

CASINO GOLD

EAST COAST, USA



Photo Credit: Friedmutter Group

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Existing Lighting Conditions and Design Criteria

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Lighting Existing Conditions and Design Criteria

TECHNICAL REPORT 1, PART B

EXECUTIVE SUMMARY

This report gives the details of each space that will be studied for Senior Thesis. The design criteria outlined for each space will be the guidelines for the lighting redesign. A large workspace, special purpose space, circulation space, and an outdoor space have been chosen.

Workspace: Poker Room

Special Purpose: Player's Lounge

Circulation: Pre-Function Space

Outdoor: Plaza

THREE SCHEMATIC DESIGN CONCEPTS

Three different design concepts will be produced for the outdoor plaza.

PSYCHOLOGICAL IMPRESSION

A lighting solution that provides an impression of spaciousness will be produced for the Pre-Function space.

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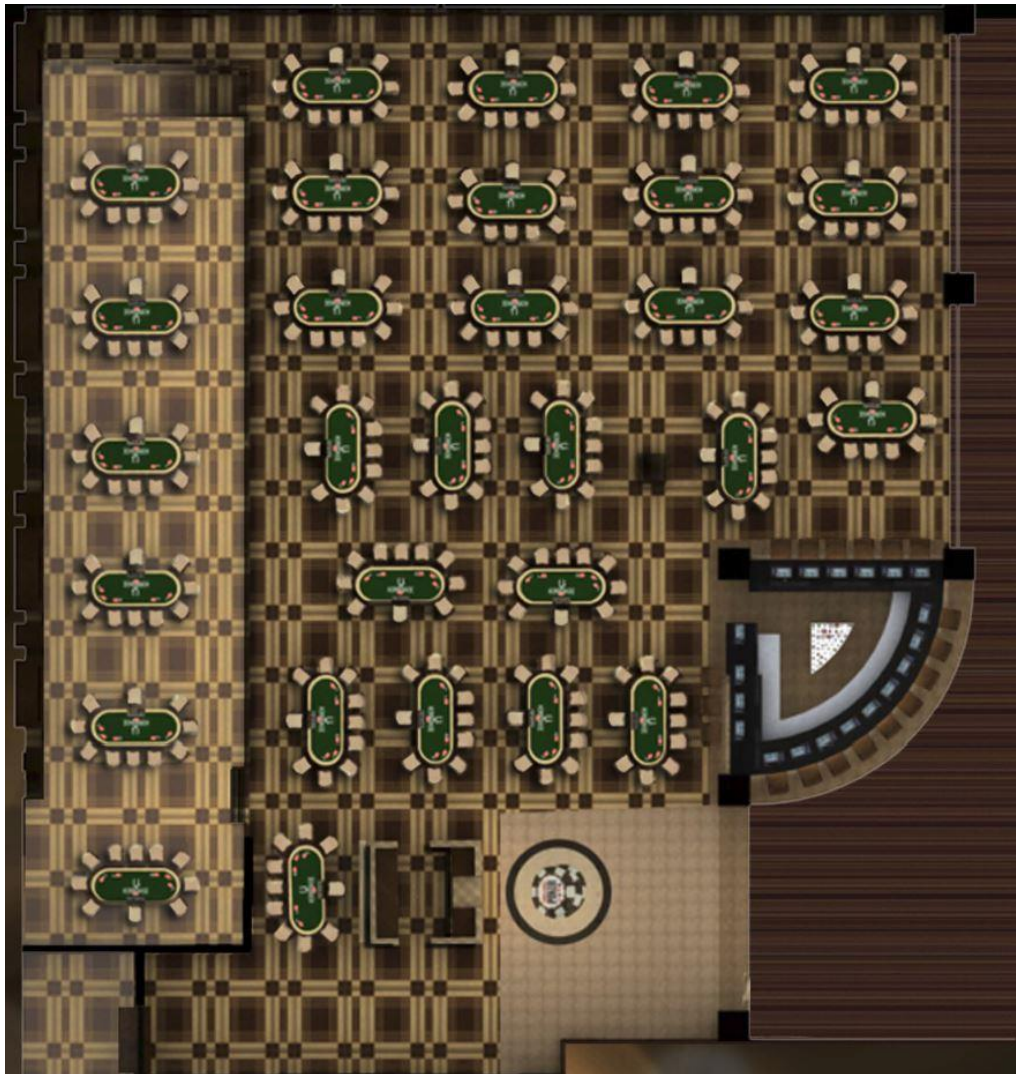
PLAZA 15

Large Work Space – Poker Room

For some it is a form of entertainment, for others it is a source of income. A poker room is about as close to a workspace as a casino will have. Players grind away at these tables for hours on end, often without leaving their seats. A space this heavily used must be visually comfortable so occupants will stick around for the long haul.

SPATIAL ENVIRONMENT

The World Series of Poker Room is located in the southeast quadrant of the second level in the casino. The floor space in the Poker Room is approximately 6,800 sq. ft. and will be split into two areas. One area will be for general poker games, while the other smaller area will most likely be for high-limit games or special events. The smaller area will be raised two steps above the main area and will include decorative railings, as well as an accessible ramp. While the main poker space will house roughly twenty tables, the smaller area will contain six or seven. The following image is a visual description of the Poker Room geometry and furniture layout.



Poker Room Furniture Layout: Friedmutter Group

MATERIALS

The carpeting in the Poker Room is an interesting pattern that contrasts dark brown with lighter stripes in a square pattern. The walls continue this design by using dark colored wood to border painted areas of GWB, as well as artwork and televisions. Ceilings in the Poker Room are 15' tall with 16' recessed squares that are bordered with more dark wood trim. There is also a tiled floor section at the entrance to the Poker Room, seen in the lower left area of the rendering below.



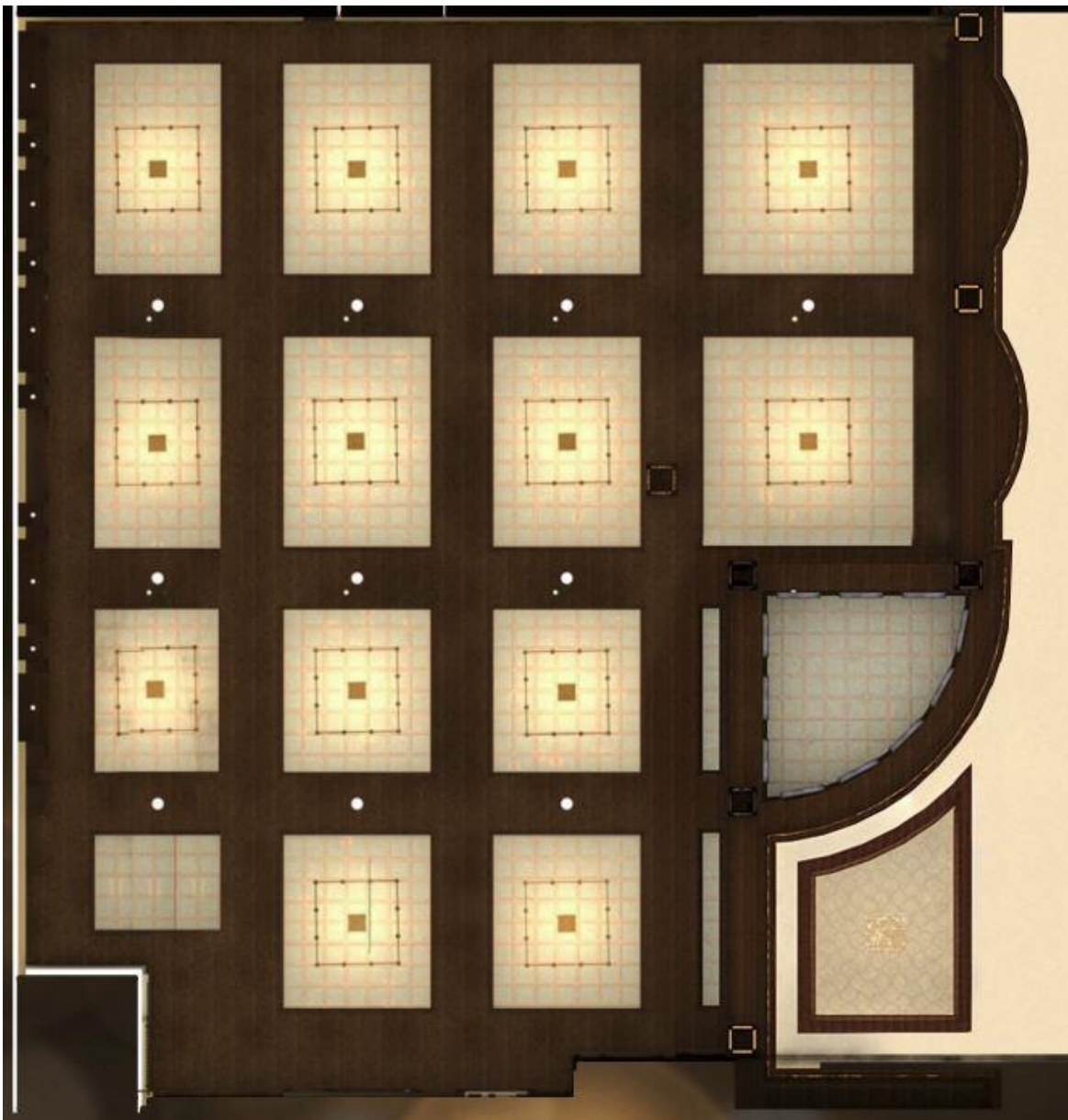
Poker Room Entrance: Friedmutter Group

EXISTING LIGHTING

The existing lighting in the Poker Room is a mix of pendant and recessed luminaires. Recessed downlights provide the direct light needed on the poker tables, while the pendants supply the majority of the ambient light. The following tables provide details of the existing luminaires.

TYPE	MTG.	DESCRIPTION	MANUFACTURER	CATALOG NUMBER
DL26	Pendant	Custom chandelier	TBD	TBD
G5	Recessed	Line voltage adj. accent w/ LED lamp, 5" diameter, 8° beam	Spectrum	SGA5IN-AR5500-WE-PF-SO
G6	Recessed	Line voltage adj. accent w/ LED lamp, 5" diameter, 23° beam	Spectrum	SGA5IN-AR5500-WE-PF-SO
R14	Surface	Linear LED	Sistimalux	7050-LD3-B-10
R23	Recessed	Line voltage downlight w/ LED lamp, 23° beam	Spectrum	SG5IN-AR5215-WE-PF

TYPE	LOAD (VA)	VOLTS
DL26	Allow 600	120
G5	16.3	120
G6	16.3	120
R14	6/foot	120
R23	16.3	120



Poker Room Reflected Ceiling Plan: Friedmutter Group

DESIGN CRITERIA

The following design criteria are listed in order of importance.

1. Energy Usage
 - a. Must comply with ASHRAE 90.1 – 2010
 - i. LEDs are very attractive due to their long life, low energy use, and the 24 hour nature of this building
2. Aesthetic Appeal
 - a. Draw players in by creating an inviting scene
 - b. Reduce glare as much as possible for the players because they spend so much time in this one room
 - c. Highlight all of the high end and expensive finishes in the poker room
3. Lighting Controls
 - a. Proper dimming system may possibly extend lamp life of LEDs
 - b. Control system may improve quality of maintenance for the lighting system
4. Illuminance Levels
 - a. Table 28.2 in The Lighting Handbook, 10th Edition, states that for table gaming areas illuminance criteria must come from gaming and surveillance specialists

LIGHTING EVALUATION

It seems that energy usage and aesthetic appeal will be the two most important criteria for the Poker Room. This is due in part to their being no established recommendations for illuminance levels. Based on the existing luminaires listed above, and the included images, the current design would satisfy the criteria on a basic level.

Special Purpose – Player’s Lounge

SPATIAL ENVIRONMENT

The Player’s Lounge is located in the southwest quadrant of the casino’s second level. This spacious 1,357 sq. ft. area includes seating as well as a full service bar. The lounge allows 45 guests to choose between comfortable couches, chairs, or a place at the bar. The image below shows the furniture layout and geometry of the Player’s Lounge.



Player’s Lounge Furniture Layout: Friedmutter Group

MATERIALS

The finishes in the Player's Lounge include painted GWB, dark wood paneling, tile flooring, and attractive carpeting. The following rendering shows a nice mix of the existing materials.



EXISTING LIGHTING

There is an exciting mix of lighting happening in the Player's Lounge. Pendants, cove lighting, downlights, and table lamps all contribute their own piece to the lighting scheme. The following table identifies the existing luminaires in the Player's Lounge.

TYPE	MTG.	DESCRIPTION	MANUFACTURER	CATALOG NUMBER
DL13	Pendant	Custom lounge chandelier	TBD	TBD
DL14	Pendant	Custom lounge chandelier	TBD	TBD
DL15	Pendant	Custom lounge chandelier	TBD	TBD
DL23	Table	Custom table lamp	TBD	TBD
G1AD	Recessed	Line voltage downlight w/ LED lamp, 4" diameter, 25° beam	Spectrum	SGS4IN-AR4115-WE-PF-MOD
G1D	Recessed	Line voltage downlight w/ LED lamp, 4" diameter, 25° beam	Spectrum	SGS4IN-AR4115-WE-PF

G1	Recessed	Line voltage downlight w/ LED lamp, 4" diameter, 25° beam	Spectrum	SGS4IN-AR4115-WE-PF
G2D	Recessed	Line voltage adj. accent w/ LED lamp, 4" diameter, 25° beam	Spectrum	SGA4IN-AR4500-WE-PF-SO
H6D	Track	Line voltage trackhead wallwasher w/ LED lamp, 6" diameter, 25° beam	Lighting Services	LN30-00-B-AA996
R2	Surface	Linear LED, integral driver	Winona	WSL-210-15-27K-ND24V-A-SE-X-STD
R6D	Cove	Flexible LED tape light	WAC Lighting	LED-T24-W-WT

TYPE	LOAD (VA)	VOLTS
DL13	Allow 100	120
DL14	Allow 160	120
DL15	Allow 40	120
DL23	Allow 60	120
G1AD	9	120
G1D	9	120
G1	9	120
G2D	9	120
H6D	16.3	120
R2	12.2/foot	120
R6D	3/foot	120

DESIGN CRITERIA

The following design criteria are listed in order of importance.

1. Energy Use
 - a. Lighting design must comply with ASHRAE 90.1 – 2010
2. Aesthetic Appeal
 - a. Accentuate finishes
 - b. Avoid direct light in this social setting
 - c. Attract guests into the bar area
 - d. Provide a sleek, modern design
3. Illuminance Levels
 - a. The following recommendations are from The Lighting Handbook, 10th Edition
 - b. Table 22.2, Common Applications Illuminance Recommendations, Food Service
 - c. Assume visual age of observers where at least half are 25-65

Bar	Horizontal Targets (lux)	Vertical Targets (lux)
Back Bar	50	150
Bar Top	75	20
General Seating	50	30
Lounge	100	50
Work Surfaces	100	20

4. Lighting Controls
 - a. Proper dimming system may possibly extend lamp life of LEDs
 - b. Control system may improve quality of maintenance for the lighting system

LIGHTING EVALUATION

The current lighting system provides an acceptable amount of light to the required areas within the lounge. The specified luminaires are an interesting combination and may result in a space that is a little too busy. Creating more cove and recessed lighting in this space could produce a more streamlined or sleek design. The following rendering shows the large number of ceiling luminaires that may be changed in the redesign.



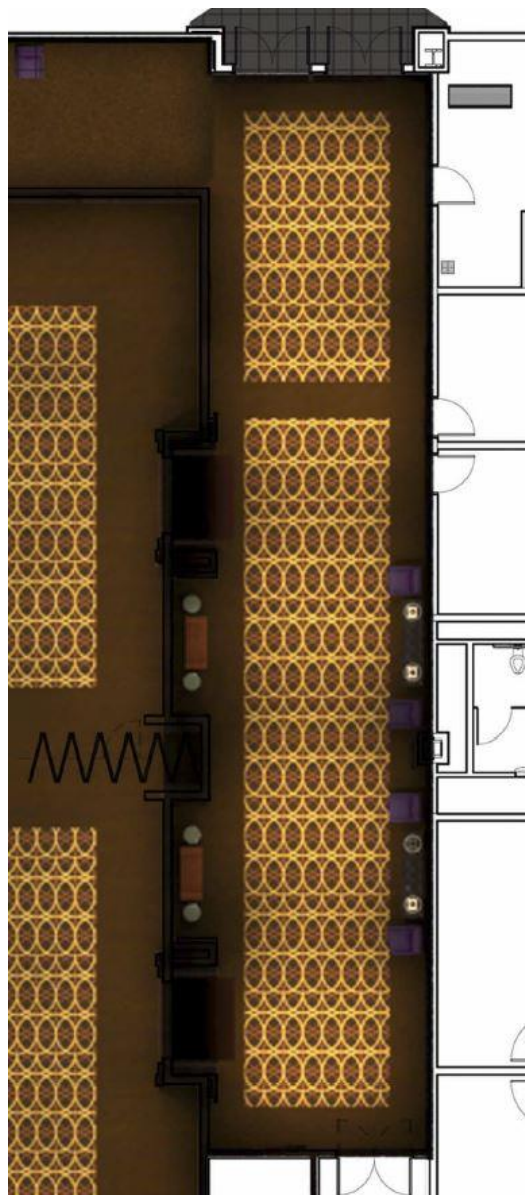
Player's Lounge: Friedmutter Group

Circulation – Pre-Function

Before a conference, lecture, or group dinner begins, guests congregate around the multi-purpose room entryways to be the first through the door. A properly designed pre-function space provides a comfortable holding area for these eager guests. Even though it doubles as a circulation space, it must live up to the high design standards which exist in the rest of the casino.

SPATIAL ENVIRONMENT

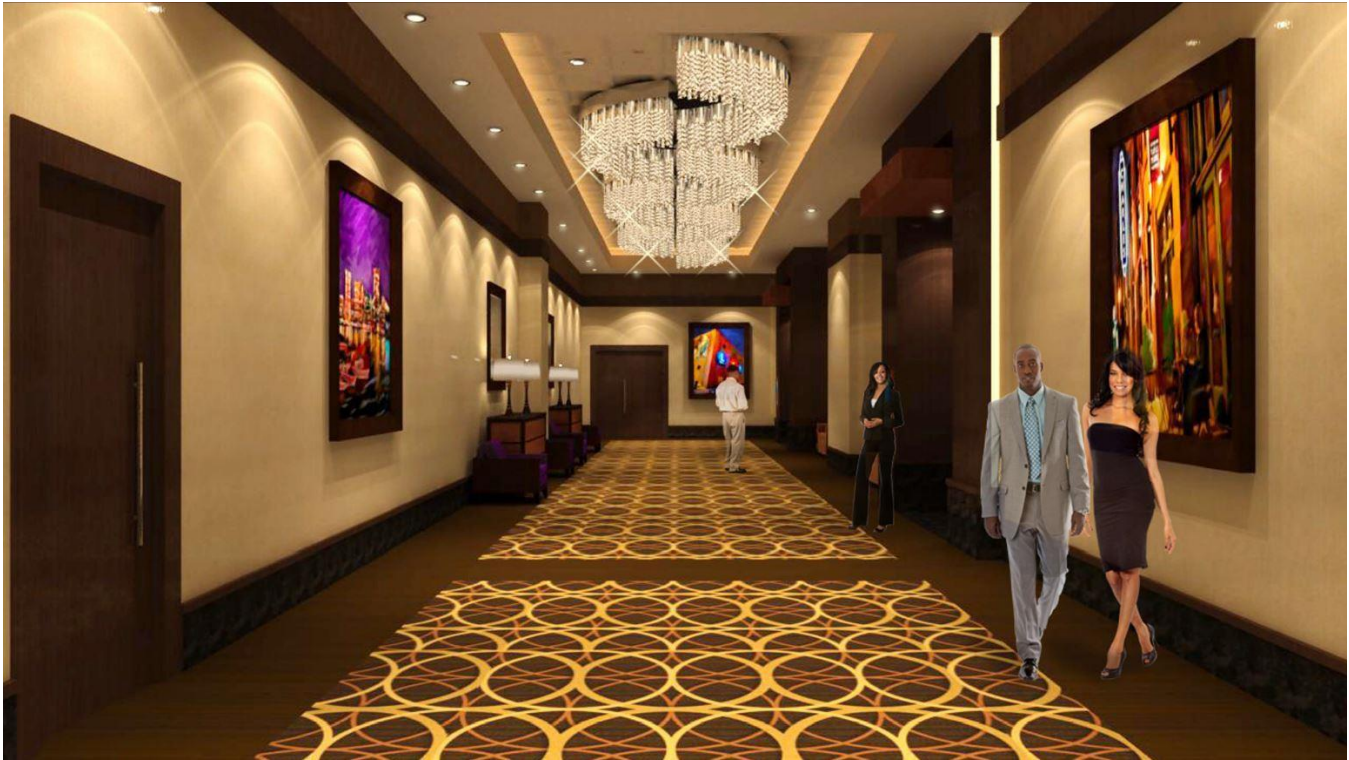
The Pre-Function space is essentially just that, a space to gather while waiting to enter a function in the multi-purpose room. This hallway type circulation space covers roughly 1,200 sq. ft. in the southeast quadrant of the casino's first level. The following image shows the rectangular geometry of the space and the furniture layout.



Pre-Function Furniture Layout: Friedmutter Group

MATERIALS

The pre-function space follows suit with the rest of the casino by using painted GWB, carpeting, and dark wood trim. The materials are shown well in the following rendering.



Pre-Function: Friedmutter Group

EXISTING LIGHTING

The above rendering of the pre-function space shows the existing lighting quite well. There is a mix of recessed downlights, cove lighting, table lamps, and more custom chandeliers. The following table outlines the existing luminaires in more detail.

TYPE	MTG.	DESCRIPTION	MANUFACTURER	CATALOG NUMBER
DL12	Pendant	Custom chandelier	TBD	TBD
G6D	Recessed	Line voltage accent luminaire w/LED, 23° beam	Spectrum	SGA5IN-AR5500-WE-PF
LF3002	Table	Custom table lamp	TBD	TBD
R6D	Cove	Flexible LED tape light	WAC Lighting	LED-T24-W-WT
R19AD	Recessed	LED open downlight, 30° beam	Gotham	ICO-27-20-6WTR-LD-30

TYPE	LOAD (VA)	VOLTS
DL12	Allow 200	120
G6D	16.3	120
LF3002	Allow 60	120
R6D	3/foot	120
R19AD	28	120

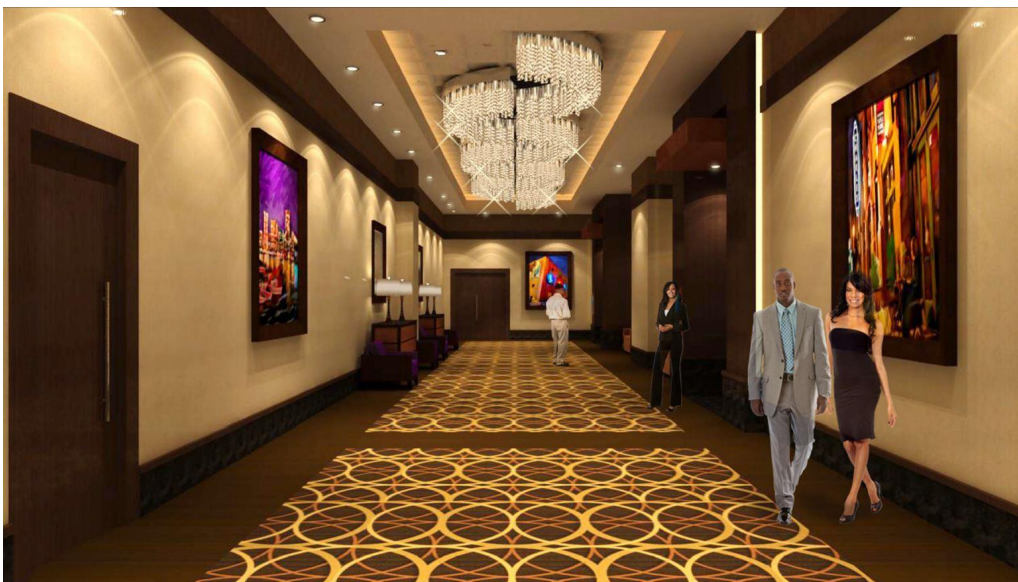
DESIGN CRITERIA

The following design criteria are listed in order of their importance.

1. Energy Use
 - a. Must comply with ASHRAE 90.1 – 2010
2. Psychological Impression
 - a. Create an impression of spaciousness
3. Illuminance Levels
 - a. The Lighting Handbook, 10th Edition, provides the following recommended illuminance values for half of observers being 25-65 years old
 - i. Pre-function/Circulation Space
 - ii. Horizontal Targets: 50 lux
 - iii. Vertical Targets: 15 lux

LIGHTING EVALUATION

The custom chandeliers and high ceilings make this an elegant Pre-Function space. A feeling of spaciousness may be achieved by reducing the amount of scalloping that is currently lining the hallway. The cove lighting around the entrance to the multi-purpose space should be expanded upon in the new design.

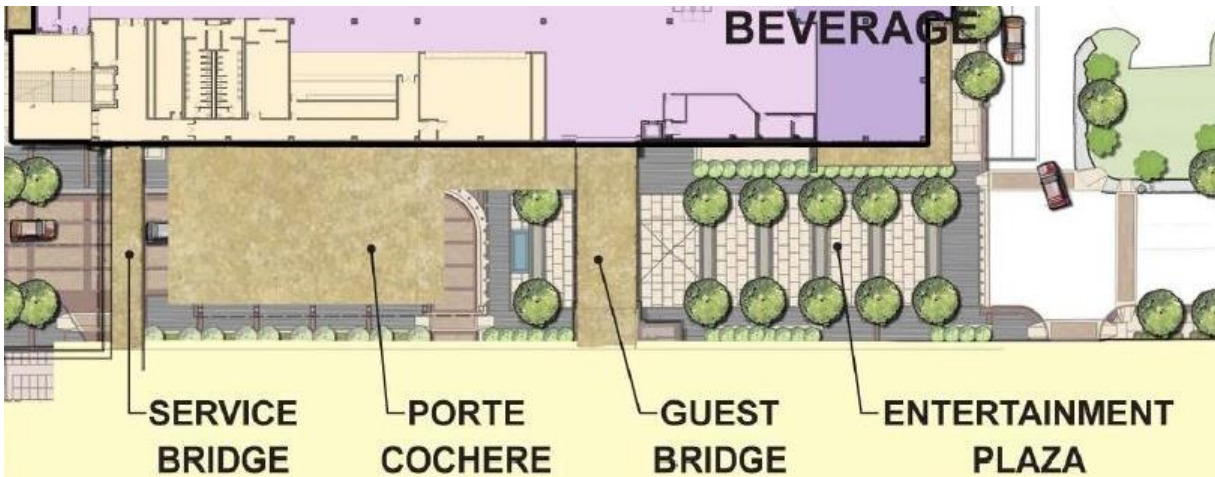


Pre-Function Space: Friedmutter Group

Outdoor – Plaza

SPATIAL ENVIRONMENT

First impressions are a key factor in successful relationships, businesses, and especially casinos. The outdoor plaza serves as a link between ground level transportation and the casino. It can also be a place to relax, wait for friends, or do some great people watching. The plaza is a simple rectangle, but offers interesting lighting opportunities with its landscaping and sitting areas. The following images describe the plaza layout and geometry.



Plaza Layout: Friedmutter Group



Plaza: Friedmutter Group

MATERIALS

The Plaza is mainly constructed of stone and concrete.

EXISTING LIGHTING

Outdoor lighting for the plaza is a combination of pole mounted luminaires and small spot lights to accent the foliage. The following tables provide details on the existing lighting.

TYPE	MTG.	DESCRIPTION	MANUFACTURER	CATALOG NUMBER
M19	Surface	Architectural spot	BK Lighting	EV-0-9-11-A-HP35E
P1	Pole	Outdoor pole luminaire	Selux	SAC-R2-1-H070T6-NOL

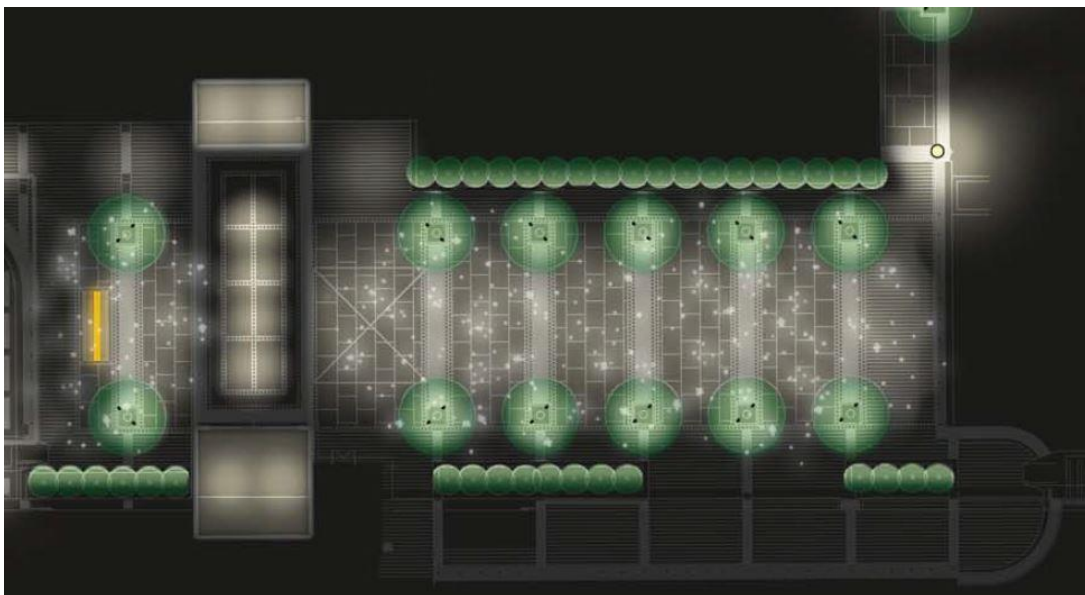
DESIGN CRITERIA

The following design criteria are listed in order of importance.

1. Safety
 - a. Meet or exceed IES recommended illuminance values for a high activity plaza
 - i. The Lighting Handbook, 10th Edition, Table 34.2
 - ii. Horizontal Targets at finished grade: 8 lux
 - iii. Vertical Targets at 5' AFG: 4 lux

LIGHTING EVALUATION

When looking at the images of the outdoor space there are some opportunities to change up the lighting design. More light in the plaza could make guests feel safer while at the same time still be aesthetically pleasing. The low illuminance recommendations will be easily met with the new designs. The following image shows the current lighting in the plaza.



Plaza: Friedmutter Group