

Stephanie Deckard | Final Thesis Presentation | Lighting/Electrical

Lighting Concept

South Façade and Grounds

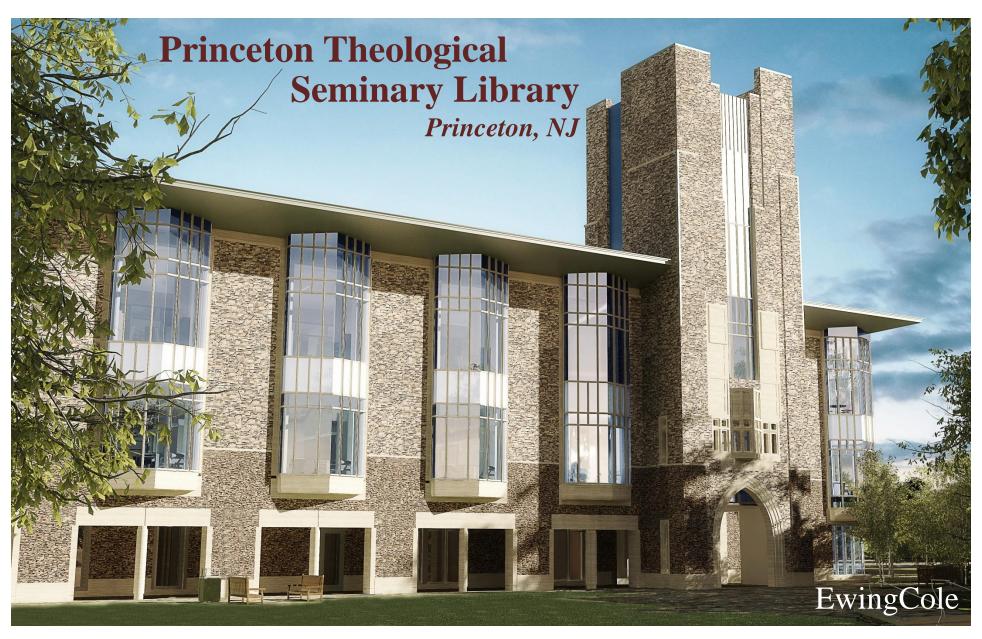
Lighting Design

#### Atrium

Architectural Breadth: Daylight/Circulation

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Electrical Depth: Dual Bus System



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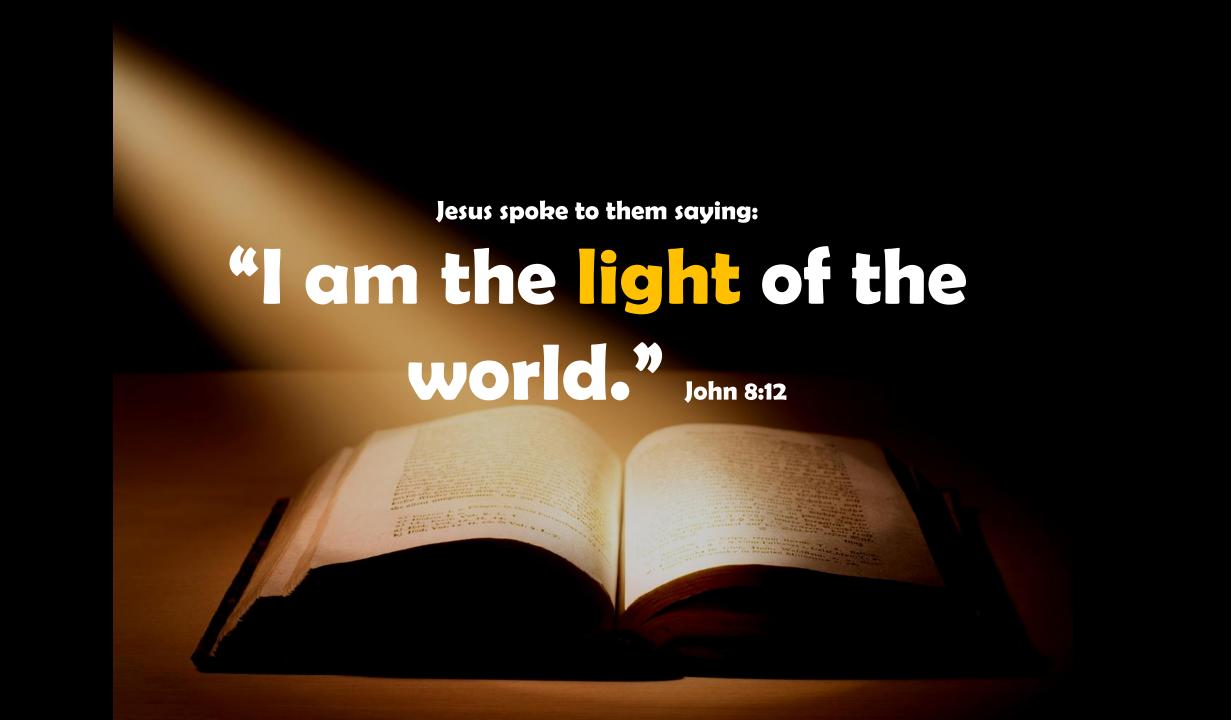




HISTORICAL

DAYLIGHT

FUNCTIONAL



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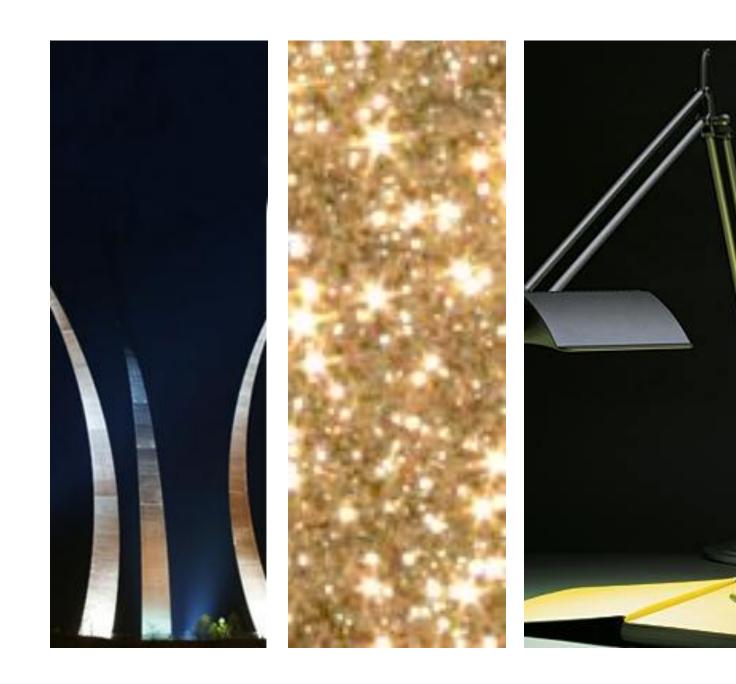
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**ICONIC** 

SPARKLE

**TASKS** 

Lighting Concept

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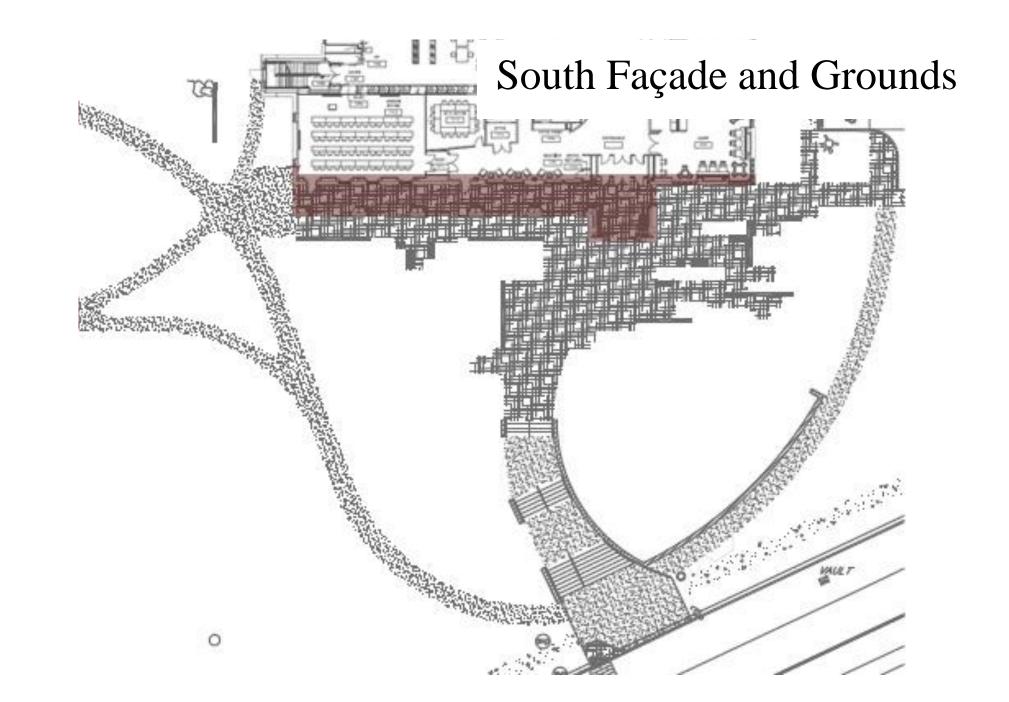
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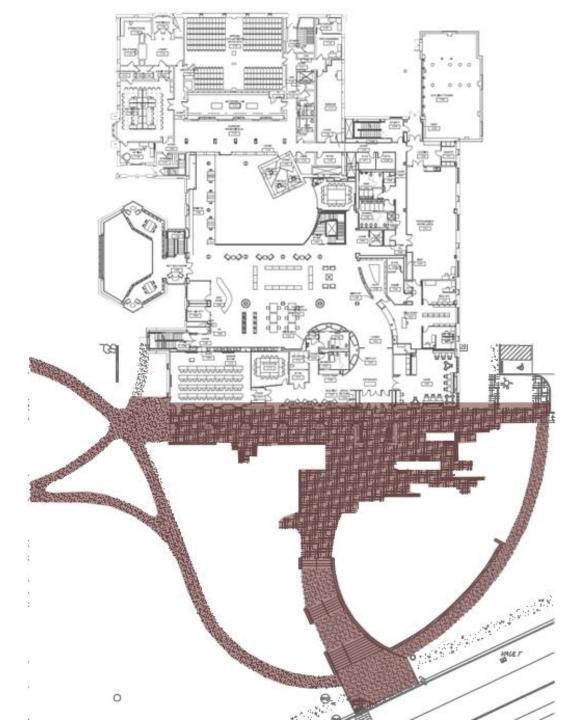
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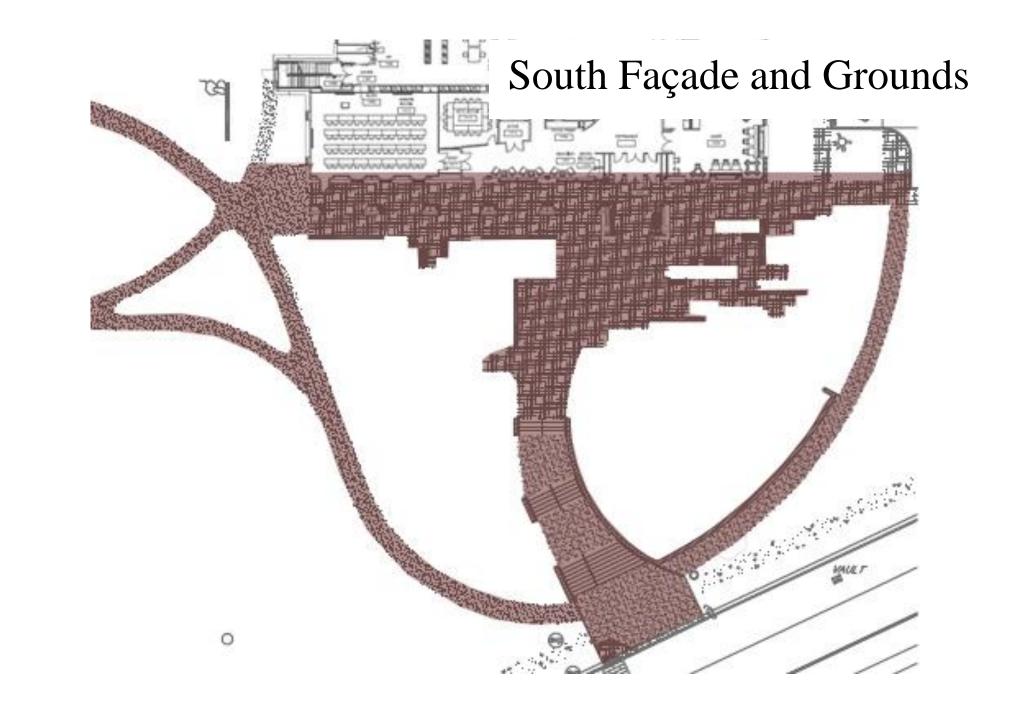
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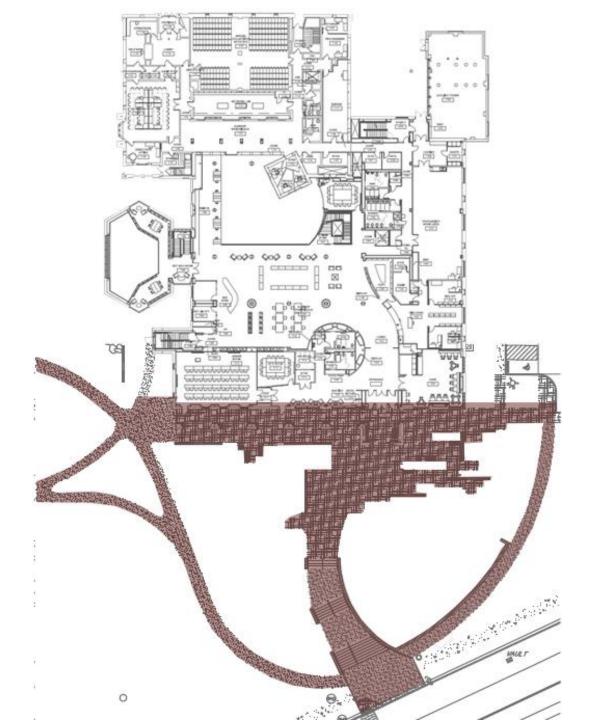
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**ICONIC** 

WAYFINDING

**SAFETY** 

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## South Façade and Grounds

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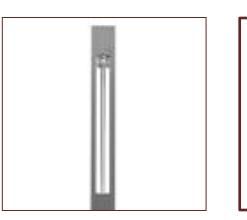
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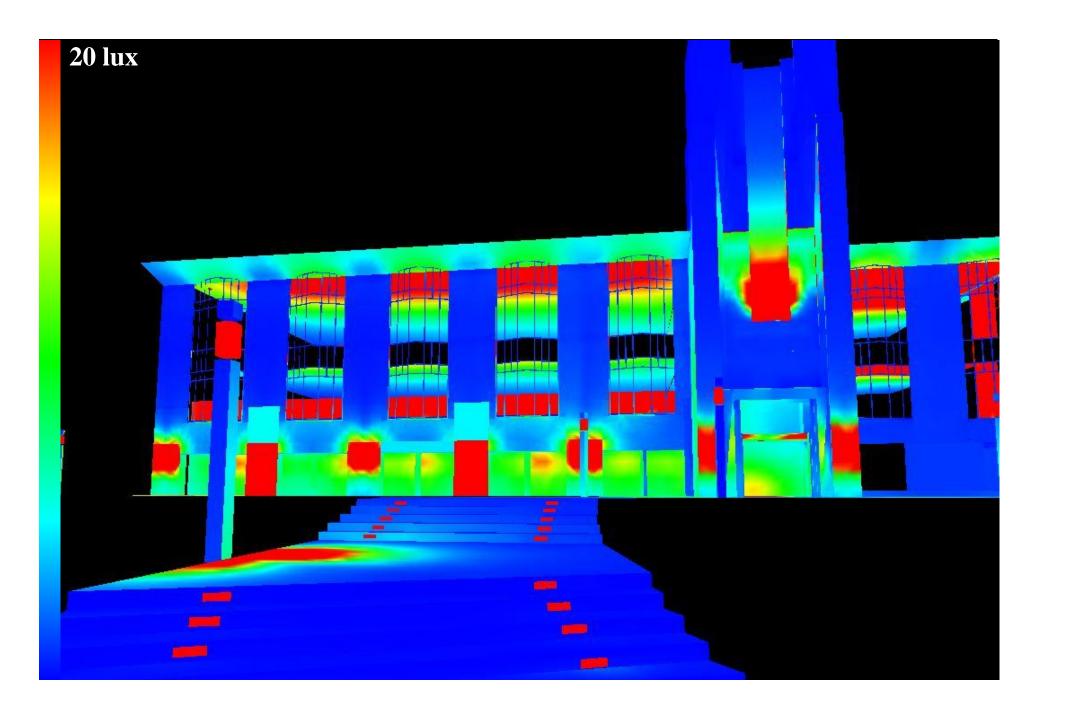
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## MEDIUM ACTIVITY LZ2

Façade  $E_v = 60 lux$ 

Paths to Curb  $|E_h=7 |$  lux

 $E_v = 1.1 lux$ 

Canopied Entry  $E_h = 12.6 \text{ lux}$  $E_v = 7.7 \text{ lux}$ 

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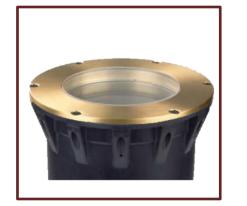
















Lighting Concept

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## GROUNDS

Walkways < 10ft wide | 0.7 W/lf Walkways >= 10ft wide | 0.12 W/sqft Pedestrian tunnels | 0.14 W/sqft

## **FACADE**

Facade | 0.1 W/sqft

## **ENTRANCE**

Main Entries | 10.8 W/sqft

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LUTRON ENERGI SAVR NODE

LUTRON GRAFIK EYE

LUTRON XPJ SWITCHING CONTROL

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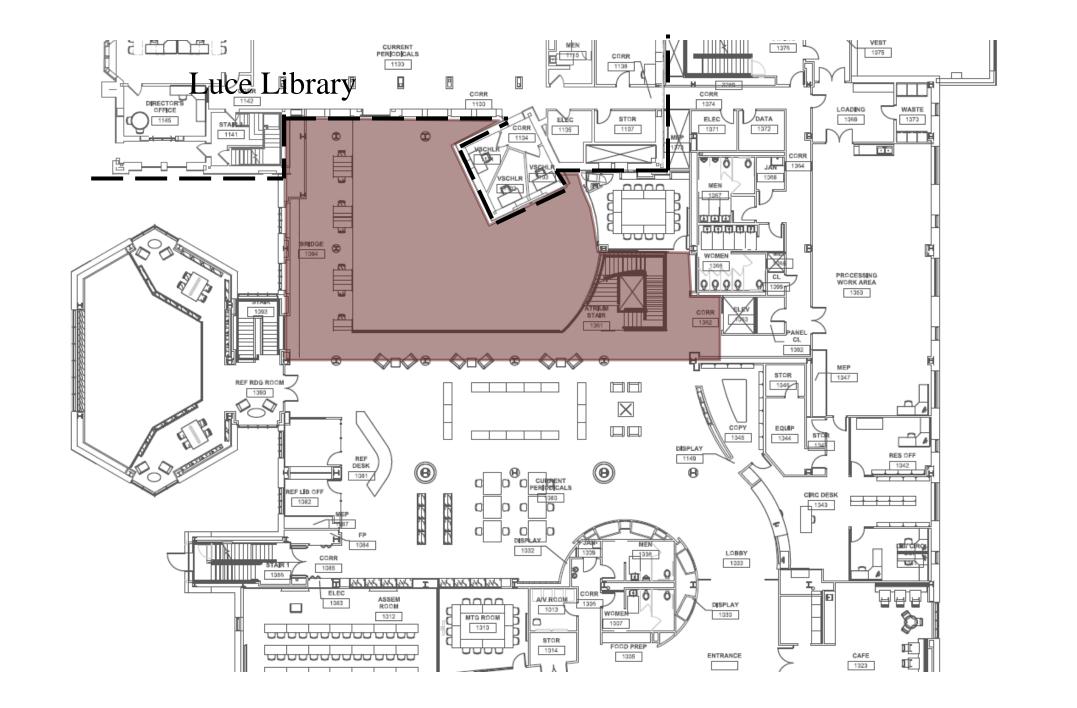
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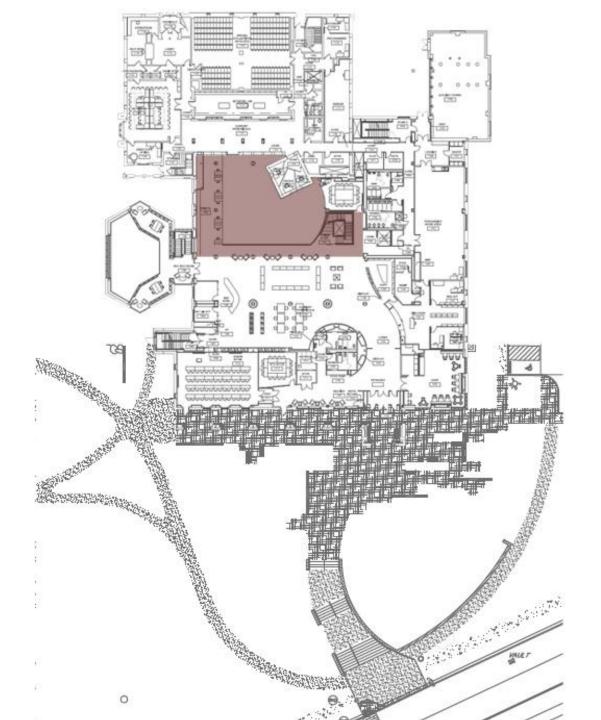
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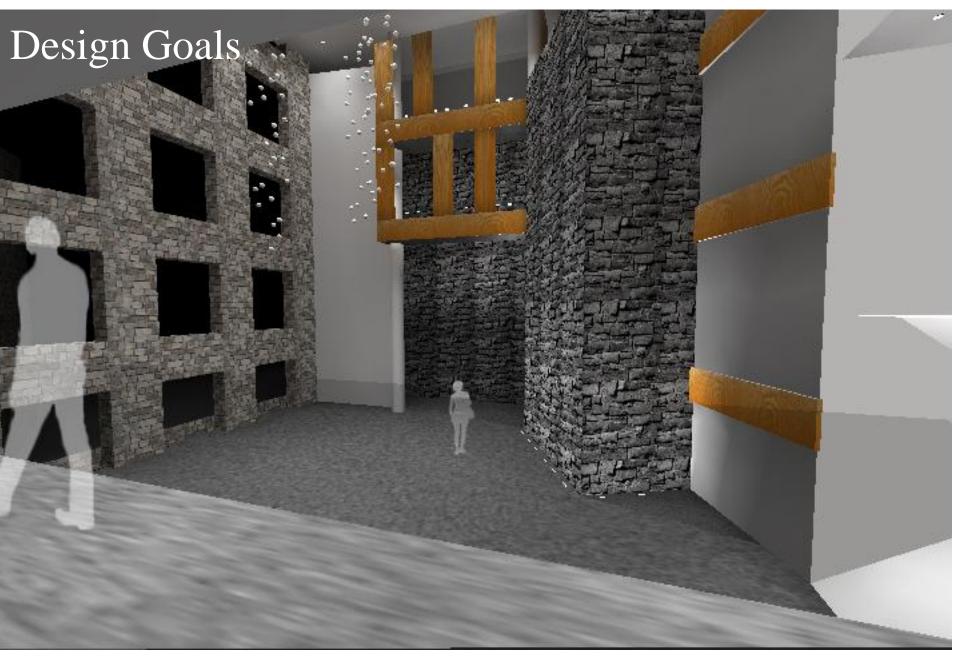
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## FUNCTIONAL

MEMORABLE

**EFFICIENT** 

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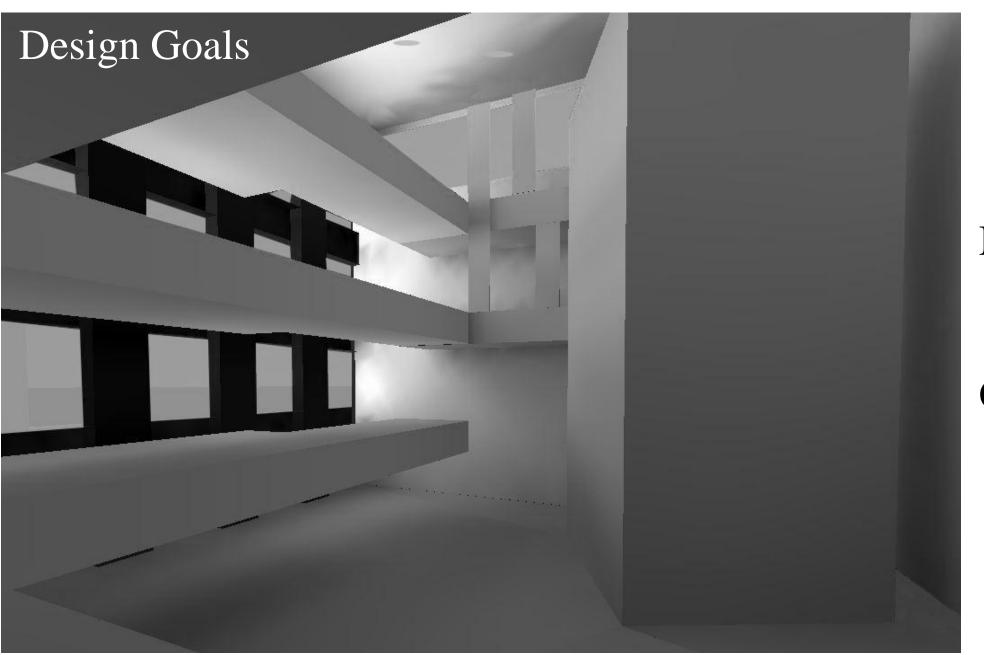
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## MAXIMIZE DAYLIGHT

CENTRALIZE CIRCULATION

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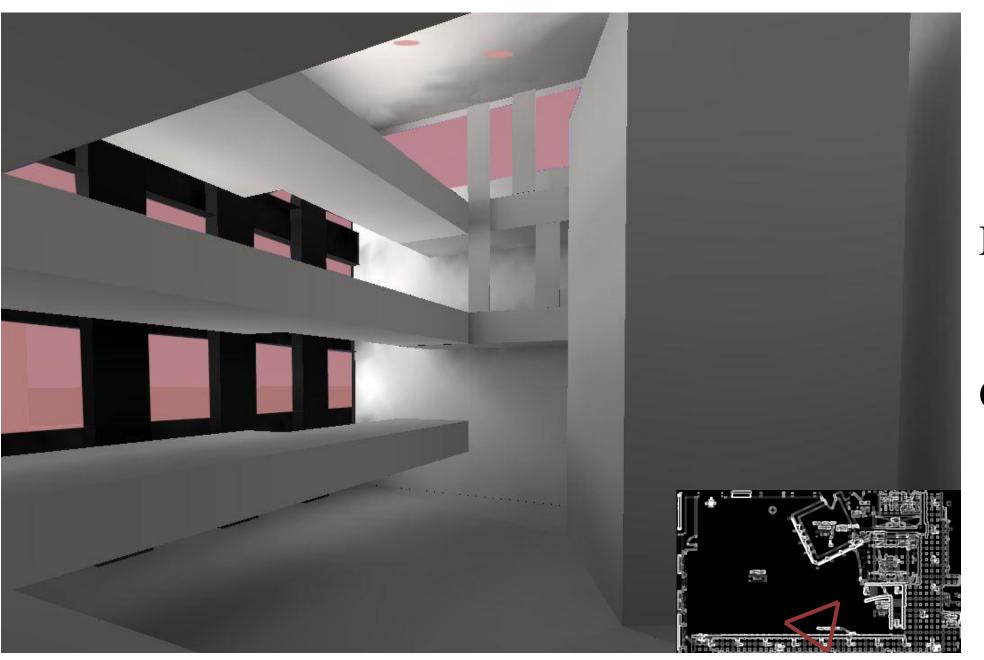
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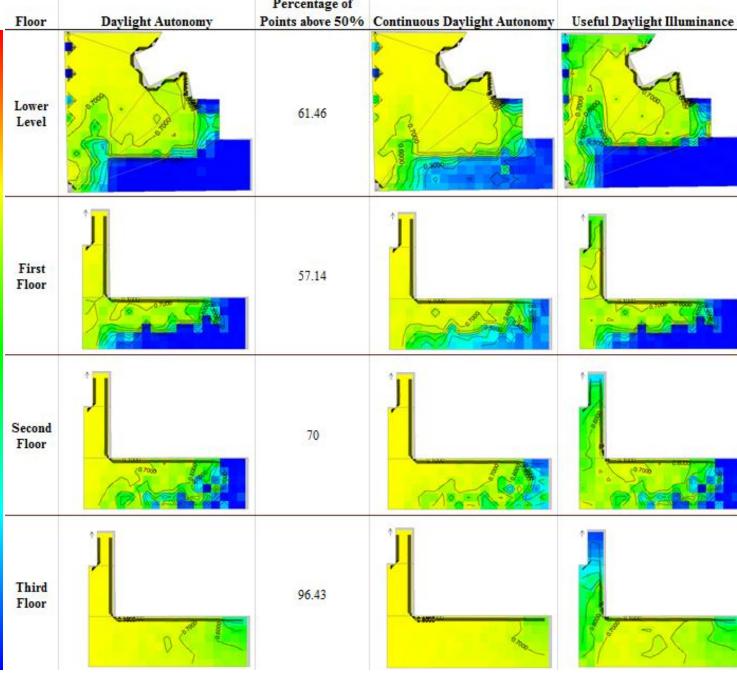
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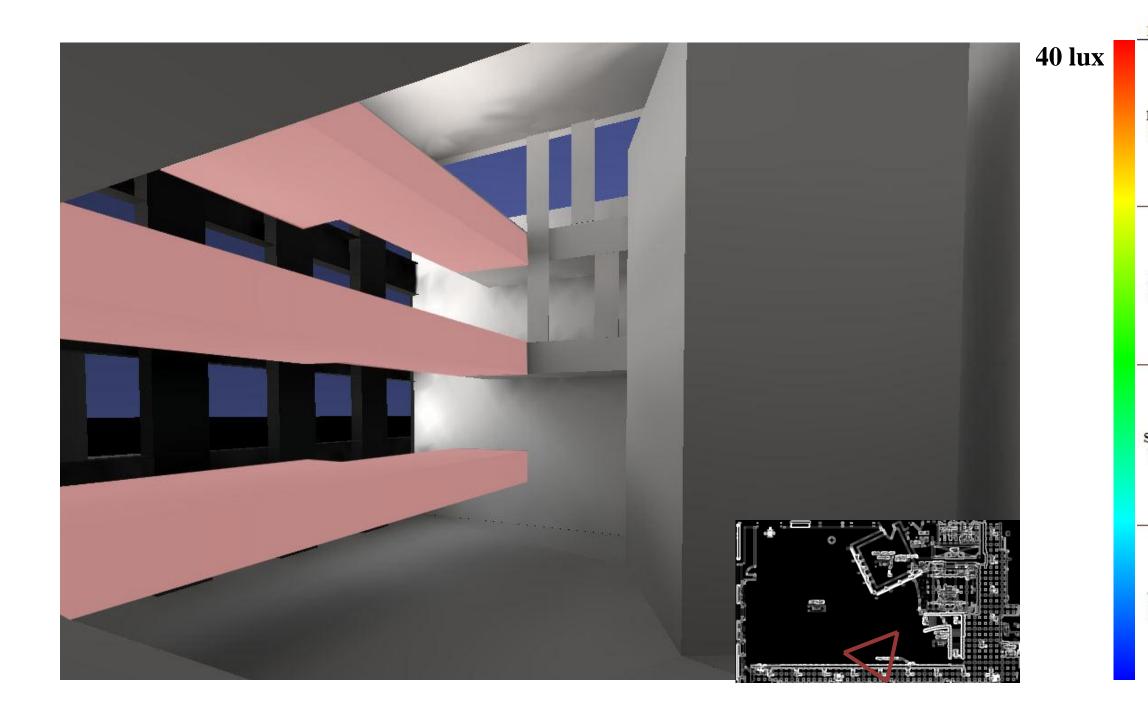
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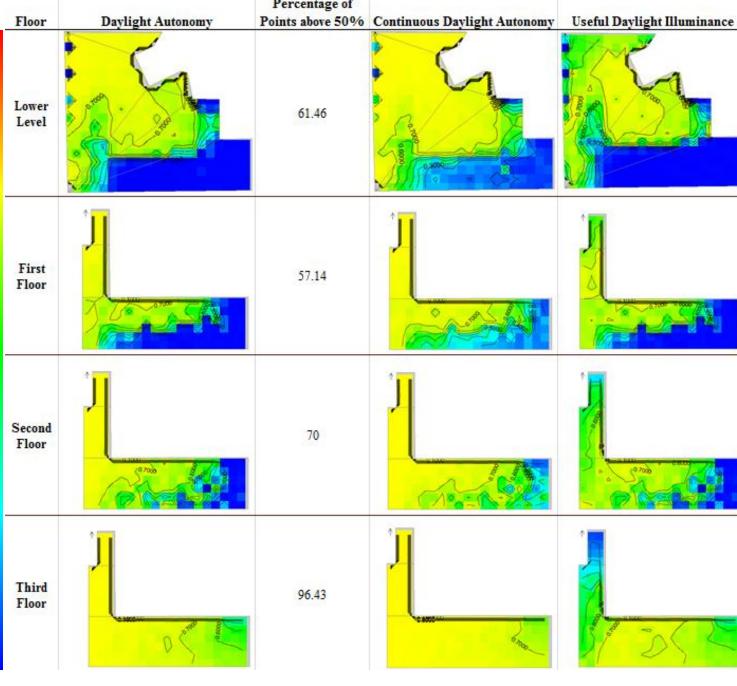
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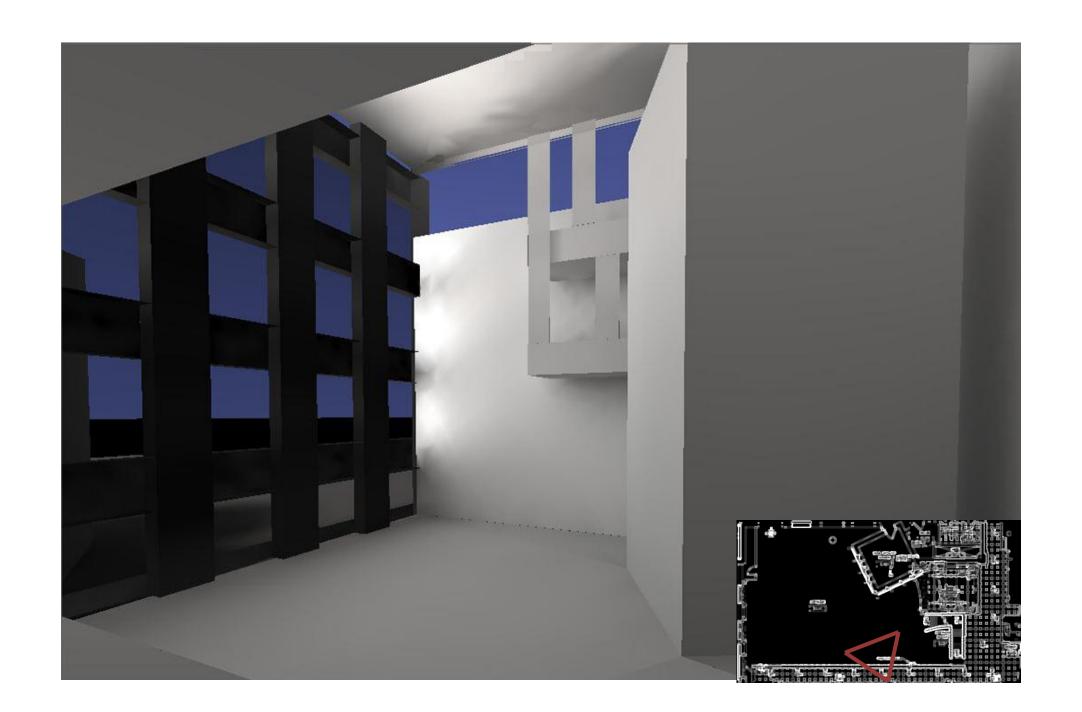
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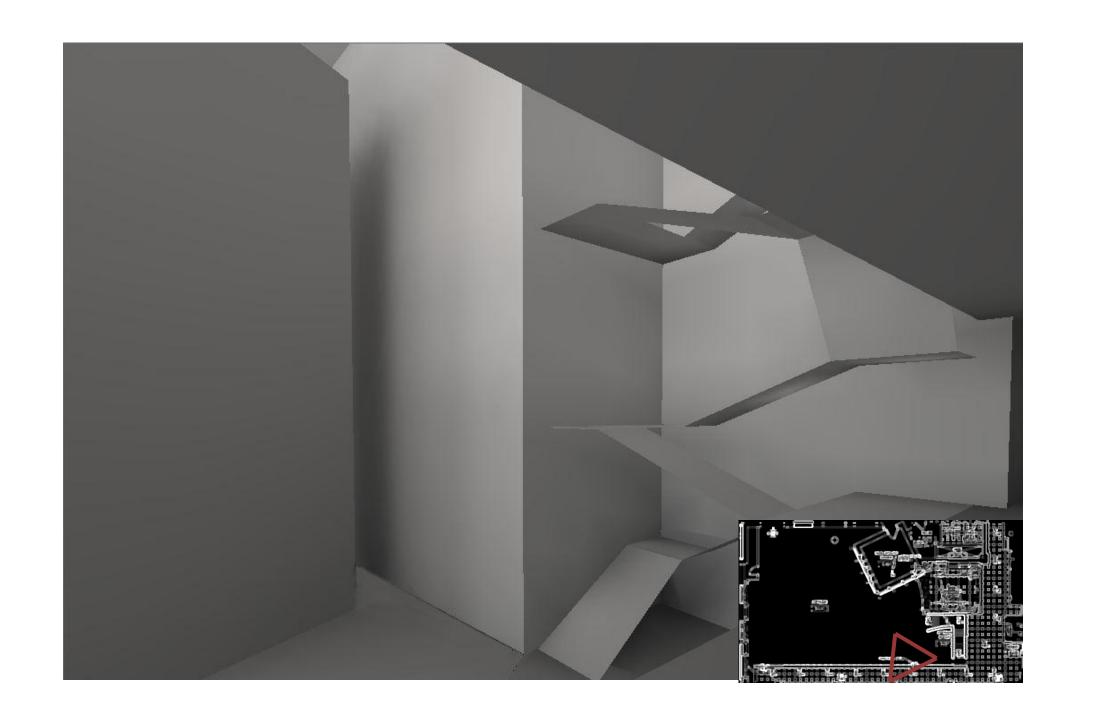
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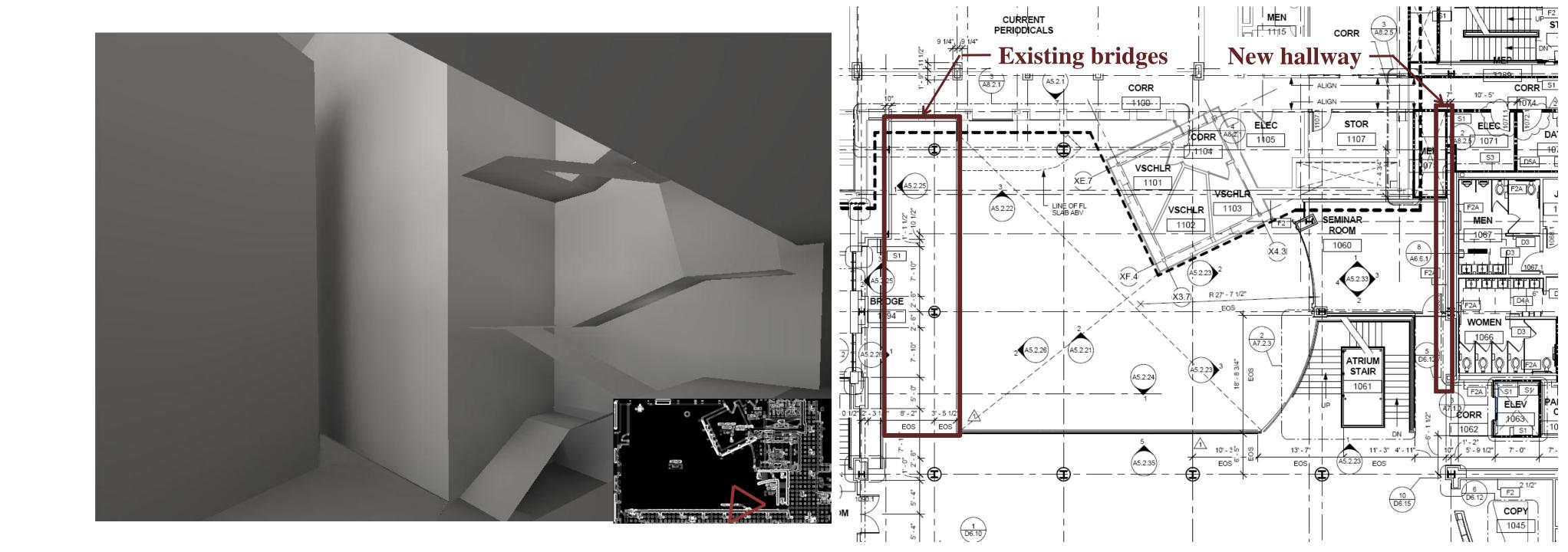
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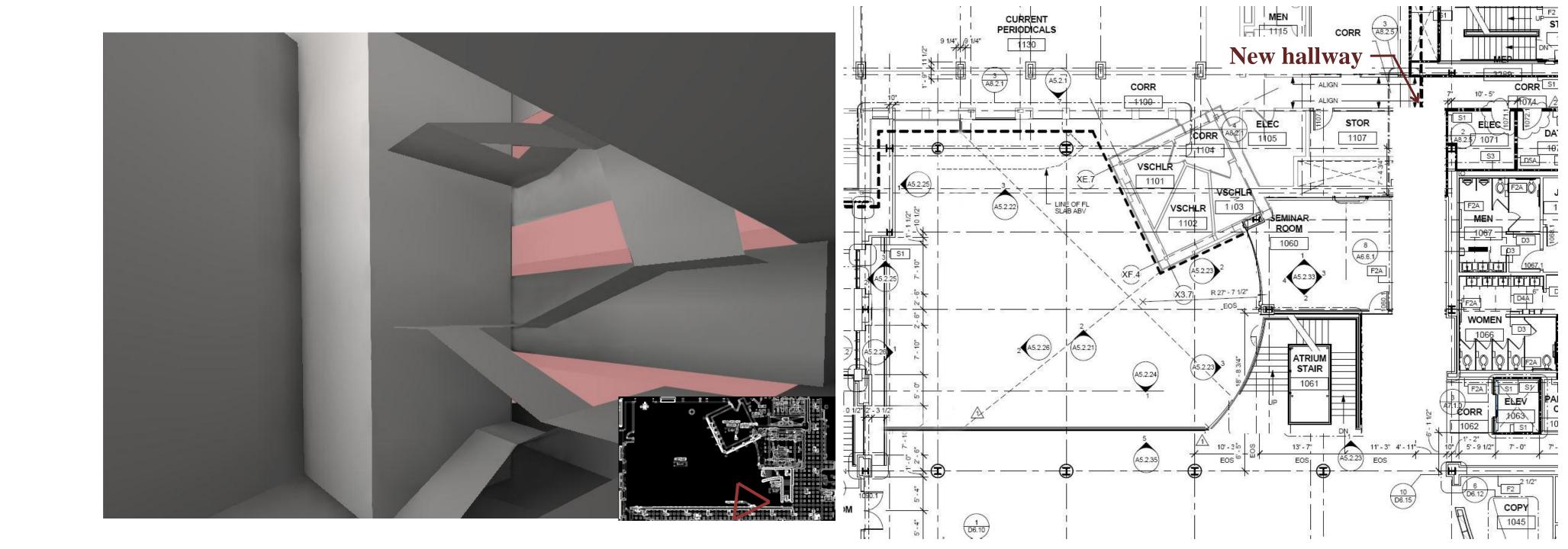
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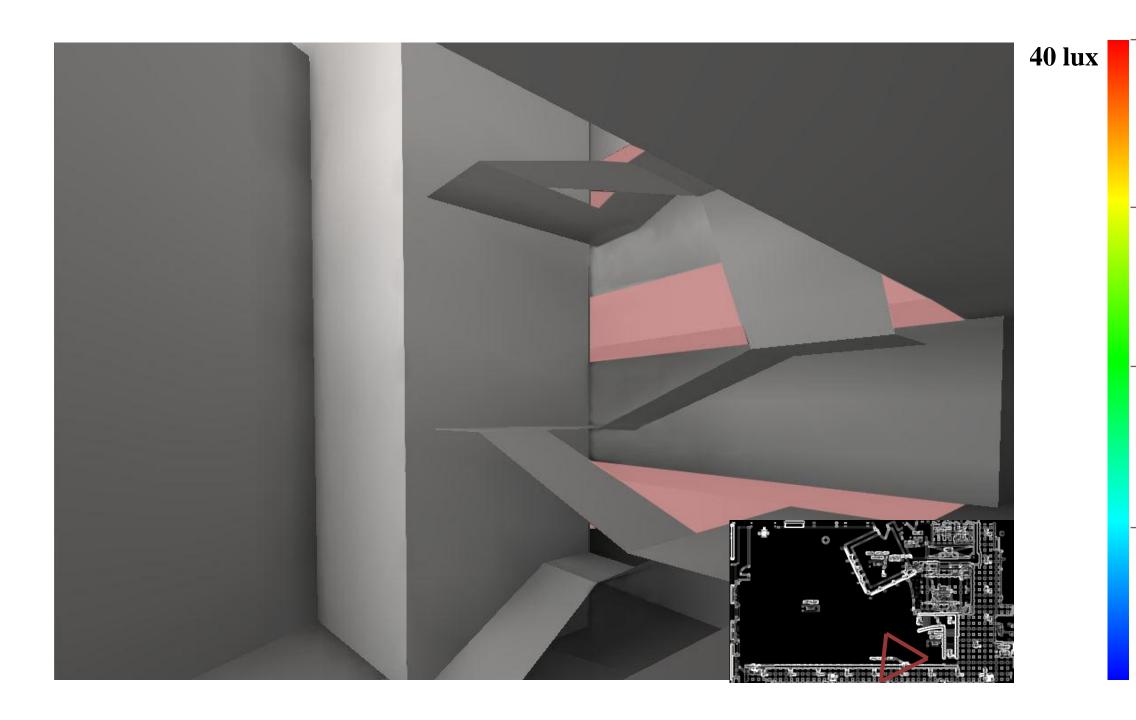
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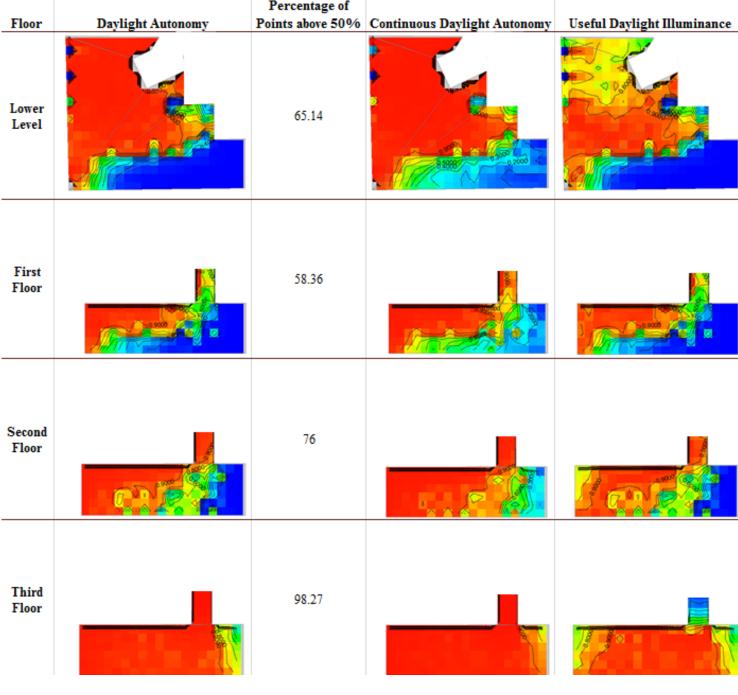
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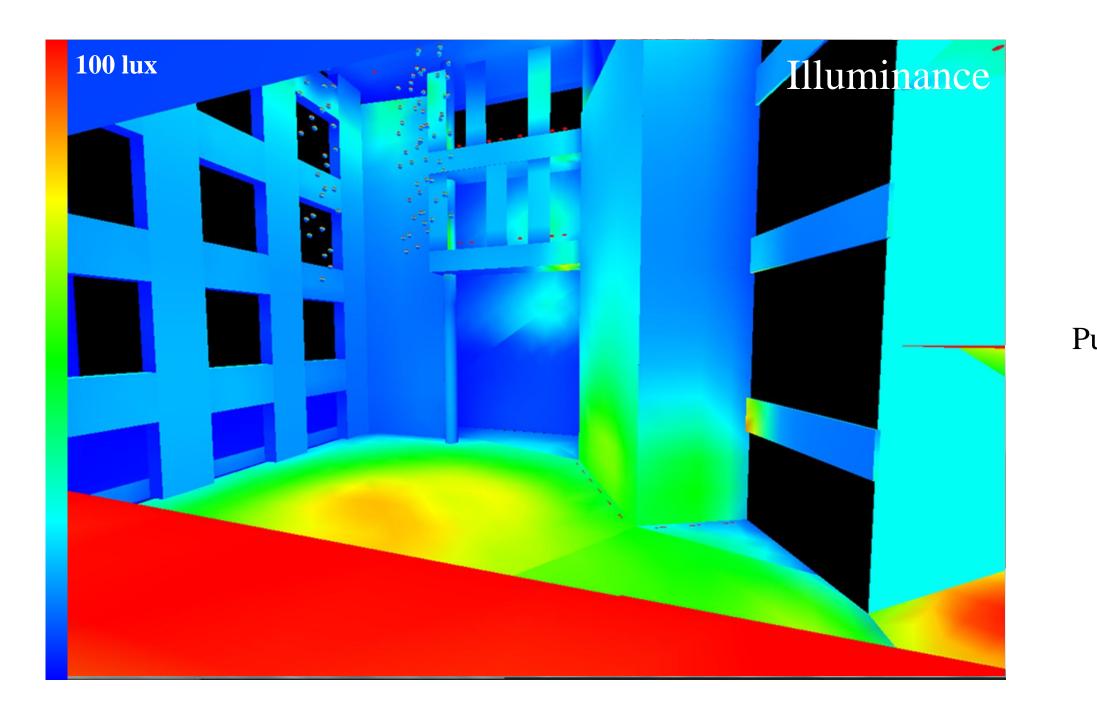
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#### READING AREAS

Tables and Chairs  $|E_h = 474 \text{ lux}$  $|E_v = 276 \text{ lux}|$ 

#### CIRCULATION CORRIDOR

Public Adjacency Passageways  $|E_h=90 \text{ lux}|$ 

 $E_h = 90 \text{ lux}$   $E_v = 71 \text{ lux}$ 

Atrium Passageway

 $E_h = 41 lux$ 

 $E_v = 28 lux$ 

#### **STAIRS**

Typical  $E_h = 85 \text{ lux}$  $E_v = 26 \text{ lux}$ 

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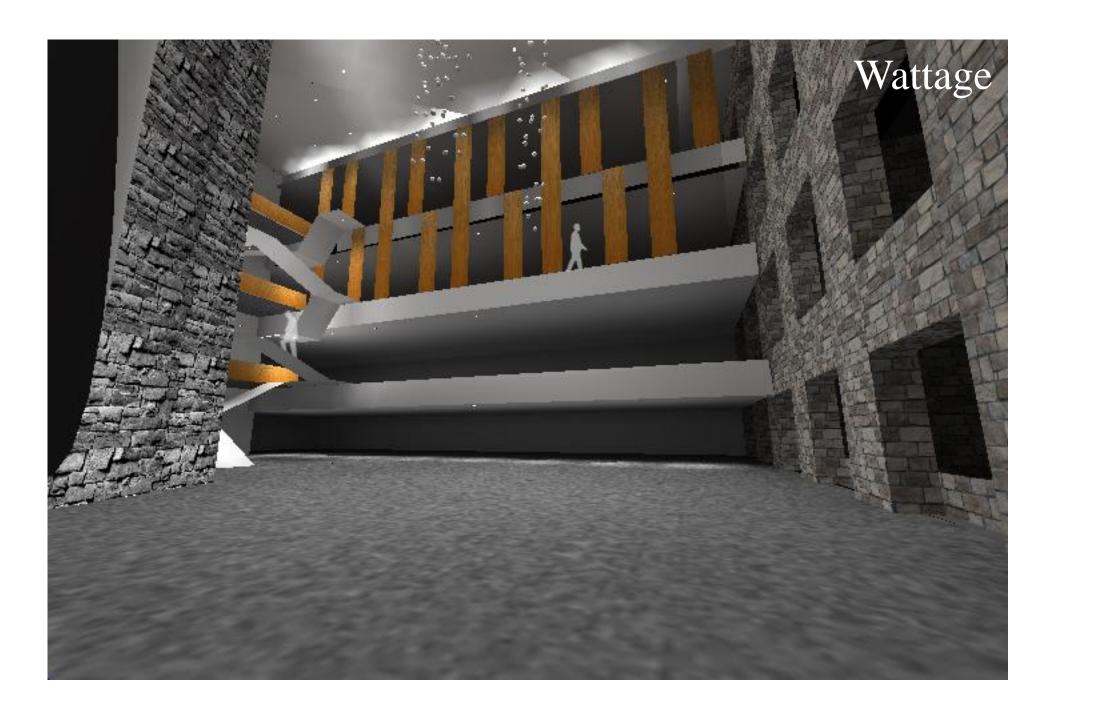
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#### **ATRIUM**

40 ft and above in height | 0.23 W/sqft

## **TRANSITION**

Corridor 0.66 W/sqft

LIBRARY

Stacks | 1.26 W/sqft

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# LUTRON XPJ SWITCHING CONTROL

# LUTRON RADIO POWR SAVR WIRELESS DAYLIGHT SENSOR

LUTRON LOS C SERIES VACANCY SENSOR

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South Façade and Grounds

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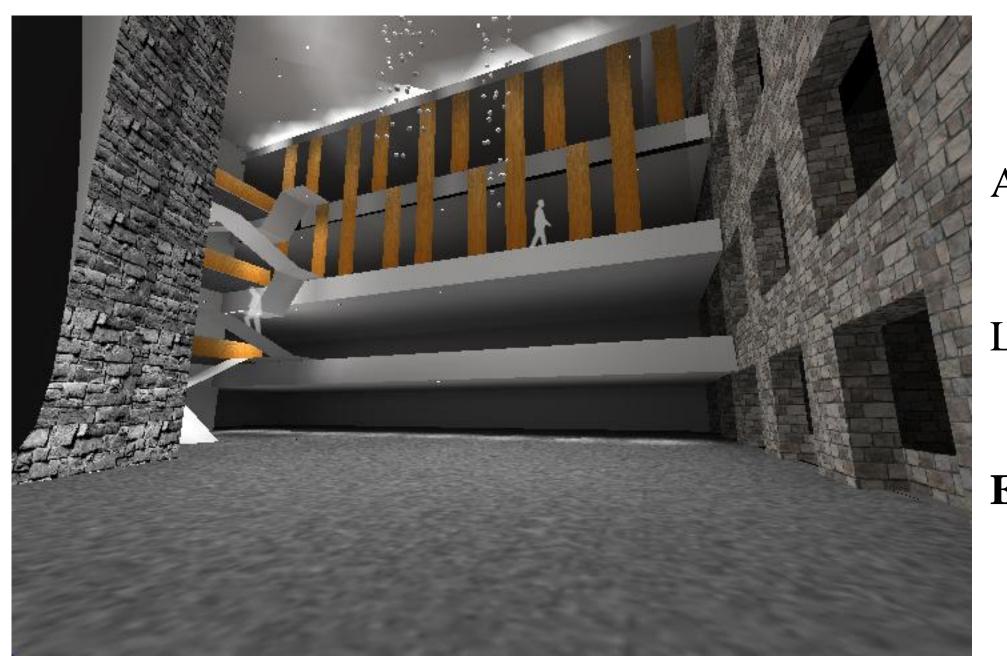
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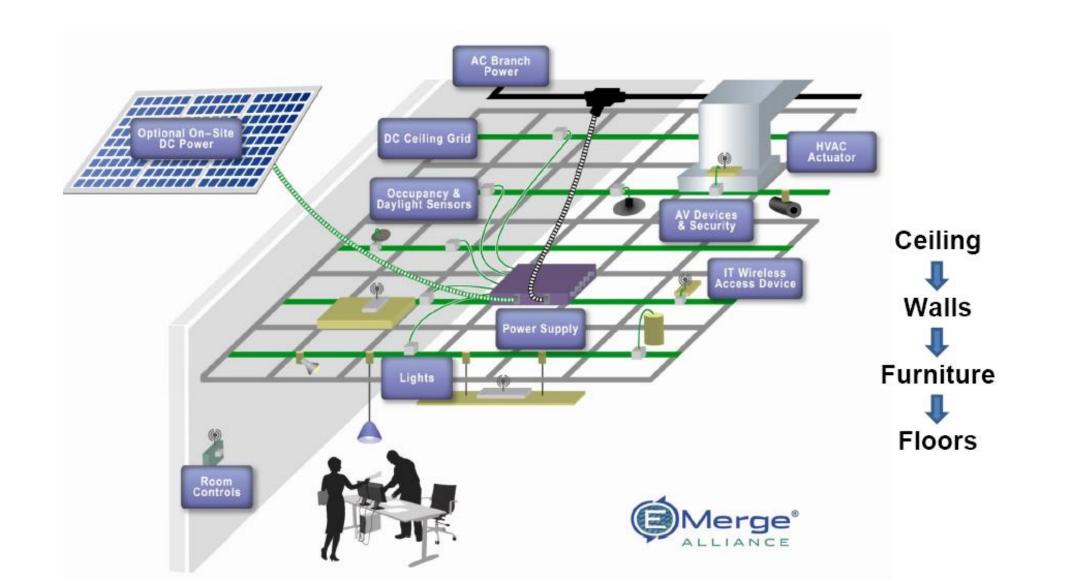
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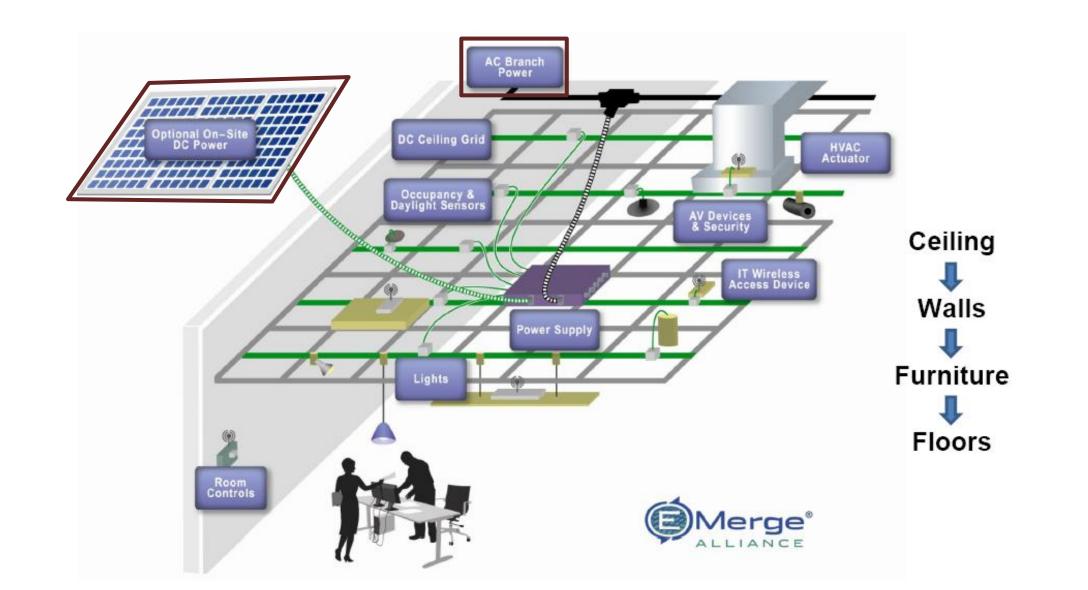
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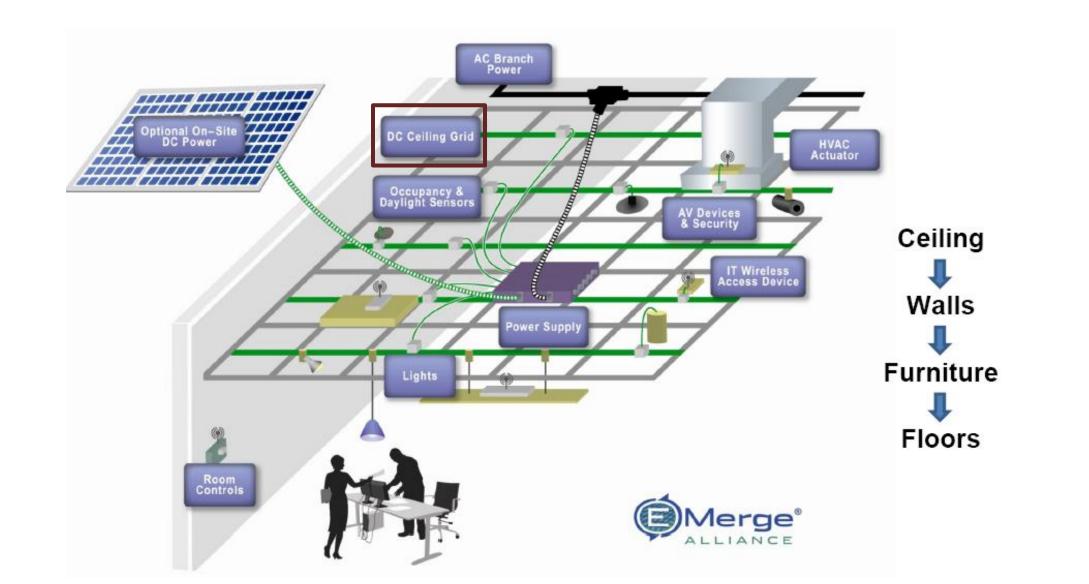
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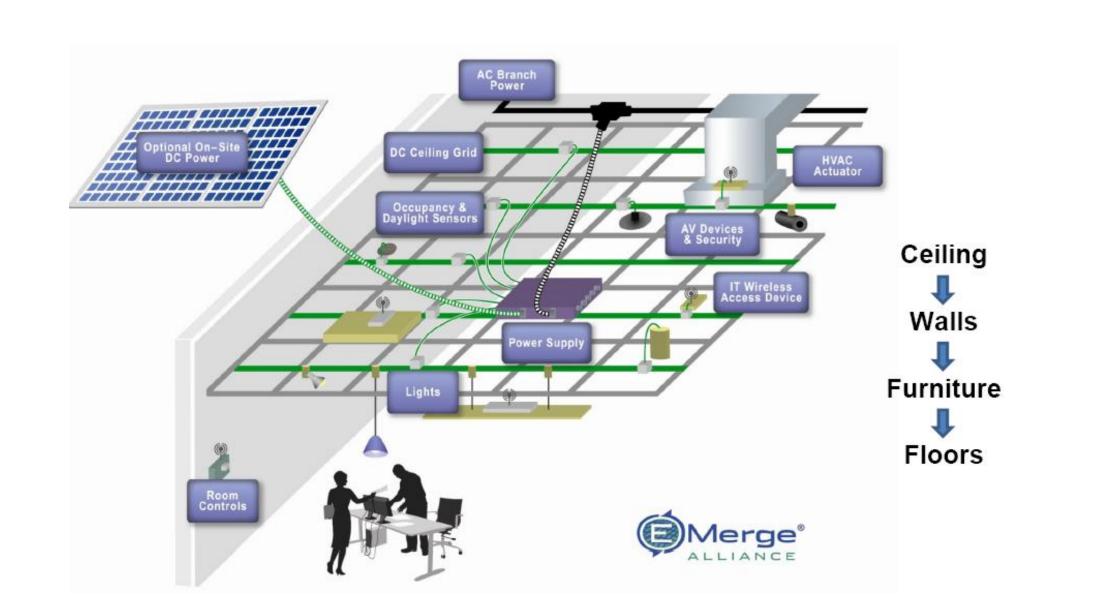
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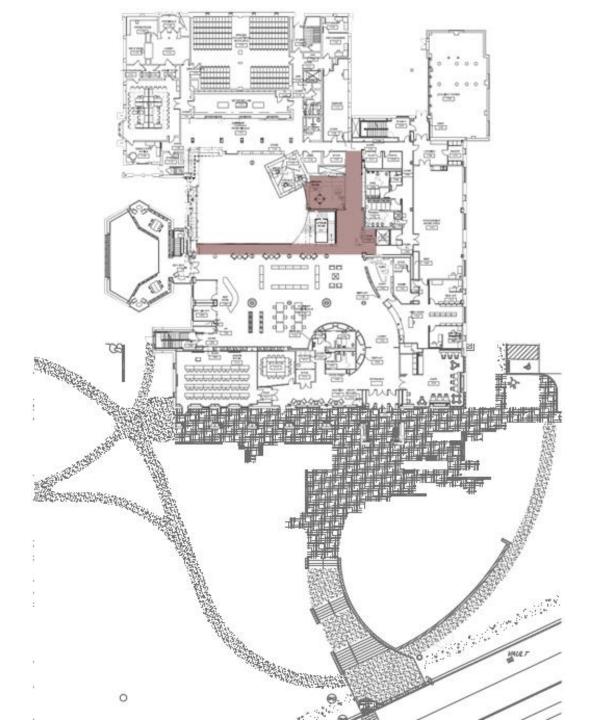
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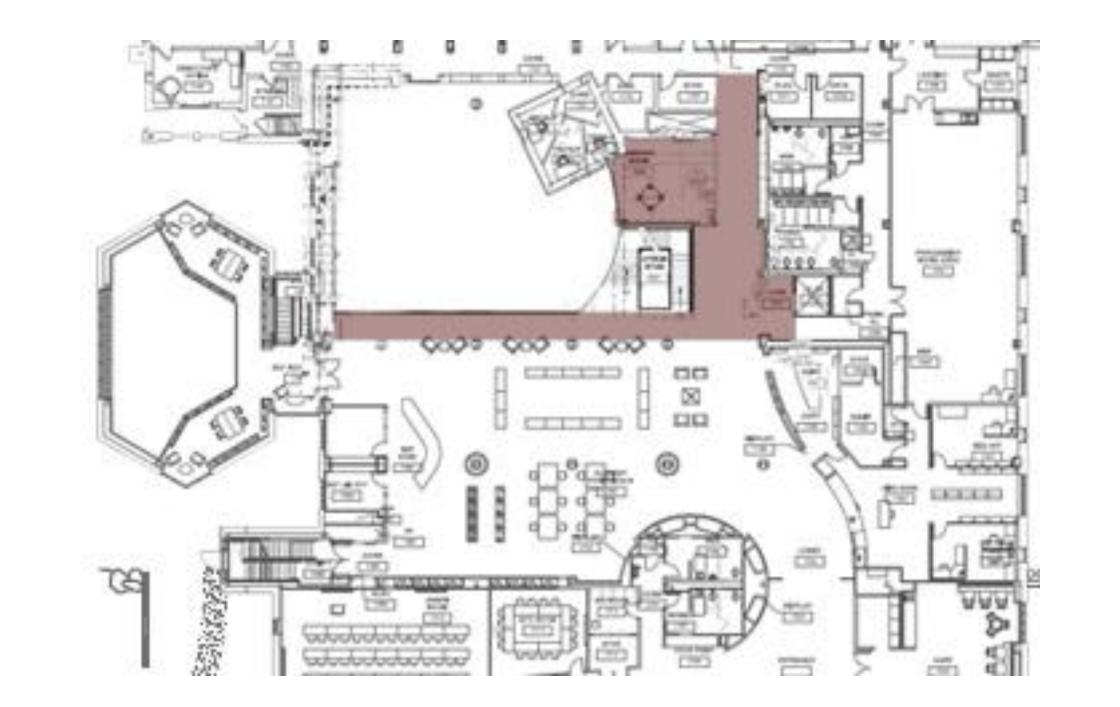
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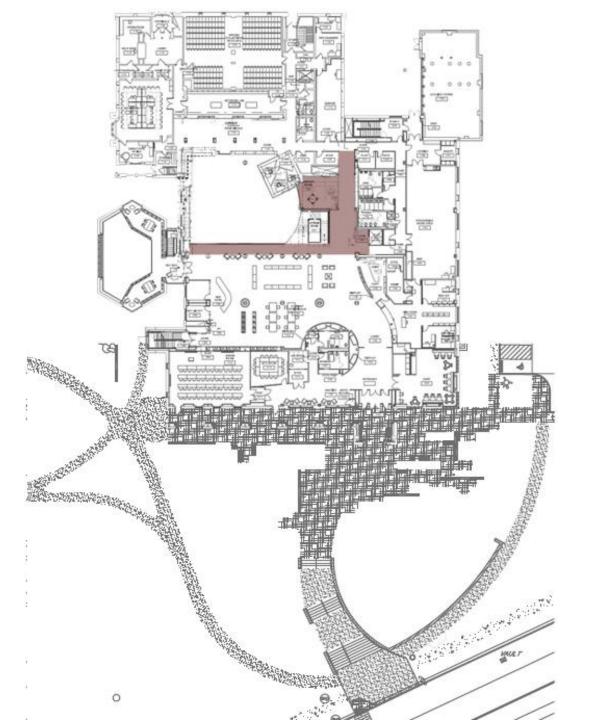
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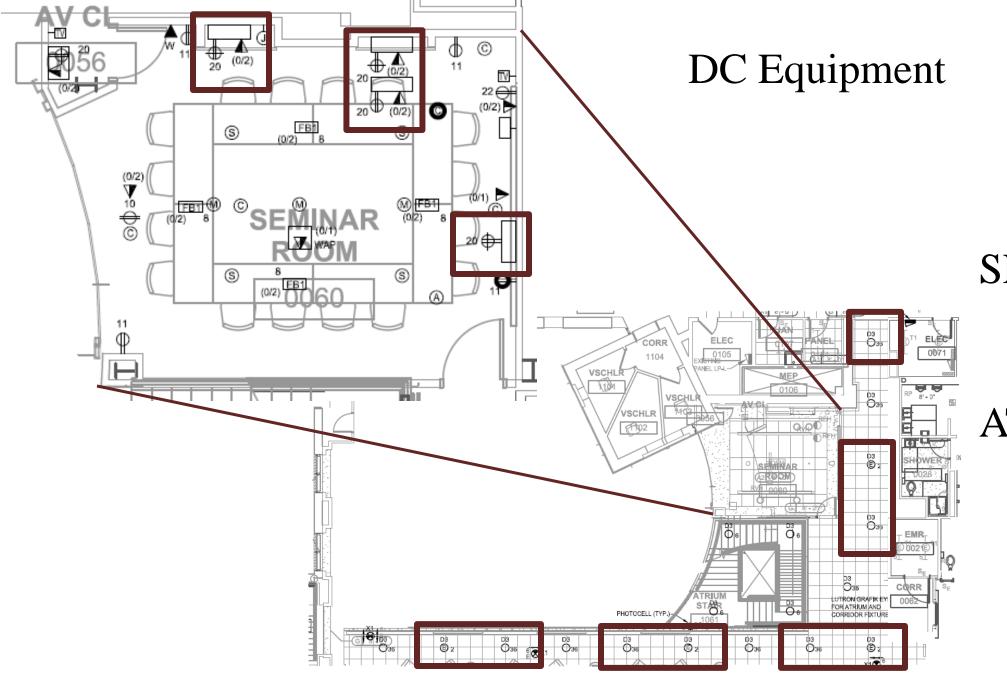
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SEMINAR ROOMS | A/V EQUIPMENT

ATRIUM CORRIDORS | LED LIGHTING

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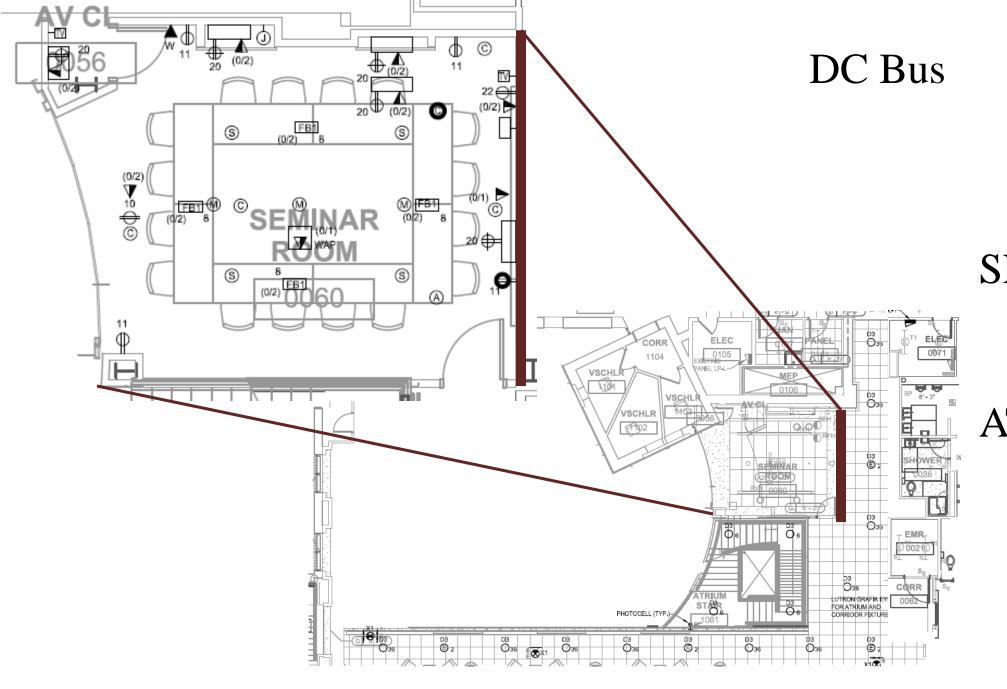
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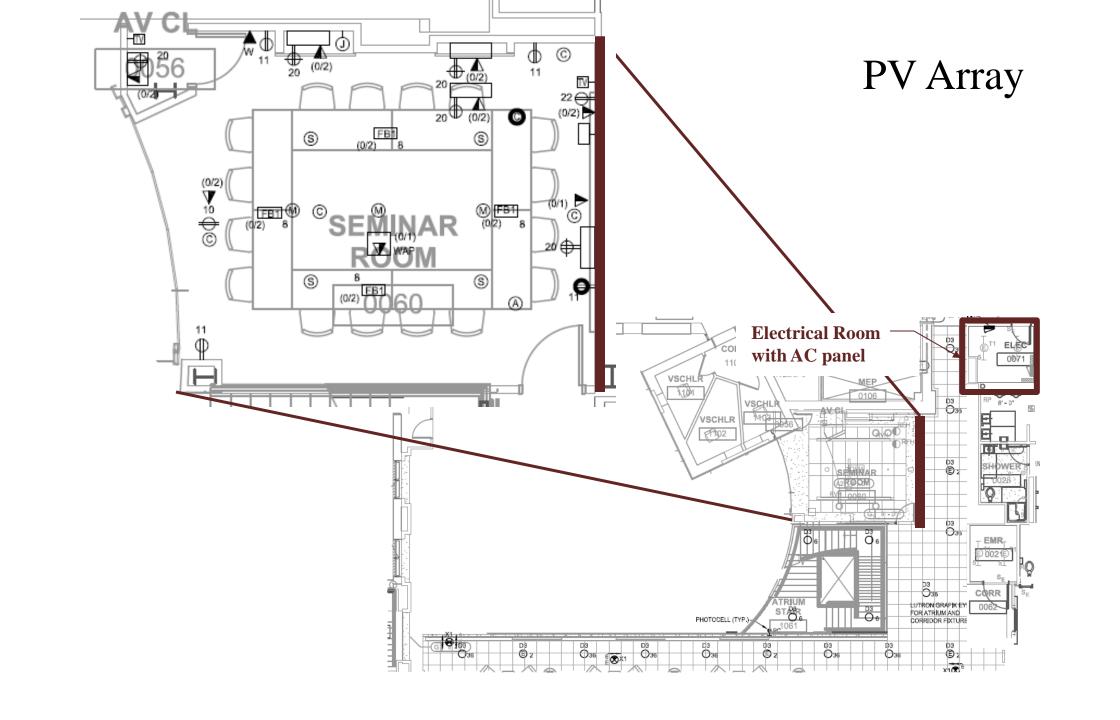
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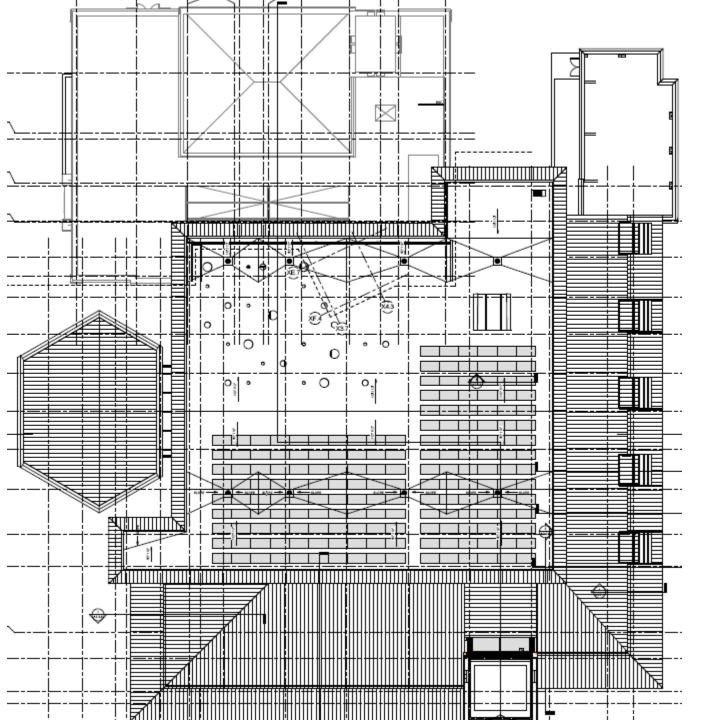
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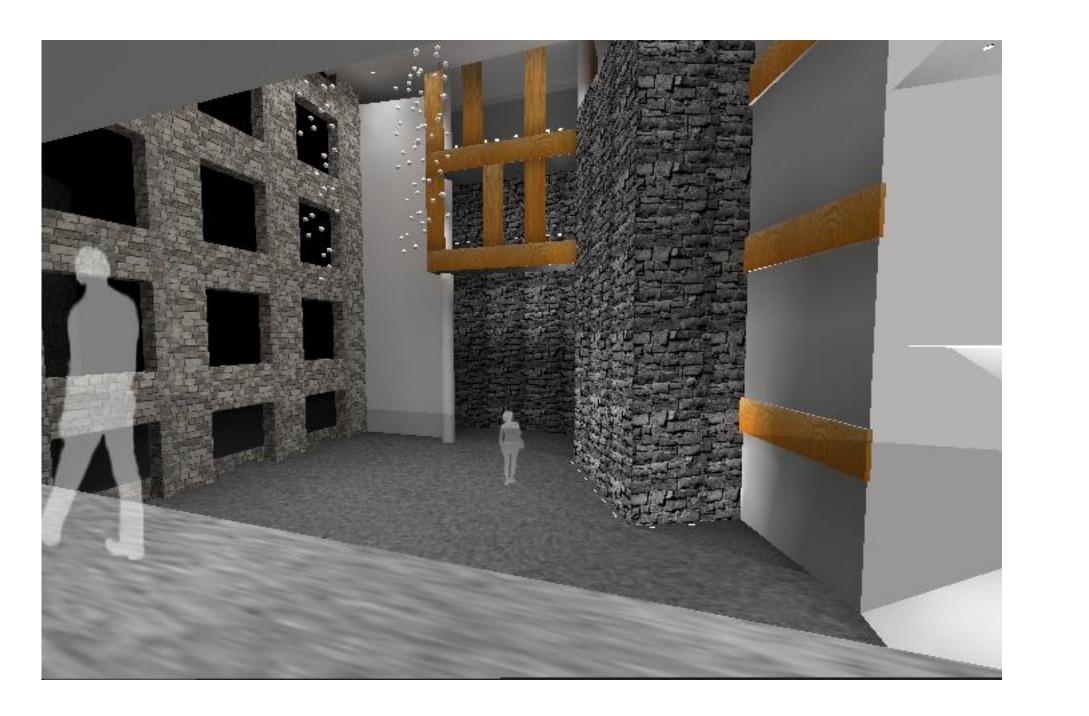
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## BENEFITS OF THIS SYSTEM

Minimize energy losses
Flexible layout
Cheaper fixtures
Less supplemental equipment
Safer Installation
Less installation time

# DRAWBACKS OF THIS SYSTEM

Voltage drop issues
Additional transfer switches
Not an industry standard

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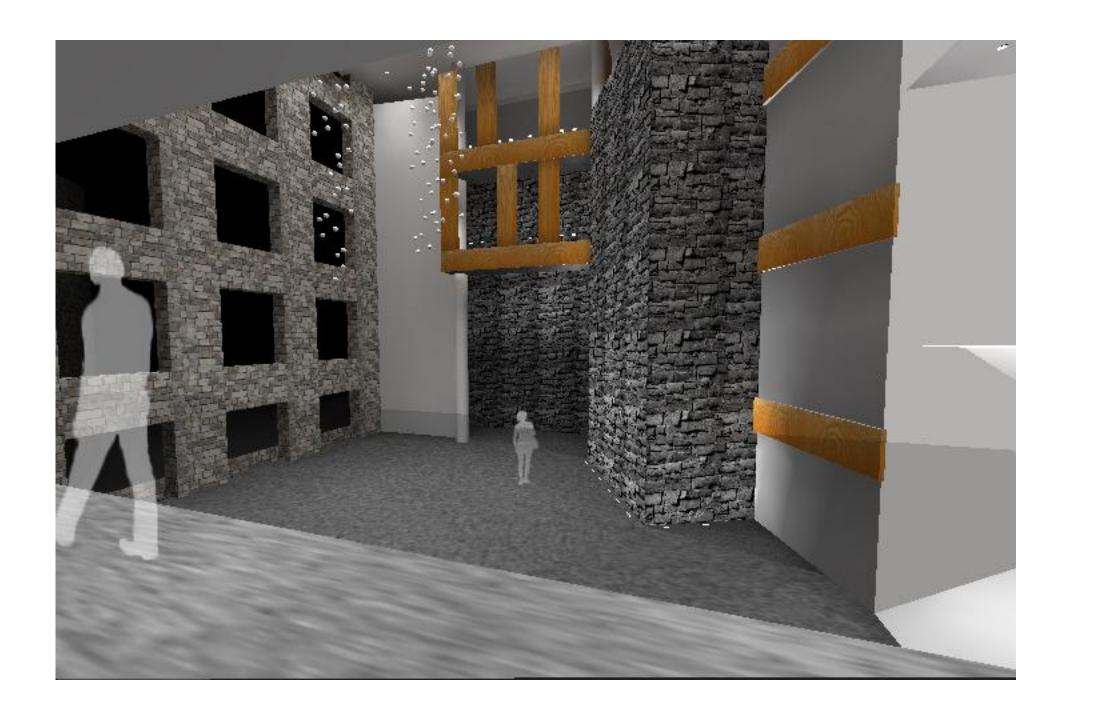
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## ACKNOWLEDGEMENTS

Family

**AE Professors** 

EwingCole

All AE students, especially those in the lighting option

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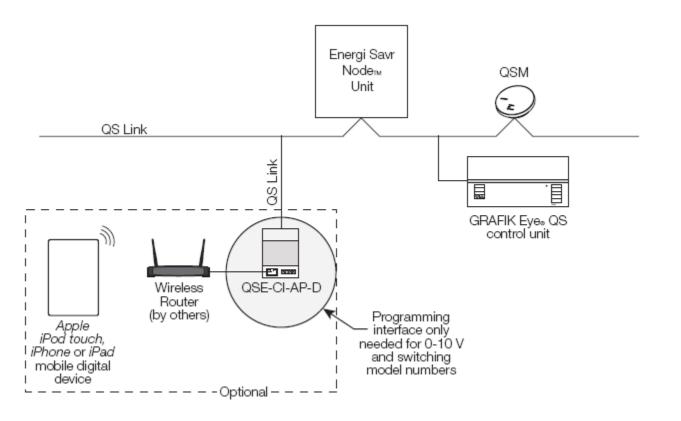
#### 

Light Loss Fac	LIUIS (F2)
LDD	0.85
-Dirty Environment	
-Open/Unventilated	
-Direct	
-12 month cleaning cycle	
LLD	0.80
-Initial Lumens	6300
-Mean Lumens	5040
BF	1
Total LLF:	0.68

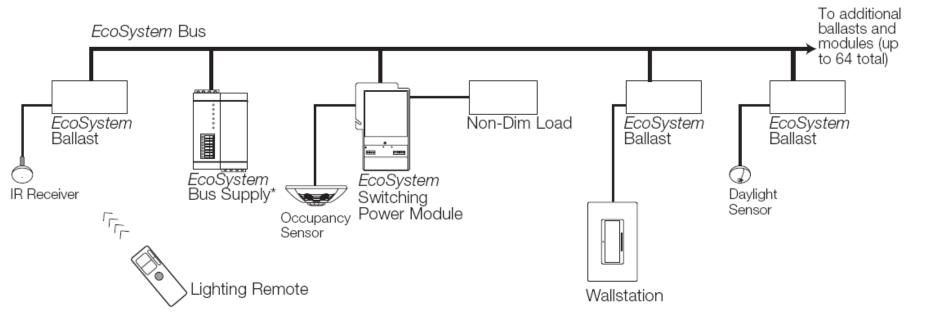
Task	Allowance							
Building Grounds								
-Walkways less than 10 ft								
wide	0.7 W/linear foot							
-Walkways 10 ft wide or								
greater	0.14 W/ft2							
-Pedestrian tunnels	0.15 W/ft2							
Building Entrance								
-Main entries	20 W/linear foot of door width							
	0.1 W/ft2 for each illuminated wall or surface of							
	2/5 W/linear foot for each illuminanted wall or							
Building Façade	surface length							

Light Loss Fac	tors (WS1)
DD	0.85
-Dirty Environment	
-Open/Unventilated	
-Direct/Indirect	
-12 month cleaning cycle	
LD	0.86
-Initial Lumens	1710
-Mean Lumens	1470
F	1
otal LLF:	0.73

## APPENDIX



#### EcoSystem One-Line



Wiring Diagram - Lutron Energi Savr Node

Wiring Diagram – Lutron XPJ Switching Control

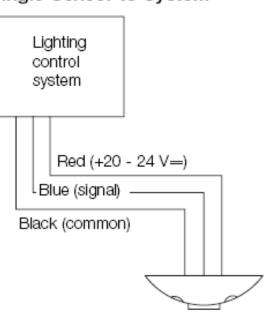
### Atrium

Task	Illuminance (lux)						
Task	Horizontal	Vertical					
ading Areas							
-Tables and Chairs							
@2" AFF; Ev @4'0" AFF	500	200					
rculation Cooridor							
	Avg >= 0.2x task Eh	Avg >= 0.2x task					
-Public Adjacency Passageways	of adjacent space,	Ev of adjacent					
@floor; Ev @5'0" AFF	min >= 101ux	space					
airs		•					
-Typical							
@floor; Ev @5'0" AFF	50	30					

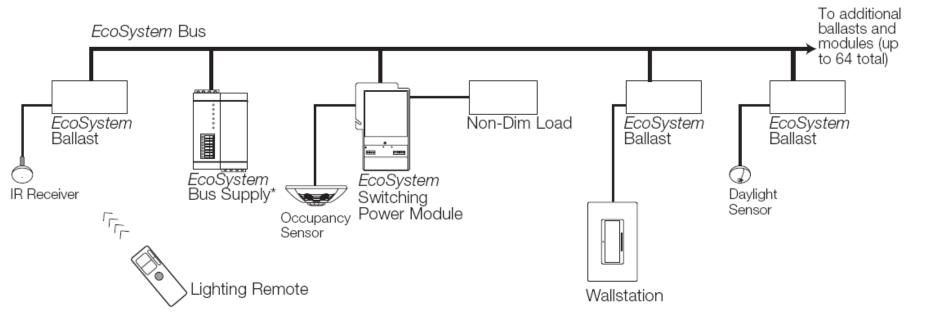
Power Allowance								
Space Type	LPD, W/ft2							
Atrium								
-First 40 ft in height	0.03 per ft (height)							
-height above 40 ft	0.02 per ft (height)							
Corridor/Transition	0.66							
ibrary Stacks	1.71							

## APPENDIX

#### Single Sensor to System



#### EcoSystem One-Line



Wiring Diagram - Lutron LOS C Series Occupancy Sensor

Wiring Diagram – Lutron XPJ Switching Control

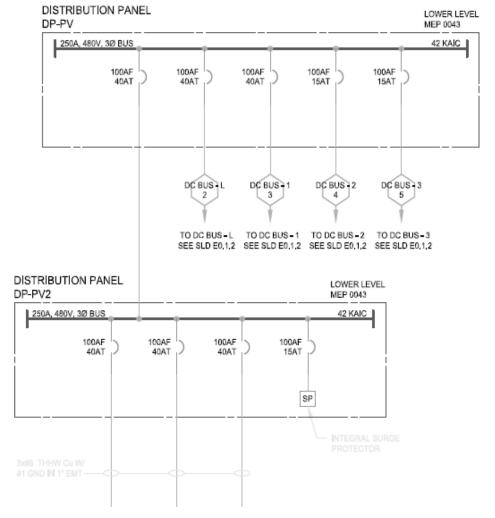
# Dual Bus System

PANEL:		AP-L	-1			VOI	LTAGE:	208/12	0V	X NORMAL		ΧN	IEW	
SECTION:		1 OF	1		P	HASE 8	& WIRE:	3PH	4W	EMERGENCY			XIST	ING
LOCATION	<b>V</b> :	ELEC	R	M 0071		MAIN (	AMPS):	150A,	M.C.B.	<del>-</del>	(AIC F	₹ĀTII	NG:	10
		LOW	ER	LEVEL								POL	ES:	42
NOTES C	CKT	C.B.		DESCRIPTION	LOAD				LOAD	DESCRIPTION	C.I	3. C	CKT	NOTES
MOLES	VO.	A F	0	DESCRIPTION	(KVA)	Α	В	С	(KVA)	DESCRIPTION	Α	P 1	NO.	NOTES
	1	20	1	REC ATRIUM 0001	0.36	1.98			1.62	FLOOR BOXES - ATRIUM 0001	20	1	2	
	3	20	1	REC ATRIUM 0001	0.72		2.16		1.44	FLOOR BOXES - ATRIUM 0001	20	1	4	
	5	20 1	-	REC MEP 0043	0.54			1.98	1.44	FLOOR BOXES - SEMINAR ROOM 0060	20	1	6	
	7	20 1	1	FLOOR BOXES - ATRIUM 0001	1.26	1.62			0.36	REC - TV AND CAMERA - SEMINAR 0060	20		8	
	9	20	1	FLOOR BOXES - ATRIUM 0001	1.08		2.52		1.44	FLOOR BOXES - ATRIUM 0001	20		10	
	11	20	1	REC SEMINAR ROOM 0060	0.72			1.22	0.50	PLUMBING ACTUATORS	20	1	12	
	13	20	1	REC MEN 0067, WOMEN 0066	1.26	2.44			1.18	FAN COIL UNIT FCU-L-1	20	1	14	
	15	20	1	REC CORRIDOR 0064, 0074	0.72		1.44		0.72	EQUIPMENT ACCESS RACK - SEMINAR 0060	20	1	16	
	17	20	1	UNIT HEATER CUH-L4 - STAIR #1	0.26			0.36	0.1	FIXTURE DPEH WINCH CONTROLLERS	20	1	18	
	19	20	1	JB - MOTOR OPERATED DAMPERS		2.68			2.682	LTG AND A/V - CORR, 0060	30	1	20	
	21	20	1	HOT WATER RECIRC HWRP-1	0,35		0.35		_	SPARE	20	1	22	
	23	20	1	LIGHTING - SEMINAR RM. 0060	0.19	sesso. T	<b>**</b>	0.19		SPARE	20	1	24	
	25	20 1	1	TRANSFER FAN TF-L-1	0.90	0.90				SPARE	20	1	26	
	27	20	1	SPARE			0.00			SPARE	20	1	28	
	29	20	1	SPARE	,			0.00		SPARE	20	1	30	
	31	20	1	SPARE		0.00				SPARE	20	1	32	
	33	20	1	SPARE			0.00			SPARE	20	1	34	
	35	20	1	SPARE				0.00		SPARE	20	1	36	
	37	20	1	SPARE		10.06			10.06				38	SEE
	39	20	1	SPARE			9.32		9.32	PANEL AP-L-2	90	3	40	SLD
	41	20	1	SPARE				8.02	8.02				42	E0.1.2
				LOAD SUMMARY PER PHASE (	KVA)	19.68	15.79	11.77						
				TOTAL CONNECTED LOAD (	KVA)		47.24		]					
				OPTION	IS AND	ACCES	SORIE	S - (X) I	NDICAT	ES SELECTION				
		)	( N	MULTIPLE SECTION PANEL						CONTACTOR CONTR	OLLED	П	Γ	
		۲	_	RECESSED						FEED THRU			F	
		)	┛.	SURFACE						SUB FEED MAIN LUGS (DOUBLE		_	h	
		ľ	_	00% RATED NEUTRAL						CONTROLLABLE CIRCUIT BREAKER			ŀ	
-		H	_	SOLATED GROUND BUS						INTEGRAL TUSS D		$\mathbf{H}$	H	-
		L		302 25 SHOOMS 500										

		I OF		RM 1071				3PH 250A,		EMERGENCY	_	EXIS ATING	STING : 10
	1	IST	FL	OOR							-	POLES	42
CK	π	C.E	3.	DESCRIPTION	LOAD				LOAD	DECODIDATION	C.B	CKT	NOTES
OTES NO	). T	Α	Ρ	DESCRIPTION	(KVA)	Α	В	С	(KVA)	DESCRIPTION	Α	P NO.	NOTES
1		20		REC EXTERIOR	0.54	1.44			0.90	REC ROOMS 1066, 1067, 1068	20	1 2	
3	1 2	20	1	REC COOLING TOWER 1078	0.90		1.40		0.50	PLUMBING ACTUATORS	20	1 4	
5	1	20	1	REC LOADING 1069, RECYCLE 1070	0.54			1.26	0.72	REC CORRIDOR 1064, 1074	20	1 6	
7	1	20	1	REC PROCESSING WORK AREA 1050	1.08	1.44			0.36	REC - TV AND CAMERA - SEMINAR 1060	20	1 8	
9	1	20	1	REC SEMINAR ROOM 1060	0.72		2.16		1.44	REC PROCESSING WORK AREA 1050	20	1 10	$\vdash$
11	_	20	1	FLOOR BOXES - SEMINAR ROOM 1060	1.44			2.88	1.44	REC PROCESSING WORK AREA 1050	20	1 12	
13	_	20	1	TRANSFER FAN TF-1-1	0.90	2.10		58666666	1.20	PROJECTOR - SEMINAR 1060	20	1 14	+
15	_	20	1	REC PROCESSING WORK AREA 1050	1.44	2.10	1.74		0.30	INTERCOM SYSTEM - RM 1050	20	1 16	
17	_	20	4	REC AND FLOOR BOXES - RM 1050	0.90		3000000000	1.20	0.30	UNIT HEATER CUH-1-1 - RM. 1075	20	1 18	+
19	_	20	4		0.58	4.70	1	1.20	_		20	1 20	+
	_		4	FAN COIL UNIT FCU-1-1	_	1.78	1 0 00		1.20	REC COPY 1045	-	_	
21	_	20	1	REC RMS. 1044, 1045, 1046	1.08	**********	2.28		1.20	REC COPY 1045	20	1 22	_
23	$\overline{}$	20	1	REC RMS. 1042, 1043, 1044	1.44	. W	atilitie.	2.64	1.20	REC COPY 1045	20	1 24	$\perp$
25	_	20	1	REC CIRC. DESK 1040	_	2.52	*****	*	1.08	REC LIBRARY CIRC. SUP. 1041	20	1 26	
27	7 2	20	1	REC CIRC. DESK 1040	0.54	7. 🍇	1.26	₩, ₩	0.72	REC COPY 1045, DISPLAY 1149	20	1 28	
29	9 2	20	1	REC RMS. 1040, 1041	0.72		<b>***</b>	1.92	1.20	REC COPY 1045	20	1 30	
31	1 2	20	1	LIGHTING - SEMINAR RM 1060	0.19	0.99			0.80	REC - OFFICE 1042	20	1 32	
33	-	20	1	LIGHTING - ATRIUM	0.28		1.00		0.72	EQUIP ACCESS RACK - SEMINAR 1060	20	1 34	
35	_	20	1	REC AND FLOOR BOXES - RM 1050	0.90			2.68	1.78	LTG AND AV - RM. 1062, 1060	20	1 36	+
37	_	20	1	SPARE	0.00	0.00		*****	10	SPARE	-	1 38	+
39	_	20	4	SPARE		100000000000000000000000000000000000000	0.00			SPARE	20	1 40	+
	_	_	$\rightarrow$				0.00	0.00			_	_	_
41	1   2	20	1	SPARE		40.07		0.00		SPARE	20	1 42	
				LOAD SUMMARY PER PHASE (F	KVA)	10.27	9.84	12.58					
				TOTAL CONNECTED LOAD ()	KVA)		32.69						
				· · · · · · · · · · · · · · · · · · ·		0000	DIEC	/VA INID	CATEG	OF LECTION			
				OPTIONS A	AND AC	CESS	JRIES -	(X) IND	CATES	SELECTION			
			X	MULTIPLE SECTION PANEL						CONTACTOR CONTROL	LED		
			Н,										
	-			DEALORED						ECCD TUDUU			
NEL:	P	AP-	3-1	PEOFOCE		V	OLTAG	E: <b>208</b> /1	20V	X NORMAL		NEW	
NEL:		AP-		RECEOUED				E: <b>208</b> /1		_		NEW	TING
	- 1	1 0	F 1	RM 3071		PHASE	& WIR	E: 3PH		X NORMAL EMERGENCY	2	NEW	TING
CTION:	1 E	1 OI ELE	F 1			PHASE	& WIR	E: 3PH	4W	X NORMAL EMERGENCY	AIC R	NEW EXIS	TING : 10
CTION: CATION:	1 E	1 OI ELE 3RE	C I	RM 3071 .OOR		MAIN	& WIR	E: 3PH	4W A, M.C.B	X NORMAL EMERGENCY	AIC RA	EXIS ATING: POLES:	TING : 10 : 30
CTION: CATION:	1 E 3	1 OI ELE 3RC C.E	F 1 C F D F I		LOAI	PHASE MAIN	E & WIRI	E: 3PH i): 350/	4W A, M.C.B	X NORMAL  EMERGENCY  DESCRIPTION	AIC RA	NEW EXIS ATING: OLES: CKT	TING : 10 : 30
CATION: CATION: CKATION: CKATION:	1 3 (T ).	1 OI ELE 3RC C.E A	F 1 C F D F I B.	_OOR DESCRIPTION	LOAI (KVA	PHASE MAIN D A	E & WIRI I (AMPS	E: 3PH	A, M.C.B	X NORMAL EMERGENCY  DESCRIPTION	AIC RA	NEW EXIS ATING: POLES: CKT NO.	TING : 10 : 30
CTION: CATION: CKATION: CK NC	1 3 (T D.	C.E A 20	F 1 C F D F I B.	DESCRIPTION FLOOR BOXES - WORKSTATION 3109	LOAI (KVA	PHASE MAIN D A 1.5	B 8	E: 3PH (): 350/	LOAD (KVA)	Z NORMAL EMERGENCY  DESCRIPTION PLUMBING ACTUATORS	AIC RA F C.B. A I	EXIS ATING: POLES: CKT NO.	TING : 10 : 30
CATION: CATION: CKATION: CKATION:	1 3 (T D.	1 OI ELE 3RC C.E A	F 1 C F D F I B.	_OOR DESCRIPTION	LOAI (KVA	PHASE MAIN D A 1.5	E & WIRI I (AMPS	E: 3PH (): 350/	A, M.C.B	X NORMAL EMERGENCY  DESCRIPTION	AIC RA F C.B. A I	NEW EXIS ATING: POLES: CKT NO.	TING : 10 : 30
CTION: CATION: CKATION: CK NC	1 E 3 CT D. I 3	C.E A 20	F 1 C F D F I B.	DESCRIPTION FLOOR BOXES - WORKSTATION 3109	LOAI (KVA	PHASE MAIN  D A  1.5	B 8	E: 3PH (): 350/	4W A, M.C.B LOAD (KVA) 0.50 0.53	Z NORMAL EMERGENCY  DESCRIPTION PLUMBING ACTUATORS	AIC RAIC RAIC RAIC RAIC RAIC RAIC RAIC R	EXIS ATING: POLES: CKT NO.	TING : 10 : 30
CTION: CATION: DTES CK NC 1 3	1 3 (T ) O.	1 OI ELE 3RC C.E A 20 20	F 1 C F D F I B.	DESCRIPTION  FLOOR BOXES - WORKSTATION 3109  REC CORR 3064, 3074	LOAI (KVA 1.08	PHASE MAIN  D A 1.5	B B 1.43	E: 3PH :): 350/	4W A, M.C.B LOAD (KVA) 0.50 0.53	DESCRIPTION  PLUMBING ACTUATORS FAN COIL UNIT FCU-3-1 LIGHTING - SEMINAR 3060	AIC R/ F C.B. A F 20 20 20	EXIS ATING: POLES: CKT NO.	TING : 10 : 30
CCTION: CATION: CATION: CK NC 1 3 5	1 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	C.E A 20 20 20 20	F 1 C F D F I B.	DESCRIPTION  FLOOR BOXES - WORKSTATION 3109  REC CORR 3064, 3074  REC RMS. 3066, 3067, 3068  LIGHTING - ATRIUM	LOAI (KVA 1.08 0.90	PHASE MAIN  D (1) A (1)	B B B 1.45	C C 1.99	LOAD (KVA) 0.50 0.53 1.09 1.44	DESCRIPTION  PLUMBING ACTUATORS  FAN COIL UNIT FCU-3-1  LIGHTING - SEMINAR 3060  REC DIR. INTEL. PROP. 3046	AIC RA F C.B. A F 20 20 20 20	CKT POLES: CKT NO. 1 2 1 4 1 6	TING : 10 : 30
CTION: CATION:  OTES CK NO  1  3  5  7	3 (T ) O.   I   i   B   i	C.E A 20 20 20 20 20	F 1 C F D F I B.	DESCRIPTION  FLOOR BOXES - WORKSTATION 3109  REC CORR 3064, 3074  REC RMS. 3066, 3067, 3068  LIGHTING - ATRIUM  REC LIBRARIAN 3057	LOAI (KVA 1.08 0.90 0.90 0.40	PHASE MAIN  D (1) A (1.5)  D (1.8)  D (1.8)	B B 1.43	E: 3PH (): 350/ C C 3 1.99	4W A, M.C.B (KVA) 0.50 0.53 1.09 1.44 1.20	DESCRIPTION  PLUMBING ACTUATORS  FAN COIL UNIT FCU-3-1  LIGHTING - SEMINAR 3060  REC DIR. INTEL. PROP. 3046  PRINTER - ADMIN. AIDE 3053	AIC RA C.B. A 1 20 20 20 20 20	EXIS ATING: POLES: CKT NO. 1 2 1 4 1 6 1 8 1 10	TING : 10 : 30
CCTION: CATION: CTES CK NC 1 3 5 7 9	1 E S S S S S S S S S S S S S S S S S S	C.E A 20 20 20 20 20 20	F 1 C F D F I B.	DESCRIPTION  FLOOR BOXES - WORKSTATION 3109  REC CORR 3064, 3074  REC RMS. 3066, 3067, 3068  LIGHTING - ATRIUM  REC LIBRARIAN 3057  PRINTER - RM. 3046	LOAI (KVA 1.08 0.90 0.40 1.08	PHASE MAIN  D	B B B 1.43	C C 1.99	4W A, M.C.B (KVA) 0.50 0.53 1.09 1.44 1.20 0.90	DESCRIPTION  PLUMBING ACTUATORS FAN COIL UNIT FCU-3-1 LIGHTING - SEMINAR 3060 REC DIR. INTEL. PROP. 3046 PRINTER - ADMIN. AIDE 3053 REC ADMIN AIDE 3053, STOR. 3049	AIC RA F C.B. A I 20 20 20 20 20 20 20 20	EXIS ATING: POLES: CKT NO. 1 2 1 4 1 6 1 8 1 10 1 12	TING : 10 : 30
CTION: CATION:  DTES CK NC 1 3 5 7 9 11 13	(T D).	C.E A 20 20 20 20 20 20 20	F 1 C F D F I B.	DESCRIPTION  FLOOR BOXES - WORKSTATION 3109  REC CORR 3064, 3074  REC RMS. 3066, 3067, 3068  LIGHTING - ATRIUM  REC LIBRARIAN 3057  PRINTER - RM. 3046  REC DIR. EXT. REL - 3044	LOAI (KVA 1.08 0.90 0.90 0.40 1.08 1.20 0.72	PHASE MAIN  D	B B B 1.44 2.22	C 350/ 350/ C 33 1.99 3 2.10	4W A, M.C.B (KVA) 0.50 0.53 1.09 1.44 1.20 0.90	DESCRIPTION  PLUMBING ACTUATORS FAN COIL UNIT FCU-3-1 LIGHTING - SEMINAR 3060 REC DIR. INTEL. PROP. 3046 PRINTER - ADMIN. AIDE 3053 REC ADMIN AIDE 3053, STOR. 3049 REC <sub>n</sub> - RMS. 3039, 3045	AIC R/ F C.B. A F 20 20 20 20 20 20 20 20 20	EXIS ATING: CKT NO. 1 2 1 4 1 6 1 8 1 10 1 12 1 14	TING : 10 : 30
CTION: CATION:  DTES CK NO 1 3 5 7 9 11 13	11 E S S S S S S S S S S S S S S S S S S	C.E A 20 20 20 20 20 20 20 20	F 1 C F D F I B.	DESCRIPTION  FLOOR BOXES - WORKSTATION 3109  REC CORR 3064, 3074  REC RMS. 3066, 3067, 3068  LIGHTING - ATRIUM  REC LIBRARIAN 3057  PRINTER - RM. 3046  REC DIR. EXT. REL - 3044  PRINTER - ASSOC. SYS. LIB. 3040	LOAI (KVA 1.08 0.90 0.40 1.08 1.20 0.72	PHASE MAIN  D	B B B 1.43	C 350/ 350/ C 33 1.99 3 2.10	4W A, M.C.B (KVA) 0.50 0.53 1.09 1.44 1.20 0.90 1.44 0.72	DESCRIPTION  PLUMBING ACTUATORS FAN COIL UNIT FCU-3-1 LIGHTING - SEMINAR 3060 REC DIR. INTEL. PROP. 3046 PRINTER - ADMIN. AIDE 3053 REC ADMIN AIDE 3053, STOR. 3049 REC RMS. 3039, 3045 FLOOR BOX - SEMINAR 3060	AIC RAIC RAIC RAIC RAIC RAIC RAIC RAIC R	CKT NO. 1 2 1 4 1 6 1 8 1 10 1 12 1 14 1 16	TING : 10 : 30
CTION: CATION:  DTES CK NG 1 3 5 7 9 11 13 11 11 11 11 11 11 11 11 11 11 11	11 E S S S S S S S S S S S S S S S S S S	C.E A 20 20 20 20 20 20 20 20 20 20	F 1 C F D F I B.	DESCRIPTION  FLOOR BOXES - WORKSTATION 3109  REC CORR 3064, 3074  REC RMS. 3066, 3067, 3068  LIGHTING - ATRIUM  REC LIBRARIAN 3057  PRINTER - RM. 3046  REC DIR. EXT. REL - 3044  PRINTER - ASSOC. SYS. LIB. 3040  REC ASSOC. SYS. LIB. 3040	LOAI (KVA 1.08 0.90 0.40 1.08 1.20 0.72	PHASE MAIN  D	B B 1.44 2.22 6 1.90	C 350/ 350/ C 33 1.99 3 2.10	4W N. M.C.B (KVA) (KVA) 0.50 (0.53 1.09 1.44 1.20 0.90 1.44 0.72 0.72	DESCRIPTION  PLUMBING ACTUATORS FAN COIL UNIT FCU-3-1 LIGHTING - SEMINAR 3060 REC DIR. INTEL. PROP. 3046 PRINTER - ADMIN. AIDE 3053 REC ADMIN AIDE 3053, STOR. 3049 REC RMS. 3039, 3045 FLOOR BOX - SEMINAR 3060 FLOOR BOX - SEMINAR 3060	C.B. A 1 20 20 20 20 20 20 20 20 20 20 20 20 20	C NEW EXIS ATING: POLES: OCKT NO. 1 2 1 4 1 6 1 8 1 10 11 12 1 14 1 16 1 18	TING : 10 : 30
CTION: CATION:  DTES CK  11  33  55  77  99  11: 13  18: 11: 11: 11: 11: 11: 11: 11: 11: 11	11 E S S S S S S S S S S S S S S S S S S	C.E A 20 20 20 20 20 20 20 20	F 1 C F D F I B.	DESCRIPTION  FLOOR BOXES - WORKSTATION 3109  REC CORR 3064, 3074  REC RMS. 3066, 3067, 3068  LIGHTING - ATRIUM  REC LIBRARIAN 3057  PRINTER - RM. 3046  REC DIR. EXT. REL - 3044  PRINTER - ASSOC. SYS. LIB. 3040  TRANSFER FAN TF-3-1	LOAI (KVA 1.08 0.90 0.40 1.08 1.20 0.72	PHASE MAIN  D	B B 1.44 2.22 6 1.90	C 350/ 350/ C 33 1.99 3 2.10	4W A, M.C.B (KVA) 0.50 0.53 1.09 1.44 1.20 0.90 1.44 0.72	DESCRIPTION  PLUMBING ACTUATORS FAN COIL UNIT FCU-3-1 LIGHTING - SEMINAR 3060 REC DIR. INTEL. PROP. 3046 PRINTER - ADMIN. AIDE 3053 REC ADMIN AIDE 3053, STOR. 3049 REC RMS. 3039, 3045 FLOOR BOX - SEMINAR 3060	AIC RAIC RAIC RAIC RAIC RAIC RAIC RAIC R	C NEW EXIS ATING: POLES: OCKT NO. 1 2 1 4 1 6 1 8 1 10 11 12 11 14 11 16 11 18 11 20	TING : 10 : 30
CTION: CATION:  DTES CK 11 33 55 77 99 11: 13 18	1 E S S S S S S S S S S S S S S S S S S	C.E A 20 20 20 20 20 20 20 20 20 20	F 1 C F D F I B.	DESCRIPTION  FLOOR BOXES - WORKSTATION 3109  REC CORR 3064, 3074  REC RMS. 3066, 3067, 3068  LIGHTING - ATRIUM  REC LIBRARIAN 3057  PRINTER - RM. 3046  REC DIR. EXT. REL - 3044  PRINTER - ASSOC. SYS. LIB. 3040  REC ASSOC. SYS. LIB. 3040	LOAI (KVA 1.08 0.90 0.40 1.08 1.20 0.72	PHASE MAIN  D (1) A (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)	B B 1.44 2.22 6 1.90	C C 3 1.99 3 2.10 2 2 2 2 2 2 1.00 2 2 1.00 2 2 1.00 2 2 1.00 2 2 1.00 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	4W N. M.C.B (KVA) (KVA) 0.50 (0.53 1.09 1.44 1.20 0.90 1.44 0.72 0.72	DESCRIPTION  PLUMBING ACTUATORS FAN COIL UNIT FCU-3-1 LIGHTING - SEMINAR 3060 REC DIR. INTEL. PROP. 3046 PRINTER - ADMIN. AIDE 3053 REC RMS. 3039, 3045 FLOOR BOX - SEMINAR 3060 FLOOR BOX - SEMINAR 3060 REC TV AND CAMERA - SEMINAR 3060	C.B. A 1 20 20 20 20 20 20 20 20 20 20 20 20 20	C NEW EXIS ATING: POLES: OCKT NO. 1 2 1 4 1 6 1 8 1 10 11 12 1 14 1 16 1 18	TING : 10 : 30
CTION: CATION:  DTES CK NC  1  3  5  7  9  11: 18  11: 11: 11: 11: 11: 11: 11: 11	11 E S S S S S S S S S S S S S S S S S S	C.E A 20 20 20 20 20 20 20 20 20 20 20 20 20	F 1 C F D F I B.	DESCRIPTION  FLOOR BOXES - WORKSTATION 3109  REC CORR 3064, 3074  REC RMS. 3066, 3067, 3068  LIGHTING - ATRIUM  REC LIBRARIAN 3057  PRINTER - RM. 3046  REC DIR. EXT. REL - 3044  PRINTER - ASSOC. SYS. LIB. 3040  TRANSFER FAN TF-3-1	LOAI (KVA 1.08 0.90 0.40 1.08 1.20 0.72 1.20	PHASE MAIN  D A 1.5  1.5  1.2	B B 1.44 2.22 6 6 1.90	C C 3 1.99 3 2.10 2 2 2 2 2 2 1.00 2 2 1.00 2 2 1.00 2 2 1.00 2 2 1.00 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	4W M.C.B LOAD (KVA) 0.50 0.53 1.09 1.44 1.20 0.90 1.44 0.72 0.72 0.36 21.45	DESCRIPTION  PLUMBING ACTUATORS  FAN COIL UNIT FCU-3-1  LIGHTING - SEMINAR 3060  REC DIR. INTEL. PROP. 3046  PRINTER - ADMIN. AIDE 3053  REC ADMIN AIDE 3053, STOR. 3049  REC RBOX - SEMINAR 3060  FLOOR BOX - SEMINAR 3060  REC - TV AND CAMERA - SEMINAR 3060	20 20 20 20 20 20 20 20 20 20 20 20 20 2	C NEW EXIS ATING: POLES: OCKT NO. 1 2 1 4 1 6 1 8 1 10 11 12 11 14 11 16 11 18 11 20	TING : 10 : 30
CTION: CATION:  DTES CK NC  1  3  5  7  9  11  11  11  12  22	11 E S S S S S S S S S S S S S S S S S S	C.E A 20 20 20 20 20 20 20 20 20 20 20 20 20	F 1 C F D F I B.	DESCRIPTION  FLOOR BOXES - WORKSTATION 3109  REC CORR 3064, 3074  REC RMS. 3066, 3067, 3068  LIGHTING - ATRIUM  REC LIBRARIAN 3057  PRINTER - RM. 3046  REC DIR. EXT. REL - 3044  PRINTER - ASSOC. SYS. LIB. 3040  TRANSFER FAN TF-3-1  FIXTURE DPG3 WINCH MOTOR & CTRL  LTG AND AV - CORR 3005, 3060	LOAI (KVA 1.08 0.90 0.40 1.08 1.20 0.72 1.20	PHASE MAIN  D A 1.5  1.5  1.2	B B B 1.44 2.22 6 1.92	C C 350/ 350/ C 2.10	4W M.C.B (KVA) 0.50 0.53 1.09 1.44 1.20 0.90 1.44 0.72 0.72 0.36 21.45 2 21.04	DESCRIPTION  PLUMBING ACTUATORS FAN COIL UNIT FCU-3-1 LIGHTING - SEMINAR 3060 REC DIR. INTEL. PROP. 3046 PRINTER - ADMIN. AIDE 3053 REC ADMIN AIDE 3053 REC ADMIN AIDE 3053, STOR. 3049 REC RMS. 3039, 3045 FLOOR BOX - SEMINAR 3060 FLOOR BOX - SEMINAR 3060 REC - TV AND CAMERA - SEMINAR 3060 PANEL AP-3-2	20 20 20 20 20 20 20 20 20 20 20 20 20 2	NEWHOLES     EXIST   NEWHOLES     CKT   NO.     CKT   4     6     8     1   10     1   14     1   16     1   18     1   20     1   22	TING : 10 : 30
CTION: CATION: OTES	11 E S S S S S S S S S S S S S S S S S S	1 OI ELE 3RC 20 20 20 20 20 20 20 20 20 20 20 20 20	F 1 (C) FI (C) F	DESCRIPTION  FLOOR BOXES - WORKSTATION 3109  REC CORR 3064, 3074  REC RMS. 3066, 3067, 3068  LIGHTING - ATRIUM  REC LIBRARIAN 3057  PRINTER - RM. 3046  REC DIR. EXT. REL - 3044  PRINTER - ASSOC. SYS. LIB. 3040  REC ASSOC. SYS. LIB. 3040  TRANSFER FAN TF-3-1  FIXTURE DPG3 WINCH MOTOR & CTRL  LTG AND AV - CORR 3005, 3060  SPARE	LOAI (KVA 1.08 0.90 0.40 1.08 1.20 0.72 1.20	PHASE MAIN  D A 1.5  1.5  1.2  1.2	B 8 1.44 2.22 6 1.99	C 39 1.99 3 2.10 2 2 2 2 2 5.9	4W M.C.B (KVA) 0.50 0.53 1.09 1.44 1.20 0.90 1.44 0.72 0.72 0.72 0.36 21.45 2 21.04 16.88	DESCRIPTION  PLUMBING ACTUATORS FAN COIL UNIT FCU-3-1 LIGHTING - SEMINAR 3060 REC DIR. INTEL. PROP. 3046 PRINTER - ADMIN. AIDE 3053 REC ADMIN AIDE 3053, STOR. 3049 REC RMS. 3039, 3045 FLOOR BOX - SEMINAR 3060 FLOOR BOX - SEMINAR 3060 REC - TV AND CAMERA - SEMINAR 3060  PANEL AP-3-2	C.B. A   C.B	NEWHOLD   EXIST   NEW   NEW	TING 10 30 NOTES
CTION: CATION: CATION:  OTES   CK   NC    1	11 E S S S S S S S S S S S S S S S S S S	1 OI ELE 3RC A 20 20 20 20 20 20 20 20 20 20 20 20 20	F 1 (C I I I I I I I I I I I I I I I I I I	DESCRIPTION  FLOOR BOXES - WORKSTATION 3109  REC CORR 3064, 3074  REC RMS. 3066, 3067, 3068  LIGHTING - ATRIUM  REC LIBRARIAN 3057  PRINTER - RM. 3046  REC DIR. EXT. REL - 3044  PRINTER - ASSOC. SYS. LIB. 3040  REC ASSOC. SYS. LIB. 3040  TRANSFER FAN TF-3-1  FIXTURE DPG3 WINCH MOTOR & CTRL  LTG AND AV - CORR 3005, 3060  SPARE  SPARE	LOAI (KVA 1.08 0.90 0.40 1.08 1.20 0.72 1.20	PHASE MAIN  D A 1.5  1.5  1.2  1.2	B B B 1.44 2.22 6 1.92	C 39 1.99 3 2.10 2 2 2 2 5.9	4W M.C.B LOAD (KVA) 0.50 0.53 1.09 1.44 1.20 0.72 0.72 0.72 0.36 21.45 21.45 21.05	DESCRIPTION  PLUMBING ACTUATORS FAN COIL UNIT FCU-3-1 LIGHTING - SEMINAR 3060 REC DIR. INTEL. PROP. 3046 PRINTER - ADMIN. AIDE 3053 REC ADMIN AIDE 3053, STOR. 3049 REC RMS. 3039, 3045 FLOOR BOX - SEMINAR 3060 PLOOR BOX - SEMINAR 3060 REC - TV AND CAMERA - SEMINAR 3060 PANEL AP-3-2  SPARE	C.B. A   C.B. A   C.B. C.B. A   C.B. A	NEWHOLD   EXIST   NEW   NEW	TING 10 30 NOTES
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CTION: CATION: CATION: OTES NO. 1 1 3 3 5 5 7 7 9 9 11 11 11 11 11 11 11 11 11 11 11 11	11 E S S S S S S S S S S S S S S S S S S	1 OI ELE 3RC A 20 20 20 20 20 20 20 20 20 20 20 20 20	F 1 (C I I I I I I I I I I I I I I I I I I	DESCRIPTION  FLOOR BOXES - WORKSTATION 3109  REC CORR 3064, 3074  REC RMS. 3066, 3067, 3068  LIGHTING - ATRIUM  REC LIBRARIAN 3057  PRINTER - RM. 3046  REC DIR. EXT. REL - 3044  PRINTER - ASSOC. SYS. LIB. 3040  REC ASSOC. SYS. LIB. 3040  TRANSFER FAN TF-3-1  FIXTURE DPG3 WINCH MOTOR & CTRL  LTG AND AV - CORR 3005, 3060  SPARE  SPARE  SPARE  SPARE  LOAD SUMMARY PER PHASE  TOTAL CONNECTED LOAD	LOAI (KVA 1.08 0.990 0.940 1.200 0.72 1.22 1.22 0.91 0.33 0.33	PHASE MAIN  D	B B 1.4.4 4 2.2.2 48.4 21.0 21.1 21.1 21.1 21.1 21.1 21.1 21.1	C C 350/ C C 350/ C C 250/ C C C C C C C C C C C C C C C C C C C	4W A, M.C.B LOAD (KVA) 0.50 0.50 1.44 1.20 0.72 0.72 0.36 21.45 21.04 16.88 21.05 8 16.88	DESCRIPTION  PLUMBING ACTUATORS FAN COIL UNIT FCU-3-1 LIGHTING - SEMINAR 3060 REC DIR. INTEL. PROP. 3046 PRINTER - ADMIN. AIDE 3053, STOR. 3049 REC RMS. 3039, 3045 FLOOR BOX - SEMINAR 3060 PLOOR BOX - SEMINAR 3060 REC - TV AND CAMERA - SEMINAR 3060 PANEL AP-3-2  SPARE SPARE	C.B. A   C.B. A   C.B. C.B. A   C.B. A	NEWHOLD   EXIST   NEW   NEW	TING 10 30 NOTES
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CTION: CATION: CATION: DTES	11 E S S S S S S S S S S S S S S S S S S	1 OI ELE 3RC A 20 20 20 20 20 20 20 20 20 20 20 20 20	P 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DESCRIPTION  FLOOR BOXES - WORKSTATION 3109  REC CORR 3064, 3074  REC RMS. 3066, 3067, 3068  LIGHTING - ATRIUM  REC LIBRARIAN 3057  PRINTER - RM. 3046  REC DIR. EXT. REL - 3044  PRINTER - ASSOC. SYS. LIB. 3040  REC ASSOC. SYS. LIB. 3040  TRANSFER FAN TF-3-1  FIXTURE DPG3 WINCH MOTOR & CTRL  LTG AND AV - CORR 3005, 3060  SPARE  SPARE  SPARE  LOAD SUMMARY PER PHASE  TOTAL CONNECTED LOAD	LOAI (KVA 1.08 0.990 0.940 1.200 0.72 1.22 1.22 0.91 0.33 0.33	PHASE MAIN  D	B B 1.4.4 4 2.2.2 48.4 21.0 21.1 21.1 21.1 21.1 21.1 21.1 21.1	C C 350/ C C 350/ C C 250/ C C C C C C C C C C C C C C C C C C C	4W A, M.C.B LOAD (KVA) 0.50 0.50 1.44 1.20 0.72 0.72 0.36 21.45 21.04 16.88 21.05 8 16.88	DESCRIPTION  PLUMBING ACTUATORS FAN COIL UNIT FCU-3-1 LIGHTING - SEMINAR 3060 REC DIR. INTEL. PROP. 3046 PRINTER - ADMIN. AIDE 3053 REC ADMIN AIDE 3053, STOR. 3049 REC RMS. 3039, 3045 FLOOR BOX - SEMINAR 3060 FLOOR BOX - SEMINAR 3060 REC - TV AND CAMERA - SEMINAR 3060  PANEL AP-3-2  SPARE SPARE	20 20 20 20 20 20 20 20 20 20 20 20 20 2	NEWHOLD   EXIST   NEW   NEW	TING 10 30 NOTES
CTION: CATION: CATION: DTES	11 E S S S S S S S S S S S S S S S S S S	1 OI ELE 3RC A 20 20 20 20 20 20 20 20 20 20 20 20 20	F 1 C F O F I C	DESCRIPTION  FLOOR BOXES - WORKSTATION 3109  REC CORR 3064, 3074  REC RMS. 3066, 3067, 3068  LIGHTING - ATRIUM  REC LIBRARIAN 3057  PRINTER - RM. 3046  REC DIR. EXT. REL - 3044  PRINTER - ASSOC. SYS. LIB. 3040  REC ASSOC. SYS. LIB. 3040  TRANSFER FAN TF-3-1  FIXTURE DPG3 WINCH MOTOR & CTRL  LTG AND AV - CORR 3005, 3060  SPARE  SPARE  SPARE  SPARE  LOAD SUMMARY PER PHASE  TOTAL CONNECTED LOAD  OPTIONS A	LOAI (KVA 1.08 0.990 0.940 1.200 0.72 1.22 1.22 0.91 0.33 0.33	PHASE MAIN  D	B B 1.4.4 4 2.2.2 48.4 21.0 21.1 21.1 21.1 21.1 21.1 21.1 21.1	C C 350/ C C 350/ C C 250/ C C C C C C C C C C C C C C C C C C C	4W A, M.C.B LOAD (KVA) 0.50 0.50 1.44 1.20 0.72 0.72 0.36 21.45 21.04 16.88 21.05 8 16.88	DESCRIPTION  PLUMBING ACTUATORS FAN COIL UNIT FCU-3-1 LIGHTING - SEMINAR 3060 REC DIR. INTEL. PROP. 3046 PRINTER - ADMIN. AIDE 3053, STOR. 3049 REC RMS. 3039, 3045 FLOOR BOX - SEMINAR 3060 PLOOR BOX - SEMINAR 3060 PLOOR BOX - SEMINAR 3060 PANEL AP-3-2  SPARE SPARE SPARE SELECTION  CONTACTOR CONTROL	AIC R/F C.B A 1 20 20 20 20 20 20 20 20 20 20 20 20 20	NEW   EXIST	TING 10 30 NOTES
CTION: CATION: CATION: DTES	11 E S S S S S S S S S S S S S S S S S S	1 OI ELE 3RC A 20 20 20 20 20 20 20 20 20 20 20 20 20	F 1 C I P F I S I P I S I P I S I P I S I P I S I P I S I P I P	DESCRIPTION  FLOOR BOXES - WORKSTATION 3109  REC CORR 3064, 3074  REC RMS. 3066, 3067, 3068  LIGHTING - ATRIUM  REC LIBRARIAN 3057  PRINTER - RM. 3046  REC DIR. EXT. REL - 3044  PRINTER - ASSOC. SYS. LIB. 3040  TRANSFER FAN TF-3-1  FIXTURE DPG3 WINCH MOTOR & CTRL  LTG AND AV - CORR 3005, 3060  SPARE  SPARE  SPARE  SPARE  LOAD SUMMARY PER PHASE  TOTAL CONNECTED LOAD  MULTIPLE SECTION PANEL  RECESSED	LOAI (KVA 1.08 0.990 0.940 1.200 0.72 1.22 1.22 0.91 0.33 0.33	PHASE MAIN  D	B B 1.4.4 4 2.2.2 48.4 21.0 21.1 21.1 21.1 21.1 21.1 21.1 21.1	C C 350/ C C 350/ C C 250/ C C C C C C C C C C C C C C C C C C C	4W A, M.C.B LOAD (KVA) 0.50 0.50 1.44 1.20 0.72 0.72 0.36 21.45 21.04 16.88 21.05 8 16.88	DESCRIPTION  PLUMBING ACTUATORS FAN COIL UNIT FCU-3-1 LIGHTING - SEMINAR 3060 REC DIR. INTEL. PROP. 3046 PRINTER - ADMIN. AIDE 3053 REC RMS. 3039, 3045 FLOOR BOX - SEMINAR 3060 FLOOR BOX - SEMINAR 3060 REC - TV AND CAMERA - SEMINAR 3060 PANEL AP-3-2 SPARE SPARE SPARE SELECTION  CONTACTOR CONTROL FEED THRU L	AIC R/F C.B A I 20 20 20 20 20 20 20 20 20 20 20 20 20 2	NEW   EXIST	TING 10 30 NOTES
CTION: CATION: CATION: DTES	11 E S S S S S S S S S S S S S S S S S S	1 OI ELE 3RC A 20 20 20 20 20 20 20 20 20 20 20 20 20	F 1 C I P F 1 3. P 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	DESCRIPTION  FLOOR BOXES - WORKSTATION 3109  REC CORR 3064, 3074  REC RMS. 3066, 3067, 3068  LIGHTING - ATRIUM  REC LIBRARIAN 3057  PRINTER - RM. 3046  REC DIR. EXT. REL - 3044  PRINTER - ASSOC. SYS. LIB. 3040  TRANSFER FAN TF-3-1  FIXTURE DPG3 WINCH MOTOR & CTRL  LTG AND AV - CORR 3005, 3060  SPARE  SPARE  SPARE  SPARE  LOAD SUMMARY PER PHASE  TOTAL CONNECTED LOAD  MULTIPLE SECTION PANEL  RECESSED  SURFACE	LOAI (KVA 1.08 0.990 0.940 1.200 0.72 1.22 1.22 0.91 0.33 0.33	PHASE MAIN  D	B B 1.4.4 4 2.2.2 48.4 21.0 21.1 21.1 21.1 21.1 21.1 21.1 21.1	C C 350/ C C 350/ C C 250/ C C C C C C C C C C C C C C C C C C C	4W A, M.C.B LOAD (KVA) 0.50 0.50 1.44 1.20 0.72 0.72 0.36 21.45 21.04 16.88 21.05 8 16.88	DESCRIPTION  PLUMBING ACTUATORS FAN COIL UNIT FCU-3-1 LIGHTING - SEMINAR 3060 REC DIR. INTEL. PROP. 3046 PRINTER - ADMIN. AIDE 3053 REC ADMIN AIDE 3053, STOR. 3049 REC RMS. 3039, 3045 FLOOR BOX - SEMINAR 3060 FLOOR BOX - SEMINAR 3060 REC - TV AND CAMERA - SEMINAR 3060 PANEL AP-3-2  SPARE SPARE SPARE SPARE SELECTION  CONTACTOR CONTROL FEED THRU L SUB FEED MAIN LUGS (DOUBLE LU	20 20 20 20 20 20 20 20 20 20 20 20 20 2	NEW   EXIST	TING 10 30 NOTES
CTION: CATION: CATION: DTES	11 E S S S S S S S S S S S S S S S S S S	1 OI ELE 3RC A 20 20 20 20 20 20 20 20 20 20 20 20 20	F 1 C I C I C I C I C I C I C I C I C I C	DESCRIPTION  FLOOR BOXES - WORKSTATION 3109  REC CORR 3064, 3074  REC RMS. 3066, 3067, 3068  LIGHTING - ATRIUM  REC LIBRARIAN 3057  PRINTER - RM. 3046  REC DIR. EXT. REL - 3044  PRINTER - ASSOC. SYS. LIB. 3040  TRANSFER FAN TF-3-1  FIXTURE DPG3 WINCH MOTOR & CTRL  LTG AND AV - CORR 3005, 3060  SPARE  SPARE  SPARE  SPARE  LOAD SUMMARY PER PHASE  TOTAL CONNECTED LOAD  MULTIPLE SECTION PANEL  RECESSED	LOAI (KVA 1.08 0.990 0.940 1.200 0.72 1.22 1.22 0.91 0.33 0.33	PHASE MAIN  D	B B 1.4.4 4 2.2.2 48.4 21.0 21.1 21.1 21.1 21.1 21.1 21.1 21.1	C C 350/ C C 350/ C C 250/ C C C C C C C C C C C C C C C C C C C	4W A, M.C.B LOAD (KVA) 0.50 0.50 1.44 1.20 0.72 0.72 0.36 21.45 21.04 16.88 21.05 8 16.88	DESCRIPTION  PLUMBING ACTUATORS FAN COIL UNIT FCU-3-1 LIGHTING - SEMINAR 3060 REC DIR. INTEL. PROP. 3046 PRINTER - ADMIN. AIDE 3053 REC RMS. 3039, 3045 FLOOR BOX - SEMINAR 3060 FLOOR BOX - SEMINAR 3060 REC - TV AND CAMERA - SEMINAR 3060 PANEL AP-3-2 SPARE SPARE SPARE SELECTION  CONTACTOR CONTROL FEED THRU L	20 20 20 20 20 20 20 20 20 20 20 20 20 2	NEW   EXIST	TING 10 30 NOTES

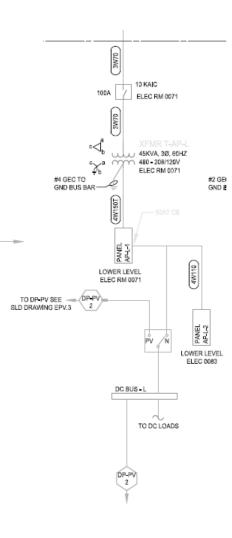
PANEL:		AP-2	1		VO	LTAGE:	208/12	0V	XNORMAL		X NEV	I
SECTION:				Р	HASE 8				EMERGENCY		$\boldsymbol{\vdash}$	TING
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2ND FLOOR						Oj.	10011,			0.101	POLES	
		C.B	T	LOAD	1			LOAD		C.E		
NOTES N	- L	A I	DESCRIPTION	(KVA)	_	В	С	(KVA)	DESCRIPTION	A.	P NO.	NOTES
IN		20	REC BRIDGE 2006	1.44	1.80	D		0.36	REC - CAMERA AND TV - RM 2060	20	1 2	
<del>                                   </del>	$\overline{}$	20	FLOOR BOXES - WORKSTATION 2109	1.62	1.00	2.52		0.90	REC RMS. 2066, 2067, 2068	20	1 4	
	$\overline{}$	20	REC CORR. 2064. 2074	0.72		2.02	1.22	0.50	PLUMBING ACTUATORS	20	1 6	
	_	_			0.24		1.22					
	_	20	REC RMS. 2058, 2059	0.90	2.34			1.44	FLOOR BOXES - SEMINAR RM 2060	20	1 8	
	_	20	FLOOR BOXES - TECH WORK RM 2050	1.08		2.28		1.20	REC TECH WORK RM 2050	20	1 10	
1	$\overline{}$	20	REC SEMINAR RM 2060	0.72			1.92	1.20	REC TECH WORK RM 2050	20	1 12	
	_	20	REC TECH WORK RM 2050	1.08	2.16			1.08	REC TECH WORK RM 2050	20	1 14	
		20	FAN COIL UNIT FCU-2-1	0.53		1.61		1.08	REC TECH WORK RM 2050	20	1 16	
1	_	20	LIGHTING - SEMINAR 2060	0.19			0.47	0.28	LIGHTING - ATRIUM	20	1 18	
	$\rightarrow$	20	TRANSFER FAN TF-2-1	0.90	1.98			1.08	EQUIP ACCESS RACK - SEMINAR 2060	20	1 20	
2	21	30	LTG AND A/V - CORR 2005, 2060	3.22		3.22			SPARE	20	1 22	
2	23	20	SPARE		. W	#88#a	0.00		SPARE	20	1 24	
2	25	20	SPARE		0.00		8 200000		SPARE	20	1 26	
2	27	20	SPARE		2 <b>&amp;</b> .	0.00	# .		SPARE	20	1 28	
2	29	20	SPARE			<b>***</b> /	0.00		SPARE	20	1 30	
3	31	20	SPARE		0.00				SPARE	20	1 32	
3	33	20	SPARE			0.00			SPARE	20	1 34	
3	35	20	SPARE				0.00		SPARE	20	1 36	
3	37	20	SPARE		14.34			14.34			38	SEE
3	39	20	SPARE		********	10.81		10.81	PANEL AP-2-2	100	3 40	SLD
4	$\overline{}$	20	SPARE				9.68	9.68			42	E0.1.2
			LOAD SUMMARY PER PHASE (	KVA)	22.62	20.44	13.29					
			TOTAL CONNECTED LOAD (			56.35		í				
			<u> </u>		CESSO	DIES . /	Y) INIDI	CATES	SELECTION			
		_	1	IND AC	CLOSO	MES - (	A) IIVDI	CATEO				
		1	MULTIPLE SECTION PANEL						CONTACTOR CONTR		_	
		L	RECESSED						FEED THRU		X	
			SURFACE						SUB FEED MAIN LUGS (DOUBLE		Ц	
			200% RATED NEUTRAL						CONTROLLABLE CIRCUIT BREAKER	PANEL	Ш	
			ISOLATED GROUND BUS						INTEGRAL TUSS D	EVICE		
ISSUE DAT	ΓE: 9	9/21/	2010		RE	VISION	DATE:	RFP N	O. 33 - A/V PROGRAM - 02/28/2012			_
REVISION DATE. NET NO. 35 - AV Y PROGRAM - 02/20/2012												

## Dual Bus System



One Line Diagram – Drawing EPV.3

# APPENDIX



One Line Diagram – Drawing E0.1.2