

# **McKnight Crossings Church of Christ**

## **Assessment of Sunday Worship**

### **Evaluation of Physical and On-Line Worship**

November 2021

**Background:** The Senior Minister, Jeff Kryder, and the Family & Worship Minister, Jeremy Picker, have shared ideas on how to improve the Sunday morning worship experience. Initial focus from the Senior Minister was the on-line worship experience but the Worship Minister also had ideas to improve the physical on-site worship experience.

**Current Pain-Points<sup>1</sup>** (not in order of importance):

1. Outdated Auditorium Lighting Controls  
As noted in **Exhibit A**, the lighting controls for the auditorium are a set of old, mid-70s analog push-activated control knobs. These controls are hard to understand, hard to operate, and when they eventually fail will be difficult and time consuming to fix.
2. Dim Auditorium Lighting  
Many members have commented that the auditorium lights, even at maximum, are still dim.
3. Dim/Inadequate Stage Lighting  
Current overhead lighting is inadequate for on-line video. Video results (without any additional floor spot lamps) is poor and does not reflect the worship experience well.
4. Extensive Worship Set-up  
Prior to worship the audio and video system need to be brought on-line, checked, and calibrated/set.
5. Several Single Points of Failure  
Like many congregations, MX relies on specific key people to make the Sunday worship operate smoothly.
  - The current soundboard needs a skilled technician and operating it is a learned skill (requires an apprenticeship).
  - Video recording: usually performed by the same individual (not a deep bench if someone unavailable)
  - Streaming set-up: usually performed by the same individual (not a deep bench if someone unavailable)
6. Auditorium Stage and Back Wall Showing Age  
The backwall needs maintenance and paint. May be a good time to revisit the current stage and backwall and rebuild so it compliments the in-person and on-line worship.

---

<sup>1</sup> List summarized by Bret Blackford based on review of several different documents and conversations. List still needs to be formally accepted by Jeff Kryder and Jeremy Picker to ensure it reflects their thoughts.

**Goal/Requirements:**

To be determined (TBD) <sup>2</sup>

It is important for the successful analysis and execution of the project that clear goals and objectives are obtained and documented. These goals should document current pain points and things we would like to do but currently cannot. There should be objective goals that can be measured at the end of the project to determine if project was successful or not.

Along with these goals will be the identification of project owners and key stakeholders. Before vendors are selected or any physical work begins the elders need to understand and agree to the various goals of the project. Elders should consider ...

- Do we want to be an on-line focused church?
- Are we happy/content with the on-line experience or do we need to expend some of our resources on improving?
- Are we happy with current worship aesthetic or do we want to change lighting, back wall, remove pews, etc.? All or in part?
- Do we want on spend resources on the Sunday audio system?

**Bids Received to Date:**

- **Exhibit E** - Advanced Audio & Lighting Systems, Inc
- **Exhibit F** - Arch City Audio Visual Services
- **Exhibit G** - Elite Enterprises
- **Exhibit H** - HD Media

**Other Documents:**

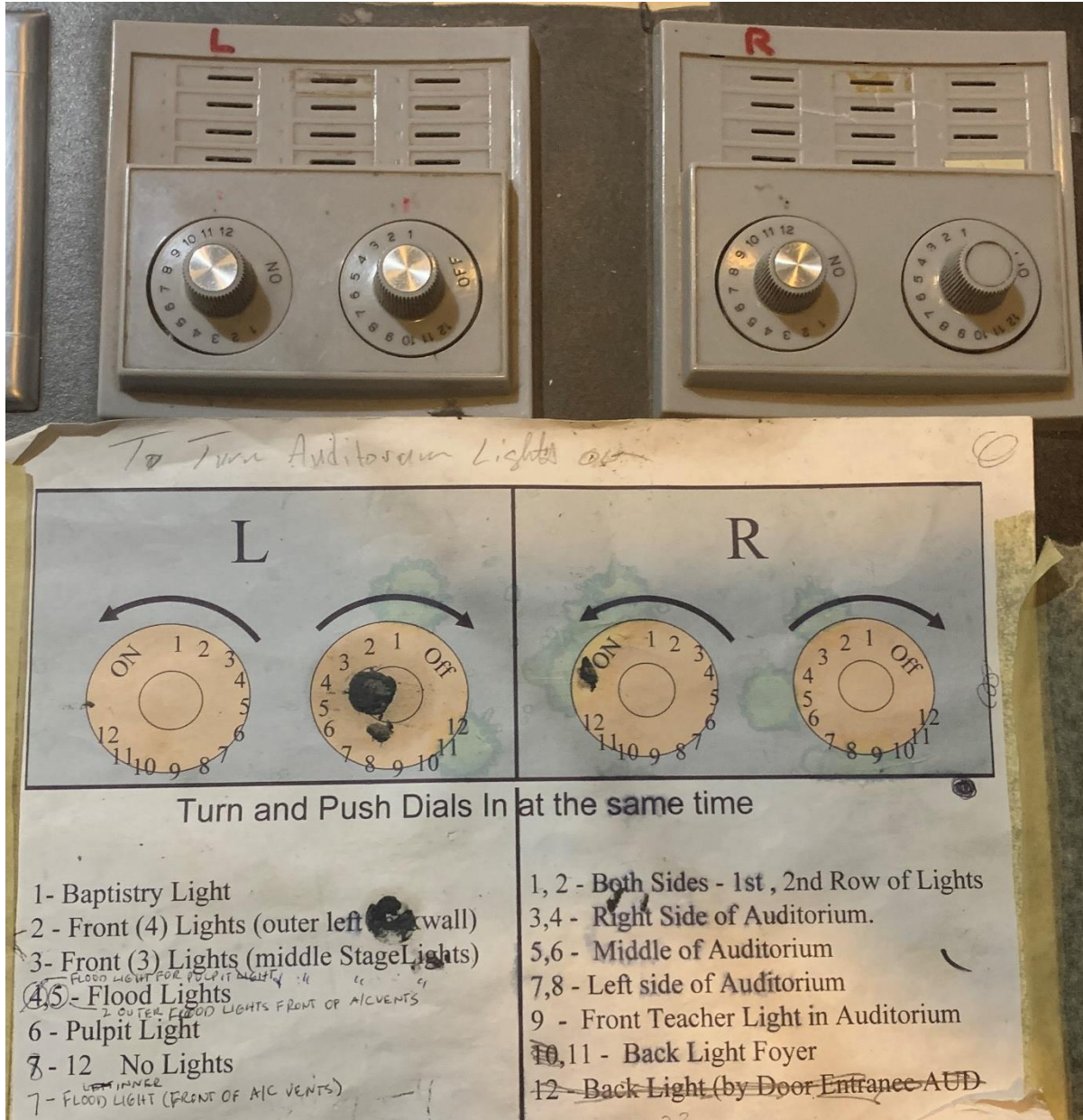
- **Exhibit A.1** – Auditorium Lighting Control
- **Exhibit A.2** - Auditorium Light Map
- **Exhibit B** – MX Auditorium Remodel memo, with goal. Author unknown
- **Exhibit C** - MX Auditorium Remodel- Bid Analysis. With goal. Author unknown
- **Exhibit D** – Auditorium Lighting and Electrical Upgrades. Email from Jeff Earnhart to Jeff McGlawn.

---

<sup>2</sup> Above text in purple a placeholder. Comments are by Bret Blackford and will be replaced when more project information obtained from Jeff Kryder, Jeremy Picker, and the elders.

### MX Auditorium Light Controls

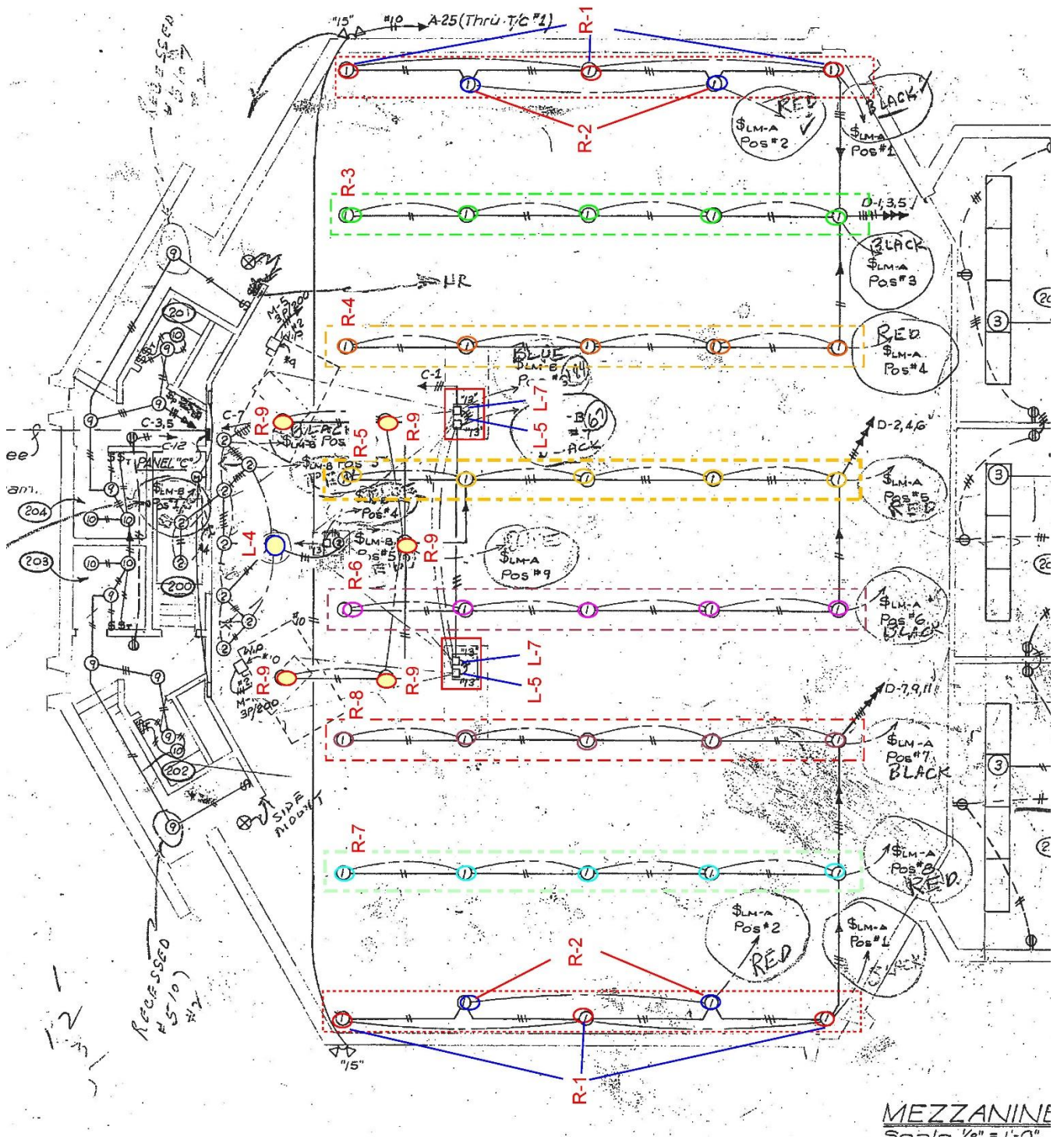
Below are the analog rotary dials that are used to turn on/off the various lights in the auditorium. As you can see from the diagram the process is not readily intuitive and prone to mistakes. Also, this is an older mid-70s style switch that might be difficult to replace when it starts malfunctioning.





### MX Auditorium Light Diagram

Numbers below represent the switch setting that operates the light or series of lights. Example: **R-1**: indicates that these lights are switched using setting **1** on the **R** dial/knob.



Scope document obtained from Jeannie Britzmann

McKnight Crossings Church of Christ  
2515 S. McKnight Road  
St. Louis, MO 63124

Sept 27, 2021

Re: MX Auditorium Remodel

MX leadership has recommended the auditorium to be evaluated to determine if it should be remodeled.

Goal:

To evaluate and implement necessary changes (sound, light, décor, space, etc.) to bring our online worship experience to the next level.

Currently MX produces a weekly online experience that is adequate for individuals to participate in Sunday worship. It is desired for the experience to be improved through better sound and visual experience, while at the same time improving the simplicity and efficiency for the current MX online production team. i.e. don't intend to hire a full time technical person.

Jeff K and Jeannie met with Jeff E (Elite Technology Solutions) and Aaron (HD Media Systems) last week to introduce them to our auditorium renovation goals. We expect to receive bids from both of them later this week or early next week.

It is anticipated the following key areas would need to be improved:

1) House Lighting

Update electrical board  
Inset light fixture and possible increase in fixtures

2) Audio/Video System

Speaker systems- multi zone  
Hidden integration  
Acoustic Treatments  
Projection system- hi-definition, properly calibrated (equalization, delay, level balancing, crossovers, processors)  
Stage Lighting-enhance online viewing

3) Tech Center

Combine or separate sound/video control center (communication if separated)  
Automation(presets) of regular weekly presentations (lights, camera, sound, keyboards, etc.) through software.

4) Space

Build out the stage  
Change backdrop

**Scope document obtained from Jeannie Britzmann**

Take pews out

Conclusion:

Both consultants agreed that house lighting (1970's centralized lighting) is the first priority. How to economically increase brightness and keep dimming capabilities will depend on the current wiring -we sent links to our building's blueprints.

Both seem to vision the same for our audio/video system changes.

- We have good acoustics and our current speakers seem to be adequate.
- Stage lighting will need to be increased
- Update projector- possibly change from our current front projector system to a short throw projector which is cheaper, less special needs, and just as powerful

Both seem to vision the same for tech center

- Use Software- turns computer into AV mixer, upgrade sound board to allow for overrides as desired, otherwise use presets.
- Could separate sound/video control center if desired

Changing the space, both the stage and backdrop could be done by MX volunteers. Jeff E works with a consultant who could help with design and diffusion boards. We think it would be wise to take advantage of the consultant's expertise mainly for speed of results.

Both Jeff E and Aaron have agreed to price out the major divisions of need, although it is difficult to see addressing the audio/visual needs without addressing the space concerns. Based upon our discussions we think our overall cost might be in the \$140,000 range. We should have a better fine-tuned estimate by next week.

Page 2 of 2

Summary (by Bret Blackford) of key items from above:

*MX leadership has recommended the auditorium to be evaluated to determine if it should be remodeled.*

Goal:

*To evaluate and implement necessary changes (sound, light, décor, space, etc.) to bring our **online worship experience** to the next level.*

*Currently MX produces a weekly online experience that is adequate for individuals to participate in Sunday worship. **It is desired for the [on-line] experienced to be improved** through better sound and visual experience, while at the same time improving the simplicity and efficiency for the current MX online production team. i.e. don't intend to hire a full time technical person.*

Below is a summary analysis obtained from Jeannie Britzmann

McKnight Crossings Church of Christ  
2515 S. McKnight Road  
St. Louis, MO 63124

November 1, 2021

Re: MX Auditorium Remodel- Bid Analysis

MX has received bids from Jeff E (Elite Technology Solutions) and Aaron (HD Media Systems) for technical system upgrades (lighting, audio/video, tech center, physical stage/backdrop).

Goal: To evaluate both bids, choose which company to engage, implement necessary changes to bring our online/in person worship experience to the next level.

Conclusion: Jeff K and Jeannie B would engage Elite to upgrade our outdated systems.

The major difference between the two bids is the new house lighting system. Elite will use high-quality LED recessed fixtures that run on low-voltage and high-quality DMX controlled power supplies. Elite is experienced in DMX lighting and states they can integrate the new system with our audio/visual controls for an easy-to-use reliable system for our volunteers without needing to add any additional lights in our ceiling. This reduces cost and ultimate construction risks.

Elite Projected Costs:

1) Sound system Upgrades-\$16,000

Highlights-Install digital signal processor for mixing control, and loudspeaker management.  
Install programmable control processors (iPad).

2) House lighting-\$60,000

Highlights-Low voltage LED replacement fixtures, DMX controlled power supplies

3) Streaming Camera System-\$15,000

Highlights-3 HD broadcast quality PTZ cameras, 4-Ch HDMI A/V streaming mixer

4) Projector and Screen-\$39,000

Highlights- 1 High-quality laser based projector, HD resolution with 8000 lumens, 1 throw lens, 1 High-quality motorized projection screen, tab-tensioned ALR screen material 138"by 75"tall

5) Stage lighting-\$10,000

6) Stage Backdrop- \$10,000



Below project summary per Jeff Earnhart – 12/16/2018



Jeff Earnhart <jeffmarionearnhart@gmail.com>

## Auditorium lighting and electrical upgrades

message

Jeff Earnhart <jeffmarionearnhart@gmail.com>

Sun, Dec 16, 2018 at 11:05 PM

To: Jeff McGlawn <jeffbeatamcglawn@yahoo.com>, Jeff McGlawn <jeffmcglawn@gmail.com>

Jeff,

Here are my thoughts and observations on the lighting and electrical quotes we have for the auditorium:

### Advanced Audio and Lighting Systems

Their "total sanctuary lighting solution" seems like a great package. It's designed to solve the stage lighting issues, upgrade the outdated control room, and provide dimmable LED lights & fixtures for the auditorium. Unfortunately, at over \$146,000, I don't see this as realistic to do all the work "in one bite".

In looking at just the stage lighting and the control room (which are the two higher priorities in my mind), I don't think we have an accurate quote for the third-party electrical contractor's portion. It almost certainly has to be less than \$25,250, since this cost includes installing 60 new fixtures in the auditorium, which wouldn't be part of the scaled-down staging lighting work. I think this might be as simple as a call or email to Mark to clarify this. I suspect including the third-party electrical portion will increase the quote from \$53,322 to over \$65,000 (but shouldn't add the entire \$25,250).

### Arch City:

This quote looks like it only addresses the stage lighting and doesn't include the old control room. Maybe I misunderstood the scope, but either Michael misunderstood our request, they aren't interested or capable in re-doing the control room, or I am missing something in all of this.

As for what they quoted, it looks somewhat similar in scope to what Advanced Audio & Lighting quoted and is probably less expensive (depending on Advanced Audio's third-party electrician's costs). However, I am hesitant to change out the stage lighting without doing major upgrades to the control room. If Arch City is unable to upgrade their control room or is uninterested in that portion, that could eliminate them from consideration.

### Suggestions:

- 1) seek clarity on the third-party electrician's cost as it relates to Advanced Audio's quote for the stage lighting and control room work.
- 2) seek clarity from Arch City to determine if they could include the control room upgrade as part of their quote. And if so, what would be their timeline to provide this quote to us?

Let me know if you'd like to meet to discuss this, and if you'd like me to contact Michael and Mark to move this forward. I could work to make contact with them in hopes of getting responses in early January.

I am available to discuss this at your convenience before the 23rd or after the 28th.

Jeff Earnhart

Once we have this feedback, I'd say we get a sketch of the Arch City design to show others what the pipes will look like. Same with Advanced Audio, to the extent there are "visible pieces" of equipment or conduit structures.

Bid from Advanced Audio & Lighting Systems, Inc

Advanced Audio & Lighting Systems, Inc.  
 6707 N. Sheridan Rd.  
 Peoria, IL 61614  
 (309) 691-7105



Estimate

Date	Estimate #
7/16/2018	ES-988562

Bill To
McKnight Crossings Church of Christ 2515 S. McKnight Road St. Louis, MO 63124

Account #	Terms	Rep
		MA

P.O. Number	Project

Description	QTY	U/M	Each	Total
ETC ERn2-RM-120 Unison® ERn External Control Enclosure single processor, Rack mount 120v	1	ea	1,183.00	1,183.00
ETC P-ACP Unison Paradigm architectural lighting control processor	1	ea	2,535.00	2,535.00
ETC P-SPM Unison Paradigm station power supply	1	ea	845.00	845.00
ETC, UH10010 1G 10 Button Assy	3		295.75	887.25
B. Unison Paradigm Control Station (Model P-TS7-PE) to consist of: 1 7184A1532 P-TS7-PE - Paradigm 7" Ethernet Portable Touchscreen Station to include: - 7" Black Portable Touchscreen - 10' Ethercon to RJ-45 cable			3,188.90	3,188.90
ETC ERP24-FT12 Echo Relay Panel Feedthrough 24-way panel with 12 relays • Echo, sACN, DMX-512, TimeClock, or stand-alone control • Rugged steel wall-mount enclosure • Full compliance with UL, cUL and FCC regulations	1	ea	2,184.00	2,184.00
ETC ERP-SMD Echo Relay Panel, 120V Surface mount Metal Door	1	ea	209.30	209.30
ETC RSN-TERM Response 4 Port DMX/RDM Gateway - 4 Terminal Connectors	2	ea	854.10	1,708.20
ETC N3GA-RM Gateway Rack Mount Kit Supports up to 2 Gateways, includes a blanking plate for one gateway.	1	ea	45.00	45.00
<b>Subtotal</b>				
<b>Sales Tax (0.00)</b>				
<b>Total</b>				

www.advaudio.com

Advanced Audio & Lighting Systems, Inc.  
 6707 N. Sheridan Rd.  
 Peoria, IL 61614  
 (309) 691-7105



**Estimate**

Date	Estimate #
7/16/2018	ES-988562

<b>Bill To</b>
McKnight Crossings Church of Christ 2515 S. McKnight Road St. Louis, MO 63124

Account #	Terms	Rep	P.O. Number	Project
		MA		

Description	QTY	U/M	Each	Total
Middle Atlantic DWR-18-22 Sectional wall mount equipment rack 18U space, 20" useable depth	1	ea	915.00	915.00
Middle Atlantic BR1 1 space (1-3/4") brushed grommet panel	1	ea	68.00	68.00
Middle Atlantic BL1 1 rack space 16-gauge aluminum flanged design. Easy to machine, black brushed and anodized	2	ea	25.00	50.00
Middle Atlantic BL2 2 rack space 16-gauge aluminum flanged design. Easy to machine, black brushed and anodized	2	ea	51.73	103.46
Middle Atlantic UPS-1000R Rackmount UPS 1000VA/750w with Energy Saver design	1		1,458.95	1,458.95
Middle Atlantic PD-915R 120 Volt Rackmount Power Strips, 8 rear 1 front outlet, 9' power cable	1	ea	151.00	151.00
Transition Networks SM16TAT2SA Smart Managed PoE+ Switch 16 Port Gigabit PoE+ 2 Port 100/1000 SFP	1	ea	650.51	650.51
Panduit CP24BLY Mini-Com All Metal Shielded Modular Patch Panels 24 ports, 1RU, 19" rack mount	1	ea	55.64	55.64
Panduit TX6 PLUS UTP Jack Module, Category 6, RJ45, 8-position, 8-wire universal module, White	16		12.33	197.28
Panduit MINI-COM blank module, black, 10 pack	1		4.52	4.52
ETC ECPB DMXOUT Plug-in station	3	ea	100.80	302.40
ETC ECPB PB1 1-gang, 2.5" deep back box, surface mount	3	ea	42.00	126.00
ETC ECPB U-Bolt Kit	3	ea	21.00	63.00
West Penn 225 16/2 Stranded bare copper conductors, unshielded with overall jacket +14AWG THHN	500	ft	0.36248	181.24

<b>Subtotal</b>
<b>Sales Tax (0.00)</b>
<b>Total</b>

www.advaudio.com



Advanced Audio & Lighting Systems, Inc.  
 6707 N. Sheridan Rd.  
 Peoria, IL 61614  
 (309) 691-7105



**Estimate**

Date	Estimate #
7/16/2018	ES-988562

<b>Bill To</b>
McKnight Crossings Church of Christ 2515 S. McKnight Road St. Louis, MO 63124

Account #	Terms	Rep
		MA

P.O. Number	Project

Description	QTY	U/M	Each	Total
West Penn 4246 CAT6 23 AWG. - 4 PAIR Solid bare copper conductors, unshielded with an overall jacket	200	ft	0.18375	36.75
West Penn DA2401 Single Pair 24 Awg. Stranded tinned copper conductors, individually shielded with an overall jacket.	1,000	ft	0.21738	217.38
System installation - Demo of existing control equipment	8	hr	98.00	784.00
System installation - Equipment racks & panels	16	hr	98.00	1,568.00
System installation - Low voltage cable pulls	12	hr	98.00	1,176.00
System installation - Low voltage termination & testing	12	hr	98.00	1,176.00
Lighting Programming	12	hr	98.00	1,176.00
End user training of installed equipment	4	hr	98.00	392.00
System documentation and 'As Built' drawings			1,000.00	1,000.00
Reimbursement for travel and work expenses			500.00	500.00
Pre sales tax total				25,138.78
			<b>Subtotal</b>	
			<b>Sales Tax (0.00)</b>	
			<b>Total</b>	

www.advaudio.com

Advanced Audio & Lighting Systems, Inc.  
 6707 N. Sheridan Rd.  
 Peoria, IL 61614  
 (309) 691-7105



Estimate

Date	Estimate #
7/16/2018	ES-988562

<b>Bill To</b>
McKnight Crossings Church of Christ 2515 S. McKnight Road St. Louis, MO 63124

Account #	Terms	Rep	P.O. Number	Project
		MA		

Description	QTY	U/M	Each	Total
The Light Source RL100W52-30ETR Recessed 120V LED fixture - White trim ring - 52 degree beam angle - 3000K color temperature - Terminal screw data connection - 11" diameter rough in	60	ea	1051.45833	63,087.50
The Light Source MICR40W90-30ETR 40W Recessed 120V LED fixture - White trim ring - 90 degree beam angle - 3000K color temperature - Terminal screw data connection - 6" diameter rough in				
West Penn DA2401 Single Pair 24 Awg. Stranded tinned copper conductors, individually shielded with an overall jacket.	2,000	ft	0.22832	456.64
*** EC mounts fixtures & terminates hi voltage ***				
System installation - Low voltage cable pulls	20	hr	98.00	1,960.00
System installation - Final termination & verification	18	hr	98.00	1,764.00
Misc. Hardware			1,000.00	1,000.00
Pre sales tax total				68,268.14
Baton Pipes			1,000.00	1,000.00
			<b>Subtotal</b>	
			<b>Sales Tax (0.00)</b>	
www.advaudio.com			<b>Total</b>	



Advanced Audio & Lighting Systems, Inc.  
 6707 N. Sheridan Rd.  
 Peoria, IL 61614  
 (309) 691-7105



**Estimate**

Date	Estimate #
7/16/2018	ES-988562

<b>Bill To</b>
McKnight Crossings Church of Christ 2515 S. McKnight Road St. Louis, MO 63124

Account #	Terms	Rep
		MA

P.O. Number	Project

Description	QTY	U/M	Each	Total
The Light Source MQSB Mega-Quick Pipe Splice sched 40, Black Finish, Safe Vertical Working Load: 600 Pounds	4	ea	13.75	55.00
The Light Source MBATB, Mega-Baton Clamp, Black Finish. Fits 1 1/2 " pipe	36	ea	13.50	486.00
System installation - Mounting of baton pipes	36	hr	95.00	3,420.00
Pre sales tax total				4,961.00
ETC SELD40HI-0 Selador Desire Series D40 Studio HD LED fixture - White	14	ea	1,493.70	20,911.80
ETC 400SC Safety Cable 32'	14	ea	8.45	118.30
ETC 400BD barn doors for Source Four fixture - White	4		70.98	283.92
Lex DMX-5P-10 5 Pin DMX Extension 2 Pair Shielded Cable, Neutrik Black/Gold Connectors 10'	14	ea	31.655	443.17
Lex DMX5P-TERM 5 Pin DMX Terminator	3	ea	18.24	54.72
System installation - Prep, mounting & focus of lighting fixtures	10	hr	95.00	950.00
Pre sales tax total				22,761.91
			<b>Subtotal</b>	\$121,129.83
			<b>Sales Tax (0.00)</b>	\$0.00
			<b>Total</b>	\$121,129.83

www.advaudio.com

Thank you for the opportunity to partner in your church's environmental vision. Our proposed stage lighting as designed will not only to illuminate the stage but also to provide a wide range control for live viewing as well as video production. The house lighting retrofit will provide general illumination and add to the inviting worship space. The ETC products specified are internationally known for quality for performance and longevity. All the lighting fixtures are of the LED design and are inherently energy efficient. I have included links in the document to the high visibility items in the project. This does not include a exhaustive list of all the included components necessary for systems function, however those peripherals have been included in the quote. High voltage work will require a certified electrician. Our team will work closely with the electrical contractor, minimizing their time requirement.

**Total Sanctuary Lighting Solution**

**Equipment**

- ETC SELD40HI-O Selador Desire Series D40 Studio HD LED - White (14)
- The Light Source RL100W52-30ETR Recessed 120v LED fixture- 3000K color temperature- 52 degree beam (50)
- The Light Source MICR40W90-30ETR 40W Recessed 120V LED fixture- 3000K color temperature- 90 degree beam (10)
- ETC 400BD barn doors for Source Four fixture - White (4), Unison® ERn External Control Enclosure single processor, Unison Paradigm architectural lighting control processor, Unison Paradigm station power supply, ETC, UH100101G 10 Button Assy 3, Unison Paradigm Control Station, Paradigm 7" Ethernet Portable Touchscreen Station, Echo Relay Panel Feedthrough 24-way panel (12) relays, ETC ERP-SMD Echo Relay Panel, Middle Atlantic wall mount equipment rack(s), Baton Pipes

**Labor Overview**

- Demo of existing control equipment, Mounting of baton pipes, Install Equipment racks & panels, System installation - Prep, mounting & focus of lighting fixtures Final termination & verification, Low voltage cable pulls, System documentation and 'As Built' drawings, Lighting Programming, End user training of installed equipment
- \*\*\* Electrical Contractor mounts fixtures & terminates high voltage \*\*\*

[Selador Desire D40 Studio](#)

[RL100w52](#)

[MICR40W90](#)

[Touch Screen](#)

[Button Stations](#)

<b>Total Sanctuary Lighting Solution</b>	<b>\$121,129.83</b>
--	---------------------

Pyramid Electrical Contractors (Total Sanctuary Lighting Solution)

Description
1. Install (60) new lighting fixtures in the same locations as existing; light fixtures and lamps are furnished by Advanced Audio and Lighting
2. Furnish and install power to (3) new batons; batons are furnished and installed by Advanced Audio and Lighting.
3. Installation of DMX cabling in daisy chained configuration; DMX cabling is furnished by Advanced Audio and Lighting.
4. Installation of (3) entry button stations; entry button stations are furnished by Advanced Audio and Lighting.
5. Utilization of existing switchgear and breakers to remain.
6. Utilization of MC cable.
7. Permit fee.

<b>Option-1 Total Base Package</b>	<b>\$25,250.00</b>
------------------------------------	--------------------

Option 1-Base Package Stage Lighting and Control of Existing House Lighting

Description
<ul style="list-style-type: none"> <li>ETC SELD40HI-O Selador Desire Series D40 Studio HD LED fixture - White (14), Power Control System, Unison Dimming Rack, Paradigm Architectural Control Processor, Paradigm Station Power Module - Relay Module (12 Relays), Electronic Reverse Phase Module (12 Dimmers), Architectural Control System, Unison Heritage Control Station 10 - Select Switches, Unison Paradigm Control Station, Paradigm 7" Ethernet Portable Touchscreen Station, 7" Black Portable Touchscreen, Transition Networks Smart Managed PoE, Middle Atlantic wall mount equipment rack(s), Baton Pipes</li> </ul>

• See Above Labor Overview

[Selador Desire D40 Studio Touch Screen](#)  
[Button Stations](#)

<b>Option-1 Total Base Package</b>	<b>\$53,322.38</b>
------------------------------------	--------------------

Advanced Audio & Lighting Systems, Inc.  
 6707 N. Sheridan Rd.  
 Peoria, IL 61614  
 (309) 691-7105



**Estimate**

Date	Estimate #
7/16/2018	ES-988561

<b>Bill To</b>
McKnight Crossings Church of Christ 2515 S. McKnight Road St. Louis, MO 63124

Account #	Terms	Rep
		MA

P.O. Number	Project

Description	QTY	U/M	Each	Total
I. Power Control System to consist of: A. Unison Dimming Rack to consist of: 1 7183A1001 DRD12-24-120 - DRd12 100-120V Rack Enclosure - Designed for 3 phase 4 wire with ground operation at a maximum of 200A 1 7180A1007 P-DRD-TK - DRd Paradigm Termination Kit - Required for DRd with Paradigm processor 1 7180A1009 P-ACP2 - Paradigm Architectural Control Processor 1 7182A1001 P-SPM - Paradigm Station Power Module - supports 32 stations and (1) 500m wire segment 6 7083A1085 R20 - Dual 20A 120V Relay Module (12 Relays) 6 7183A1017 ELV10 - Dual 10A Electronic Reverse Phase Module (12 Dimmers)  II. Architectural Control System to consist of: A. Unison Heritage Control Station (Model UH10010-XXF) to consist of: 3 QUOTE-20009 UH10010-_Z - Standard Color (Color TBD)1-gang faceplate assembly to include the following: 10 - Select Switches Custom nomenclature to be determined 3 7181B2008 UH10010 - 1-gang, 10-button electronics assembly w/IR Port			15,600.00	15,600.00
			<b>Subtotal</b>	
			<b>Sales Tax (0.00)</b>	
			<b>Total</b>	

www.advaudio.com



Advanced Audio & Lighting Systems, Inc.  
 6707 N. Sheridan Rd.  
 Peoria, IL 61614  
 (309) 691-7105



**Estimate**

Date	Estimate #
7/16/2018	ES-988561

Bill To
McKnight Crossings Church of Christ 2515 S. McKnight Road St. Louis, MO 63124

Account #	Terms	Rep
		MA

P.O. Number	Project

Description	QTY	U/M	Each	Total
B. Unison Paradigm Control Station (Model P-TS7-PE) to consist of: 1 7184A1532 P-TS7-PE - Paradigm 7" Ethernet Portable Touchscreen Station to include: - 7" Black Portable Touchscreen - 10' Ethercon to RJ-45 cable			3,188.90	3,188.90
ETC RSN-TERM Response 4 Port DMX/RDM Gateway - 4 Terminal Connectors	1	ea	854.10	854.10
ETC N3GA-RM Gateway Rack Mount Kit Supports up to 2 Gateways, includes a blanking plate for one gateway.	1	ea	45.00	45.00
Middle Atlantic PPM-8-18 8RU Pivoting panel mount, 18" depth	1	ea	203.00	203.00
Middle Atlantic PPM-LID18 Top cover for use with 18" deep PPM series enclosures	1	ea	79.80	79.80
Transition Networks SM16TAT2SA Smart Managed PoE+ Switch 16 Port Gigabit PoE+ 2 Port 100/1000 SFP	1	ea	650.51	650.51
Panduit CP24BLY Mini-Com All Metal Shielded Modular Patch Panels 24 ports, 1RU, 19" rack mount	1	ea	55.64	55.64
Panduit TX6 PLUS UTP Jack Module, Category 6, RJ45, 8-position, 8-wire universal module, White	8		12.33	98.64
Panduit MINI-COM blank module, black, 10 pack	2		4.515	9.03
ETC ECPB DMXOUT Plug-in station	3	ea	100.80	302.40
ETC ECPB PB1 1-gang, 2.5" deep back box, surface mount	3	ea	42.00	126.00
ETC ECPB U-Bolt Kit	3	ea	21.00	63.00
			<b>Subtotal</b>	
			<b>Sales Tax (0.00)</b>	
			<b>Total</b>	

www.advaudio.com



Advanced Audio & Lighting Systems, Inc.  
 6707 N. Sheridan Rd.  
 Peoria, IL 61614  
 (309) 691-7105



Estimate

Date	Estimate #
7/16/2018	ES-988561

<b>Bill To</b>
McKnight Crossings Church of Christ 2515 S. McKnight Road St. Louis, MO 63124

Account #	Terms	Rep	P.O. Number	Project
		MA		

Description	QTY	U/M	Each	Total
West Penn 225 16/2 Stranded bare copper conductors, unshielded with overall jacket +14AWG THHN	500	ft	0.36248	181.24
West Penn 4246 CAT6 23 AWG. - 4 PAIR Solid bare copper conductors, unshielded with an overall jacket	200	ft	0.18375	36.75
West Penn DA2401 Single Pair 24 Awg. Stranded tinned copper conductors, individually shielded with an overall jacket.	1,000	ft	0.21738	217.38
System installation - Low voltage cable pulls	12	hr	95.00	1,140.00
System installation - Low voltage termination & testing	12	hr	95.00	1,140.00
End user training of installed equipment	4	hr	98.00	392.00
System documentation and 'As Built' drawings			1,000.00	1,000.00
Reimbursement for travel and work expenses			500.00	500.00
Pre sales tax total				25,883.39
<b>Baton Pipes</b>			1,000.00	1,000.00
The Light Source MQSB Mega-Quick Pipe Splice sched 40, Black Finish, Safe Vertical Working Load: 600 Pounds	4	ea	13.75	55.00
The Light Source MBATB, Mega-Baton Clamp, Black Finish. Fits 1 1/2 " pipe	36	ea	13.50	486.00
System installation - Mounting of baton pipes	36	hr	95.00	3,420.00
Pre sales tax total				4,961.00

www.advaudio.com	<b>Subtotal</b>
	<b>Sales Tax (0.00)</b>
	<b>Total</b>

Advanced Audio & Lighting Systems, Inc.  
 6707 N. Sheridan Rd.  
 Peoria, IL 61614  
 (309) 691-7105



**Estimate**

Date	Estimate #
7/16/2018	ES-988561

<b>Bill To</b>
McKnight Crossings Church of Christ 2515 S. McKnight Road St. Louis, MO 63124

Account #	Terms	Rep
		MA

P.O. Number	Project

Description	QTY	U/M	Each	Total
ETC SELD40HI-0 Selador Desire Series D40 Studio HD LED fixture - White	14	ea	1,493.70	20,911.80
ETC 400SC Safety Cable 32'	14	ea	8.45	118.30
Lex DMX-5P-10 5 Pin DMX Extension 2 Pair Shielded Cable, Neutrik Black/Gold Connectors 10'	14	ea	31.655	443.17
Lex DMX5P-TERM 5 Pin DMX Terminator	3	ea	18.24	54.72
System installation - Prep, mounting & focus of lighting fixtures	10	hr	95.00	950.00
Pre sales tax total				22,477.99
			<b>Subtotal</b>	\$53,322.38
			<b>Sales Tax (0.00)</b>	\$0.00
			<b>Total</b>	\$53,322.38

www.advaudio.com

Bid from Arch City Audio Visual Services

**Arch City Audio Visual Services**  
 5021 Fyler Ave.  
 SAINT LOUIS, MO 63139  
 (314) 329-1805  
 robert@archcityav.com



ESTIMATE

**ADDRESS**

McNight Crossings Church of Christ  
 2515 S McNight Rd  
 St. Louis, MO 631234

**SHIP TO**

McNight Crossings Church of Christ  
 2515 S McNight Rd  
 St. Louis, MO 631234

**ESTIMATE # 1934**

**DATE 08/29/2018**

ACTIVITY	QTY	RATE	AMOUNT
<b>Product</b> OVATIONE160WW Ovation E-160WW Includes: Light Engine Only, powerCON Power Cord - NO LENS	5	879.00	4,395.00
<b>Product</b> OHDLENS19 19 Degree Ovation Ellipsoidal HD Lens Tube	5	199.00	995.00
<b>Product</b> OVATIONE910FC Ovation E-910FC Includes: Light Engine Only, powerCON Power Cord - NO LENS	6	1,199.00	7,194.00
<b>Product</b> OHDLENS19 19 Degree Ovation Ellipsoidal HD Lens Tube	6	199.00	1,194.00
<b>Product</b> OVATIONE160WW Ovation E-160WW Includes: Light Engine Only, powerCON Power Cord - NO LENS	4	879.00	3,516.00
<b>Product</b> OHDLENS19 19 Degree Ovation Ellipsoidal HD Lens Tube	4	199.00	796.00
<b>Product</b> CHAMQUICKQ10 Lighting Console	1	1,650.00	1,650.00
<b>Product</b> DMX5P5FT 5-Pin 5' DMX Cable	15	15.00	225.00
<b>Product</b> RDMXSPLITTER8 RDMX Splitter 8 RDM/DMX Opto-Splitter Includes: IEC power cable	1	399.00	399.00
<b>Product</b> POWERCONEXT5FT powerCON Extension, 5 ft (3x14awg cable)	15	43.99	659.85
<b>Product</b> SC07 Professional Safety Cable	15	4.69	70.35
<b>Product</b> CLP-15N Narrow Half Coupler	15	12.40	186.00
<b>Equipment Rental:Lift</b> Scissor lift rental including drop off and pick up. One week	1	750.00	750.00

**Exhibit F.2**

ACTIVITY	QTY	RATE	AMOUNT
use for electricians and Arch City AV			
<b>Service</b> Labor charge to hang and focus lights on new pipes, program console. Based on two techs one day. All rigging and electrical and date wiring to be preformed by licensed and qualified electrician and is not reflected on this estimate.	1	800.00	800.00
<b>Service</b> Labor charge and materials for Brda Electric to install wire and power	1	5,700.00	5,700.00
Here is an estimate for the services and/or products you requested.			
	SUBTOTAL		28,530.20
	DISCOUNT 10%		-2,853.02
	TOTAL		<b>\$25,677.18</b>

Accepted By

Accepted Date



Jeff Earnhart <jeffmarioneamhart@gmail.com>

---

**RE: McKnight Crossings Church Lighting**

---

**Michael Barton** <michael@archcityav.com>  
To: Jeff McGlawn <jeffmcglawn@gmail.com>  
Cc: Jeff Earnhart <jeffmarioneamhart@gmail.com>

Fri, Aug 31, 2018 at 1:21 PM

Hello Jeff,

Attached is a quote for new stage lighting. Thank you again for your patience as we have been buried with ongoing projects.

We didn't include work to be performed by an electrician including labor, power, rigging and data runs. This will need to be bid out separately. If you like the solution we came up with we can move to the next step and I can get our preferred electrician to come out for a site survey.

Also, if this looks like something you may want to move forward with we can order some demo fixtures for you to see.

Here's the break down on product by position with links below to main products minus cables, clamps, etc.

**Front Position:**

Qty 5 of the Ovation E160WW

**Side Position:**

Qty 6 of the Ovation E910FC - 3 per side

**Banner/Mural Lights:**

Qty 4 of the Ovation E160WW-2 per side



CONTROL:

- (1) ChamSys QuickQ10 lighting console
- (1) RDMXSPLITTER8 dmx splitter

<https://www.chauvetprofessional.com/products/ovation-e-160ww/> For sides and mural lights

<https://www.chauvetprofessional.com/products/ovation-e-910fc/> For front position lights

<http://www.chamsysquickq.com/quickq-10/> lighting console

<https://www.chauvetprofessional.com/products/rdmx-splitter-8/> Data splitter

Please let us know if you have any questions. Thank you again for the chance to perform this project with you!

Sincerely,

Michael Barton  
Arch City Audio Visual Services LLC  
5021 Fyler Ave.  
Saint Louis, MO 63139  
314.329.1805 wrk  
314.583.0635 cell

Like us on Facebook!

**From:** Jeff McGlawn [mailto:jeffmcglawn@gmail.com]

Bid from Elite Enterprises



10/15/2021

McKnight Crossings Church  
2515 S. McKnight Road  
Saint Louis, MO 63124

**Technical Systems Upgrades: Rough pricing by category**

Based on several visits to your facility and discussions with staff/members, Elite is providing the following estimated prices for these systems to assist in your initial budgeting decisions. These are ballpark numbers that reflect our experience designing and installing these types of systems for Churches for over 30 years. As a design/build technology company with expertise in multiple areas, we are uniquely positioned to help you get the right systems to meet your needs. We hope these figures are helpful. The next step will be specific designs with accurate costs once we know which direction you would like to go and where your priorities are.

Projector and Screen: This estimate assumes that we will be utilizing the latest in screen technology, allowing for higher black levels, better contrast, and more saturated colors in higher ambient lighting applications, avoiding the typical washed-out, front projection look.

- 1 High-quality, laser based projector, HD resolution with 8000 lumens
- 1 appropriate long throw lens (maintain current screen and projector locations)
- 1 High-quality, motorized projection screen, tab-tensioned, ALR screen material (ambient light rejecting), screen size approximately 138" wide by 75" to 77" tall image, 16:9 aspect ratio

**-Estimated installed price: \$20,000.00**  
**-Upgrade to a 4K projector: add \$9,000.00**

Streaming Camera System: System based on using a software based A/V mixing solution that you are currently using (PC running OBS).

- 3 HD (1080P) broadcast quality PTZ (pan/tilt/zoom) cameras with 30 X zoom and NDI network video
- 3 standard camera mounts
- 1 Joystick/Keyboard camera controller
- 1 PoE network switch
- Bulk cable, hardware, cables etc. for installation

**-Estimated installed price: \$12,000.00**  
**-Add a 4-CH. HDMI A/V streaming mixer and remove NDI option on cameras: add \$1,500.00**  
**-Add hardware encoder, single stream: add \$800.00**



Sound System Upgrades: Based on an analysis of your current system and a discussion of your needs.

- Use existing loudspeakers, including powered floor monitors
- Using existing wireless microphones with new antenna/power distribution
- Install DSP (digital signal processor) for mixing, control, and loudspeaker management
- Commission system to maximize performance in the auditorium for local sound
- Install a programable control processor with custom programming to include simplified manual control of the system with a separate mix for the monitors and the on-line stream. System will include presets and other customizable features to assure reliable, repeatable results with less tec-savvy operators.
- Controls via iPad and a wall or table mounted color touch screen
- Install DSP, wireless mics, and other electronics in an equipment rack

Please note that this quote includes using a good quality used control processor and touch screen. The included processor will also be used to automate/control the video projection system.

**Estimated installed price: \$16,000.00**

New House Lighting System: Instead of installing a new high-voltage lighting system with new high-voltage wiring (old wiring will not support phase dimming), new high-voltage phase dimming our design is based on using high-quality LED recessed fixtures that run on low-voltage wiring. High-quality, DMX controlled power supplies are used that power the lights and provide all control. There are no power supplies or drivers in each fixture (failure points) and no service is required at the LED fixtures. Low-voltage cable (Class 2) does not require conduit and is cheaper and easier to install. Elite is experienced in DMX lighting control and can integrate the new lighting system with your audio and video controls to create an easy-to-use and reliable system for volunteers.

- 66 Low-voltage LED replacement fixtures (8"), lumen output will vary from 1200 to 5200 depending on fixture location, 3500 K (Color Temperature-warm), CRI 90+
- DMX controlled power supplies
- DMX decoder
- Equipment rack
- 4 control keypad
- low-voltage cable

**Estimated installed price: \$55,000.00**

Please note that before the new lighting can be installed, the existing high-voltage fixtures and dimming system will need to be removed and the wiring properly capped by a licensed electrician. Elite partners with an experienced contractor for these types of projects or we can work with your electrician. The cost for the electrical contractor is not included in this price. A rough estimate for this work is 3-5K.

Stage Lighting: Once the House Lighting is completed, much of the stage will be taken care of. I would budget an additional 6-10K to replace the current 4 spots and possibly add some additional spots to properly light the stage.

Thank you for the opportunity to be of service. We look forward to working with the staff and membership of McKnight Crossings Church to grow your ministry.

Bid from HD Media

Blackford, M. Bret

**From:** M Bret Blackford <bret\_blackford@yahoo.com>  
**Sent:** Friday, November 5, 2021 12:33 PM  
**To:** Bret Blackford; Blackford, M. Bret  
**Subject:** 10.15.2021: Church Lighting, Electrical, Low Voltage, and AV Budgets  
**Attachments:** HD Media Bid-Auditorium Renovation.docx

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

**MEMO to FILE:** Bid response from HD Media

----- Forwarded Message -----

**From:** Jeannie Britzmann <jbritzmann@mcknightcrossings.org>  
**To:** Bret Blackford <bret\_blackford@yahoo.com>  
**Sent:** Wednesday, November 3, 2021, 02:40:42 PM CDT  
**Subject:** Fwd: Church Lighting, Electrical, Low Voltage, and AV Budgets

Forwarded to you.....

----- Forwarded message -----

**From:** Aaron Schneider <aschneider@hd-mediasystems.com>  
**Date:** Fri, Oct 15, 2021 at 12:44 PM  
**Subject:** Church Lighting, Electrical, Low Voltage, and AV Budgets  
**To:** Jeannie Britzmann <jbritzmann@mcknightcrossings.org>

Jeannie

Good afternoon

So first off, I want to Thank you and the church for thinking about us for your project!! I think it could be a really fun one to be involved with

That being said - I think once you all meet with an Architect or a Design firm and drill down on the Final Design of the Church, Front Wall , AV (Mixer) Locations, Camera Locations - we can really drill down on the Costs associated with the Sub systems

So here is my Run Down:

- 1.) **Lighting Control** - need to replace the old GE System
  - a.) I would replace this with a Vantage Centralized Lighting Panel - this would have the ability to Dim and Control about 30-40 Loads of Lighting
  - b.) Remember a load of Lighting can be 1 single light or it can be a Group of 6-10 Lights = a Load
  - c.) I have included the Following - 1 Housing, 4 Modules, Processor, Power Supply, and 4 Generic Keypads - this can be added too or subtracted
  - d.) This does not factory in High Voltage Electricians cost - I have several electricians we work with and can work on this number for you - I would guess it would be around **\$4000 - \$8000**
  - e.) The Lighting Panel, Modules, Processor and Programming from HD Media Systems will be around **\$15,000**
- 2.) **House Can Lights**
  - a.) Currently have Par 38 in an Older Gotham Style Light Fixture
  - b.) Two Options here
    - a.) Option A - is just change the bulbs to a more higher Lumen output and Remove the Lens and Glass - the Glass Optics on the Old Fixtures are horrible 72 Lights x 45.00 (per Bulbs) = **\$3,240** for the parts (then we need to discuss and Lift and Removing Pews so we could install them The lights you currently have are 1200 Lumens, I can get some around 2000 Lumens
    - b.) Option B - replace the entire Fixture - I can get an 8" High Power LED Remodel Fixture for \$200 per fixture = **\$14,400** This would be a 3500 Lumen Light and Way better Optics But this involves an Electrical on each light This option also involves Drywall repair But this is the best option for more light in the space
- 3.) **Additional House Lights** - Track Light Option
  - A.) This could be 2 Set of 40' Long Track down the Center Isle -
  - B.) This could have upwards to 20 Lights per track
  - C.) Total Costs for the Parts, and Power supplies is around **\$25,000-\$30,000**
  - D.) I would need to meet with an electrician to get you cost on what the electrician would charge
- 4.) **DJ Lighting for the Stage**
  - A.) This would be 16 RGBWW Par Lights on the Upper Loft Area by Projector)
  - B.) This would be a DMX Controller and DMX Cable to the PC Area
  - C.) This would be around **\$15,000** (this is including a rough installation cost, again we would need to meet final and hear what the final plan is for the Space and then we could drill down on Costs
- 5.) **32 Channel Digital Console with iPad** - **\$6,500** - again this has labor for install, programming and training - but if we are moving the audio booth -, we need to factor in those costs and I would need a final layout
- 6.) **Multi Camera FB Streaming System**
  - a.) 3 PTZ Cameras on stand
  - b.) Camera Selector and Switcher System
  - c.) Rough Install and Training
  - d.) **\$22,000 - \$25,000**
- 7.) **New Projector and Screen**
  - a.) New 12,000 Lumen Laser Projector
  - b.) Special Lens for the Throw
  - c.) New Motorized 133" Screen
  - d.) Parts, Labor and Setup (with Rough install price ) **\$24,000 - \$27,000**

When looking at my bid software and using the Highest Numbers in these sub groups - i'm around **\$140,000k** for all of the Systems we Discussed

**This doesn't included electricians costs**

I would love to sit down and see the final design of the space, drawings, and maybe even partner with the Architect or Design team - so we can make sure we provide you all with the best Products for the space, and for the Budget.

I hope this covers all areas

Let me know if you have any questions or if you all want to meet again to drill down on these items more

Thanks,

Aaron Schneider  
**HD Media Systems**  
573-382-7596 -Cell Phone  
[Email: aschneider@hd-mediasystems.com](mailto:aschneider@hd-mediasystems.com)

2800S Brentwood  
St Louis, MO 63144  
314.858.1156 Office

1606 North Kingshighway  
Cape Girardeau MO 63701  
573.803.1460 Office

[www.hd-mediasystems.com](http://www.hd-mediasystems.com) [www.stereoone.com](http://www.stereoone.com)



