REQUEST FOR PROPOSAL (RFP)

NUMBER: 20171006-BOE

SUMNER COUNTY BOARD OF EDUCATION

This solicitation document serves as the written determination of the SCS Purchasing Supervisor that the use of Competitive Sealed Proposals for this solicitation is in the best interest of SCS.

RFP Title: Theatre Lighting Renovation @ Portland High

Purchasing Staff Contact:

Chris Harrison
Purchasing Supervisor
615-451-6560
chris.harrison@sumnerschools.org

Janice Wright
Purchasing Coordinator
615-451-6569
janice.wright@sumnerschools.org

Release Date: September 22, 2017

Proposal Due Date: October 6, 2017 @ 10:00 a.m.

Any altercations to this document made by the proposer may be grounds for rejection of proposals, cancellation of any subsequent award, or any other legal remedies available to the Sumner County Board of Education.

NOTICE TO PROPOSERS

There may be one or more amendments to this RFP. In order to receive communication for any such amendments issued specifically to this RFP, the proposer must provide a Notice of Intent to Propose to the Sumner County Board of Education (SCS) Purchasing Department. The proposer must utilize this form when submitting notice. The notice may be sent by email to: Purchasing Office, purchasing@sumnerschools.org. SCS will send amendments only to those proposers which complete and return this information by the deadline list in the RFP Schedule of Events (Section 4).

RFP Number: **20171006-BOE Theatre Lighting Renovation**

Company Name: _____

Mailing Address: _____

_____

_____

Phone Number: _____

Contact Person: _____

Email Address: _____

Authorized Signature _____

Printed Name _____

Date _____

Emailed amendments will be sent in a Microsoft Word (Office for Windows) or Portable Document Format (pdf) format. Any alterations to the document made by the proposer may be grounds for rejection of proposal, cancellation of any subsequent award or any other legal remedies available to the Sumner County Board of Education.

Amendments will also be posted on the SCS website **https://sumnerschools.org/index.php/current-bids-and-rfps** and attached to the solicitation listing as a PDF or WORD file. Check the particular solicitation on the Current Bids and RFPs webpage for any posted amendments.

By completing and returning this form, the Proposer has expressed its intent to provide a proposal for **20171006-BOE Theatre Lighting Renovation.**

TABLE OF CONTENTS

1. Introduction/Overview

1.1. Purpose

The Sumner County Board of Education (SCS) is requesting sealed proposals for the upgrade of the theatre lighting system at Portland High. The current system is twenty (20) years old and no longer represent what is used in the current lighting industry.

1.2. Contact Information

Unauthorized contact regarding this RFP with employees or officials of SCS other than the Purchasing Supervisor named below may result in disqualification from this procurement process.

Interested parties must direct all communication regarding this RFP to the Purchasing Supervisor, who is SCSs only official point of contact for this RFP.

Chris Harrison
Purchasing Supervisor
1500 Airport Road
Gallatin, TN 37066
(615) 451-6560
chris.harrison@sumnerschools.org

2. Requirements

2.1. Contract Term

2.1.1.1. It is the intention of SCS to award a contract for a one-time installation of equipment.

2.2. Scope of Work / Specifications

SCS representatives are not well versed in the theatre lighting industry and as such, SCS requested the services of a local vendor to develop, in the vendor's professional opinion, a replacement system for the theatre lights at Portland High. The vendor's scope of work are included as ATTACHMENT "A". SCS understands that other vendors may have a different solution that will produce the same results. SCS requests that vendors utilize the foundation work outlined in ATTACHMENT "A" to develop a proposal. Vendors must propose systems that utilize current industry technology. Vendors must provide sufficient project detail to SCS for evaluation and award.

The system must allow for the following:

- Must integrate with the currently installed Leko's and fresnels
- Must integrate with the requested LED Luminaire and future luminaire purchases

Vendors are encourage to visit the jobsite to review the current system. ATTACHMENT "B" includes the original floor plans for the theatre.

SCS requires that the vendor provide a demonstration of a complete, working system at the conclusion of the project. SCS shall not pay any invoice until the system is demonstrated to function properly. By submission of a bid proposal, the vendor has agreed to these terms of payment.

Jobsite: Portland High
600 College Street
Portland, TN 37148

2.3. Standard Contractor Obligations

2.3.1.1. Shall provide and obtain all necessary materials, equipment and labor to perform all items listed in the Scope of Work.

2.3.1.2. Shall provide and obtain all necessary permits with Local, County, etc. agencies as required by law and as required in the Scope of Work.

2.3.1.3. Shall schedule all necessary inspections with Local, County, etc. agencies as required by law.

2.3.1.4. Shall strictly adhere to all specifications, engineered drawings and any other form of documentation related to the completion of the Scope of Work. SCS reserves the right to withhold partial or all payment until the work is completed to the specifications and satisfaction of SCS. Any work not completed to specifications will be the Contractor's sole responsibility and expense to redo.

2.3.1.5. Shall provide Worker's Compensation Insurance and required by State of Tennessee law. The Contractor shall prove compliance with Public Chapter No. 587, T.C.A 4-5-413(d) criminal background check and provide a Drug Free Workplace Affidavit.

2.3.1.6. Shall dispose of all generated waste materials in compliance with all Local, State and Federal guidelines, regulations and requirements.

2.3.1.7. Shall have property trained and experienced staff to facilitate the services specified in the Scope of Work. If applicable, the Contractor shall provide documentation that staff has received the manufacturers' certification to complete the services specified in the Statement of Work.

3. Source Selection and Contract Award

- Award(s), if made, will be made to the Responsive and Responsible proposer(s) whose proposal is most advantageous to SCS, taking into consideration price and the other evaluation criteria set forth in the RFP.

    - General Criteria to be determined "Responsive"
        - Does the proposal include all required information, included completed attachment forms and affidavits?
        - Was the proposal delivered on or before the stated deadline? Did it include the required number of copies (hard & electronic)?

    - General Criteria to be determined "Responsible"
        - Does the Proposer demonstrate an understanding of SCSs needs and proposed approach to the project?
        - Does the Proposer possess the ability, capacity, skill and financial resources to provide the service?
        - Can the Proposer take upon itself the responsibilities set forth in the RFP and produce the required outcomes in a timely fashion?
        - Does the Proposer have the character, integrity, reputation, judgement, experience and efficiency required for the project?

- SCS reserves the right to enter into discussions with Proposers which have submitted proposals determined to be reasonably like of being considered for selection to assure a full understanding of and responsiveness to the RFP requirements. Every effort shall be afforded to assure fair and equal treatment with respect to the opportunity for discussion and/or revision of their respective proposals. Revisions may be permitted after the submission and prior to the award for the purpose of obtaining the best offers.

- SCS reserves the right to negotiate price and contract terms and conditions with the most qualified proposer(s) to provide the requested service. If a mutually beneficial agreement with the highest ranked firm is not reached, SCS reserves the right to enter into contract negotiations with the next highest ranked proposer and continue this process until an agreement is reached.

- Upon mutual agreement by both parties, SCS shall grant the right to extend the terms, conditions and prices of contract(s) awarded from this RFP to other Institutions (such as State, Local and/or Public Agencies) who express an interest in participating in any contract that results from this RFP. Each of the "piggyback" Institutions will issue their own purchasing documents for purchase of the goods/services. Proposer agrees that SCS shall bear no responsibility or liability for any agreements between Proposer and the other Institution(s) who desire to exercise this option.

4. Schedule of Events

RFP Issued	September 22, 2017
Pre-Bid Meeting *(if required)*	N/A
RFP Submission DEADLINE	October 6, 2017 @ 10:00 a.m.
Board Approval Date ESTIMATED (*if required*)	October 17, 2017

5. Instructions for Proposal

5.1. Required Forms

- Proposer must complete and submit the Attachments in Section 6. Attachments may be omitted depending on the RFP requirements. Refer to the Table of Contents for omitted Attachments.
- Evidence of a valid State of Tennessee Business License and/or Sumner County Business License. For all vendors with annual purchases in excess of $50,000; a business license must be on file with the SCS Finance Department.
- Copy of State of Tennessee License (if applicable) in respective field.
- If applicable, the Proposer must include a copy of the contract(s) the Proposer will submit to be signed.

5.2. New Vendors

- To comply with Internal Revenue Service requirements, all vendors who perform any type of service are required to have a current IRS Form W-9 on file with the SCS Finance Department. It is a mandatory requirement to complete the IRS Form W-9 (Attachment 6.9) included in this RFP.
- To comply with the Tennessee Lawful Employment Act (50-1-702 and 50-1-703), non-employees (individuals paid directly by the employer in exchange for the individual's labor or services) must have on file one (1) of the following documents:
  - A valid Tennessee driver's license or photo identification;
  - A valid driver's license or photo identification from another state where the license requirements are at least as strict as those in Tennessee;
  - A birth certificate issued by a U.S. state, jurisdiction or territory;
  - A U.S. government issued certified birth certificate;
  - A valid, unexpired U.S. passport;
  - A U.S. certificate of birth abroad (DS-1350 or FS-545)
  - A report of birth abroad of a U.S. citizen (FS-240);
  - A certificate of citizenship (N560 or N561);
  - A certificate of naturalization (N550, N570 or N578);
  - A U.S citizen identification card (I-197 or I-179); or
  - Valid alien registration documentation or other proof of current immigration registration recognized by the United States Department of Homeland Security that contains the individual's complete legal name and current alien admission number or alien file number (or numbers if the individual has more than one number).

5.3. Acknowledgement of Insurance Requirements

By submitting a proposal, Proposer acknowledges that it has read and understands the insurance requirements for the proposal. The Proposer who may have employees, contractors or agents working on SCS properties shall carry current certificates for general and professional liability insurance and for workers' compensation of a minimum of $250,000. The owner or Principal of each Proposer must also be insured by workers' compensation if they perform any of the services on SCS properties. There will be no exceptions to the insurance requirement. Proposer also understands that the evidence of required insurance must be submitted within fifteen (15) working days following notification of its offer being accepted; otherwise, SCS may rescind its acceptance of the Proposers proposal.

5.4. Clarification and Interpretation of RFP

The words "must" and "shall" in the RFP indicate mandatory requirements. Taking exception to any mandatory requirement shall be considered grounds for rejection. There are other requirements that SCS considers important but not mandatory. It is important to respond in a concise manner to each section and submit an itemized list of all exceptions.

5.5. Proposal Package

The package containing the proposal must be sealed and clearly marked on the outside of the package:

"20171006-BOE Theatre Lighting Renovation"
DO NOT OPEN

All sealed proposals packages must include all of the following. Any sealed proposals are subject to rejection as non-conforming if any applicable item is not included.

- One (1) Complete Original
- Two (2) additional copies of the Original
- One (1) electronic format (CD/USB Drive)
- Original Signature on Original Proposal. NO copied or digital signatures.

The outside of the proposal package must be labeled as follows (if applicable):

1. Name of Company and Principal Owner, Business License Number, Expiration Date and License Classification.
2. In addition to Item 1, the same is applicable to masonry contractors if the work performed is > $100,000.
3. In addition to Item 1, the same is applicable to HVAC, electrical, plumbing or A/C contractors if the work performed is > $25,000.
4. In addition to Item 1, the same is applicable plus the Department of Environment & Conservation License Number and Classification, applicable to geothermal contractors if the work performed is > $25,000.
5. If the prime contractor performs the masonry portion of the project or any of the above listed contractor skill sets and the work performed is > $100,000; it must be so designated.
6. Only one (1) contractor in each classification listed shall be written on the bid envelope.

5.6. Delivery of Proposals

Sealed proposals will be accepted until **October 6, 2017 @ 10:00 a.m. Local Time**. Proposals received after that time will be deemed invalid. Vendors mailing proposal packages must allow sufficient time to ensure receipt of their package by the time specified. There will be no exceptions. Proposals will be opened and read aloud. The reading of the bids will begin at **10:00 a.m. Local Time**.

Due to the nature of deliveries to the SCS Support Services Facility by carriers such as UPS, FedEx and such like; the proposal package will be accepted if the date and time on the delivery confirmation are indicated to be on or before the Proposal Deadline.

Delivery Address: Sumner County Board of Education
Attn: Purchasing Supervisor
1500 Airport Road
Gallatin, TN 37066

5.7. Evaluation of Proposals

The SCS Purchasing Supervisor will first examine the proposals to reject those that are clearly non-responsive to the stated requirements. Proposers who are determine to be non-responsive and/or non-responsible will be notified of this determination.

The evaluation process will include the following factors:

- Proposed Approach and Timeline
- Company Experience and Qualifications
  - The nature and scope of the Proposers business.
  - The number of years the Proposer has been licensed to do business.
  - The number of years the Proposer has been providing the requested services.
  - How many similarly sized or larger K-12 clients have you contract with?

- Compensation/Price Data
  - Address all costs associated with performance of the contracted services.
- Past Performance and References
  - Provided a minimum of two (2) client references for similar projects in size and scope successfully completed by Proposer within the last three (3) years. Attachment 6.3.
  - SCS may also consider other sources of pertinent past performance information, including the districts own experience with the Proposer.

5.8. Request for Clarification of Proposals

Requests for clarification of proposals shall be distributed by the Purchasing Supervisor in writing (or email).

5.9. Protests

In the event that any interested party finds any part of the listed specifications, terms or conditions to be discrepant, incomplete or otherwise questionable in any respect; it shall be the responsibility of the concerned party to notify the SCS Purchasing Office of such matters immediately upon receipt of the RFP. All notifications must be sent to the Purchasing Supervisor via email at purchasing@sumnerschools.org.

Any actual or prospective Proposer who is aggrieved in connection with the RFP or award of a contract may protest to the Purchasing Supervisor and/or the Sumner County Board of Education at its regularly scheduled meeting.

ATTACHMENT 6.1 – Contact Information

Company Legal Name: _____

Company Official Address: _____

_____

Company Web Site (URL): _____

Contact Person for project administration:

Name: _____

Address: _____

_____

Phone Number: _____(office)

_____(mobile)

Email Address: _____

Attn: Purchasing Supervisor
1500 Airport Road
Gallatin, TN 37066

ATTACHMENT 6.2 – Bid Form/Certification
20171006-BOE Theatre Lighting Renovation

Date _____

I, _____, a duly authorized representative of

_____ hereby submit our bid for **20171006-BOE Theatre Lighting Renovation** in accordance with the specifications and instructions set forth in these bid documents.

TOTAL PROJECT COST _____

Authorized Signature _____

Title _____

Printed Name _____

Vendor Legal Name _____

Address _____
(*street*) (*city, state, zip*)

ATTACHMENT 6.3 – References

Project Name/Location: _____

Agency/Department: _____

Date of Project: _____Dollar Value: _____

Project Manager/Contact: _____

Phone: _____ Email: _____

Project Name/Location: _____

Agency/Department: _____

Date of Project: _____Dollar Value: _____

Project Manager/Contact: _____

Phone: _____ Email: _____

Project Name/Location: _____

Agency/Department: _____

Date of Project: _____Dollar Value: _____

Project Manager/Contact: _____

Phone: _____ Email: _____

Project Name/Location: _____

Agency/Department: _____

Date of Project: _____Dollar Value: _____

Project Manager/Contact: _____

Phone: _____ Email: _____

**Proposers may copy this page and submit additional references*.

ATTACHMENT 6.4 – Certification Regarding Debarment or Suspension

The prospective participant certifies, to the best of its knowledge and belief, that it and its principals:

- Are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from participation in transactions under federal non-procurement programs by any federal department or agency;
- Have not, within the three year period preceding the proposal, had one or more public transactions (federal, state or local) terminated for cause or default; and
- Are not presently indicated or otherwise criminally or civilly charged by a government entity (federal, state or local) and have not, within the three year period preceding the bid, been convicted or had a civil judgement rendered against it:
    - For the commission of fraud or a criminal offense in connection with obtaining, attempting to obtain or performing a public transaction (federal, state or local) or a procurement contract under such a public transaction;
    - For the violation of federal or state antitrust statutes, including those proscribing price fixing between competitors, the allocation of customers between competitors, or bid rigging; or
    - For the commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.

I understand that a false statement on this certification may be grounds for the rejection of this proposal or the termination of the award. In addition, under 18 U.S.C. 1001, a false statement may result in a fine of up to $10,000 or imprisonment for up to five years, or both.

Name of Participating Agency: _____

Name and Title of Authorized Representative: _____

_____

Signature of Authorized Representative: _____

Date: _____

____ I am unable to certify to the above statement. Attached is my explanation.

ATTACHMENT 6.5 – Condition of Submitting Proposal

The undersigned Proposer has carefully examined all instructions, requirements, specifications, terms and conditions of the RFP and certifies:

- It is a reputable company regularly engaged in providing goods and/or services necessary to meet the requirements, specifications, terms and conditions of the RFP.
- All statements, information and representations prepared and submitted in response to the RFP are current, complete, true and accurate. Proposer acknowledges that the Sumner County Board of Education (SCS) will rely on such statements, information and representations in selecting the successful proposer(s).
- That the prices quoted shall be SCSs pricing for the products and/or service.
- It shall be bound by all statements, representations, warranties and guarantees made in its proposal.
- Proposer acknowledges that the contract may be canceled if any conflict of interest or appearance of a conflict of interest is discovered by SCS, in its sole discretion.
- All purchase orders must be duly authorized and executed by SCS and subject to the terms and conditions of the RFP.

☐ By checking this box, Proposer agrees that SCS reserves the right to extend the terms, conditions, and prices of this contract to other Institutions (such as State, Local and/or Public Agencies) who express an interest in participating in any contract that results from this RFP. Each of the piggyback Institutions will issue their own purchasing documents for the goods/services. Proposer agrees that SCS shall bear not responsibility or liability for any agreements between Proposer and the other Institution(s) who desire to exercise this option.

VENDOR LEGAL NAME: _____

AUTHORIZED SIGNATURE: _____

PRINTED NAME: _____ TITLE: _____

ADDRESS: _____

_____

PHONE: _____(office)

_____(mobile)

EMAIL: _____

ATTACHMENT 6.6 – Statement of Non-Collusion

The undersigned affirms that they are duly authorized to execute this contract, that this company, corporation, firm, partnership or individual has not prepared this proposal in collusion with any other respondent, and that the contents of this proposal as to prices, terms or conditions of said proposal have not been communicated by the undersigned nor by any employee or agent to any other person engaged in this type of business prior to the official opening of this proposal.

Company: _____

Address: _____

_____

Phone: _____(office)

_____(mobile)

Respondent Signature: _____

Respondent (Print Name & Title): _____

Authorized Company Official (Print Name): _____

ATTACHMENT 6.7 – Attestation Re Personnel

ATTESTATION RE PERSONNEL USED IN CONTRACT PERFORMANCE

CONTRACTOR LEGAL ENTITY NAME:	
FEDERAL EMPLOYER IDENTIFICATION NUMBER: (or Social Security Number)	

The Contractor, identified above, does hereby attest, certify, warrant, and assure that the Contractor shall not knowingly utilize the services of an illegal immigrant in the performance of this Contract and shall not knowingly utilize the services of any subcontractor who will utilize the services of an illegal immigrant in the performance of this Contract.

SIGNATURE & DATE:

NOTICE: This attestation MUST be signed by an individual empowered to contractually bind the Contractor.

ATTACHMENT 6.8 – Drug Free Workplace Affidavit

DRUG-FREE WORKPLACE

The Sumner County Board of Education is committed to maintaining a safe and productive work environment for its employees and to providing high quality service to its citizens. The goal of this policy is for Sumner County Board of Education employees and contractors to remain, or become and remain, drug-free. Abuse and dependency on alcohol and/or drugs can seriously affect the health of employees, contractors and citizens, jeopardize personal safety, impact the safety of others and impair job performance.

Drug-Free Workplace Act of 1988 – Sumner County Board of Education is governed by the Drug-Free Workplace Act of 1988 (Pub. L. 100-690, Title V, Subtitle D).

Omnibus Transportation Employee Testing Act of 1991 – Sumner County Board of Education is governed by the Omnibus Transportation Employee Testing Act of 1991 (Pub. L. 102-143, Title V).

Right to an Alcohol and Drug-Free Workplace - Employees have the right to work in an alcohol and drug-free environment and to work with persons free from the effects of alcohol and/or drugs.

Required Alcohol and Drug Tests - Alcohol and drug testing for safety sensitive employees shall be in accordance with the provisions contained in the Sumner County Board of Education Alcohol and Drug Policy adopted by departments which have safety sensitive positions.

Contracts – Any contractors providing goods or services to Sumner County Board of Education must comply with all State and Federal drug free workplace laws, rules and regulations and so certify this compliance by completion of the DRUG-FREE WORKPLACE AFFIDAVIT (attached page 2).

DRUG-FREE WORKPLACE AFFIDAVIT (page 2)

STATE OF _____

COUNTY OF _____

The undersigned, principal officer of _____, an employer of five (5) or more employees contracting with Sumner County Board of Education to provide goods or services, hereby states under oath as follows:

1. The undersigned is a principal officer of _____ (hereinafter referred to as the "Company") and is duly authorized to execute this Affidavit on behalf of the Company.
2. The Company submits this Affidavit because it shall be receiving pay pursuant to a contract with the state or any local government to provide goods or services.
3. The Company is in compliance with all State and Federal Laws, Rules and Regulations requiring a drug-free workplace program.

Further affiant saith not.

Principal Officer:_____

STATE OF _____

COUNTY OF _____

Before me personally appeared _____, with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence) and who acknowledged that such person executed the foregoing affidavit for the purposes therein contained.

Witness my hand and seal at office this _____ day of _____, 20____.

_____
Notary Public

My commission expires: _____

ATTACHMENT 6.9 – W9

Form **W-9**
(Rev. December 2014)
Department of the Treasury
Internal Revenue Service

Request for Taxpayer Identification Number and Certification

Give Form to the requester. Do not send to the IRS.

Print or type
See Specific Instructions on page 2.

1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.

2 Business name/disregarded entity name, if different from above

3 Check appropriate box for federal tax classification; check only **one** of the following seven boxes:

☐ Individual/sole proprietor or single-member LLC ☐ C Corporation ☐ S Corporation ☐ Partnership ☐ Trust/estate

☐ Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____

Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner.

☐ Other (see instructions) ▶

4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3):

Exempt payee code (if any) _____

Exemption from FATCA reporting code (if any) _____

(Applies to accounts maintained outside the U.S.)

5 Address (number, street, and apt. or suite no.)

Requester's name and address (optional)

6 City, state, and ZIP code

7 List account number(s) here (optional)

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Social security number

☐☐☐ – ☐☐ – ☐☐☐☐

or

Employer identification number

☐☐ – ☐☐☐☐☐☐☐

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here **Signature of U.S. person** ▶ **Date** ▶

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at *www.irs.gov/fw9*.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See *What is backup withholding?* on page 2.

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

Cat. No. 10231X

Form **W-9** (Rev. 12-2014)

ATTACHMENT 6.10 – Standard Terms & Conditions
SUMNER COUNTY BOARD OF EDUCATION (SCS)

1. PREPARATION AND SUBMISSION OF BID.

a. Failure to examine any drawings**,** specifications, or instructions will be at the bidder's risk.

b. BID SUBMITTAL / SIGNATURE: Bid shall give the full name and business address of the bidder. If the bidder is a corporation, the name shall be stated as it is in the corporate charter. Bids must be signed in ink by the bidder's authorized agent. Unsigned bids will be rejected. Bids are to be sealed and the outside of the envelope is to reference the bid number. The person signing the bid must show his title, and if requested by the institution, must furnish satisfactory proof of his or her authority to bind his or her company in contract. Bidder understands that by submitting a bid with an authorized signature, it shall constitute an offer to the institution. Bids must be typewritten or in ink; otherwise they may not be considered. Purchase orders will be issued to the firm name appearing on the W9. Facsimile responses will not be considered.

c. SCS is not responsible for any costs incurred by any vendor pursuant to the RFP. The vendor shall be responsible for all costs incurred in connection with the preparation and submission of its proposal.

d. All bids that exceed $25,000 must have the Company Name, License Number, Expiration Date thereof and License Classification of Contractor listed on the outside of the sealed envelope. As required by State of Tennessee Code Annotated 62-6-119.

e. Bids are to be received in the location designated on the bid no later than the specified date and time. Late bids will NOT be opened or considered.

f. No erasures permitted. Errors may be crossed out and corrections printed in ink or typewritten adjacent to error and must be initialed in ink by person signing bid.

g. Specifications: Reference to available specifications shall be sufficient to make the terms of the specifications binding on the bidder. The use of the name of a manufacturer, or any special brand or make in describing an item does not restrict the bidder to that manufacturer or specific article, unless specifically stated. Comparable products of other manufacturers will be considered if proof of compatibility is contained in the bid. Bidders are required to notify SCSs RFQ Coordinator whenever specifications/procedures are not perceived to be fair and open. The articles on which the bids are submitted must be equal or superior to that specified. Informative and Descriptive Literature: The bidder must show brand or trade names of the articles bid, when applicable. It shall be the responsibility of the vendor, including vendors whose product is referenced, to furnish with the bid such specifications, catalog pages, brochures or other data as will provide an adequate basis for determining the quality and functional capabilities of the product offered. Failure to provide this data may be considered valid justification for rejection of bid.

h. Samples: Samples of items when called for, must be furnished free of expense, and if not destroyed will, upon vendor's request within ten (10) days of bid opening, be returned at the bidder's expense. Each sample must be labeled with the bidder's name, manufacturer's brand name and number, bid number and item reference.

i. Time of Performance: The number of calendar days in which delivery is to be made after receipt of order shall be stated in the bid and may be a factor in making an award, price notwithstanding. If no delivery time is stated in the bid, bidder agrees that delivery is to be made within two weeks (10 business days) of order.

j. Transportation and delivery charges should be included in the price and be fully prepaid by the vendor to the destination specified in the bid. Bid prices shall include delivery of all items F.O.B. destination.

k. New materials and supplies must be delivered unless otherwise specifically stated in the bid.

l. Alternate/multiple bids will not be considered unless specifically called for in the bid.

m. Only bids submitted on bid forms furnished by SCS will be considered.

n. By signing this bid where indicated, the bidder agrees to strictly abide by all local, state and federal statutes and regulations. The bidder further certifies that this bid is made without collusion or fraud.

o. Failure to Bid/Error in Bid. In case of error in the extension of prices in the bid, the unit price will govern. Late bids will NOT be opened or considered. Bidders are cautioned to verify their bids before submission, as amendments received after the bid deadline will not be considered. No bid shall be altered, amended or withdrawn after opening. After bid opening, a bidder may withdraw a bid only when there is obvious clerical error such as a misplaced decimal point, or when enforcement of the bid would impose unconscionable hardship due to an error in the bid resulting in a quotation substantially below the other bids received. Bid withdrawals will be considered by SCS only upon written request of the bidder.

2. **OPEN RECORDS.** In order to comply with the provisions of the Tennessee Open Records Act, all bids will be publicly opened and are subject to public inspection after the award upon written request. Bidders may be present at bid opening. Summary information will be posted the SCS website, www.sumnerschools.org, under the Invitation to Bid link.

3. **ACCEPTANCE AND AWARD.** SCS reserves the right to reject any and all bids and to waive any informality in bids and, unless otherwise specified by the bidder to accept any item in the bid. Action to reject all bids shall be taken for unreasonably high prices, errors in the bid documents, cessation of need, unavailability of funds, or any other reason approved by SCS.
    a. Contracts and purchases will be made with the lowest, responsive, responsible, qualified bidder. The quality of the articles to be supplied, their conformity with the specifications, their suitability to the requirements of SCS, cash discount offered and the delivery terms will be taken into consideration.
    b. Any deviation from these stated terms, specifications and conditions must be coordinated with and approved in writing by the Purchasing Supervisor.
    c. Prices quoted on the response (if any) are to be considered firm and binding until the said equipment, supplies or services are in the possession of SCS.
    d. SCS reserves the right to order more or less than the quantity listed in the bid.
    e. If a bidder fails to state a time within which a bid must be accepted, it is understood and agreed that the Institution shall have ninety (90) days to accept.
    f. In accordance with SCS policy, no purchase or contract is authorized or valid until the issuance of a SCS Purchase Order which shall be mailed or otherwise furnished to the successful bidder. No SCS employee is authorized to purchase equipment, supplies or services prior to the issuance of such a Purchase order.
    g. The contract may not be assigned without written SCS consent.
    h. If the appropriate space is marked on the bid, other Institutions (such as State, Local and/or Public Agencies) may purchase off the contract during the same period as SCS.
    i. The awarded bidder will be required to post a performance and payment bond in the amount of 25% of the contract price if it exceeds $100,000 as stated by State of Tennessee Code Annotated 12-4-201.
    j. If the project cost is in excess of $25,000 a performance bond must be secured by the requesting party in an amount equal to the market improvement value.

4. **PAYMENTS.** Payment terms must be specified in the bid response, including any discounts for early payment. Partial payments will not be approved unless justification for such payment can be shown. Terms will be NET 30 days. Payment will not be made until the conditions and specifications of the RFP are inspected and approved as conforming by persons appointed by SCS.

5. **DEFAULT OF SELECTED VENDOR.** In case of vendor default, SCS may procure the articles or services from other sources and hold the defaulting vendor responsible for any resulting cost. If a successful bidder violates any terms of their bid, the contract, school board policy or any law they may be disqualified from bidding for a period of two (2) years for minor violations or longer for major violations. Bids from disqualified bidders will not be accepted during the period of disqualification.

6. **INSPECTION OF PURCHASES.** Articles received which are not equivalent will not be accepted and will be picked up by the vendor or returned to vendor, shipping charges collect. SCS shall have a reasonable period in which to inspect and accept or reject materials without liability. If necessity requires SCS to use nonconforming materials, an appropriate reduction in payment may be made.

7. **TAXES.** SCS is tax exempt; do not include taxes in quotation. Vendors making improvements or additions to, or performing repair work on real property for SCS are liable for any applicable sales or use tax on tangible personal property used in connection with the contract or furnished to vendors by SCS for use under the contract.

8. **NONDISCRIMINATION.** SCS is an equal opportunity employer. SCS and bidder agree to comply with Titles VI and VII of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, Executive Order 11,246, the Americans with Disabilities Act of 1990 and the related regulations to each. Each party assures that it will not discriminate against any individual or business because of race, religion, creed, color, sex, age, disability, veteran status or national origin. In the event that any claims should arise with regards to violations of any such local, state or federal law, statues, rule or regulations, the vendor will indemnify and hold SCS harmless for any damages, including court costs or attorney fees, which might be incurred.

9. **PROHIBITIONS/NO VENDOR CONTRACT FORM/TENNESSEE LAW.** Acceptance of gifts from vendors is prohibited. TCA §12-3-106. The contract documents for purchase under this bid request shall consist of the successful bidder's bid and SCSs purchase order. **The bidder may request exceptions to terms and conditions and/or request SCS to accept other terms and conditions by means of subsequent documents such as invoices, warranty agreements, license agreements, etc. All subsequent document shall be open to revision for impermissible language. SCS reserves the right to render the bid unresponsive and subject the bid to rejection if successful terms cannot be negotiated. The contract shall be governed by Tennessee law.**

10. **PROHIBITION ON HIRING ILLEGAL IMMIGRANTS.** Tennessee Public Chapter No. 878 of 2006, TCA 12-4-124, requires that Contractor attest in writing that Contractor will not knowingly utilize the services of illegal immigrants in the performance of this Contract and will not knowingly utilize the services of any subcontractor, if permitted under this Contract, who will utilize the services of illegal immigrants in the performance of this Contract. The attestation shall be made on the form, Attestation re Personnel Used in Contract Performance ("the Attestation"), which is attached and hereby incorporated by this reference.

11. **SALES AND USE TAX.** Before the Purchase Order/Contract resulting from this RFQ is signed, the apparent successful bidder must be registered with the Department of Revenue for the collection of Tennessee sales and use tax.

12. **ASSIGNMENT.** Neither the vendor nor SCS may assign this agreement without prior written consent of the other party.

13. **LIABILITIES.** The vendor shall indemnify SCS against liability for any suits, actions or claims of any character arising from or relating to the performance under this agreement by the vendor or its subcontractors. SCS has no obligation for the payment of any judgement or the settlement of any claim made against the vendor or its subcontractors as a result of obligations under this contract.

14. **APPLICABLE LAW.** Any contract shall be interpreted under the laws and statutes of the State of Tennessee. SCS does not enter into contracts which provide for mediation or arbitration. Any action arising from any contract made from this RFP shall be brought in the state courts in Sumner County, TN or in the United States Federal District Court for the Middle District of Tennessee.

    Additionally, it is a violation of state statutes to purchase materials, supplies, services or any other item from a vendor that is a commissioner, official, employee or board member that has any financial or beneficial interest in such transaction.

15. **FUNDS**. The Proposer understands and accepts the non-appropriation of funds provision of SCS.

16. **DATA PRIVACY AND SECURITY**. Personal Information (PI) includes but is not limited to that information protected by HIPAA, the HITECH Act, FERPA, or Gramm-Leach-Bliley) or such information which would allow a third party to gain access to the personal, medical or financial records of any of any party. Vendor represents and warrants that its collection, access, use, storage, disposal and disclosure of PI complies with all applicable federal and state privacy and data protection laws. Vendor represents and warrants that Vendor will maintain compliance with the SSAE 16 standard, and shall undertake any audits and risk assessments Vendor deems necessary to maintain compliance with SSAE16. If PI provided by SCS to Vendor is subject to FERPA. Vendor agrees that in its handling of FERPA data it will perform as a school official as that term is defined by FERPA regulations. Vendor acknowledges that its improper disclosure or re-disclosure of PI covered by FERPA may, under certain circumstances, result in Vendor's exclusion from eligibility to contract with SCS for at least five (5) years. Vendor shall provide SCS with the name and contact information for an employee of Vendor who shall serve as SCS's primary security contact and shall be available to assist Customer twenty-four (24) hours per day, seven (7) days per week as a contact in resolving obligations associated with any security incident in which it is reasonably suspected that there has been a breach of information security. Vendor shall immediately mitigate or resolve any Security Incident, at Vendor's expense and in accordance with applicable privacy rights, laws, regulations and standards. Vendor shall reimburse SCS for actual costs incurred by SCS in responding to, and mitigating damages caused by, any Security Incident, including all costs of notice and/or remediation incurred under applicable law as a result of the Security Incident.

17. **IRAN DIVESTMENT ACT.** By submission of this bid, each bidder and each person signing on behalf of any bidder certified, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to TCA 12-12-106.

ATTACHMENT 6.11 – Vendor Checklist

Vendor Checklist for Prevention of Common RFP Mistakes that lead to Proposal Rejection

1. Submission of Proposal

___On-Time Submittal
- o Deadline is listed in Section 4 – Schedule of Events
- o Late Proposals will be IMMEDIATELY DISQUALIFIED

___A Proposer may not submit alternate proposals unless requested.

___Tax not included in cost proposal.

___Clearly marked outside of envelope/package.
- o Bid Number and "DO NOT OPEN"
- o Vendor Name, License Number, Expiration Date & License Classification (if applicable)
- o Other License data as required in Section 5.6 – Proposal Package

___No erasures on proposal documents.

Correct Format:

___One (1) Complete Original (*Section 5.6 & Attachment 6.2*)

___Two (2) Additional copies of the Original (*Section 5.6*)

___One (1) Electronic format copy - CD/USB Drive (*Section 5.6*)

___Original Signature on Original Proposal. NO copied or digital signatures (*Section 5.6 & Attachment 6.2*)

2. Required Forms

___Evidence of Business License (*Section 5.1*)

___Completed "Contact Information" form (*Attachment 6.1*)

___Signed and dated "Bid Form/Certification" form (*Attachment 6.2*)

___Complete "Reference" form (*Attachment 6.3*)
- o Must meet the criteria established in Section 5.8 – Evaluation of Proposals.

___Signed and dated "Certification Regarding Debarment or Suspension" form (*Attachment 6.4*)

___Signed and dated "Condition of Submitting Proposal" form (*Attachment 6.5*)

___Signed and dated "Statement of Non-Collusion" form (*Attachment 6.6*)

___Signed and dated "Attestation Re Personnel" form (*Attachment 6.7*)

___Signed, dated and notarized "Drug Free Workplace Affidavit" form (*Attachment 6.8*)

___Signed and dated "IRS Form W-9" form (*Attachment 6.9*)

***This checklist does not represent a complete list of, or replacement for, the mandatory requirements listed in the RFP. This checklist is ONLY A TOOL meant to assist in the prevention of disqualification.**
****Notations on proposals that materials submitted be kept confidential will not be honored. All bid documents and contracts become public record.**

ATTACHMENT "A"

Sample Specifications

Portland High School

Theatre Lighting Renovation

PART 1. GENERAL

A. SCOPE
   I. The Electrical Contractor, as part of the work of this section, shall provide, install and test a complete lighting control system as specified herein for areas indicated on the drawings and circuit schedules.
   II. The Electrical Contractor shall furnish all conduit, wire, connectors, hardware and other incidental items necessary for the complete and proper operation of the lighting control system.
   III. The Electrical Contractor shall coordinate all work described in this section with all other applicable plans and specifications, including but not limited to:
      1. General Conditions
      2. Electrical Section General Provisions
      3. Conduit
      4. Wire and Cable

B. System Description
   I. The system shall be designed for the control of architectural and theatrical lighting and shall consist of factory pre-wired dimming and processing rack enclosures containing dimmers, power supplies, breakers, terminals and/or control electronics.
   II. System shall work in conjunction with specified low-voltage control stations.

C. Submittals
   I. Manufacturer shall provide __3___ sets of full system submittals. Submittals shall include:
      1. Full system riser diagram(s) illustrating interconnection of system components, wiring requirements, back box sizes and any special installation considerations
      2. Full set of printed technical data sheets
      3. A complete list of all deviations from specifications
   II. Manufacturer shall provide any additional information, including equipment demonstration, as required by the engineer or specifier to verify compliance with specifications

D. Quality Assurance
   I. Manufacturer shall be one who has been continuously engaged in the manufacturer of lighting control equipment for a minimum of ten years. All dimmer and cabinet fabrication must take place in a U.S. manufacturing plant.
   II. Proposed equipment shall be UL and cUL listed, and/or CE marked (where applicable) and bear the appropriate labels.

E. Acceptable Manufacturers
   I. The equipment herein specified shall be manufactured by Philips Strand Lighting 10911 Petal Street Dallas, TX 75238 Tel: (214)-647-7880 Support Main Fax: (214) 647-8031

   III. Permission to bid does not imply acceptance of the manufacturer. It is the sole responsibility of the electrical contractor to ensure that any price quotations received and submittals made are for controls systems which meet or exceed the specifications.

A21 DIMMER CABINET SPECIFICATION.

GENERAL.

A.) Overview.

1.) The dimmer cabinets shall be fully digital, designed specifically for architectural and entertainment lighting applications, and shall consist of 3 or 6 or 9 dimmer module spaces, depending on cabinet size. A secondary "slave" 3, 6 or 9-module expansion cabinet shall also be available. Dimmer systems shall be ETL and cETL listed.

2.) Cabinet setup and preset data shall, as standard, be fully user programmable on a per cabinet or system wide basis.

B.) Mechanical.

1.) The dimmer cabinet shall be a wall-mount, dead-front switchboard, substantially framed and enclosed with 16-gauge, formed steel panels. All cabinet components shall be properly treated, primed and finished in fine

texture, scratch resistant powder coat paint.

2.) The dimensions of the cabinets shall be as follows:

a.) 9-Module: 6.5 inches deep, 62 inches high and 32 inches wide.

b.) Expansion racks shall be the same size as racks with processors.

3.) The system shall be convection cooled and fans shall not be required. Systems requiring forced air-cooling shall not be acceptable.

4.) Dimmer module over-temperature sensing shall be provided, and the module will shut down until the temperature falls to within acceptable limits.

C.) Installation.

1.) The cabinet shall be factory pre-wired and dressed. The contractor shall provide and terminate all feed, load and control wiring on screw terminals fitted within the cabinet.

2.) Cable entry for all cabinets shall be on the top right side of the cabinet. A removable service panel shall be provided.

3.) All terminations and internal wiring shall be accessible via a removable front cover panel. The Processor Module shall be accessible for programming at all times.

D.) Electrical.

1.) The power efficiency of the dimmer cabinet shall be greater than 95% at full load.

2.) The 3, 6 and 9 module cabinets shall be suitable for 60hz supplies of 120/208VAC Three Phase 4 wire + ground, or 277/480VAC Three Phase 4 wire + ground and shall contain any combination of up to 3, 6 or 9 Power Modules of the appropriate supply voltage. The 6 module cabinet shall also be suitable for 60hz supplies of 120/240VAC Single Phase 3 wire + ground.

3.) Power feed terminals shall accept the following cable sizes:

a.) Neutral Buss Bar - Main Lug (1) #6 AWG - 350 KCMIL, Load

Lugs #14 AWG - #4 AWG.

b.) Ground Buss Bar - Main Lug (1)) #6 AWG - 350 KCMIL, Load Lugs #14 AWG - #4 AWG.

c.) Main Feed Terminal Block - (1) #6 AWG - 350KCMIL (per phase) 6 & 9-Space racks, (1) #6 - 2/0 AWG 3-Space rack.

d.) Load Wires #24 AWG - #10 AWG.

4.) Each 6 and 9 module dimmer rack shall support an optional Main breaker.

5.) The dimmer cabinet shall have an internal power supply to support up to (16) 24VDC architectural control stations. A supplementary power supply shall also be available.

6.) A "Panic" facility shall turn selected dimmers to full. Dimmers are selected from the rack processor. It shall also be possible to select "Panic" as follows:

a.) Via a remote maintained contact closure for Fire Alarm interface.

b.) Via remote momentary contact closures for "Panic" and "Normal" respectively.

7.) The system may also be configured as a UL924 Emergency lighting system.

8.) The system ground shall be made at a grounding lug in the top of the dimmer cabinet.

9.) All equipment shall be ETL and cETL listed.

E.) Cabinet Electronics, Physical.

1.) The main dimmer control electronics shall be housed in one Rack Processor Module (RPM). The dimmer control electronics shall be completely digital without employing any digital to analog demultiplexing schemes or analog ramping circuits.

2.) All rack setup and preset data shall be stored in a non-volatile manner.

3.) Each Rack Processor Module shall have a back-lit LCD display with a

keypad for rack setup, preset control, testing, rack status, error and diagnostics.

4.) LEDs shall indicate "DMX512 Port A", "DMX512 Port B" (ShowNet), Vision.net control and Power.

5.) The Rack Processor Module shall be mounted inside the dimmer rack. The RPM shall provide all necessary low voltage signal connections. The RPM shall provide the only point for contractor connection of signal cables and PANIC activation. The contractor connections shall be made with two-part plug in screw terminals (dedicated connector per input) for ease of installation.

6.) All DMX512 & RS485 communication ports and remote contact input connections shall be optically isolated from all processor electronics by a minimum of 2,500V RMS isolation.

7.) The Rack Processor shall have the provision to select any of a maximum of 96 outputs to be activated by the PANIC function. The PANIC function shall be activated or de-activated by one or more local or remote contact closures.

F.) Rack Electronics, Control And Communications.

1.) The control electronics shall provide the following control and communication inputs as standard:

a.) One optically isolated DMX512 control input.

b.) An RS485 control input for Vision.net architectural control. Vision.net is a control system comprised of architectural style panels for recording and playback of presets in individual assigned "rooms".

c.) There shall be two programmable panic inputs.

d.) One RS232 Serial programming port for remote programming using PC based configuration software.

e.) There shall be an expansion port on the processor termination board to connect the output of the processor to other A21, R21 dimming systems and Contact Relay panels for up to 96 channels of control.

2.) The system shall support an optional ShowNet Ethernet input to

provide an additional networked input plus processor status monitoring and configuration.

G.) Rack Electronics, Features.

1.) The rack electronics shall provide two levels of operator interface:

a.) A local interface that includes 6 menu keys and a bitmapped backlit LCD display to access standard system menus.

b.) Remote configuration via personal computer using RS232 or ShowNet Ethernet data links.

2.) Dimmer control electronics shall have 16 bit (minimum) fade processing and a dimmer update rate better than 16 ms (60 Hz). Dimmers set to the same level shall output within +/-.5V of each other, regardless of phase or input voltage, providing the desired level is less than the phase input voltage less the dimmer insertion voltage.

3.) Dimmer output levels shall be regulated for incoming line voltage variations. The regulation shall adjust for both RMS voltage and frequency changes of the incoming AC wave form. Regulation shall maintain the desired output voltage +/- .5V volt for the entire operation range (90 - 277 VAC). The regulation shall compensate for variations of the AC waveform on a dimmer-by-dimmer basis. There shall be no interaction between dimmers in the system or any other equipment. The output shall be regulated to the user programmable maximum voltage level on a dimmer-by dimmer basis between 24V and 277V for dimmer modules. The processor response time to incoming line changes shall take no more than 16 ms (60 Hz). Dimming systems that do not respond to line voltage and frequency variations shall not be acceptable.

4.) The RPM shall also have the capability to support dimmers of different types and sizes that may be mixed throughout the rack. Individual dimmers may be dimmed or switched (non-dim). The individual phase control or switching of positive and negative line voltage half cycles shall not be acceptable, as the net resultant DC line current may damage or degrade line supply transformers.

5.) As a standard, dimmer rack status reporting shall report the following conditions/data:

a.) Rack input line voltage per phase (IGBT modules).

b.) DMX512 Port A input fail.

c.) Phase failure (A, B and C).

d.) Dimmer temperature reporting (IGBT modules).

e.) Report dimmer load and Active Power Management status to a central control computer running Strand Lighting Dimmer.net and Vision.net Designer software (IGBT modules).

6.) The control electronics shall provide the following setup functions that shall be user programmable on a per rack or system wide basis:

a.) DMX512 Port A patch.

b.) ShowNet DMX512 patch.

c.) Architectural patch for Vision.net control systems.

d.) Record Vision.net preset and preset crossfade time.

e.) Set dimmer max. voltage (IGBT modules).

f.) Set dimmer min. level (IGBT modules).

g.) Set control input priority logic.

h.) Set Active Power Management maximum current in 1 amp increments (IGBT modules).

7.) The DMX512 Port A and ShowNet patching shall support a rack start address and individual dimmer patch. The architectural patch shall define the rack circuit/room/room channel relationship for Vision.net control systems.

8.) The control electronics shall provide a facility to disable the output of any individual dimmer by setting the level to 0.

9.) The processor shall provide an architectural Vision.net control system preset capability of 8 presets plus full ON and OFF up to the capacity of the dimmer rack and system.

10.) It shall be possible to load new rack operating software via the serial connection to the dimmer rack. There shall be no requirement to turn power to the rack off during the loading of rack software. It shall be possible to load new rack operating software into the processor,

regardless of the state of the program storage.

11.) All IGBT dimmers shall support active power management technology that shall allow system designers to securely set limits on circuits to meet watts per square foot requirement on track lighting and other circuits requiring strict power management and to conform with energy management legislation. Once a circuit has a load limit set at commissioning the limit cannot be changed. Load monitoring and status reporting shall be available as a standard feature of Active Power Management allowing a facility to dynamically monitor and adjust lighting loads. The processor shall display the status of any dimmer that has shut down under power management control to indicate to the user that they have overloaded the setting for a specific circuit. This shall be displayed on the local processor and remotely on a suitably equipped personal computer.

A21 POWER MODULE SPECIFICATIONS.

A.) Mechanical.

1.) Power Modules shall be factory wired units of similar size and heavy duty metal construction, designed to be installed into the cabinet as a self contained bolt-in assembly. A plastic Power Module chassis shall not be acceptable.

2.) Modules shall be finished in powder coat black paint.

B.) Electrical.

1.) Power connections shall be made on compression screw terminals. Control signal connections shall be made via plug-in connectors at each module chassis.

2.) Load connections shall be via spring cage terminals.

3.) Power Modules shall be suitable for 120V or 277V, 60Hz.

4.) Each dimmer shall maintain its output RMS voltage within 2% for changes in load from 200 watts to full rated load at any point on the dimming curve.

5.) The power efficiency of each power module shall be better than 97% at full load. Adequate heat sinking shall be provided.

6.) Standard Module electronics shall be completely solid state using two

silicon controlled rectifiers (SCR's) per dimmer in inverse parallel configuration.

7.) SCR devices shall be encapsulated in an epoxy filled high impact plastic case with opto isolator, trigger SCR, steering bridge and snubber network. There shall be a minimum of 2500 volts isolation between the ac line and control lines of the SCR sub-assembly.

8.) IGBT dimmer modules shall be available in Quad 1000 watt or dual 2000 watt variants.

9.) Each dimmer shall be protected by thermal magnetic circuit breaker of the appropriate capacity mounted on the faceplate of the cabinet. This protective device shall have a "must trip" rating of 125% of rated capacity and be rated for a minimum 10,000 Amp interrupting capacity.

a.) It shall be possible to use the breaker as a dimmer disconnect device and shall be a UL, cUL listed.

b.) Under overload conditions, the breaker will disconnect power to the dimmer to protect the power device.

c.) The full load current shall be carried and controlled by the SCR or IGBT power device. Dimmers employing Triacs shall not be acceptable.

d.) All Power Modules shall be capable of continuous operation at full rated load. Under no circumstances will modules allowing continued operation with loads substantially in excess of the rated capacity be acceptable.

e.) Each assigned Non-Dim shall have a programmable switching threshold between 1 and 99%.

f.) At full load under normal operating conditions, voltage insertion loss in the dimmer shall be typically 2 volts, but shall not exceed 4 volts.

g.) All dimmers shall have a local control switch to turn the dimmer on for testing and diagnostic purposes.

h.) Dimmer racks shall ship with a dimmer bypass jumper installed on the load terminal blocks. This bypass jumper shall permit loads to be tested and operated from the dimmer rack circuit breakers prior to installation of the system control stations. These jumpers

shall be removed at system commissioning. Systems not offering this feature shall not be accepted.

i.) Each dimmer shall have a local test button to permit testing dimmer modules when they are installed without requiring access to system control stations. IGBT dimmer modules shall also feature diagnostic LED indicators for system trouble shooting.

10.) Power Modules shall be ETL and cETL recognized.

C.) Features.

1.) Specific Features of the Incandescent/Inductive Dimmers shall be as follows:

a.) Standard dimmer modules shall be available for operation on 120 or 277 volt power supplies and are offered in Quad 1000,1800 and 2000 watt (120V) and up to 4000 watt (277V) modules. Dual 1800 and 2000 watt (120V) and up to 4000 watt (277V) modules.

b.) SCR Dimmers shall have an integral inductive torroidal filter designed to reduce the rate of rise of current such that the rise time shall not exceed 350µs at full load, measured between 10 - 90% of the load current waveform at a 90° conduction angle.

c.) The dimmer firing circuitry shall produce an output sine wave that is fully symmetrical to minimize the dc component in the output waveform to within +/- 1 volt dc.

d.) It shall be possible to dim low voltage transformer fed loads providing that the transformer used is approved by the manufacturer for use with phase control dimmers.

e.) When dimming cold cathode loads with an Incandescent/Inductive Power Module, a fluorescent dimming curve shall be assigned from the Processor keypad to give a bottom set cut-off ensuring the maximum range of stable performance.

2.) Specific Features of the IGBT dimmer module shall include:

a.) IGBT modules shall be available in dual 2000 watt or quad 1000 watt variants.

b.) Dimmer output waveform shall be available with forward or reverse phase control and effective filtering equivalent to 1000µs.

c.) Each dimmer module shall offer microprocessor controlled over-current and short circuit protection and will automatically shut down in the presence of these conditions. Resetting the dimmer to zero from the control system shall restore operation in the event of a module shutdown.

d.) The dimmer shall control a wide range of loads including dimmable electronic ballasts, LED's, conventional incandescent lamps. Audible noise shall be reduced through the use of electronic phase control and no chokes shall be required. Dimmer efficiency shall exceed 98%.

e.) IGBT dimmer modules shall support Active Power Management technology. Each dimmer will report load status and may have a maximum load set on a per dimmer basis in one amp increments.

3.) Specific features of the Fluorescent Dimmer Modules shall be as follows:

a.) Fluorescent modules are available in dual 120/277 volt power ratings suitable for dimming a wide range of loads.

b.) The fluorescent dimmers shall be suitable for dimming electronic 2 wire or 3 wire ballasts as well as 0-10VDC control ballasts as recommended by the dimming manufacturer.

c.) A mechanical relay shall be provided for switching on the cathode heater supply when the control level is raised above zero on 0-10VDC control modules.

d.) The fluorescent dimmers shall have a "Bottom Set" to adjust the cut-off point ensuring the maximum range of stable performance for both fluorescent and cold cathode loads.

4.) Specific features of the Non-Dim Modules shall be as follows:

a.) Non-dim modules shall be available for 120 and 277 volt applications. Modules shall have 2 or 4 relays rated at 15 or 20 amps.

b.) Non-dims shall allow any circuit to be switched as a non-dim through substitution of a Non-Dim Module for the Dimmer.

c.) Non-dims shall be designed so that they can be used for

inductive (transformer-fed) loads. Non-Dims with chokes shall not be acceptable.

D.) Accessories.

1.) A Main breaker shall be available for 6 and 9 module dimmer racks.

2.) To supplement the internal Power Supply, a supplemental Power Supply shall be available to support up to 20 additional architectural control stations, and shall be supplied complete with an enclosure for wall mounting in the dimmer/distribution room. It shall be suitable for 90 - 277 volts AC 60 Hz supplies.

E.) Documentation.

1.) System riser and connection drawings shall be supplied as specified.

2.) Installation Instructions shall be supplied with each A21 Cabinet.

F.) Standards.

1.) The dimmer cabinet assembly shall be ETL and cETL listed.

G.) Environmental Specification.

1.) Ambient temperature extremes: 32 - 104 degrees Fahrenheit (0 - 40 Centigrade).

2.) Relative humidity: 10 - 90% non-condensing

3.) General conditions: Office level cleanliness. Interior use only.

NEO MEMORY CONSOLE SPECIFICATION.

GENERAL.

A.) General Description.

1.) The lighting control console shall be microprocessor based and specifically designed to provide complete control of stage, studio and entertainment lighting systems. An open architecture system using non-proprietary interfaces to permit upgradeability shall be used. The lighting control console shall be the NEO Lighting Control Console manufactured by Philips Strand Lighting or equal.

2.) The system shall provide control of up 100 Universes of DMX (51,200 output parameters) over 25,000 control channels. Output shall be distributed over a 10/100/1024 MB Ethernet network using Philips Strand Lighting ShowNet, E1.31 (sACN), Pathport, KiNet 1 & 2, ArtNet, simultaneously as well as E1.11 -2008 USITT DMX 512/1990-A outputs over four (4) DMX 5pin XLR outputs.

3.) The system shall support full bi-directional RDM communication with compatible RDM Network devices via the four (4) DMX connections on the Neo control console. RDM communication shall adhere to ANSII standard E1.20-2006 Entertainment Technology – RDM – Remote Device Management over DMX512 Networks.

Supported RDM features shall include:

a. Discovery and Identification of RDM capable devices
b. Setting of start addresses, operating modes and additional settings as exposed by connected devices and controllable via RDM
c. Remote viewing of data as provided by connected devices
d. Error reporting as provided by connected devices

4.) An infinite number of cues, cue lists, groups, presets, palettes, macros, effects, snapshots may be contained in non-volatile electronic memory and stored to an onboard solid-state hard drive and to any USB storage devices.

5.) Recorded cue lists (Unlimited) may be played back simultaneously on up to 95 faders (including optional wing faders). Channels shall, by default, respond to cue information by last instruction, with timing control provided for all cues.

6.) The Neo control console may be programmed in Tracking, Hybrid Tracking or Cue Only mode by the user as a system default and overridden on individual record actions as required.

7.) A Master A/B motorized fader set shall be provided. The 60mm motorized fader set can execute move fades. Five (5) Additional 60mm motorized playback faders are also provided for multiple cue playback options over an unlimited number of fader pages.

8.) Ten (10) 60mm motorized multifunction faders are also provided in addition to the above. These multifunction faders give the end user additional playback faders, additive, inhibitive or effect submasters. Two (2) dedicated, addressable motorized grand masters and one rate master are provided as well.

9.) A rate master shall be provided. The 60mm motorized fader can be set to execute all master timing across the console functionality allowing for "on the fly" busking timing.

10.) A set of four (4) push button soft touch encoders and companion LCD play back screens shall be included for control of multichannel luminaires. Each LCD playback screen will give the user feedback on the rotary encoders' state, value, and graphic. Encoders may be operated in coarse or fine mode. Tactile feedback for full frame operations shall be provided. .

11.) A high-resolution level wheel shall be provided to control intensity for selected channels and scrolling/zoom for some displays.

12.) An integrated track ball and alpha-numeric keyboard shall be included for screen navigation, software interaction, cue labeling, patch labeling, or non -numeric command line functions using the Alpha numeric text call up function feature.

13.) Each Control Console shall support up to three (3) HD multi-touch monitors (sold separately) and support HDMI, DVI, and Display Port device outputs. Each display is user definable.

14.) Control surface buttons shall be backlit. The backlighting shall provide indication of functional states through both color change and intensity. Back lit buttons shall also indicate "follow me" programming which will allow the novice user to follow the next key press sequences needed when command line programming.

15.) Control and programming features for intelligent lighting fixtures shall also include: a standard library of fixture profiles, the ability to copy and edit existing profiles and create new profiles and patch displays.

16.) User-definable, interactive displays may be created – magic sheet view. These displays, which can be used in live and blind operating modes, allow graphical layout of channels and system shortcuts such as Palettes and Groups.

17.) Software upgrades shall be made by the user via USB flash drive; changing internal components shall not be required.

18.) Show data may be created and modified on a personal computer, using either Windows 7, or Windows 8 operating systems, with a free offline editing application. The program shall also allow output to visualization software supporting the same protocols as the lighting system.

19.) FTB (full tracking back up) Synchronized backup shall be provided via another full console on the network or by use of a remote processor unit. The backup console or Rack mount controller shall maintain synchronized playback with the master and shall take over control of the lighting system upon loss of communication with the master, either automatically or upon user confirmation.

20.) Multiple users may access show data from the main control console. Each user shall have an individual workspace. User identification may be assigned to more than one control device, allowing users to work in tandem, or allowing a remote access user to mirror the current display format and mode.

21.) Show files are simultaneously saved across the system to each mapped integral hard drive, flash drives and external network drives.

22.) The control console shall provide a pull out drawer housing an external alpha-numeric keypad and USB Charging and Data Port.

23.) The lighting control console shall feature a flexible hardware and software design. Control channel counts, automated lighting support, help files, and additional control hardware shall be easily upgradeable.

24.) Minor revisions of operating software and an off-line editor shall be available to the user via download from the manufacturer's web site at no additional cost. Console software shall be upgradeable in the field via Internet download.

25.) The lighting control console software shall feature a familiar and easy-to use Windows graphical user interface (GUI) based on the Windows operating system. Software features shall include Off-line Editor, Remote Video, Media Player, Web Browser, and PDF Reader.

26.) The dedicated Windows processor architecture shall deny access to operating system, but shall allow access to an open hard drive for show files. Processor back up shall be supported by the use of any Windows 7, or later, computer running the PC version of the lighting control console software.

27.) Systems that do not provide the above capabilities shall not be acceptable.

1.02 CAPACITIES

1.) The Neo control console shall provide direct control (4 output ports and one input port of DMX 5 Pin XLR) of up to 2048 DMX/RDM512 devices (51,200 via network, 100 universes) via the DMX network output capacity of the console. This output capacity of the console can be upgraded at any time and purchased in single DMX universe packets

2.) A show file may contain virtually unlimited cues, groups, submasters, submaster pages, effects, macros and one fully proportional patch that can be stored on an internal solid state hard drive and archived to standard USB memory key drives.

3.) Multiple show files and backups shall be stored on the system hard drive and shall have the ability to backup to multiple read/write storage devices simultaneously.

4.) The control console shall utilize a mission critical Firebird SQL sequel server data base for secure show file storage. Users do not need to ever "save" their show. The Neo Control console is always backing up and saving show file key presses to ensure that a key stroke, key press is never lost. Any system not utilizing this technology will not be accepted.

5.) Boot time shall be reduced to a maximum of 30 seconds from a cold boot to system up and outputting DMX/Network.

6.) The control console shall host two (2) individually isolated 1 Gigabit network ports located on the back of the console. Each LAN can be individually addressed via network settings to allow for both outside Web access to the console as well as networked Lighting system control.

7.) Philips Advantage DMX, shall allow use of "unregistered outputs" when Philips Selecon, Philips Vari-Lite, Philips Showline, or Philips Color Kinetics luminaries are patched to the unregistered universes of the console. Advantage DMX will allow for use of any Philips Entertainment Luminaires in the Patch with-out encumbering any of the registered universe channels. Manufacturers that charge for registered outputs to run their manufactured multichannel luminaires shall not be acceptable.

1.03 CONTROL

Control Interface.

1.) The programming keyboard shall be grouped by function. Major groupings shall be record target functions, numeric keys, level

assignment functions, display navigation functions and controls, as well as non-intensity parameter controls. The key board shall be grouped in six (6) distinct areas and grouped as:

a. Playback
b. Action
c. Command
d. Selection/Attributes
e. Shortcuts
f. Advanced
g. Effects
h. Display

2.) Playback Section:

a. The playback faders shall consist of a motorized 60mm Master Fader pair with associated Select, Go and Stop/Back buttons.

b. Five (5) Additional 60mm motorized playback faders are also provided for multiple cue playback options with associated Select, Go, and Stop/Back Buttons, over an unlimited number of fader pages.

c. It shall be possible to instantaneously halt an active cue, back to the previous cue, manually override the intensity fade or manually override the entire fade.

3.) Submasters:

a. Ten (10) proportional fully overlapping additive, effect or inhibitive submasters may be defined over infinite pages. Submaster's bump buttons shall have multi-colored LEDs to indicate submaster status. Each submaster may have fade up, dwell and down fade times. Each has a bump and assert/channel select button.

b. Submasters may be set to independent.

c. Submasters may be set to HTP or LTP intensity.

d. Exclusive mode for a submaster shall prohibit the live contribution of that submaster from storing to cues or other submasters.

e. Motorized faders shall set submasters to required positions as fader pages are changed.

f. It shall be possible to set submaster values directly from the command line.

4.) Grand Master Faders- Two (2)
   a. The grand master shall have associated blackout and blackout enable buttons.
   b. Blackout shall send all associated intensity outputs to zero. Non-intensity outputs shall not be affected.
   c. Motorized faders shall set grand masters to required positions as fader pages are changed.

5.) Track Ball – Pointing Device. Shall be integrated into the control console infrastructure and shall work in and outside of the console operating software.

6.) Encoders- Neo shall include four (4) independent rotary encoders including an integrated push button as well as four (4) LCD feedback screens for encoder assignments and positioning. Encoder Screens shall display but not be limited to:

   a. Position in Degrees
   b. Color Mix in Percentage
   c. Gobo Position
   d. Gobo Image
   e. Gobo Rotation
   f. FX control Parameters
   g. Lens Percentage

1.03 PHYSICAL

Console Physical & Electrical.

1.) The console controls and electronics shall be a desktop configuration and shall use a high density multicore Intel microprocessor.

2.) The console shall be constructed of steel with an aluminum face panel. All internal control components shall be fully modular to permit simple removal and exchange. The top panel shall be easily removed via thumb screws to allow for easy access to the internal components of the console.

3.) The central processor shall be fully integrated into the main console in a separate removable enclosure for rapid removal and exchange.

The processor shall include a 120GB solid state hard drive (minimum), standard computer I/O and an integrated USB hub for connection of all console control electronics to the system processor.

4.) The Control Console shall be universal in power requirements and shall support from 90-240 volt 50-60Hz power systems. The integrated power supply shall also support the power requirements of additional future accessories.

5.) The Measure of the control console shall not exceed 20" (508 mm) x 31" (787.4mm) x 5" (127mm)

1.04 ENVIRONMENTAL

A.) Operational Environment.

1.) The acceptable ambient operating temperature shall be 0 degrees to 50 degrees Celsius (32 degrees to 122 degrees Fahrenheit) and the ambient storage temperature shall be -40 degrees to 70 degrees Celsius (-40 degrees to 158 degrees Fahrenheit).

2.) The acceptable operation location shall be the equivalent of a good office environment, without excessive dust.

3.) Acceptable humidity levels for operation shall be 5% - 95%, non-condensing.

B.) Standards Compliance.

1.) The console shall be CE marked and ETL, cETL, and cTick listed.

1.05 NEO OPERATING SOFTWARE.

A.) Channel Control.

1.) Selection: Channel control lists shall be composed of any combination of control channels, cues, looks or groups using the +, -, Thru & Thru-on syntax. Any one selection shall be capable of being manipulated for level, intelligent light control without the need to re-select. Mouse and touch screen selection via the Graphical User Interface shall be available on all supported touch screen monitors.

2.) Intensity Control: Intensity levels shall be set using the '@' key and inputting a numerical level or adjusted using the level wheel. Context sensitive soft keys with labels available on the system monitor or hard keys shall be provided for Full, DMX512 level, +%, -%, Off, Copy and Move. Level change shall also be available via the main level wheel when the fixture is selected.

3.) An "On" key with user definable levels shall be provided.

4) Commands: Command entry shall be user selectable between command line (RECORD CUE 1 [enter]) and direct entry (CUE 1 RECORD). Additional Record Dialogue boxes shall be user accessible when Holding Record and Cue simultaneously. Consoles that do not provide both methods shall not be acceptable.

B.) Cues.

1.) The console shall set to tracking cue recording, hybrid tracking cue recording, or cue only recording based on operational preference. This shall be set during the initial configuration of the system when the system is started for the first time and can be changed at any time.

2.) Each cue may have split fade & delay times, a follow time, link & loop parameters, calls for macros & effects, a text label and may be assigned to any cue or cue list.

3.) Cue zero shall always be a blackout cue by default.

4.) Unlimited cue lists can be created to split up a show into manageable units. Each cue list supports up to millions cues with 3 decimal places of point cues. (Cues 0.000 through to 9999999.999)

a) Each cue:
   a. can contain an unlimited number of channels
   b. can contain an unlimited number of effects, groups and shortcuts
   c. can be Full tracking or hybrid tracking modes
   d. can be Auto follow and part cues.
   e. can wait for user interaction or continue automatically.
   f. can be completely flexible, run order allows cues to be rearranged into any order.
   g. can have its own delayed start, fade in, dwell, fade out, and effects delay start.

h. Each channel within a cue can be assigned a delayed start and override fade time
i. can have a different attribute fade time for complex timing.
j. With an effect can be assigned a delayed start, override length and whether the effect will loop until the cue ends.
k. has "Auto Mark" functionality and can be used to automatically setup intelligent fixtures.
l. List can include Scene breaks with text editing.

5.) Cues, groups, submasters, palettes, macros, & effects shall be recorded or updated from the keypad.

C.) Playbacks.

1.) Playbacks shall be provided (one (1) main dual, five (5) individual playback and unlimited virtual playbacks), each with a Go button, dedicated stop/back, and select keys. Interaction between each playback shall be user programmable as highest level or latest action takes precedence operating from separate cue list. Each playback shall operate in automatic, manual fade or manual time modes executing fades while following links, loops and macros.

2.) The playback faders shall be motorized and provide rate override of fades.

3.) Cue Only, Hybrid Tracking, and Tracking modes of operation shall be supported.

D.) Effects.

1.) Dynamic, fading and tracking FX parameters shall be supported.

2.) Chase and build effect types shall be supported as shall forward, reverse, bounce and random directions.

3.) Levels and attributes shall be recorded or shall be randomly generated or inverted or alternatively normal and inverted every cycle.

4.) Modifications to running effects may be returned back to the effects memory for re-recording.

G.) Cue, Submaster and Effect Previews & Cross Reference Screen.

1.) Cue and submaster preview modes shall be supported to permit blind changes to be made to these entities using channel control syntax.

2.) A Cross Reference screen shall provide an alternative view of cues by showing levels recorded in a range of cues.

3.) Changes may be tracked or restricted to one cue using the Cue Only option.

H.) Submasters.

1.) Unlimited pages of fully overlapping submasters shall each be provided each with a fader, virtual fader, bump button and status LED's.

2.) Each submaster shall be individually programmable as normal, last takes precedence, inhibitive or exclusive, recordable per page.

3.) Bump buttons may be individually enabled, disabled, latching or trigger macros.

4.) Submasters shall be loadable with the contents of cues, groups, other submasters or channel lists.

I.) Groups.

1.) Groups may be recorded for fast recall of commonly used stage looks. Groups can be independently recorded or directly recorded from the stage output. Cues recorded using preset focus groups may be easily edited and changed by simply updating the focus groups.

2.) Each group may be assigned a text label.

J.) Display Formats.

1.) User programmable channel display formats shall be provided to show channel levels, colors, and attribute information. User programmable channel formats shall be provided to show channels in show, defined channels or active channels. Screens shall be fully adjustable using the systems fully graphical user interface.

2.) On screen controls shall be provided for programming moving light attributes using the supplied system input device.

K.) Patch.

1.) A proportional soft patch shall be provided.

2.) Dimmers may be profiled, set with a non-dim trigger value, or un-patched at a level.

3.) A library of luminaires to simplify patching shall be provided.

4.) Patch displays shall be ordered by channel or by output.

L.) Profiles.

1.) Profiles may be applied to dimmers or up/down fades in cues or parts.

M.) Set-up.

1.) Simple to use set-up screens shall be provided to configure external communications and operation of the console,

N.) Macros.

1.) Macros may be activated by, submaster's bump button, from a cue, external switch contact, remote control, console power-up or at pre-programmed times.

O.) Archive.

1.) Automated Show archive shall be supported to the systems internal solid state hard drive, a USB key drive, or optional file server.

2.) The File control drop down menu shall provide a means to select the current show from the system disk or file server and to copy a show (or any part of a show) to or from a USB key drive, or the file server.

3.) Shows shall have text labels and a time and date stamp.

4.) The system software shall support the loading and saving of database files formatted in the Strand NEO FireBird Database Format (*.FDB), data structure.

P.) Printing.

1.) The system shall support Portable Document Format (*.PDF) printing.

2.) The following printouts may be requested: Patch, Cues, Groups, Subs, Profiles, Macros, Fixtures, Channels in Use, and Channels Not In Use.

1.06 SYSTEM CONTROL SOFTWARE.

A.) Channel Capacity Software Upgrades.

1.) Channel and attribute capacity shall be upgradeable via software to the maximum capacity of the console in DMX universe increments (up to 100 total per console).

B.) Automated Luminaire Control.

1.) The system shall provide intelligent control of any DMX512 automated luminaire. The console shall display automated luminaire attributes as true attribute definitions not as channels or DMX512 values. An automated luminaire shall be addressed to a single fixture control channel not a series of consecutive control channels. Consoles that use consecutive control channels or DMX512 percentage values to operate automated fixtures shall not be acceptable.

2.) The Fixture Attributes display shall show fixture number, model, mode, and attribute settings displayed in values of colors, degrees, percentages, hertz, and RPMs, not in DMX512 percentages or channel levels.

3.) All attributes of an automated luminaire (intensity, color, gobo, focus, X-Y position, effects, CMY, RGB, etc.) shall be accessed by typing one channel number.

4.) The system shall use an integrated fixture library for patching and control of automated luminaires.

5.) Neo control allows for all parameters to be controlled in a user-friendly format. Pan and Tilt shall be adjusted in degrees. Color shall be adjusted using Color Space Control. Gobo parameters like rotation shall be adjusted in RPM speed. Zoom shall be adjusted in degrees. Other parameters shall have similar and consistent parameter control. Console software not using this format shall not be acceptable.

6.) Color Frame Control: Full color frames shall be selected using palettes. Part frames may be adjusted using the rotary control wheels. Preset focus groups shall be available to permit the recall of specific colors from scrollers.

7.) Color Space Control: For control of color mixing units, it shall be possible to use CMY, RGB, HSL or HSV color mixing methods to select colors. An on screen, user selectable, color picker shall be provided. Consoles that do not provide CMY, RGB, HSL and HSV color mixing shall not be acceptable.

8.) Individual attributes shall also be selected from soft keys and the scrolling wheel in conjunction with on screen controls showing attribute names as well as full touch screen support and selection of the individual attributes.

9.) Displays shall be provided which show all attributes of a fixture.

10.) Attributes shall be excluded from inappropriate masters and normally operate in latest action takes precedence fashion within submasters, playbacks and effects.

11.) When attributes and levels are recorded in a submaster the levels shall be mastered by the fader but the attributes shall go to their recorded value in a latest takes precedence basis to ensure that scenes played back on submasters can be faded in and out with recorded colors and positions. Attributes shall have the option of moving when the fader is moved off of zero, when the fader reaches full or manually.

12.) Cue tracking shall be supported for attribute channels.

13.) A channel and attribute cross-reference screen shall be provided for blind viewing.

14.) Auto Mark shall provide an optional automatic means of moving fixtures to the next required position (pan, tilt, color, gobo, etc.) after

the previous fade has completed and when the fixture intensity is zero without the need to record extra cues.

15.) A library of over 8,000 intelligent and automated luminaires with text labels shall be provided to facilitate fast patching. An off line and built in profile builder is included for easy setup of new luminaires or attribute editing.

16.) Unlimited preset focus groups shall be provided to simplify the programming of automated luminaires.

C.) Remote Communication.

The console software shall also support communication with other computer programs running on other computer systems including WYSIWYG, Capture Polar and many other visualization programs.

D.) Ethernet Network Operation.

1.) The system shall support full Ethernet connectivity to system dimmer racks and remote peripherals using the built in Ethernet port on the console. Protocols that shall be available are ShowNet, CKNet, Artnet, Pathport and ANSI E1.31. This is in addition to direct DMX512 connectivity.

2.) The system shall support industry standard 10/100/1000Base-T cables, Ethernet hubs and switches.

E.) Wireless Remotes.

1.) Multiple wireless handheld devices may be connected to the system using a Wireless access point.

2.) Multiple access points may be provided to supply adequate coverage throughout a facility.

F.) Tracking Backup.

1.) Two consoles may be configured and operated as main and tracking backup.

G.) Remote Console.

1.) Additional consoles or PCs running Windows 7, or later, shall be able to connect to the Main console as a Remote Console over an Ethernet network.

H.). Off-Line Editor Software.

1.) A Windows hosted off-line editor shall be available which shall enable show files to be edited and simulated in real time on any Windows 7 or later PC.

2.) All facilities of the console, including patching, channel control, playbacks, submasters, effects & set-up shall be supported on the off-line editor.

I.) Showfile Compatibility.

1.) The control console shall utilize a mission critical firebird SQL sequel server data base for secure show file storage. Users do not need to ever "save" their show. The Neo Control console is always backing up and saving show file key presses to ensure that a key stroke, key press is never lost. Any system not utilizing this technology will not be accepted.

1.07 INCLUDED ITEMS

Included items
Each 91001 Neo Console to include:
One (1) NEO Control Console
One (1) Universe of DMX 512 (additional universes – up to 99 more can be ordered as a 91002).
One (1) NEO Dust Cover 91001-DC
Two (2) XLR 3 Pin Console Lights
One (1) Quick Start Guide

SHOWLINE SL PAR 155 LUMINAIRE SPECIFICATIONS.

. 1.) The luminaire shall be a color mixing luminaire employing nineteen (19) homogenized red, green, blue, and white LED engines. The luminaire shall be capable of providing color matched presets as well as millions of permutations of color.

. 2.) The luminaire shall hold CE and C-Tick markings.

. 3.) The luminaire shall conform to USITT DMX-512A(RDM) protocol standards.

. 4.) The luminaire shall employ nineteen (19) LED light source engines that will not emit light in the ultra-violet (wavelengths less than 400nm for UV-A,B,

or C) or the Infrared spectrum (wavelengths of more than 775 nm). Units that emit light within this spectrum shall not be accepted.

. 5.) The luminaire shall have an integrated control system that provides local controls offering access to set up parameters, preset colors, stored custom presets and chases, and status reporting.

. 6.) The luminaire shall be a PAR type wash luminaire with a twenty-one (21) degree beam angle.

. 7.) The luminaire shall have an output of up to 4400 lumens (RGBW).

. 8.) The luminaire shall have control inputs for:

a. DMX512 with input/output connectivity via a 5 Pin DMX connector

b. RDM with input/output connectivity via a 5 Pin DMX connector

. 9.) All control and Power input and output shall be located on opposite side of the luminaire lenses.

10.) All LED luminaires shall be provided by a single manufacturer to ensure overall compatibility.

B.) Physical

. 1.) The construction of the luminaire shall be aluminium die casting in a matt black finish.

. 2.) The luminaire shall be of compact dimensions, not exceeding 9 1/4 inches [235 mm] in length, 12 1/4 inches [311 mm] in height and 12 inches [302 mm] in width.

. 3.) The luminaire shall weigh no more than 10 lbs. [4.5 kg].

. 4.) The luminaire shall provide mounting capabilities from an included split yoke to which approved mounting devices can be attached. The yoke shall also operate as a floor stand.

5.) A locking accessory frame slot shall include dual channels for accessories.

a. A spring-loaded locking mechanism shall prevent accessories from falling from

the luminaire.

C.) Mechanical Data.

. 1.) Variable fans shall be used to provide forced-air cooling for internal components. In addition, the fans shall be capable of being disabled where the luminaire shall regulate intensity without utilizing the fans.

. 2.) A LCD menu system shall provide essential system information and operational controls.

. 3.) The finish shall be high temperature stoved black paint on the metal components.

. 4.) The luminaire shall be supplied with a limited two-year warranty when used in normal applications.

D.) Electrical.

. 1.) Supply Voltage shall be 120 to 240V, 50/60Hz. (+/- 10% auto-ranging)

. 2.) The luminaire current draw shall not exceed 180 watts with all RGBW engines at full output and shall not exceed 180 watts in any of the preset color settings; luminaires that do not meet these criteria shall not be accepted.

. 3.) The light engine source shall consist of nineteen (19) RGBW LED engines used in conjunction with nineteen (19) lens systems. Each LED engine shall consist of individually addressable Red, Green, Blue and Daylight White channels.

. 4.) The luminaire shall be C-Tick and CE marked.

E.) Environmental.

. 1.) Maximum operating ambient temperature shall not exceed 104 degrees Fahrenheit (40 degrees Celsius)

. 2.) A variable speed cooling system shall be employed to maintain the optimal operating temperature of the luminaire.

. 3.) Luminaires shall be low maintenance and environmentally friendly, all units

shall be mercury free.

F.) Operation. 1.) The luminaire shall have control inputs for:

a. DMX512 with input/output via a DMX 5 Pin Male and Female connector

b. RDM with input/output via a DMX 5 Pin Male and Female connector

c. Luminaires utilizing proprietary only controls shall not be accepted.

2.) DMX512 control will be via Simple 8-Bit, HSIC, RGBW 8-Bit or RGBW 16-Bit mode. Control parameters for each DMX512 mode shall be as follows:

a. HSIC Mode (10 Channel) a. Intensity b. Strobe c. Duration d. Timing e. Control f. Hue - High g. Hue - Low h. Saturation i. Intensity j. Color Temperature

b. RGBW 8-Bit Mode (10 Channel) a. Intensity b. Color Presets c. Strobe d. Duration e. Timing f. Control g. Red h. Green i. Blue j. White

c. RGBW 16-Bit Mode (16 Channel) a. Intensity – High b. Intensity - Low c. Color Presets d. Strobe e. Duration f. Intensity Timing g. Color Timing h. Control i. Red – High j. Red - Low k. Green – High l. Green - Low m. Blue – High n. Blue – High o. White - High p. White - Low

d. Luminaire addressing shall be setup via two different methods:

i. From the control menu – under Settings/DMX– set up the DMX address using the navigation arrows to set DMX 512 mode, LED grouping, and address.

ii. RDM – using any RDM controller, the DMX address shall be assignable via standard RDM commands.

3.) The luminaire shall include an onboard LCD display and controls of the following:

a. Menu settings: i. Presets (standard and user defined)

ii. Color Filters iii. Effects (Chases – preloaded and user defined) iv. Strobe /

Timing

v. Settings (configuration options) vi. Current Fixture Operational Status

. 4.) Access to on board presets shall be from the control panel of the luminaire and DMX. Each user definable preset shall store RGBW and intensity settings for each of the thirty-one (31) presets. Presets shall be storable in the fixture firmware.

. 5.) Access to eighteen (18) on board chases shall be from the control panel of the luminaire and DMX. Each chase shall playback RGBW and intensity settings for each step of the eighteen (18) presets. Ten (10) built-in and eight (8) user adjustable presets shall be storable in the fixture firmware.

. 6.) The luminaire shall provide temperature monitoring technology. This technology employs provides the operating temperature for the luminaire as well as high and low records.

a. The current and past temperatures shall be readable in the menu system under Status.

b. The luminaire shall be capable of having its fans disabled via the menu system, DMX and RDM where the luminaire shall regulate output intensity in relation to temperature without utilizing the fans.

Luminaires not utilizing temperature monitoring technology and luminaire status will not be accepted.

7.) The unit shall include a color calibration system, ensuring that each luminaire can replicate colors within a pre-defined color space.

a. This color space shall match all Showline products and shall also include pre-defined preset colors.

b. The color calibration shall be set at the factory and shall be capable of being enabled or disabled via the menu, DMX, and RDM.

Luminaires not utilizing color calibration technology will not be accepted.

8.) The luminaire shall include nineteen (19) RGBW LED engines for full-range color mixing and delivering full field dimming - allowing for both smooth timed

fades and fast blackouts. The LED engines shall operate as a strobe system capable of various strobe effects from both rate and duration control channels.

a. The LEDs used in the luminaire shall be high brightness and proven quality from established and reputable LED manufacturers.

b. The LED emitters used in the luminaire shall be rated for a nominal 50,000-hour LED life to 70% intensity.

c. All LED fixtures (100% of each lot) shall undergo a minimum seventy-two (72) burn-in test during manufacturing.

G). DIMMING.

1.) The luminaire, in 16-bit mode, shall use 16-bit nonlinear scaling techniques for high- resolution dimming.

a. Dimming curves shall be selectable via the luminaire menu, DMX and RDM for various methods of smooth dimming over long timed fades.

b. The luminaire shall be digitally driven using high-speed pulse width modulations (PWM) in concert with power factor control (PFC) to ensure a smooth flicker free dimming curve from 100 to 0 % and shall be imperceptible to video cameras and video related devices.

EDIN SPECIFICATIONS

General

1.1 The eDIN DMX Installation Repeater shall be a factory-assembled, pre-wired, contractor-ready wall mounted panel.
1.2 The Installation Repeater shall permit star-wiring of DMX512 lighting control data signals and shall isolate and protect DMX transmitters and DMX receivers from high common mode voltages, ground loop currents and other potentially damaging electrical faults.
1.3 The Installation Repeater shall have one (two, three, four) input port(s) and four (eight, twelve, sixteen) output ports.
1.4 There shall be no in-line processing of the input signal to ensure that the output signals are all exact duplicates of the input signal.
1.5 DMX signal isolating/splitting shall be accomplished using standard 4-way DIN-rail mounted modules (Pathway Model #1002) for easy expansion and/or servicing.

1.6 The system shall be capable of repeating simplex protocols other than DMX512, provided they meet the electrical requirements of EIA-RS422 or RS485.

2.0 Features
2.1 Each 4-way DMX repeater module shall incorporate LED indicators for DC power input, isolated DC power, DMX input, and output data present for each port.
2.2 Each module shall provide a user-settable DMX input termination switch.
2.3 It shall be possible to daisy-chain all modules on the same DMX universe or connect separate universes to each module.
2.4 One (1) DMX pass-thru port shall be provided on each module. The pass-thru port shall be passive, i.e. direct-wired from the input and not repeated, such that failure of any one module shall not adversely affect a DMX signal being passed through to other modules or devices.
2.5 Each output shall be capable of driving up to 32 DMX receiving devices over a maximum 500-meter (1600-ft.) length of data cable.

3.0 Electrical
3.1 The power supply shall be a DIN-rail mounted, field-replaceable, wide-range input (115/240VAC, 50/60 Hz), UL-listed switching power supply, sized according to the maximum number of modules the cabinet can accommodate.
3.2 There shall be 2500-volt electrical isolation between input and output sections of the supply.
3.3 All DMX input and output ports shall be capable of withstanding short-term application of up to 250V without damage to internal components.
3.4 Port protection shall be of the self-healing type, rated for 250V. Replaceable fuses shall not be acceptable.
3.5 The DMX input port shall provide 1500-volt optical isolation between the input signal wiring and output signal wiring.
3.6 DMX outputs are electrically common with each other, i.e. non-isolated, but shall be floating with respect to earth ground.
3.7 DMX outputs shall provide self-healing protection against ground loops between adjacent ports.

4.0 Physical
4.1 The DMX Installation Repeater cabinet shall be a NEMA 1 enclosure, constructed of 18 gauge sheet steel, finished in textured black powder epoxy, with a non-louvered, formed aluminum cover.
4.2 The cabinet shall be designed for surface mounting.
4.3 Dimensions shall be 10.25"w x 13.25"h x 4.5"d (260mm x 335mm x 120mm) for four or eight output models, and 10.25"w x 23.25"h x 4.5"d (260mm x 510mm x 120mm) for twelve or sixteen output models.
4.4 The cabinet shall be furnished with ½" and ¾"conduit knockouts, internal high-voltage barriers as required, and be clearly labeled "Pathway eDIN System".

5.0 Field Wiring Connections
5.1 All internal field wiring connections shall be clearly labeled according to their function.
5.2 Connections for DC power and all data input, output and pass-thru ports, shall be two-part, Phoenix-type screw terminal strips, capable of accepting #26 to #16 gauge solid or stranded wire.
5.3 A DMX pass-thru connection shall be provided to allow daisy-chaining of additional modules, Installation Repeaters, or other DMX equipment.
5.4 AC power supply connections shall be capable of accepting up to #12 gauge solid or stranded wire. A suitable terminal shall be provided for ground wire connection.

6.0 Environmental
6.1 The ambient operating temperature shall be -10° to 50°C (14° to 122°F).
6.2 The storage temperature shall be -40° to 70°C (-40° to 158°F).
6.3 The operating humidity shall be 5% - 95% non-condensing.

7.0 Compliance
7.1 The DMX Installation Repeater shall meet the requirements of ANSI E1.11 DMX512-A and USITT DMX512 (1990).
7.2 The DMX Installation Repeater shall be ETL-listed.
7.3 The DMX Installation Repeater shall be compliant with the EU RoHS 2002/95/EC directive.
7.4 The DMX Installation Repeater shall conform to FCC requirements.
7.5 The repeater module(s) shall be a Class 2 Low Voltage device(s).

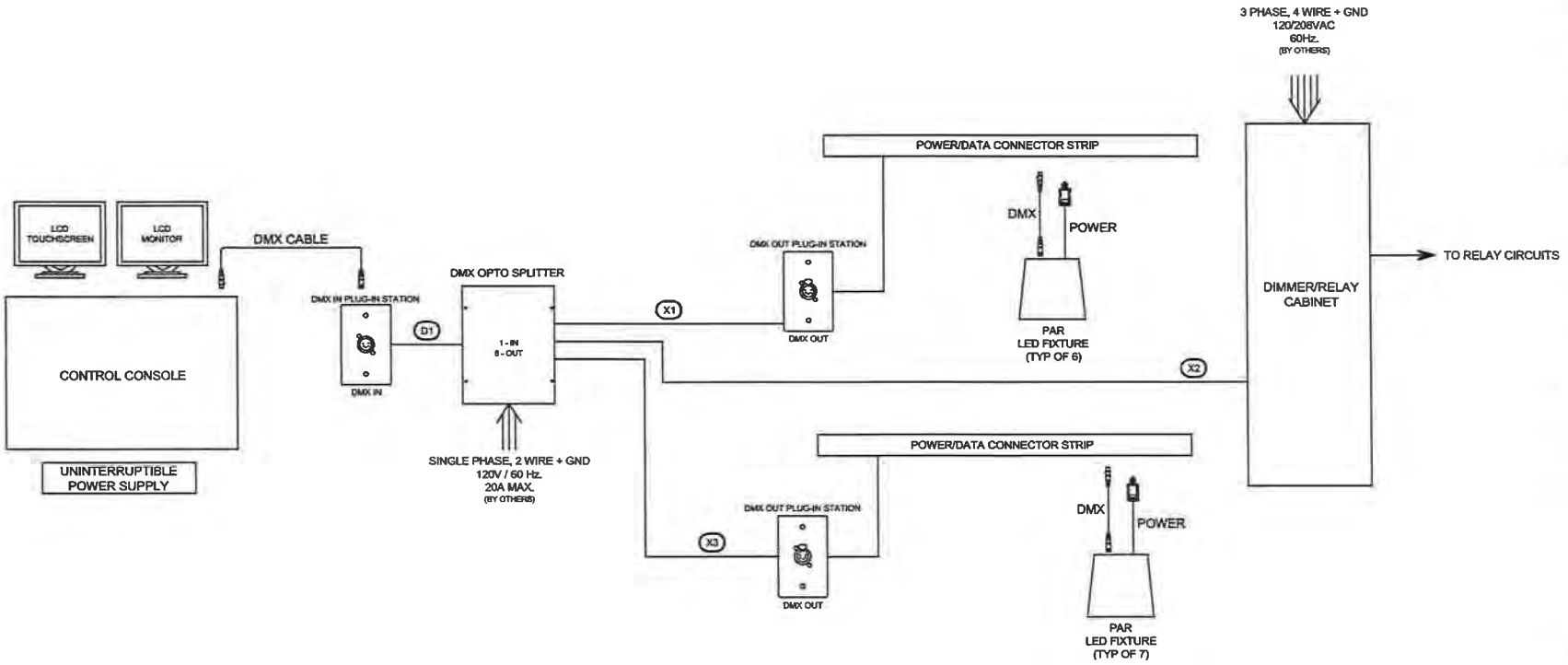
8.0 Acceptable Product
8.1 The 8-Way DMX Installation Repeater(s) shall be Pathway eDIN model #4808.

STAGE LIGHTING ACCESSORIES SPECIFICATIONS

General

1.1 The Accessories required for this project shall consist of the following:

13 x 10' 5pin
13 x Edison Jumper
4 x 5pin terminator
Battery Backup



CONTROL WIRING LEGEND		
SYMBOL	WIRE TYPE(S)	SIGNAL
D*	(1) BELDEN #9729	DMX INPUT
X*	(1) BELDEN #9729	DMX OUTPUT
* = WIRE IDENTIFICATION NUMBER (NOT QUANTITY)		

1. ALL CONTROL WIRING IS PROVIDED BY OTHERS UNLESS NOTED OTHERWISE.
2. TOTAL COMBINED LENGTH OF DMX WIRING RUNS CANNOT EXCEED 1640 FEET (500 METERS).

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES

SCALE: AS NOTED

CONTRACT WITH: SUMNER COUNTY SCHOOLS

REPRESENTATIVE:

SUBMITTAL DATE: 8/3/17

DRAWING TITLE: SYSTEM RISER DIAGRAM

BY	DATE	REV.

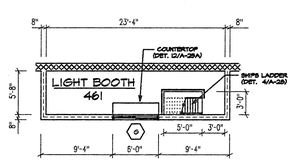
JOB: PORTLAND HS THEATER LIGHTING RENOVATION

LOCATION: GALLATIN, TN

NOTE:
WRAP ALL ST'L FRAMES w/ 6" C.M.U.
EXCEPT WHERE DESIGNATED AS 8" C.M.U.

FLOOR PLAN PART "D"

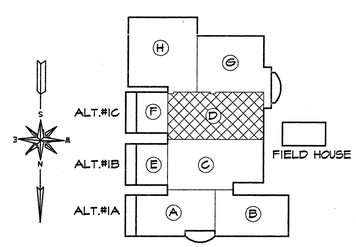
SCALE: 1/8" = 1'-0"



LIGHTING BOOTH PART "D"

SCALE: 1/8" = 1'-0"

(ABOVE LADDER 432)



KEY PLAN

ATTACHMENT "B"

NEW
PORTLAND HIGH SCHOOL
SUMNER COUNTY, TENNESSEE

KAATZ, BINKLEY, JONES & MORRIS ARCHITECTS, INC.
KNOXVILLE
2128 CLINCH AVE. KNOXVILLE,TN 37916
P.O.BOX 10027 KNOXVILLE,TN 37901
865-637-4486
NASHVILLE
1008 CHARLOTTE AVENUE
MT.JULIET,TN 37122
P.O. BOX 715 MT.JULIET, TN 37122
615-754-0585

REVISIONS	
NO.	DATE
1	3/17/97
DWN.	
CHK'D.	
REV'D	
FIELD	
PROJ. NO.	1763-95A
DATE	2/20/97

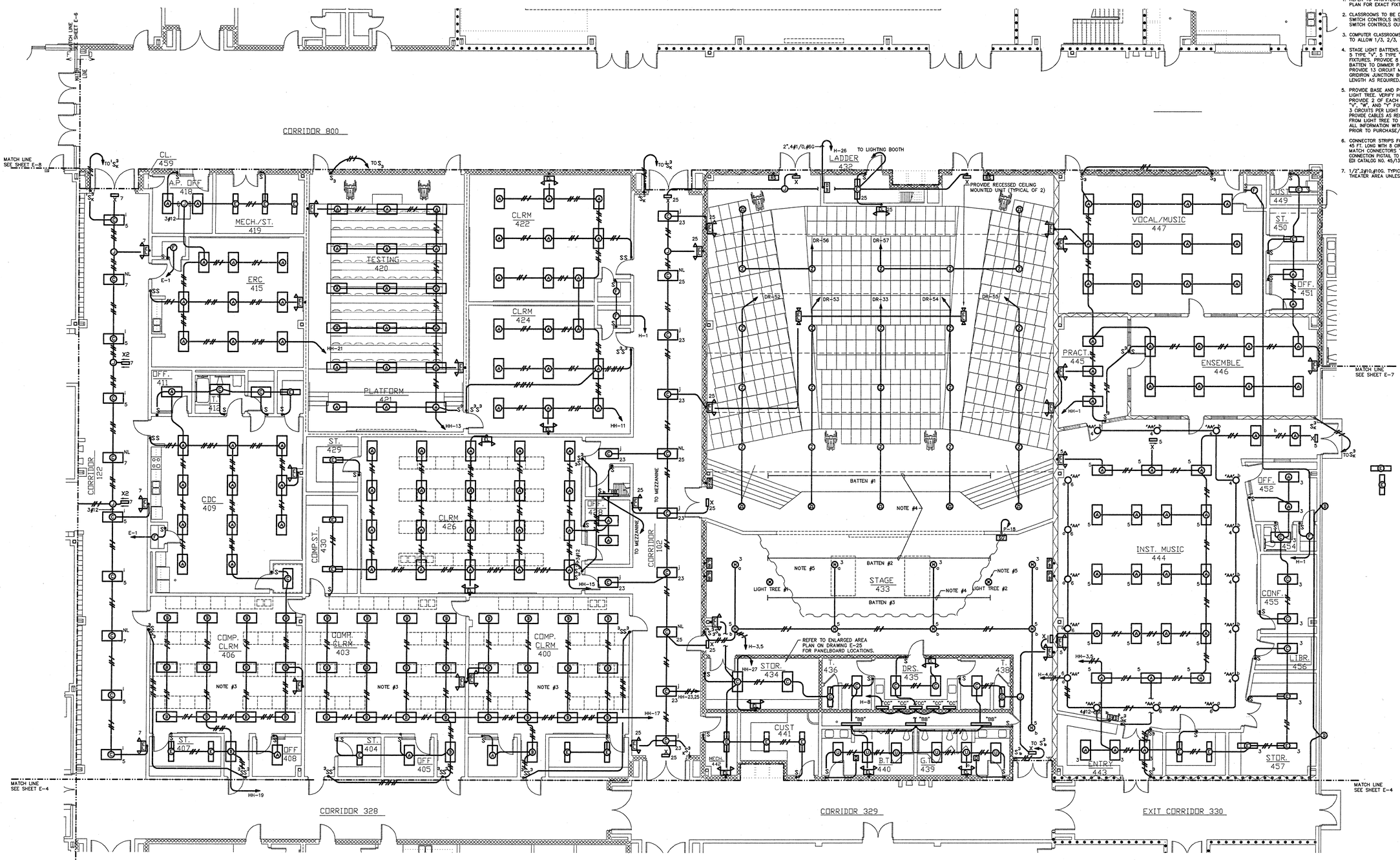
WILLIAM T. MORRIS
REGISTERED
ARCHITECT
STATE OF TENNESSEE
2.20.97

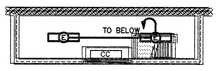
FLOOR PLAN
PART "D"

SHT. OF

DWG. NO.
A-6

ISSUED FOR CONSTRUCTION





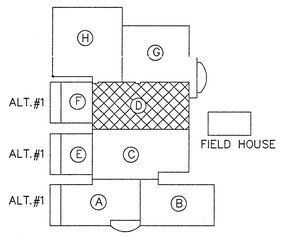
LIGHTING BOOTH PLAN – LIGHTING
SCALE: 1/8" = 1'-0"

FLOOR PLAN PART "D" – LIGHTING
SCALE: 1/8" = 1'-0"

NOTES:

1. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT FIXTURE LOCATIONS.
2. CLASSROOMS TO BE DOUBLE SWITCHED. ONE SWITCH CONTROLS INSIDE LAMPS AND OTHER SWITCH CONTROLS OUTSIDE LAMP.
3. COMPUTER CLASSROOMS TO BE DOUBLE SWITCHED TO ALLOW 1/3, 2/3, AND FULL ILLUMINATION.
4. STAGE LIGHT BATTENS, EACH BATTEN TO HAVE 5 TYPE "V", 5 TYPE "W", AND 3 TYPE "Y" FIXTURES. PROVIDE 8 DIMMER CIRCUITS PER BATTEN TO DIMMER PANEL. (SEE SCHEDULE.) PROVIDE 13 CIRCUIT MULTICABLE BETWEEN GRIDIRON JUNCTION BOX AND TERMINAL BOX. LENGTH AS REQUIRED.
5. PROVIDE BASE AND POLE AS REQUIRED FOR LIGHT TREE. VERIFY HEIGHT WITH OWNER. PROVIDE 2 OF EACH FIXTURE TYPE "V", "W", AND "Y" FOR LIGHT TREE. PROVIDE 3 CIRCUITS PER LIGHT TREE TO DIMMER PANEL. PROVIDE CABLES AS REQUIRED BY MANUFACTURER FROM LIGHT TREE TO PLUG-IN BOX. VERIFY ALL INFORMATION WITH OWNER AND SUPPLIER PRIOR TO PURCHASE/INSTALLATION.
6. CONNECTOR STRIPS FOR BATTENS TO BE 45 FT. LONG WITH 8 CIRCUITS AND 8 CONNECTORS MATCH CONNECTORS TO THOSE OF FIXTURES. CONNECTION PIGTAIL TO BE 18" PER INSTRUMENT. EDI CATALOG NO. 45/13-13/DTL/18/8
7. 1/2",2#10,#10G. TYPICAL FOR ALL LIGHTING IN THEATER AREA UNLESS NOTED OTHERWISE.

DIMMER BANK CONTROL SCHEDULE		
ITEM	CIRCUIT(S)	NOTES
BATTEN #1	DR-1 THRU 13	SEE NOTE #4, CONNECT VIA GRIDIRON JUNCTION BOX
BATTEN #2	DR-14 THRU 26	SEE NOTE #4, CONNECT VIA GRIDIRON JUNCTION BOX
BATTEN #3	DR-27 THRU 39	SEE NOTE #4, CONNECT VIA GRIDIRON JUNCTION BOX
LIGHT TREE #1	DR-40 THRU 45	SEE NOTE 5, CONNECT VIA PLUG-IN BOX
LIGHT TREE #2	DR-46 THRU 51	SEE NOTE 5, CONNECT VIA PLUG-IN BOX
HOUSE LIGHTS	AS SHOWN	
SPARES	DR-58 THRU 70	



KEY PLAN

NEW
PORTLAND HIGH SCHOOL
SUMNER COUNTY, TENNESSEE

KB JM

KAATZ, BINKLEY, JONES & MORRIS ARCHITECTS, INC.
KNOXVILLE
2128 CLINCH AVE. KNOXVILLE,TN 37916
P.O.BOX 1007 KNOXVILLE,TN 37901
423-637-4156
NASHVILLE
3735 MT.JULIET RD. MT.JULIET,TN 37122
P.O. BOX 719 MT.JULIET, TN 37122
423-754-5393

REVISIONS	
NO.	DATE
1	3-17-97
DWN.	J.B. WALKER
CHK'D.	W.R. MOORE
APP'D.	B.M. ASBURY
PROJ. NO.	1763-95A
DATE	2/7/97

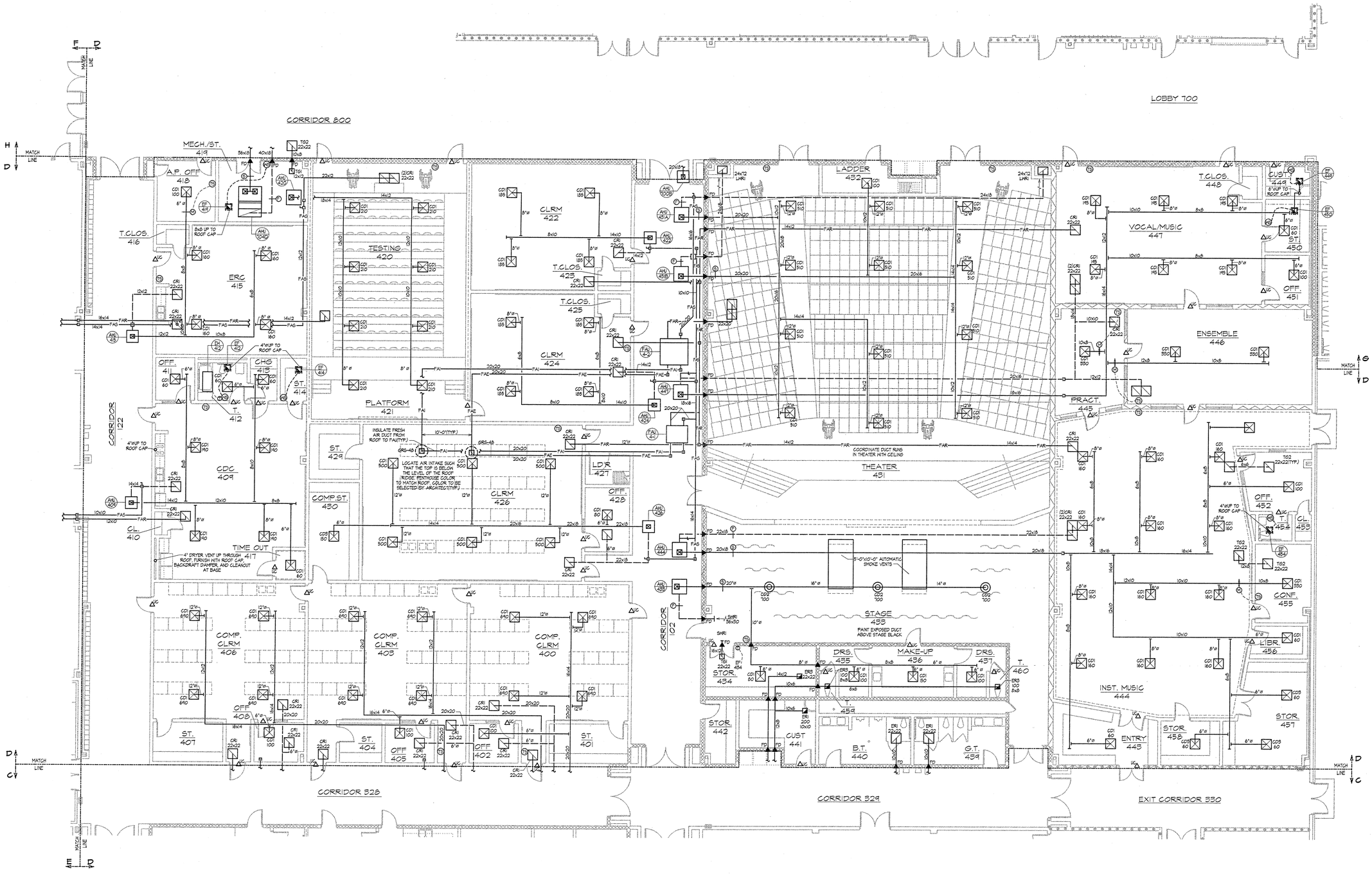
FLOOR PLAN PART 'D' - LIGHTING

SHT. OF

DWG. NO. E-5

ISSUED FOR CONSTRUCTION

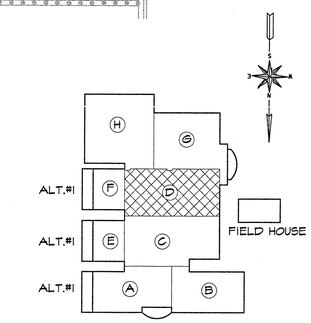
ENGINEERING SERVICES GROUP, P.C.
900 EAST HILL AVE., SUITE 350
KNOXVILLE, TENNESSEE 37915
(423) 522-0393
PROJECT NO. 6758



PLAN NOTES:
1.) REFER TO ARCHITECTURAL CEILING PLANS FOR EXACT LOCATIONS OF CEILING MOUNTED DIFFUSERS AND GRILLES.
2.) ROUTE DUCTWORK TO AVOID INTERFERENCES WITH LIGHTS, PIPES AND STRUCTURE.

FLOOR PLAN PART "D"-HVAC

SCALE: 1/8" = 1'-0"



KEY PLAN

NEW
PORTLAND HIGH SCHOOL
SUMNER COUNTY, TENNESSEE

KB JM

KAATZ, BINKLEY, JONES & MORRIS ARCHITECTS, INC.
2128 CLINCH AVE. KNOXVILLE,TN 37916
P.O.BOX 10727 KNOXVILLE,TN 37901
423-637-4565
1006 CHARLIE TUNE PARKWAY
MT.JULIET,TN 37122
P.O. BOX 715 MT.JULIET, TN 37122
615-754-0868

REVISIONS	
NO.	DATE
1	3-17-97
DWN. J.H.	
CHK'D.	
REV'D W.E.N.	
FIELD	
PROJ. NO. 1763-95A	
DATE 2-20-97	

WILLIAM E. NOLEN
REGISTERED ENGINEER
2-28-97
No. 16952
STATE OF TENNESSEE

FLOOR PLAN
PART "D"-HVAC

SHT. OF

DWG. NO.
M-4

ISSUED FOR CONSTRUCTION

ISSUED FOR CONSTRUCTION

NEW
PORTLAND HIGH SCHOOL
SUMNER COUNTY, TENNESSEE

KAATZ, BINKLEY, JONES & MORRIS ARCHITECTS, INC.

KNOXVILLE
2128 CLINCH AVE. KNOXVILLE,TN 37916
P.O.BOX 1007 KNOXVILLE,TN 37901
423-637-4156

NASHVILLE
1006 CHARLIE DANIELS PARKWAY
MT.JULIET,TN 37122
P.O. BOX 713 MT.JULIET, TN 37122
615-754-5393

REVISIONS	
NO.	DATE
1	3-17-97

DWN. J.H.
CHK'D.
REV'D W.E.N.
FIELD
PROJ. NO. 1763-95A
DATE 2-20-97

FLOOR PLAN
PART "D"-SERVICES

SHT. OF
DWG. NO. P-4

KEY PLAN

FIELD HOUSE
ALT.#1 ALT.#1 ALT.#1

FLOOR PLAN PART "D"-SERVICES

SCALE: 1/8" = 1'-0"

PLAN NOTES:
1.) HOSE BIBBS NOTED AS HBIM ARE LOCATED ON THE MECHANICAL MEZZANINE.
2.) ROUTE PIPING TO AVOID INTERFERENCES WITH LIGHTS, DUCTWORK AND STRUCTURE.

REINFORCE THIS 12" CMU WALL @ THEATER ONLY WITH #5 BARS @ 48" O.C. FROM FOOTING TO TOP OF WALL AND WITH #5 DOWELS @ 48" O.C. TO FOOTING

W8X18 OVER OPENING: T.O. STEEL @ 8'-0" A.F.F.: SEE SECTION 5/S-13

SLOPE DOWN

F.F. ELEV. = 812.00'

4" CONCRETE SLAB REINFORCED WITH 6X6 W1.4XW1.4 WWF ON 4" CRUSHED STONE

REINFORCE THIS WALL WITH #4 BARS @ 48" O.C. FROM FOOTING TO TOP OF WALL AND WITH #4 DOWELS @ 48" O.C. TO FTG. FROM LOBBY 700 TO CORRIDOR 329

F.F. ELEV. = 810.67'

SLOPE DOWN

TYPICAL SLAB JOINT LOCATIONS @ DOOR OPENINGS: SEE SECTION 6/12

PROVIDE #4 DOWELS @ 64" O.C. TO FOOTING @ INTERIOR WALLS ON FOOTING UNLESS NOTED OTHERWISE

FILL & REINFORCE (2) CELLS W/ #5 UNDER PROSCENIUM BEARING

F.F. ELEV. = 814.00'

RECESS CONCRETE SLAB IN SHADED AREA TO RECEIVE WOOD FLOOR

FILL & REINFORCE (2) CELLS W/ #5 UNDER PROSCENIUM BEARING

12" CMU WALL

REINFORCE THIS WALL WITH #5 BARS @ 48" O.C. FROM FOOTING TO TOP OF WALL AND WITH #5 DOWELS TO FOOTING @ 48" O.C. FROM LOBBY 700 TO CORRIDOR 329: SAND FILL REMAINING CELLS

F.F. ELEV. = 814.00'

REINFORCE EXTERIOR WALLS WITH #5 BARS @ 48" O.C. FROM FTG. TO TOP OF WALL AND #5 DOWELS @ 48" O.C. TO FOOTING

SEE SECTION 7/S-12 FOR FOOTING STEP

MATCH LINE

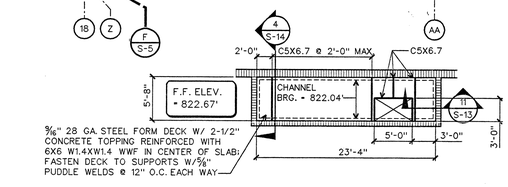
TYP.

PLAN NOTES:

1. ALL TOP OF FOOTING ELEVATIONS SHALL BE 2'-0" BELOW FINISH FL. ELEVATION UNLESS NOTED OTHERWISE AS FOLLOWS (-0"-8").
2. SEE SHEET S-8 FOR NOTES AND SCHEDULES.
3. A MINIMUM OF 1" SHALL BE MAINTAINED BETWEEN PRE-ENGINEERED BUILDING COLUMNS AND ALL MASONRY.
4. FLOOR SLABS SHALL HAVE CONTROL OR CONSTRUCTION JOINTS LOCATED AT LEAST 20'-0" EACH DIRECTION AND NO FLOOR AREA SHALL BE GREATER THAN 400 SQUARE FEET WITHOUT A JOINT.

PARTIAL FOUNDATION PLAN - PART 'D'

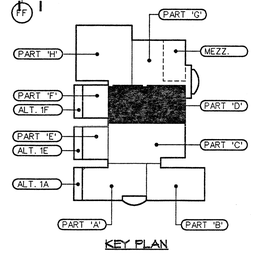
SCALE: 1/8" = 1'-0"



3/16" 28 GA. STEEL FORM DECK W/ 2-1/2" CONCRETE TOPPING REINFORCED WITH 6X6 W1.4XW1.4 WWF IN CENTER OF SLAB: FASTEN DECK TO SUPPORTS W/5/8" PUDDLE WELDS @ 12" O.C. EACH WAY

LIGHTING BOOTH MEZZANINE FRAMING

SCALE: 1/8" = 1'-0"



KEY PLAN

NEW
PORTLAND HIGH SCHOOL
SUMNER COUNTY, TENNESSEE

KB JM

KAATZ, BINKLEY, JONES & MORRIS ARCHITECTS, INC.
KNOXVILLE
2128 CLINCH AVE., KNOXVILLE, TN 37916
P.O. BOX 1007, KNOXVILLE, TN 37901
PHONE: (423) 637-4156 FAX: (423) 673-4945
NASHVILLE
3735 MT. JULIET RD., MT. JULIET, TN 37122
P.O. BOX 713, MT. JULIET, TN 37122
PHONE: (615) 754-5393 FAX: (615) 574-5340

REVISIONS

NO.	DATE

DWN.	GML
CHK'D.	SDA
APP'D.	SDA
PROJ. NO.	1763-95A
DATE	2-20-97

SANDRA DIANE ASBURY — REGISTERED ARCHITECT — No. 21765 — STATE OF TENNESSEE

PART FOUNDATION PLAN - PART 'D'

SHT. OF

DWG. NO. S-4

ISSUED FOR CONSTRUCTION