

From: David Pauwels
Sent: Wednesday, December 21, 2022 11:20 AM
To: Scott Betzoldt
Cc: Josh Dickerson
Subject: RE: Ann Arbor light evaluation

Scott,

I visited Glacier Hills last night and checked out the area lighting. Below are some observations and assessment compared to the lighting standard we received on 12-8-22.

Parking lot - Assisted living facility at 1200 Earhart Rd Ann Arbor

1. Two fixture types(see attached pictures)
 - a. LED shoe box type fixtures on 25'(estimated) poles
 - b. LED decorative pole top fixture on 14'(estimated) poles
2. Both fixture types seem relatively new and seem to be in good working order
3. Entire parking lot seems to be on a sunset activated control to turn on
 - a. When I arrive(4:45pm) the zone by the main entrance was on, all other zones were off.
 - b. Around 5:05pm all zones turned on, except the main zone by the entrance turned off. It did not turn back on while I was on site.
4. Rear wing of facility is under renovation. This area is fenced off and not accessible.
5. Assessment against local lighting standard.
 - a. Minimum CRI of 70 – most likely conforms. Most newer commercial LED fixtures are 80+CRI. Check project submittals to verify.
 - b. All fixtures have CCT no greater than 3000k – Most likely does not conform. There are older fixtures on site using corn cob LED replacement lamps that are 5000k(see below). Based on observations of the new and old fixtures near each other the new fixtures appear to be 5000k. Check project submittals to verify. See attached picture.
 - c. Downward directed luminaires meet fully shielded criteria as to not cause light trespass or glare. Conforms. They are installed in locations that do not light trespass on any adjacent properties.
 - d. Horizontal or Upward are partially shielded.... Does not apply to area lighting at this site
 - e. Decorative illumination of building or landscaping is off between midnight and 6:00am. This was not assessed. There are a few landscape accent lights. Compliance with this should be accomplished through programming of lighting controls or with the use of timers on fixture circuit.
 - f. Floodlights are not aimed higher than 45 degrees and comply with shielding and light trespass limits in code. There are a few accent fixtures that appear to be aimed above 45 degrees and are unshielded. If facing the front doors, one example is on the left corner of the front wing.

Independent Living Duplexes and Park/Pond area

1. These two areas feature older metal halide fixtures that are retrofitted with LED corn cob lamps(lamp pic attached).
2. Fixtures are decorative post top on 14'(estimated) poles.
3. Assessment against local lighting standard.
 - a. Minimum CRI of 70 – Conforms. The lamps in use are 80CRI.
 - b. All fixtures have CCT no greater than 3000k – Does not conform. Attached pics of lamp packaging indicates 5000k.

- c. Downward directed luminaires meet fully shielded criteria as to not cause light trespass or glare. Conforms. They are installed in locations that do not light trespass on any adjacent properties.
- d. Horizontal or upward are partially shielded.... Does not apply to area lighting at this site
- e. Decorative illumination of building or landscaping is off between midnight and 6:00am. Does not apply to this area
- f. Floodlights are not aimed higher than 45 degrees and comply with shielding and light trespass limits in code. Does not apply to this area.

Please let us know if you have any questions or need any additional information.

Have a great Holiday break. We look forward to working with you in 2023 and beyond.

David Pauwels

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