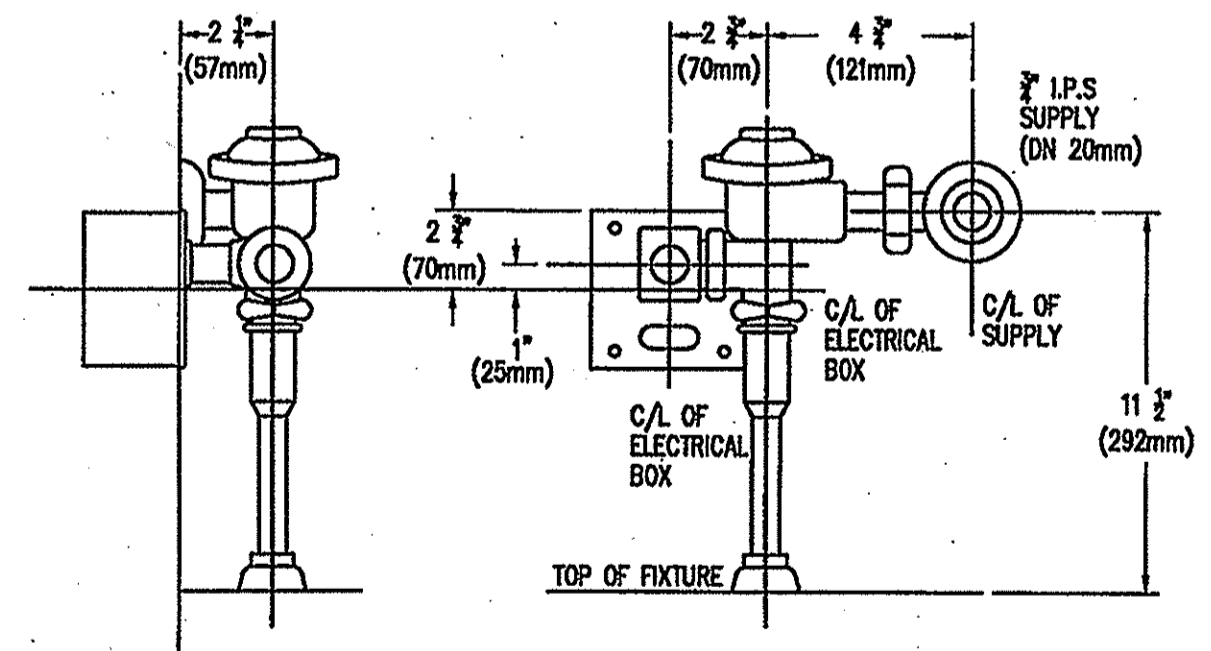


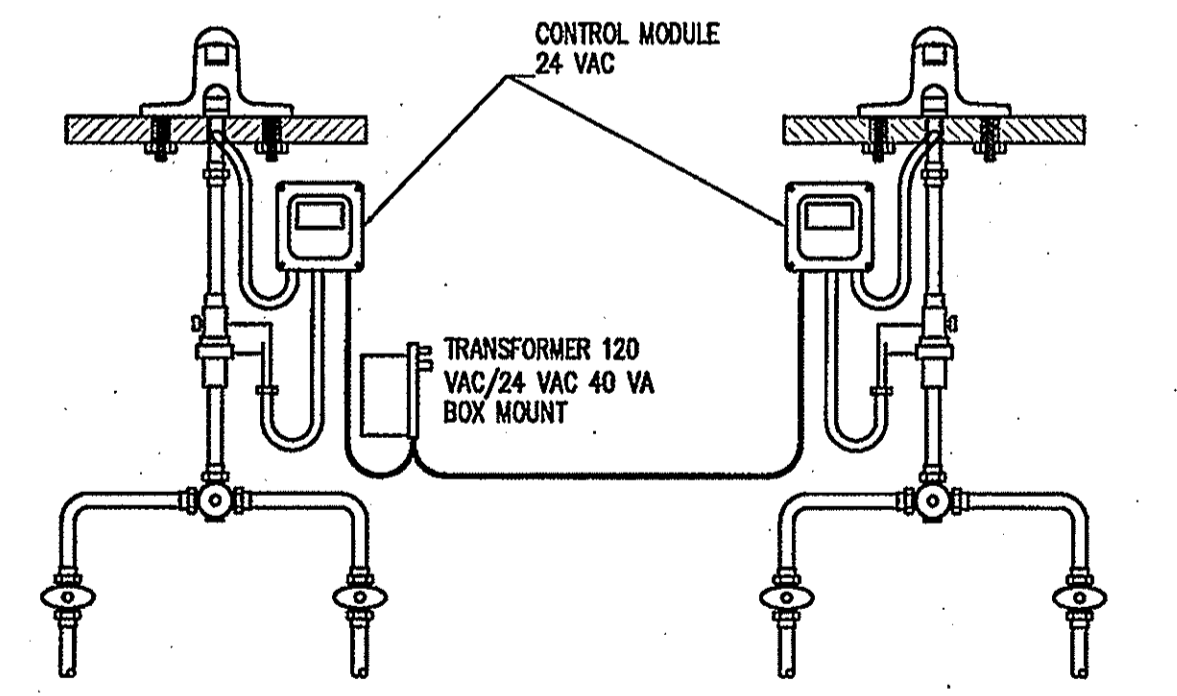
LUMINAIRE SCHEDULE										
SYMBOL	TAG	QUAN	DESCRIPTION	MOUNTING	MANUFACTURER	CATALOG NUMBER	LAMPS	NOTES AND COMMENTS		
	A	26	2 X 4 FLUORESCENT TROFFER	SURFACE	COLUMBIA	DM24-332-FSA12-3EBB120	(3) 4FT 32 WATT T8	EM = EMERGENCY LIGHTING & LIGHT FIXTURE TO CONTAIN AN EMERGENCY BATTERY PACK.		
	B	18	2 X 4 FLUORESCENT PARABOLIC	RECESSED CEILING GRID	COLUMBIA	P224-332G-SP48-S-EBB120	(3) 4FT 32 WATT T8	EM = EMERGENCY LIGHTING & LIGHT FIXTURE TO CONTAIN AN EMERGENCY BATTERY PACK.		
	C	7	2 X 4 FLUORESCENT TROFFER	SURFACE CEILING	COLUMBIA	4PS24-332G-FSA12-3EBB120	(3) 32 WATT T8	EM = EMERGENCY LIGHTING & LIGHT FIXTURE TO CONTAIN AN EMERGENCY BATTERY PACK.		
	D	14	CYLINDER DOWNLIGHT	PENDANT CEILING	KRAMER LIGHTING	KL8-32PLT-2-CFF-P-120	(1) 32 WATT PL TRIPLE TUBE	EM = EMERGENCY LIGHTING & LIGHT FIXTURE TO CONTAIN AN EMERGENCY BATTERY PACK. LAMP BY OTHERS.		
	F	12	TROFFER	RECESSED CEILING GRID	COLUMBIA	P224-332G-SP48-S-EBB120	(4) 4FT 32 WATT T8	EM = EMERGENCY LIGHTING & LIGHT FIXTURE TO CONTAIN AN EMERGENCY BATTERY PACK. CONTAINS DUAL BALLAST FOR SWITCHING.		
	G	10	2 X 4 FLUORESCENT	SURFACE CEILING	COLUMBIA	SM24-332-FSA12-3EBB120	(3) 4FT 32 WATT T8	EM = EMERGENCY LIGHTING & LIGHT FIXTURE TO CONTAIN AN EMERGENCY BATTERY PACK. CONTAINS DUAL BALLAST FOR SWITCHING.		
	H	10	2 X 4 FLUORESCENT	RECESSED CEILING GRID	COLUMBIA	P224-232G-LS28-S-EBB120	(2) 4FT 32 WATT T8	EM = EMERGENCY LIGHTING & LIGHT FIXTURE TO CONTAIN AN EMERGENCY BATTERY PACK.		
	J	1	FLUORESCENT PARABOLIC	RECESSED CEILING GRID	COLUMBIA	P222-317G-SP33-S-3EBB120	(3) 2FT 17 WATT T8	EM = EMERGENCY LIGHTING & LIGHT FIXTURE TO CONTAIN AN EMERGENCY BATTERY PACK.		
	K	18	HI BAY FLUORESCENT	CEILING SURFACE	COLUMBIA	LHR4-454-M4R12-4EB5120-LHRWG454	(4) 4FT 54 WATT T5 HO	CONTAINS WIRE GUARD.		
	L	3	RECESSED CAN LIGHT	CEILING	PRESCOLITE	LF6CFV-32-EB-EM-6CFV-TRG-B6	(1) 32 WATT TRIPLE TUBE	CONTAINS EMERGENCY BALLAST. CONTACT FACTORY FOR EMERGENCY BALLAST OPTIONS.		
	M	4	8FT TRACK RAIL & SPOT LIGHTING	CEILING	LITHONIA	LT8-WH (8FT TRACK SECTION)	LTC-GMBR-PAR20	WHITE FINISH. BLACK FINISH ALSO AVAILABLE. SINGLE CIRCUIT TRACK.		
	N	1	12FT TRACK RAIL & SPOT LIGHTING (TWO CIRCUIT)	CEILING	LITHONIA	L2T12-WH (12FT TRACK SECTION)	LTC-GMBR-PAR20	WHITE FINISH. BLACK FINISH ALSO AVAILABLE. DUAL CIRCUIT TRACK.		
	N1	1	12FT TRACK RAIL & SPOT LIGHTING (ONE CIRCUIT)	CEILING	LITHONIA	LT12-WH (12FT TRACK SECTION)	LTC-GMBR-PAR20	WHITE FINISH. BLACK FINISH ALSO AVAILABLE. SINGLE CIRCUIT TRACK.		
	P	4	DECORATIVE SUSPENDED FIXTURE	CEILING	LIGHTOILER	412U3-42AB	(1) 32 WATT TRIPLE 4 PIN			
	Q	4	2FT & 4FT TRACK RAIL & SPOT LIGHTING (ONE CIRCUIT)	CEILING	LITHONIA	LT2-WH (2FT TRACK SECTION) LT4-WH (4FT TRACK SECTION)	LTC-GMBR-PAR20	WHITE FINISH. BLACK FINISH ALSO AVAILABLE. SINGLE CIRCUIT TRACK. CONNECT BOTH 2FT AND 4FT TRACKS TOGETHER.		
	R	14	DECORATIVE SUSPENDED FIXTURE	CEILING	LIGHTOILER	406U2-416AB	(1) 32 WATT CFL TRIPLE TUBE			
	S	8	UP/DOWN WALL WASH	OUTDOOR WALL	TBD	TBD	TBD	FIXTURE TO BE DETERMINED AT A LATER TIME BY OWNER/ARCHITECT. ELECTRICAL CONTRACTOR TO SUPPLY BOX AT HEIGHT DESIGNATED ON DRAWINGS.		
	T	2	WALL PACK	OUTDOOR WALL	HUBBELL	LMC-42F-8-1-PC(20)-LP42	(1) 42 WATT FLUORESCENT	LAMP INCLUDED. PHOTOCCELL INCLUDED WITH FIXTURE.		
	U	8	ARCHITECTURAL FLOODLIGHTING WALL WASH	OUTDOOR ON ROOF	LITHONIA	ASF1-100M-HSP-TB-AFTM-LPI-PE	(1) 100 WATT METAL HALIDE	LAMP INCLUDED. PHOTOCCELL INCLUDED WITH FIXTURE.		
	V	2	OUTDOOR PENDANT	OUTDOOR WALL	ANP LIGHTING	RH12-E2-XX		ELECTRICAL CONTRACTOR TO SUPPLY PHOTOCCELL FOR THESE LIGHT FIXTURES. MOUNTS TO A STANDARD BOX.		
	W	7	STEP LIGHT	OUTDOOR IN CONCRETE BLOCK PILLAR	INTENSE	IFS90S-LED-W-XX		GRILL TO BE DETERMINED BY ARCHITECT/OWNER.		
	EX	3	EMERGENCY WALL BATTERY	WALL OR CEILING	LITHONIA	LQM-S-W-1-R-120/277-EL N	(2) 5.4 WATT			

1 LUMINAIRE SCHEDULE
E5.1

- LUMINAIRE SCHEDULE NOTES**
- FIRST LINE FOR EACH LIGHT FIXTURE TYPE DESIGNATES THE SPECIFIED MANUFACTURER FOR THIS PROJECT. THE SECOND LINE OF THE LUMINAIRE SCHEDULE IS THE "AS EQUAL" LIGHT FIXTURE SPECIFIED FOR THIS PROJECT.
 - ALL LUMINAIRES LISTED AS SUBJECT TO "AS EQUAL" SUBSTITUTIONS. SUBSTITUTIONS MUST MEET WITH APPROVAL OF ARCHITECT, ENGINEER AND OWNER. SUBSTITUTED LUMINAIRES MUST BE OF EQUAL OR SUPERIOR QUALITY TO THOSE ORIGINALLY SPECIFIED. ELECTRICAL CONTRACTOR MUST GUARANTEE SUBSTITUTED LUMINAIRES CONFORM WITH ALL LIGHTING CODES, INCLUDING THE MINNESOTA ENERGY CODE.
 - TO MINIMIZE VOLTAGE DROP, A MINIMUM OF #10 AWG WIRE IS TO BE USED.
 - FOR THE T8 BULBS SPECIFIED ON THE LUMINAIRE SCHEDULE, IS IT RECOMMENDED, BUT NOT REQUIRED, TO USE THE GE SPEC MASTER T8 BULBS. CATALOG NUMBER: FT32T8.
 - LIGHT FIXTURES SPECIFIED WITH A EB BY THEM IS TO USE THE BODINE FLUORESCENT EMERGENCY BALLAST. THE BALLAST SHALL BE MOUNTED INSIDE THE BUILDING NO FURTHER AWAY FROM THE FIXTURE THAN 6 FEET. CATALOG NUMBER: B94CG.



3 AUTOMATIC TOILET SLOAN VALVE DETAIL
E5.1 SCALE: NONE



4 AUTOMATIC FAUCET SLOAN VALVE DETAIL
E5.1 SCALE: NONE

AUTOMATIC SLOAN VALVE DETAIL NOTES

- SEE SHEET E1.1 FOR TOILET/FAUCET SLOAN VALVE LOCATIONS. ELECTRICAL CONTRACTOR TO COORDINATE WITH MECHANICAL CONTRACTOR DURING INSTALLATION OF THESE FIXTURES.

Mt. Olivet Interior Lighting Power Study																			
LIGHTING BUDGET CALCULATIONS										Luminaires Used					Compliance Results				
Room	Room Number	Room Area	Ceiling Height	Calculated Area Factor	Area Factor Used	Unit Power Density	Lighting Power Budget	T	Q	W	T	Q	W	T	Q	W	Total Wattage	Compliance Difference	Compliance Status
Entry	100	181.573	10	12.89	1.80	0.55	179.76	L	3	32							95	83.76	**PASS**
Gathering	101	1933.1	12	10.26	1.80	0.8	2,783.66	D	14	96	N	8	60				1744	1,039.66	**PASS**
Coffee Bar	101A	182.719	10	12.61	1.80	1.8	592.01	R	5	32	Q	4	60				350	232.01	**PASS**
Men	102	302.929	10	7.61	1.80	0.5	272.64	H	4	64							258	16.64	**PASS**
Women	103	345.55	10	6.07	1.80	0.5	311.00	H	4	64							258	65.00	**PASS**
Unisex	104	76.5525	10	30.10	1.80	0.5	88.91	J	1	51							51	17.91	**PASS**
Cust.	105	71.9449	10	32.23	1.80	0.7	90.63	H	1	64							64	26.85	**PASS**
Kitchen	106	352.549	9.5	3.71	1.80	1.4	493.82	C	6	96							576	337.62	**PASS**
Pantry	107	69.3121	9.5	13.55	1.80	0.9	160.89	C	1	96							96	64.89	**PASS**
Storage	108	370.876	10	5.21	1.80	0.3	200.37	A	2	96							192	8.27	**PASS**
Multi-Purpose	109	6420.01	22	14584.26	1.80	1.3	15,822.82	K	22	64							1158	13,834.82	**PASS**
Classroom	110	370.869	9.5	3.63	1.80	1.7	1,134.89	B	6	96							576	658.89	**PASS**
Classroom	111	357.332	9.5	3.47	1.80	1.7	1,186.24	B	6	96							576	699.24	**PASS**
Prayer/Classroom	112	584.917	9.5	2.30	1.80	1.7	1,789.65	B	8	96							768	1,021.85	**PASS**
Hallway	113	145.947	10	16.79	1.80	0.8	210.16	A	2	96							192	18.16	**PASS**
Office/Classroom	114	159.914	9.5	6.76	1.80	1.3	465.48	F	2	96							192	273.48	**PASS**
Unisex	115	85.1592	10	27.06	1.80	0.5	76.64	H	1	64							64	12.64	**PASS**
Office/Classroom	116	146.886	9.5	5.16	1.80	1.3	343.71	F	2	96							192	151.71	**PASS**
Storage	117	84.8969	10	27.14	1.80	1.3	198.65	A	1	96							96	102.65	**PASS**
Office	118	944.077	10	2.44	1.80	1.5	2,540.01	G	12	96	A	2	96				1344	1,205.01	**PASS**
Office	119	170.208	10	13.54	1.80	1.5	459.59	G	4	96							384	76.66	**PASS**
Reception	120	274.382	10	8.40	1.80	1.5	740.83	A	4	96	M	4	60				584	156.83	**PASS**
Fire/Exit Room	121	1161.82	10	5.99	1.80	0.5	1,045.73	P	14	32	N	8	60				848	197.73	**PASS**
Total Building Interior Area															44902.6	30,795.91	10695	20,100.91	**PASS**

2 INTERIOR LIGHTING ALLOWANCE CHART
E5.1

LIGHTING ALLOWANCE CHART NOTES

- THIS LIGHTING STUDY IS BASED ON THE MINNESOTA ENERGY CODE, CHAPTER 7670.0800 (ELECTRICAL POWER AND LIGHTING), SUBPART 2 (LIGHTING POWER BUDGET), PARAGRAPH E (LIGHTING SYSTEM PERFORMANCE PROCEDURE).
- THIS LIGHTING STUDY COVERS INTERIOR LIGHTING ONLY. EXTERIOR LIGHTING IF REQUIRED IS REPORTED ON A DIFFERENT CHART.
- THIS LIGHTING STUDY COVERS ALL BUILDING EXCEPT RESIDENTIAL BUILDING. RESIDENTIAL BUILDINGS ARE COVERED BY MINNESOTA ENERGY CODE CHAPTERS 7674 AND 7676.
- THE SHADED CELLS SHOWN ABOVE ARE CALCULATED AUTOMATICALLY.
- POWER ADJUSTMENT FACTORS MAY BE USED IF AUTOMATIC CONTROL DEVICES REGULATE THE LIGHTING.
- REFER TO THE LUMINAIRE SCHEDULE ON THIS SHEET FOR THE LETTER DESIGNATION OF THE LIGHTING FIXTURES LISTED ON THE CHART, UNDER THE HEADING 'T'.
- THE AREA FACTOR ON THIS CHART IS CALCULATED BY USING THE FOLLOWING EQUATION FROM THE MINNESOTA ENERGY CODE, SECTION 7670.0800, SUBP. 2, E(4)(c):

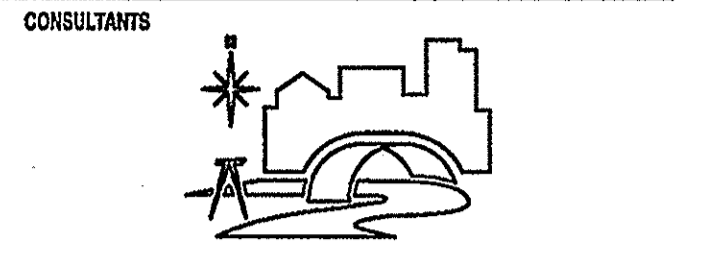
$$AF = [0.2 + 0.8 \exp\{[10.21 \times (CH - 2.5) - 1] \times 1.1054\}] / AR$$

WHERE CH = CEILING HEIGHT AND AR = FLOOR AREA OF THE ROOM.

FLOOR AREA OF THE ROOM IS CALCULATED FROM THE INSIDE DIMENSION OF THE ROOM



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Apple Valley, MN E5124
952.432.4332

REVISION	DATE
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I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Engineer under the laws of the state of Minnesota.

R. Scott Jones
R. Scott Jones, P.E.
Date: 02/09/2007 License No. 25389

ELECTRICAL DETAILS

PROJECT NO.:	06782
SCALE:	AS NOTED
DATE:	02/09/2007
DRAWN BY:	ALR
CHECKED BY:	RSJ

DESIGN DEVELOPMENT

E5.1