# LIGHTING

A detailed lighting plan that specifies lighting location, intensity and trespass will be prepared during Site Plan review. Silo Ridge commits to the following nighttime lighting limits that will minimize light pollution (skyglow, light trespass, and glare):

# Up-light

- No more than 2% of the light (measured in lumens) emitted from the street lighting, area lighting (parking lots, storage areas, utilitarian building-mounted lighting, etc.) and path lighting will be directed upward. All of these fixtures will have "cutoff" optical systems that direct almost all light downward.
- There will be no internally illuminated signs.

## High Brightness and Glare

- •No more than 300 lumens shall be emitted from any fixture between 80 degrees and 90 degrees (0 degrees is straight downward from the fixture; 180 degrees is straight overhead).
- •Street, path, and area lighting poles will not exceed 20' in height. The Winery Restaurant parking area lights are expected to be pedestrian level lamp posts or bollard style lights due to the sensitive nature of the location of this facility. Full height street lights will not be used in the Winery Restaurant parking area.
- Where bright arc tubes from metal halide lamps (bulbs) or LED products would be glaring for pedestrians beneath the fixtures, prismatic lenses or diffusers will be used to reduce the direct glare of the light source.
- No lighting will be used on the practice range for extending the hours of operation. Nighttime lighting used will be for staff use only for security, and will cease within one hour of dusk.
- •No street or area lighting fixtures will be tilted upward to project light farther, since this can turn a good-quality fixture into one that produces glare or skyglow.
- •No street lights will be used in the Vineyard Cottages and Estate Home neighborhoods. Portions of Village Green, Golf Villa, and South Lawn neighborhoods are expected to utilize pedestrian level lampposts as opposed to full height street lights.
- •Light spillage into natural areas (forests and wetlands) will be minimized and/or avoided by ecologically-friendly lighting design and lighting regimes.

#### Energy Use

- •The outdoor lighting system will use 90% or less of the power allowed by the ASHRAE/IESNA 90.1 2010 energy standard.
- •Parking lots pose greater potential for pedestrian/ vehicle conflict and vehicle/vehicle conflict, so these are traditionally lighted more uniformly, although the number of fixtures illuminated after business hours will be reduced. Heavily used pathways may have pole-mounted lighting or landscape lighting in order to improve the perception of safety for pedestrians, but this lighting also will be reduced or eliminated at night through controls.

- •Pedestrian pathway lighting will be used at steps, ramps, turns, important meeting points, or points of safety concern only. Lighting will not be continuous.
- •No lighting fixtures used for street lighting, area lighting, or path lighting will use a higher wattage lamp or lighting system than 150W.

#### Decorative Lighting

•Wall sconces, post-top lighting, pedestal lighting, or hanging lanterns used outdoors for decorative purposes will be limited to 750 lumens per luminaire unless they emit their light downward only. (400 lumens is the approximate light output of a 40W incandescent A19 bulb.)

## Façade Lighting

• Any façade lighting will direct 90% or more of its lumens toward the façade, allowing no more than 10% of the lumens to escape to the sky. Façade lighting will be minimal, using no more than the power allowed by the ASHRAE/ IESNA 90.1 2010 Energy Standard.

• Façade lighting will be shut off within 1/2 hour after curfew.

## Landscape Lighting

•Landscape lighting, if used, will use lamps emitting less than 1000 lumens (equivalent to a 20watts HID lamp.)

• All landscape lighting will be switched off within 1/2 hour after curfew.

Curfew

• In order to preserve the quiet and darkness of night, Silo Ridge will establish a curfew, after which decorative or unneeded lighting will be extinguished. As an example, curfew may be set not later than 11 pm during the week, and 1 am on weekends (Friday included) in order to allow residents and guests later hours for dinner, activities, and entertainment. Street, area, and path lighting could possibly be reduced within a set time after curfew.

# Lighting Control

•When sufficient daylight is available, outdoor lighting shall be controlled by a device that automatically turns off.

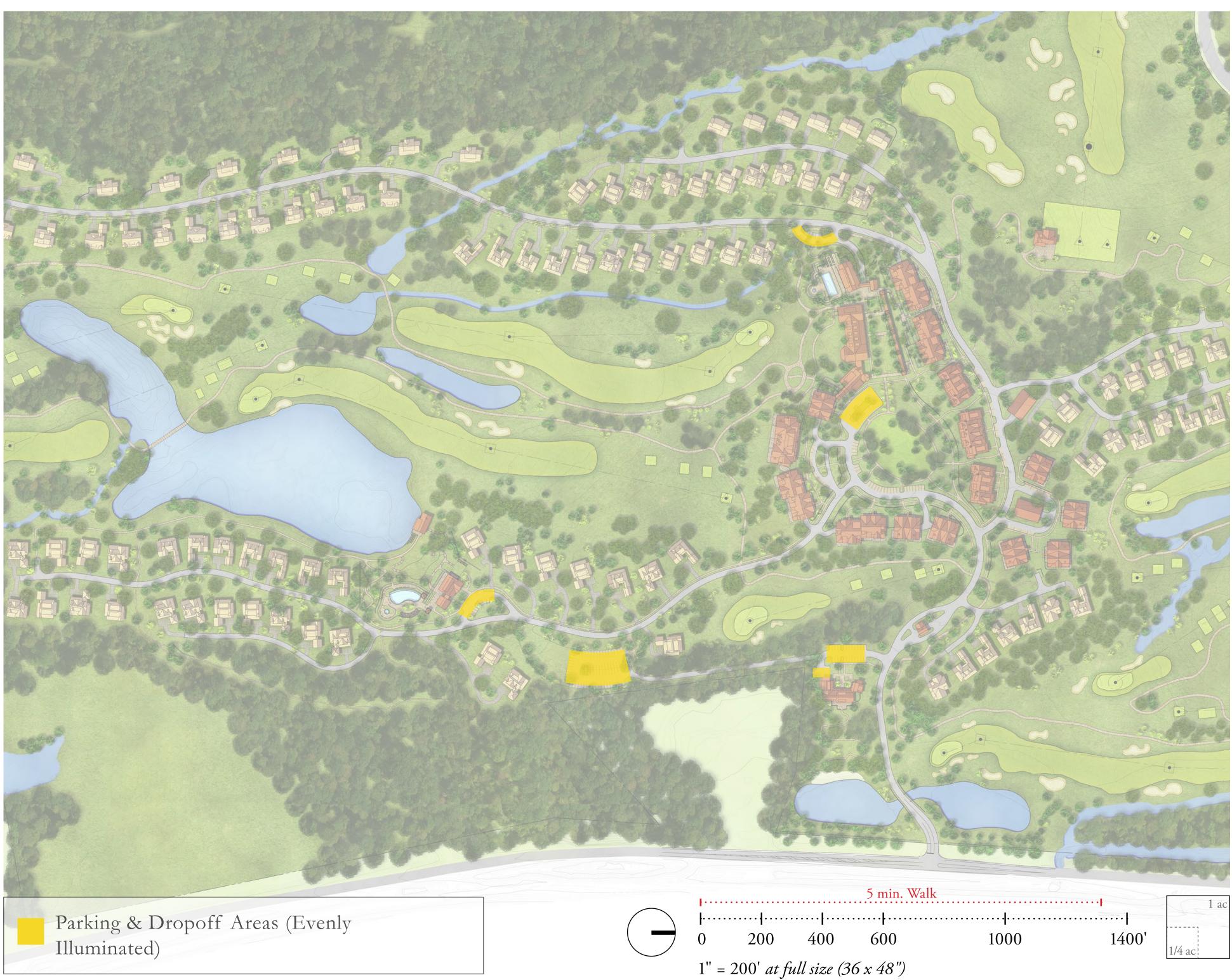
•All building facades, landscape and minor parking zone lighting shall be automatically shut off by photocells, motion sensors, presets or astronomical time clocks. Street lighting shall be completely turned off or step switching (some lights off) or dimmed after curfew. The luminaire to be controlled by automated devices shall be determined per the location and activity of that area.



Arm-Mounted Wall Sconce (Glowing)



Wall-Mounted Light Fixtures (Shielded)



**VILLAGE CORE LIGHTING PLAN** 



Pole-Mounted Light Fixtures



Pole-Mounted and Single (Bracket) Arm Light Fixtures







Bollard or Special Lighting







Hanging Pendant

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