

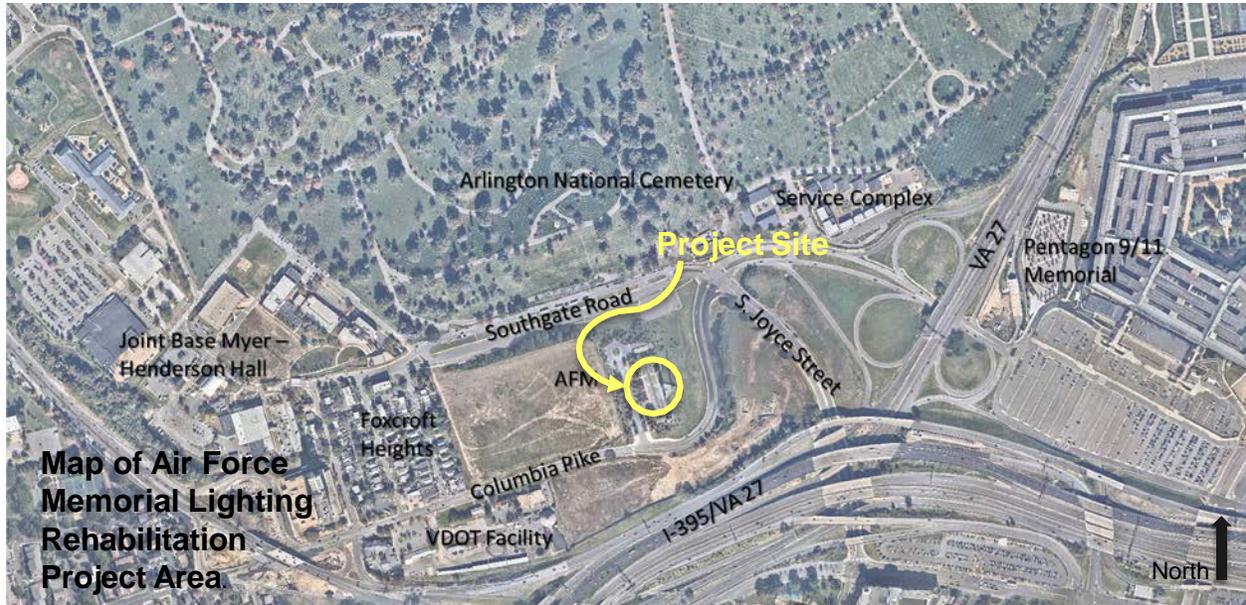
Map view of Washington D.C. and its vicinity.

Arlington National Cemetery and Air Force District of Washington

Air Force Memorial Lighting Rehabilitation Arlington, Virginia

PROJECT DESCRIPTION, AREA OF POTENTIAL EFFECTS, and ASSESSMENT OF EFFECT

January 5, 2021



**Map of Air Force Memorial Lighting Rehabilitation Project Area**

**Lighting Rehabilitation Consists of Three Components:**

- 1- Banks of Luminaires lighting the length of the three Spires
- 2- In-ground, flush luminaires for the base of the memorial Spires, N/S Granite Walls, and Honor Guard Statute
- 3- Specialty internal lighting of the Glass Contemplation Wall and star points in the ground beneath the Spires.



**Project Site**

Arlington National Cemetery (ANC) and Air Force District of Washington (AFDW) are co-leads on this project. We propose rehabilitation of the lights illuminating the Air Force Memorial. The project includes two banks of lights mounted on stanchions; in-ground flush-mounted luminaires for the base of the memorial Spires; in-ground flush-mounted luminaires for the granite walls and the Honor Guard Statute; specialty internal lighting of the glass Contemplation Wall and the star points under the Spires.

The reason for the change is to replace dimming bulbs, irreparable fixtures and numerous incorrectly mounted ground fixtures. Additionally, the project replaces lighting components no longer manufactured or not readily available in the USA. The proposed project replaces the in-place bulbs and existing fixtures for approximate 185 different fixtures and associated light mechanisms.

Original pavers, removed to accommodate the work, will be carefully lifted and salvaged for reinstallation. A small number of pavers may need to be replaced due to new flush mounted fixtures requiring different placement in the paver section. Matching granite pavers will replace those cut for any new flush mounted fixtures on the ground lighting at the north and south granite walls and Honor Guard Statute.

The project results in the removal of tripping hazard and improves pedestrian movement with the memorial. The proposed rehabilitated lighting results in safer walks for pedestrians and upgrades the memorial to more fully meet the American with Disabilities Act standards.

Additional benefits of the rehabilitation include increased energy efficiency and improved aircraft ability to see-and-avoid the Spires.

## AREA OF POTENTIAL EFFECTS

### AREA OF POTENTIAL EFFECTS

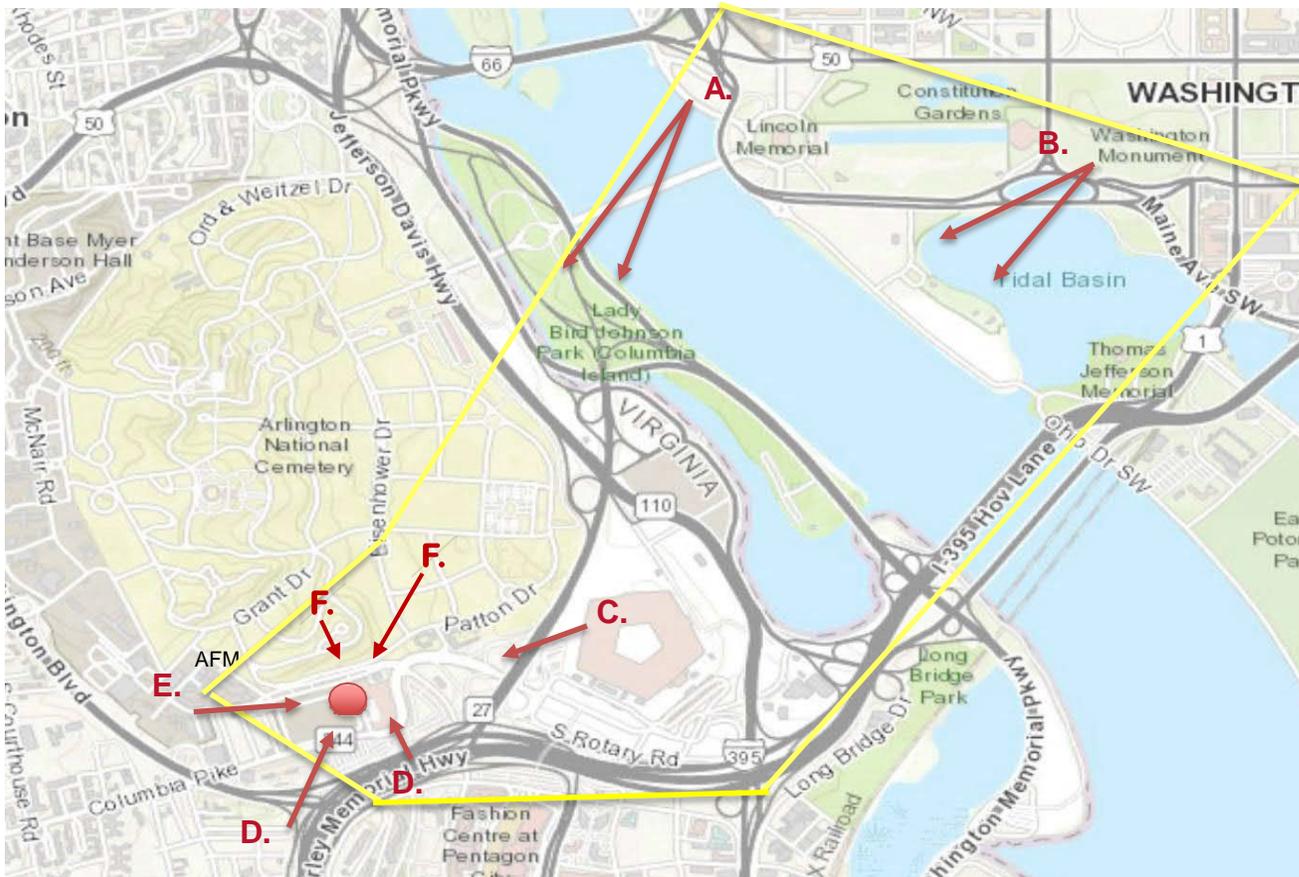
The Area of Potential Effects (APE) for the proposed Air Force Memorial (AFM) Lighting Rehabilitation is shown in yellow on the image to the left. The Spires of the memorial are visible from:

- Northeast: (A.) Watergate Steps at the Lincoln Memorial and Memorial Bridge
- North Northeast: (B.) Washington Monument and West Potomac Park.
- East: (C.) Pentagon and its S. Parking.
- South: (D.) I-395/VA 27. Exit off of the 14<sup>th</sup> Street Bridge (I-395 bridge) and Metrorail bridge across the Potomac River. Areas of Crystal City / Pentagon City from the higher floors of the city buildings.
- West: (E.) Sheridan Hotel higher floors and some of the Foxcroft Heights neighborhood homes.
- North: (F.) Arlington National Cemetery.

### NATIONAL REGISTER PROPERTIES IN THE APE

The historic properties in the APE's which contribute to Memorial Bridge, Arlington National Cemetery, and Robert E. Lee Memorial (Arlington House) National Register (NR) Districts are:

- Arlington National Cemetery** (DHR # 000-0042)
- Arlington Memorial Bridge and related features** (NR # 80-000346)
- Memorial Avenue** (DHR # 000-0014) (also part of the Arlington Memorial Bridge National Register)
- Washington Monument** (#66-000-035)
- Lincoln Memorial and Watergate Steps** (#05000540)
- U.S. Air Force Memorial** (DHR ID:000-9821) determined eligible 2019



## **DETERMINATION OF EFFECTS**

I assessed the effects of the proposed Air Force Memorial Lighting Rehabilitation using the criteria of adverse effects (36 C.F.R. § 800.5[a][1]) and found the project will have No Adverse Effect on:

- the Air Force Memorial (a property eligible for listing on the National Register of Historic Places),
- Arlington National Cemetery National Register of Historic Places District,
- Arlington Memorial Bridge (part of the Arlington Memorial Bridge National Register of Historic Places District)
- the Washington Monument (a National Register of Historic Places listed property),
- and the Lincoln Memorial (a National Register of Historic Places listed property)

The design avoids and minimizes the potential direct, indirect, and cumulative effects on the above-ground National Register eligible and listed historic properties on the previously disturbed below-ground properties and

To preserve the visual qualities of landscape features specific to the Air Force Memorial, Arlington National Cemetery and the Air Force District of Washington will use luminaires and fixture materials which support the original design intent.

The Air Force Memorial Lighting Rehabilitation has no potential to effect archaeological resources. This project disturbs land previously disturbed in the 2003 -2006 construction of the Air Force Memorial. Ground disturbing activities are limited to 24 to 36 inches of previously disturbed soil below the existing grade within approximately 1,584 square feet (0.036 acres) on the Air Force Memorial installation proper.

Rebecca L. Stevens  
Cultural Resources Manager  
Arlington National Cemetery

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Chief Engineer  
Air Force District of Washington

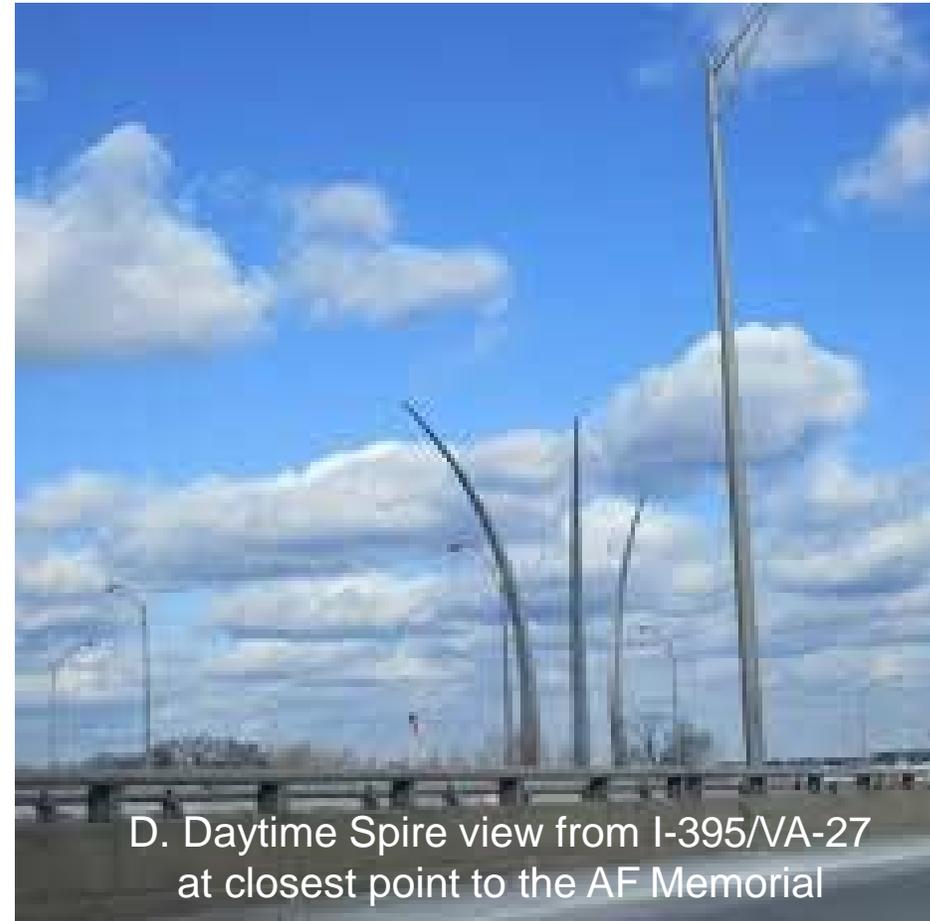
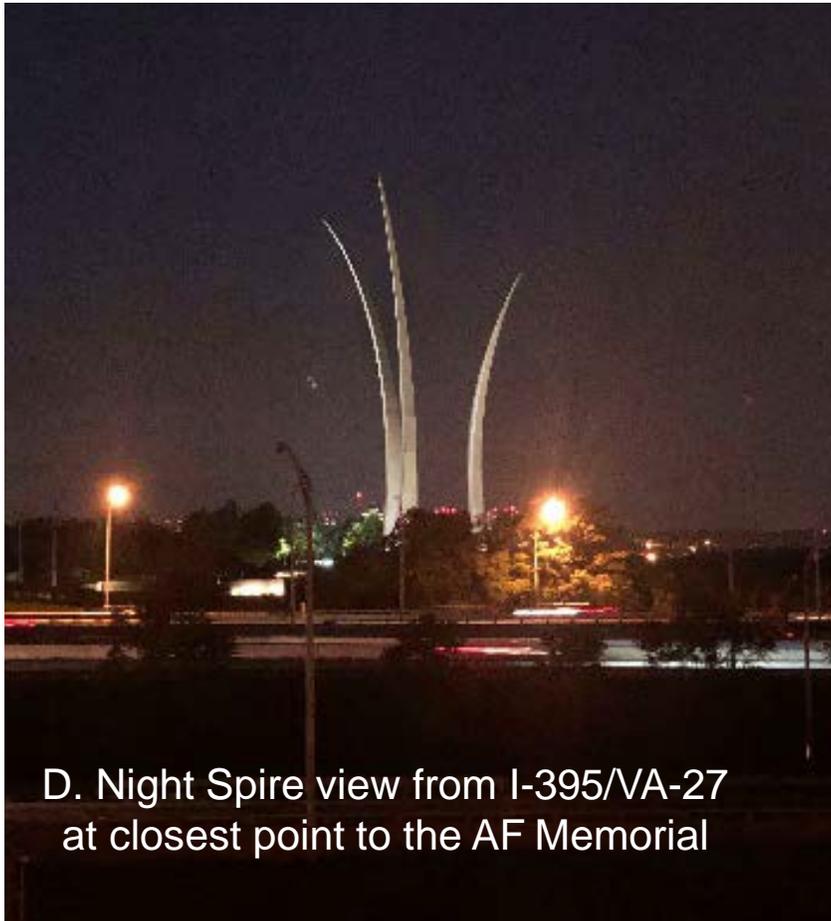


Views from Washington DC toward Virginia to the south.

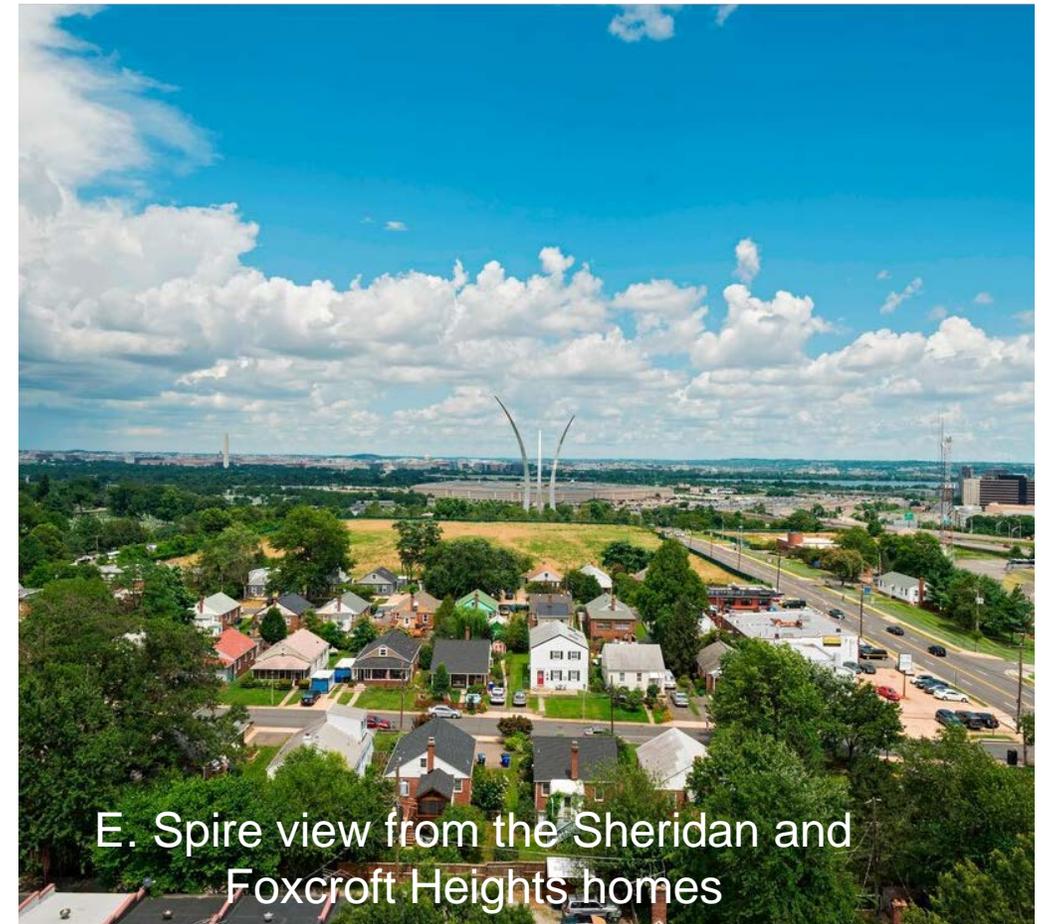
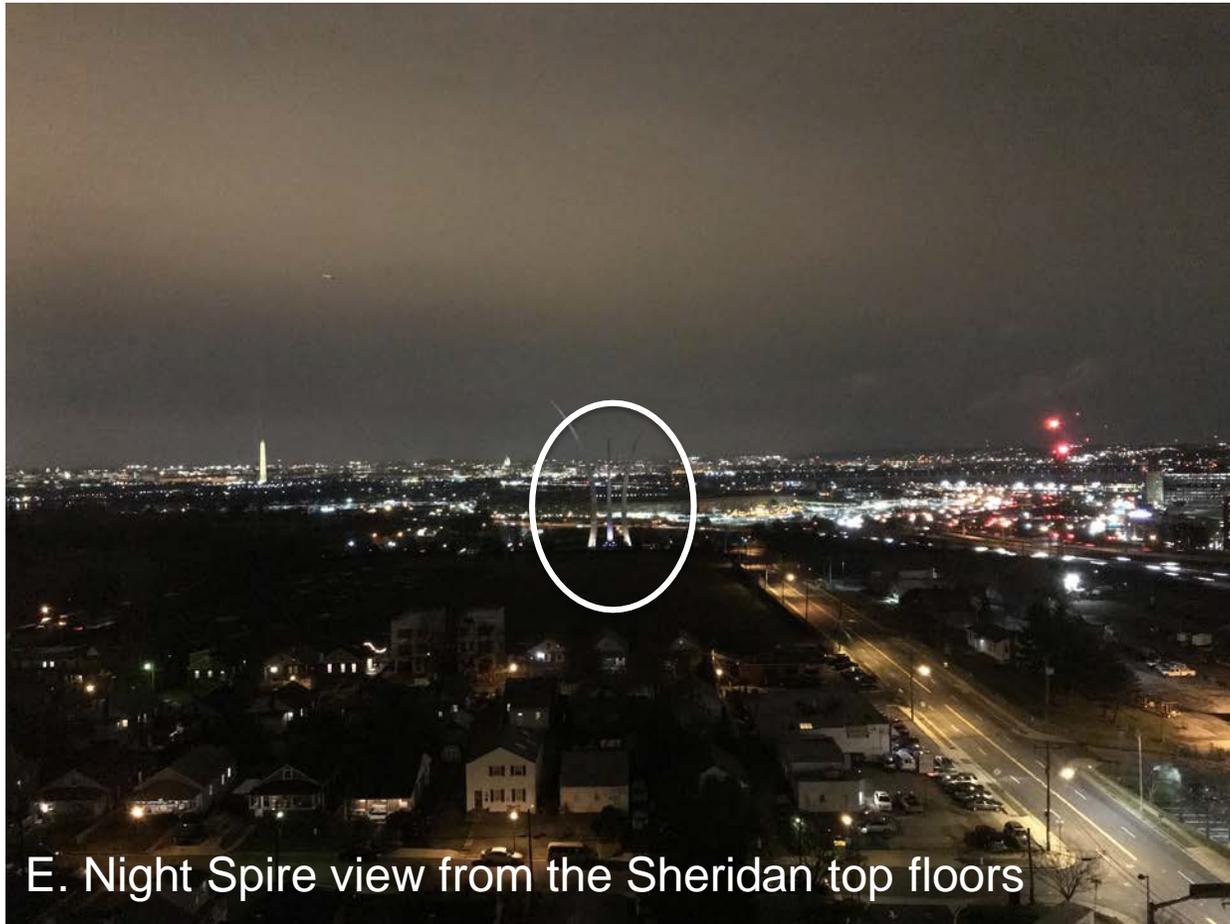


C. Aerial view Pentagon to AF Memorial

Views from Pentagon (East) of the Air Force Memorial



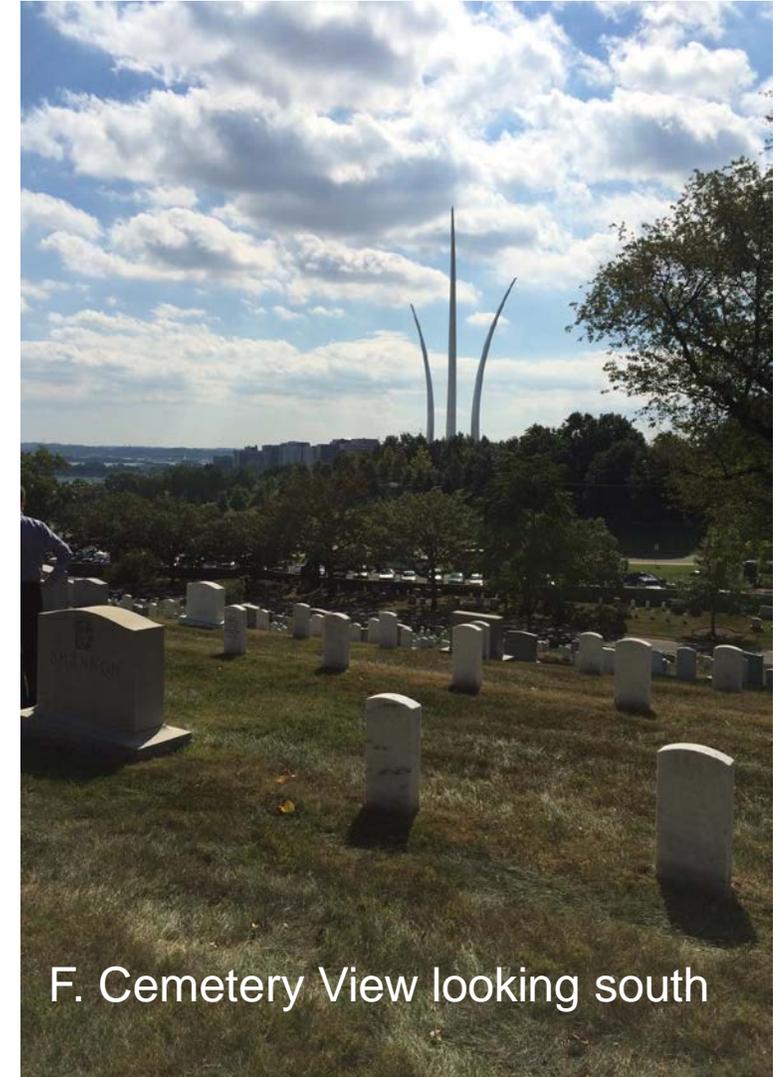
Views from I-395/VA-27 (southerly) of the Air Force Memorial



Views from Sheraton Pentagon City (west) of the Air Force Memorial

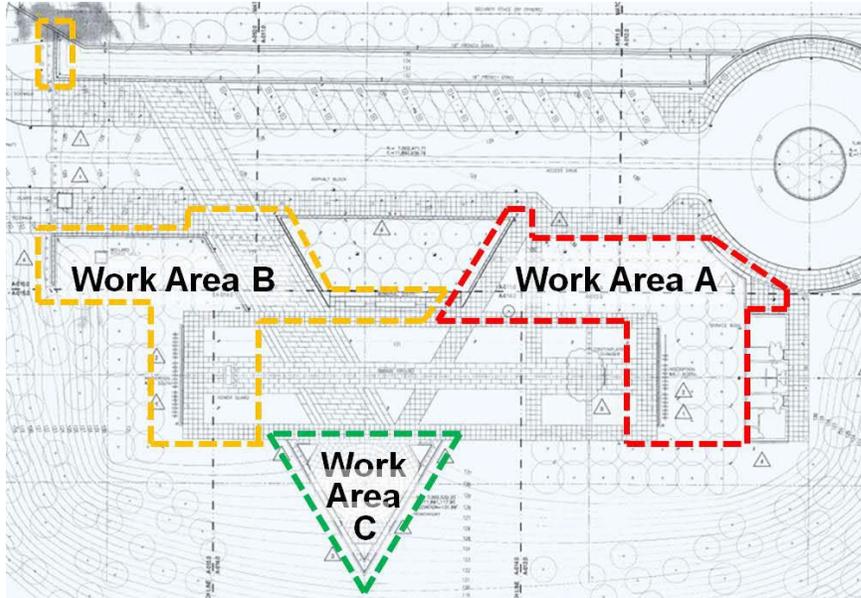


F. Cemetery View looking southwest



F. Cemetery View looking south

Views from Cemetery to the Air Force Memorial



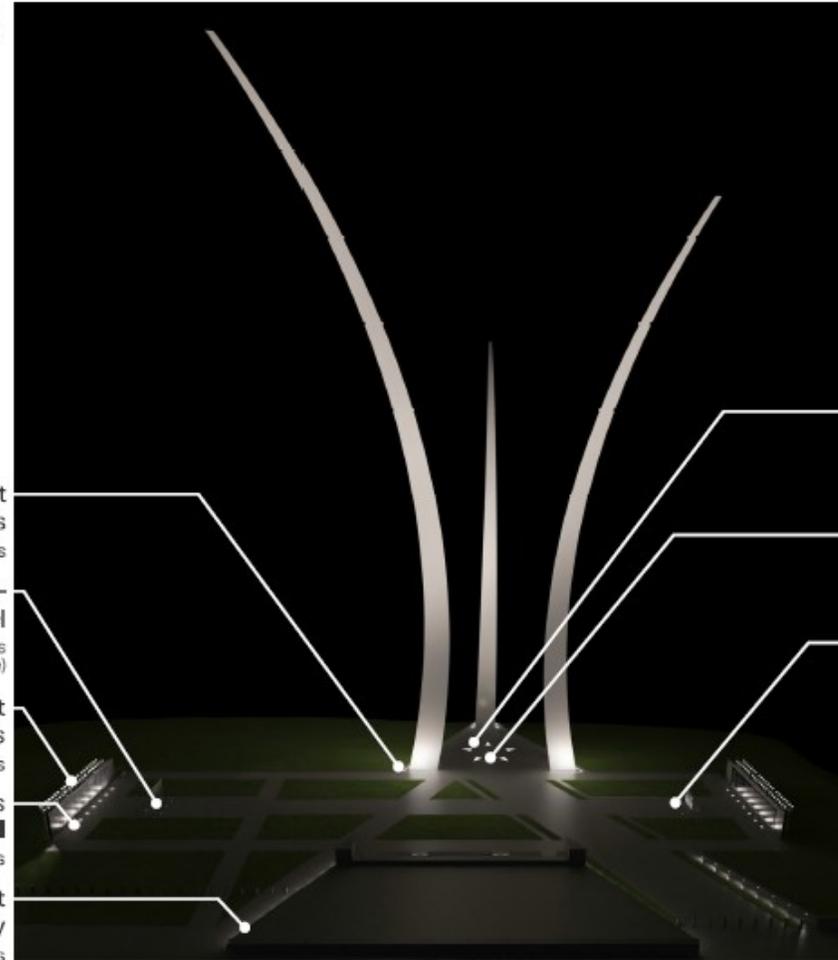
*Phased work approach occurs in the 0.036 acres.*

*Banks of lights are in Work Area A and B.*

*Ground Luminaires are in all work areas.*

Lighting Updates

- Ground mounted up-light  
Light lower outside of spires  
AL-20 Fixtures
- Recessed continuous light bar  
Internally lights the glass panel  
AL-15 Fixtures  
(Excluded from current scope)
- Above ground directional up-light  
Lights upper portion of spires  
AL-25 Fixtures
- Recessed in-grade fixtures  
Lights vertical granite inscription wall  
AL-10 Fixtures
- Wall-recessed floor wash light  
Lights memorial walkway  
AL-16 Fixtures



- Recessed in-grade up-light  
Lights lower inside of spire  
AL-21 Fixtures  
(Excluded from current scope)
- Recessed in-grade up-light  
Lights lower inside of spire  
AL-22 Fixtures
- Recessed in-grade fixtures  
Light honor guard statuary  
AL-10 + AL-22 Fixtures
- In addition:  
Recessed in-grade fixtures  
Light flag poles  
AL-24 Fixtures  
Recessed in-grade fixtures  
Entrance wall illumination  
AL-10 Fixtures



Existing Fixture  
Erco Lighting  
"Beamer IV"



Proposed Fixture  
Acclaim Lighting  
Dyna Drum HO White

Spire 1 Test (approx. distance = 50 feet)



Existing Fixtures Only



Test Fixtures Energized

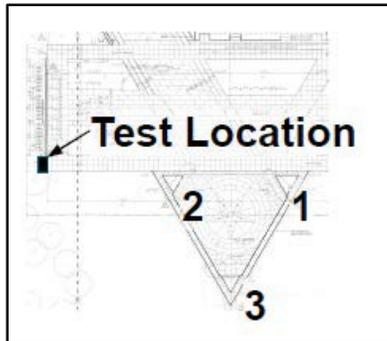
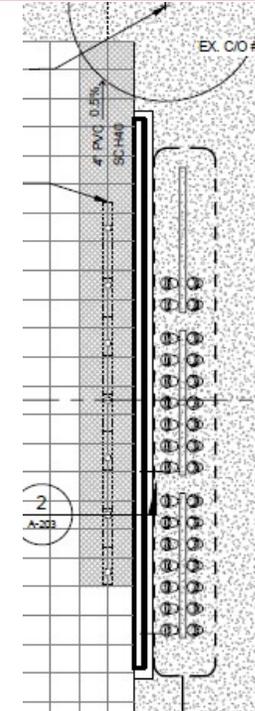
Spire 2 Test (approx. distance = 1/2 mile)



Existing Fixtures Only



Test Fixtures Energized



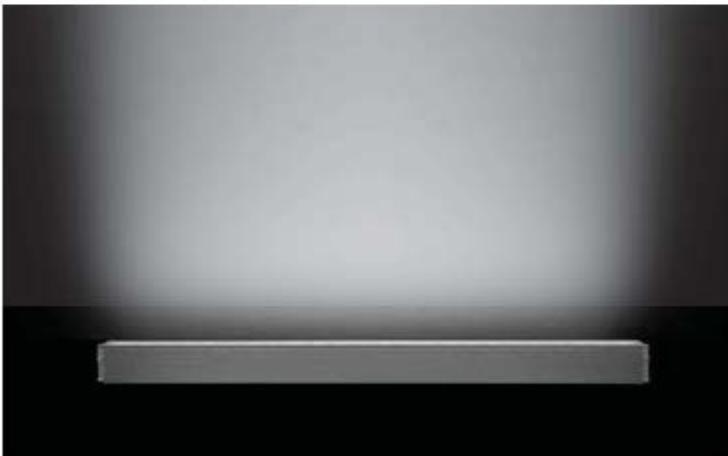
*Rehabilitate existing fixtures on stanchions behind the granite walls north and south of the plaza.*

*Illuminates Spires as intended in the original design. lights.*

U.S. AIR FORCE MEMORIAL



EXISTING FIXTURES



PROPOSED replacement

Specification Sheet

**lumenfacade**

Inground  
LOI

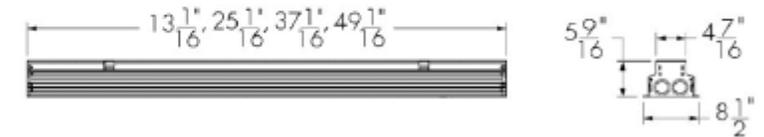
WHITE AND STATIC COLORS

Project Name \_\_\_\_\_ Qty \_\_\_\_\_

Type \_\_\_\_\_ Catalog / Part Number \_\_\_\_\_



Top view



Front and side views

*Changes to existing fixtures eliminates the above ground canisters at the base of the Spires. Uses LED luminaire designed for ground-recessed lighting applications.*

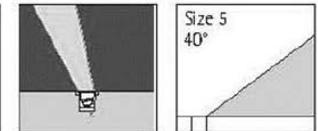
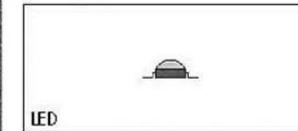
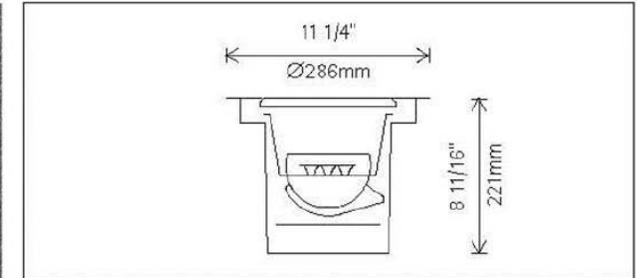
Existing Fixture A-22 – Non-Directional Accent Light (in-ground mount)



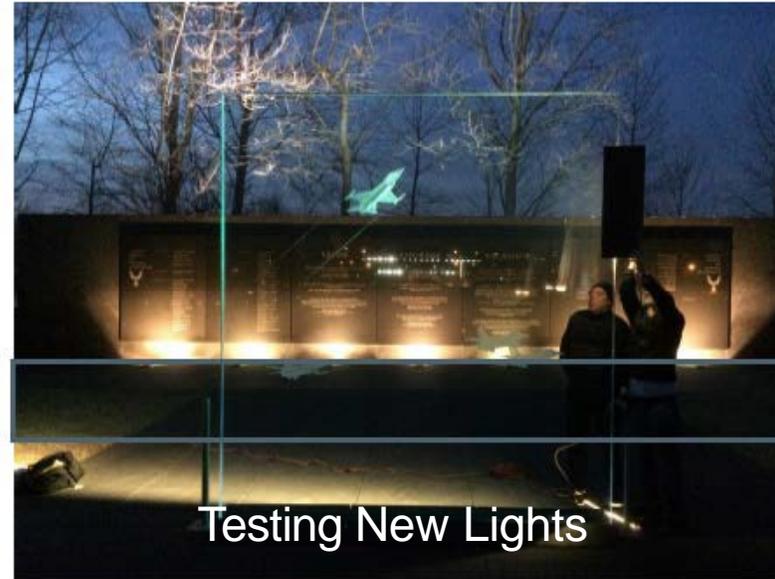
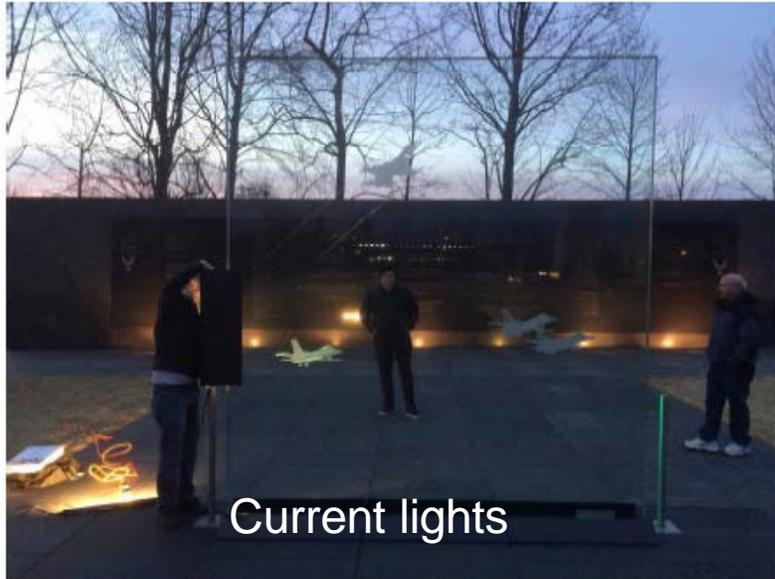
**ERCO**

**Tesis In-ground luminaire**

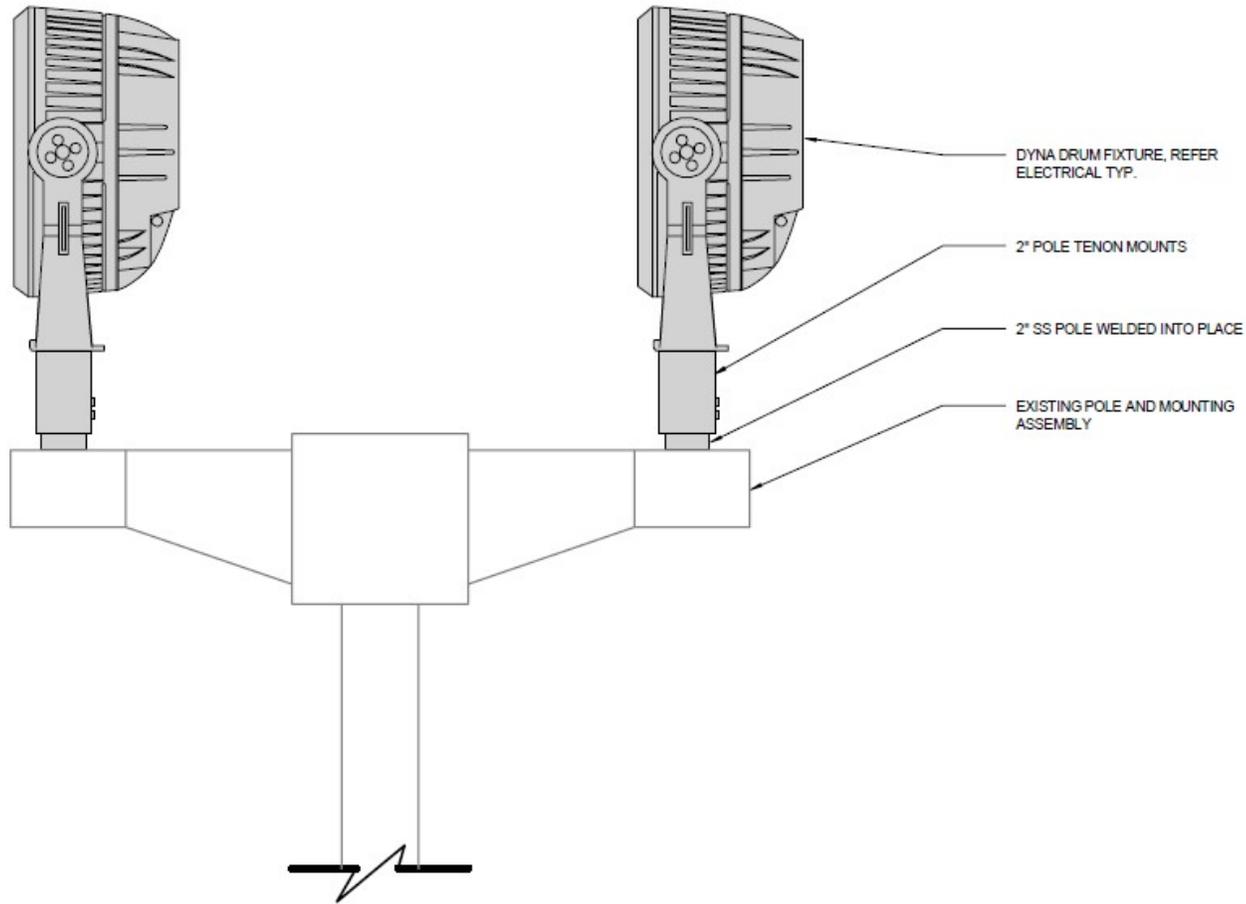
Directional luminaire



*Example of flush mounted fixtures which will replace existing. Existing fixtures improperly installed along granite walls and Honor Guard Statute. Luminaires are LED and directional designed for ground-recessed lighting application.*

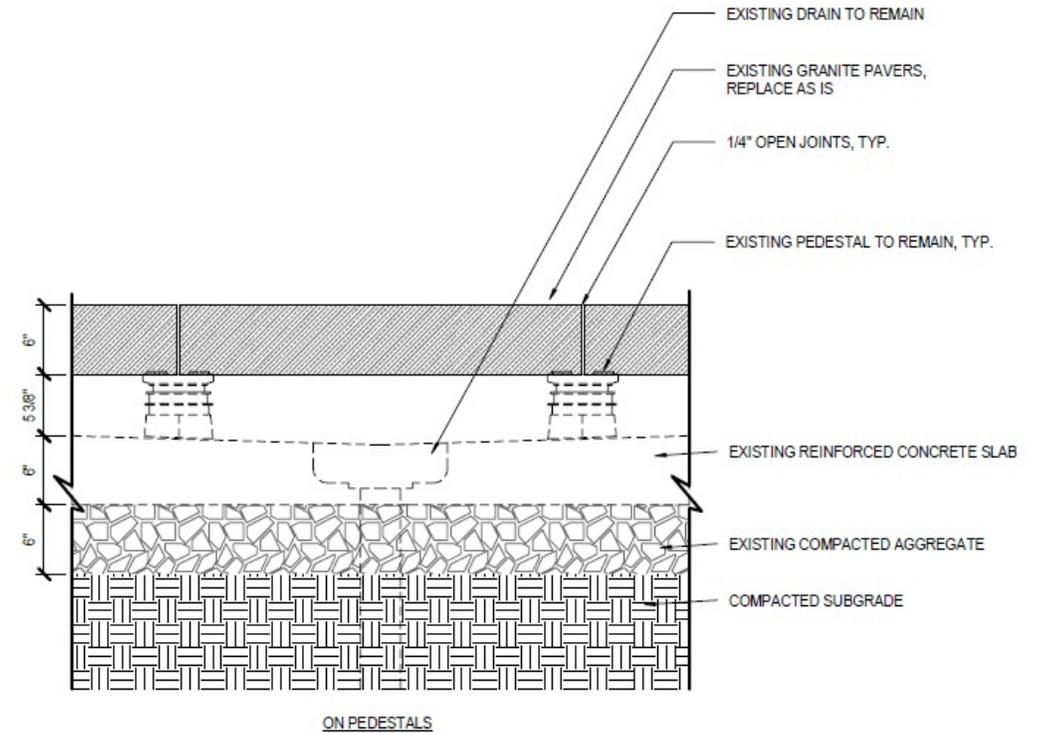
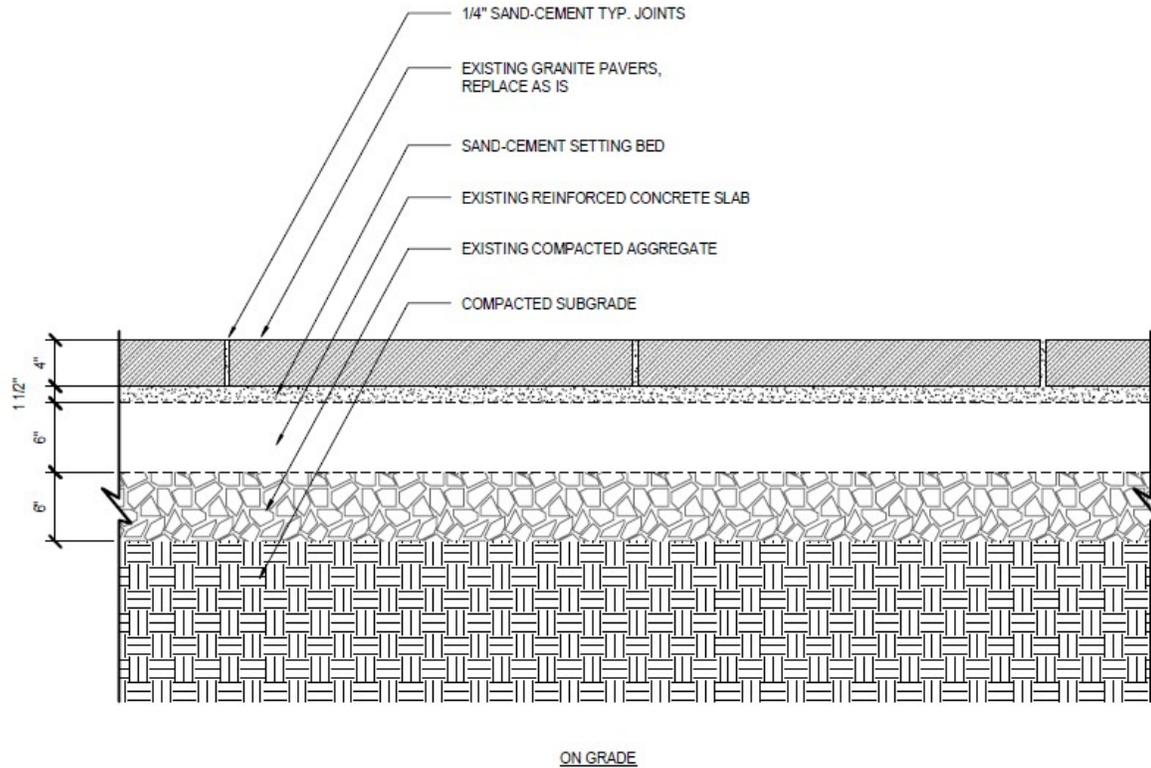


*Example of proposed improved lighting for Glass Contemplation Wall.*



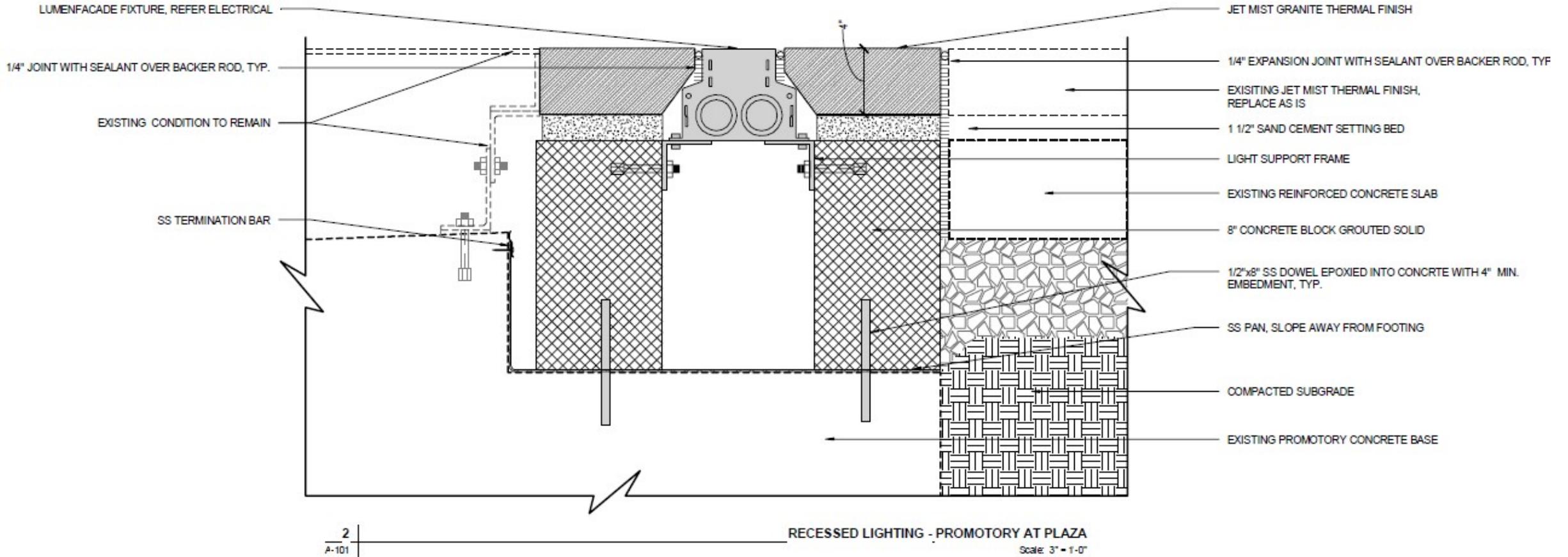
*Plan detail of Spire LED luminaires on the stanchions behind the north and south granite walls. These are the main luminaires effecting the viewshed.*

1 | SPIRE SPOTLIGHT ATTACHMENT  
A-101 | Scale: 3" = 1'-0"

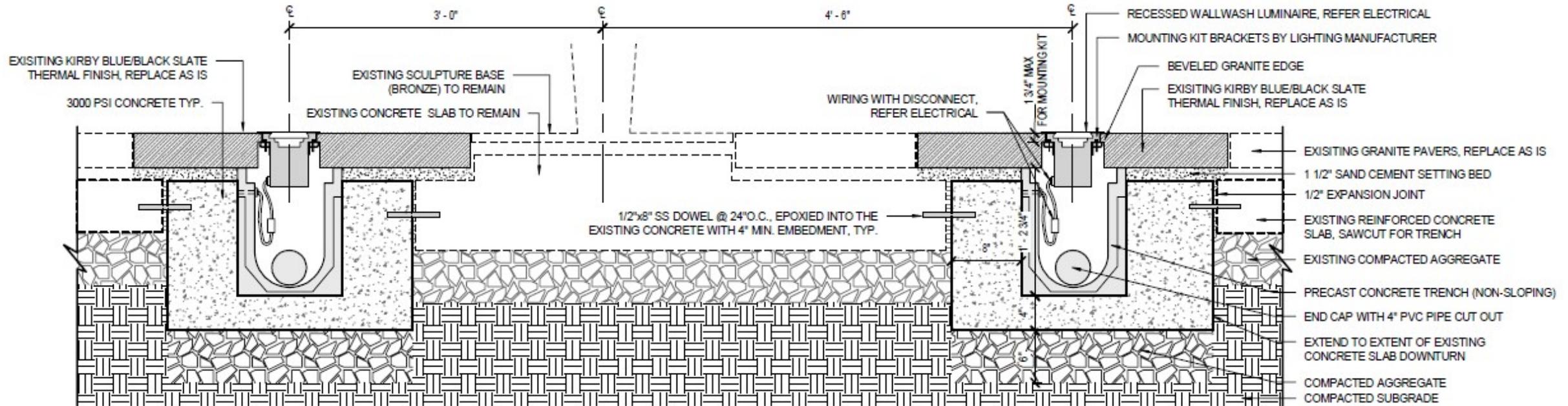


1 | **GRANITE PAVERS**  
 Scale: 1 1/2" = 1'-0"

*Plan Detail of current ground strata of 11 1/2 to 24 inches*

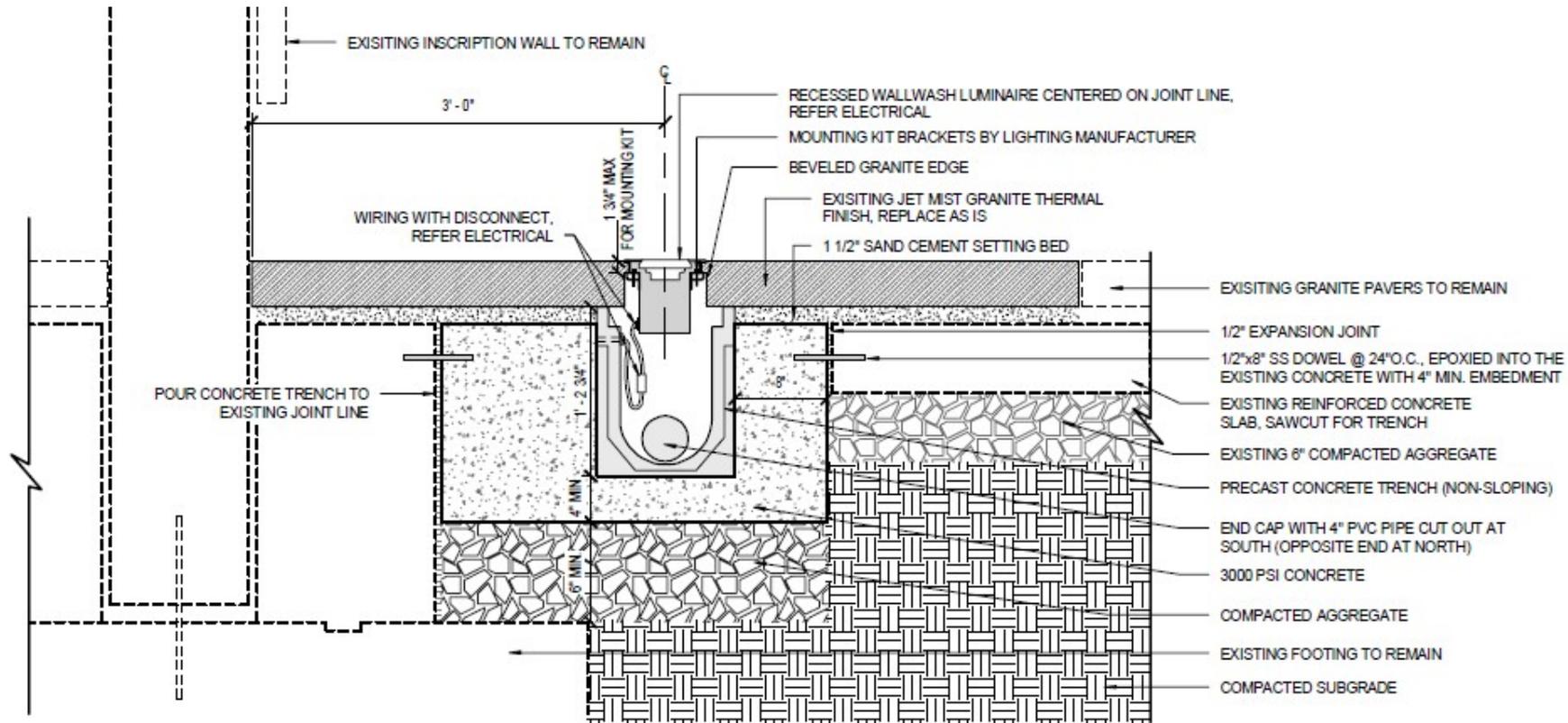


*Detailed plan of the recessed lighting at base of Spires*



1 | HONOR GUARD LIGHTING TRENCH  
A-101 | Scale: 1 1/2" = 1'-0"

*Detailed plan of the Honor Guard Lighting Trench – depth to @ 36 inches*



2 | INSCRIPTION WALL LIGHTING TRENCH  
A-101 | Scale: 1 1/2" = 1'-0"

*Detailed plan for rehabilitation of the Glass Contemplation Wall luminaire*