A P P E N D I X E

LIGHTING STUDY

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THE TERRACES OF LAFAYETTE NIGHTTIME LIGHTING STUDY PlaceWorks June 30, 2014

The proposed Project would introduce new sources of light and glare in the Project area. The Project's conceptual lighting plan includes streetlights, pedestrian lighting, and parking lot lighting. All lighting would be installed in conformance with the City's exterior lighting requirements. Lighting would be directed downward and shielded to minimize spill-light and glare. Table 1 presents details of the proposed lighting fixtures.

Table 1 Light Fixtures							
Light	Manufacturer	Model	Fixture	Pole	Bulb	Bulb	
				Height	Wattage	Type	
Street Lights	Spectra	Element Series	ELE-FLR-GR5	12'	40W	LED	
	_	LED	W/BAND-PT				
Parking Lot	McGraw-Edison	Gleon Galleon	Gleon-AE-02-LED-	12'	60W	LED	
		LED	EL-5WQ				
Parking Lot	McGraw-Edison	Gleon Galleon	Gleon-AE-02-LED-	22'	60W	LED	
		LED	EL-5WQ				
Pedestrian	Spectra	Seabridge LED	Spectra Bollard Cone	3'	18W	LED	
	_	Bollard	Type V (Medium)				

Based on the Lighting Plan, 2-year Planting Plan (Appendix B), and proposed light fixtures, PlaceWorks simulated the lighting performance under nighttime conditions and predicted the illumination levels across the site and along adjacent areas. With the use of AutoCAD 2014 and SketchUp Pro Version 8, a model was created and used in Autodesk® 3ds Max® 2011 to light the study site. The information input to the model includes proposed buildings, streets, slopes, two-year trees, location and height of the light poles, as well as levels and distribution of luminaires. The analysis does not include any pedestrian lighting, interior lights or moonlight. Moreover, the impacts from dust, ground covers, or any structures that might partially or entirely block light sources does not account in the process.

A foot-candle is a measure of illuminance or light intensity. The foot-candle is equal to one lumen per square foot. The table below specifies the recommended minimum and maximum illumination levels for outdoor uses by illuminating Engineering Society of North America (IES or IESNA) (IES, Recommended Practices RP-33-99).

Area / Activity	Minimum Foot-candles	Maximum Foot-candles
Building Entrance	2.0	5.0
Sidewalks	0.2	5.0
Public Parking Lots	0.2	4.0(Ratio 20:1)
Private Parking Lots	0.13	2.6(Ratio 20:1)

The light levels shown on Figure 1 demonstrate that the proposed lighting plan meets the standards for outdoor residential uses. Light from this project drops to insignificant levels within a short distance of the property line. Based on a significance threshold of 0.5 horizontal foot-candles, the spillover light levels at the adjacent residential areas do not represent a significant impact. Therefore, no negative environmental impact (i.e. light pollution or light trespass) is associated with this plan. Figure 2, Nighttime Light Simulation – Plan View, provides a simulated aerial view the projected lighting level.

Figure 1. Projected light spillover in Foot-candles

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Figure 2, Nighttime Light Simulation – Plan View

