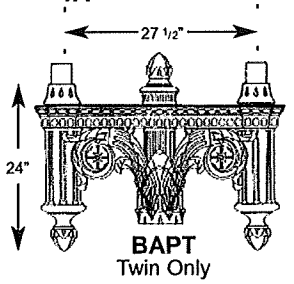
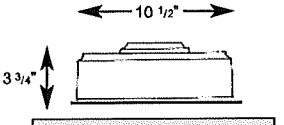


BAPT
Twin Only

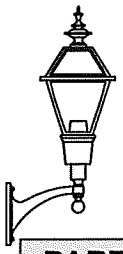


PIER BASE MOUNT
450PB

BUILDING A PART NUMBER

POST & ARM FIXTURES

NO. OF ARMS		ARM MOUNTED FIXTURE		CENTER POST TOP FIXTURE (PT)		POST		POST CAP		LIGHT SOURCE		DRIVER		LENS		OPTIONS		FINISH
	—		/	1843LED	PT /	3610FP4	/		/	16A1R45T5	/	ML	/	CSA	/	PEC	/	BKT



WALL FIXTURES

FIXTURE/ WALLBRACKET		LIGHT SOURCE		DRIVER		LENS		OPTIONS		FINISH
1843LEDTF/480WB	/	6A1R45T5	/	ML	/	CSA	/	PEC	/	BKT

PIER BASE
Uses same information boxes as wall fixture

1843LEDBE/450PB

FIXTURE / PIER MOUNT

PART NUMBER SELECTIONS

FIXTURES
- 1843LED
- 1843LEDBE
- 1843LEDTF

LENSES
- CSA
- CTA
- PA
- WA

DRIVERS
- ML - 120-277
- MH - 347-480
- MDL - Dimming 120-277
- MDH - Dimming 347-480

POST ARMS
- 478PM
- 478TSPM
- 480PM
- 480DPM
- 62CPM
- 6236PM
- 579PT
- TAPT
- TASCRPT
- 779PT
- BAPT
  Twin Only

HANGING TYPE
- CH44
- SH44

WALL BRACKET ARMS
- 478WB
- 478TSWB
- 480WB
- 480DWB
- 62CWB
- 6236WB
- 579WB
- TAWB
- TASCRWB

PIER BASE
- 450PB

LIGHT SOURCES T5
- 10A1R60T5 189W, 6000K Type V Optics
- 10A1R45T5 189W, 4500K Type V Optics
- 10A1R35T5 189W, 3500K Type V Optics
- 6A1R60T5 125W, 6000K Type V Optics
- 6A1R45T5 125W, 4500K Type V Optics
- 6A1R35T5 125W, 3500K Type V Optics
- 6ARC60T5 97W, 6000K Type V Optics
- 6ARC45T5 97W, 4500K Type V Optics
- 6ARC35T5 97W, 3500K Type V Optics
- 4ARC60T5 66W, 6000K Type V Optics
- 4ARC45T5 66W, 4500K Type V Optics
- 4ARC35T5 66W, 3500K Type V Optics
- 3ARC60T5 52W, 6000K Type V Optics
- 3ARC45T5 52W, 4500K Type V Optics
- 3ARC35T5 52W, 3500K Type V Optics

LIGHT SOURCES T3
- 10A1R60T3 189W, 6000K Type III Optics
- 10A1R45T3 189W, 4500K Type III Optics
- 10A1R35T3 189W, 3500K Type III Optics
- 6A1R60T3 125W, 6000K Type III Optics
- 6A1R45T3 125W, 4500K Type III Optics
- 6A1R35T3 125W, 3500K Type III Optics
- 6ARC60T3 97W, 6000K Type III Optics
- 6ARC45T3 97W, 4500K Type III Optics
- 6ARC35T3 97W, 3500K Type III Optics
- 4ARC60T3 66W, 6000K Type III Optics
- 4ARC45T3 66W, 4500K Type III Optics
- 4ARC35T3 66W, 3500K Type III Optics
- 3ARC60T3 52W, 6000K Type III Optics
- 3ARC45T3 52W, 4500K Type III Optics
- 3ARC35T3 52W, 3500K Type III Optics

STANDARD FINISHES*
- BKT Black Textured
- WHT White Textured
- PGT Park Green Textured
- ABZT Architectural Medium Bronze Textured
- DBT Dark Bronze Textured

*Smooth Finishes are available upon request

CUSTOM FINISHES
- OI Old Iron
- RT Rust
- WBR Weathered Brown
- CD Cedar
- WBK Weathered Black
- TT Two Tone

STERNBERG SELECT FINISHES
- VG Verde Green
- SI Swedish Iron
- OWGT Old World Gray Textured

OPTIONS
- PEC Photocell-Electronic 120-277 Volt
- FHC Frosted Chimney (Not Lighted)
- FHD Dual Fuse and Holder-208, 240, 480 Volt
- BE Brass Eagle Finial
- BF Ball Finial or Font (TA, TASCR)
- TF Tall Finial
- HL Hi-Low operation*

*Not available on 3ARC

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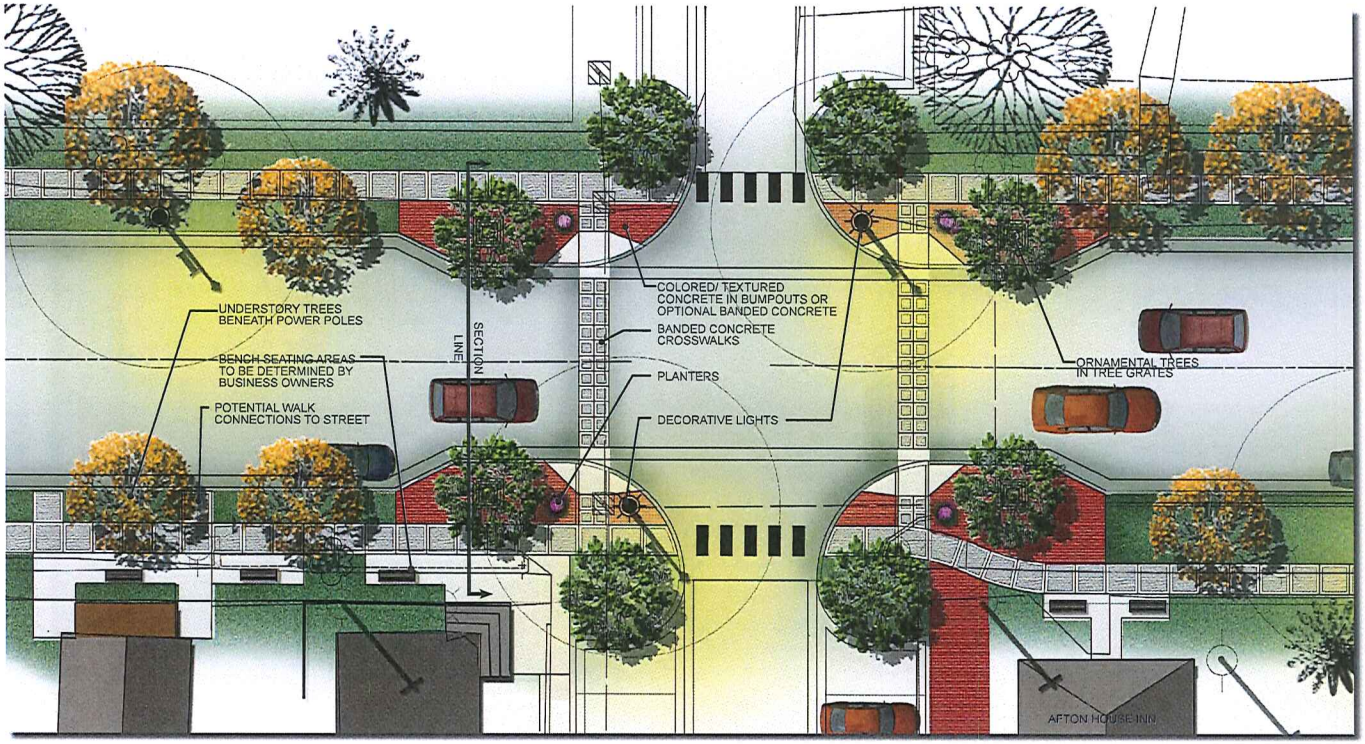
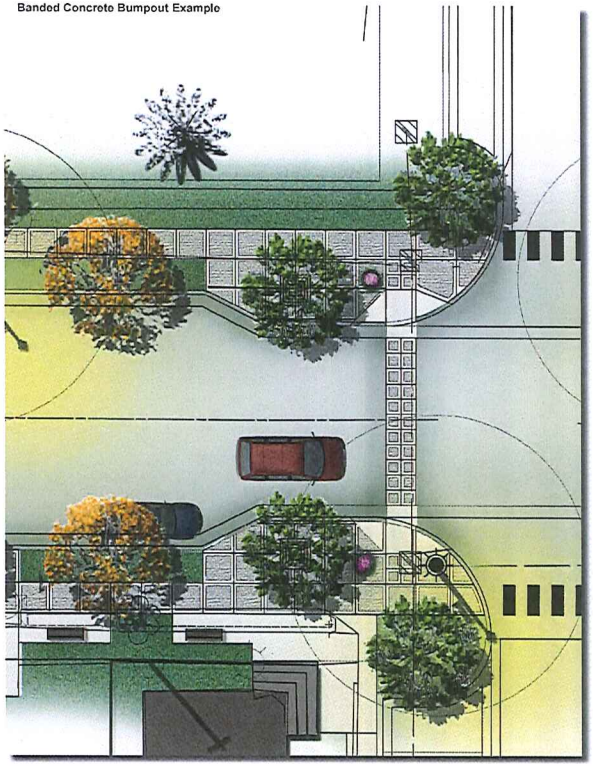
www.sternberglighting.com Email: info@sternberglighting.com

Business District Streetscape Schematic Plans:

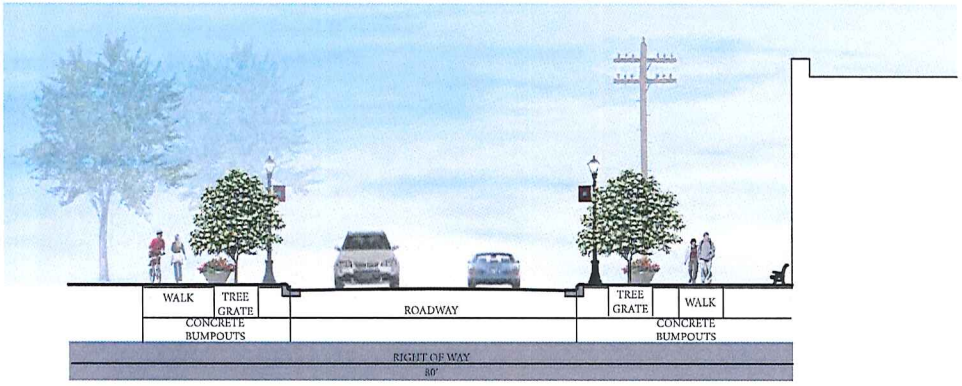
Colored/Textured Concrete Bumpout Example



Banded Concrete Bumpout Example



Business District Streetscape Section:



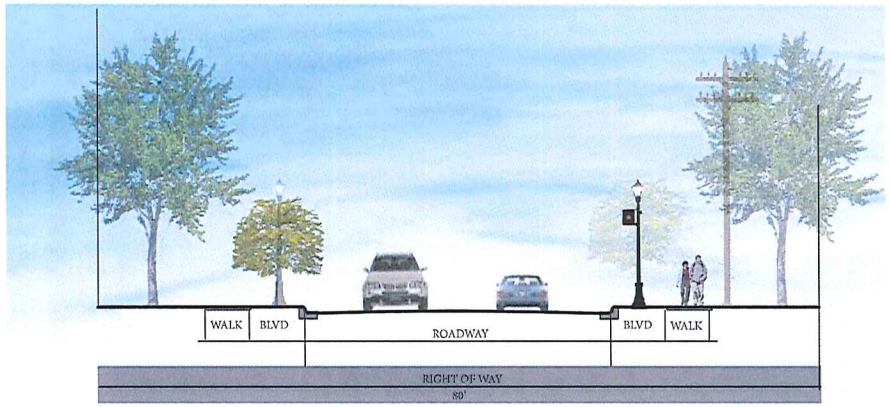
Colored/Textured Concrete Examples:

COLORED CONCRETE

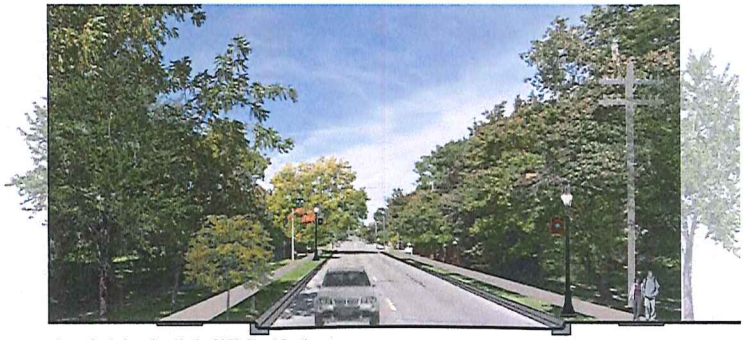
COLORED CONCRETE

BANDED CONCRETE

Typical Residential Streetscape Section:



Residential Streetscape Section Overlay Example:



Approximate Location: North of 35th Street South

Various Streetscape Section Examples:

Approximate Location: North end of Afton with Medians

Approximate Location: North of 34th Street by the Park

Approximate Location: Afton Historical Museum

Site Amenities:

BENCH EXAMPLE

TRASH RECEPTACLE EXAMPLE

BIKE RACK EXAMPLE

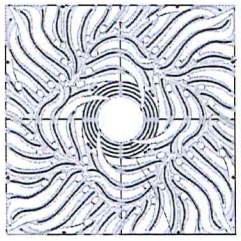
INTEGRAL PLANTER EXAMPLE

STAND-ALONE PLANTER EXAMPLE

Tree Grates:

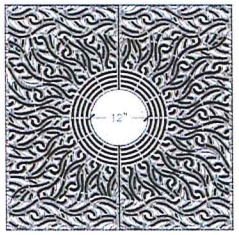
KELP DECORATIVE TREE GRATE

- 48" Cast Iron: $1200-$1400
- 72" Round Cast Iron: $2200-$2500
- Aluminum or Finished +30%



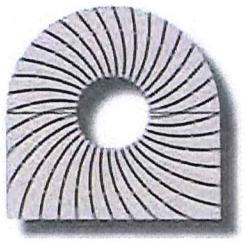
MINNIONE DECORATIVE TREE GRATE

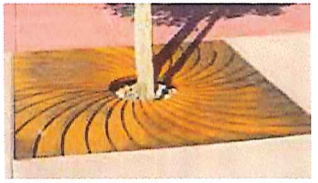
- 48" Cast Iron: $1300-$1500



BOND DECORATIVE TREE GRATE

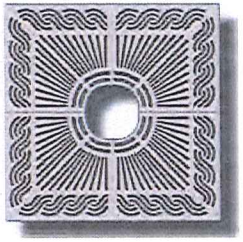
- 48" Cast Iron: $1300-$1500
- 60" Cast Iron: $2000-$2200



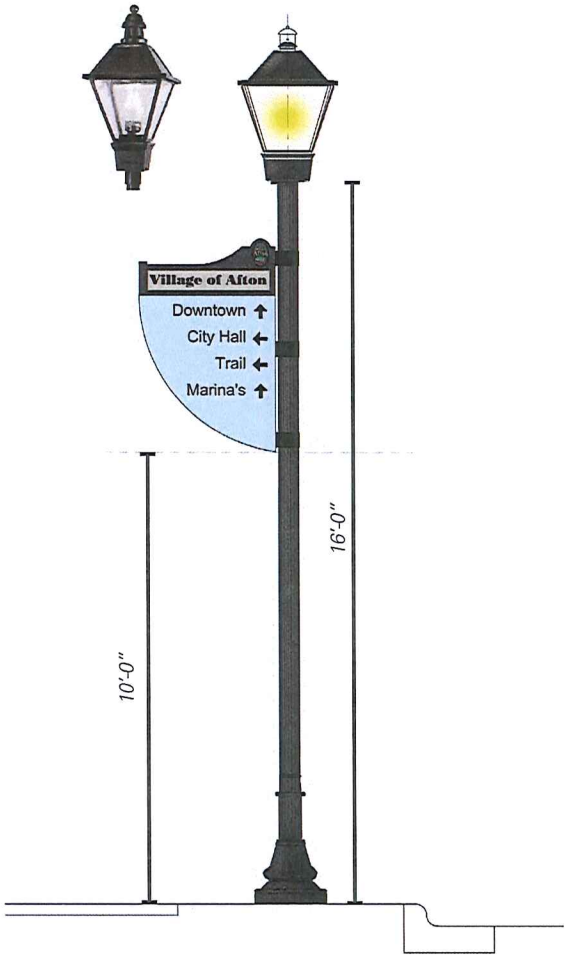


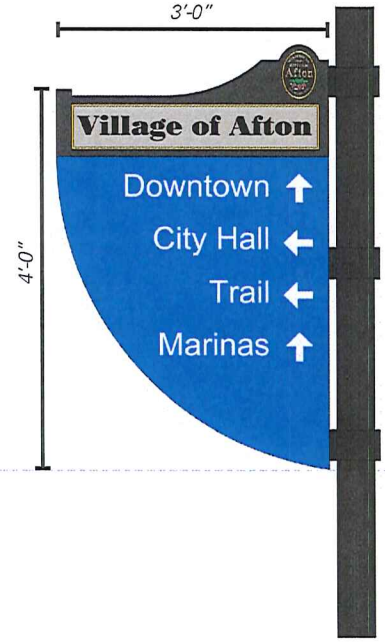
MARINA DECORATIVE TREE GRATE

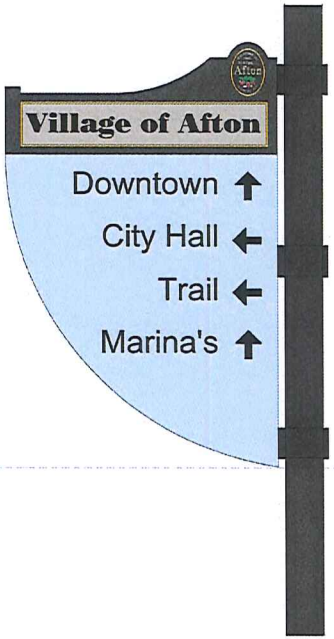
- 48" Cast Iron: $1400-$1600

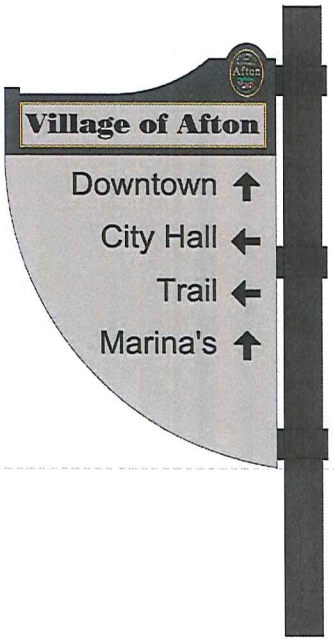


Wayfinding Signage & Light Style:









Preliminary Color Options:

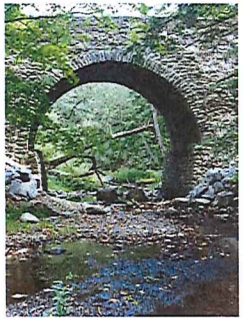
- *Blue background with white lettering*
- *Light blue background with black lettering*
- *Tan background with black lettering*

Kelle's Creek Improvements:

Examples (provided by the HPC):





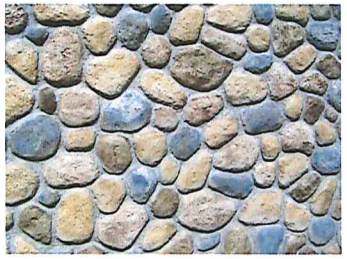




Kelle's Creek Rendering:

Formliner Selection Examples

Yosemite Stone:

- *Half the size of MN Field Stone*



1305 Vista DryStack:

12010 Minnehaha Blend:


Item	Description	Extra Cost Per Unit		Estimated Quantity	Total Extra Cost
Sidewalks	Concrete sidewalk	Included in base cost			
	Large banded pattern on sidewalks	$ 1.00	/ SQ FT (Extra Cost Only)	11000	$ 11,000.00
Medians	Plantings	$ 25.00	1 Gal. Perennial	798	$ 19,950.00
	Rock Mulch	$ 8.00	/SQ FT	1100	$ 8,800.00
Lighting	Decorative lighting (ornamental)	$ 9,800.00	/ LIGHT	30	$ 294,000.00
Wayfinding	Pedestrian Wayfinding Signage	$ 6,000.00	/SIGN	6	$ 36,000.00
Bumpouts	Colored/textured concrete	$ 20.00	/ SQ FT	1350	$ 27,000.00

Item	Description	Extra Cost Per Unit		Estimated Quantity	Total Extra Cost
Boulevards	Paved Area	$ 8.00	/SQ. FT.	1500	$ 12,000.00
Trees	Tree grates	$ 2,200.00	/ GRATE	4	$ 8,800.00
	8' B&B	$ 450.00	/ Tree	20	$ 9,000.00
	2.5" Cal. B&B	$ 450.00	/ Tree	64	$ 28,800.00
	4" Cal. B&B	$ 600.00	/ Tree	14	$ 8,400.00
Pedestrian Site Amenties	Trash Receptacles, Benches, Bike Racks	$ 1,500.00	/EACH	16	$ 24,000.00
Pedestrian crosswalks	Banded concrete crosswalks	$ 12.00	/ SQ FT	825	$ 9,900.00

TOTAL EXTRA PROJECT COST	**$ 497,650.00**