

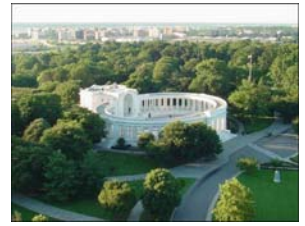
The Memorial Reception Building Arlington National Cemetery



Existing Lighting Conditions

**Jennifer Sanborn
October 5, 2006**

The Memorial Reception Building Arlington National Cemetery



Note:

All relevant files including my AGI and AutoCAD models are located on my P drive under the “Modeling” folder. (P:\Modeling)

The Memorial Reception Building Arlington National Cemetery



Executive Summary

The results of my lighting analysis indicate there is a large amount of improvement that can occur.

These spaces include:

- Work Area
- Crypt Chapel
- Reception Room
- Amphitheater

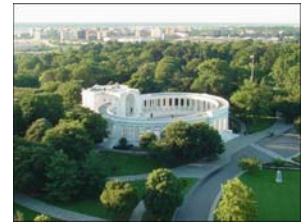
These spaces that were considered, minus the crypt chapel, seem to not utilize today's technology to its full extent.

More flexible controlling, specifically in the work area and reception room, could have been used as well as a better layout of the fixtures could have been implemented. The work area lacks perimeter lighting and control flexibility which would create a more open comfortable feel and the ability to dim the fixtures to an acceptable level for different events. The reception room is missing the required direct lighting of the objects on display. By implementing new fixtures into this space, I could create the idea of points of interest throughout the room while also using a flexible control system to allow for different fixtures to be lit at different levels depending on their importance.

Most of the rooms do not comply with my design criterion that I have chosen which include the crypt chapel, the reception room, and the amphitheater. The crypt chapel does not meet my reading requirement with the 4 foot candles that are supplied to the space. The reception room does not allow for high-quality viewing of the objects in the display cases that is required. Finally, since the amphitheater is not open to the public after dusk, it contains no fixtures and is not lit at this time. The criterion I have chosen for this space is in the event there is a need for a night time activity.

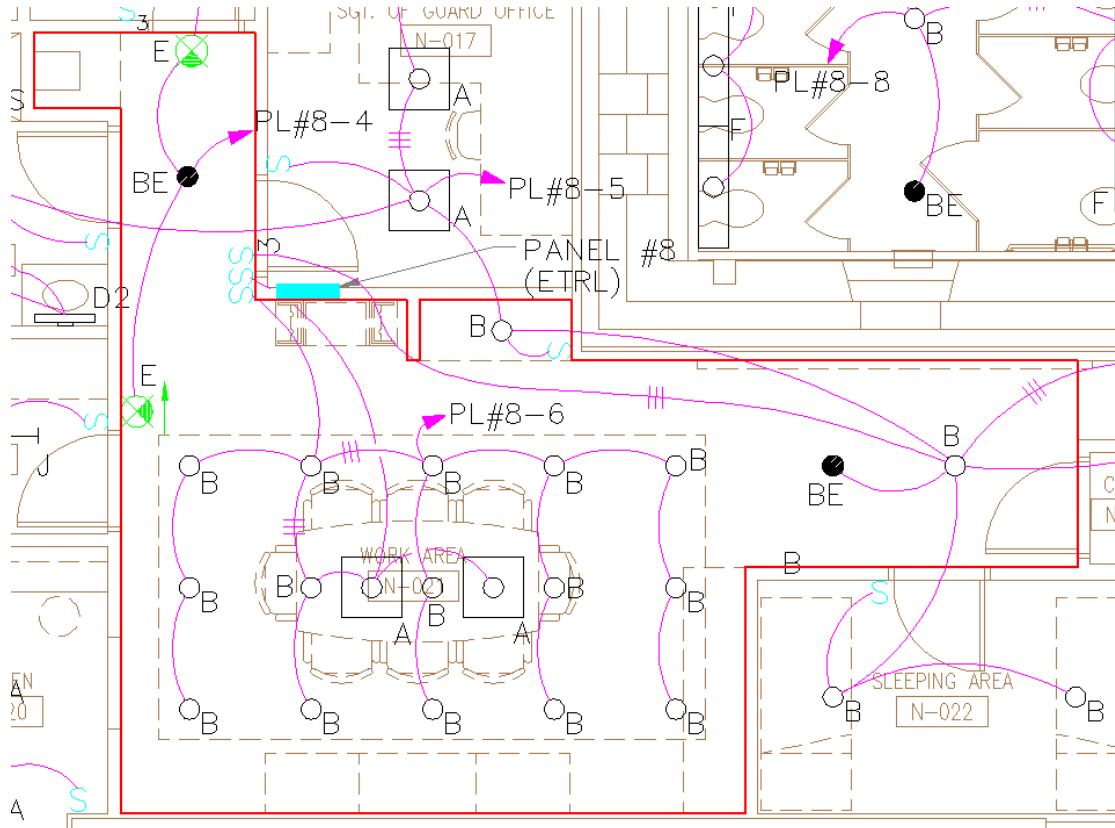
These spaces will need new illuminance levels which will be based off my criterion, more flexible controlling, and a more appropriate lighting layout and fixture selection which will depend on the function of the room.

The Memorial Reception Building Arlington National Cemetery



Work Area

Floor Plan:



Luminaires:

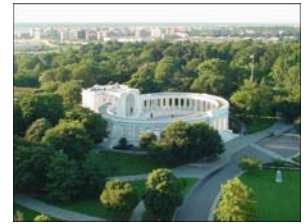
LIGHTING FIXTURE SCHEDULE														
TYPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	LAMP							FINISH	MOUNTING	NOTES	
				NO.	TYPE	WATT	VOLT	COLOR TEMP.	CRI	AVE. LIFE HRS.				APPROX. INITIAL LUMENS
A	CEILING MOUNTED FIXTURE	LITHONIA LIGHTING	2PM3 G B 2 U316 BLD GED	2	T8U	31	120	3000	85	20,000	2800	—	CEILING RECESSED	—
AE	CEILING MOUNTED FIXTURE	LITHONIA LIGHTING	2PM3 G B 2 U316 BLD GED EL - EM	2	CF	28	120	3000	82	20,000	2800	—	CEILING RECESSED	—
B	RECESSED COMP. FL. DOWNLIGHT	EDISON PRICE	DPX 226/B	2	CF	28	120	3000	82	10,000	1800	SEM-SPECULAR CLEAR WITH WHITE FLANGE	CEILING RECESSED	—
BE	RECESSED COMP. FL. DOWNLIGHT	EDISON PRICE	DPX 226/B-EM	2	CF	28	120	3000	82	10,000	1800	SEM-SPECULAR CLEAR WITH WHITE FLANGE	CEILING RECESSED	WITH EMERGENCY BALLAST
BD	RECESSED COMP. FL. DOWNLIGHT	EDISON PRICE	DPX 226/B-DM	2	CF	28	120	3000	82	10,000	1800	SEM-SPECULAR CLEAR WITH WHITE FLANGE	CEILING RECESSED	WITH DIMMING BALLAST
BS	RECESSED SHOWER DOWNLIGHT	LITHONIA LIGHTING	LGf-2260TT-FL-120 BGD	2	CF	28	120	3000	82	10,000	1800	REGRESSED WHITE SPLAY	CEILING RECESSED	WITH ROUND LENS
C	RECESSED MOUNTED FLUORESCENT	LIGHTOLIER LIGHTING	QVS 2 G PF LG 3 32 120 SR	3	T8	32	120	3000	86	24,000	3100	WHITE WITH WHITE SHIELD	CEILING RECESSED	—

Existing Lighting Conditions

Lighting/Electrical

Jennifer Sanborn

The Memorial Reception Building Arlington National Cemetery




Controls: All the lights in this space are controlled by regular switches. The down light at the entrance of the space is controlled by a 3 way switch with one switch located at the entrance, and the other located at the far end of the space. Both the down lights and the 2x2 recessed fixtures located over the conference room table are each controlled by their own single pole switch located at the far end of the space.

Space Properties:

Floor:

Material: Carpet
Color: Atlas Carpet Mills Inc. Chartwell #CE 21 Sunflower
Reflectance: 0.3

Walls:

Material: Gypsum Wall Board
Paint Color:  Benjamin Moore Color
#HC-39 Putman Ivory with Eggshell Finish

Reflectance: 0.75

Ceiling:

Material: Gypsum Board
Paint Color: Benjamin Moore Color
#White Satin 2067-70 with Egg Shell Finish

Reflectance: 0.9

Material: 2x2 Acoustical Tiles
Color: Standard White
Reflectance: 0.9

Furnishings:

- Mirror located at entrance corridor on West wall.
- Entertainment center located on East wall.
- Workstation located on North Wall.
- Conference room table located in center of space.
- Display case and telephone stand located on West wall.

The Memorial Reception Building Arlington National Cemetery



Design Criteria:

Tasks:

- Reading
- Writing
- Conversing
- Presenting

Illuminances:

- E_H (table) Category D-30fc
- E_V (face) Category B-5fc

Criteria:

- Appearance of Space and Luminaires: Luminaires should not be distracting in this space. Concentration should be on the tasks at hand; either the presenter or the material on the table.
- Direct Glare: Direct glare should be avoided since it causes the decrease in visibility and discomfort. The lamps in the luminaires should not be seen by the presenter of the audience.
- Light Distribution on Surfaces: All surfaces should be uniformly lit to ensure identification of objects in the space and to decrease distractions.
- Light Distribution on Task Plane: The surface of the conference room table should have an even distribution of light to allow for the flexibility in use of the whole table and to increase the task visibility.
- Luminances of Room Surfaces: Luminance on room surfaces should create a comfortable atmosphere for the occupants.
- Modeling of Faces and Objects: Modeling of faces is very important as the occupants around the table will be conversing with each other. They need to be able to recognize the people in which they are talking to and interpret what they are saying.
- Reflected Glare: It is important to not allow reflected glare in this type of space. Reflected glare off the work plane will decrease the visibility of materials and cause eye fatigue.
- Surface Characteristics: Surfaces in this space should not be a glossy finish to avoid reflected glare.

Existing Conditions:

Assumptions:

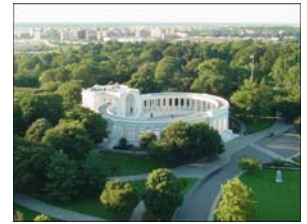
- 12 month cleaning cycle
- Clean environment
- Work plane at 2'-5"

Existing Lighting Conditions

Lighting/Electrical

Jennifer Sanborn

The Memorial Reception Building Arlington National Cemetery



LLF:

Luminaire	Maintenance Category	LLD	LDD	BF	RSDD	Total
A	IV	0.94	0.89	0.88	0.97	0.71
B	IV	0.84	0.89	0.88	0.97	0.64
BE	IV	0.84	0.89	0.88	0.97	0.64

AGI Foot Candle Levels Calculated:

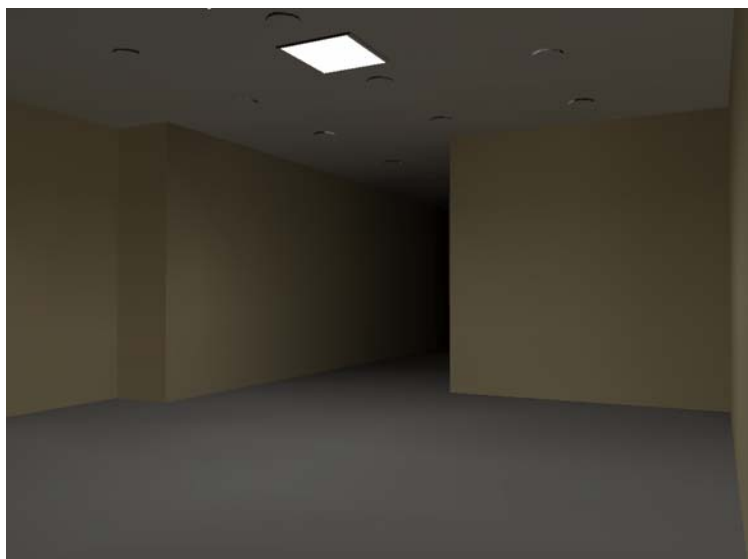
Average Horizontal Illuminance on table (2'-6"):

36.5 fc

Average Horizontal Illuminance on floor:

14 fc

Renderings:

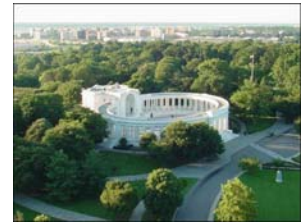


Existing Lighting Conditions

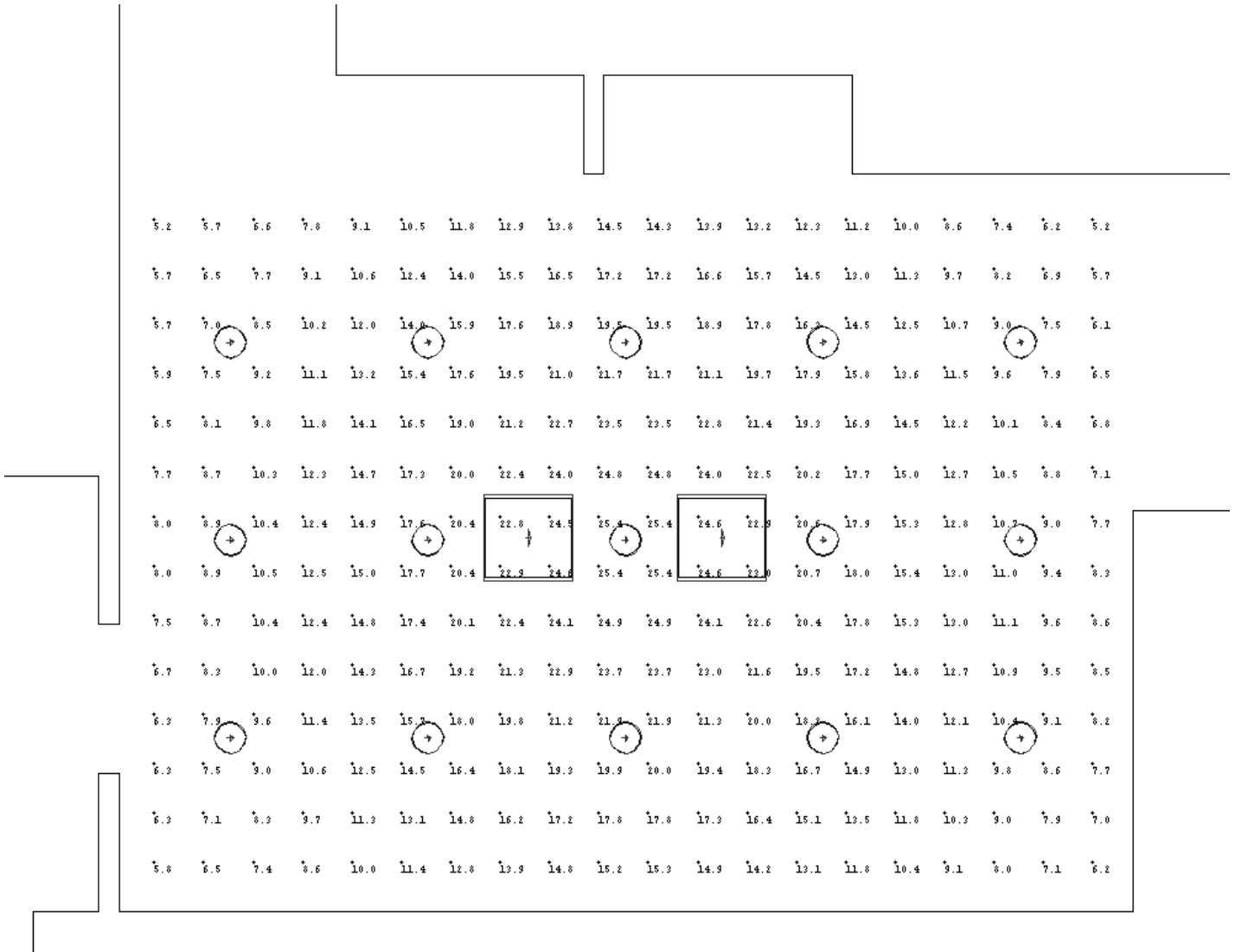
Lighting/Electrical

Jennifer Sanborn

The Memorial Reception Building Arlington National Cemetery



Floor Calculation Grid:



The Memorial Reception Building Arlington National Cemetery

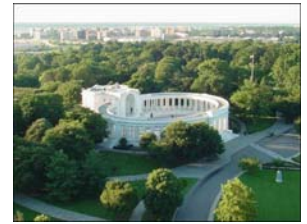
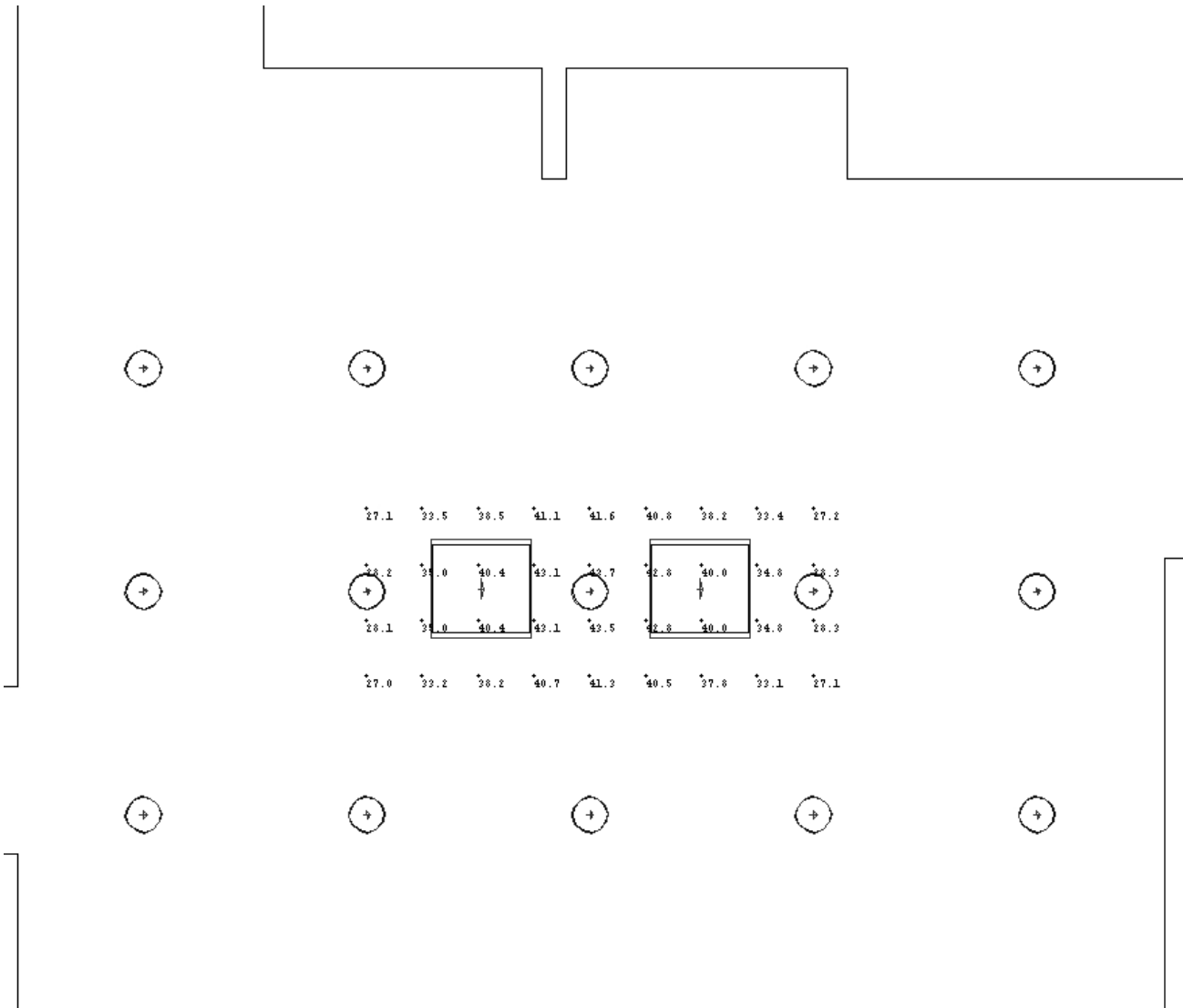


Table Calculation Grid:



Summary:

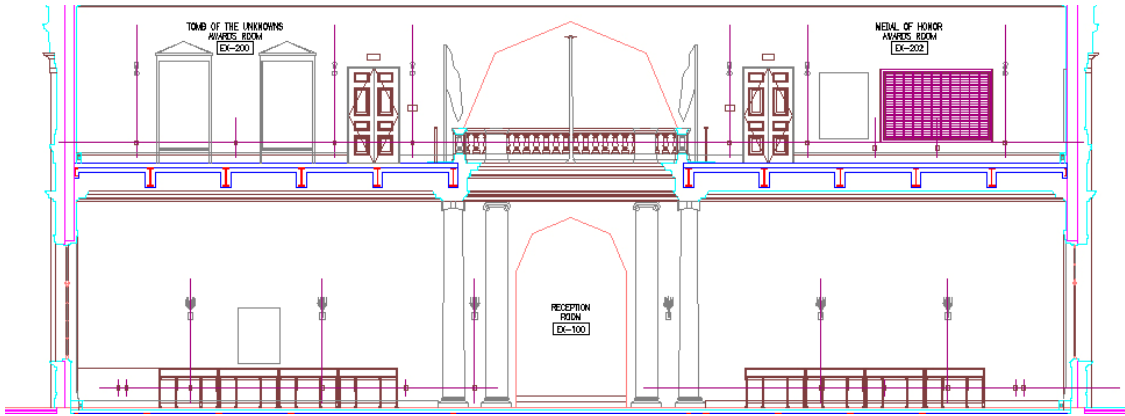
Illuminance levels in this space are at an acceptable intensity, but I think the lighting system is a little simple. It would be nice to be able to dim the fixtures in this space and create a more versatile room. It would also be good to include perimeter lighting such as wall washers to give the space a little more open feel. Right now the space looks dark and closed in due to low illuminance levels on the ceiling and walls. This space does not come off as a comfortable space to spend a long time in, which the occupants are required to do since each of them have shifts they have to complete.

The Memorial Reception Building Arlington National Cemetery

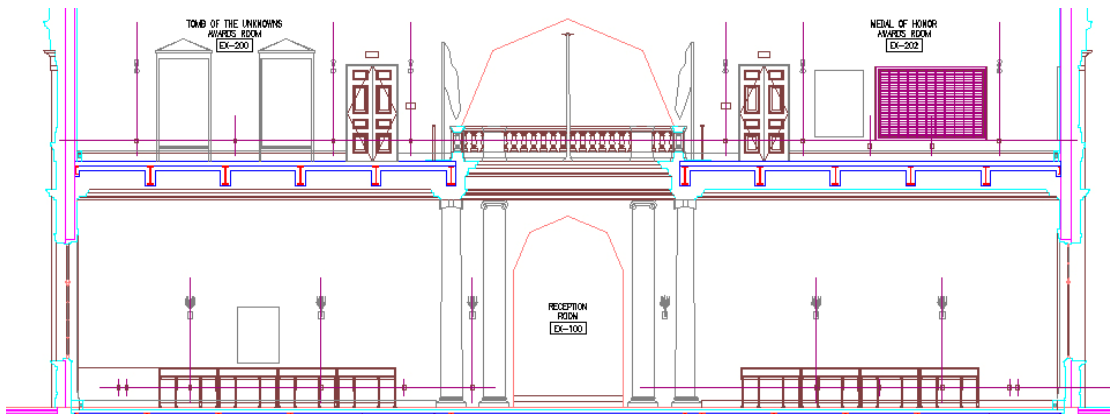
Reception Room



Section Looking West:



Section Looking East:



Existing Lighting Conditions

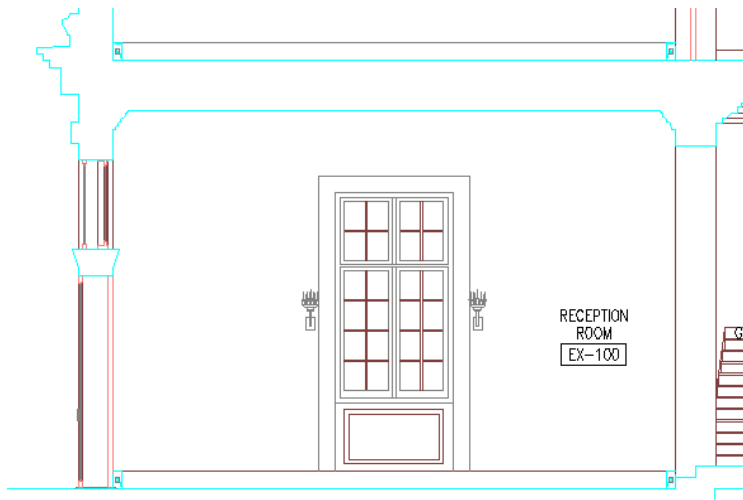
Lighting/Electrical

Jennifer Sanborn

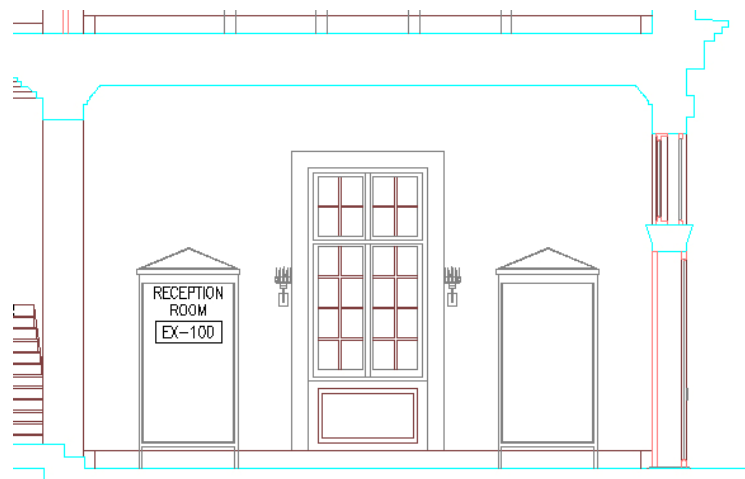
The Memorial Reception Building Arlington National Cemetery



Section Looking South:



Section Looking North:

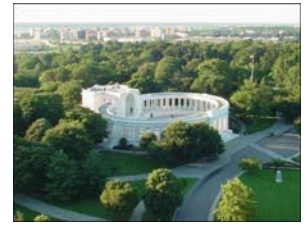


Existing Lighting Conditions

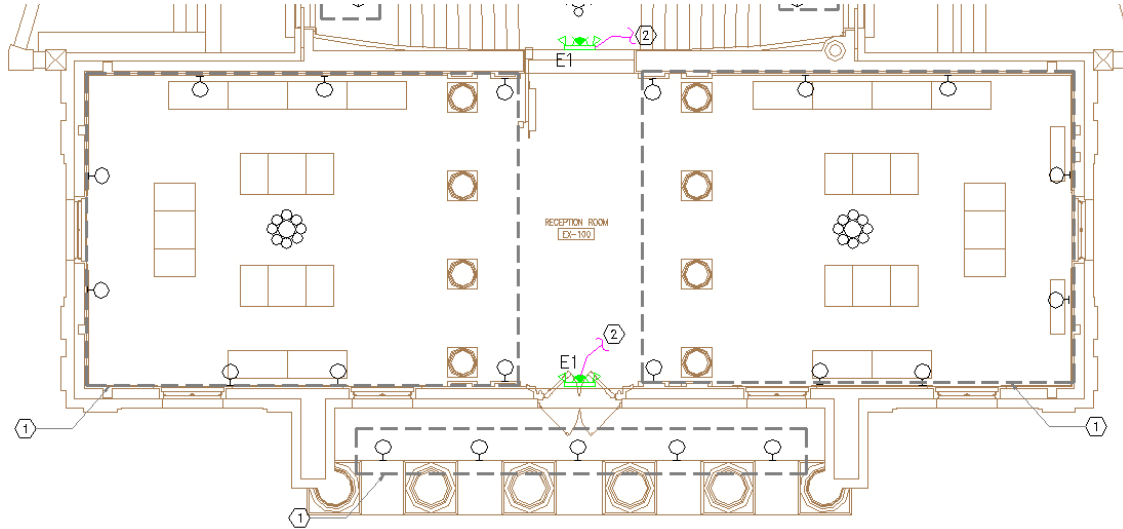
Lighting/Electrical

Jennifer Sanborn

The Memorial Reception Building Arlington National Cemetery



Floor Plan:



Luminaires: Original sconces and chandeliers are being used in this space.

Controls: Assuming light switches since the original lighting system is being used in this space.

Space Properties:

Floor:

Material: Marble
Color: Dirty White
Reflectance: 0.61

Walls:

Material: Plaster
Paint color: Orange-Yellow
Reflectance: 0.71

Ceiling:

Material: Plaster
Paint Color: White
Reflectance: 0.9

Furnishings:

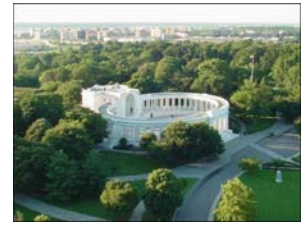
- Display cases located in adjacent rooms containing honorary medals and plaques.

Existing Lighting Conditions

Lighting/Electrical

Jennifer Sanborn

The Memorial Reception Building Arlington National Cemetery



Design Criteria:

Tasks:

- Viewing
- Conversing
- Reading
- Writing
- Meandering

Illuminance:

- E_H (display cases) Category D-30fc
- E_V (face) Category B-5fc

Criteria:

I am assuming this space is categorized as a museum subcategorized as exhibit cases since the two adjacent rooms which are open to the reception room contain display cases. There also isn't actually a receptionist or a reception desk which would require a different set of design criteria.

- Appearance of spaces and Luminaires: The luminaires should not detract from this space; only emphasize the points of interest in the room.
- Color Appearance: The color rendering should be accurate in this space in order to model the objects in the display cases accurately.
- Daylight Integrations and Control: It is important to design a space with controllable day lighting so the sunlight does not discolor or destroy the objects in the display cases.
- Direct Glare: Direct glare should be avoided in this space so it does not create discomfort or reduce visibility from viewing the objects in the display cases.
- Light Distributions of Surfaces and Task Plane: A uniform distribution of light is required on the surfaces of this space to allow for adequate viewing of the objects on display.
- Luminances of Room Surfaces: Room surfaces should have an appropriate luminance level so they do not distract from the points of interest which are located through out the room.
- Modeling of Faces or Objects: Faces and objects should be modeled realistically in this space so the occupants can identify the object they are looking at or the person they are talking to.
- Points of Interest: This space is filled with points of interest which all need to be illuminated to a point where they stand out from the room and are emphasized.

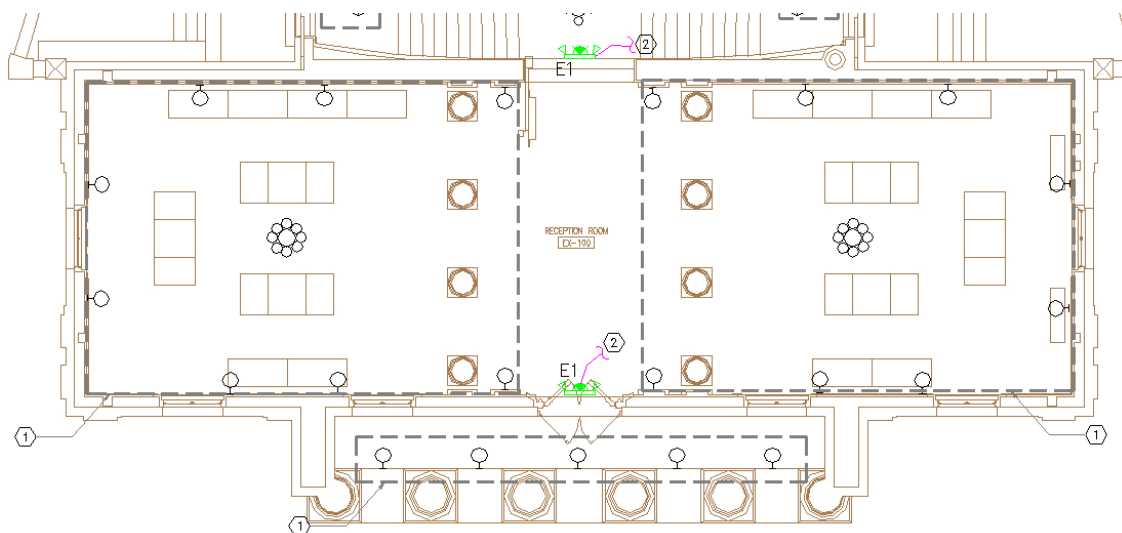
The Memorial Reception Building Arlington National Cemetery



- Reflected glare: It is important to make sure there is a minimal amount of reflected glare in this space since display cases with glass are used. Having a reflection of the fixtures where in the glass, this would cause a decrease in visibility to the objects inside the glass.
- Shadows: Shadows should be minimized in this space so they do not cause a distraction and take away from the pieces in the display cases.
- Source/Task/Eye Geometry: This should be considered and should play a part in locating and aiming fixtures. If they are aimed in such a way they may be reflected directly into the eye and decrease visibility.
- Sparkle/Desired Reflected Highlights: Reflected highlights may be desired in this space depending on the objects in the cases. In this case, they are honorary medals which would look great if they gleamed in the light. It would increase their eye catching ability and make them stand out even more from the rest of the room.
- Surface Characteristics: Surfaces behind the objects in the cases and the room surfaces should not be of a glossy finish since this would detract from points of interests in the room and create reflected glare causing discomfort while viewing the objects.
- System Control and Flexibility: Control over the lighting system in the space would be very beneficial since each display case could be lit at its own intensity level depending on the types of objects it contains.

Existing Conditions:

Lighting Plan:



Existing Lighting Conditions

Lighting/Electrical

Jennifer Sanborn

The Memorial Reception Building Arlington National Cemetery



Assumptions:

- 12 month cleaning cycle
- Clean environment
- Work plane at 3'-0"

LLF:

Luminaire	Maintenance Category	LLD	LDD	BF	RSDD	Total
Chandelier	I	0.9	0.93	1.0	0.92	0.77
Sconce	I	0.9	0.93	1.0	0.92	0.77

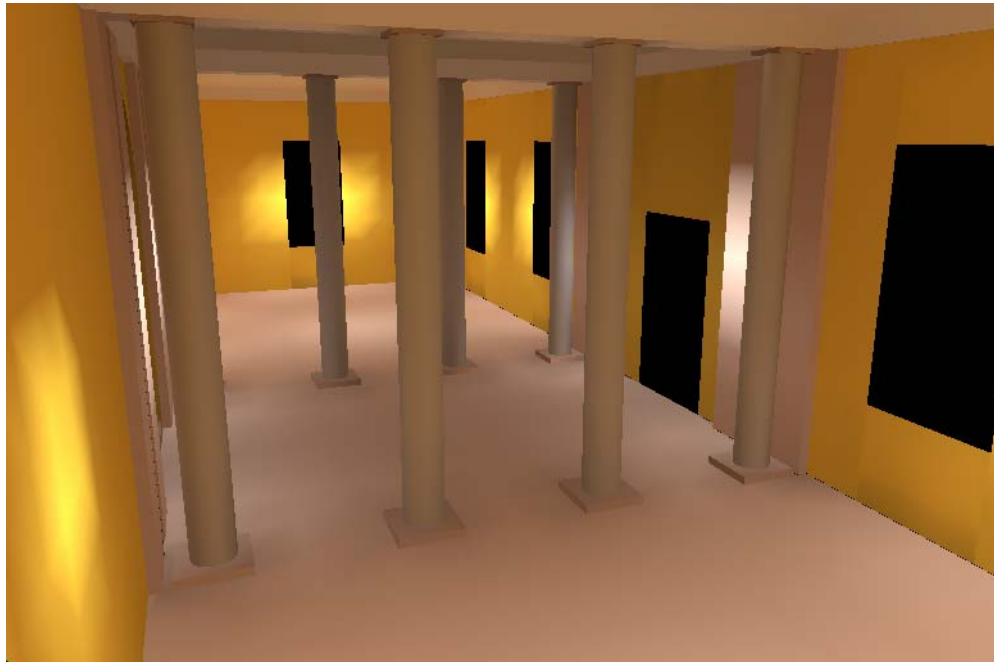
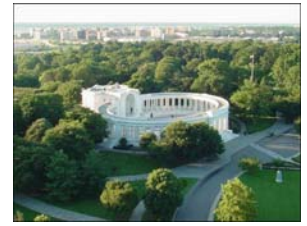
AGI Foot Candle Levels Calculated:

Average Horizontal Illuminance at task plane (3'-0"): 21 fc
 Average Horizontal Illuminance on floor: 17 fc

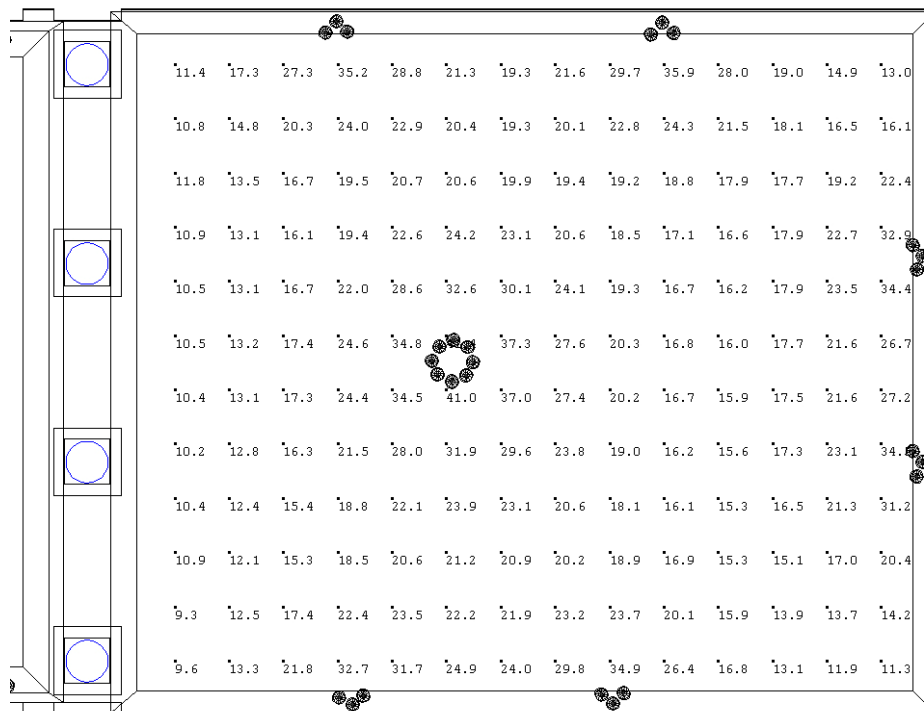
Renderings:



The Memorial Reception Building Arlington National Cemetery



Task Plane Calculation Grid:

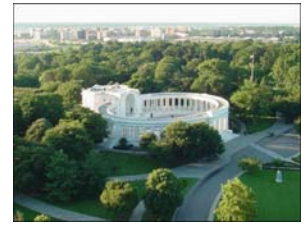


Existing Lighting Conditions

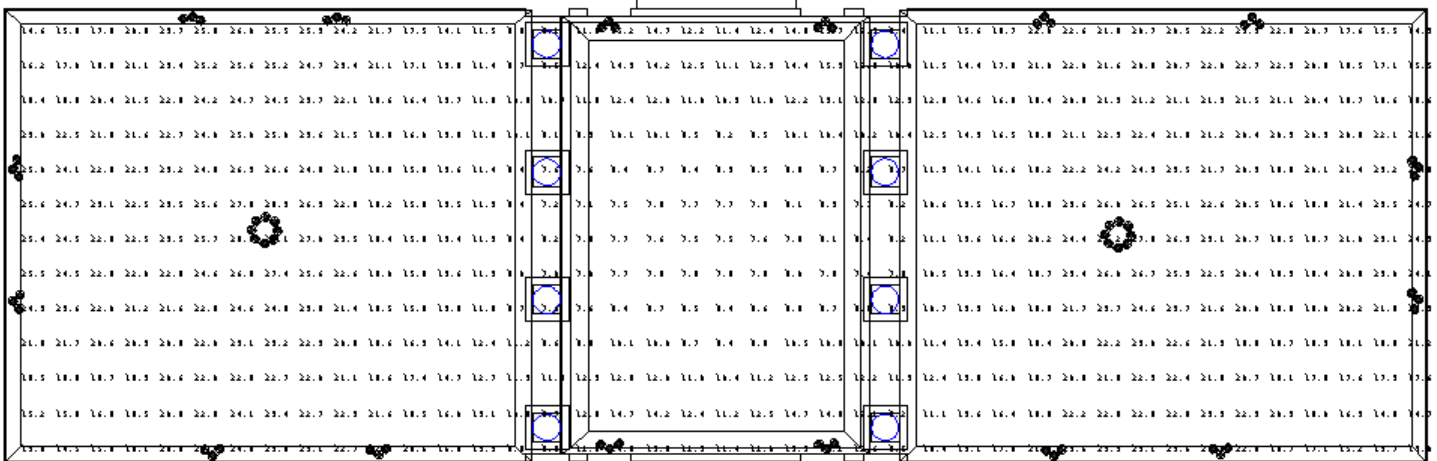
Lighting/Electrical

Jennifer Sanborn

The Memorial Reception Building Arlington National Cemetery



Floor Level Calculation Grid:



Summary:

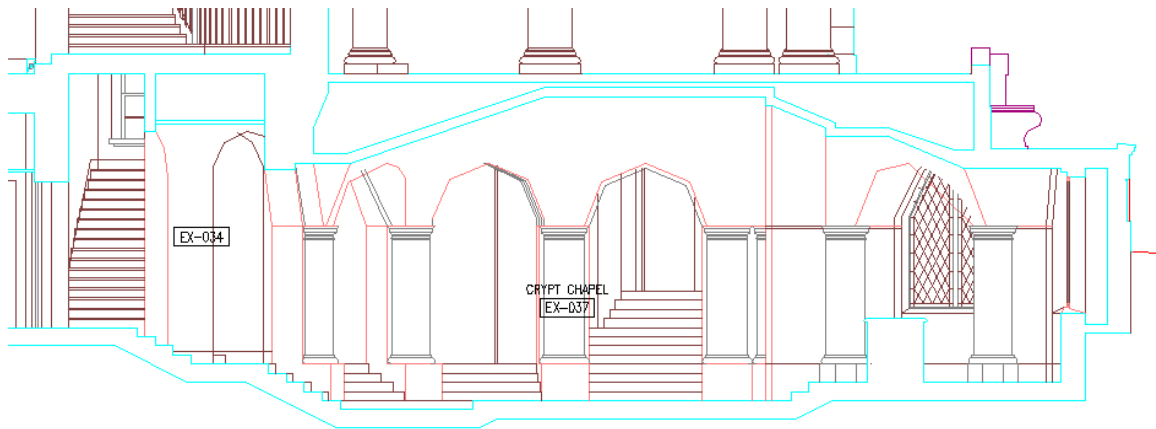
This space was not renovated in terms of the lighting. I feel the room looks out of date and does not create points of interest as it should since the room consists of display cases of very important medals and awards. Over all the illuminance level on the floor is at a good level to allow for movement through the space, but the display cases need a little more emphasis on them. I am assuming the fixtures were kept because of a historical preservation reason, but I will sure to try and keep the idea of the chandeliers and sconces, but will include a system that will put more emphasis on the significant pieces in the room.

The Memorial Reception Building Arlington National Cemetery

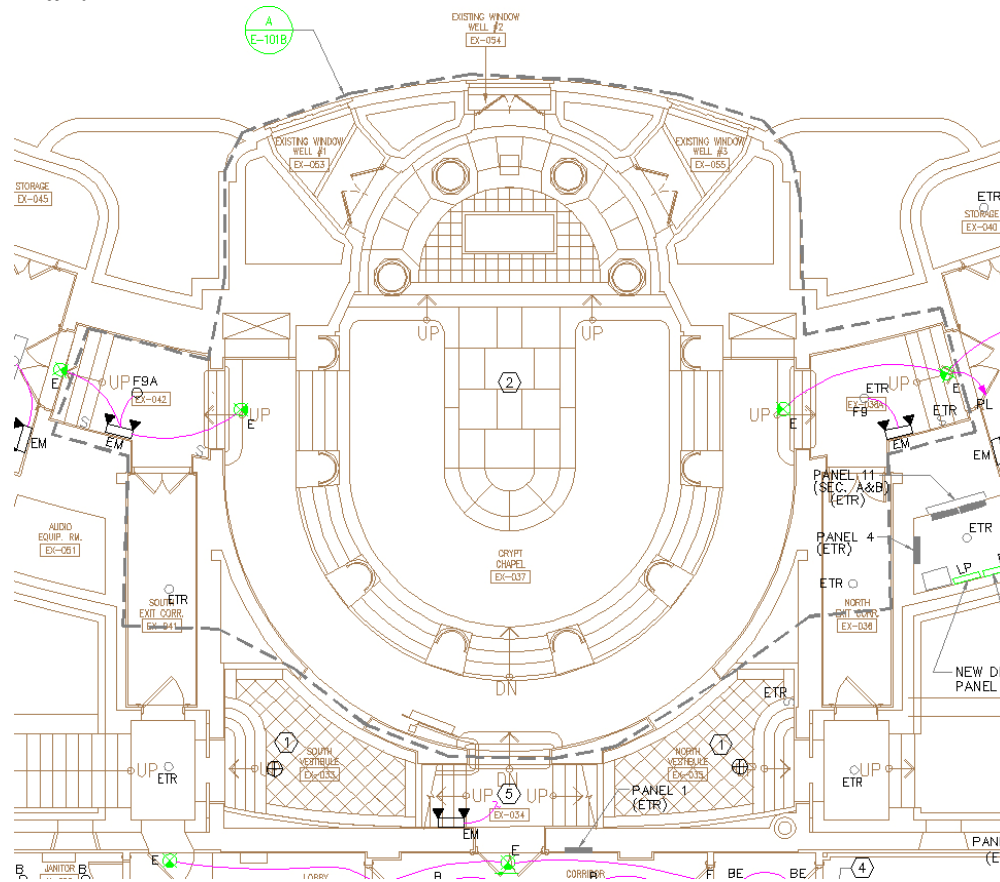


Crypt Chapel

Section Looking West:



Floor Plan:

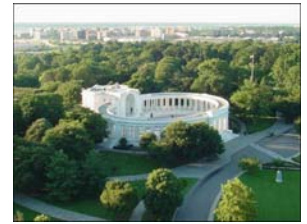


Existing Lighting Conditions

Lighting/Electrical

Jennifer Sanborn

The Memorial Reception Building Arlington National Cemetery

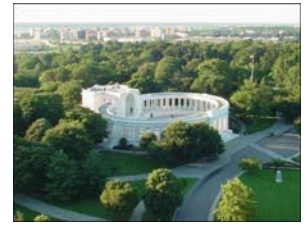


Luminaries:

LIGHTING FIXTURE SCHEDULE (CRYPT CHAPEL)							
LIGHTING FIXTURE SCHEDULE							
TYPE	MTG	DESCRIPTION	LAMPING	WATT	VOLT	MFR.	CATALOGUE NO.
F8	PEND	REFER TO RESTORATION NOTES	(12) 80B10 ½ 14M	780	120	WINONA (WINONA, MN) CRENSHAW LIGHTING (FLOYD, VA) CUSTOM METALCRAFT, INC. (CHARLESTOWN, MA)	CLEAN AND RELAMP EXISTING CHANDELIER
F9	SURF	REFER TO RESTORATION NOTES	(4) 40G16 ½ C/4M	180	120	WINONA (WINONA, MN) CRENSHAW LIGHTING (FLOYD, VA) CUSTOM METALCRAFT, INC. (CHARLESTOWN, MA)	CLEAN AND RELAMP EXISTING CHANDELIER
F9A	SURF	CONTRACTOR TO MATCH NEW ROSETTE TO EXISTING TYPE F9	(4) 40G16 ½ C/4M	180	120	WINONA ALGER UNILIGHT	NEW ROSETTE TO MATCH EXISTING TYPE F9
F10	SURF	HALOGEN UPLIGHT LUMINAIRE, NOMINAL 12 INCH WIDE X 5 INCH HIGH ALUMINUM HOUSING WITH 7 INCH PROJECTION FROM WALL, SOLID ALUMINUM VISOR, ALUMINUM CANOPY NOMINAL 5 INCH DIAMETER, EXTRUDED CLEAR ANODIZED ALUMINUM REFLECTOR WITH ASYMMETRICAL DISTRIBUTION, TEMPERED GLASS LENS, OVERALL WHITE PAINT FINISH.	1-250Q/CL/DC	280	120	ELLIPTIPAR WINONA SPI	T102-0250-E-02-A-VO
H5	SURF	LOW VOLTAGE ACCENT LIGHT, NOMINAL 12 INCH LONG METAL STEM WITH LAMPHOLDER, BACKLIGHT SHIELD WITH LOUVER ACCESSORY HOLDER, SOFT FOCUS SPREAD LENS AND EGGCRATE LOUVER, STEM MOUNTS DIRECTLY TO NOMINAL 2 INCH SQUARE WALL CANOPY, OVERALL CHROME FINISH, REMOTE TRANSFORMER, 3 ½ INCH DEEP ELECTRICAL BACK BOX, CANOPY MOUNTING DETAIL AND EXACT LOCATION OF CANOPY TO BE COORDINATED WITH DESIGN PROFESSIONAL.	1-50MRC16/CC/ NFL24"	50	120	TECH LIGHTING	700DJWAL12C-700DJ2SQ6-REMOTE TRANSFORMER- STANDARD 3-1/2 INCH DEEP ELECTRICAL BACK BOX - 700A02BK;140MR16SF;700MR16SCH
H5A	SURF	LOW VOLTAGE ACCENT LIGHT, NOMINAL 6 INCH LONG METAL STEM WITH LAMPHOLDER, BACKLIGHT SHIELD WITH LOUVER ACCESSORY HOLDER, SOFT FOCUS SPREAD LENS AND EGGCRATE LOUVER, STEM MOUNTS DIRECTLY TO NOMINAL 2 INCH SQUARE CEILING CANOPY, OVERALL CHROME FINISH, REMOTE TRANSFORMER, 3 ½ INCH DEEP ELECTRICAL BACK BOX, CANOPY MOUNTING DETAIL AND EXACT LOCATION OF CANOPY TO BE COORDINATED WITH DESIGN PROFESSIONAL.	1-50MRC16/CC/ NFL24"	50	120	TECH LIGHTING	700JS2C-067C-700FJ2SQ67-C-REMOTE TRANSFORMER - STANDARD 3-1/2 INCH DEEP ELECTRICAL BACK BOX - 700A02BK;140MR16SF;700MR16SCH

Controls: The lights in this space are controlled by a Lutron Grafik Eye 4000 system which is wired through a 24 circuit dimming panel located in the electrical room. This Grafik Eye system is located in the front right stair well of the chapel and has the option for 10 zones. There is an on/off remote control station which is also located at the rear of the chapel near the stairs from the 1st floor.

The Memorial Reception Building Arlington National Cemetery



Space Properties:

Floor:

Material: Marble
Color: Dirty White
Reflectance: 0.61

Material: Carpet
Color: Atlas Carpet Mills Inc. Sorbonne 38 #BN26 Gold Maize
Reflectance: 0.1

Walls:

Material: Plaster
Paint color: White
Reflectance: 0.50

Ceiling:

Material: Cork
Paint color: White
Reflectance: 0.70

Furnishings:

- Stone alter located in the front of the chapel.

Design Criteria:

Tasks:

- Praying
- Conversing
- Reading

Illuminances:

- E_V (face) Category D-30fc

Criteria:

I am assuming this area would be characterized as a House of Worship subcategorized as Highlighted Items since there is no congregational seating.

- Appearance of Space and Luminaires: In this case where the space is a chapel, the appearance of the space and luminaires is important. The space needs to create a certain mode for its occupants and highlights need to be given to the important objects in the room.

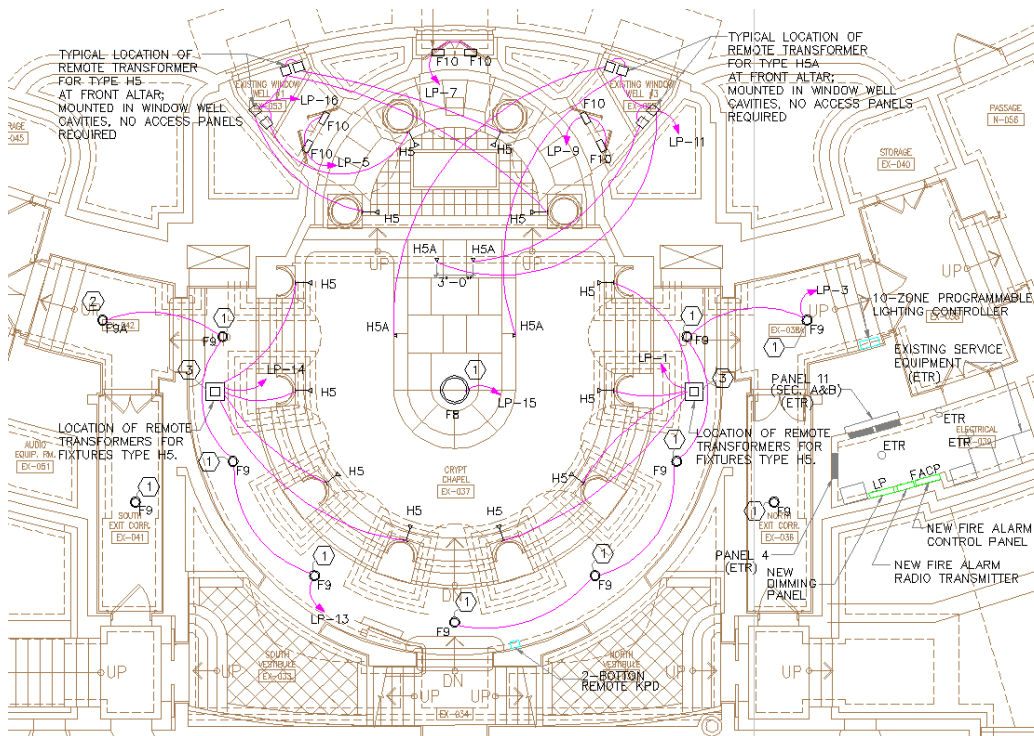
The Memorial Reception Building Arlington National Cemetery



- Color Appearance: Again, this space is trying to create a certain mood, so the color rendering needs to be accurate so the space is portrayed correctly.
- Direct Glare: Direct glare from the light fixtures should be avoided because it decreases the visibility rate, distracts from the space, and creates discomfort.
- Flicker: It is important in this space not have flickering lights because the flickering will distract the occupants from what they came to do and will take away from the ambiance of the space.
- Modeling of Faces or Objects: This criterion is important because depending on the mood of this space, the modeling of faces or objects could be good or bad. This space might want to create a dark and secluded atmosphere which would require a darker feeling with shadows. On another hand, the space might have a welcoming and comfortable atmosphere which would require more light and less shadows.
- Points of interest: The most important criteria would be points of interest. This space requires a lot of emphasis on certain features and details which create the spaces atmosphere.

Existing Conditions:

Lighting Plan:



Existing Lighting Conditions

Lighting/Electrical

Jennifer Sanborn

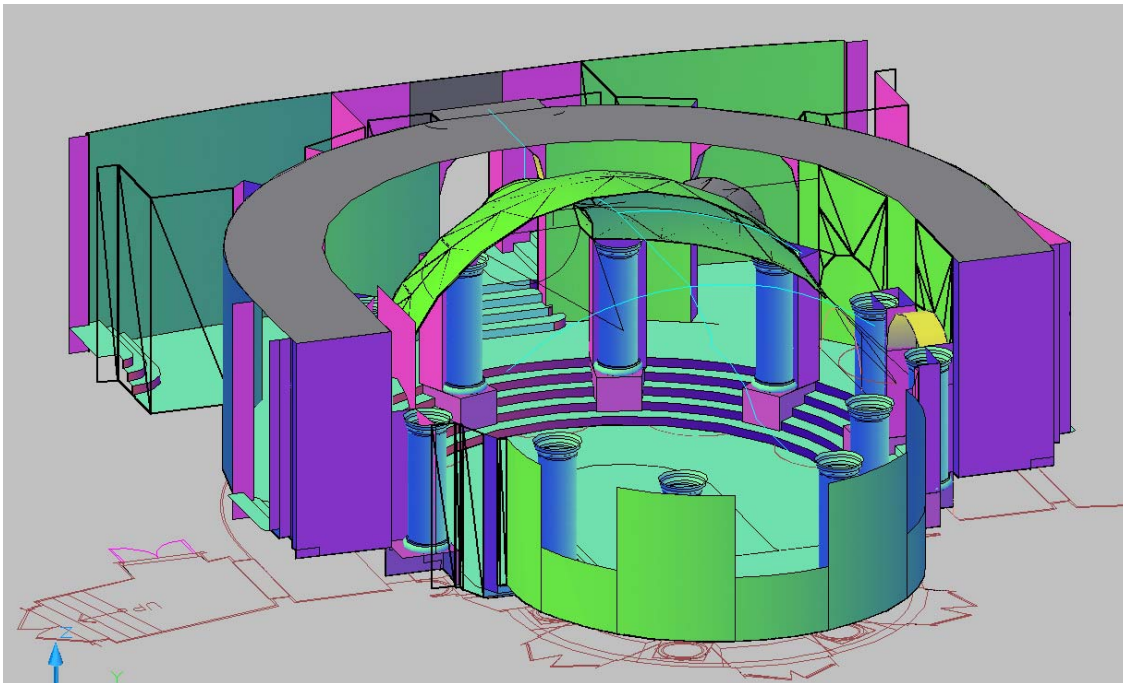
The Memorial Reception Building Arlington National Cemetery



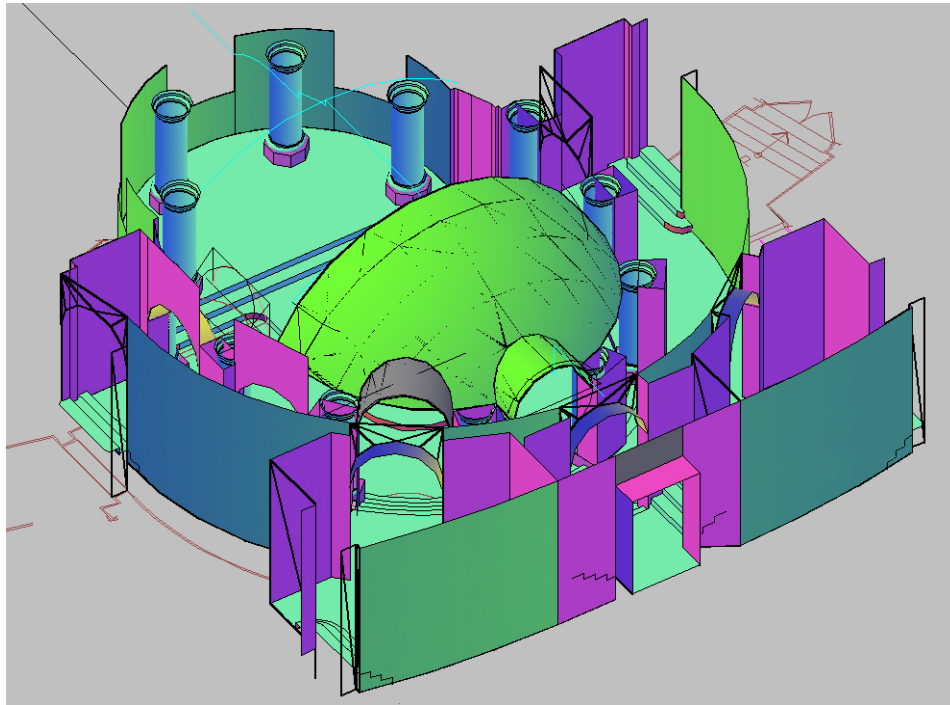
Note:

The complicity of this space has made it difficult to complete an illuminance calculation in AGI. Due to having this difficulty with modeling, and unable to make objects and surfaces that are acceptable when importing into AGI, I have included the lumen method calculation the lighting designer completed when designing the lighting for this space.

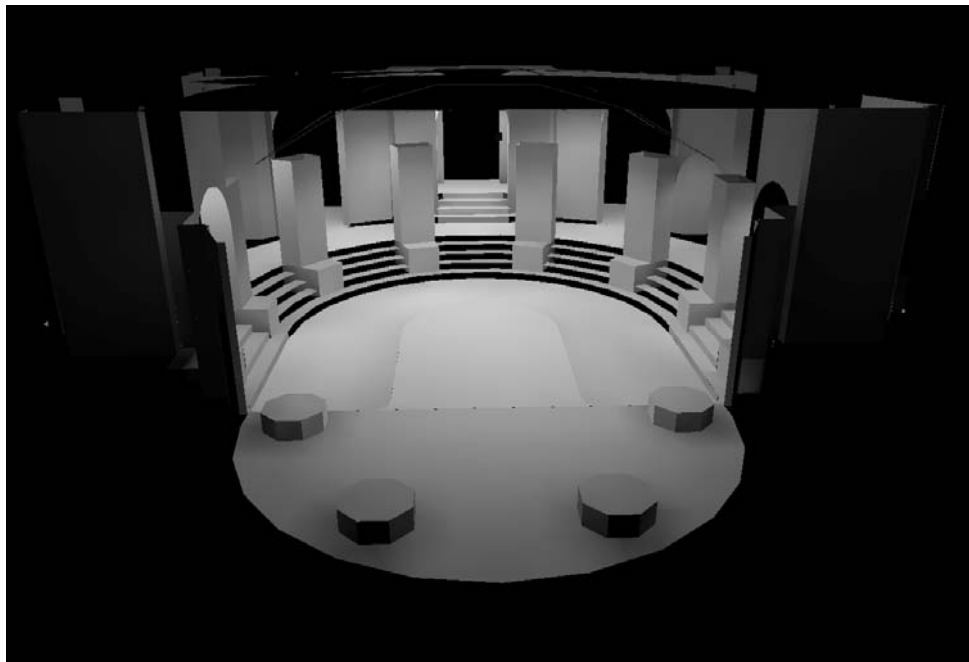
AutoCAD Model:



The Memorial Reception Building Arlington National Cemetery



AutoCAD Model in AGI:

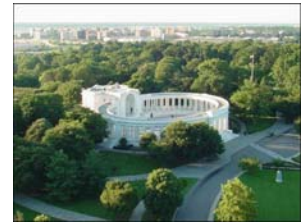


Existing Lighting Conditions

Lighting/Electrical

Jennifer Sanborn

The Memorial Reception Building Arlington National Cemetery



Lumen Method Calculation

Job Name Initials
 Room Description Date

◆ **Fixture & Lamp Information**

- A. Manufacturer & Catalog No.
- B. Lamp Identification
- C. Initial Lumens per lamp
- D. No. of lamps per fixture
- E. Total per Fixture
- F. Total Lighting System

	Elliptipar	T102	
	250Q/CL/DC	250	Watts
	5000		
	1		
Lumens	5000	250	Watts
Fixture Qty	6	1500	Watts

◆ **Room Data**

Length (ft.)	48
Width (ft.)	43
Room Area	2064

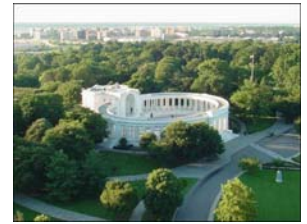
Ceiling Reflectance:	70%
Walls Reflectance:	50%
Floor Reflectance:	10%

Mounting Ht:	4
Work Plane Ht:	2.5

Room Cavity Ht:

- ◆ Room Cavity Ratio:
- ◆ Coefficient of Utilization:
- ◆ Light Loss Factor:
- ◆ Watts per Square Foot:
- ◆ **Footcandles:**

The Memorial Reception Building Arlington National Cemetery



Lumen Method Calculation

Job Name Initials
 Room Description Date

◆ **Fixture & Lamp Information**

- A. Manufacturer & Catalog No.
- B. Lamp Identification
- C. Initial Lumens per lamp
- D. No. of lamps per fixture
- E. Total per Fixture
- F. Total Lighting System

	Tech Lighting	700DJGRGC	
	GE 50W MR/C/FL	50	Watts
	1080		
	1		
Lumens	1080	50	Watts
Fixture Qty	16	800	Watts

◆ **Room Data**

Length (ft.)
 Width (ft.)
 Room Area

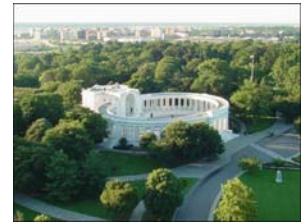
Ceiling Reflectance:
 Walls Reflectance:
 Floor Reflectance:

Mounting Ht:
 Work Plane Ht:

Room Cavity Ht:

- ◆ Room Cavity Ratio:
- ◆ Coefficient of Utilization:
d
- ◆ Light Loss Factor:
- ◆ Watts per Square Foot:
- ◆ **Footcandles:**

The Memorial Reception Building Arlington National Cemetery



Lumen Method Calculation

Job Name Initials
 Room Description Date

◆ Fixture & Lamp Information

- A. Manufacturer & Catalog No.
- B. Lamp Identification
- C. Initial Lumens per lamp
- D. No. of lamps per fixture
- E. Total per Fixture
- F. Total Lighting System

	Fiberstars	FS11/MBF	
	71W MR16	70	Watts
	1200		
	1		
Lumens	1200	70	Watts
Fixture Qty	16	1120	Watts

◆ Room Data

Length (ft.)
 Width (ft.)
 Room Area

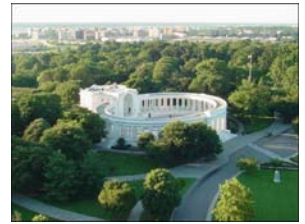
Ceiling Reflectance:
 Walls Reflectance:
 Floor Reflectance:

Mounting Ht:
 Work Plane Ht:

Room Cavity Ht:

- ◆ Room Cavity Ratio:
- ◆ Coefficient of Utilization:
- ◆ Light Loss Factor:
- ◆ Watts per Square Foot:
- ◆ Footcandles:

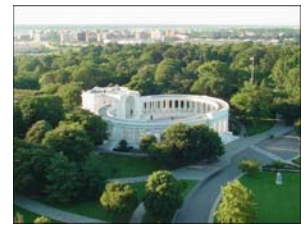
The Memorial Reception Building Arlington National Cemetery



Summary:

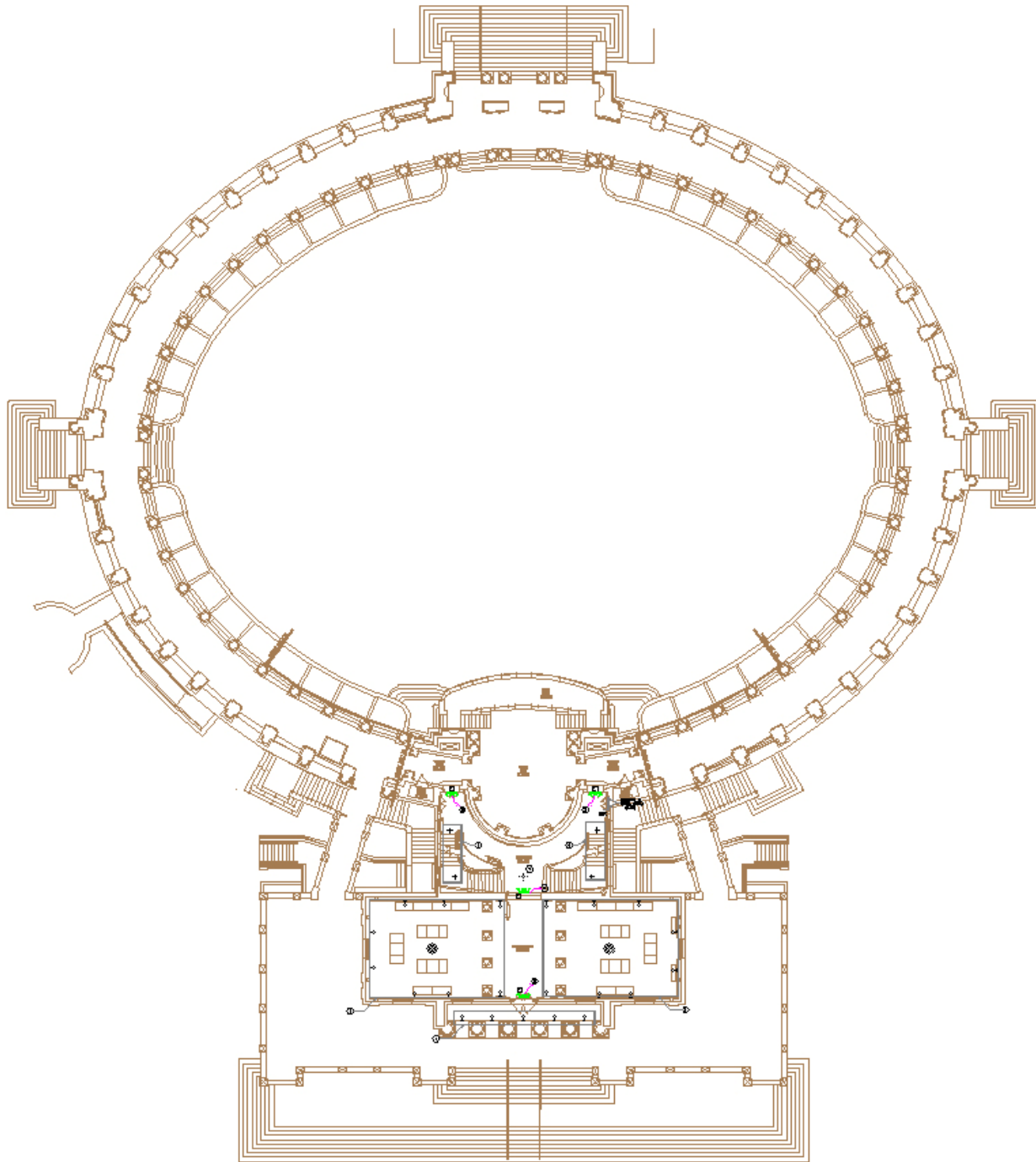
This space is a very interesting space to light and create all sorts of opportunities for lighting designs. Although this was one of the spaces where the lighting was renovated, I think maybe the illuminance level might be a little to low for my criteria. 4 foot candles is low if the occasion arises where someone wants to read a bible in this space. The architecture creates character for the space and a powerful feeling. There are some things I might have done differently in this space for lighting layout and fixture selection, but I agree with the control system that was used. The Graphic Eye 4000 creates the ability to have a versatile lighting system and the ability to create different scenes for the space.

The Memorial Reception Building Arlington National Cemetery



Amphitheater

Floor Plan:



Existing Lighting Conditions

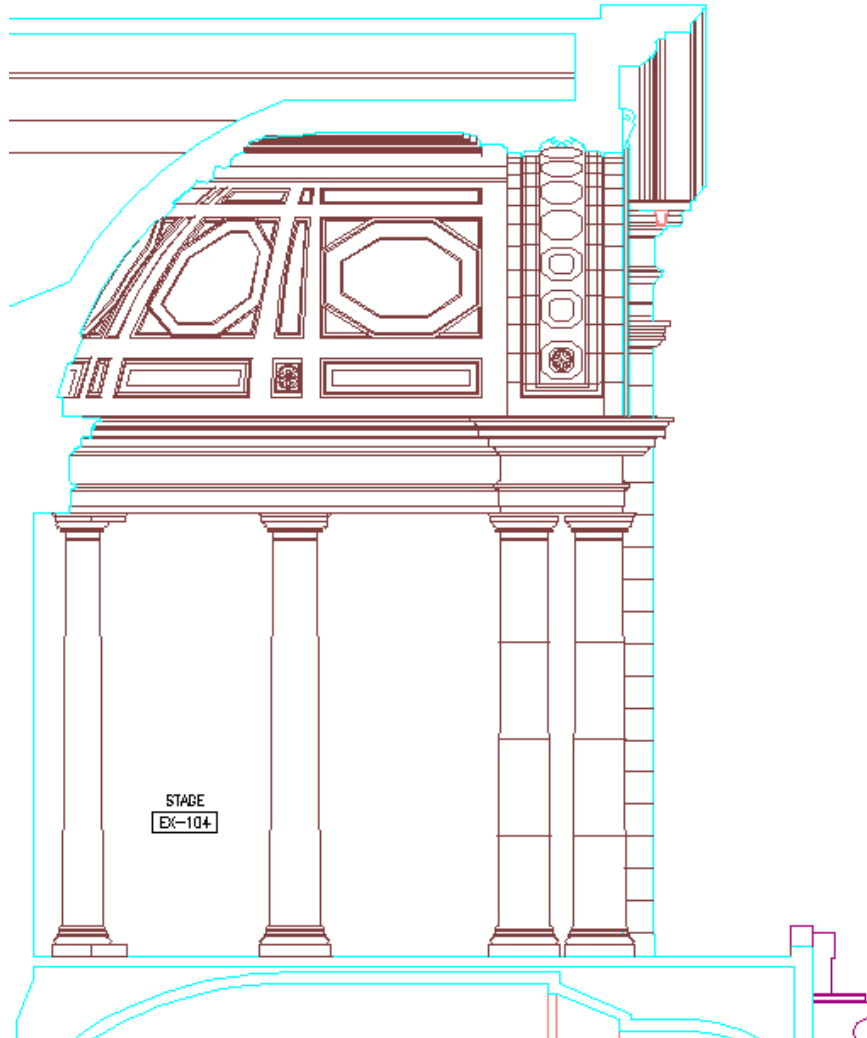
Lighting/Electrical

Jennifer Sanborn

The Memorial Reception Building Arlington National Cemetery



Stage Section Looking South:



Note: Currently there are only 5 exterior fixtures on this building located at the front entrance into the reception room. There is no need for exterior fixtures since the cemetery grounds close at dusk and the building is located within the boundaries of these grounds. I will be designing a lighting theme for this space in case the event arises where the need for a night time presentation or speech is necessary.

The Memorial Reception Building Arlington National Cemetery



Luminaires: None

Controls: None

Space Properties:

Floor:

Material: Marble
Color: Dirty White
Reflectance: 0.61

Walls:

Material: Marble
Color: Dirty White
Reflectance: 0.61

Furnishings:

- Podium

Design Criteria:

Tasks:

- Reading
- Writing
- Conversing
- Speaking
- Video Broadcasting

Illuminances:

- E_H (podium) Category D-30fc
- E_V (face) Category B-5fc

Criteria:

I am assuming this area would be characterized as a House of Worship subcategorized as Highlighted Items since there is no congregational seating.

- Appearance of Space and Luminaires: Space should be appealing to the occupant to create interest and a comfortable atmosphere. Luminaires should enhance the grandness of the architecture while also being recessed or hidden from view as much as possible to not detract from the space's features.
- Color Appearance: This criteria is particularly important since the presentations occurring in the space have the capability of being broadcasted.

Existing Lighting Conditions

Lighting/Electrical

Jennifer Sanborn

The Memorial Reception Building Arlington National Cemetery



- Direct Glare: Direct glare should be avoided through out the space, whether it is for the presenter, audience, or visitors taking a tour. Direct glare can cause the lack of visibility and cause distraction.
- Light Distribution on Surfaces: A uniform distribution of light on the surfaces should be archived particularly on the floor and steps leading to the aisles and seats.
- Light Pollution: Depending on county requirements, there might be a no tolerance policy for light pollution since it detracts from the surrounding buildings and areas.
- Modeling of Faces or Objects: Faces and objects should be well lit in this space to allow for correct identification.
- Peripheral Detection: Considering this space in located outside, a increase in peripheral detection is required to in crease the feeling of safeness through out the space.
- Points of Interest: Certain parts of the architecture might want to be lit at a greater illuminance level to create importance and significance throughout the space.
- Reflected Glare: To maintain a high level of visibility for the speaker and audience, reflected glare should be avoided.
- Shadows: Again, due to this space being outside, shadows should be avoided to increase the feeling of safety throughout the space.
- Source/Task/Eye Geometry: Also should be noted since the speaker will be reading from either a screen or papers on the podium. No fixtures should be placed in an orientation where direct light bounces into the speakers eyes.
- Surface Characteristics: Keeping a lower gloss level on the marble will keep the possibility of glare at a minimal thus increasing the visibility level of the space.

Existing Conditions:

There are no existing conditions.

Summary:

Since there is no lighting plan for this space, it creates an open opportunity to create a very interesting lighting scheme. As of right now I am not sure if I will try to implement a portable lighting system or design a retrofit system which would be permanently installed.