

Appendix C

Visual Effects Analysis

Visual Effects

Visual effects are based on the extent to which a project would either produce light emissions that create annoyance or interfere with activities, or contrast with, or detract from, the visual resources and/or visual character of the existing environment.¹

Affected Environment

Light Emissions - Existing sources of light within the Project areas include runway and taxiway lighting, Precision Approach Path Indicator (PAPI) lights, Medium Intensity Approach Lighting System with Runway Alignment Identifier Lights (MALSR), and roadway lighting (**Figure 1**).

Visual Resources and Character – Viewsheds within the four Project areas include a mix of paved roads with utility poles, runways and taxiways with associated lighting, navigational aids, airport buildings, mowed lawn areas, forested areas, and shallow emergent marsh and shrub swamp wetland areas (**Figure 1**).

Project Area 1: Viewsheds in Project Area 1 consist of runways and taxiways with associated lighting, mowed lawn, forested areas, airport navigational aids, obstruction light tower, airport buildings and fencing, roadways, and a cemetery.

Project Area 2: Viewsheds in Project Area 2 consist of runways and taxiways with associated lighting, mowed lawn, and runway / taxiway areas with associated lighting, airport buildings, navigational aids and forested areas.

Project Area 3: Viewsheds in Project Area 3 consist of runways and taxiways with associated lighting, mowed lawn, runway / taxiway paved areas, airport buildings, gravel roads, MALSR light towers with associated foundations and fencing, paved roadways with utility poles, and forested areas.

Project Area 4: Viewsheds in Project Area 4 consist forested areas, mowed lawn, gravel roads, MALSR light towers with associated foundations and fencing, paved roadways with utility poles, shallow emergent marsh and shrub swamp wetland areas, and power lines.

Environmental Consequences

No-Action Alternative

Runway safety area improvements would not take place with this alternative. As a result, there would be no impacts related to light emissions or viewsheds.

Proposed Project

Light Emissions

The Project requires the Runway 6 end be displaced 193' to bring the RSA into compliance with federal design standards. This displacement may require the reconfiguration of the Runway 6 end MALSR system with associated grading. It is anticipated that the reconfiguration would require at least three new light towers, removal of at least three light towers, and height modification of six light towers. For the purposes of this EA the worst case is assessed and includes the replacement of 13 MALSR light towers and installation

¹ 1050.1F Desk Reference, page 13-1.

of one new light tower with associated grading, foundation, and fencing. Other potential lighting impacts are related to the relocation of the PAPIs. **Figure 1** shows three areas that would be sensitive related to light emission impacts on the Runway 6 end (residential areas, Stanley Still Sr. Town Sports Park, and Knapp Historic Site).

Project Area 1: Project Area 1 involves filling, re-grading, and removing uneven paved areas in the Runway 24 RSA. No changes to existing lighting will take place, and does not introduce new lighting. As a result, there will be no light emission impacts in this Project Area.

Project Area 2: Project Area 2 involves relocating the PAPIs 193 feet to the east, further away from residential areas, and remains entirely on airport property. The project replaces existing NAVAIDs and would not introduce new lighting. As a result, no light emission impacts are expected in this Project Area.

Project Area 3: Project Area 3 involves the installation of one new MALSR light tower (includes grading, foundation, fencing), the replacement of one existing MALSR light tower, installation of an in-pavement light bar, and new conduit. In addition, re-marking and re-lighting will be required on the Runway 6 end.

The replacement of one MALSR light tower and installation of one new MALSR light tower are currently located adjacent to existing lighted areas (i.e., runways, taxiways, roads, NAVAIDs, etc.) on airport property. The MALSR lights are installed facing outwards towards the direction of arriving aircraft. Areas that would be sensitive to light emissions are located adjacent to the project area (residential, Section 4(f) resources-Knapp Historic Site, Stanley Still Sr. Town Sports Park). The sensitive areas are located at a lower elevation than the Runway 6 end and trees provide a screen between the MALSR system and these areas. As a result, no light emission impacts are expected in this Project Area.

Project Area 4: Project Area 4 involves replacing 12 MALSR light towers (includes grading, foundation, fencing), the removal of four existing MALSR light towers and foundations, and new conduit. In addition, a portion of the MALSR gravel access road will be relocated.

The MALSR light towers will be replaced and are currently located adjacent to existing lighted areas (i.e., runways, taxiways, NAVAIDs, roads, etc.) on airport property. The MALSR lights are installed facing outwards towards the direction of arriving aircraft. Areas that would be sensitive to light emissions are located adjacent to the project area (residential, Section 4(f) resources-Knapp Historic Site, Stanley Still Sr. Town Sports Park). The sensitive areas are located at a lower elevation than the Runway 6 end and trees provide a screen between the MALSR system and these areas. As a result, no light emission impacts are expected in this Project Area.

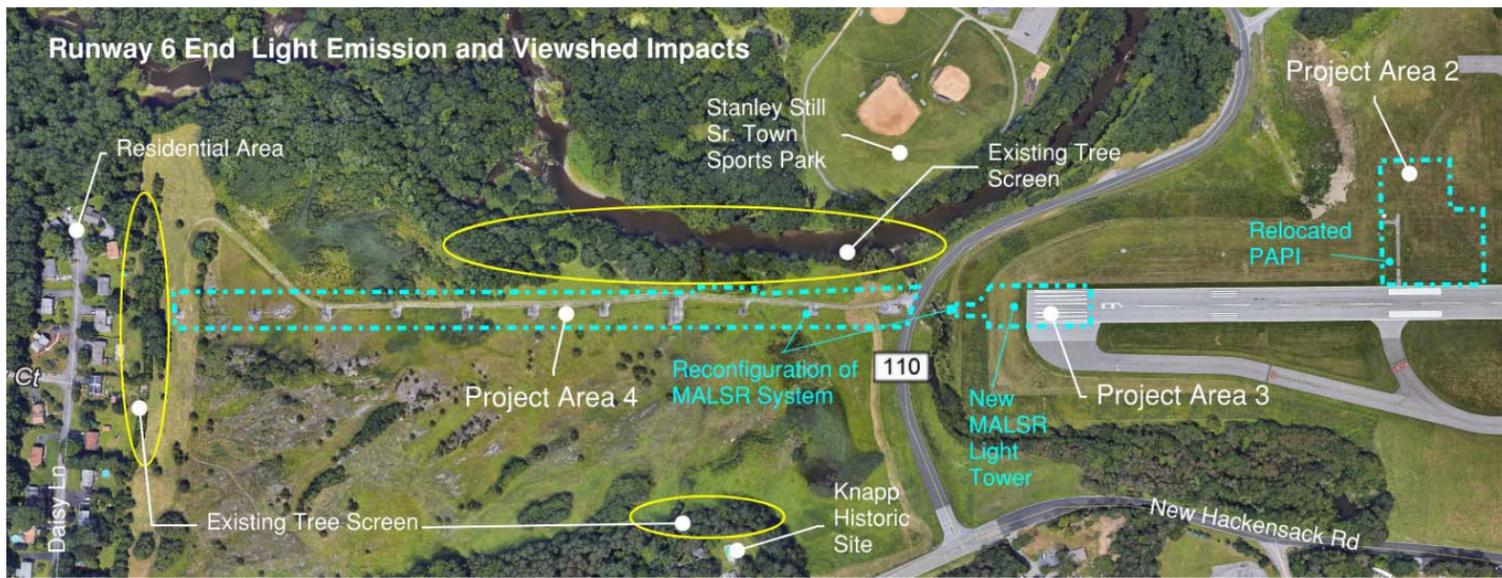
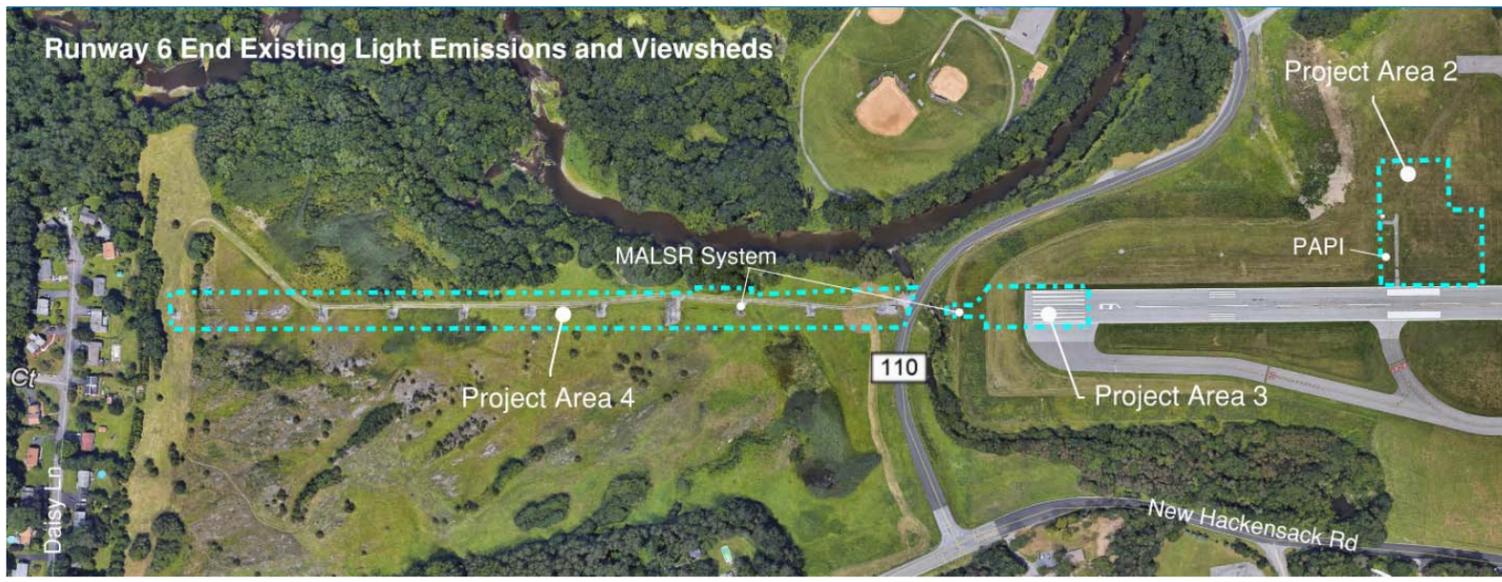
Visual Impacts

No visual impacts are expected on the Runway 24 end since no changes to existing viewsheds will take place (**Figure 1**). The existing MALSR system on the Runway 6 end includes 13 light towers that range from 147 feet high to 180 feet high at the outermost limits (2,400 feet out from the runway end). The Proposed Project includes replacing existing light towers in the same locations at similar heights. One new light tower will be installed adjacent to the Runway 6 end. Since the MALSR light towers remain in the same locations and similar heights no visual impacts are expected. In addition trees provide screens between the Proposed Project and sensitive areas (residential, Section 4(f) resources-Knapp Historic Site, Stanley Still Sr. Town Sports Park).

Summary

The Project lighting will not create an annoyance for people in the vicinity or interfere with normal activities, including work and recreation. Nor will the Project affect, obstruct, substantially alter, or remove visual resources including buildings, historic sites, or other landscape features, such as topography, water bodies, or vegetation, that are visually important or have unique characteristics. As a result, no significant light emission or visual resource impacts are expected and no mitigation measures are recommended.

Figure 1: Runway 6-24 Existing Light Emissions and Viewsheds & Impact Analysis



Source: Google Earth, 2021 and C&S Engineers, Inc.