Northern Arizona University
Master Site Lighting Plan
LIGHTING MASTER PLAN

Goals and Objectives

• Provide safe night environment

• Bring exterior lighting system into compliance with current Flagstaff Outdoor Lighting Code

• Unify and improve campus identity & aesthetic

• Eliminate overhead wiring

• Standardize system components to simplify & economize maintenance

• Establish common power sources and controls grid site lighting
Northern Arizona University

LIGHTING MASTER PLAN

Campus Impact

• Phasing & priorities for relighting projects should be coordinated with Campus Master Plan.

• Relighting should be coordinated with any paving projects planned for parking lots, pedways, or roadways.

• New building projects should correct deficiencies & power any parking lots, pedways, or roadway lighting systems adjoining or serving their site.

• New building construction projects should follow any new NAU Technical Standards even if design is under way.
## LIGHTING MASTER PLAN

Exterior Lighting Matrix North Campus

### Table: Exterior Lighting Matrix North Campus

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### Legend:

- **Environmental Safety Concerns**:
  - Extreme
  - High
  - Medium
  - Low

- **Lighting Code Compliance**:
  - Prohibited Source
  - Non-Cutoff
  - Semi-Cutoff/Non-LPS
  - Compliant

- **Night Activity Level**:
  - Heavy
  - High
  - Intermittent
  - Low

- **Maintenance / Appearance Issues**:
  - C/H Wireless
  - Atypical/Unusual Components/Misc.
  - No Apparent Concerns

- **Priority Level**:
  - Phase 1 (1st Year)
  - Phase 2
  - Phase 3
  - No Work Req’d.

### Notes:

1. Area to be rebuilt during Phase 1 building construction project.
2. Area to be rebuilt during Phase 2 building construction project.
3. Area to be rebuilt during Phase 3 building construction project.
## Lighting Master Plan

**Exterior Lighting Matrix South Campus**

### Legend
- **Environmental Safety Concerns**
  - **Extreme**
  - **High**
  - **Medium**
  - **Low**

- **Lighting Code Compliance**
  - **Prohibited Source**
  - **Non-Cutoff**
  - **Semi-Cutoff/Non-LPS**
  - **Compliant**

- **Night Activity Level**
  - **Heavy**
  - **High**
  - **Intermittent**
  - **Low**

- **Maintenance/Appearance Issues**
  - 0/1 LINNC
  - Atypical/Unusual Components/Misc.
  - No Apparent Concerns

- **Priority Level**
  - Phase 1 (1st Year)
  - Phase 2
  - Phase 3
  - No Work Req'd

### Priority / Notes
- **P31A**
- **P32**
- **P32A**
- **P32B**
- **P32C**
- **P32D**
- **P33**
- **P34**
- **P35**
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- **P69A**
- **P70**

### Notes:
1. Area to be rebuilt during Phase 1 building construction project.
2. Area to be rebuilt during Phase 2 building construction project.
LIGHTING MASTER PLAN

Strategies & Phasing (Year One)

• Relight areas that are an extreme level of concern as prioritized in Matrix & Phasing Plan.

• Replace mercury vapor and non-cutoff fixtures with code compliant full cutoff fixtures.

• Develop a palette of materials that will become part of NAU’s Technical Standards.

• Charge new building construction projects to establish common power sources and controls for nearby site lighting.
LIGHTING MASTER PLAN

Strategies & Phasing (Phase I)

• Relight areas that are a high level of concern as prioritized in Matrix & Phasing Plan.

• Replace any remaining mercury vapor and

• Replace non-cutoff fixtures with code compliant full cutoff fixtures.

• Install white-light luminaires at relit roadway crosswalks.

• Replace overhead wiring with underground.
LIGHTING MASTER PLAN

Strategies & Phasing (Phase II)

• Relight areas that are a medium level of concern as prioritized in Matrix & Phasing Plan.

• Replace Semi-cutoff / non-LPS fixtures with code compliant full cutoff fixtures.

• Install white-light luminaires at relit roadway crosswalks.

• Replace any remaining overhead wiring with underground.
LIGHTING MASTER PLAN
Strategies & Phasing (Phase III)

• Relight areas that are a medium level of concern as prioritized in Matrix & Phasing Plan.

• Relight areas that are a low level of concern as prioritized in Matrix & Phasing Plan.

• Replace any remaining non-LPS fixtures with code compliant full cutoff fixtures.

• Install white-light luminaires at any remaining roadway crosswalks.

• Replace any light fixtures that do not comply with NAU’s Technical Standard - Palette of Materials developed in Phase 1
Northern Arizona University

LUMINAIRES

LIGHTING MASTER PLAN

Luminaires
**Kim Theory of Relativity**

The Relationship of Outdoor Lighting to Site and Architecture

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**KIM THEORY OF RELATIVITY**

The purpose of this guideline is to bring a cohesive look to outdoor lighting, maximizing lighting efficiency while preserving the architectural experience. Simply stated, the Kim Theory of Relativity says, “Poles balking in parking lots. And, once you leave the parking lot, the outdoor lighting should become less and less conspicuous until it becomes an integral part of the architecture.” In addition, the luminaire style and geometry should remain consistent. If this guideline is followed, the outdoor lighting will enhance the site and architecture, bringing unity to the outdoor lighting scheme.

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**SITE / ROADWAY ZONE**

Parking lots and roadways require luminaires on 20'-40' poles to efficiently light these large areas. Therefore, the lighting becomes dominant, and sets the design and style for all other lighting as you progress towards the building.

**PEDESTRIAN ZONE**

As you leave the parking lot and transition to pedestrian areas, poles should decrease in height to 10'-16'. In addition, luminaires should decrease in size, and can have more decorative features to be appreciated at the pedestrian level.

**LANDSCAPE / PATH ZONE**

Near the building, luminaires should begin to disappear, blending into the landscape and hardscape elements.

**BUILDING / PERIMETER ZONE**

Pole mounted luminaires should only be used near the building, as they will dominate the architecture. The only exception would be the use of decorative luminaires to delineate entrances to the structure. Building mounted, architecturally compatible fixtures should be almost invisible.

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**Luminaires**

- AFL: Architectural Floodlight
- WF: Wall Forms
- WD: Wall Director
- RA25 Large Era
- RA17 Small Era
- VRR: Vandal Resistant Rollard
- LTV: Lightvault
LIGHTING MASTER PLAN
Luminaires