

Green Communities Committee

March 9, 2022

Present: Mike Canales, Darrell Fennelly, Mike Buffoni, Miles Moffatt, Pat Flinn, Laura Dubester

Guest: George Woodbury

Minutes of 2/14 meeting: Approved – Pat moved, Mike seconded; approved unanimously.

Streetlight Project Review – Updates:

Timeline:

- Purchase from National Grid: Waiting for final documents from National Grid
- Contract with DOER is in process
- Fixtures – selection (this meeting will finalize); once finalized George will complete the paperwork; Michael will sign; George will file forms with National Grid – then can proceed with ordering fixtures

Fixture Selection Factors: We have reviewed most of these and this is the confirmation step.

Fixture Selection Considerations

Temperature: AMA and Dark Skies recommend 3,000 K – warmer appearing fixture; 3000k is preferred by the public. In general, DPWs, police and Fire prefer 4,000 K as it provides slightly faster object recognition but at low speeds this becomes negligible.

Glare - The single biggest complaint about LED lights is glare. The effects of glare are exacerbated by higher color temperatures and setting fixture brightness too high. George recommends erring on low side and then move up through internal adjustability. Each fixture will be set to operate at its mid-range which provides the flexibility to increase or decrease output and allows the same fixture to be used in multiple applications thus reducing maintenance spare stockage levels and simplifying maintenance; can use on a street needing higher and lower output; keeps simple and then can adjust. ↘ After looking at several fixtures the committee selected a fixture specifically designed to reduce glare.

Uniformity: LED lights can be selected with a variety of distribution patterns

Lighting Pattern:

Type 2: elongated

Type 3: elliptical – better for intersections

Type 5: circular

George recommended the elliptical for Stockbridge. Lights are spaced far apart and the lighting is more controlled. Consensus of Committee.

George demonstrated and explained the differences among 3 manufacturers:

Cree fixture: (you don't see the LED's): you see a prismatic device; most energy efficient warm temp light at the time (heat is the problem) – pleasant appearance – About \$180/fixture. MORE DARK SKY COMPLIANT and better control of light pattern; less light trespass. Longest lead time and most expensive (about \$20-\$25 per fixture). Michael said that lead time is not an issue right now. Least impactful in terms of light/change, etc.

LeoTech: standard and then with diffuser; about \$160; NGRID bills on a 50W tier – incentive will increase.

Cree Treveo: lower cost; nice light – pushes light out further - \$130 (no glare reduction)

Dim4 Control: The Dim 4 control provides for automatic dimming of the lights after hours. Generally people cannot detect up to 30% dimming. The Dim 4 would dim the lights by 50% from 11PM until 5AM daily. This helps reduce impact on wildlife and reduces potential light intrusion. This is being done for over 20,000 lights in New England and to date no one has called or apparently even noticed it is being done. It reduces overall energy consumption by 26%. In addition, it increases the incentives from NGRID and the way NGRID will bill for fewer operating hours thus the ROI is good. There can be 1 set-back (e.g. 11PM-5 AM). The dimulator would be pre-set.

Michael noted that in the short-term, we will see an increase in solar credits instead of a reduction in electricity costs.

Decision Summary

3,000 K

Elliptical shape

Less Glare

Dimulator for part night dimming

Cree RSW fixture

A vote was taken and Cree was selected.

George shared that his company has been saving MA communities \$100,000,000 / year and reduced electricity consumption by 500,000,000 KWH/year in a total of 131 communities

Decorative Fixtures – The cost is extremely high (FIRST AFFECTED BY SALT); What can we afford? George is going to inspect and send photos to a company to determine repair cost.

He also mentioned that the old 'admiral's hat' fixtures can be provided to a company in Worcester that repurposes them at no cost. (This is typically an installer responsibility).

Meeting adjourned at approximately 11:30 am.

Respectfully submitted, Laura Dubester, Chair