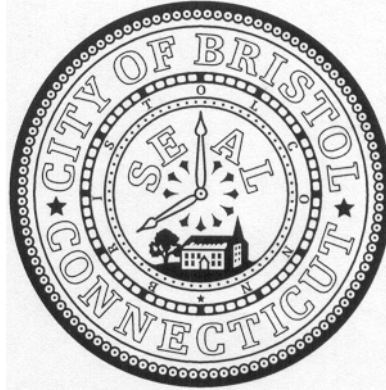


CITY OF BRISTOL, CONNECTICUT

BRISTOL BOARD OF EDUCATION



SPECIFICATIONS FOR
CONTRACT 2012-056

**Provision and Installation of
Studio Lighting Fixtures and Dimming & Controls
for Bristol Central High School TV Studio**

Proposal Submitted by: _____

Date Submitted: _____

Date issued: December 28, 2012

Date due: January 19, 2012

INDEX TO CONTRACT DOCUMENTS

STANDARD BIDDING DOCUMENTS

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11500 DIMMING AND CONTROLS	TWELVE PAGES
11570 STUDIO LIGHTING FIXTURES	SEVEN PAGES

Invitation to Bid 2012-056
Provision and Installation of Studio Lighting Fixtures and Dimming & Controls
for Bristol Central High School TV Studio

The City of Bristol is seeking bids for the provision and installation of studio lighting fixtures as well as dimming & controls for Bristol Central High School TV studio. Bid documents may be obtained at no charge, from the City of Bristol Purchasing Department, 111 North Main Street, Bristol CT 06010, between the hours of 8:30 am and 5:00 pm Monday through Friday. No new sets of plans or specifications will be issued three working days prior to the date set for bid opening.

A non-mandatory prebid meeting will be held on Thursday, January 12, 2012 at 3:00 pm, at the project site located at 780 Wolcott Street, Bristol, CT.

Bids will be accepted until **Thursday, January 19, 2012 at 3:00 pm**, at which time bids will be opened and read. Bids received after the opening date and time will not be considered for award. The City reserves the right to waive any informalities in the bid, to reject any or all bids, and to accept the bid that in its judgment is in its best interest.

Each bid shall be in a sealed envelope addressed to the City of Bristol Purchasing Department, identified as "2012-056 Provision and Installation of Studio Lighting Fixtures and Dimming & Controls for Bristol Central High School TV Studio", accompanied by a Bid Bond in the amount of 10% of the bidders base bid amount.

The awarded contractor will be required to secure a Performance Bond and a Labor and Materials Bond, each in the amount of 100% of the contract award, provided by a surety licensed to do business in the State of Connecticut.

Roger D. Rousseau
Purchasing Agent
Tel (860) 584-6195
Fax (860) 584-6171
<http://www.bristolct.gov/bids>

r/a December 28, 2012

INSTRUCTIONS TO BIDDERS

CITY OF BRISTOL, CONNECTICUT 06010
CONTRACT 2012-056

Provision and Installation of Studio Lighting Fixtures and Dimming & Controls for Bristol Central High School TV Studio

The following instructions and specifications shall be observed by all Bidders:

1. Time and Place of Bid Opening

Bids will be opened on **Thursday, January 19, 2012 at 3:00 pm**, at the Purchasing Office, 111 North Main Street Second Floor, Bristol, CT 06010.

2. Pre-Bid Meeting

A non-mandatory prebid meeting will be held on Thursday, January 12, 2012 at 3:00 pm, at the project site located at 780 Wolcott Street, Bristol, CT.

3. Availability of Bid Documents

Plans and Specifications may be secured in person at the Purchasing Office, 111 North Main Street, Bristol, Connecticut; 06010 during regular office hours - 8:30 am to 4:30 pm, Monday through Friday. Distribution of plans and specifications is limited to one set per bidder. Bidders may request shipment of bid documents, at the bidder's sole expense. NO PLANS OR SPECIFICATIONS WILL BE ISSUED THREE WORKING DAYS PRIOR TO THE DATE SET FOR BID OPENING.

4. Fee for Bid Documents

No fee is required for the provision of these bid documents.

5. Bid Addenda

If additional information or change shall present itself, the Purchasing Department will send such change in a written addendum not later than three days prior to the date fixed for the opening of bids to the address given by the Contractor at the time of securing the Proposal document. Failure of any bidder to receive any such addendum shall not relieve it of the obligations under its bid as submitted. All addenda so issued shall become a part

of the Contract Documents. Certification of receipt of addenda shall be made by the bidder on the Proposal.

Notice of any addendum issued shall be provided (1) by first class mail and/or (2) by fax transmission; notice of said addendum are additionally posted upon release at the following website:

<http://www.bristolct.gov/bids>

Bidders are requested to acknowledge receipt of any addendum to ensure proper notification of changes to the published specifications. The City does not assume responsibility for any bidder that does not receive any addendum.

6. **Bid Bond Requirements**

A Bid Bond in the amount of ten percent (10%) of the total amount bid is required. Such Bid Bond shall be issued by a Surety licensed to do business in the State of Connecticut. Bid Bond will be returned to all except the successful bidder upon award, and to the successful bidder upon issuance of a Purchase Order. NO BID WILL BE ACCEPTED UNLESS ACCOMPANIED BY THE REQUIRED BID BOND.

7. **Bid Instructions**

- (a) Bids must be enclosed in a sealed envelope, addressed to the City of Bristol and clearly identified with the contract number and name as shown on the face of these bid documents.
- (b) Bids must be made on the attached forms with complete information as requested on the bid forms; bids submitted on other than the forms included within this document will not be considered.

8. **Examination of Site Conditions**

Bidders must satisfy themselves by personal examination of the site and location of the proposed work as to the actual conditions and requirements of the work and inform themselves fully of the conditions relating to the construction and labor under which the work will be performed. No claim because of the lack of knowledge by the Contractor regarding the site, the proposed work, or content of the specifications and drawings will be allowed. The bidder may call the Engineer for an appointment to inspect the work site with him. No appointments for inspection will be made the day of or the day prior to the bid opening. At the date fixed for opening of Bids, it will be presumed that each Bidder has made an examination of the location and site of work

to be done under this Contract and has satisfied himself as to the actual conditions and requirements.

9. **Prevailing Wage Rates**

This project shall not be subject to prevailing wage rates.

10. **Sales and Use Tax**

Bidders are reminded that the Connecticut State Sales and Use Tax, and associated Federal taxes are not applicable under this contract, and therefore these taxes are not to be included in the bid price(s).

Under terms of Regulation 16, referring to Contractors and Sub-contractors, issued by the State Tax Commission in administration of the State Sales and Use Tax, the Contractor may purchase materials and supplies to be consumed in the performance of the Contract without payment of the tax and shall not include in his bid nor charge any sales or use tax thereon.

11. **Definitions**

The word "City" as used throughout these documents shall refer to the City of Bristol, Connecticut acting through it's Mayor and City Council.

The phrase "Mayor" as used throughout these documents shall mean the Mayor of the City of Bristol.

The word "Director" as used throughout these documents refers to the Director of Public Works of the City of Bristol.

The word "Engineer" as used throughout these documents refers to the City Engineer of the City of Bristol or his designee.

The word "Bidder" as used throughout these documents refers to the party or parties submitting a bid to perform the work to be done or materials to be furnished under the Contract; the legal representatives of such party or parties.

The word "Contractor" as used throughout these documents refers to the party or parties contracting to perform the work to be done or materials to be furnished under the Contract; the legal representatives of such party or parties.

12. Project Location

The components of the work included under this Contract are to be conducted at Bristol Central High School, 780 Wolcott Street, Bristol, CT.

13. Intent

The Intent of these specifications is to obtain a Contractor that will furnish all labor, supervision, tools, materials and equipment necessary for provision and installation of studio lighting fixtures and dimming & controls for Bristol Central High School TV studio, in accordance with the enclosed specifications.

14. Work Schedule

The Contractor shall call the Buildings and Grounds Supervisor at (860) 584-7012 prior to the start of any work associated with this Contract.

The Contractor shall plan and attend a preconstruction meeting, and submit a project schedule to the Engineer, prior to the start of any work associated with this Contract.

No work will be performed at night or on Sundays or legal holidays except in case of emergency and only to the extent necessary to make the work safe. The normal work day shall be considered as any eight (8) hour period falling between 7:00 am and 11:00 pm, Monday through Friday. Special clearance will be required for work outside these times.

The successful Bidder/Contractor shall begin work within seven (7) calendar days after contract signing.

By joint agreement between the Engineer and the Contractor, a later date may be set for beginning work, if such delay is caused beyond the control of the Contractor or the City.

All work under the Contract is to be completed within **thirty (30) calendar days** from the date of the issuance of the Purchase Order, or from the date of delivery of equipment by the manufacturer, whichever is later. Liquidated damages of **Two Hundred (\$200.00) Dollars** shall be paid by the Contractor to the City for each and every calendar day after the completion date hereinbefore specified. All or a portion of the liquidated damages may be abated for cause by agreement between the City and

the Contractor. Liquidated damages will be deducted from monies due the Contractor before final payment.

15. Evaluation of Prices Submitted

Bids will be compared on the basis of the estimated quantities times unit or lump sum prices stated in the Proposal. In the event of a discrepancy between prices written in words and figures; the prices written in words shall govern. It is the intent of the City of Bristol to make award to the lowest responsible qualified bidder (reference C.G.S. 4a-59). In the event of a discrepancy between (1) the Total Amount of the bids as recorded on the bid form by the bidder and (2) the Total Amount of lump sum line items and/or unit prices as recorded on the bid form by the bidder extended by designated quantities and tabulated by the Purchasing Agent, the latter shall prevail.

16. Engineer Estimate of Work

The Engineer's estimate of work and material by which the bids will be compared, are as shown in the Proposal and are solely for the purpose of comparing proposals received and are approximate only and are not guaranteed.

17. Submission of Contractor Qualifications

Bidders shall sufficiently provide information (e.g. references and/or equipment capacity) to show that the bidder is capable of performing the work outlined in these specifications.

18. Certificate of Good Standing

Any corporation whose Proposal is being considered for acceptance by the City may be required, if requested, to provide a "Certificate of Good Standing" from the Secretary of the State's Office for Connecticut.

19. Acceptance/Rejection of Bids

The City of Bristol may reject bids which are incomplete, conditional, obscure, contain additions not called for, erasures not properly initialed, or which contain alterations or irregularities of any kind. The City may rightfully waive informalities. The Purchasing Agent reserves the right to reject any or all bids; or the bids for any one or more commodities; or contractual services included in any or all bids; and/or to waive any informality in bids; and unless otherwise specified, to buy any part or the whole from one or more bidders when it is to the

City's best interest to do so. The City also reserves the right to reject any or all bids, or to accept any bid whether the lowest or not, should the City deem it for their best interest to do so.

20. **Local Bidding Preference**

In the event that a local business submits a bid to the City of Bristol that is within 4% of the lowest compliant bidder and is considered to be in compliance with requirements set forth in the bid, the local business shall be allowed the opportunity to accept the award of the bid as the lowest compliant bidder, at the amount of the lower bid. Such practice shall apply to all City bids for all City departments, with the following exceptions:

1. Contracts exceeding \$1,000,000.00
2. Professional services, awarded on subjective and objective criteria in addition to cost.
3. Contracts using state, federal, or other funds that have governing regulations disallowing such practice.
4. Contracts awarded on behalf of the Bristol Water Department as a separate enterprise fund.

The funding source for this project precludes the use of any award using local bidding preference.

21. **Withdrawal of Bid Submitted**

Any bid may be withdrawn prior to the designated closing time for receiving bids. Bids may be withdrawn 90 days after the bid opening, if no award has been made. If the City does not award a contract within ninety (90) days after the opening of bids, all bid proposals will be null and void except on mutual agreement of the City and the lowest qualified bidder, this time may be extended.

22. **Failure to Submit Bid**

Failure to return a bid may result in the company's name being removed from the Bid List. "No Bids" and responsive bids will result in Bid List retention.

23. **Contract Execution**

The person or persons whose Proposal is accepted will be required to furnish all insurance certificates in amounts as hereinafter specified, within five (5) days from the date of notice of the award; said person or persons will also be required to furnish all performance and payment bonds within three (3) days from

request by the City, and at least three (3) days prior to the signing of the Contract.

The person or persons whose Proposal is accepted will be required to execute a contract, in substantially the form annexed, as scheduled by the Office of the Mayor. Once the contract is executed via formal contract signing at Bristol City Hall, the Contractor will be issued a City Purchase Order for the contract.

Contracts valued at less than \$50,000.00 may be executed directly via the issuance of a purchase order, at the discretion of the City.

24. **Inclusion of Contract Provisions**

The bidders' attention is directed to the form of this agreement, which includes as a part of it in addition to this Information for Bidders, the Proposal, the General Provisions, the Special Provisions, Specifications, Measurement and Payment, the Contract Drawings and Standard Detail Drawings.

25. **Provision of Contract Related Documents**

Bonds and Insurance Certificates shall be submitted to the Purchasing Agent. In case of failure or refusal on the part of the bidder to enter into a contract or to furnish the required bonds and/or required insurance certificates, within the set time periods, the bidder shall forfeit to the City of Bristol such part of the bid bond as shall be equal to the difference between the total bid of the defaulting bidder, and the total bid of the person or persons with whom the contract is finally executed.

26. **Acceptance of Alternate Materials or Methods**

When alternate bids are asked for, the City at time of the awarding or prior to signing of the Contract, through its Engineer, will select which type of material or construction will be used.

27. **Indemnification**

The Contractor, in contracting for goods, services, materials, labor and the like with the City of Bristol and its respective officers, agents and servants, does hereby agree that the Contractor will indemnify and save harmless the City of Bristol, its respective officers, agents and servants from and against any and all claims, damages, losses, litigation expenses, counsel fees and compensation arising out of any injuries (including death) sustained by, or alleged to have been sustained by, the

servants, employees or agents of the City of Bristol, or of the Contractor or of any participant or spectator, and from injuries (including death) sustained by, or alleged to have been sustained by, the public or any persons on or near the site, or on any other person or damage to property, real or personal, including property of the City of Bristol and their respective officers, agents and servants, caused in whole or in part by the acts or omission of the Contractor or any participant or spectator or anyone directly or indirectly employed or working for the bidder while engaged in the activity in the City of Bristol.

28. **Equal Opportunity - Affirmative Action**

The successful contractor shall comply in all aspects with the Equal Employment Opportunity Act. Each Contractor with 15 or more employees shall be required to have an Affirmative Action Plan which declares that the contractor does not discriminate on the basis of race, color, religion, sex, national origin or age and which specifies goals and target dates to assure the implementation of equal employment. Each contractor with fewer than 15 employees shall be required to have a written equal opportunity policy statement declaring that it does not discriminate on the basis of race, color, religion, sex, national origin or age. Findings of noncompliance with applicable State and Federal equal opportunity laws and regulations could be sufficient reason for revocation or cancellation of this contract. The contract is subject to contract compliance requirements mandated by Sections 4a-60 and 4a-60a of the State of Connecticut General Statutes.

Included within these specifications is an Employment Information Form. Firms with 15 or more employees are required to complete the form and return as part of their bid submission.

29. **Contractor's and Subcontractor's Insurance**

The successful bidder shall provide a certificate of insurance naming the City of Bristol as an "additional insured" in the minimum amounts as specified herein. Said insurance shall be provided at the sole expense of the bidder with an insurance company which is licensed to do business in the State of Connecticut.

- a. **Worker's compensation** as required by Connecticut Law.
- b. **General liability** - \$1,000,000 (combined single limit); bodily injury/property damage coverage per occurrence and \$2,000,000 aggregate coverage.

- c. **Auto liability** - \$1,000,000 (combined single limit). Property damage and bodily injury coverage.
- d. **Owners & Contractors Protective Insurance** policy to be provided in the name of the City of Bristol with the same limits required for the General Liability Insurance.

The City of Bristol reserves the right to modify and/or change the insurance requirements. All individual modifications to the insurance limits require prior approval of the Comptroller's Office of the City of Bristol. Said insurance shall be provided at the sole expense of the successful Bidder.

Certificates of coverage on motorized equipment, cars and trucks, including non-ownership and hired vehicles shall also be filed.

Any subcontractor shall be likewise covered and shall furnish certificates of coverage acceptable to the City before starting work.

All certificates of coverage shall be filed in triplicate. All policies and/or certificates shall have a ten (10) day written notice to the City of Bristol of expiration or cancellation.

30. **Bond Requirements**

For all contracts valued in excess of \$50,000.00, the awarded contractor shall provide the following bonds in the minimum amounts as specified herein.

- a. **Labor and Materials Bond** in the amount of 100% of the Total Proposal Price guaranteeing to the City payments for all labor, materials, and equipment utilized in the completion of work under the Contract in the amount of contract award.
- b. **Performance Bond**, guaranteed by Surety licensed to do business in Connecticut, in the amount of 100% of the Total Proposal Price guaranteeing to the City the completion of the Contract.

All bonds shall be guaranteed by Surety licensed to do business in Connecticut.

It is distinctly agreed and understood that any changes in plans and/or specifications for this work, whether such changes increase or decrease the amount thereof, or the manner or time of payment, shall in no way annul, release or affect the liability and surety on the bond given by the Contractor.

In accordance with C.G.S. 49-41(f), if any project is estimated to cost more than five hundred thousand dollars, the surety contract between the contractor named as principal in the bond and the surety that issues such bond shall contain the following provision:

"In the event that the surety assumes the contract or obtains a bid or bids for completion of the contract, the surety shall ensure that the contractor chosen to complete the contract is pre-qualified, pursuant to CGS 4a-100, in the requisite classification and has the aggregate work capacity rating and single project limit necessary to complete the contract".

31. Permits

The Contractor shall at its own expense take out and possess all necessary permits if required and licenses required by law and necessary for the prosecution of the work under this Contract; including the posting of all bonds and payment of all fees and charges incidental to the due and lawful prosecution of the work covered by the Contract.

32. Safety

All work done and equipment used shall comply with all pertinent O.S.H.A., Federal, State, Municipal, and Local regulations, laws, ordinances and Regulations affecting those employed and any affecting the conduct of the work.

Not later than thirty (30) days after the date a contract is awarded, the awarded contractor shall furnish proof to the Labor Commissioner that all employees performing manual labor on or in such public project, pursuant to such contract, have completed a course of at least ten (10) hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration, or in the case of telecommunications employees, have completed at least ten (10) hours of training in accordance with 29 CFR 1910.268.

The State of Connecticut and all political subdivisions have adopted a zero tolerance policy for workplace violence. As outlined in Executive Order No. 16 issued by Governor John G. Rowland, all contractors, subcontractors, and vendors must comply with this policy.

33. Personnel Requirements

All work under the contract shall be performed by competent and proficient tradesman employed by the Contractor and under his

supervision. Helpers and Apprentices may be used, but only under direct supervision of the job Foreman.

34. **Subcontractors**

The Contractor shall not sublet any portion of the work without written permission. In no case may it sublet more than 49% of the monetary value of the Contract. The major units of work of the Contract shall be performed by the Contractor. If the Contractor sublets any part of the work, this does not relieve it or the bonding company of liabilities and obligations to the City. There is no contractual relationship between any subcontractor and the City. The Engineer deals only with the Contractor; subcontractors are recognized as employees only.

Bidders are required to provide the names of proposed subcontractors with submission of this bid. Bidders may be required to provide detailed information relative to the work proposed to be performed by the subcontractors, and the associated cost for the work proposed to be performed by the subcontractors, prior to any recommendation of award. If a Contractor is using subcontractors, the City of Bristol reserves the right to consider the qualifications of said subcontractors in determining the qualifications of the Contractor.

The Contractor must not assign or dispose of his Contract in any way without the written consent of the Engineer in conjunction with that of the Mayor. Disposal must be for a cause only.

35. **Freedom of Information Act**

All bids will be opened and read publicly and upon award are subject to public inspection, subject to the provisions of Section 1-210 of the Connecticut General Statutes (Freedom of Information). Copies of information resulting from any bid opening are generally not available until a contract has been formally awarded.

36. **Non-collusion**

The individual signing this bid hereby declares that no person or persons other than members of his/her own organization are interested in this Proposal or in the contract proposed to be taken; that it is made without any connection with any other person or persons making a proposal for the same work and is in all respects fair and without collusion or fraud; that no person acting for or employed by the City of Bristol is directly or indirectly interested therein, or in the supplies or works to

which it relates or will receive any part of the profit or any commission therefrom in any manner which is unethical or contrary to the best interests of the City of Bristol. An affidavit form is included with this document; bidders are required to complete the form and include with their bid response.

BID PROPOSAL

CITY OF BRISTOL, CONNECTICUT 06010
CONTRACT 2012-056

**Provision and Installation of Studio Lighting Fixtures and
Dimming & Controls for Bristol Central High School TV Studio**

Purchasing Office
111 North Main Street
Bristol, CT 06010

TO THE CITY OF BRISTOL:

The undersigned hereby declares that no Person or persons other than members of his own organization are interested in this Proposal or in the contract proposed to be taken; that it is made without any connection with any other person or persons making a proposal for the same work and is in all respects fair and without collusion or fraud; that no person acting for or employed by the City of Bristol is directly or indirectly interested therein, or in the supplies or works to which it relates or will receive any part of the profit or any commission therefrom in any manner which is unethical or contrary to the best interests of the City of Bristol. It is understood that the City, its agents and employees, are not to be, in any manner, held responsible for the accuracy of, or bound by any estimates relative to the work; all such estimates are to be considered solely for the purpose of filling out and comparing the several proposals.

The undersigned further declares that he has examined the site of the work, the general information, the plans and specifications and the form of contract, and will contract to provide all necessary tools, apparatus, freight, cartage and expense, and to do all the work and furnish all materials necessary to construct the proposed work in the manner and upon the conditions specified and the terms which follow herein.

The undersigned also agrees to furnish satisfactory performance and payment bonds with surety and to execute and deliver within 15 days after the notice of award, a formal contract with the City of Bristol for the fulfillment of this Proposal; and it is agreed, in case of failure or neglect on the part of the undersigned to do so, the City may determine the contract abandoned and declare the Proposal and acceptance null and void. The City may, at its option, declare the bid bond forfeited. No bid may be withdrawn for a period of 90 days after the opening of the bids.

The undersigned agrees to construct complete in place, including all labor, materials and equipment, "CONTRACT 2012-056 - Provision and Installation of Studio Lighting Fixtures and Dimming & Controls for Bristol Central High School TV Studio" according to the attached specifications and plans for the unit prices and/or lump sum prices hereinafter listed, times the actual quantities of the completed work as computed by the Engineer.

The undersigned declares that the bidder is:

(a) A CORPORATION organized under the laws of the State of

_____ having its principal office

at _____

The principal officers, with their respective titles and addresses, are as follows:

Name	Title	Address
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

(b) A PARTNERSHIP consisting of the following individuals with their addresses:

Name	Address
_____	_____
_____	_____
_____	_____
_____	_____

(c) AN INDIVIDUAL by the name of _____

and doing business as _____

In accordance with the attached specifications entitled "**Provision and Installation of Studio Lighting Fixtures and Dimming & Controls for Bristol Central High School TV Studio**"; the undersigned agrees to:

1. **Provision and Installation of Studio Lighting Fixtures and Dimming & Controls for Bristol Central High School TV Studio**; complete in place as ordered by the Engineer; including all labor, equipment, materials, tools, and incidentals thereto; at the lump sum price of; _____

_____ dollars and _____ cents.

\$ _____

The undersigned is familiar with the conditions surrounding this call for bid and is aware that the City reserves the right to reject any and all bids or to accept any bids whether lowest or not if deemed for the best interest of the City, and is submitting this bid without collusion with any other person, individual or corporate.

Witness

Signature

Printed Name

Printed Name

Date

Title

Company/Name of Firm

Company Telephone Number

Company Fax Number

Business Address

Mailing Address

City/Town

State

City/Town

State

Dated at _____, _____ this

_____ day of _____, 2012

REFERENCES FOR SIMILAR WORK:

COMPANY NAME/ADDRESS/PHONE NUMBER

REPRESENTATIVE

- 1. _____

- 2. _____

- 3. _____

- _____
- _____
- _____

LICENSES:

COMPANY/INDIVIDUAL NAME/ADDRESS/PHONE

LICENSE NUMBER

- 1. _____

- 2. _____

- 3. _____

- _____
- _____
- _____

PROPOSED SUBCONTRACTORS:

COMPANY/INDIVIDUAL NAME/ADDRESS/PHONE

LICENSE NUMBER

- 1. _____

- 2. _____

- 3. _____

- _____
- _____
- _____

CONTRACTOR SITE VERIFICATION FORM

Contract 2012-056

Provision and Installation of Studio Lighting Fixtures and Dimming & Controls for Bristol Central High School TV Studio

AN INDIVIDUAL by the name of _____

and representing _____
(Company Name)

hereby attest that I have field walked the site for the above referenced project and am familiar with the existing conditions.

date signature

By: _____

title



CITY OF BRISTOL, CONNECTICUT NON-COLLUSION CERTIFICATION

The undersigned certifies under penalty of false statement that this proposal or contract has been made, submitted and executed in good faith and without collusion or fraud with any other person, and without any agreement designed to limit independent bidding or competition. As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club or other organization, entity or group of individuals.

I further certify that I have not provided or directed to be provided gifts, meals, or gratuities, as defined in Sec. 2-129(b) of the Bristol Code of Ordinances to any official or employee of the City of Bristol responsible for awarding or administering this bid or contract.

Please complete and sign

Legal Name of Bidder: _____

Business Address: _____

Name of Authorized Agent _____ Title: _____

Phone: _____ Fax: _____

Signature: _____ Date: _____

Employment Information Form



City of Bristol
Workplace Analysis Affirmative Action Report
Employment Information Form

Purchasing Department
111 North Main Street
Bristol, CT 06010

Company Name Street Address City State Zip	Contact Person	Phone Number	Date
--	----------------	--------------	------

Report all permanent full-time or part-time employees, including apprentice and on-the-job trainees. Enter the number on all lines and in all columns.

JOB CATEGORY	A. OVERALL TOTALS (sum of all columns, B-F Male & Female)	B. WHITE (not of Hispanic origin)		C. BLACK (not of Hispanic origin)		D. HISPANIC		E. ASIAN/PACIFIC ISLANDER		F. AMERICAN INDIAN OR ALASKAN NATIVE	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Officers/Managers											
Professionals											
Technicians											
Sales Workers											
Office/Clerical											
Craft Workers (skilled)											
Operatives (semi-skilled)											
Laborers (unskilled)											
Service workers											
TOTALS ABOVE											

Do you use minority businesses as subcontractors or suppliers? <input type="checkbox"/> Yes <input type="checkbox"/> No	Explain:
If CT based, do you post all employment openings with the State Of CT Employment Service? <input type="checkbox"/> Yes <input type="checkbox"/> No	Explain:
Do you use an Affirmative Action Plan? <input type="checkbox"/> Yes <input type="checkbox"/> No	Explain:
Describe your recruitment, hiring, training and promotion anti-discrimination practices.	

CONTRACT

This AGREEMENT, made and concluded by and between the City of Bristol, a Municipal Corporation organized and existing under the laws of the State of Connecticut, acting herein by its Mayor, duly authorized, hereinafter designated the "City", party of the first part and

(being the party named in the attached copy of the Proposal), hereinafter designated the "Contractor", party of the second part.

WITNESSETH, that said Contractor has agreed, and by these presents does for his, their, or its heirs, executors, administrators, successors, and assigns covenant, promise and agree to and with the said City for the consideration hereinafter mentioned and contained, and under the penalty expressed in Bonds hereunto annexed, that said Contractor shall and will, at his, its, or their own proper charge, costs and expense do and perform all the work and furnish all materials and labor necessary or proper, and build in good, firm and in substantial manner, with appurtenances of every kind complete in accordance with this Contract and the specifications which are a part hereof, and in accordance with such further plans and directions as have been made or may be made from time to time the work referred to as: "**CONTRACT 2012-056 - Provision and Installation of Studio Lighting Fixtures and Dimming & Controls for Bristol Central High School TV Studio**" in the amount of _____
(\$_____).

All to be in accordance with the terms of the Proposal for said work submitted to the City of Bristol on _____ and accepted by said City on _____, _____ and made a part of this Contract.

The Information for Bidders, the Bid Proposal, General Provisions, the Specifications, together with Special Provisions, Addendum and the Bonds and any and all additions which may be inserted or attached to any or all of the sections listed above, together with the drawings named in the Information for Bidders are made a part of this Contract. The general features of said work are shown in the drawings referred to above which are made a part of this Contract. The Engineer shall furnish the Contractor with additional plans as may be necessary to show the details of construction, which are to be considered as illustrating the requirements and specifications set forth in this Contract and are to be followed by the Contractor in carrying out the work done hereunder. All work is to be performed under the direction and

inspection of the City Engineer who shall interpret the intent and methods described in the plans and specifications.

The Contractor agrees to indemnify, defend, and save harmless, the City of Bristol, as well as its officers, agents, and employees from any and all claims and losses accruing or resulting from the performance of this Contract, and from any and all claims and losses accruing or resulting to any person, firm or Corporation who may be injured or damaged by the Contractor in the performance of this Contract.

IN WITNESS WHEREOF, the parties hereto have hereunto set their hands and seals this _____ day of _____, 2012.

Signed in the presence of: _____ The City of Bristol
By: _____
Mayor

Signed in the presence of: _____ CONTRACTOR
By: _____
name
title

This CONTRACT was approved by vote of the City Council of Bristol, Connecticut on the _____ day of _____.

CITY CLERK

Approved as to form: _____ Approved as to Technical Content: _____
CORPORATION COUNSEL BOARD OF EDUCATION
By _____ By _____
_____2012. _____2012.

Approved as to Appropriations:
BOARD OF FINANCE, CITY OF BRISTOL, CONNECTICUT
By _____
_____2012.

MINUTES OF SPECIAL MEETING
OF THE BOARD OF DIRECTORS

At a Special Meeting of the Board of Directors of _____

held at the office of _____
(name)

(address) (City) (State)

on _____, 20____
(day) (date)

the following business was transacted:

It was duly voted that _____
(name)
_____, is hereby authorized on
(title)
behalf of the Corporation to execute the Contract entitled

**CONTRACT 2012-056 - Provision and Installation of
Studio Lighting Fixtures and Dimming &
Controls for Bristol Central High School TV Studio**

between _____ and
the City of Bristol.

The said _____ is hereby authorized
to (name)
sign this Contract and all other documents on behalf of the
Corporation necessary to effectuate said Contract. Any and
all actions in said capacity shall be binding on the
Corporation and its assets.

There being no further business, the meeting was adjourned.

Secretary

WAIVER OF NOTICE OF SPECIAL MEETING
OF THE BOARD OF DIRECTORS

The undersigned, being all of the Board of Directors of _____
hereby waive written notice of a Special Meeting of the Board of
Directors to be held at the Office of _____
on _____, 20____, at _____ am/pm

GENERAL PROVISIONS

1. DISCREPANCIES, ERRORS AND OMISSIONS:

The specifications are intended to be explanatory of each other, but should any discrepancy appear or any misunderstanding arise as to the import of anything contained in either, the interpretation and decision of the Engineer shall be final and binding on both parties to the Contract. Each section shall be a complete job and work implied shall be done as if specified or shown on the plans or required for a complete job under the respective work and shall be done by the Contractor without extra charge.

2. SUBMITTALS:

The Contractor shall submit details or written statements of methods for the various units of the work as required by the Engineer, all of which shall be subject to the approval of the Engineer.

3. CONTRACTOR RESPONSIBLE FOR ENTIRE WORK UNTIL ACCEPTED:

The Contractor shall have charge of and be responsible for the entire work until its final completion and acceptance, and any imperfect or unfaithful work or defective materials that may be discovered at any time before the final completion and acceptance of the work or work injured or destroyed by the elements or the public, shall be corrected immediately on the requirement of the Engineer.

The presence of an inspector shall not relieve the Contractor of responsibility because of failure due to poor materials or workmanship and if the work is obviously constructed in error.

4. WORK AND MATERIALS TO BE OF BEST QUALITY:

All work done and materials furnished shall be new and of the best quality customarily used in or furnished for installations of this type. All materials shall be used in conformance with the manufacturer's recommendations. The absence of requirements or details in the specifications or drawings which are usually included in first-class work of this kind shall not excuse the Contractor for their omission in his work.

5. **DEFECTIVE WORK:**

The inspection of the work shall not relieve the Contractor of any of his obligations to fulfill his Contract as herein specified, and any defective work shall be made good, and any unsuitable materials shall be rejected, notwithstanding that such work and materials have been previously overlooked by the Engineer and accepted or estimated for payment. This shall cover any material furnished by the City which shall be damaged or rendered defective by handling or improper installation by the Contractor, his agents or employees and shall be made good and replaced at the Contractor's own expense.

6. **WORKERS, SUPERVISION, AND MAINTENANCE:**

The Contractor shall employ only competent, faithful, skilled, and proficient tradespeople to do the work required of them, and whenever the Engineer shall inform him that any man on the work is in his opinion incompetent or unfaithful, he shall discharge him from the work and shall not again employ him for work under this Contract. Helpers and Apprentices may be used, but only under direct supervision of the Job Foreman.

The Contractor shall keep a competent superintendent on the Project whenever work is being done, who shall receive orders in the Contractor's absence and shall obey them as if received by him personally.

Any Contractor whose place of business is located outside the City must make arrangements satisfactory to the Engineer for emergency repair work or protection that may be necessary during periods of shutdown of the work. If this is not done, the Engineer will make arrangements and any cost will be deducted from monies due the Contractor.

7. **COMPLIANCE WITH LAW:**

The Contractor shall keep himself informed of all existing laws, State, Federal, Municipal Ordinances and Regulations affecting those employed and any affecting the conduct of the work and shall protect and indemnify the City of Bristol, its officers and agents against any claim or liability arising from or based upon violation of any such law, ordinance, regulation, order of decree, whether by himself or his employees. All work performed and equipment used shall comply

with all pertinent OSHA, Federal, State and Local Regulations.

8. OBLIGATION AND LIABILITY OF CONTRACTOR:

The Contractor shall do all the work and furnish all the materials, tools and appliances unless otherwise specified and everything necessary or proper for performing and completing the work and within the time specified herein. He shall complete the work to the satisfaction of the Engineer and at the prices in the Proposal or as agreed under extra work.

The Contractor shall take all responsibility for work done under this Contract, for protection of work, for injuries to employees, for injuries to the public and damage to property and utilities on or about the work and the responsibility of anyone hired by him directly or indirectly. The Contractor shall assume the defense of all claims of whatsoever character against the Contractor, the City, and shall indemnify, save harmless and insure the City, its officers or agents against all claims arising from the work under this Contract.

9. SUBLETTING OR ASSIGNMENT:

The Contractor shall not sublet any portion of the work without written permission. In no case may he sublet more than 49% of the monetary value of the Contract. The major units of work of the Contract shall be performed by the Contractor.

If the Contractor sublets any part of the work, this does not relieve him or the bonding company of liabilities and obligations to the City. There is no contractual relationship between any subcontractor and the City. The Engineer deals only with the Contractor; subcontractors are recognized as employees only.

10. WORK AREA:

During the work, the Contractor shall not deposit material in such a manner so as to block or interfere with normal activities within the area. The Contractor shall erect adequate barricades as required to protect pedestrians from the work area.

During the progress of the work, during any shutdown, and until final acceptance of the work; the Contractor shall

maintain all areas within its control. Should the Contractor fail to perform such work upon order of the Engineer within a reasonable time, the Engineer will make arrangements to have the necessary work done and the cost of said work deducted from monies due the Contractor.

The Contractor shall make arrangements for disposal of surplus materials. The cost of disposal, landfill permits, associated dumping fees, shall be considered included in the total bid amount. The job site shall be left in a clean condition meeting the full satisfaction of the Engineer.

11. PROGRESS AND FORFEITURE OF CONTRACT:

If at any time the Engineer shall be of the opinion that the said work is unnecessarily delayed, and will not be finished in the prescribed time, or that the Contractor is willfully violating any of the conditions of the Contract, or is executing the same in bad faith, he shall notify the Contractor, in writing, to that effect. If the Contractor does not, within five (5) days thereafter, take such measures as will in the judgment of the Engineer insure the satisfactory completion of the work, the Engineer may then, in writing, notify the Contractor to discontinue all the work under the Contract. The Contractor shall immediately respect said notice and stop work and cease to have any rights to possession of the ground and shall not remove any portion of the plant or any materials after receiving such notice. The Engineer shall notify the Contract Surety, in writing, of his action and the reason(s) for such action. The Engineer shall report his actions to the City together with the reason(s) for such actions.

The City shall take such action as it deems necessary to complete the work under the Contract to the City's satisfaction. The City may rescind its notice to the Contractor to discontinue work and order the Contractor to complete the Contract within such terms as it may specify or the City may inform the Contract Surety of its (Contract Surety's) responsibility to complete the work as specified under the terms of the Contract. Surety shall elect to complete the work or have the City complete it. If the City completes the work, it shall thereupon have the power to direct the Engineer to place such and so many persons as he may deem advisable by contract, or otherwise, to work at and complete the work herein described and to use such materials as he may find upon the line of said work, or to procure other materials for the completion of the same and to charge

the expense, whether of labor or materials, or otherwise. to the Contract and the expense so charged shall be deducted and paid by the City out of such monies as may be then due or may at any time thereafter become due to the Contractor under and by virtue of the Contract or any part thereof; and in case such expense is less than the sum which would have been payable under the Contract if the same had been completed by the Contractor, said Surety shall be entitled to receive the difference. In case such expense is greater, the Contract Surety shall pay the amount of such excess due to the City.

12. DELAY IN TIME OF COMPLETION, NO CLAIM FOR DAMAGES:

The City may reasonably delay the beginning of the work or any part thereof, if necessary because of weather conditions. The Contractor shall have no claim for damages on account of said reasonable delay, but if a time clause is carried in the Contract, so much additional time shall be allowed as the Engineer computes such delay has influenced the completion by the Contractor. The Engineer shall certify such additional time in writing.

In case the Contractor shall suffer damage from loss of time, where the same is caused by or under the direction of the City, the condition of the weather, or by any circumstances so unusual that they could not be foreseen previous to or avoided during the construction of the work (all of which shall be determined by the Engineer who shall certify the same in writing); the time during which work was so suspended shall be excluded and the time of completion extended by a corresponding number of days.

Neither an extension of time for any reason beyond the date fixed for the completion of the work, nor the acceptance of any part of the work comprised in these specifications subsequent to the said date, shall be deemed to be a waiver by the said Contractor of the right to abrogate the Contract for abandonment or delay in the manner herein provided.

13. STORAGE OF MATERIALS AND EQUIPMENT:

The Contractor shall make arrangements to store his material, vehicles, equipment, etc. During the prosecution of the work, the Contractor shall not store material, equipment, vehicles, etc. within any area in such a manner so as to block or interfere with the flow of any other work.

14. **GUARANTEES:**

The Contractor shall guarantee all his work to be free from defects due to workmanship or material used for a period of one (1) year from the final completion of all work on the Contract. Said one (1) year period shall begin on the date of payment of the semi-final estimate by the City.

Should the Contractor, during the guarantee period upon notification by the Engineer in writing within five (5) days, fail to begin making necessary repairs to the satisfaction of the Engineer, action may be taken by the Engineer to have the repairs made either by using the City's own men and equipment, by force account or cost plus method, or by contract between the City and a contractor selected by the City. The cost shall be taken from monies due the Contractor. Any cost exceeding that held shall be paid by the Contractor or the City may call upon the bond Surety to pay said extra cost.

15. **CONTRACTOR, HIS INSURANCE CARRIER AND BOND SURETY, LIABLE FOR CLAIMS OR DAMAGES:**

It shall be the duty of the Contractor and his Insurance Carrier and Bond Surety to indemnify and save harmless the City from all suits or actions of any name or description, brought against them or the City for or on account of any injuries or damages received or sustained by any party or parties by or from the Contractor, his agents or employees in the construction of the work, or in consequence of any negligence in guarding the same or any improper materials used in its construction or by or on account of any act or omission of the Contractor, his agents or employees.

16. **RELEASE OF BONDS:**

The Performance Bond and Labor and Material Payment Bond shall not be released until final payment and final acceptance of the entire work is made as a guarantee against claims and suits that may be entered against the City for actions or negligence of the Contractor in the performance of the work. The 5% is retained to guarantee the repairs that may be ordered by the Engineer for defective materials or workmanship during the one (1) year maintenance period. The City reserves the right to retain in excess of the 5% should it deem additional guarantee necessary for legal claims against the City resulting from actions under this Contract.

SECTION 11500
DIMMING AND CONTROLS

PART 1. GENERAL

1.01 SYSTEM DESCRIPTION

- A. The intent of this specification is to define parameters for furnishing and installing a complete working system to the Owner. The dimming equipment provider shall provide coordination with all associated trades to insure a proper and correct installation. The system is designed to meet specific operational requirements. Performance deviations will not be accepted.
- B. This specification makes reference to the products of Electronic Theatre Controls (ETC) to establish a level of quality and product support. Supply the specified product or APPROVED equal. The project electrical engineer shall be the final authority for purposes of establishing product and service equivalence. Proposed substitutions may be submitted for approval in advance of bid. If not pre-submitted and approved by the engineer, proposed substitutions are subject to rejection at time of submittal. If proposed substitutions are rejected, the contractor shall submit drawings and supply the specified product without further delay.
- C. The system shall be designed for the control of television studio lighting and shall consist of factory pre-wired dimming and processing rack enclosures containing dimmers, power supplies, breakers, terminals and/or control electronics.
- D. System shall work in conjunction with specified low-voltage control stations.

1.02 SUBMITTALS

- A. Six (6) sets of full system submittals shall be furnished for approval within 60 days of award of Contract. Prior to fabrication of equipment, two sets shall be returned appropriately marked as the approval document.
- B. Manufacturer shall provide any additional information, including equipment demonstration, as required by the engineer or specifier to verify compliance with specifications.

1.03 QUALITY ASSURANCE

- A. 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.
- B. The manufacturer shall have a factory authorized stocking service center with at least one full-time service technician on staff located within 50 miles of the job site. In addition, the manufacturer shall have a toll free 24-hour hotline with a maximum response time of 20 minutes, 24 hours a day and 365 days a year.
- C. All equipment, where applicable standards have been established, shall be built to the standards of Underwriters Laboratories, Inc., the National Electric Code and the United States Institute for Theater Technology. Approved equipment shall be so labeled on delivery to the job site.

1.04 SYSTEM INTEGRATION

- A. To ensure proper system installation, coordination of trades and initial setup and programming, the equipment shall be furnished by an approved stage systems integrator.
- B. An approved systems integrator shall meet the following requirements:
 - 1. Be a factory authorized service center for the manufacturer of the stage dimming and control equipment
 - 2. Have a full-time factory-trained technician who is currently certified for all products in this specification and in particular Ethernet network setup and DMX configuration.
 - 3. Have a factory-trained project manager who will coordinate all project documentation and scheduling of deliveries and system energization.
- C. At the time of bid submission, the Systems Integrator shall indicate:
 - 1. The company name of the systems integration firm and their main phone number.
 - 2. The personal name of the factory-authorized service technician who will configure and program the network.
 - 3. The personal name of the project manager who will supervise the project.

4. Three installations of comparable scope installed by the systems integration firm within the past 3 years.
- D. Bids submitted without this information shall be rejected.
- E. The Systems Integrator shall also have responsibility for coordination of
 1. Section 11570 – Studio Lighting Fixtures

PART 2. PRODUCT

2.01 Dimmer Rack Enclosure

- A. The control enclosure shall be the Unison DRd Series Rack Enclosure as manufactured by Electronic Theatre Controls, Inc., or equal.
- B. The rack enclosure shall be a surface mounted, deadfront switchboard, constructed of 18-gauge formed steel panels with a hinged, lockable full-height door containing an integral electrostatic air filter. Control enclosures shall be sized to accept one Control Processor, options and accessories.
- C. All rack components shall be properly treated and finished. Exterior surfaces shall be finished in fine textured, scratch-resistant, epoxy paint.
- D. The fully digital rack enclosure shall be available with six or twelve dimmer module spaces, one processor and a single station power supply.
- E. A single low-noise fan shall be located at the top of each rack. The fan shall draw all intake air through the integral electrostatic air filter, over the surfaces of the module housing and out the top of the rack.
- F. Control Enclosures shall be available in 120, and 277 volt configurations.
- G. Rack enclosures shall be completely pre-wired by the manufacturer. The contractor shall provide input feed, load, and control wiring.
- H. All control wire connections shall be terminated via factory provided connectors.

2.02 Control Processor Modules

- A. The Architectural Control Processor shall be the Unison Paradigm P-ACP Series Control Processor as manufactured by Electronic Theatre Controls, Inc., or equal.
- B. The Architectural Control Processor (ACP) assembly shall be designed for use in DRd Series Dimming Enclosures and ERn Series Control Enclosures.
- C. The processor shall utilize microprocessor based, solid state technology to provide multi-scene lighting and building control.
 - 1. ACP shall support functions such as station programming, macro sequencing, electronic lockout, room combine and astronomical time clock events. ACP station processor shall allow configuration of the control system via the menus.
 - 2. When used in a dimming enclosure, the ACP shall allow access to dimming control menus including the status screen, dimming configuration screen, backup menu, test menu and configuration menu.
- D. One ACP shall be rated to drive 1024 channels of control, 1024 zones, 64 rooms, 512 presets, 62 button or button/fader stations and 6 Touchscreen Stations
- E. ACP module electronics shall be convection cooled.
- F. The ACP shall provide front-panel RJ45 jack, Secure Digital (SD) card slot, and Universal Serial Bus (USB) Port for configuration and data exchange.
- G. Architectural Lighting System configuration and program information shall be stored in flash memory, which does not require battery backup.
- H. The ACP shall be contained in a plug-in assembly and require no discrete wiring connections; all wiring shall be terminated into Dimming or Control Enclosure.

- I. The ACP shall support the following communications:
 1. Echelon LinkPower
 2. 10/100BaseTX, auto MDI/MDIX, 802.3af compliant Ethernet networking with TCP/IP, ESTA BSR E1.17 Advanced Control Networks (ACN) and ESTA BSR E1.31 (sACN) Protocols
 3. EIA-232 serial protocol
 4. ESTA DMX512A, configurable as input or output ports
 5. Dry contact closure inputs
 6. Dry contact closure outputs, rated at 1A@30VDC

2.03 Dimmer Modules

- A. Each dimmer module shall contain one or two single-pole, fully rated (100% switch duty) magnetic circuit breakers, a solid state-switching module, associated toroidal filters, and power and control connectors. Dimmers employing triac power devices, pulse transformers, or other isolating devices not providing at least 2,500V RMS isolation, shall not be acceptable.
- B. Dimmer modules shall include toroidal filters to reduce the rate of current rise time resulting from switching the SCRs. The filter shall limit objectionable harmonics, reduce lamp filament sing and limit radio frequency interference on line and load conductors. Modules shall offer 350 or 500uS filter rise times. Rise time shall be measured at the worst-case slew rate (about 50 percent) from 10 to 90 percent of the output waveform with the dimmer operating at full load. All dimmers shall maintain their published rise time and/or fall time regardless of duty cycle or rack temperatures. Dimmers that derate due to increased dimmer temperature caused by full load operation or high phase angles shall not be acceptable.
- C. Power efficiency for standard dimmers shall be at least 97 percent at full load with a loss of 6V RMS.
- D. Dimmer modules shall consist of a heavy duty, die-cast aluminum chassis with integral face panel. No tools shall be required for module removal and insertion. Modules constructed of molded plastic for structural support are not equivalent and are not acceptable.

- E. The modules shall be available in types to work with their associated loads including: constant, incandescent, fluorescent and low wattage loads. Each module shall be UL Listed to control the lighting loads connected to it.

2.04 Lighting Console and Accessories

A. General

1. The lighting control console shall be a microprocessor-based system specifically designed to provide complete control of stage, studio, and entertainment lighting systems. The console shall be the SmartFade 2496 as manufactured by Electronic Theatre Controls, Inc., or equal.
2. The system shall provide control of 512 DMX512 controlled dimmers or devices on a maximum of 96 control channels. Any or all of the DMX512 outputs may be controlled by a channel.
3. A maximum of 576 memories (cues), may be contained in non-volatile electronic memory.
4. A playback fader pair shall be provided, with highest level operation between pair and last action operation within pair. Dynamic rate control shall be provided for playback within the memory stack.
5. 48 overlapping additive channel sliders shall provide access to individual channels. The console shall provide three modes of operation: Two-Preset mode, Normal mode and DMX Backup mode. In two-preset mode, the console shall provide two scenes of 24 control channels each. In Normal mode, the console shall combine the two-scene channel fader controls into one scene of 48 control channels with access to the second half of the available channel sliders via a page button. In DMX Backup mode, 48 memory locations shall be available for recording and playing back the state of the entire DMX universe (512 levels). Selection of the operating mode shall be a menu option in the LCD display.
6. Console software upgrades shall be made by the user via USB connection to a PC. Changing internal components shall not be required.
7. The console shall provide an SD memory card socket allowing show data to be saved for archival or transfer to other consoles or a personal computer.

8. Interface Options: The console shall provide connectors for the following:

- 1) AC or 12V DC input for external power supply
- 2) DMX512/1990 outputs (one connector)
- 3) DMX512/1990 input (one connector)
- 4) MIDI In
- 5) MIDI Out
- 6) USB input (Series B device connector)
- 7) SD Memory Card socket

B. Displays

1. The console shall support connection via USB to the SmartSoft software application. SmartSoft shall run on either a PC with Windows XP or Windows 7 OS, or on a Macintosh computer with OS X. SmartSoft shall provide live display of show data and on screen data editing. The show file may be stored directly to and opened from the hard disk of the computer as well as to/from the SD card on the SmartFade console. Consoles without this external video display functionality are not acceptable.

C. Physical

1. All operator controls and console electronics for a standard system shall be housed in a single desktop console.
2. SmartFade 2496 console shall be 27" nom. wide x 10" x nom. deep x 2.5" nom. high (including controls).
3. Console power shall be 12V AC or DC via an external power unit. The power unit shall operate with 90-265VAC line voltage, 50 or 60Hz.

2.05 Data Plug-In Stations

- A. The Plug-in Stations shall consist of the appropriate connectors required for functional intent of the system as shown on the project drawings. Custom combinations and control connectors shall be available.

- B. Station faceplates shall be .80" aluminum, finished in fine texture, scratch-resistant black powder coat. Silk-screened graphics shall be white. The station panel shall mount into an industry standard back box, depending on size and quantity of connectors. A terminal block shall be supplied for contractor terminations.

2.06 Architectural Control Stations

A. Functional

1. The Control System shall be designed to allow control of lighting and associated systems via Preset/Fader, LCD, IR or Astronomical time clock controls. System shall allow the programming of presets, macros and time clock events.
2. Station control components shall be designed to operate standard default or custom system functions. Components shall operate default functions unless re-assigned via a Windows-based configuration program.

B. Electrical

1. Control station wiring shall be an Echelon® Link power network.
2. Link power shall utilize low-voltage Class II unshielded twisted pair, type Belden 8471 or equivalent, and one #14 ESD drain wire (when not installed in grounded metal conduit).
3. LCD Touchscreen stations shall also use (2) #16 AWG stranded wires for 24Vdc operating power. 24Vdc wiring shall be topology free.
4. Network wiring may be bus, loop, home run or any combination of these.
5. Network insulation displacement connectors shall be provided with all stations.

C. Preset Stations

1. Preset stations shall operate using up to ten programmable buttons.
2. All Preset stations shall be available with white, ivory, gray or black faceplates, fader knobs, and buttons. All faceplates shall be designed for flush or surface mounting.

3. Station faceplates shall be constructed of ABS plastic and shall use no visible means of attachment.
4. The manufacturer shall supply back boxes for all surface mounted stations.

D. Fader Control Stations

1. Fader stations shall operate using up to twelve programmable buttons and sixteen programmable faders with integral LEDs.
2. Fader stations shall utilize standard 45-millimeter slide potentiometers.
3. All Fader stations shall be available with white, ivory, gray or black faceplates, fader knobs, and buttons. All faceplates shall be designed for flush or surface mounting.
4. Station faceplates shall be constructed of ABS plastic and shall use no visible means of attachment.

2.07 Power Distribution Equipment

- A. Connectors shall be NEMA 5-15 U-Ground. Pigtails shall be three-wire type "SOW" rubber jacketed cable sized for the circuit ampacity. Internal wiring shall be sized to circuit ampacity and shall be rated at 125°C.
- B. Equipment, except for wall-mounted boxes, shall be supplied with appropriate brackets and hardware for mounting as shown on the drawings.
- C. Power distribution equipment shall be Underwriter Laboratories (UL) Listed.

2.08 Equipment List

1	DRd-6-12-120	Unison Dimmer Rack, 6 Module/12 Dimmer @ 120V
1	P-ACP	Paradigm Architectural Control Processor
1	P-SPM	Paradigm Station Power Module
1	U-RTO	Unison Ride-Through Option Board
6	D20	Dual 20A Dimmer Module - 350uS rise time
1	UH61307-41S	Unison Control Station, 13 Fader, 7 Button, Black, with ETC SLD locking cover and surface mount backbox
1	SF-2496	SmartFade 24 Fader/96 Channel Lighting Control Console with Dust Cover
1	CD25-DMX	25' DMX Cable with 5-Pin XLR Connectors
2	ECPB-DMX-IN	DMX Control Input Jack and Plate
1	ECPB-DMX-OUT	DMX Control Output Jack and Plate
3	ETC SBB1	Single Gang Surface Mount Back Box, Color Black
1	ETC U-BOLT	Pipe Mount Hardware Kit
12	ETC #9103B-OU	Pipe Mount Outlet Box w/ (2)-18" 2P&G Pigtails, (1)-18" Edison Pigtail, On (2)-20 Amp Circuits

PART 3. EXECUTION

3.01 Installation

- A. It shall be the responsibility of the Systems Integrator to receive and store the necessary materials and equipment for installation of the control system. It is the intent of these specifications and plans to include everything required for proper and complete installation and operation of the system, even though every item may not be specifically mentioned. The Systems Integrator shall deliver on a timely basis to other trades any equipment that must be installed during construction.
- B. The Systems Integrator shall be responsible for field measurements and coordinating physical size of all equipment with the architectural requirements of the spaces into which it is to be installed.

- C. The Systems Integrator shall supervise and verify that all lighting control and dimming equipment is installed in accordance with manufacturer's approved shop drawings.
- D. All branch load circuits shall be live tested before connecting the loads to the dimmer system load terminals.
- E. Electrical installation shall include, but is not limited to:
 - 1. Run power service for new dimmer rack from panel to studio.
 - 2. Pull #2 wire for 100A service for new dimmer rack.
 - 3. Install new dimmer rack.
 - 4. Run conduit and pull dimmer and non-dim circuits to grid.
 - 5. Install 12 outlet boxes on grid.
 - 6. Run conduit from inputs in booth and studio to dimmer rack and to grid for DMX control.
 - 7. Install fader station and locking cover outside booth.
 - 8. Hang and focus lights.
 - 9. Test and configure system.

3.02 Manufacturer's Services

- A. Upon completion of the installation, including testing of load circuits, the Systems Integrator shall notify the dimming system manufacturer that the system is available for formal checkout.
- B. Notification shall be provided in writing, two weeks prior to the time factory-trained personnel are needed on the job site.
- C. No power is to be applied to the dimming system unless specifically authorized by written instructions from the manufacturer.
- D. The Systems Integrator shall be liable for any return visits by the factory engineer as a result of incomplete or incorrect wiring.
- E. Upon completion of the formal check-out, the factory engineer shall demonstrate operation and maintenance of the system to the owner's representatives. Training shall not exceed four working hours.

- F. The Systems Integrator shall provide an additional 4 hours of end-user training on specific programming and operation of the control system. This training shall be provided at a date after final completion of the site work and after the factory commissioning at a time to be arranged with the owner.

3.03 Warranty

- A. Manufacturer shall warrant products under normal use and service to be free from defects in materials and workmanship for a period of two years from date of delivery.
- B. Warranty shall cover repair or replacement of such parts determined defective upon inspection.

END OF SECTION 11500

SECTION 11570
STUDIO LIGHTING FIXTURES

PART 1. GENERAL

1.01 The intent of this specification is to define parameters for furnishing studio lighting fixtures. This section is to be supplied in conjunction with, and at the same time as, the dimming and controls package.

1.02 SUBMITTALS

- A. Six (6) sets of submittals shall be furnished for approval within 60 days of award of Contract. Prior to fabrication of equipment, two sets shall be returned appropriately marked as the approval document.
- B. Manufacturer shall provide any additional information, including equipment demonstration, as required by the engineer to verify compliance with specifications.

1.03 QUALITY ASSURANCE

- A. The manufacturer shall be one who has been continuously engaged in the manufacturer of theatrical or studio lighting fixtures for a minimum of ten years. The supplier shall be an authorized dealer for the manufacturer, who is authorized to provide warranty service for the specified products, if required.
- B. All equipment, where applicable standards have been established, shall be built to the standards of Underwriters Laboratories, Inc., the National Electric Code and the United States Institute for Theater Technology.
- C. This specification makes reference to the products of **Electronic Theatre Controls** (ETC) (3031 Pleasant View Rd; Middleton, WI 53562-0979; 800-688-4116), **Brightline** (580 Mayer Street; Building #7; Bridgeville, PA 15017; 412-206-0106), and **Elation Professional** (6122 S. Eastern Avenue, Los Angeles, CA 90040; (866) 245-6726) to establish a level of quality and product support. Supply the specified product or PRE-APPROVED equal.
- D. The project engineer shall be the final authority for purposes of establishing product and service equivalence. Proposed substitutions

should be submitted for approval in advance of bid. If not pre-submitted and approved by the engineer, proposed substitutions are subject to rejection at time of submittal. If proposed substitutions are rejected, the contractor shall submit drawings and supply the specified product without further delay.

PART 2. PRODUCT

2.01 Ellipsoidal Spotlights

A. The instrument shall be a Source Four Junior ellipsoidal spotlight as manufactured by Electronic Theatre Controls, Inc., or approved equal.

B. Physical

The unit shall be constructed of rugged, die cast aluminum, free of burrs and pits, finished in black, high temperature epoxy paint. Instruments using a combination of sheet metal and die cast structural components shall not be acceptable.

The following shall be provided:

- a. Integral cable clamp for power leads
- b. Positive locking of lamp focus and independent lamp alignment controls
- c. High impact, thermally insulated knobs and shutter handles
- d. Reflector and lenses secured with shock mounts
- e. 20 gauge stainless steel shutters
- f. Sturdy integral die cast gel frame holders with two accessory slots, and a top mounted, quick release gel frame retainer
- g. Rugged steel yoke with two mounting positions allowing 300°+ rotation of the fixture within the yoke
- h. Positive locking, hand operated yoke clutch
- i. Slot with sliding cover for motorized pattern devices or optional iris

C. Optical

The optical train shall combine a compact filament lamp with a precision molded borosilicate, ellipsoidal reflector and aspheric lens

to produce an optimum cosine field. The unit shall provide, but not be limited to:

- a. Molded borosilicate reflector with multiple dichroic layers
- b. 95% of visible light shall be reflected while 90% of infrared light as heat shall be transmitted through the reflector
- c. Low gate and beam temperature
- d. Sharp imaging through a bi-plane shutter design
- e. Projector-quality, high contrast aspheric lenses

D. Performance

The unit shall be precision engineered to use an HPL lamp to deliver an even, intense field with cosine distribution. The unit shall be UL and cUL listed and so labeled. The unit shall provide, but not be limited to:

- a. 26, 36, and 50 degree field angles
- b. High quality pattern imaging
- c. Sharp, high-contrast shutter cuts
- d. Adjustable hard and soft beam edges

E. Lamp

The high efficiency lamp shall be an HPL lamp, which shall consist of a compact tungsten filament contained in a krypton-filled quartz envelope. The lamp shall mount axially within the reflector. The lamp base shall have an integral die cast aluminum heat sink that reduces seal temperature and ensure proper lamp alignment. The lamp socket shall be ATP 220 nickel gold plated.

2.02 Studio Fluorescent Softlight

- A. The instrument shall be a Brightline SeriesONE studio fixture, with the quantity of fluorescent lamps as specified.
- B. The housing shall be constructed of 24 Gauge formed aluminum sheet metal construction. The finish shall be low glare polyester powder coat. Color: Mineral Bronze. The Reflector shall be of formed aluminum sheet metal construction. It shall be constructed of Miro Softgloss

722GP as manufactured by Alanod. The size of the fixture body is 24.3" [62 cm] wide, 7.8" [20 cm] high and 9.1" [23 cm] deep.

- C. It shall be possible to access the ballast compartment from the rear of the fixture, without removing the lamps or the reflector. The ballast compartment shall be well ventilated to prevent heat from the lamps from affecting the ballasts or other wiring.
- D. The fixture mounting shall consist of a horizontal extruded 10 Gauge aluminum yoke, with palm handles. A hole shall be provided for c-clamp or bolt mounting. Three holes in the yoke side brackets shall allow for variable yoke/fixture mounting distances. Vertical yoke kits shall be available to change the fixture orientation. When the yoke is in place, the fixture height will vary depending upon the amount of fixture tilt and upon which yoke side bracket hole is chosen; it will vary from 10.5" to 14.8". The overall width, including the palm handles, is approximately 27.5".
- E. The fixture shall be supplied with one or two 2-lamp Phase Controlled Ballasts, capable of being controlled by the output of forward phase fired SCR or Triac dimmers. The ballast is high-frequency electronic, with a power factor => .97 and a Type A sound rating. The ballasts shall be capable of operation down to 20% light output. The fixture shall dim smoothly up from or down to its minimum level. The ballast shall provide for safe shutdown of the lamps at the end of their life.
- F. A removable power cord, 8' in length, with a 20A stage pin plug, shall be provided with each fixture. Other cords shall be optionally available. Each fixture shall be provided with an inline fuse and an onboard spare. No fixture disassembly shall be required for fuse replacement. All units shall have a rocker On/Off switch. Four-lamp units shall have a three-position switch, allowing two- or four-lamp operation.
- G. All fixtures of a given size or model type shall have the same light output when provided with the same control voltage at all intensity levels. In the absence of a dimmer, the fixture may be connected to a source of 120VAC; it will operate at full intensity.
- H. The fixture shall operate with two or four 55 Watt lamps T-5 lamps, as manufactured by Osram or General Electric, on 120VAC, 60 Hz. 55W Lamps are available in a variety of high CRI color temperatures. Lamps that are specifically optimized for video applications are also available, in tungsten (3200°K) and daylight (5600°K) color temperatures.
- I. The unit shall be UL listed and so labeled.
- J. Install connector and lamp as specified in the detailed Equipment List.

2.03 Accessories:

- A. Specified accessories shall be compatible with the specified fixtures and manufactured by the same manufacturer as the fixtures for which they are intended.
- B. Provide accessories as specified in the detailed Equipment List.

2.04 LED Panels

- A. The instrument shall be the Elation TVL2000.
- B. The fixture shall have a flicker free on board LED dimming control featuring adjustable color temperature via DMX-512 protocol with 450 cool white LEDs and 450 warm white LEDs.
- C. The fixture shall be able to adjust color from cool white daylight to warm white tungsten. Color temperature and dimming shall be controlled by either using the onboard controls or via a DMX lighting controller, allowing the user to customize to different skin tones, producing soft, directional output from cool white daylight to soft warm tungsten, or any temperature in between.
- D. The fixture shall offer 0-100% dimming capabilities and low heat emissions remaining cool to the touch.
- E. The fixture shall contain 900 LED components with a total of 450 cool white LEDs and 450 warm white LEDs to mix color temperature, with a color temperature range from 3200°K to 6500°K.
- F. The fixture shall have a built-in magnetic gel/diffuser holder.
- G. The fixture power supply shall operate at 100V-240V 50/60Hz with a power consumption not exceeding 76W.
- H. The fixture dimensions shall be 14.6" L x 13" W x 4.3" H, and the fixture weight shall not exceed 13.7 lbs.

2.05 LED Color Wash Floodlights

- A. The instrument shall be the Selador Lustr-11
- B. Optical Train shall consist of a 7-color array of 3.5w red, red-orange, amber, green, cyan, blue and indigo LED emitters in an extruded metal housing with user-selectable lenses to provide horizontal and vertical dispersion.

- C. Fixture shall be provided with a power cord with 15A U-Ground 5-15 plug.
- D. Fixture shall be controlled by 8 channels of DMX protocol and shall include male and female XLR-5 connectors for data pass-through. One discreet channel shall control intensity without affecting the color setting.
- E. Each fixture shall be provided with a yoke and C-Clamp for mounting to pipe.
- F. The fixture shall accept separate horizontal and vertical spread lenses to allow adjustment of field angle from 20 to 90 degrees.

2.06 Equipment List

4	ETC 436JB	ETC S4 Junior 36 Deg Ellipsoidal Spotlight CC, CF, SC, Installed Male 2 P&G Plug
4	HPL575/115	575W 3200°K - 300Hr Lamp
4	S1.2P1-H	BrightLine SeriesOne Softlight, Installed Male 2P&G Plug, CC, SC
4	FIX-1/CS-BF	BrightLine Control Screen – Broad Field
4	FIX-1/CS-MF	BrightLine Control Screen – Medium Field
8	STUDIO55BX-320	BrightLine Long Twin Tube Lamp, 55W, 3200K
4	ETC LUSTR-11	ETC Selador Lustr 231w 7-color white-biased LED fixture, 11”, Installed Male Edison Plug, CC, SC
4	ETC SELLH-40	ETC Horizontal 40 Degree Lens
4	ETC SELLV-30	ETC Vertical 30 Degree Lens
4	ETC SELYOKE-11	ETC Yoke and Clamp for Selador
4	Elation TVL2000	Elation TVL2000 LED Panel with Installed Male Edison Plug, CC, SC
4	CD-10-DMX	10' DMX Data Cable
8	CD-25-DMX	25' DMX Data Cable
8	SP/10	10' SOW 12/3 Stage Pin (2P&G) Extension Cable
8	AA/10	10' SOW 12/3 Edison (Parallel Blade U-Ground) Extension Cable

PART 3. EXECUTION

3.01 Installation

- A. The Systems Integrator shall safely store all products away from the construction area until substantial completion of dirty work including cutting, sanding, painting and any other work which produces particulates or liquids which could damage the function or appearance of the products.
- B. If installation of fixtures before dirty work is completed is necessary due to coordination of trades, all fixtures shall be bagged in plastic and securely sealed to prevent particulate intrusion.
- C. Any fixtures found to be damaged at the time of final review by the owner's representative shall be immediately repaired or replaced at no cost to the owner.
- D. At time of system energization, or immediately following, all fixtures shall be lamped, tested and aimed as directed by the owner or their designated representative.
- E. The Electrical contractor shall supply a personnel lift, secure scaffold or appropriate ladder with proper fall-protection equipment at the time of fixture aiming for the use of the Systems Integrator. The access means shall be available for a full eight hour day and at least 4 contiguous hours of that day shall be exclusive use of the space, free from any conflicting trades or noise-producing activities.

3.02 Warranty

- A. Manufacturer shall warrant products under normal use and service to be free from defects in materials and workmanship for a minimum period of one year from date of delivery.
- B. Warranty shall cover repair or replacement of such parts determined defective upon inspection.

END OF SECTION 11570



City of Bristol
BRISTOL, CONNECTICUT 06010

**Invitation to Bid 2012-056
Provision and Installation of Studio Lighting Fixtures
and Dimming & Controls for BCHS TV Studio
Addendum 01
January 13, 2012**

Bidders please note:

Instructions to Bidders Section 14

The hours of operation shall be between 3:00 pm and 11:00 pm Monday through Friday.

Instructions to Bidders Section 30

Bidders are advised that Bonds under this section are only required if the cost of the project exceeds \$50,000.00.

Section 11500 3.01 E

The 100 amp service feed is already in place and populated with wire.

There are four ¾" conduits leaving the control room that were previously installed by the Board of Education staff; three are for use in installation of 12 circuits and one is for control.

All other terms and conditions remain unchanged.

Roger D. Rousseau

Purchasing Agent

Tel (860) 584-6195

Fax (860) 584-6171

RETURN THIS FORM IMMEDIATELY!

**City of Bristol, Connecticut
Acknowledgment: Receipt of Bid Documents**

Bid Number: 2012-056

**Title: Provision and Installation of Studio Lighting Fixtures
and Dimming & Controls for BCHS TV Studio
Addendum 01**

Please take a moment to acknowledge receipt of the attached documents. Your compliance with this request will help us to maintain proper follow-up procedures while ensuring that all vendors have the opportunity to submit appropriate proposals.

Date Addendum 01 Issued: January 13, 2012

Date Addendum 01 received: ____/____/____

Do you plan to submit a proposal? Yes____ No____

Print or type the following information:

Company name: _____

Address: _____

City or Town: _____

Phone: _____

Fax: _____

Email: _____

Received by: _____

Note: Faxed acknowledgments are requested!

Fax (860)584-6171

A cover sheet is NOT necessary.

IMPORTANT: DO NOT FAX PROPOSALS.

PROPOSALS MUST BE SUBMITTED IN SEALED PACKAGES!



City of Bristol
BRISTOL, CONNECTICUT 06010

**Invitation to Bid 2012-056
Provision and Installation of Studio Lighting Fixtures
and Dimming & Controls for BCHS TV Studio
Addendum 02
January 17, 2012**

Bidders please note:

Section 11500 3.01 E

The 100-amp service is already in place, and a 100-amp breaker is already in place in the panel from which the service feed emanates.

All other terms and conditions remain unchanged.

Roger D. Rousseau
Purchasing Agent
Tel (860) 584-6195
Fax (860) 584-6171

RETURN THIS FORM IMMEDIATELY!

**City of Bristol, Connecticut
Acknowledgment: Receipt of Bid Documents**

Bid Number: 2012-056

**Title: Provision and Installation of Studio Lighting Fixtures
and Dimming & Controls for BCHS TV Studio
Addendum 02**

Please take a moment to acknowledge receipt of the attached documents. Your compliance with this request will help us to maintain proper follow-up procedures while ensuring that all vendors have the opportunity to submit appropriate proposals.

Date Addendum 02 Issued: January 17, 2012

Date Addendum 02 received: ____/____/____

Do you plan to submit a proposal? Yes____ No____

Print or type the following information:

Company name: _____

Address: _____

City or Town: _____

Phone: _____

Fax: _____

Email: _____

Received by: _____

Note: Faxed acknowledgments are requested!

Fax (860)584-6171

A cover sheet is NOT necessary.

IMPORTANT: DO NOT FAX PROPOSALS.

PROPOSALS MUST BE SUBMITTED IN SEALED PACKAGES!