Invitation to Bid for
Security Desk and Conference Room – Shurtleff School

For the City of Chelsea, MA

Contract # 2015-185

April 2015

IFB Contact:	City of Chelsea, MA Dylan Cook Chief Procurement Officer City Hall 500 Broadway, Room 206 Chelsea, MA 02150
Telephone Number:	617-466-4224
Fax Number:	617-466-4225
E-Mail:	dcook@chelseama.gov

TABLE OF CONTENTS

Section 1 Procurement Scope

1.1 Authority
1.2 Modify, Withdraw and Amend Bids
1.3 Bid Bond
1.4 Payment & Performance Bonds
1.5 Familiarity with Requirements
1.6 Independent Party
1.7 Conflict of Interest
1.8 Political Activity Prohibited
1.9 Assignment by the Contractor
1.10 Subcontracting
1.11 Choice of Law
1.12 Notices
1.13 Severable Sections Do Not Effect Entire Contract
1.14 Liquidated Damages for Failure to Enter into a Contract
1.15 Liquidated Damages for Failure to Perform Under Terms of the Contract
1.16 Contract Performance
1.17 Prevailing/Minimum Wages
1.18 Funding and Fiscal Appropriation
1.19 Procurement Calendar

Section 2 General Bid Information

2.1 Required IFB Sections
2.2 Minority or Woman Business Enterprise Participation
2.3 Contract Award
2.4 ADA, Regulatory Compliance and Standards
2.5 Indemnification
2.6 Federal, State and Local Laws
2.7 Tax Exempt
2.8 Insurance
2.9 Confidentiality
2.10 Force Majeure
2.11 Equal Opportunity
2.12 Termination
2.13 Obligation in the Event of Termination
2.14 Ownership of Furnishings and Equipment
2.15 Anti-Boycott Warranty
2.16 Tied Bids
2.17 Unexpected Closures or Delays

Section 3 Bid Information

3.1 Bidder Communication
3.2 Reasonable Accommodation
3.3 Public Records
3.4 Brand Name or Equal
3.5 Publicity
3.6 Costs
3.7 Required Contract Attachments
3.8 Submitted Bids
3.9 Clarification of Bids
3.10 Evaluation and Award of Contract
3.11 Rejection of Bidder's Response
3.12 IFB Cancellation
3.13 No Guarantee of Purchase
3.14 Prime Contractors and Subcontractors
3.15 Written Inquiries
3.16 Instructions for Submission of IFB Responses
3.17 Deadline for Submission

Section 4 Scope of Services

MANDATORY SUBMITTALS:

BIDDER INFORMATION FORM (To be first page of Bid)
CERTIFICATE OF NON-COLLUSION
STATEMENT OF CORPORATE AUTHORITY
BID PRICING FORM
REFERENCE FORM
OSHA COMPLIANCE CERTIFICATION

IFB ATTACHMENTS:

SAMPLE CITY OF CHELSEA CONTRACT FOR SERVICES OVER $10,000

MASSACHUSETTS PREVAILING WAGE RATES

DRAWING & SPECS

CITY OF CHELSEA, MASSACHUSETTS

Legal Notice

SECURITY DESK AND CONFERENCE ROOM
SHURTLEFF SCHOOL, 99 HAWTHORNE ST

The City of Chelsea, Chelsea, Massachusetts invites sealed proposals from Contractors to replace the cooling tower at the Shurtleff School, Chelsea, MA. The work consists of, but is not limited to, removing and replacing the roof mounted cooling tower, and associated plumbing, electrical and roofing work.

The estimated cost of the work is $ 105,000.00

Plans, specifications and other Contract Documents may be obtained at the Purchasing Office, City of Chelsea, City Hall, Room 206, 500 Broadway, Chelsea, MA, **after 11:00 AM., E.D.T., April 23rd, 2015**. Copies of the documents for the project may be obtained by email for the purposes of bidding from the City of Chelsea.

Sealed general bids for this project will be accepted from eligible bidders at the City of Chelsea, Purchasing Office, **ATTN**: Chief Procurement Officer, City Hall – Room 206, 500 Broadway, Chelsea, MA 02150 until **11:00 AM, E.D.T May 7th, 2015** at which place and time they shall be publicly opened, read aloud and recorded for presentation by the Awarding Authority.

A **MANDATORY** pre-bid conference will be held for all interested parties on-site at the Shurtleff School, 99 Hawthorne St, Chelsea, MA on **April 30th, 2015 at 11:00 AM, E.D.T**. Attendance at this pre-bid conference is **MANDATORY** for parties submitting a bid.

Each bid shall be accompanied by a bid deposit in the form of a bid bond, or cash, or a certified check on, or a treasurers or cashier's check issued by a responsible bank or trust company, payable to the City of Chelsea in the amount of five percent ***(5%)*** of value of the bid. Bid deposits will be dealt with as provided in Massachusetts General Laws, Chapter 149, Section 44B.

To be given consideration, all general bids must be accompanied by a copy of the Bidder's Certificate of Eligibility (DCAM&M Form) and an Update Statement (DCAM&M Form).

The certification category of work is: Mechanical

Bids shall be made on the basis of the Minimum Wage Rates as determined by the Commissioner of Labor and Industries, Pursuant to the Provisions of Chapter 149, Sections 26 to 2W inclusive of Massachusetts General Laws, a copy of which is attached to and is made a part of the Contract.

Bidders' selection procedures and contract award shall be in conformity with applicable statues of the Commonwealth of Massachusetts.

Performance, and Labor and Materials Payment Bonds in the full amount of the contract

price will be required from the successful bidder.

The Awarding Authority reserves the right to reject any or all general bids, if it be in the public interest to do so, and to reject any sub-bid on any sub-trade if it determines that such sub-bid does not represent the sub-bid of a person competent to perform the work as specified or that less than three such sub-bids were received and that the prices are not reasonable for acceptance without further competition.

City of Chelsea

Dylan Cook
Chief Procurement Officer

END OF SECTION

Section 1 PROCUREMENT SCOPE

1.1 Authority

Invitation to Bid Procedures and award of the Contract shall be in accordance with Massachusetts General Law, Chapter 149, plus all applicable Federal, State and Local laws and regulations.

1.2 Withdraw, Modify, And Amend Bids

Bidders who wish to withdraw, modify or amend their bid must do so in writing utilizing electronic mail to the City of Chelsea Chief Procurement Officer at dcook@chelseama.gov or via fax at 617-466-4225, no later than the time and date set forth herein for the receipt of the Bid for **Security Desk and Conference Room – Shurtleff School**. All such withdrawals, modifications or amendments must so state in the subject line of the email correspondence. Any withdrawal, modification or amendment arriving after the date and time set forth for accepting bids will not be considered. After the opening of the bids, a bidder may not change any provision of the bid in a manner prejudicial to the interests of the City of Chelsea or fair competition. Minor informalities will be waived at the discretion of the City of Chelsea.

1.3 Bid Bond

Each bid must be accompanied by a certified check: of the bidder or a bid bond duly executed by the bidder as principal and having as surety thereon a surety company approved by the City, in the amount of 5% of the bid, payable to the "City of Chelsea" and must be filed with the original bid.

1.4 Payment & Performance Bonds

The successful bidder is required to furnish performance bonds and payment bonds in the contract amount and with surety satisfaction to the City, in an award form this Invitation for Bids. The Bidder must pay all costs. The Performance Bond shall be in the sum of **100%** of the contract price. The Payment Bond shall be in the sum of **100%** of the contract price. The bonds shall be provided by the successful bidder to the City within five business days of the contract award.

1.5 Familiarity With Requirements

Bidders are to thoroughly familiarize themselves with the requirements of this Invitation for Bids. Ignorance of the requirements will not relieve the bidder from any obligations or liabilities of any contract(s) issued as a result of this Invitation for Bids.

1.6 Independent Party

Under this Invitation for Bids, the successful bidder declares itself to be at all times acting and performing as an independent party and nothing in this request for bid or any subsequent contract(s) is intended to constitute a partnership or joint venture between the bidder and the City of Chelsea.

1.7 Conflict of Interest

No officer or employee of the City of Chelsea shall participate in any decision relating to any contract which would affect their financial or personal interest or the interest of any corporation, partnership, sole proprietorship or association in which they are directly or indirectly interested.

1.8 Political Activity Prohibited

None of the services to be provided by any bidder shall be used for any partisan political activity or to further the election of any candidate for public office.

1.9 Assignment by Contractor

The successful bidder or contractor shall not assign in whole or in part or otherwise transfer any interest in any contract without the written consent of the City of Chelsea, provided however, that the present and prospective claims for money due owing to the Contractor from the City of Chelsea or any other Buyer may be assigned to a bank or trust company or to a financial institution insured by the Federal Deposit Insurance Corporation (FDIC) without such consent so long as notice of such assignment is promptly furnished to the City of Chelsea. Any complete or partial assignment of the contractor's or successful bidder's interest in any such contract shall require the assignee, at the City of Chelsea's discretion, to supply such further information as the City of Chelsea deems necessary to comply with the City of Chelsea rules and regulations governing contracts for services. Any such assignment, in whole or in part, shall also be expressly made subject to all defenses, set-offs or counter claims which would have been made available to the City of Chelsea against the successful bidder in the absence of such assignment.

1.10 Subcontracting

None of the services to be provided by the contractor pursuant to any contract shall be subcontracted or delegated in whole or in part to any other organization, association, individual, corporation, partnership, or any other such entity without the prior written approval of the City of Chelsea. All intended subcontracts must be in writing. All intended subcontracts shall be provisions, which are functionally identical to and consistent with the language of this Invitation for Bids.

1.11 Choice of Law

Any contracts awarded as a result of this Invitation for Bids shall be construed under the laws of the Commonwealth of Massachusetts. The successful bidder and agents thereof agree to bring any federal or state legal proceedings arising from any such contract in which the City of Chelsea is a party in a court of competent jurisdiction within the Commonwealth of Massachusetts. This section shall not be construed to limit any rights any party may have to intervene in any action in any court or wherever pending in which the other is a party.

1.12 Notices

Unless otherwise specified, any notice hereunder shall be in writing and shall be deemed delivered when sent via electronic mail (e-mail), given in person to either party or deposited in the U.S. Mail, postage prepaid and addressed to the persons indicated in any contract or as specified by any amendment hereto.

1.13 Severable Sections Do Not Affect Entire Contract

If any provision of the Invitation for Bids or any subsequent contract is declared or found to be illegal, unenforceable or void, then both parties shall be relieved of all obligations under the provision. The remainder of the Invitation for Bids and any subsequent contract shall remain in full force and effect and enforceable to the fullest extent provided by law.

1.14 Liquidated Damages for Failure to Enter Into Contract

The successful Responder, upon its failure or refusal to execute and deliver the Contract, Bond and Certificates of Insurance required within ten days after receipt of notice of the acceptance of the bid, shall forfeit to the City of Chelsea, as liquidated damages for such failure or refusal, the security deposited with its bid, provided that the amount forfeited shall not exceed the difference between its bid price and the bid price of the next lowest responsive and responsible Responder. In case of death, disability, bona fide clerical or mechanical error of a substantial nature or similar unforeseen circumstances affecting the Responder, its bid deposit shall be returned.

1.15 Liquidated Damages for Failure to Perform Under Terms of the Contract

Should the successful Responder fail to commence or diligently perform according to the terms of the contract, the successful Responder agrees to pay to the City of Chelsea, as liquidated damages, Two Hundred Fifty Dollars ($250.00) per calendar day that the successful Responder fails to commence or diligently perform the work in accordance with the contract documents and/or is in violation of the contract. Liquidated damages assessed under this provision shall be deducted from any payment(s) due to the successful Responder.

1.16 Contract Performance

The failure of any party to insist in any one or more situations, upon performance of any of the terms or provisions of any part of this Invitation for Bids or resulting contract shall not be considered as a waiver or relinquishment of the right of either party to future performance of any such term or provision, and the rights and obligations of the parties to such future performance shall continue in full force and effect.

1.17 Prevailing/Minimum Wages

Prevailing/Minimum Wage Rates as determined by the Commissioner of the Division of Occupational Safety of the Executive Office of Labor and Workforce Development under the provisions of Massachusetts General Laws Chapter 149, Section 26 to 27D, as amended, apply to this project. It is the responsibility of the Bidder, before the bid opening, to request, if necessary, any additional information on Prevailing/Minimum Wage Rates for those trades' people who may be employed for the proposed work under this contract.

1.18 Funding & Fiscal Year Appropriation

Appropriations for expenditures by the City of Chelsea and authorizations to spend for a particular purpose are ordinarily made on a fiscal year basis. The fiscal year for the City of Chelsea, MA begins on July 1st and ends June 30th of the following year. The obligations of the City of Chelsea under any contract resulting from this Invitation for Bids for any subsequent fiscal year following the fiscal year in which the initial contract is awarded is subject to the appropriations to the City of Chelsea of funds sufficient to discharge its obligations, which accrue in such subsequent fiscal year, and to the authorization to spend such funds for the purposes of this Invitation for Bids. In the absence of such appropriation or authorization, any contract resulting from this Invitation for Bids shall be terminated immediately without liability for damages, penalties or other charges arising from early termination. Expenditures for contracted services, which will extend beyond a single fiscal year shall not exceed in any fiscal year the amount appropriated and authorized for the said fiscal year.

1.19 Procurement Calendar

The City of Chelsea invites bids that will result in a contract. The IFB schedule of events for this solicitation, subject to amendment by the City of Chelsea is:

EVENT	**DATE**
IFB Released	4/23/2015
Mandatory Pre-Bid Conference (99 Hawthorne St.)	5/1/2015 at 11:00am
Deadline for Written Inquiries	5/4/2015
Response to Written Inquiries	5/5/2015
Due Date for Responses	5/8/2015 at 11:00am

Section 2 General Bid Information

2.1 Required IFB Sections

The Responder must provide, in its bid, a reply to the particular specifications included in the Invitation for Bids.

2.2 Minority or Woman Business Enterprise Participation

In accordance with the Minority Business Enterprise Plan for the City of Chelsea, all qualified Minority-Owned Business Enterprises (MBE) or Woman-Owned Business Enterprises (WBE) are strongly encouraged to submit bids in response to this Invitation for Bids. For the purpose of this IFB, the term MBE or WBE shall mean a vendor who is certified as a minority business enterprise by the State Office of Minority and Women-Owned Business Assistance (SOMWBA), and who is certified at the time the vendor's bid is submitted.

All minority owned businesses are encouraged to apply for SOMWBA certification. For further information on SOMWBA qualifications or access to SOMWBA vendor lists, contact the Supplier Diversity Office, Commonwealth of Massachusetts Operational Services Division at 617-720-3300.

2.3 The Contract Award

Based upon the bids received, the contract will be awarded to the lowest responsive and eligible Bidder.

2.4 ADA, Regulatory, Compliance and Standards

Responders are expected to provide services and commodities that are in compliance with Section 504 of the Federal Rehabilitation Act of 1973, the Americans with Disabilities Act of 1990, the Telecommunications Act of 1996, and all successor federal and related legislation throughout the term of any contract resulting from this solicitation.

2.5 Indemnification

Any successor in exchange for entering into an agreement or contract resulting from this Invitation for Bids shall indemnify and hold harmless the City of Chelsea and all persons acting for or on behalf of either of them from all suits and claims against them, or either of them, arising from or occasioned by the use of any service, material, equipment or apparatus, or any part thereof, which infringes or is alleged to infringe on any patent rights. In case such service, material, equipment or apparatus, or any part thereof in any suit is held to constitute infringement, the successful Responder, within a reasonable time, will at its expense, and as the City of Chelsea may elect, replace such material, equipment or apparatus with non-infringing material, equipment or apparatus or remove

the material, equipment or apparatus and refund the amounts paid therefore. Said indemnification includes reasonable attorney's fees related thereto.

Furthermore, any successful Responder in exchange for entering into any agreement or contract resulting from this Invitation for Bids agrees to indemnify and hold harmless, release and forever discharge the City of Chelsea as well as their officers, agents and employees as well as their successors and assigns from any and all manner of actions, suits, claims, demands, judgments, damages and liability in law and in equity which may arise or result from performance under this contract. This includes any discrimination, labor or employment claims against the successful Responder and the City of Chelsea and any and all manners of legal action brought against the successful Responder and /or the City of Chelsea. Said indemnification includes reasonable attorney's fees related thereto.

2.6 Federal, State and Local Laws

The successful Responder will comply with all applicable Federal, State and Local laws and regulations.

2.7 Tax Exempt

Purchases made by municipalities and government are exempt from Federal Excise Taxes and Massachusetts Sales Taxes and bid prices must show the exclusion of such taxes. Tax exemption certificates will be furnished as required.

2.8 Insurance

The successful Responder in addition to any insurance required by State or Local Law, shall maintain in force during the term of any contract(s) issued as a result of this Invitation for Bids, the following insurance issued by an insurance company licensed to do business in the Commonwealth of Massachusetts. Failure to provide or maintain such insurance shall be grounds to reject a bid or execute a contract.

a. Public Commercial Liability coverage in the amount of $1,000,000.00 per occurrence and $2,000.000.00 aggregate. Automobile Liability Insurance coverage in the amount of $500,000.00 per person, $1,000,000.00 per occurrence. Property damage Insurance in the amount of $250,000.00.
b. Worker's Compensation Insurance in the amounts required by Massachusetts Law.
c. Evidence of such insurance must name the City of Chelsea as the named insured as well as the successful Responder.
d. An Insurance Certificate giving evidence of the insurance must be delivered to the City of Chelsea within 10 days by the successful Responder receiving the award of this Invitation for Bids.

2.9 Confidentiality

The successful Responder will comply with all provisions of Executive Order No. 11246 of September 24, 1975 and the successful Responder acknowledges that in performance of any contract resulting from the Invitation for Bids it may require or have access to "personal data" and become a "holder" of personal data as defined by M.G. L. c. 66A. The successful Responder shall comply with all laws and regulations relating to confidentiality and privacy, including but not limited to any rules and regulations of the City of Chelsea. The successful Responder shall at all times recognize the City of Chelsea's ownership of personal data and the exclusive right and jurisdiction of the City, and "data subjects" (as defined in chapter 66A) to control the use of personal data. The successful Responder shall immediately notify the City of Chelsea both orally and in writing if any personal data in its possession is subpoenaed, improperly used, copied or removed by anyone except an authorized representative of the City of Chelsea. The successful Responder shall cooperate with the City of Chelsea in taking all steps it deems advisable to enjoin, misuse, regain possession and/or otherwise protect the City of Chelsea's rights and data subject's privacy. The successful Responder shall allow access to any personal data held in their possession solely to those employees of the City of Chelsea who require such information in the performance of their occupational responsibilities. All personal data held by the successful Responder shall be delivered to the City of Chelsea within 14 calendar days after termination of any contract resulting from this Invitation for Bids. The successful Responder agrees to take reasonable steps to insure the physical security of such data under its control, including but not limited to fire protection, protection against smoke and water damage, alarm system, locked removal of manually held data, passwords, access logs, badges or other methods reasonably expected to prevent loss or unauthorized access to electronically or mechanically held data, limited terminal access, access to electronically or mechanically held data, limited terminal access, access to input documents and design provisions to limit use of personal data. The successful Responder agrees that it will inform each of its employees having any involvement with their personal data or confidentiality. The City of Chelsea shall have access at all times to any data maintained pursuant to any contract resulting from this Invitation for Bids, without the consent of the data subject. The successful Responder shall use personal data, and material derived from such data, only as necessary for the performance of the subject contract. Failure of the successful Responder to comply with the requirements of this section may be grounds for terminating any contract resulting from this Invitation for Bids.

2.10 Force Majeure

Neither the City of Chelsea nor the successful Responder shall be liable to the other, nor deemed to be in breach of any contract resulting from this Invitation for Bids for failure or delay in rendering performance rising out of causes factually beyond its control and without its fault or negligence. Such causes may include, but are not limited to, Acts of God or the public enemy, wars, fires, flood, epidemics, quarantine restrictions, strikes, unforeseen freight embargos or unusually severe weather. Dates of times of performance shall be extended to the extent of delays excused by this section, provided that the party

whose performance is affected notifies the other party promptly of the existence and nature of such a delay. It is agreed that since the performance dates of the subject contract are of the essence and important to the implementation of essential City of Chelsea work, continued failure to perform for periods aggregating 45 or more calendar days, even for causes beyond the control of the successful Responder, shall afford the City of Chelsea the right to terminate any contract resulting from this Invitation for Bids without assessment of termination costs or penalties.

2.11 Equal Opportunity

During the performance of this contract, the successful Responder agrees as follows:

a. The successful Responder will not discriminate against any employee or applicant for employment because of race, religion, color, sex or national origin, sexual orientation, which shall not include persons whose sexual orientation involves minor children as the sex object, genetic information or ancestry. The successful Responder will take affirmative action to ensure that applicants are employed and that the employees are treated during employment without regard to their race, religion, color, sex, nation origin or sexual orientation, which shall not include persons whose sexual orientation involves minor children as the sex object, genetic information or ancestry.
b. The successful Responder will comply with all provisions of Executive Order No. 11246 of September 24, 1975 and all of the rules, regulations and relevant orders of the Secretary of Labor.

2.12 Termination

The Responders for this Invitation for Bids should note that the City of Chelsea reserves the right to terminate any contract resulting from this Invitation for Bids in whole or in part, by written notice:

- **Without cause**: Either party may terminate the subject contract by giving written notice to the other party at least 60 calendar days prior to the normal contractual effective date of termination as stated or such other period as is mutually agreed upon in advance by the parties
- **For cause**: If, in the opinion of the City of Chelsea, the successful Responder fails to fulfill its obligations, the City of Chelsea may terminate any contract resulting from this Invitation for Bids by giving 30 days written notice to the successful Responder at any time. The subject contract shall be terminated immediately in the event of fraud or program abuse.
- **Emergency**: The City of Chelsea may terminate or suspend any contract resulting from this Invitation for Bids up to 60 calendar days by providing written notice to the successful Responder, stating the grounds for the City of Chelsea's action, in the form of U.S. Mail, hand-carried letter, or other appropriate written means, if the City of Chelsea determines that immediate action is necessary to protect City, State and/or Federal funds or property, or to protect persons from

injury. Such termination or suspension shall be effective upon receipt of notice of either suspension or termination by the successful Responder. In the case of a suspension under this paragraph, the notice of suspension shall be accompanied by instructions from the City of Chelsea specifying requisite actions by the successful Responder to remove the suspension, proposed timetable for meeting those requirements and a description by the City of Chelsea of allowable activities and costs, if any, during the suspension period. Failure by the successful Responder to remedy the stated deficiencies according to the timetable prescribed by the City of Chelsea shall be cause for immediate termination.

- **Elimination or Reduction of Funding**: In the event of a reduction of funding for any reason, the City of Chelsea may terminate any contract resulting from this Invitation for Bids by providing notice of termination in a reasonable time. The City of Chelsea may provide a conditional notice of termination with a proposed amendment to the subject contract. Any such notice shall provide that the subject contract will terminate automatically 30 calendar days after the date of the conditional notice of termination unless the successful Responder submits to the City of Chelsea a properly signed copy of the amendment, or such modification form of amendment as may be agreeable to the City of Chelsea, within 20 calendar days after the date of the conditional notice of termination, or such other time as it is otherwise specified in the conditional notice.

- **Office's Remedies:** Upon Termination for Cause or for Emergencies: Notwithstanding the terms contained in this section, in the event of termination, the successful Responder shall not be relieved of liability to the City of Chelsea by virtue of any breach of any contract resulting from this Invitation for Bids by the successful Responder. In the event of termination pursuant to this section, the City of Chelsea may withhold any payments to the successful Responder for the purpose of set-off until such time as the exact amount of damages due to the City of Chelsea from the successful Responder is determined. In addition to and notwithstanding the above, the successful Responder covenants and agrees that in the event of termination of any contract resulting from this Invitation for Bids the successful Responder shall pay to the City of Chelsea as damages: (a) such sum as, at the time of termination, the City of Chelsea reasonably determines that is, shall require to compensate a subsequent contractor to complete the delivery of service, and (b) the sum, reasonably determined by the City of Chelsea, which will compensate the City of Chelsea for all the direct and indirect costs resulting from delay in the delivery of services upon the successful Responder's default. The successful Responder further covenants and agrees with the City of Chelsea that the successful Responder shall pay all of the City of Chelsea's costs and expenses (including attorney's fees) incurred or paid in obtaining and enforcing any court order favorable to the City of Chelsea for any obligation of the successful Responder under any contract resulting from this Invitation for Bids.

2.13 Obligation in the Event of Termination

Upon termination of any contract resulting from this Invitation for Bids, all documents finished or unfinished, data, studies and reports prepared by the successful Responder pursuant to the subject contract shall become the property of the City of Chelsea. Copies of finished and unfinished documents, data, studies and reports generated as a necessary part of performing the subject contract shall be delivered to the City of Chelsea upon reasonable request and shall be retained by the successful Responder for future use. The City of Chelsea shall promptly pay the successful Responder for all services performed and for all costs and un-cancelable commitments reasonably incurred in performance of the subject contract to the effective date of termination, provided the successful Responder is not in default of the terms of the subject contract and submits to the City of Chelsea properly completed invoices with supporting documentation covering such services no later than 45 days after the effective date of termination, and that the successful Responder make every reasonable effort to minimize or recover costs incurred.

2.14 Ownership of Furnishings & Equipment

Unless otherwise provided by law or a federal grant award, title to all furnishings and equipment provided by the City of Chelsea or that the awarded Responder provides under the terms of this Invitation for Bids and paid for with public funds, shall vest in and be retained by the City of Chelsea. Upon completion of performance of the awarded Responder's contract, the awarded Responder shall return such furnishings and equipment in its possession in the same condition as at the commencement of any contract resulting from this Invitation for Bids, normal wear and tear excepted.

2.15 Anti-Boycott Warranty

During the term of any contract resulting from this Invitation for Bids, neither the successful Responder nor any "affiliated company" as hereafter described, shall participate in or cooperate with an international boycott, as defined in section 999(b) (3) and (4) of the Internal revenue Code of 1954, as amended by the Tax Reform Act of 1986, or engage on conduct declared to be unlawful by sections 2 and 4 of Chapter 151E of The Massachusetts General Laws. As used herein, an "affiliated company" shall be any business entity or which at least 51% of the ownership interests are directly or indirectly owned by the successful responder or by a person or persons or business entity or entities which directly own at least 51% of the ownership interest of the successful Responder.

2.16 Tied Bids

In the event that there is a tie bid between two (2) responsive and responsible bidders, the award of the contract will be determined by a coin toss. The bidder's whose submission was received earliest shall be assigned "Heads" in the coin toss. In the event that there is a tie bid with three (3) or more responsive and responsible bidders, the award shall be made by a draw by lot limited to those bidders. The coin toss/draw by lot shall be

scheduled within two (2) business days from when it was determined by the Town to be a tie bid. The bidders involved shall be given an opportunity to attend. The coin toss/drawing shall be witnessed by at least three (3) Town officials. The tie breaker event shall be held at Chelsea City Hall during regular business hours.

2.17 Unexpected Closures or Delays

If, at the time of the scheduled bid submission deadline, the designated location for delivery of the bid is closed due to uncontrolled events such as fire, snow, ice, wind, building evacuation or other, the deadline will be postponed until 11:00 a.m. on the next normal business day. Bids will be accepted at the same location until that date and time.

End of Section

Section 3 Responder's Bid Information

3.1 Bidder Communications

Responders are prohibited from communicating directly with any employee of the Purchasing Department and any other member of the City of Chelsea except as specified in this Invitation for Bids, and no other individual City of Chelsea employee or representative is authorized to provide any information or respond to any question or inquiry concerning this Invitation for Bids. Responders may contact the person identified on the cover sheet of this Invitation for Bids in the event this Invitation for Bids is incomplete.

3.2 Reasonable Accommodation

Responders with disabilities or hardships that seek reasonable accommodation, which may include the receipt of the Invitation for Bids information in an alternative format, must communicate such requests in writing, via electronic mail (e-mail) to the contact person. Requests for accommodation will be addressed on a case by case basis. A Responder requesting accommodation must submit a written statement, via e-mail which describes the responder's disability and the requested accommodation to the contact person for the Invitation for Bids. The City of Chelsea reserves the right to reject unreasonable request.

3.3 Public Records

All bids and information submitted in response to this Invitation for Bids are subject to the Massachusetts Public Record Law, M.G.L., Chapter 66, Section 10, and to Chapter 4, Section 2, and Subsection 26. Any statements in the Responder's bid inconsistent with these statutes will be disregarded.

3.4 Brand Name or Equal

Unless otherwise specified in this Invitation for Bids, any reference to a particular trademark, trade name, patent, design, type, specification, producer or supplier is not intended to restrict this Invitation for Bids to any manufacturer or proprietor or to constitute an endorsement of any good or service, and the City of Chelsea must consider clearly identified offers if substantially equivalent goods and services submitted in response to such reference.

3.5 Publicity

Any Responder awarded a contract under this Invitation for Bids is prohibited from selling or distributing any information collected or derived from the contract, including lists of participating or eligible departments, employee names, telephone numbers, e-mail

addresses, addresses or any other reports or information except as specifically authorized under this contract.

3.6 Costs

Costs for services that are not specifically identified in the Responder's response and identified as part of a contract, will not be compensated under any contract awarded pursuant to this Invitation for Bids.

The City of Chelsea will not be responsible for any costs or expenses incurred by responders responding to this Invitation for Bids.

3.7 Required Contract Attachments

All Responders are required to complete, sign and return at minimum the following documents:

1.) **Bid Information-** to be included as cover page of bid
2.) **Certificate of Non-Collusion-** Signature required
3.) **Statement of Corporate Authority (If Responder is a Corporation) -** If the Responder is a Corporation, a vote of the Corporation approving participation in this Invitation for Bids process must be signed by the corporate officers with the Corporate Seal Affixed and attached to the original Invitation for Bids.

    If the Responder is a Corporation, the names and addresses of the corporate Officers and the state and date of incorporation must be included. The Responder must state if the Corporation is publicly held or privately held. If the Corporation is publicly held, the exchange on which it is traded and the symbol under which it is traded is required.

    Sole Proprietorship (If Responder is a Sole Proprietorship)- If the Responder is a Sole Proprietorship, a partnership or any other legal business entity, the names and addresses of the officers must be included, the parent state of business and the numbers of years this entity has been in business. In short, a complete business profile must be included in the bid.
4.) **Bid Pricing Form -** Signature required
5.) **Reference Form-** To include three current contract references, at least one of which is a government agency that can be contacted during the IFB process. Two of the references must be customers for which the Responder is or has provided services similar to those outlined in the Scope of Services of the IFB. Include customer name, contact person, his/her title, address and telephone number.

    Do not use the names of relatives or City Employees as references. Do not use any previous City contracts as a source of project reference information. You may use previous City contracts as a record of your experience only
6.) **OSHA Compliance Certification** - Signature required

3.8 Submitted Responses

The City of Chelsea shall be under no obligation to return any responses or materials submitted by the Responder in response to this Invitation for Bids. All materials submitted by Responders become the property of the City of Chelsea and will not be returned to the Responder. The City of Chelsea has the right to use any ideas, concepts or configurations that are presented in the Responder's bid whether or not the bid is selected for contract award.

3.9 Clarification of Response

The City of Chelsea is not required to seek clarification of responses; therefore, the responder should be as clear as possible in all of its responses to this Invitation for Bids.

3.10 Evaluation and Award of Contract

All pricing must remain constant for the entire term of the contract, as well as any possible extension offered. Bids will be evaluated and awarded based upon the lowest, responsive and eligible bid.

3.11 Rejection of Responder's Bid

A Responder's bid may be rejected by the City of Chelsea if the Responder's bid:

- Fails to adhere to one or more of the requirements
- Fails to submit its bid to the required address on or before the Invitation for Bid responses due date
- Fails to submit a bid in accordance to the format and instructions specified or to supply the minimum information requested in this Invitation for Bids.
- Fails to meet unconditionally or is unable to demonstrate competence to meet the requirements of this Invitation for Bids.
- Misrepresents its equipment, systems or services or provides demonstrably false information in its response or fails to provide material information.
- Violates the restrictions on contacts with the City of Chelsea employees and representatives
- Refuses, is unable to, or fails to provide clarification requested by the City of Chelsea in a reasonable time frame.

3.12 Invitation for Bids Cancellation

The City of Chelsea retains the right to cancel this Invitation for Bids, or any portion thereof, at any time prior to the execution and approval of a contract. If this Invitation for Bids is cancelled, all responses received to this Invitation for Bids will be rejected. All expenses related to the preparation of responses to this Invitation for Bids remain the responsibility of the Responder.

3.13 No Guarantee of Purchase

The City of Chelsea makes no guarantee that any purchase shall take place from any contract resulting from this Invitation for Bids nor does the City of Chelsea guarantee any minimum quantity of purchases from any contract resulting from this Invitation for Bids. Any estimated or past procurement volumes referenced in this Invitation for Bids are included only for the convenience of the Responders, and not to be relied upon as any indication of future purchases.

The Responder may not place, as a condition for providing the cost levels proposed, any minimum purchase requirements.

3.14 Prime Contractors and Subcontractors

Prior approval of the eligible entity is required for any subcontracted service of the contract. Contractors are responsible for the satisfactory performance and adequate oversight of its subcontractors. Subcontractors are required to meet the same state and federal financial program and reporting requirements and are held to the same reimbursable cost standards as the successful Responder.

The City of Chelsea requires a single point of contact for any contract resulting from this Invitation for Bids. Subcontractors may be used, but the successful Responder, as prime contractors, shall be responsible for meeting all of the terms of any contract resulting from this Invitation for Bids and must accept full responsibility for any subcontractor's performance.

Responders must provide a list of subcontractors, a description of each subcontractor's responsibility in regards to this contract and signed letters of agreement between the Responder as the prime contractor, and its subcontractor(s) identifying their responsibilities and their relationship to the prime contractor. The prime contractor must notify each individual account (eligible entity) in writing; the name of their subcontractor both initially and when a sub-contractor is changed. If a subcontractor has filed for Chapter 11 Bankruptcy of Chapter 7 Bankruptcy, the prime contractor also must notify the City of Chelsea. The notification must be written and must be within one week of the events noted above.

3.15 Written Inquires

Responders may submit written inquiries concerning any part or attachment of this Invitation for Bids. Written inquiries regarding issues outside of the scope of this Invitation for Bids will not be considered.

All inquiries must be submitted by the required date and time, to the contact listed on the cover page of this Invitation for Bids.

All written inquiries must be submitted via electronic mail (email) only. No other manner of submission will be accepted.

Any change to this submission date and/or time will be made by a notice sent electronically to all Responders. The Responder is responsible for confirming receipt of written inquiries with Dylan Cook, Chief Procurement Officer, and City of Chelsea at dcook@chelseama.gov.

The City of Chelsea will provide written responses via electronic mail (e-mail) to all written inquiries received by the required due date. Responses will not identify the inquiry by Responder.

3.16 Instructions for Submission of IFB Responses

Each Invitation for Bid Response must be sealed, labeled and submitted to the address listed on the cover page of this document.

Paper Submission- the Responder must submit one (1) original response to the Invitation for Bids marked "ORIGINAL" The Envelope must be clearly marked **"Security Desk and Conference Room – Shurtleff School".**

3.17 Deadline for Submission

All responses to this Invitation for Bids are due at the address listed on the cover page and no later than the date and time listed in the Procurement Calendar.

End of Section

Section 4 Scope of Services

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. General provisions of the Contract, including General and Supplementary Conditions and other Division 1 Specification Sections, apply to this Section.

B. The latest revision or version of codes and standards referenced within the Contract Specification Section shall be used.

1.2 PROJECT INFORMATION

A. Project Identification: Project consists of replacement of existing roof top cooling tower.

1. Project Location: Shurtleff School, 99 Hawthorne Street, Chelsea Massachusetts, 02150.

2. Owner: Chelsea Public Schools, 500 Broadway, Chelsea, MA 02150.

B. Engineer Identification: The Contract Documents, dated March 15, 2015, were prepared for the Project by Jacobs Project Management Company, 343 Congress Street, Boston, Massachusetts, 02210.

C. Construction Manager: Construction Manager for this Project and shall be Project's Constructor. The terms "Construction Manager" and "Contractor" are synonymous.

D. Project Coordinator: Mr. David Ferraro, Director of Facilities Management, Chelsea Public Schools, or his appointee for the Project Coordinator.

1.3 WORK COVERED BY CONTRACT DOCUMENTS

A. In general, the work-- Per design drawings provided along with this summary of work-- shall consist of but NOT BE LIMITED to:

1. Construction of a new security desk and all related materials, fittings, fixtures, finishes in the Main Lobby space.
2. Construction of a new conference room and all related material, fittings, fixtures, finishes in the Main Lobby space.
3. Construction of two passage openings through the existing masonry wall that currently separates the main lobby from the first floor administrative area. One opening is to be made passable by removing the existing transaction counter. The other opening is to be constructed by demolishing through the

existing masonry room; this is located such that a passage between the existing administrative offices and the new conference room can be made. Contractor shall install privacy door at this new opening.

4. Contractor shall install new HVAC equipment, diffusers, and related fittings, fixtures in the ceilings as indicated on drawings provided with this summary of work.
5. Contractor shall install new lighting, switches, occupancy sensors, outlets, and fire alarm work as indicated on drawings provided with this summary of work. Contractor shall remove any existing condition necessary to construct the new design as provided in the drawings.
6. Contractor shall relocate any sprinklers in the ceiling to meet necessary codes.

1.4 WORK SEQUENCE AND SCHEDULE

A. The Construction Schedule shall be based on the work being completed by August 30, 2015, or other date as agreed to by the Director of Facilities Management for the Chelsea School Department.

B. Contractor shall submit a schedule for each Phase of the Work indicating scheduled completion of work and identifying these intermediate milestones:

a. Start of Project Construction.
b. Delivery of Submittals.
c. Delivery of major equipment.
d. Completion of new installations.
e. Testing and commissioning.
f. Project Completion/Closeout.

C. The construction schedule shall reflect these milestone dates:

a. Construction site staging.
b. Equipment delivery schedule.
c. Start of demolition and construction activity.
d. Completion of new installation.
e. Completion of cooling system work.
f. Project Completion/Closeout.

1.5 USE OF PREMISES/PERMITS/FEES

A. General: Contractor will have limited use of premises for construction operations during construction period.

B. Specific areas for staging and storage of construction materials will be identified by the Project Coordinator. Storage of materials shall be in contractor furnished locked containers. No additional charges will be accepted for lost or stolen material and tools.

C. Contractor is advised that school is in session and work will be accomplished during normal school activities. No disruption, interruption, or any other contractor activity, including lifting and rigging operations, will adversely affect school operations. Contractor shall provide security for his tools, consumables, and to the various work areas during the period of construction.

D. Contractor is advised that the school is located in a residential/commercial section of the city and vehicular access may at times become congested and/or difficult. The movement of the crane used to access the roof levels, may require movement in off-peak hours and the use of premium labor. Scheduled completion of the various phases of the work may also require premium time. Contractor shall schedule this work accordingly.

E. Contractor is also advised the installation security desk and conference room present some challenges for access at the Shurtleff School. All damages and repairs to existing facilities, including ball fields or other fields, as a result of lifting, rigging and related construction activities, shall be repaired to the Owners satisfaction, and shall be the responsibility of the Contractor.

F. Contractor shall obtain all permits and pay all fees to facilitate movement of crane and subsequent lifting activities, including, but not limited to, City of Chelsea Police Department Traffic Details.

1.6 SPECIFICATION FORMATS AND CONVENTIONS

A. Specification Format: The Specifications are organized into Divisions and Sections using the 48-division format and CSI/CSC's "MasterFormat" numbering system.

1. Section Identification: The Specifications use section numbers and titles to help cross-referencing in the Contract Documents. Sections are in numeric sequence; however, the sequence is incomplete. Consult the table of contents to determine numbers and names of sections in the Contract Documents.

2. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

3. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.

4. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

1.7 SUBMITTALS

A. Five (5) copies of each submittal, as required by these specifications, shall be delivered for review by the Engineer / Architect. All submittals shall conform to the format as specified herein.

B. Submittals shall be in a bound format, with a title page indicating the Project Identification, submittal title and specification reference.

C. Submittals shall be made to expedite material and equipment delivery. No claim for delay will be entertained due to drawing submittal review.

D. Payment will be made on a monthly basis predicated on Engineers / Architects and Owners representative review of the work and timely receipt of Shop drawings. Delays in receipt of shop drawings will be cause for delays in payment for work completed. Contractor is advised that his work will be accomplished "At Risk" without Engineer approved shop drawings.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

Bidder Information Form

Bid for **Security Desk and Conference Room – Shurtleff School**

(To be first page of Bid)

Name of Company:

Address:

Telephone #:

Fax #:

Email Contact:

Is the Company a: Corporation ____

Partnership ____

Sole Proprietorship____

Publicly Held ____

Privately Held ____

Names and address of the Principals, Owners, Directors, Officers:

_____
_____
_____

_____
Signature of authorizing party

CITY OF CHELSEA

REQUIRED BID SUBMITTAL FORM

Certificate of Non-Collusion

The undersigned certifies under the penalties of perjury that this proposal has been made and submitted in good faith and without collusion or fraud with any other person. 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.

Signature Date

_____ _____

_____

Name (Please Print) Title

_____

Company

_____

Address

_____

Contact Number

CITY OF CHELSEA

REQUIRED BID SUBMITTAL FORM

STATEMENT OF CORPORATE AUTHORITY

REQUIRED (IF CORPORATION) IF A CORPORATION, COMPLTE BELOW OR ATTACH TO EACH SIGNED COPYOF THE BID A NOTORIZED COPY OF VOTE OF CORPORATION AUTHORIZING THE SIGNATORY TO SIGN THIS CONTRACT. IF ATTESTING CLERK IS THE SAME PERSON AS THE INDIVIDUAL EXECUTING THIS CONTRACT, HAVE SIGNATURE NOTORIZED ABOVE.

At a duly authorized meeting of the Board of Directors of _____held
on_____ Name of Corporation
Date

at which time all voted that_____
Name Officer

of this Company, be and hereby is authorized to execute contracts and bonds in the name and behalf of said Company, and affix its Corporate Seal thereto, and such execution of any contract of obligation in this Company's name on its behalf by such person _____under seal of the Company, shall be valid and binding upon this company.

A TRUE COPY,

ATTEST: _____
Clerk

PLACE OF BUSINESS: _____

DATE OF THIS BID: _____

I hereby certify that I am the Clerk of the _____

_____and that_____ is

duly elected _____of said Company, and that the above vote has not been amended or rescinded and remains in full force and effect as of the date of this contract.

_____
(Clerk's Signature)

(CORPORATE SEAL)

On this _____ day of _____, 2015, before me, the undersigned notary public, personally

appeared _____, proved to me through satisfactory evidence of identification,

which were_____to be the person whose name is signed on the preceding or attached document in my presence.

_____
Notary Public - My Commission Expires:

CITY OF CHELSEA
REQUIRED BID SUBMITTAL FORM

LUMP SUM BID PRICING - TOTAL BID PRICE:

$_____ $_____
(words) (figures)

Name of Firm: _____

Address: _____

Phone Number: (_____) - _____

Signature: _____

Print Name: _____ Date: _____

Email Address: _____

The above named firm agrees with the terms and conditions set forth in these Bid Specifications and submits the following rates. The rate shall be inclusive of all charges associated with the provisions of the services.

In conjunction with the words, and figures submitted above for the requisite bid items, and an integral part of said bid submission, the undersigned certifies that:

The undersigned declares that the only persons or parties interested in his/her bid as principals area as stated; that the bid is made without any collusion with other persons, firms, or corporations; that he/she has carefully examined all the Contract Documents and has informed him/herself fully in regard to all conditions pertaining to the work and based on this information, the undersigned makes this bid. These prices shall cover all expenses incurred in performing the work required under the Contract Documents of which this Bid Form is a part.

All bids shall remain open for thirty (30) days, not including Saturdays, Sundays, and legal holidays, after the date of the bid opening.

If a notice of award and three (3) unsigned copies of the Contract (and all other applicable Contract Documents) is delivered to the undersigned within thirty (30) calendar days, not including Saturdays, Sundays, and legal holidays, after the date of receipt of such notification, he/she shall within five (5) days execute and return all copies of the Contract (and all other applicable Contract Documents) to the City. The premiums for all bonds required shall be paid by the Contractor and shall be included in the contract

price. The undersigned further agrees that the bid security accompanying this bid shall become the City's property if the bidder fails to execute the Contract as stated above.

Amounts shall be shown in both words and figures, where indicated. In case of discrepancy, the amount shown in words will govern. The above prices shall include all labor, materials, equipment, supervision, transportation, overhead, profit, insurance, and incidentals required to complete the Work.

The undersigned hereby certifies that s/he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the Work.

Furthermore, pursuant to M.G.L., Chapter 62C, Section 49A, I certify under the penalties of perjury that I, to my best knowledge and belief, have filed all state tax returns and paid all state taxes required under the law.

The undersigned under penalties of perjury certifies that this bid is in all respects true, accurate, bonafide, fair, and made without collusion or fraud with any other person. As used in this section, the word "person" shall mean any natural person, joint venture partnership, corporation, or other business or legal entity.

Signed this ____ day_____, 2015.

_____	_____
Social Security Number or Federal Identification Number	Signature of Individual or Corporate Name

By: _____
Partner of Corporate

CITY OF CHELSEA

REQUIRED BID SUBMITTAL FORM

REFERENCE FORM

Bidder: _____

Title of Bid: **Security Desk and Conference Room – Shurtleff School**

Bidder must provide references for:
All contracts performed within the past five years of similar size and scope to this contract

- Reference: _____
- Address: _____
- Contact: _____
- Phone: _____
- Fax: _____
- Description and date(s) of services provided:

- Reference: _____
- Address: _____
- Contact: _____
- Phone: _____
- Fax: _____
- Description and date(s) of services provided:

- Reference: _____
- Address: _____
- Contact: _____
- Phone: _____
- Fax: _____
- Description and date(s) of services provided:

CITY OF CHELSEA

REQUIRED BID SUBMITTAL FORM

OSHA COMPLIANCE CERTIFICATION

Any person submitting a bid for, signing a contract to work on, the construction, reconstruction, alteration, remodeling or repair of any building or public works project undertaken by a public awarding authority in Massachusetts and estimated to cost more than $10,000 must certify on the bid or contract, under penalties of perjury, as follows:

1. That he is able to furnish labor than can work in harmony with all other elements of labor employed or to be employed at the work

2. All employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and

3. That all employees to be employed in the work subject to this bid have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration. (MGL. c. 30, Section 39S (a))

Pursuant to M.G.L. c. 30, Section 39M and M.G.L. c. 149, I certify under penalties of perjury that, to the best of my Knowledge and belief, I am in compliance with the OSHA requirements as stated above.

Dated_____ _____

Name of Company or Corporation

_____

Authorized Official's Signature

BIDDERS/RESPONDENTS MUST SUBMIT THIS FORM FULY COMPLETED

CONTRACT NO._____

CITY OF CHELSEA
CONTRACT FOR SERVICES
over $10,000

This agreement (the "Agreement") is made and entered into by and between the City of Chelsea (hereinafter the CITY), a municipal corporation organized and existing under the laws of the Commonwealth of Massachusetts, and

[NAME]
[ADDRESS]
(hereinafter the CONTRACTOR)

For mutual consideration the Parties hereby agree as follows:

ARTICLE 1. DEFINITION.
This CONTRACT as used herein shall consist of this Agreement, and the "contract documents" which include but are not limited to the following identified items and all documents, and forms submitted therewith, or attached hereby.

☐ Attachment A: Scope of Services, and/or other bid package materials
☐ Attachment B: Additional Contract Terms and Conditions
☐ Attachment C: Certificate of Non-Collusion, Tax Compliance Certification, Statement of Corporate Authority
☐ Attachment D: Summaries of Laws Regarding State Ethics - Acknowledgment of Receipt
☐ Addenda through #

ARTICLE II. AMOUNT AND TERM.
Pursuant to the terms and conditions stated in the Contract, this CITY agrees to pay an amount not to exceed $_____, and the Contractor agrees to perform the services detailed in the Contract. The Contract shall commence on or about _____ (the "Commencing Date") unless earlier terminated pursuant to Article IV, Termination and shall terminate no later than _____, unless a written amendment to renew or extend this contract is executed in accordance with the provisions of this CONTRACT.

ARTICLE III. PERFORMANCE.
The Contractor agrees to provide all goods and/or services set forth in the Invitation for Bid/Request for Proposal Documents, Scope of Service, the Contractor's proposal for "_____", and/or as outlined in ATTACHMENT A - SCOPE OF SERVICES.

ARTICLE IV. TERMINATION.
i) Without Cause. The CITY may terminate this CONTRACT on sixty (60) calendar day's notice, or may suspend this CONTRACT for up to sixty (60) calendar days upon receipt of notice, when in the best interests of the CITY, by providing notice to the CONTRACTOR, which shall be in writing and shall be deemed delivered and received when given in person to the CONTRACTOR, or when received by fax, express mail, certified mail return receipt requested,

regular mail postage prepaid or delivered by any other appropriate method evidencing actual receipt by the CONTRACTOR.

ii) For Cause. If the CONTRACTOR is determined by the CITY to be in default of any term or condition of CONTRACT, the CITY may terminate this contract on thirty (30) day's notice by providing notice to the CONTRACTOR, which shall be in writing and shall be deemed delivered and received when given in person to the CONTRACTOR, or when received by fax, express mail, certified mail return receipt requested, regular mail postage prepaid or delivered by any other appropriate method evidencing actual receipt by the CONTRACTOR. If the CITY is determined by the CONTRACTOR to be in default of any term or condition of this CONTRACT the CONTRACTOR may terminate this contract on thirty (30) day's notice by providing notice to the CITY, which shall be in writing and shall be deemed delivered and received when given in person to the CITY, or when received by fax, express mail, certified mail return receipt requested, regular mail postage prepaid or delivered by any other appropriate method evidencing actual receipt by the CITY.

iii) Default. Events of default under this CONTRACT shall include, but are not limited to the following: a) any material misrepresentation made by the CONTRACTOR to the CITY, b) any failure to perform any of its obligations under this CONTRACT including, but not limited to the following: (i) failure to commence performance of this CONTRACT at the time specified in this CONTRACT due to a reason or circumstance within the CONTRACTOR'S reasonable control, (ii) failure to perform this CONTRACT with sufficient personnel and equipment or with sufficient material to ensure the completion of this CONTRACT within the specified time due to a reason or circumstance within the CONTRACTOR'S reasonable control, (iii) failure to perform this CONTRACT in a manner reasonably satisfactory to the CITY, (iv) failure to promptly re-perform with reasonable time the services that were rejected by the CITY as unsatisfactory, or erroneous, (v) discontinuance of the services for reasons not beyond the CONTRACTOR'S reasonable control, (vi) failure to comply with a material term of this CONTRACT, including, but not limited to, the provision of insurance or failure to comply with nondiscrimination provisions, and (vii) any other acts specifically and expressly stated in this CONTRACT as constituting a basis for termination of this CONTRACT, and (viii) failure to comply with any and all requirements of state law, and/or regulations, and City ordinances, and/or regulations.

ARTICLE V. REMEDIES OF THE CITY.

The City hereby retains all remedies in law and equity, including but not limited to, the right to deduct the cost of any substitute contract or performance for expenses, losses, and all damages and the right to withhold from payment, any amounts for expenses, losses, and damages from sums due, or which become due.

ARTICLE VI. REMEDIES OF THE CONTRACTOR.

If the Contractor, due to any act or omission for which the City is legally responsible, sustains damages, other than loss, non-conformance, or non-performance, the Contractor may request, within 30 days of the alleged act or omission from the City, a sum equal to the amount of such damages sustained by the Contractor, which amount may be determined by the City in writing, at the City 's sole discretion, provided that the Contractor has provided to all signatories of this Agreement, a detailed, written statement of such damages and cause thereof within said 30 day period.

ARTICLE VII. ASSIGNABILITY.

The CONTRACTOR shall not assign, subcontract or in any way transfer any interest, rights or obligations in this CONTRACT without the prior written consent of the City Manager. In the

event of such assignment the CITY reserves the right to deal with any assignee subcontractor or transferee directly and the CONTRACTOR agrees to remain bound by all terms and conditions of this CONTRACT in accordance with its original tenor and in no way shall the CONTRACTOR be relieved of its responsibilities and obligations under this CONTRACT. The provisions of this CONTRACT shall be binding upon, and shall inure to the benefit of, the successors and assigns of the CONTRACTOR and any public body or bodies succeeding the interests of the CITY.

ARTICLE VIII. INDEMNIFICATION.

The CONTRACTOR shall assume the defense, indemnify and hold harmless the CITY, the CITY'S agents and employees, from and against all losses and all claims, demands, payments, suits, actions, recoveries and judgments of every nature and description brought or recovered against them by reason of acts, in actions, omissions, negligence, reckless or intentional misconduct of the said CONTRACTOR, its agent(s), officers, employees, or subcontractors; in the execution of the work or in guarding the same. Unless otherwise provided by law, the CITY may elect, at its sole discretion, to indemnify the CONTRACTOR for claims arising in tort if it is determined that the CONTRACTOR performed its obligations under this CONTRACT pursuant to the direct supervision and control of the CITY or its designated agent(s).

ARTICLE IX. WORKER'S COMPENSATION AND OTHER INSURANCE.

The CONTRACTOR shall provide insurance for the payment of compensation and the furnishing of other benefits under Chapter 152 of the General Laws of Massachusetts (The Worker's Compensation Act) to all employees of the CONTRACTOR who are subject to the provisions of Chapter 152 of the General Laws of Massachusetts.

Failure to provide and continue in force such insurance during the period of this contract shall be deemed a material breach of this contract, shall operate as an immediate termination thereof, and CONTRACTOR shall indemnify the CITY for all losses, claims, and actions resulting from the failure to provide the insurance required by this Article.

The Contractor shall furnish to the CITY evidence of such insurance prior to the execution of this contract and before the same shall be binding on the parties thereto, except if specifically waived in Attachment B.

Prior to commencement of any work and until completion of its work under this CONTRACT, the CONTRACTOR shall maintain the following insurance coverage, at its cost, from insurance acceptable to the CITY, giving evidence of such coverage to the CITY prior to execution of this CONTRACT, a copy of such insurance coverage to be attached herewith:

1. Comprehensive Automobile Liability Insurance covering the use of all owned, non-owned and hired automobiles in connection with its operations with a combined single limit of $1,000,000. The comprehensive Automobile Liability insurance may be provided through primary and excess or umbrella insurance policies.

2. CONTRACTOR'S Equipment Coverage (or a certification of self-insurance satisfactory to the CITY) must be provided on an “All Risks" basis, covering physical damage to all tools and equipment, including automotive equipment owned, rented, or used by the CONTRACTOR.

3. Commercial General Liability Insurance coverage which may be provided through primary and excess or umbrella liability policies for limits of $1,000,000 general aggregate, and $500,000 per occurrence.

All required insurance must be endorsed to name the CITY as Additional Insured. All required insurance shall be endorsed to waive the insurer's rights of subrogation against the City. All policies and certificates of insurance must contain language that the insurance shall not be canceled, materially changed or non-renewed without at least thirty (30) days advance written notice to the CITY. The CONTRACTOR under this CONTRACT shall not allow its subcontractors to begin work until similar insurance has been so obtained and certificates of insurance approved by the CONTRACTOR.

ARTICLE X. CORPORATE CONTRACTOR.

If CONTRACTOR is a corporation, CONTRACTOR shall endorse the Certificate of Corporate Authority for the CONTRACTORS' signatory (Exhibit C), or shall otherwise provide a form similar in nature and substance acceptable to the CITY at the City's sole discretion.

If CONTRACTOR is a non-profit corporation, CONTRACTOR shall provide satisfactory proof of present status as a non-profit corporation. Such proof shall be in the form of a certification from the Massachusetts Secretary of State's office and/or from the Internal Revenue Service and shall provide the Federal Tax Identification Number of the non-profit corporation. This CONTRACT shall not be enforceable against the CITY unless and until the CONTRACTOR complies with this Article. Failure to inform the CITY in writing of revocation, or other loss of non-profit status shall be deemed a material breach of this contract and operate as an immediate termination thereof.

ARTICLE XI. SUBJECT TO APPROPRIATION.

The obligations of the CITY under this CONTRACT shall be subject to appropriation. In the absence of appropriation this CONTRACT shall be immediately terminated without liability for damages, penalties, or other charges.

In the event any portion of this Agreement is to be funded with alternate funding including but not limited to state, local, federal or private grant funding. In the requisite circumstances, the obligations of the CITY under this CONTRACT shall be subject to the formal award of such state, local, federal or private grant.

ARTICLE XII. DOCUMENTS, MATERIALS, ETC.

Any materials, reports, information, data, etc. given to or prepared or assembled by the CONTRACTOR under this CONTRACT are to be kept confidential and shall not be made available to any individual or organization by the CONTRACTOR (except agents, servants, or employees of the CONTRACTOR) without the prior written approval of the CITY. The CONTRATOR understands that he/she/it may acquire or have access to "personal data" otherwise kept by the CITY. The CONTRACTOR shall comply with the provisions Chapter 66A of the General Laws of Massachusetts as it relates to public documents, and all other state and federal laws and regulations relating to confidentiality, security, privacy and use of confidential data.

Any materials produced in whole or in part under this CONTRACT shall not be subject to copyright, except by the CITY, in the United States or any other country. The CITY shall have unrestricted authority to, without payment of any royalty, commission, or additional fee of any type or nature, publicly disclose, reproduce, distribute and otherwise use, and authorize other to use, in whole or in part, any reports, data or other materials prepared under this CONTRACT.

All data, reports, programs, software, equipment, furnishings, and any other documentation or product paid for by the CITY shall vest in the CITY at the termination of this CONTRACT. The CONTRACTOR shall at all times, during or after termination of this CONTRACT, obtain the prior written approval of the CITY before making any statement bearing on the work performed or data collected under this CONTRACT to the press or issues any material for publication through any medium.

ARTICLE XIII. AUDIT, INSPECTION, RECORDKEEPING.

At any time during normal business hours, and as often as the CITY may deem it reasonably necessary, there shall be made available in the office of the CONTRACTOR for the purpose of audit, examination, and/or to make excerpts or transcripts, all records, contracts, invoices, materials, payrolls, records of personnel, conditions of employment and other data relating to all matters covered by this agreement.

Further the CONTRACTOR agrees to make its work papers, records and other evidence of audit available to the CITY for a period of three years after final payment under his CONTRACT. The CITY shall be entitled to reproduce any or all such documents at its own expense, for which provision shall be made at such time.

ARTICLE XIV. WEEKLY PAYROLL RECORDS REPORT.

In accordance with Massachusetts General Law c. 149, s. 27B, a true and accurate record must be kept of all individuals employed on a public works construction project for which prevailing wage rates are applicable.

In addition, every contractor and subcontractor is required to submit, on a weekly basis, a copy of their weekly payroll records to the awarding authority. Once collected, the awarding authority is also required to preserve those records for three years.

ARTICLE XV. CONFLICT OF INTEREST.

i) CITY. No officer, member or employee of the CITY and no members of its governing body who exercise any function or responsibility in review or approval of the undertaking or carrying out of this CONTRACT shall participate in any decision relating to the CONTRACT which affects his/her personal interests or the interest of any corporation, partnership, or association in which he/she has a direct or indirect pecuniary interest. None of the services to be provided by the CONTRACTOR shall be used for any partisan political activity or further the election or defeat of any candidate for political office in the CITY. Compliance with this section shall be material to the CONTRACT.

ii) CONTRACTOR. CONTRACTOR agrees that his/her/its agents, servants, and employees have neither presently nor during the period of this CONTRACT any interest direct or indirect which would impair, detract, or conflict in any manner or degree with the performance of services required under this CONTRACT. The CONTRACTOR, his/her/its agents, servants and employees further stipulate that in the performance of this CONTRACT, no person having any such interest shall be employed. Conflicts of Interest include but are not limited to (a) immediate family relationships with officials of the CITY, (b) instances where the CONTRACTOR, his/her/its agents, servants or employees during the period of this CONTRACT was connected as an officer, employee or member of the governing body of the CITY, and (c) instances where the CONTRACTOR has an interest in any CITY department, its agents, servants or employees or parcels of land within the CITY. Compliance with this section shall be material to the CONTRACT. The CONTRACTOR, his/her/its agents, servants and employees must disclose any and all such interests in writing to the CITY.

ARTICLE XVI. PAYMENT.
The City agrees to make all reasonable efforts to pay to the CONTRACTOR the sum set forth any invoice which has been approved by the City Manager or his authorized designee within thirty (30) days of receipt of such invoice at the Office of the City Auditor. Each invoice shall detail the work completed.

Subject to pending statutory appeal rights, the City hereby reserves the right and the CONTRACTOR hereby agrees that the City may deduct from the sum(s) otherwise payable under this CONTRACT any outstanding taxes, fines, fees and/or other municipal charges prior to disbursement to the CONTRACTOR.

ARTICLE XVII. CONFLICT.
In the event there is a conflict between these Articles and Attachment A, Attachment A shall supersede these Articles.

ARTICLE XVIII. WAIVER AND AMENDMENT.
The provisions contained in this CONTRACT may be modified only by the express written consent of the Parties. Any amendments, must be made only by written amendment executed by all signatories to the original agreement, prior to the effective date of the amendment.

The failure of any party to insist on the strict performance of any term, covenant or condition to this CONTRACT, at anytime, or in any one or more instances, or its failure to take advantage of any of its rights, or any course of conduct or dealing, shall not be construed as a waiver or a relinquishment of any such rights or conditions at any future time and shall, in no way act, as a wavier by any party of a breach of another party or have any affect on the continuance of or the full force and affect of any or all of the provisions of this Contract. The waiver of any provisions must be in writing and executed by all signatories to this Agreement prior to the force and effect of any such waiver.

Forbearance or indulgence in any form or manner by a party shall not be construed as a waiver, nor in any manner limit the legal or equitable remedies available to that party. No waiver by either party of any default or breach shall constitute a waiver of any subsequent default or breach of a similar or different matter.

ARTICLE XIX. CERTIFICATION.
IN WITNESS WHEREOF, THE CONTRACTOR CERTIFIES, UNDER THE PAINS AND PENALTIES OF PERJURY, THAT THE CONTRACTOR IS IN COMPLIANCE WITH EACH OF THE FOLLOWING:

a. TAXES. PURSUANT to M.G.L. c. 62C, s. 49A, the CONTRACTOR has filed all state tax returns and complied with all laws of the Commonwealth relating to taxes.

b. DEBARMENT. The CONTRACTOR is not currently debarred or suspended by the Commonwealth of Massachusetts, or any of its entities or subdivisions.

c. AMERICANS WITH DISABILITIES ACT. The CONTRACTOR is aware of the Americans with Disabilities Act which prohibits discrimination based upon disability and shall meet any relevant standards, and/or conditions set out in the bid/proposal documents, bid/proposal specifications, and/or ATTACHMENT A - SCOPE OF SERVICES.

ARTICLE XX. FORUM AND CHOICE OF LAW

This CONTRACT and any performance herein shall be governed by and be construed in accordance with the laws of Commonwealth of Massachusetts, exclusive of its conflicts of law provisions. Any and all proceedings or actions relating to subject matter herein shall be brought and maintained in the courts of the Commonwealth of Massachusetts or the federal district court sitting in the Commonwealth of Massachusetts, which shall have exclusive jurisdiction thereof. Each of the Parties hereto irrevocably consents to and waives any objection to the exercise of personal jurisdiction by the state and federal courts of the Commonwealth of Massachusetts. This paragraph shall not be construed to limit any other legal rights of the parties.

ARTICLE XXI. TAXES

CONTRACTOR shall be solely responsible for the payment of any taxes, levies, betterments or assessments, fees or charges, whether in existence on the date hereof or becoming applicable pursuant to this Contract, which may be assessed against the CONTRACTOR or the CITY which are directly attributable to CONTRACTOR'S activities under this CONTRACT (the "Taxes"). CONTRACTOR shall pay all Taxes directly to the taxing authority before delinquency and before any fine, interest or penalty shall become due or be imposed by operation of law for their nonpayment.

ARTICLE XXII. NOTICES

All notices, demands, requests, consents, approvals and other instruments required or permitted to be given pursuant to the terms hereof (hereinafter "Notice"), shall be in writing and shall be deemed to have been properly given when delivered in hand or deposited in registered or certified United States mail, postage prepaid, return receipt requested, addressed, as described herein or when delivered by messenger or overnight mail service to the correct addressee. Unless otherwise specified, Notice shall be deemed received when actually received or when the proffered Notice has been refused by the Addressee. The signature of an employee, servant or agent of the Addressee shall be determinative on the issue of actual receipt.

All notices shall be sent to the persons and addresses listed below. CONTRACTOR and the CITY shall, at any time and from time to time, have the right to specify as their proper addresses for purposes of this CONTRACT any other address or addresses giving fifteen (15) days' written notice thereof to the other party.

All Notices shall be forwarded to:

FOR THE CITY
Edward Keefe, Acting City Manager
500 Broadway
City Hall
Chelsea, MA 02150

With a Copy to:
Cheryl Anne Watson
City Solicitor
Law Department, Room 307
500 Broadway
Chelsea, MA 02150

FOR THE CONTRACTOR:
[NAME]
[ADDRESS]

ARTICLE XXIII. CONSIDERATION
The Parties mutually agree to enter into this CONTRACT for good and valuable consideration.

ARTICLE XXIV. REPRESENTATIONS AND WARRANTIES OF THE CONTRACTOR
The CONTRACTOR represents and warrants (i) the CONTRACTOR has all requisite corporate power and authority to enter into this CONTRACT and to perform the obligations of the CONTRACTOR; (ii) that this CONTRACT has been duly and validly authorized, executed and delivered by the CONTRACTOR; (iii) the execution and delivery of this CONTRACT does not violate or conflict with any other agreement, license or obligation; (iv) the CONTRACTOR is duly organized, legal and validly existing and in good standing in the Commonwealth of Massachusetts; (v) that the CONTRACTOR is duly qualified and authorized to do business in the Commonwealth of Massachusetts; (vi) the CONTRACTOR is in compliance and is current with any payments under all federal, state and local tax laws; (vii) the CONTRACTOR will obtain any and all permits which may be necessary to perform the obligations of this CONTRACT; (viii) the CONTRACTOR will timely perform its obligations required by this CONTRACT.

ARTICLE XXV. THIRD PARTY BENEFICIARIES
This CONTRACT shall not be construed to create any third party beneficiary rights in favor of any other parties or any right or privilege for the benefit of any other parties.

ARTICLE XXVI. ENTIRE CONTRACT
This CONTRACT constitutes the entire Agreement of the parties hereto with respect to the subject matter hereof, and no representations, inducements, promises, or agreements, oral or otherwise, between the parties hereto with respect to the subject matter hereof not embodied herein shall be of any force or effect.

ARTICLE XXVII. LIABILITY OF MUNICIPALITY
The CITY shall not be liable to CONTRACTOR for any loss of business or any indirect, incidental, special, consequential or exemplary damages or lost profits unless expressly specified herein.

ARTICLE XXVIII. HEADINGS
Heading used in this Agreement are for convenience of reference only and shall not be construed as altering the meaning of this CONTRACT or any of its provisions.

ARTICLE XXIX. DAYS
Any reference to "days" in this CONTRACT, shall be deemed to mean business days (Monday through Friday, excluding generally recognized holidays) except where specific reference is made to calendar days.

ARTICLE XXX. SURVIVAL
The parties agree that the provisions of ARTICLE II – AMOUNT AND TERM; ARTICLE III – PERFORMANCE; ARTICLE V- REMEDIES OF THE CITY; ARTICLE VI- REMEDIES OF THE CONTRACTOR. ARTICLE VII – ASSIGNABILITY; ARTICLE VIII – INDEMNIFICATION; ARTICLE IX- WORKER'S COMPENSATION AND OTHER INSURANCE; ARTICLE XI-SUBJECT TO APPROPRIATION; ARTICLE XII – DOCUMENTS, MATERIALS, ETC; ARTICLE XIII – AUDIT, INSPECTION, RECORDKEEPING; ARTICLE XIV- WEEKLY PAYROLL RECORDS REPORT; ARTICLE XVI – PAYMENT; ARTICLE XVIII – WAIVER AND AMENDMENT; ARTICLE XIX –

CERTIFICATION; ARTICLE XX- FORUM AND CHOICE OF LAW; ARTICLE XXI – TAXES; ARTICLE XXIV- REPRESENTATIONS AND WARRANTIES OF THE CONTRACTOR; ARTICLE XXVII- LIABILITY OF THE MUNICIPALITY; ARTICLE XXX – SURVIVAL; and ARTICLE XXXI - SEVERABILITY shall survive the expiration or any earlier termination of this CONTRACT.

ARTICLE XXXI. SEVERABILITY

If any provision of this CONTRACT is held to be illegal, invalid or unenforceable, the remaining terms shall not be affected and shall remain in full force and effect. The Agreement shall be interpreted as if the illegal, invalid or unenforceable provision had not been included in it and the invalid or unenforceable provision shall be stricken and shall be replaced by a mutually acceptable provision which being valid and enforceable comes closest to the intention of the parties with respect to the invalid or unenforceable provision.

ARTICLE XXXII. ADVICE AND COUNSEL

The CONTRACTOR hereby acknowledges and agrees that CONTRACTOR has read this Agreement in its entirety and that CONTRACTOR has had the opportunity to consult legal and financial advisors of their choosing regarding the execution, delivery and performance of their obligations, hereunder.

ARTICLE XXXIII. COUNTERPARTS

This CONTRACT may be executed in counterpart.

THE REMAINDER OF THIS PAGE LEFT INTENTIONALLY BLANK

IN WITNESS WHEREOF the parties have hereto and to three other identical instruments set forth their hands the day and year first above written.

THE CONTRACTOR

_____
Company Name

_____
Status (Corporation/Non-corporate)

_____
Signature & Title

_____
Please Print Name & Title

_____
Date

_____
Taxpayer Identification Number

CITY MANAGER

_____
Edward Keefe, Acting City Manager

_____
Dylan Cook
Chief Procurement Officer

APPROVED AS TO FORM:

_____
Cheryl Watson Fisher
City Solicitor

Approved as to Contract Manager:

_____
Department Head Name
Department Name
City of Chelsea

I CERTIFY THAT FUNDS HAVE BEEN ENCUMBERED IN THE AMOUNT OF $_____ FOR THIS CONTRACT
Appropriation Number:
_____

_____
Edward M. Dunn
City Auditor

ATTACHMENT A

SCOPE OF SERVICES

INSTRUCTIONS FOR DEPARTMENT AND CONTRACTOR: Please attach for reference purposes a copy of all bid/proposal documents, including but not limited to (i) invitations/instructions for bidders (ii) invitation/instructions for proposers, (iii) general and specific conditions, and please provide a detailed description of all types of goods and/or services that will be provided pursuant to this CONTRACT, not otherwise provided in any bid/proposal instructions, specifications, conditions or other documents.

ATTACHMENT B

ADDITIONAL CONTRACT TERMS AND CONDITIONS

INSTRUCTIONS FOR DEPARTMENTS: Please specify any additions or modifications to the terms and conditions (not to conflict with the public procurement laws or City ordinances or regulations:

ATTACHMENT C

CERTIFICATE OF NON-COLLUSION

TAX COMPLIANCE CERTIFICATION

STATEMENT OF CORPORATE AUTHORITY

CERTIFICATE OF NON-COLLUSION
MANDATORY

The undersigned certifies under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. 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.

Dated:_____

_____

Name of Company or Corporation

_____

Authorized Official's Signature

BIDDERS/RESPONDENTS MUST SUBMIT THIS FORM FULLY COMPLETED.

TAX COMPLIANCE CERTIFICATION

Pursuant to M.G.L. c. 62C, Section 49A, I certify under penalties of perjury that I, to my best knowledge and belief, have filed all Massachusetts tax returns and paid all Massachusetts taxes required under law, as well as paid all contributions and payments in lieu of contributions pursuant to M.G.L., c. 151A, Section 19A(b).

I further certify that I have complied with all federal, state and local laws relating to taxes, including but not limited to the withholding and reporting of any income taxes for employees and contractors, and the withholding and remittance of child support.

_____
Signature

_____
Social Security or Federal ID No.

_____
Date

BIDDERS/RESPONDENTS MUST SUBMIT THIS FORM FULLY COMPLETED.

STATEMENT OF CORPORATE AUTHORITY

At a duly authorized meeting of the Board of Directors of _____

held on _____at which time all voted that_____

of this Company, be and hereby is authorized to execute contracts and bonds in the name and on behalf of said Company, and affix its Corporate seal thereto, and such execution of any contract

of obligation in this Company's name on its behalf by such person_____ under seal of the Company, shall be valid and binding upon this Company.

A TRUE COPY,
ATTEST:

_____

PLACE OF BUSINESS:

_____

_____

DATE OF THIS CONTRACT:

_____

I hereby certify that I am Clerk of _____ and that

_____is duly elected _____

of said Company, and that the above vote has not been amended or rescinded and remains in full force and effect as of the date of this contract.

_____
(Clerk's Signature)

(CORPORATE SEAL)

ATTACHMENT D

City of Chelsea
Conflict of Interest Law
Compliance Statement and Requirements for Vendors

On July 1, 2009, the Legislature enacted Chapter 28 of the Acts of 2009 which made changes to Mass. General Laws c. 268A and c. 268B, the Massachusetts' Conflict of Interest Law. On November 9, 2009, the Chelsea City Council designated the Chelsea City Solicitor as the Municipal Liaison to the State Ethics Commission and responsible for the facilitation of Chelsea's obligation to comply with the changes in the law.

The City has a requirement for compliance, which is to make sure that all municipal elected officials, board and commission members, and employees **including vendors** are provided copies of the Summaries of the Ethics Laws.

Enclosed is a packet that should be copied and provide to each one of your employees who are assigned to work in Chelsea; including yourself. At the end of the summary is an acknowledgement of receipt of the summary. The acknowledgments must be submitted along with any purchase order or contract with the City of Chelsea. All documents pursuant to this new law will be kept on file in the City Clerk's Office

The Procurement Officer will contact you directly, if there is a determination that you or your staff should undergo the Conflict of Interest Online Training Program.

If you have any questions, feel free to contact the Chelsea City Solicitor at 617-466-4150 as soon as possible.

Summary of the Conflict of Interest Law for Municipal Employees

---

This summary of the conflict of interest law, General Laws chapter 268A, is intended to help municipal employees understand how that law applies to them. This summary is not a substitute for legal advice, nor does it mention every aspect of the law that may apply in a particular situation. Municipal employees can obtain free confidential advice about the conflict of interest law from the Commission's Legal Division at our website, phone number, and address above. Municipal counsel may also provide advice.

The conflict of interest law seeks to prevent conflicts between private interests and public duties, foster integrity in public service, and promote the public's trust and confidence in that service by placing restrictions on what municipal employees may do on the job, after hours, and after leaving public service, as described below. The sections referenced below are sections of G.L. c. 268A.

When the Commission determines that the conflict of interest law has been violated, it can impose a civil penalty of up to $10,000 ($25,000 for bribery cases) for each violation. In addition, the Commission can order the violator to repay any economic advantage he gained by the violation, and to make restitution to injured third parties. Violations of the conflict of interest law can also be prosecuted criminally.

I. Are you a municipal employee for conflict of interest law purposes?

You do not have to be a full-time, paid municipal employee to be considered a municipal employee for conflict of interest purposes. Anyone performing services for a city or town or holding a municipal position, whether paid or unpaid, including full- and part-time municipal employees, elected officials, volunteers, and consultants, is a municipal employee under the conflict of interest law. An employee of a private firm can also be a municipal employee, if the private firm has a contract with the city or town and the employee is a "key employee" under the contract, meaning the town has specifically contracted for her services. The law also covers private parties who engage in impermissible dealings with municipal employees, such as offering bribes or illegal gifts.

II. On-the-job restrictions.

(a) Bribes. Asking for and taking bribes is prohibited. (See Section 2)

A bribe is anything of value corruptly received by a municipal employee in exchange for the employee being influenced in his official actions. Giving, offering, receiving, or asking for a bribe is illegal.

Bribes are more serious than illegal gifts because they involve corrupt intent. In other words, the municipal employee intends to sell his office by agreeing to do or not do some official act, and the giver intends to influence him to do so. Bribes of any value are illegal.

(b) Gifts and gratuities. Asking for or accepting a gift because of your official position, or because of something you can do or have done in your official position, is prohibited. (See Sections 3, 23(b)(2), and 26)

Municipal employees may not accept gifts and gratuities valued at $50 or more given to influence their official actions or because of their official position. Accepting a gift intended to reward past official action or to bring about future official action is illegal, as is giving such gifts. Accepting a gift given to you because of the municipal position you hold is also illegal. Meals, entertainment event tickets, golf, gift baskets, and payment of travel expenses can all be illegal gifts if given in connection with official action or position, as can anything worth $50 or more. A number of smaller gifts together worth $50 or more may also violate these sections.

Example of violation : A town administrator accepts reduced rental payments from developers.

Example of violation : A developer offers a ski trip to a school district employee who oversees the developer's work for the school district.

Regulatory exemptions . There are situations in which a municipal employee's receipt of a gift does not present a genuine risk of a conflict of interest, and may in fact advance the public interest. The Commission has created exemptions permitting giving and receiving gifts in these situations. One commonly used exemption permits municipal employees to accept payment of travel-related expenses when doing so advances a public purpose. Another commonly used exemption permits municipal employees to accept payment of costs involved in attendance at educational and training programs. Other exemptions are listed on the Commission's website.

Example where there is no violation : A fire truck manufacturer offers to pay the travel expenses of a fire chief to a trade show where the chief can examine various kinds of fire-fighting equipment that the town may purchase. The chief fills out a disclosure form and obtains prior approval from his appointing authority.

Example where there is no violation : A town treasurer attends a two-day annual school featuring multiple substantive seminars on issues relevant to treasurers. The annual school is paid for in part by banks that do business with town treasurers. The treasurer is only required to make a disclosure if one of the sponsoring banks has official business before her in the six months before or after the annual school.

(c) Misuse of position. Using your official position to get something you are not entitled to, or to get someone else something they are not entitled to, is prohibited. Causing someone else to do these things is also prohibited. (See Sections 23(b)(2) and 26)

A municipal employee may not use her official position to get something worth $50 or more that would not be properly available to other similarly situated individuals. Similarly, a municipal employee may not use her official position to get something worth $50 or more for someone else

that would not be properly available to other similarly situated individuals. Causing someone else to do these things is also prohibited.

Example of violation : A full-time town employee writes a novel on work time, using her office computer, and directing her secretary to proofread the draft.

Example of violation : A city councilor directs subordinates to drive the councilor's wife to and from the grocery store.

Example of violation : A mayor avoids a speeding ticket by asking the police officer who stops him, "Do you know who I am?" and showing his municipal I.D.

(d) Self-dealing and nepotism. Participating as a municipal employee in a matter in which you, your immediate family, your business organization, or your future employer has a financial interest is prohibited. (See Section 19)

A municipal employee may not participate in any particular matter in which he or a member of his immediate family (parents, children, siblings, spouse, and spouse's parents, children, and siblings) has a financial interest. He also may not participate in any particular matter in which a prospective employer, or a business organization of which he is a director, officer, trustee, or employee has a financial interest. Participation includes discussing as well as voting on a matter, and delegating a matter to someone else.

A financial interest may create a conflict of interest whether it is large or small, and positive or negative. In other words, it does not matter if a lot of money is involved or only a little. It also does not matter if you are putting money into your pocket or taking it out. If you, your immediate family, your business, or your employer have or has a financial interest in a matter, you may not participate. The financial interest must be direct and immediate or reasonably foreseeable to create a conflict. Financial interests which are remote, speculative or not sufficiently identifiable do not create conflicts.

Example of violation : A school committee member's wife is a teacher in the town's public schools. The school committee member votes on the budget line item for teachers' salaries.

Example of violation : A member of a town affordable housing committee is also the director of a non-profit housing development corporation. The non-profit makes an application to the committee, and the member/director participates in the discussion.

Example : A planning board member lives next door to property where a developer plans to construct a new building. Because the planning board member owns abutting property, he is presumed to have a financial interest in the matter. He cannot participate unless he provides the

State Ethics Commission with an opinion from a qualified independent appraiser that the new construction will not affect his financial interest.

In many cases, where not otherwise required to participate, a municipal employee may comply with the law by simply not participating in the particular matter in which she has a financial interest. She need not give a reason for not participating.

There are several exemptions to this section of the law. An appointed municipal employee may file a written disclosure about the financial interest with his appointing authority, and seek permission to participate notwithstanding the conflict. The appointing authority may grant written permission if she determines that the financial interest in question is not so substantial that it is likely to affect the integrity of his services to the municipality. Participating without disclosing the financial interest is a violation. Elected employees cannot use the disclosure procedure because they have no appointing authority.

Example where there is no violation : An appointed member of the town zoning advisory committee, which will review and recommend changes to the town's by-laws with regard to a commercial district, is a partner at a company that owns commercial property in the district. Prior to participating in any committee discussions, the member files a disclosure with the zoning board of appeals that appointed him to his position, and that board gives him a written determination authorizing his participation, despite his company's financial interest. There is no violation.

There is also an exemption for both appointed and elected employees where the employee's task is to address a matter of general policy and the employee's financial interest is shared with a substantial portion (generally 10% or more) of the town's population, such as, for instance, a financial interest in real estate tax rates or municipal utility rates.

(e) False claims. Presenting a false claim to your employer for a payment or benefit is prohibited, and causing someone else to do so is also prohibited. (See Sections 23(b)(4) and 26)

A municipal employee may not present a false or fraudulent claim to his employer for any payment or benefit worth $50 or more, or cause another person to do so.

Example of violation : A public works director directs his secretary to fill out time sheets to show him as present at work on days when he was skiing.

(f) Appearance of conflict. Acting in a manner that would make a reasonable person think you can be improperly influenced is prohibited. (See Section 23(b)(3))

A municipal employee may not act in a manner that would cause a reasonable person to think that she would show favor toward someone or that she can be improperly influenced. Section 23(b)(3) requires a municipal employee to consider whether her relationships and affiliations could prevent her from acting fairly and objectively when she performs her duties for a city or town. If she cannot be fair and objective because of a relationship or affiliation, she should not perform her duties. However, a municipal employee, whether elected or appointed, can avoid violating this provision by making a public disclosure of the facts. An appointed employee must make the disclosure in writing to his appointing official.

Example where there is no violation : A developer who is the cousin of the chair of the conservation commission has filed an application with the commission. A reasonable person could conclude that the chair might favor her cousin. The chair files a written disclosure with her appointing authority explaining her relationship with her cousin prior to the meeting at which the application will be considered. There is no violation of Sec. 23(b)(3).

(g) Confidential information. Improperly disclosing or personally using confidential information obtained through your job is prohibited. (See Section 23(c))

Municipal employees may not improperly disclose confidential information, or make personal use of non-public information they acquired in the course of their official duties to further their personal interests.

III. After-hours restrictions.

(a) Taking a second paid job that conflicts with the duties of your municipal job is prohibited. (See Section 23(b)(1))

A municipal employee may not accept other paid employment if the responsibilities of the second job are incompatible with his or her municipal job.

Example : A police officer may not work as a paid private security guard in the town where he serves because the demands of his private employment would conflict with his duties as a police officer.

(b) Divided loyalties. Receiving pay from anyone other than the city or town to work on a matter involving the city or town is prohibited. Acting as agent or attorney for anyone other

than the city or town in a matter involving the city or town is also prohibited whether or not you are paid. (See Sec. 17)

Because cities and towns are entitled to the undivided loyalty of their employees, a municipal employee may not be paid by other people and organizations in relation to a matter if the city or town has an interest in the matter. In addition, a municipal employee may not act on behalf of other people and organizations or act as an attorney for other people and organizations in which the town has an interest. Acting as agent includes contacting the municipality in person, by phone, or in writing; acting as a liaison; providing documents to the city or town; and serving as spokesman.

A municipal employee may always represent his own personal interests, even before his own municipal agency or board, on the same terms and conditions that other similarly situated members of the public would be allowed to do so. A municipal employee may also apply for building and related permits on behalf of someone else and be paid for doing so, unless he works for the permitting agency, or an agency which regulates the permitting agency.

Example of violation : A full-time health agent submits a septic system plan that she has prepared for a private client to the town's board of health.

Example of violation : A planning board member represents a private client before the board of selectmen on a request that town meeting consider rezoning the client's property.

While many municipal employees earn their livelihood in municipal jobs, some municipal employees volunteer their time to provide services to the town or receive small stipends. Others, such as a private attorney who provides legal services to a town as needed, may serve in a position in which they may have other personal or private employment during normal working hours. In recognition of the need not to unduly restrict the ability of town volunteers and part-time employees to earn a living, the law is less restrictive for "special" municipal employees than for other municipal employees.

The status of "special" municipal employee has to be assigned to a municipal position by vote of the board of selectmen, city council, or similar body. A position is eligible to be designated as "special" if it is unpaid, or if it is part-time and the employee is allowed to have another job during normal working hours, or if the employee was not paid for working more than 800 hours during the preceding 365 days. It is the position that is designated as "special" and not the person or persons holding the position. Selectmen in towns of 10,000 or fewer are automatically "special"; selectman in larger towns cannot be "specials."

If a municipal position has been designated as "special," an employee holding that position may be paid by others, act on behalf of others, and act as attorney for others with respect to matters before municipal boards other than his own, provided that he has not officially participated in the

matter, and the matter is not now, and has not within the past year been, under his official responsibility.

Example : A school committee member who has been designated as a special municipal employee appears before the board of health on behalf of a client of his private law practice, on a matter that he has not participated in or had responsibility for as a school committee member. There is no conflict. However, he may not appear before the school committee, or the school department, on behalf of a client because he has official responsibility for any matter that comes before the school committee. This is still the case even if he has recused himself from participating in the matter in his official capacity.

Example : A member who sits as an alternate on the conservation commission is a special municipal employee. Under town by-laws, he only has official responsibility for matters assigned to him. He may represent a resident who wants to file an application with the conservation commission as long as the matter is not assigned to him and he will not participate in it.

(c) Inside track. Being paid by your city or town, directly or indirectly, under some second arrangement in addition to your job is prohibited, unless an exemption applies. (See Section 20)

A municipal employee generally may not have a financial interest in a municipal contract, including a second municipal job. A municipal employee is also generally prohibited from having an indirect financial interest in a contract that the city or town has with someone else. This provision is intended to prevent municipal employees from having an "inside track" to further financial opportunities.

Example of violation : Legal counsel to the town housing authority becomes the acting executive director of the authority, and is paid in both positions.

Example of violation : A selectman buys a surplus truck from the town DPW.

Example of violation : A full-time secretary for the board of health wants to have a second paid job working part-time for the town library. She will violate Section 20 unless she can meet the requirements of an exemption.

Example of violation : A city councilor wants to work for a non-profit that receives funding under a contract with her city. Unless she can satisfy the requirements of an exemption under Section 20, she cannot take the job.

There are numerous exemptions. A municipal employee may hold multiple unpaid or elected positions. Some exemptions apply only to special municipal employees. Specific exemptions may cover serving as an unpaid volunteer in a second town position, housing-related benefits, public safety positions, certain elected positions, small towns, and other specific situations. Please call the Ethics Commission's Legal Division for advice about a specific situation.

IV. After you leave municipal employment. (See Section 18)

(a) Forever ban. After you leave your municipal job, you may never work for anyone other than the municipality on a matter that you worked on as a municipal employee.

If you participated in a matter as a municipal employee, you cannot ever be paid to work on that same matter for anyone other than the municipality, nor may you act for someone else, whether paid or not. The purpose of this restriction is to bar former employees from selling to private interests their familiarity with the facts of particular matters that are of continuing concern to their former municipal employer. The restriction does not prohibit former municipal employees from using the expertise acquired in government service in their subsequent private activities.

Example of violation : A former school department employee works for a contractor under a contract that she helped to draft and oversee for the school department.

(b) One year cooling-off period. For one year after you leave your municipal job you may not participate in any matter over which you had official responsibility during your last two years of public service.

Former municipal employees are barred for one year after they leave municipal employment from personally appearing before any agency of the municipality in connection with matters that were under their authority in their prior municipal positions during the two years before they left.

Example : An assistant town manager negotiates a three-year contract with a company. The town manager who supervised the assistant, and had official responsibility for the contract but did not participate in negotiating it, leaves her job to work for the company to which the contract was awarded. The former manager may not call or write the town in connection with the company's work on the contract for one year after leaving the town.

A former municipal employee who participated as such in general legislation on expanded gaming and related matters may not become an officer or employee of, or acquire a financial interest in, an applicant for a gaming license, or a gaming licensee, for one year after his public employment ceases.

(c) Partners. Your partners will be subject to restrictions while you serve as a municipal employee and after your municipal service ends.

Partners of municipal employees and former municipal employees are also subject to restrictions under the conflict of interest law. If a municipal employee participated in a matter, or if he has official responsibility for a matter, then his partner may not act on behalf of anyone other than the municipality or provide services as an attorney to anyone but the city or town in relation to the matter.

Example: While serving on a city's historic district commission, an architect reviewed an application to get landmark status for a building. His partners at his architecture firm may not prepare and sign plans for the owner of the building or otherwise act on the owner's behalf in relation to the application for landmark status. In addition, because the architect has official responsibility as a commissioner for every matter that comes before the commission, his partners may not communicate with the commission or otherwise act on behalf of any client on any matter that comes before the commission during the time that the architect serves on the commission.

Example: A former town counsel joins a law firm as a partner. Because she litigated a lawsuit for the town, her new partners cannot represent any private clients in the lawsuit for one year after her job with the town ended.

* * * * *

This summary is not intended to be legal advice and, because it is a summary, it does not mention every provision of the conflict law that may apply in a particular situation. Our website, http://www.mass.gov/ethics contains further information about how the law applies in many situations. You can also contact the Commission's Legal Division via our website, by telephone, or by letter. Our contact information is at the top of this document.

Version 5: Revised December 23, 2011

City of Chelsea
Conflict of Interest Law

Compliance Statement and Requirements for Vendors

_____

ACKNOWLEDGMENT OF RECEIPT

I, _____,
(first and last name)

an employee at _____,
(name of vendor)

Hereby acknowledge that I received a copy of the summary of the conflict of interest law for municipal employees, revised December 23, 2011, on

_____.
(date)

The City has a requirement for compliance, which is to make sure that all **vendors** are provided copies of the Summary of the Conflict of Interest Law for Municipal Employees (including Vendors).

VENDORS should copy the Summary of the Conflict of Interest Law *and* provide it to each one of the employees who are assigned to work in Chelsea.

Each employee shall complete the "Acknowledgment of Receipt" and the Vendor shall return the acknowledgments-only (not the Summary) to the Chelsea the Chelsea Procurement Office.

The *"Acknowledgment of Receipt"* must be submitted along with any purchase order or contract with the City of Chelsea

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

As determined by the Director under the provisions of the Massachusetts General Laws, Chapter 149, Sections 26 to 27H

CHARLES D. BAKER
Governor

KARYN E. POLITO
Lt. Governor

RONALD L. WALKER, II
Secretary

JEAN ZEILER
Acting Director

Awarding Authority: City of Chelsea

Contract Number: 2015-185 **City/Town:** CHELSEA

Description of Work: Build new security desk and conference room at school

Job Location: 299 Everett Ave, Chelsea

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- This wage schedule applies only to the specific project referenced at the top of this page and uniquely identified by the "Wage Request Number" on all pages of this schedule.
- An Awarding Authority must request an updated wage schedule from the Department of Labor Standards ("DLS") if it has not opened bids or selected a contractor within 90 days of the date of issuance of the wage schedule. For CM AT RISK projects (bid pursuant to G.L. c.149A), the earlier of: (a) the execution date of the GMP Amendment, or (b) the bid for the first construction scope of work must be within 90-days of the wage schedule issuance date.
- The wage schedule shall be incorporated in any advertisement or call for bids for the project as required by M.G.L. c. 149, § 27. The wage schedule shall be made a part of the contract awarded for the project. The wage schedule must be posted in a conspicuous place at the work site for the life of the project in accordance with M.G.L. c. 149 § 27. The wages listed on the wage schedule must be paid to employees performing construction work on the project whether they are employed by the prime contractor, a filed sub-bidder, or any sub-contractor.
- All apprentices working on the project are required to be registered with the Massachusetts Division of Apprentice Standards (DAS). Apprentice must keep his/her apprentice identification card on his/her person during all work hours on the project. An apprentice registered with DAS may be paid the lower apprentice wage rate at the applicable step as provided on the prevailing wage schedule. **If an apprentice rate is not listed on the prevailing wage schedule for the trade in which an apprentice is registered with the DAS, the apprentice must be paid the journeyworker's rate for the trade.**
- The wage rates will remain in effect for the duration of the project, except in the case of multi-year public construction projects. For construction projects lasting longer than one year, awarding authorities must request an updated wage schedule. Awarding authorities are required to request these updates no later than two weeks before the anniversary of the date the contract was executed by the awarding authority and the general contractor. For multi-year CM AT RISK projects, awarding authority must request an annual update no later than two weeks before the anniversary date, determined as the earlier of: (a) the execution date of the GMP Amendment, or (b) the execution date of the first amendment to permit procurement of construction services. Contractors are required to obtain the wage schedules from awarding authorities, and to pay no less than these rates to covered workers. The annual update requirement is not applicable to 27F "rental of equipment" contracts.
- Every contractor or subcontractor which performs construction work on the project is required to submit weekly payroll reports and a Statement of Compliance directly to the awarding authority by mail or email and keep them on file for three years. Each weekly payroll report must contain: the employee's name, address, occupational classification, hours worked, and wages paid. Do not submit weekly payroll reports to DLS. A sample of a payroll reporting form may be obtained at http://www.mass.gov/dols/pw.
- Contractors with questions about the wage rates or classifications included on the wage schedule have an affirmative obligation to inquire with DLS at (617) 626-6953.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may report the violation to the Fair Labor Division of the office of the Attorney General at (617) 727-3465.
- Failure of a contractor or subcontractor to pay the prevailing wage rates listed on the wage schedule to all employees who perform construction work on the project is a violation of the law and subjects the contractor or subcontractor to civil and criminal penalties.

Issue Date: 04/22/2015 **Wage Request Number:** 20150422-014

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE A*	12/01/2014	$32.40	$9.91	$9.33	$0.00	$51.64
	06/01/2015	$32.75	$9.91	$9.33	$0.00	$51.99
	08/01/2015	$32.75	$10.41	$9.33	$0.00	$52.49
	12/01/2015	$32.75	$10.41	$10.08	$0.00	$53.24
	06/01/2016	$33.25	$10.41	$10.08	$0.00	$53.74
	08/01/2016	$33.25	$10.91	$10.08	$0.00	$54.24
	12/01/2016	$33.25	$10.91	$10.89	$0.00	$55.05
(3 AXLE) DRIVER - EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE A*	12/01/2014	$32.47	$9.91	$9.33	$0.00	$51.71
	06/01/2015	$32.82	$9.91	$9.33	$0.00	$52.06
	08/01/2015	$32.82	$10.41	$9.33	$0.00	$52.56
	12/01/2015	$32.82	$10.41	$10.08	$0.00	$53.31
	06/01/2016	$33.32	$10.41	$10.08	$0.00	$53.81
	08/01/2016	$33.32	$10.91	$10.08	$0.00	$54.31
	12/01/2016	$33.32	$10.91	$10.89	$0.00	$55.12
(4 & 5 AXLE) DRIVER - EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE A*	12/01/2014	$32.59	$9.91	$9.33	$0.00	$51.83
	06/01/2015	$32.94	$9.91	$9.33	$0.00	$52.18
	08/01/2015	$32.94	$10.41	$9.33	$0.00	$52.68
	12/01/2015	$32.94	$10.41	$10.08	$0.00	$53.43
	06/01/2016	$33.44	$10.41	$10.08	$0.00	$53.93
	08/01/2016	$33.44	$10.91	$10.08	$0.00	$54.43
	12/01/2016	$33.44	$10.91	$10.89	$0.00	$55.24
ADS/SUBMERSIBLE PILOT *PILE DRIVER LOCAL 56 (ZONE 1)*	08/01/2014	$87.36	$9.80	$18.17	$0.00	$115.33
	08/01/2015	$90.51	$9.80	$18.17	$0.00	$118.48
AIR TRACK OPERATOR *LABORERS - ZONE 1*	12/01/2014	$35.35	$7.30	$12.95	$0.00	$55.60
	06/01/2015	$36.10	$7.30	$12.95	$0.00	$56.35
	12/01/2015	$36.85	$7.30	$12.95	$0.00	$57.10
	06/01/2016	$37.60	$7.30	$12.95	$0.00	$57.85
	12/01/2016	$38.60	$7.30	$12.95	$0.00	$58.85
For apprentice rates see "Apprentice- LABORER"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. *HEAT & FROST INSULATORS LOCAL 6 (BOSTON)*	12/01/2014	$32.48	$10.40	$5.95	$0.00	$48.83
	06/01/2015	$33.43	$10.40	$5.95	$0.00	$49.78
	12/01/2015	$34.38	$10.40	$5.95	$0.00	$50.73
ASPHALT RAKER *LABORERS - ZONE 1*	12/01/2014	$34.85	$7.30	$12.95	$0.00	$55.10
	06/01/2015	$35.60	$7.30	$12.95	$0.00	$55.85
	12/01/2015	$36.35	$7.30	$12.95	$0.00	$56.60
	06/01/2016	$37.10	$7.30	$12.95	$0.00	$57.35
	12/01/2016	$38.10	$7.30	$12.95	$0.00	$58.35
For apprentice rates see "Apprentice- LABORER"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$42.39	$10.00	$14.30	$0.00	$66.69
	06/01/2015	$43.14	$10.00	$14.30	$0.00	$67.44
	12/01/2015	$44.39	$10.00	$14.30	$0.00	$68.69
	06/01/2016	$45.14	$10.00	$14.30	$0.00	$69.44
	12/01/2016	$46.39	$10.00	$14.30	$0.00	$70.69
	06/01/2017	$47.39	$10.00	$14.30	$0.00	$71.69
	12/01/2017	$48.39	$10.00	$14.30	$0.00	$72.69

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$42.39	$10.00	$14.30	$0.00	$66.69
	06/01/2015	$43.14	$10.00	$14.30	$0.00	$67.44
	12/01/2015	$44.39	$10.00	$14.30	$0.00	$68.69
	06/01/2016	$45.14	$10.00	$14.30	$0.00	$69.44
	12/01/2016	$46.39	$10.00	$14.30	$0.00	$70.69
	06/01/2017	$47.39	$10.00	$14.30	$0.00	$71.69
	12/01/2017	$48.39	$10.00	$14.30	$0.00	$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER *LABORERS - ZONE 1*	12/01/2014	$34.85	$7.30	$12.95	$0.00	$55.10
	06/01/2015	$35.60	$7.30	$12.95	$0.00	$55.85
	12/01/2015	$36.35	$7.30	$12.95	$0.00	$56.60
	06/01/2016	$37.10	$7.30	$12.95	$0.00	$57.35
	12/01/2016	$38.10	$7.30	$12.95	$0.00	$58.35
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER *LABORERS - ZONE 1*	12/01/2014	$35.35	$7.30	$12.95	$0.00	$55.60
	06/01/2015	$36.10	$7.30	$12.95	$0.00	$56.35
	12/01/2015	$36.85	$7.30	$12.95	$0.00	$57.10
	06/01/2016	$37.60	$7.30	$12.95	$0.00	$57.85
	12/01/2016	$38.60	$7.30	$12.95	$0.00	$58.85
For apprentice rates see "Apprentice- LABORER"						
BOILER MAKER *BOILERMAKERS LOCAL 29*	01/01/2010	$37.70	$6.97	$11.18	$0.00	$55.85

Apprentice - *BOILERMAKER - Local 29*

Effective Date - 01/01/2010

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	$24.51	$6.97	$11.18	$0.00	$42.66
2	65	$24.51	$6.97	$11.18	$0.00	$42.66
3	70	$26.39	$6.97	$11.18	$0.00	$44.54
4	75	$28.28	$6.97	$11.18	$0.00	$46.43
5	80	$30.16	$6.97	$11.18	$0.00	$48.31
6	85	$32.05	$6.97	$11.18	$0.00	$50.20
7	90	$33.93	$6.97	$11.18	$0.00	$52.08
8	95	$35.82	$6.97	$11.18	$0.00	$53.97

Notes:

Apprentice to Journeyworker Ratio:1:5

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) *BRICKLAYERS LOCAL 3 (BOSTON)*	02/01/2015	$48.96	$10.18	$18.50	$0.00	$77.64
	08/01/2015	$49.86	$10.18	$18.57	$0.00	$78.61
	02/01/2016	$50.43	$10.18	$18.57	$0.00	$79.18
	08/01/2016	$51.33	$10.18	$18.65	$0.00	$80.16
	02/01/2017	$51.90	$10.18	$18.65	$0.00	$80.73

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *BRICK/PLASTER/CEMENT MASON - Local 3 Boston*

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.48	$10.18	$18.50	$0.00	$53.16
2	60	$29.38	$10.18	$18.50	$0.00	$58.06
3	70	$34.27	$10.18	$18.50	$0.00	$62.95
4	80	$39.17	$10.18	$18.50	$0.00	$67.85
5	90	$44.06	$10.18	$18.50	$0.00	$72.74

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.93	$10.18	$18.57	$0.00	$53.68
2	60	$29.92	$10.18	$18.57	$0.00	$58.67
3	70	$34.90	$10.18	$18.57	$0.00	$63.65
4	80	$39.89	$10.18	$18.57	$0.00	$68.64
5	90	$44.87	$10.18	$18.57	$0.00	$73.62

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$41.99	$10.00	$14.30	$0.00	$66.29
	06/01/2015	$42.73	$10.00	$14.30	$0.00	$67.03
	12/01/2015	$43.97	$10.00	$14.30	$0.00	$68.27
	06/01/2016	$44.72	$10.00	$14.30	$0.00	$69.02
	12/01/2016	$45.95	$10.00	$14.30	$0.00	$70.25
	06/01/2017	$46.94	$10.00	$14.30	$0.00	$71.24
	12/01/2017	$47.93	$10.00	$14.30	$0.00	$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
CAISSON & UNDERPINNING BOTTOM MAN *LABORERS - FOUNDATION AND MARINE*	12/01/2014	$35.70	$7.30	$13.15	$0.00	$56.15
	06/01/2015	$36.45	$7.30	$13.15	$0.00	$56.90
	12/01/2015	$37.20	$7.30	$13.15	$0.00	$57.65
	06/01/2016	$37.95	$7.30	$13.15	$0.00	$58.40
	12/01/2016	$38.95	$7.30	$13.15	$0.00	$59.40
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING LABORER *LABORERS - FOUNDATION AND MARINE*	12/01/2014	$34.55	$7.30	$13.15	$0.00	$55.00
	06/01/2015	$35.30	$7.30	$13.15	$0.00	$55.75
	12/01/2015	$36.05	$7.30	$13.15	$0.00	$56.50
	06/01/2016	$36.80	$7.30	$13.15	$0.00	$57.25
	12/01/2016	$37.80	$7.30	$13.15	$0.00	$58.25
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CAISSON & UNDERPINNING TOP MAN *LABORERS - FOUNDATION AND MARINE*	12/01/2014	$34.55	$7.30	$13.15	$0.00	$55.00
	06/01/2015	$35.30	$7.30	$13.15	$0.00	$55.75
	12/01/2015	$36.05	$7.30	$13.15	$0.00	$56.50
	06/01/2016	$36.80	$7.30	$13.15	$0.00	$57.25
	12/01/2016	$37.80	$7.30	$13.15	$0.00	$58.25
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR *LABORERS - ZONE 1*	12/01/2014	$34.85	$7.30	$12.95	$0.00	$55.10
	06/01/2015	$35.60	$7.30	$12.95	$0.00	$55.85
	12/01/2015	$36.35	$7.30	$12.95	$0.00	$56.60
	06/01/2016	$37.10	$7.30	$12.95	$0.00	$57.35
	12/01/2016	$38.10	$7.30	$12.95	$0.00	$58.35
For apprentice rates see "Apprentice- LABORER"						
CARPENTER *CARPENTERS -ZONE 1 (Metro Boston)*	03/01/2015	$42.30	$9.80	$16.48	$0.00	$68.58

Apprentice - *CARPENTER - Zone 1 Metro Boston*

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.15	$9.80	$1.63	$0.00	$32.58
2	60	$25.38	$9.80	$1.63	$0.00	$36.81
3	70	$29.61	$9.80	$11.59	$0.00	$51.00
4	75	$31.73	$9.80	$11.59	$0.00	$53.12
5	80	$33.84	$9.80	$13.22	$0.00	$56.86
6	80	$33.84	$9.80	$13.22	$0.00	$56.86
7	90	$38.07	$9.80	$14.85	$0.00	$62.72
8	90	$38.07	$9.80	$14.85	$0.00	$62.72

Notes:

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING *BRICKLAYERS LOCAL 3 (BOSTON)*	01/01/2015	$44.90	$10.90	$18.71	$1.30	$75.81
	07/01/2015	$45.82	$10.90	$18.71	$1.30	$76.73
	01/01/2016	$46.44	$10.90	$18.71	$1.30	$77.35

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *CEMENT MASONRY/PLASTERING - Eastern Mass (Boston)*

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$22.45	$10.90	$12.21	$1.30	$46.86
2	60	$26.94	$10.90	$13.71	$1.30	$52.85
3	65	$29.19	$10.90	$14.71	$1.30	$56.10
4	70	$31.43	$10.90	$15.71	$1.30	$59.34
5	75	$33.68	$10.90	$16.71	$1.30	$62.59
6	80	$35.92	$10.90	$17.71	$1.30	$65.83
7	90	$40.41	$10.90	$18.71	$1.30	$71.32

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$22.91	$10.90	$12.21	$1.30	$47.32
2	60	$27.49	$10.90	$13.71	$1.30	$53.40
3	65	$29.78	$10.90	$14.71	$1.30	$56.69
4	70	$32.07	$10.90	$15.71	$1.30	$59.98
5	75	$34.37	$10.90	$16.71	$1.30	$63.28
6	80	$36.66	$10.90	$17.71	$1.30	$66.57
7	90	$41.24	$10.90	$18.71	$1.30	$72.15

Notes:

Steps 3,4 are 500 hrs. All other steps are 1,000 hrs.

Apprentice to Journeyworker Ratio:1:3

CHAIN SAW OPERATOR *LABORERS - ZONE 1*	12/01/2014	$34.85	$7.30	$12.95	$0.00	$55.10
	06/01/2015	$35.60	$7.30	$12.95	$0.00	$55.85
	12/01/2015	$36.35	$7.30	$12.95	$0.00	$56.60
	06/01/2016	$37.10	$7.30	$12.95	$0.00	$57.35
	12/01/2016	$38.10	$7.30	$12.95	$0.00	$58.35

For apprentice rates see "Apprentice- LABORER"

CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$43.39	$10.00	$14.30	$0.00	$67.69
	06/01/2015	$44.14	$10.00	$14.30	$0.00	$68.44
	12/01/2015	$45.39	$10.00	$14.30	$0.00	$69.69
	06/01/2016	$46.14	$10.00	$14.30	$0.00	$70.44
	12/01/2016	$47.39	$10.00	$14.30	$0.00	$71.69
	06/01/2017	$48.39	$10.00	$14.30	$0.00	$72.69
	12/01/2017	$49.39	$10.00	$14.30	$0.00	$73.69

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
COMPRESSOR OPERATOR *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$29.40	$10.00	$14.30	$0.00	$53.70
	06/01/2015	$29.92	$10.00	$14.30	$0.00	$54.22
	12/01/2015	$30.79	$10.00	$14.30	$0.00	$55.09
	06/01/2016	$31.31	$10.00	$14.30	$0.00	$55.61
	12/01/2016	$32.18	$10.00	$14.30	$0.00	$56.48
	06/01/2017	$32.87	$10.00	$14.30	$0.00	$57.17
	12/01/2017	$33.56	$10.00	$14.30	$0.00	$57.86
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE) *PAINTERS LOCAL 35 - ZONE 1*	01/01/2015	$47.66	$7.85	$16.10	$0.00	$71.61
	07/01/2015	$48.56	$7.85	$16.10	$0.00	$72.51
	01/01/2016	$49.51	$7.85	$16.10	$0.00	$73.46
	07/01/2016	$50.46	$7.85	$16.10	$0.00	$74.41
	01/01/2017	$51.41	$7.85	$16.10	$0.00	$75.36

Apprentice - *PAINTER Local 35 - BRIDGES/TANKS*

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$23.83	$7.85	$0.00	$0.00	$31.68
2	55	$26.21	$7.85	$3.66	$0.00	$37.72
3	60	$28.60	$7.85	$3.99	$0.00	$40.44
4	65	$30.98	$7.85	$4.32	$0.00	$43.15
5	70	$33.36	$7.85	$14.11	$0.00	$55.32
6	75	$35.75	$7.85	$14.44	$0.00	$58.04
7	80	$38.13	$7.85	$14.77	$0.00	$60.75
8	90	$42.89	$7.85	$15.44	$0.00	$66.18

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.28	$7.85	$0.00	$0.00	$32.13
2	55	$26.71	$7.85	$3.66	$0.00	$38.22
3	60	$29.14	$7.85	$3.99	$0.00	$40.98
4	65	$31.56	$7.85	$4.32	$0.00	$43.73
5	70	$33.99	$7.85	$14.11	$0.00	$55.95
6	75	$36.42	$7.85	$14.44	$0.00	$58.71
7	80	$38.85	$7.85	$14.77	$0.00	$61.47
8	90	$43.70	$7.85	$15.44	$0.00	$66.99

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN *LABORERS - ZONE 1*	12/01/2014	$34.75	$7.30	$12.95	$0.00	$55.00
	06/01/2015	$35.50	$7.30	$12.95	$0.00	$55.75
	12/01/2015	$36.25	$7.30	$12.95	$0.00	$56.50
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DEMO: BACKHOE/LOADER/HAMMER OPERATOR *LABORERS - ZONE 1*	12/01/2014	$35.75	$7.30	$12.95	$0.00	$56.00
	06/01/2015	$36.50	$7.30	$12.95	$0.00	$56.75
	12/01/2015	$37.25	$7.30	$12.95	$0.00	$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: BURNERS *LABORERS - ZONE 1*	12/01/2014	$35.50	$7.30	$12.95	$0.00	$55.75
	06/01/2015	$36.25	$7.30	$12.95	$0.00	$56.50
	12/01/2015	$37.00	$7.30	$12.95	$0.00	$57.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER *LABORERS - ZONE 1*	12/01/2014	$35.75	$7.30	$12.95	$0.00	$56.00
	06/01/2015	$36.50	$7.30	$12.95	$0.00	$56.75
	12/01/2015	$37.25	$7.30	$12.95	$0.00	$57.50
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR *LABORERS - ZONE 1*	12/01/2014	$35.50	$7.30	$12.95	$0.00	$55.75
	06/01/2015	$36.25	$7.30	$12.95	$0.00	$56.50
	12/01/2015	$37.00	$7.30	$12.95	$0.00	$57.25
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER *LABORERS - ZONE 1*	12/01/2014	$34.75	$7.30	$12.95	$0.00	$55.00
	06/01/2015	$35.50	$7.30	$12.95	$0.00	$55.75
	12/01/2015	$36.25	$7.30	$12.95	$0.00	$56.50
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$41.99	$10.00	$14.30	$0.00	$66.29
	06/01/2015	$42.73	$10.00	$14.30	$0.00	$67.03
	12/01/2015	$43.97	$10.00	$14.30	$0.00	$68.27
	06/01/2016	$44.72	$10.00	$14.30	$0.00	$69.02
	12/01/2016	$45.95	$10.00	$14.30	$0.00	$70.25
	06/01/2017	$46.94	$10.00	$14.30	$0.00	$71.24
	12/01/2017	$47.93	$10.00	$14.30	$0.00	$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER *PILE DRIVER LOCAL 56 (ZONE 1)*	08/01/2014	$58.24	$9.80	$18.17	$0.00	$86.21
	08/01/2015	$60.34	$9.80	$18.17	$0.00	$88.31
DIVER TENDER *PILE DRIVER LOCAL 56 (ZONE 1)*	08/01/2014	$41.60	$9.80	$18.17	$0.00	$69.57
	08/01/2015	$43.10	$9.80	$18.17	$0.00	$71.07
DIVER TENDER (EFFLUENT) *PILE DRIVER LOCAL 56 (ZONE 1)*	08/01/2014	$62.40	$9.80	$18.17	$0.00	$90.37
	08/01/2015	$64.65	$9.80	$18.17	$0.00	$92.62
DIVER/SLURRY (EFFLUENT) *PILE DRIVER LOCAL 56 (ZONE 1)*	08/01/2014	$87.36	$9.80	$18.17	$0.00	$115.33
	08/01/2015	$90.51	$9.80	$18.17	$0.00	$118.48
DRAWBRIDGE OPERATOR (Construction) *ELECTRICIANS LOCAL 103*	03/01/2015	$45.17	$13.00	$15.40	$0.00	$73.57
	09/01/2015	$46.13	$13.00	$15.43	$0.00	$74.56
	03/01/2016	$47.08	$13.00	$15.46	$0.00	$75.54
For apprentice rates see "Apprentice- ELECTRICIAN"						
ELECTRICIAN *ELECTRICIANS LOCAL 103*	03/01/2015	$45.17	$13.00	$15.40	$0.00	$73.57
	09/01/2015	$46.13	$13.00	$15.43	$0.00	$74.56
	03/01/2016	$47.08	$13.00	$15.46	$0.00	$75.54

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *ELECTRICIAN - Local 103*

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$18.07	$13.00	$0.54	$0.00	$31.61
2	40	$18.07	$13.00	$0.54	$0.00	$31.61
3	45	$20.33	$13.00	$11.64	$0.00	$44.97
4	45	$20.33	$13.00	$11.64	$0.00	$44.97
5	50	$22.59	$13.00	$11.98	$0.00	$47.57
6	55	$24.84	$13.00	$12.33	$0.00	$50.17
7	60	$27.10	$13.00	$12.66	$0.00	$52.76
8	65	$29.36	$13.00	$13.01	$0.00	$55.37
9	70	$31.62	$13.00	$13.35	$0.00	$57.97
10	75	$33.88	$13.00	$13.70	$0.00	$60.58

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$18.45	$13.00	$0.55	$0.00	$32.00
2	40	$18.45	$13.00	$0.55	$0.00	$32.00
3	45	$20.76	$13.00	$11.65	$0.00	$45.41
4	45	$20.76	$13.00	$11.65	$0.00	$45.41
5	50	$23.07	$13.00	$11.99	$0.00	$48.06
6	55	$25.37	$13.00	$12.34	$0.00	$50.71
7	60	$27.68	$13.00	$12.68	$0.00	$53.36
8	65	$29.98	$13.00	$13.03	$0.00	$56.01
9	70	$32.29	$13.00	$13.37	$0.00	$58.66
10	75	$34.60	$13.00	$13.72	$0.00	$61.32

Notes: :

App Prior 1/1/03; 30/35/40/45/50/55/65/70/75/80

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR *ELEVATOR CONSTRUCTORS LOCAL 4*	01/01/2012	$52.45	$8.78	$6.96	$0.00	$68.19

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *ELEVATOR CONSTRUCTOR - Local 4*

Effective Date - 01/01/2012

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$26.23	$8.78	$0.00	$0.00	$35.01
2	55	$28.85	$8.78	$6.96	$0.00	$44.59
3	65	$34.09	$8.78	$6.96	$0.00	$49.83
4	70	$36.72	$8.78	$6.96	$0.00	$52.46
5	80	$41.96	$8.78	$6.96	$0.00	$57.70

Notes:

Steps 1-2 are 6 mos.; Steps 3-5 are 1 year

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER *ELEVATOR CONSTRUCTORS LOCAL 4*	01/01/2012	$38.59	$8.78	$6.96	$0.00	$54.33

For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"

FENCE & GUARD RAIL ERECTOR *LABORERS - ZONE 1*	12/01/2014	$34.85	$7.30	$12.95	$0.00	$55.10
	06/01/2015	$35.60	$7.30	$12.95	$0.00	$55.85
	12/01/2015	$36.35	$7.30	$12.95	$0.00	$56.60
	06/01/2016	$37.10	$7.30	$12.95	$0.00	$57.35
	12/01/2016	$38.10	$7.30	$12.95	$0.00	$58.35

For apprentice rates see "Apprentice- LABORER"

FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY *OPERATING ENGINEERS LOCAL 4*	11/01/2014	$39.59	$10.00	$14.18	$0.00	$63.77
	05/01/2015	$40.22	$10.00	$14.30	$0.00	$64.52
	11/01/2015	$40.80	$10.00	$14.30	$0.00	$65.10
	05/01/2016	$41.69	$10.00	$14.30	$0.00	$65.99
	11/01/2016	$42.28	$10.00	$14.30	$0.00	$66.58
	05/01/2017	$43.16	$10.00	$14.30	$0.00	$67.46
	11/01/2017	$43.89	$10.00	$14.30	$0.00	$68.19
	05/01/2018	$44.60	$10.00	$14.30	$0.00	$68.90

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY *OPERATING ENGINEERS LOCAL 4*	11/01/2014	$41.02	$10.00	$14.18	$0.00	$65.20
	05/01/2015	$41.65	$10.00	$14.30	$0.00	$65.95
	11/01/2015	$42.24	$10.00	$14.30	$0.00	$66.54
	05/01/2016	$43.13	$10.00	$14.30	$0.00	$67.43
	11/01/2016	$43.73	$10.00	$14.30	$0.00	$68.03
	05/01/2017	$44.62	$10.00	$14.30	$0.00	$68.92
	11/01/2017	$45.35	$10.00	$14.30	$0.00	$69.65
	05/01/2018	$46.07	$10.00	$14.30	$0.00	$70.37

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY *OPERATING ENGINEERS LOCAL 4*	11/01/2014	$21.35	$10.00	$14.18	$0.00	$45.53
	05/01/2015	$21.68	$10.00	$14.30	$0.00	$45.98
	11/01/2015	$22.02	$10.00	$14.30	$0.00	$46.32
	05/01/2016	$22.54	$10.00	$14.30	$0.00	$46.84
	11/01/2016	$22.89	$10.00	$14.30	$0.00	$47.19
	05/01/2017	$23.42	$10.00	$14.30	$0.00	$47.72
	11/01/2017	$23.84	$10.00	$14.30	$0.00	$48.14
	05/01/2018	$24.27	$10.00	$14.30	$0.00	$48.57
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER *ELECTRICIANS LOCAL 103*	03/01/2015	$45.17	$13.00	$15.40	$0.00	$73.57
	09/01/2015	$46.13	$13.00	$15.43	$0.00	$74.56
	03/01/2016	$47.08	$13.00	$15.46	$0.00	$75.54
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING*ELECTRICIANS LOCAL 103*	03/01/2015	$33.88	$13.00	$13.70	$0.00	$60.58
	09/01/2015	$34.60	$13.00	$13.72	$0.00	$61.32
	03/01/2016	$35.31	$13.00	$13.74	$0.00	$62.05
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$35.33	$10.00	$14.30	$0.00	$59.63
	06/01/2015	$35.95	$10.00	$14.30	$0.00	$60.25
	12/01/2015	$37.00	$10.00	$14.30	$0.00	$61.30
	06/01/2016	$37.62	$10.00	$14.30	$0.00	$61.92
	12/01/2016	$38.66	$10.00	$14.30	$0.00	$62.96
	06/01/2017	$39.50	$10.00	$14.30	$0.00	$63.80
	12/01/2017	$40.33	$10.00	$14.30	$0.00	$64.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER *LABORERS - ZONE 1*	12/01/2014	$20.50	$7.30	$12.95	$0.00	$40.75
	06/01/2015	$20.50	$7.30	$12.95	$0.00	$40.75
	12/01/2015	$20.50	$7.30	$12.95	$0.00	$40.75
	06/01/2016	$20.50	$7.30	$12.95	$0.00	$40.75
	12/01/2016	$20.50	$7.30	$12.95	$0.00	$40.75
For apprentice rates see "Apprentice- LABORER"						
FLOORCOVERER *FLOORCOVERERS LOCAL 2168 ZONE I*	09/01/2014	$40.40	$9.80	$17.21	$0.00	$67.41

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *FLOORCOVERER - Local 2168 Zone I*

Effective Date - 09/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$20.20	$9.80	$1.79	$0.00	$31.79
2	55	$22.22	$9.80	$1.79	$0.00	$33.81
3	60	$24.24	$9.80	$11.84	$0.00	$45.88
4	65	$26.26	$9.80	$11.84	$0.00	$47.90
5	70	$28.28	$9.80	$13.63	$0.00	$51.71
6	75	$30.30	$9.80	$13.63	$0.00	$53.73
7	80	$32.32	$9.80	$15.42	$0.00	$57.54
8	85	$34.34	$9.80	$15.42	$0.00	$59.56

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

FORK LIFT/CHERRY PICKER *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$42.39	$10.00	$14.30	$0.00	$66.69
	06/01/2015	$43.14	$10.00	$14.30	$0.00	$67.44
	12/01/2015	$44.39	$10.00	$14.30	$0.00	$68.69
	06/01/2016	$45.14	$10.00	$14.30	$0.00	$69.44
	12/01/2016	$46.39	$10.00	$14.30	$0.00	$70.69
	06/01/2017	$47.39	$10.00	$14.30	$0.00	$71.69
	12/01/2017	$48.39	$10.00	$14.30	$0.00	$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GENERATOR/LIGHTING PLANT/HEATERS *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$29.40	$10.00	$14.30	$0.00	$53.70
	06/01/2015	$29.92	$10.00	$14.30	$0.00	$54.22
	12/01/2015	$30.79	$10.00	$14.30	$0.00	$55.09
	06/01/2016	$31.31	$10.00	$14.30	$0.00	$55.61
	12/01/2016	$32.18	$10.00	$14.30	$0.00	$56.48
	06/01/2017	$32.87	$10.00	$14.30	$0.00	$57.17
	12/01/2017	$33.56	$10.00	$14.30	$0.00	$57.86
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) *GLAZIERS LOCAL 35 (ZONE 1)*	01/01/2015	$42.95	$7.85	$16.10	$0.00	$66.90
	07/01/2015	$43.85	$7.85	$16.10	$0.00	$67.80
	01/01/2016	$44.80	$7.85	$16.10	$0.00	$68.75
	07/01/2016	$45.75	$7.85	$16.10	$0.00	$69.70
	01/01/2017	$46.70	$7.85	$16.10	$0.00	$70.65

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *GLAZIER - Local 35 Zone 1*

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.48	$7.85	$0.00	$0.00	$29.33
2	55	$23.62	$7.85	$3.66	$0.00	$35.13
3	60	$25.77	$7.85	$3.99	$0.00	$37.61
4	65	$27.92	$7.85	$4.32	$0.00	$40.09
5	70	$30.07	$7.85	$14.11	$0.00	$52.03
6	75	$32.21	$7.85	$14.44	$0.00	$54.50
7	80	$34.36	$7.85	$14.77	$0.00	$56.98
8	90	$38.66	$7.85	$15.44	$0.00	$61.95

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.93	$7.85	$0.00	$0.00	$29.78
2	55	$24.12	$7.85	$3.66	$0.00	$35.63
3	60	$26.31	$7.85	$3.99	$0.00	$38.15
4	65	$28.50	$7.85	$4.32	$0.00	$40.67
5	70	$30.70	$7.85	$14.11	$0.00	$52.66
6	75	$32.89	$7.85	$14.44	$0.00	$55.18
7	80	$35.08	$7.85	$14.77	$0.00	$57.70
8	90	$39.47	$7.85	$15.44	$0.00	$62.76

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

HOISTING ENGINEER/CRANES/GRADALLS *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$42.39	$10.00	$14.30	$0.00	$66.69
	06/01/2015	$43.14	$10.00	$14.30	$0.00	$67.44
	12/01/2015	$44.39	$10.00	$14.30	$0.00	$68.69
	06/01/2016	$45.14	$10.00	$14.30	$0.00	$69.44
	12/01/2016	$46.39	$10.00	$14.30	$0.00	$70.69
	06/01/2017	$47.39	$10.00	$14.30	$0.00	$71.69
	12/01/2017	$48.39	$10.00	$14.30	$0.00	$72.69

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *OPERATING ENGINEERS - Local 4*

Effective Date - 12/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	$23.31	$10.00	$0.00	$0.00	$33.31
2	60	$25.43	$10.00	$14.30	$0.00	$49.73
3	65	$27.55	$10.00	$14.30	$0.00	$51.85
4	70	$29.67	$10.00	$14.30	$0.00	$53.97
5	75	$31.79	$10.00	$14.30	$0.00	$56.09
6	80	$33.91	$10.00	$14.30	$0.00	$58.21
7	85	$36.03	$10.00	$14.30	$0.00	$60.33
8	90	$38.15	$10.00	$14.30	$0.00	$62.45

Effective Date - 06/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	$23.73	$10.00	$0.00	$0.00	$33.73
2	60	$25.88	$10.00	$14.30	$0.00	$50.18
3	65	$28.04	$10.00	$14.30	$0.00	$52.34
4	70	$30.20	$10.00	$14.30	$0.00	$54.50
5	75	$32.36	$10.00	$14.30	$0.00	$56.66
6	80	$34.51	$10.00	$14.30	$0.00	$58.81
7	85	$36.67	$10.00	$14.30	$0.00	$60.97
8	90	$38.83	$10.00	$14.30	$0.00	$63.13

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) *SHEETMETAL WORKERS LOCAL 17 - A*	02/01/2015	$43.28	$10.20	$20.54	$2.22	$76.24
	08/01/2015	$44.28	$10.20	$20.54	$2.22	$77.24
	02/01/2016	$45.28	$10.20	$20.54	$2.22	$78.24
	08/01/2016	$46.43	$10.20	$20.54	$2.22	$79.39
	02/01/2017	$47.53	$10.20	$20.54	$2.22	$80.49
	08/01/2017	$48.63	$10.20	$20.54	$2.22	$81.59
	02/01/2018	$49.78	$10.20	$20.54	$2.22	$82.74

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS) *ELECTRICIANS LOCAL 103*	03/01/2015	$45.17	$13.00	$15.40	$0.00	$73.57
	09/01/2015	$46.13	$13.00	$15.43	$0.00	$74.56
	03/01/2016	$47.08	$13.00	$15.46	$0.00	$75.54

For apprentice rates see "Apprentice- ELECTRICIAN"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC (TESTING AND BALANCING - AIR) *SHEETMETAL WORKERS LOCAL 17 - A*	02/01/2015	$43.28	$10.20	$20.54	$2.22	$76.24
	08/01/2015	$44.28	$10.20	$20.54	$2.22	$77.24
	02/01/2016	$45.28	$10.20	$20.54	$2.22	$78.24
	08/01/2016	$46.43	$10.20	$20.54	$2.22	$79.39
	02/01/2017	$47.53	$10.20	$20.54	$2.22	$80.49
	08/01/2017	$48.63	$10.20	$20.54	$2.22	$81.59
	02/01/2018	$49.78	$10.20	$20.54	$2.22	$82.74
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) *PIPEFITTERS LOCAL 537*	03/01/2015	$48.69	$9.70	$16.89	$0.00	$75.28
	09/01/2015	$49.69	$9.70	$16.89	$0.00	$76.28
	03/01/2016	$50.69	$9.70	$16.89	$0.00	$77.28
	09/01/2016	$51.69	$9.70	$16.89	$0.00	$78.28
	03/01/2017	$52.69	$9.70	$16.89	$0.00	$79.28
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC *PIPEFITTERS LOCAL 537*	03/01/2015	$48.69	$9.70	$16.89	$0.00	$75.28
	09/01/2015	$49.69	$9.70	$16.89	$0.00	$76.28
	03/01/2016	$50.69	$9.70	$16.89	$0.00	$77.28
	09/01/2016	$51.69	$9.70	$16.89	$0.00	$78.28
	03/01/2017	$52.69	$9.70	$16.89	$0.00	$79.28
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS *LABORERS - ZONE 1*	12/01/2014	$35.35	$7.30	$12.95	$0.00	$55.60
	06/01/2015	$36.10	$7.30	$12.95	$0.00	$56.35
	12/01/2015	$36.85	$7.30	$12.95	$0.00	$57.10
	06/01/2016	$37.60	$7.30	$12.95	$0.00	$57.85
	12/01/2016	$38.60	$7.30	$12.95	$0.00	$58.85
For apprentice rates see "Apprentice- LABORER"						
INSULATOR (PIPES & TANKS) *HEAT & FROST INSULATORS LOCAL 6 (BOSTON)*	09/01/2014	$43.31	$11.25	$12.60	$0.00	$67.16

Apprentice - *ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Boston*

Effective Date - 09/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.66	$11.25	$9.35	$0.00	$42.26
2	60	$25.99	$11.25	$10.00	$0.00	$47.24
3	70	$30.32	$11.25	$10.65	$0.00	$52.22
4	80	$34.65	$11.25	$11.30	$0.00	$57.20

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER *IRONWORKERS LOCAL 7 (BOSTON AREA)*	03/16/2015	$42.11	$7.70	$20.25	$0.00	$70.06

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *IRONWORKER - Local 7 Boston*

Effective Date - 03/16/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$25.27	$7.70	$20.25	$0.00	$53.22
2	70	$29.48	$7.70	$20.25	$0.00	$57.43
3	75	$31.58	$7.70	$20.25	$0.00	$59.53
4	80	$33.69	$7.70	$20.25	$0.00	$61.64
5	85	$35.79	$7.70	$20.25	$0.00	$63.74
6	90	$37.90	$7.70	$20.25	$0.00	$65.85

Notes:

** Structural 1:6; Ornamental 1:4

Apprentice to Journeyworker Ratio:**

JACKHAMMER & PAVING BREAKER OPERATOR *LABORERS - ZONE 1*	12/01/2014	$34.85	$7.30	$12.95	$0.00	$55.10
	06/01/2015	$35.60	$7.30	$12.95	$0.00	$55.85
	12/01/2015	$36.35	$7.30	$12.95	$0.00	$56.60
	06/01/2016	$37.10	$7.30	$12.95	$0.00	$57.35
	12/01/2016	$38.10	$7.30	$12.95	$0.00	$58.35
For apprentice rates see "Apprentice- LABORER"						
LABORER *LABORERS - ZONE 1*	12/01/2014	$34.60	$7.30	$12.95	$0.00	$54.85
	06/01/2015	$35.35	$7.30	$12.95	$0.00	$55.60
	12/01/2015	$36.10	$7.30	$12.95	$0.00	$56.35
	06/01/2016	$36.85	$7.30	$12.95	$0.00	$57.10
	12/01/2016	$37.85	$7.30	$12.95	$0.00	$58.10

Apprentice - *LABORER - Zone 1*

Effective Date - 12/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$20.76	$7.30	$12.95	$0.00	$41.01
2	70	$24.22	$7.30	$12.95	$0.00	$44.47
3	80	$27.68	$7.30	$12.95	$0.00	$47.93
4	90	$31.14	$7.30	$12.95	$0.00	$51.39

Effective Date - 06/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$21.21	$7.30	$12.95	$0.00	$41.46
2	70	$24.75	$7.30	$12.95	$0.00	$45.00
3	80	$28.28	$7.30	$12.95	$0.00	$48.53
4	90	$31.82	$7.30	$12.95	$0.00	$52.07

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: CARPENTER TENDER *LABORERS - ZONE 1*	12/01/2014	$34.60	$7.30	$12.95	$0.00	$54.85
	06/01/2015	$35.35	$7.30	$12.95	$0.00	$55.60
	12/01/2015	$36.10	$7.30	$12.95	$0.00	$56.35
	06/01/2016	$36.85	$7.30	$12.95	$0.00	$57.10
	12/01/2016	$37.85	$7.30	$12.95	$0.00	$58.10
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER *LABORERS - ZONE 1*	12/01/2014	$34.60	$7.30	$12.95	$0.00	$54.85
	06/01/2015	$35.35	$7.30	$12.95	$0.00	$55.60
	12/01/2015	$36.10	$7.30	$12.95	$0.00	$56.35
	06/01/2016	$36.85	$7.30	$12.95	$0.00	$57.10
	12/01/2016	$37.85	$7.30	$12.95	$0.00	$58.10
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER *LABORERS - ZONE 1*	12/01/2014	$34.75	$7.30	$12.95	$0.00	$55.00
	06/01/2015	$35.50	$7.30	$12.95	$0.00	$55.75
	12/01/2015	$36.25	$7.30	$12.95	$0.00	$56.50
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER *LABORERS - ZONE 1*	12/01/2014	$34.85	$7.30	$12.95	$0.00	$55.10
	06/01/2015	$35.60	$7.30	$12.95	$0.00	$55.85
	12/01/2015	$36.35	$7.30	$12.95	$0.00	$56.60
	06/01/2016	$37.10	$7.30	$12.95	$0.00	$57.35
	12/01/2016	$38.10	$7.30	$12.95	$0.00	$58.35
For apprentice rates see "Apprentice- LABORER"						
LABORER: MULTI-TRADE TENDER *LABORERS - ZONE 1*	12/01/2014	$34.60	$7.30	$12.95	$0.00	$54.85
	06/01/2015	$35.35	$7.30	$12.95	$0.00	$55.60
	12/01/2015	$36.10	$7.30	$12.95	$0.00	$56.35
	06/01/2016	$36.85	$7.30	$12.95	$0.00	$57.10
	12/01/2016	$37.85	$7.30	$12.95	$0.00	$58.10
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER *LABORERS - ZONE 1*	12/01/2014	$34.60	$7.30	$12.95	$0.00	$54.85
	06/01/2015	$35.35	$7.30	$12.95	$0.00	$55.60
	12/01/2015	$36.10	$7.30	$12.95	$0.00	$56.35
	06/01/2016	$36.85	$7.30	$12.95	$0.00	$57.10
	12/01/2016	$37.85	$7.30	$12.95	$0.00	$58.10
This classification applies to all tree work associated with the removal of standing trees, and trimming and removal of branches and limbs when the work is not done for a utility company for the purpose of operation, maintenance or repair of utility company equipment. For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR *LABORERS - ZONE 1*	12/01/2014	$34.85	$7.30	$12.95	$0.00	$55.10
	06/01/2015	$35.60	$7.30	$12.95	$0.00	$55.85
	12/01/2015	$36.35	$7.30	$12.95	$0.00	$56.60
	06/01/2016	$37.10	$7.30	$12.95	$0.00	$57.35
	12/01/2016	$38.10	$7.30	$12.95	$0.00	$58.35
For apprentice rates see "Apprentice- LABORER"						
MARBLE & TILE FINISHERS *BRICKLAYERS LOCAL 3 - MARBLE & TILE*	02/01/2015	$37.37	$10.18	$17.18	$0.00	$64.73
	08/01/2015	$38.08	$10.18	$17.25	$0.00	$65.51
	02/01/2016	$38.53	$10.18	$17.25	$0.00	$65.96
	08/01/2016	$39.23	$10.18	$17.33	$0.00	$66.74
	02/01/2017	$39.69	$10.18	$17.33	$0.00	$67.20

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *MARBLE & TILE FINISHER - Local 3 Marble & Tile*

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$18.69	$10.18	$17.18	$0.00	$46.05
2	60	$22.42	$10.18	$17.18	$0.00	$49.78
3	70	$26.16	$10.18	$17.18	$0.00	$53.52
4	80	$29.90	$10.18	$17.18	$0.00	$57.26
5	90	$33.63	$10.18	$17.18	$0.00	$60.99

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$19.04	$10.18	$17.25	$0.00	$46.47
2	60	$22.85	$10.18	$17.25	$0.00	$50.28
3	70	$26.66	$10.18	$17.25	$0.00	$54.09
4	80	$30.46	$10.18	$17.25	$0.00	$57.89
5	90	$34.27	$10.18	$17.25	$0.00	$61.70

Notes:

Apprentice to Journeyworker Ratio:1:3

MARBLE MASONS,TILELAYERS & TERRAZZO MECH *BRICKLAYERS LOCAL 3 - MARBLE & TILE*	02/01/2015	$49.00	$10.18	$18.50	$0.00	$77.68
	08/01/2015	$49.90	$10.18	$18.57	$0.00	$78.65
	02/01/2016	$50.47	$10.18	$18.57	$0.00	$79.22
	08/01/2016	$51.37	$10.18	$18.65	$0.00	$80.20
	02/01/2017	$51.94	$10.18	$18.65	$0.00	$80.77

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *MARBLE-TILE-TERRAZZO MECHANIC - Local 3 Marble & Tile*

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.50	$10.18	$18.50	$0.00	$53.18
2	60	$29.40	$10.18	$18.50	$0.00	$58.08
3	70	$34.30	$10.18	$18.50	$0.00	$62.98
4	80	$39.20	$10.18	$18.50	$0.00	$67.88
5	90	$44.10	$10.18	$18.50	$0.00	$72.78

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.95	$10.18	$18.57	$0.00	$53.70
2	60	$29.94	$10.18	$18.57	$0.00	$58.69
3	70	$34.93	$10.18	$18.57	$0.00	$63.68
4	80	$39.92	$10.18	$18.57	$0.00	$68.67
5	90	$44.91	$10.18	$18.57	$0.00	$73.66

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$41.99	$10.00	$14.30	$0.00	$66.29
	06/01/2015	$42.73	$10.00	$14.30	$0.00	$67.03
	12/01/2015	$43.97	$10.00	$14.30	$0.00	$68.27
	06/01/2016	$44.72	$10.00	$14.30	$0.00	$69.02
	12/01/2016	$45.95	$10.00	$14.30	$0.00	$70.25
	06/01/2017	$46.94	$10.00	$14.30	$0.00	$71.24
	12/01/2017	$47.93	$10.00	$14.30	$0.00	$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MECHANICS MAINTENANCE *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$41.99	$10.00	$14.30	$0.00	$66.29
	06/01/2015	$42.73	$10.00	$14.30	$0.00	$67.03
	12/01/2015	$43.97	$10.00	$14.30	$0.00	$68.27
	06/01/2016	$44.72	$10.00	$14.30	$0.00	$69.02
	12/01/2016	$45.95	$10.00	$14.30	$0.00	$70.25
	06/01/2017	$46.94	$10.00	$14.30	$0.00	$71.24
	12/01/2017	$47.93	$10.00	$14.30	$0.00	$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
MILLWRIGHT (Zone 1) *MILLWRIGHTS LOCAL 1121 - Zone 1*	04/01/2015	$37.64	$9.80	$16.21	$0.00	$63.65

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *MILLWRIGHT - Local 1121 Zone 1*

Effective Date - 04/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	$20.70	$9.80	$4.48	$0.00	$34.98
2	65	$24.47	$9.80	$13.36	$0.00	$47.63
3	75	$28.23	$9.80	$14.18	$0.00	$52.21
4	85	$31.99	$9.80	$14.99	$0.00	$56.78

Notes:

Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:5

MORTAR MIXER *LABORERS - ZONE 1*	12/01/2014	$34.85	$7.30	$12.95	$0.00	$55.10
	06/01/2015	$35.60	$7.30	$12.95	$0.00	$55.85
	12/01/2015	$36.35	$7.30	$12.95	$0.00	$56.60
	06/01/2016	$37.10	$7.30	$12.95	$0.00	$57.35
	12/01/2016	$38.10	$7.30	$12.95	$0.00	$58.35
For apprentice rates see "Apprentice- LABORER"						
OILER (OTHER THAN TRUCK CRANES,GRADALLS) *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$21.90	$10.00	$14.30	$0.00	$46.20
	06/01/2015	$22.28	$10.00	$14.30	$0.00	$46.58
	12/01/2015	$22.93	$10.00	$14.30	$0.00	$47.23
	06/01/2016	$23.32	$10.00	$14.30	$0.00	$47.62
	12/01/2016	$23.97	$10.00	$14.30	$0.00	$48.27
	06/01/2017	$24.48	$10.00	$14.30	$0.00	$48.78
	12/01/2017	$25.00	$10.00	$14.30	$0.00	$49.30
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OILER (TRUCK CRANES, GRADALLS) *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$25.54	$10.00	$14.30	$0.00	$49.84
	06/01/2015	$25.99	$10.00	$14.30	$0.00	$50.29
	12/01/2015	$26.74	$10.00	$14.30	$0.00	$51.04
	06/01/2016	$27.20	$10.00	$14.30	$0.00	$51.50
	12/01/2016	$27.95	$10.00	$14.30	$0.00	$52.25
	06/01/2017	$28.55	$10.00	$14.30	$0.00	$52.85
	12/01/2017	$29.16	$10.00	$14.30	$0.00	$53.46
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OTHER POWER DRIVEN EQUIPMENT - CLASS II *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$41.99	$10.00	$14.30	$0.00	$66.29
	06/01/2015	$42.73	$10.00	$14.30	$0.00	$67.03
	12/01/2015	$43.97	$10.00	$14.30	$0.00	$68.27
	06/01/2016	$44.72	$10.00	$14.30	$0.00	$69.02
	12/01/2016	$45.95	$10.00	$14.30	$0.00	$70.25
	06/01/2017	$46.94	$10.00	$14.30	$0.00	$71.24
	12/01/2017	$47.93	$10.00	$14.30	$0.00	$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PAINTER (BRIDGES/TANKS) *PAINTERS LOCAL 35 - ZONE 1*	01/01/2015	$47.66	$7.85	$16.10	$0.00	$71.61
	07/01/2015	$48.56	$7.85	$16.10	$0.00	$72.51
	01/01/2016	$49.51	$7.85	$16.10	$0.00	$73.46
	07/01/2016	$50.46	$7.85	$16.10	$0.00	$74.41
	01/01/2017	$51.41	$7.85	$16.10	$0.00	$75.36

Apprentice - *PAINTER Local 35 - BRIDGES/TANKS*

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$23.83	$7.85	$0.00	$0.00	$31.68
2	55	$26.21	$7.85	$3.66	$0.00	$37.72
3	60	$28.60	$7.85	$3.99	$0.00	$40.44
4	65	$30.98	$7.85	$4.32	$0.00	$43.15
5	70	$33.36	$7.85	$14.11	$0.00	$55.32
6	75	$35.75	$7.85	$14.44	$0.00	$58.04
7	80	$38.13	$7.85	$14.77	$0.00	$60.75
8	90	$42.89	$7.85	$15.44	$0.00	$66.18

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.28	$7.85	$0.00	$0.00	$32.13
2	55	$26.71	$7.85	$3.66	$0.00	$38.22
3	60	$29.14	$7.85	$3.99	$0.00	$40.98
4	65	$31.56	$7.85	$4.32	$0.00	$43.73
5	70	$33.99	$7.85	$14.11	$0.00	$55.95
6	75	$36.42	$7.85	$14.44	$0.00	$58.71
7	80	$38.85	$7.85	$14.77	$0.00	$61.47
8	90	$43.70	$7.85	$15.44	$0.00	$66.99

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) * * If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.*PAINTERS LOCAL 35 - ZONE 1*	01/01/2015	$44.35	$7.85	$16.10	$0.00	$68.30
	07/01/2015	$45.25	$7.85	$16.10	$0.00	$69.20
	01/01/2016	$46.20	$7.85	$16.10	$0.00	$70.15
	07/01/2016	$47.15	$7.85	$16.10	$0.00	$71.10
	01/01/2017	$48.10	$7.85	$16.10	$0.00	$72.05

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PAINTER Local 35 Zone 1 - Spray/Sandblast - New*

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$22.18	$7.85	$0.00	$0.00	$30.03
2	55	$24.39	$7.85	$3.66	$0.00	$35.90
3	60	$26.61	$7.85	$3.99	$0.00	$38.45
4	65	$28.83	$7.85	$4.32	$0.00	$41.00
5	70	$31.05	$7.85	$14.11	$0.00	$53.01
6	75	$33.26	$7.85	$14.44	$0.00	$55.55
7	80	$35.48	$7.85	$14.77	$0.00	$58.10
8	90	$39.92	$7.85	$15.44	$0.00	$63.21

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$22.63	$7.85	$0.00	$0.00	$30.48
2	55	$24.89	$7.85	$3.66	$0.00	$36.40
3	60	$27.15	$7.85	$3.99	$0.00	$38.99
4	65	$29.41	$7.85	$4.32	$0.00	$41.58
5	70	$31.68	$7.85	$14.11	$0.00	$53.64
6	75	$33.94	$7.85	$14.44	$0.00	$56.23
7	80	$36.20	$7.85	$14.77	$0.00	$58.82
8	90	$40.73	$7.85	$15.44	$0.00	$64.02

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT) *PAINTERS LOCAL 35 - ZONE 1*	01/01/2015	$42.41	$7.85	$16.10	$0.00	$66.36
	07/01/2015	$43.31	$7.85	$16.10	$0.00	$67.26
	01/01/2016	$44.26	$7.85	$16.10	$0.00	$68.21
	07/01/2016	$45.21	$7.85	$16.10	$0.00	$69.16
	01/01/2017	$46.16	$7.85	$16.10	$0.00	$70.11

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PAINTER Local 35 Zone 1 - Spray/Sandblast - Repaint*

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.21	$7.85	$0.00	$0.00	$29.06
2	55	$23.33	$7.85	$3.66	$0.00	$34.84
3	60	$25.45	$7.85	$3.99	$0.00	$37.29
4	65	$27.57	$7.85	$4.32	$0.00	$39.74
5	70	$29.69	$7.85	$14.11	$0.00	$51.65
6	75	$31.81	$7.85	$14.44	$0.00	$54.10
7	80	$33.93	$7.85	$14.77	$0.00	$56.55
8	90	$38.17	$7.85	$15.44	$0.00	$61.46

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.66	$7.85	$0.00	$0.00	$29.51
2	55	$23.82	$7.85	$3.66	$0.00	$35.33
3	60	$25.99	$7.85	$3.99	$0.00	$37.83
4	65	$28.15	$7.85	$4.32	$0.00	$40.32
5	70	$30.32	$7.85	$14.11	$0.00	$52.28
6	75	$32.48	$7.85	$14.44	$0.00	$54.77
7	80	$34.65	$7.85	$14.77	$0.00	$57.27
8	90	$38.98	$7.85	$15.44	$0.00	$62.27

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (TRAFFIC MARKINGS) *LABORERS - ZONE 1*	12/01/2014	$34.60	$7.30	$12.95	$0.00	$54.85
	06/01/2015	$35.35	$7.30	$12.95	$0.00	$55.60
	12/01/2015	$36.10	$7.30	$12.95	$0.00	$56.35
	06/01/2016	$36.85	$7.30	$12.95	$0.00	$57.10
	12/01/2016	$37.85	$7.30	$12.95	$0.00	$58.10
For Apprentice rates see "Apprentice- LABORER"						
PAINTER / TAPER (BRUSH, NEW) * * If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.*PAINTERS LOCAL 35 - ZONE 1*	01/01/2015	$42.95	$7.85	$16.10	$0.00	$66.90
	07/01/2015	$43.85	$7.85	$16.10	$0.00	$67.80
	01/01/2016	$44.80	$7.85	$16.10	$0.00	$68.75
	07/01/2016	$45.75	$7.85	$16.10	$0.00	$69.70
	01/01/2017	$46.70	$7.85	$16.10	$0.00	$70.65

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PAINTER - Local 35 Zone 1 - BRUSH NEW*

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.48	$7.85	$0.00	$0.00	$29.33
2	55	$23.62	$7.85	$3.66	$0.00	$35.13
3	60	$25.77	$7.85	$3.99	$0.00	$37.61
4	65	$27.92	$7.85	$4.32	$0.00	$40.09
5	70	$30.07	$7.85	$14.11	$0.00	$52.03
6	75	$32.21	$7.85	$14.44	$0.00	$54.50
7	80	$34.36	$7.85	$14.77	$0.00	$56.98
8	90	$38.66	$7.85	$15.44	$0.00	$61.95

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.93	$7.85	$0.00	$0.00	$29.78
2	55	$24.12	$7.85	$3.66	$0.00	$35.63
3	60	$26.31	$7.85	$3.99	$0.00	$38.15
4	65	$28.50	$7.85	$4.32	$0.00	$40.67
5	70	$30.70	$7.85	$14.11	$0.00	$52.66
6	75	$32.89	$7.85	$14.44	$0.00	$55.18
7	80	$35.08	$7.85	$14.77	$0.00	$57.70
8	90	$39.47	$7.85	$15.44	$0.00	$62.76

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT) *PAINTERS LOCAL 35 - ZONE 1*	01/01/2015	$41.01	$7.85	$16.10	$0.00	$64.96
	07/01/2015	$41.91	$7.85	$16.10	$0.00	$65.86
	01/01/2016	$42.86	$7.85	$16.10	$0.00	$66.81
	07/01/2016	$43.81	$7.85	$16.10	$0.00	$67.76
	01/01/2017	$44.76	$7.85	$16.10	$0.00	$68.71

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PAINTER Local 35 Zone 1 - BRUSH REPAINT*

Effective Date - 01/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$20.51	$7.85	$0.00	$0.00	$28.36
2	55	$22.56	$7.85	$3.66	$0.00	$34.07
3	60	$24.61	$7.85	$3.99	$0.00	$36.45
4	65	$26.66	$7.85	$4.32	$0.00	$38.83
5	70	$28.71	$7.85	$14.11	$0.00	$50.67
6	75	$30.76	$7.85	$14.44	$0.00	$53.05
7	80	$32.81	$7.85	$14.77	$0.00	$55.43
8	90	$36.91	$7.85	$15.44	$0.00	$60.20

Effective Date - 07/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$20.96	$7.85	$0.00	$0.00	$28.81
2	55	$23.05	$7.85	$3.66	$0.00	$34.56
3	60	$25.15	$7.85	$3.99	$0.00	$36.99
4	65	$27.24	$7.85	$4.32	$0.00	$39.41
5	70	$29.34	$7.85	$14.11	$0.00	$51.30
6	75	$31.43	$7.85	$14.44	$0.00	$53.72
7	80	$33.53	$7.85	$14.77	$0.00	$56.15
8	90	$37.72	$7.85	$15.44	$0.00	$61.01

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PANEL & PICKUP TRUCKS DRIVER *TEAMSTERS JOINT COUNCIL NO. 10 ZONE A*	12/01/2014	$32.23	$9.91	$9.33	$0.00	$51.47
	06/01/2015	$32.58	$9.91	$9.33	$0.00	$51.82
	08/01/2015	$32.58	$10.41	$9.33	$0.00	$52.32
	12/01/2015	$32.58	$10.41	$10.08	$0.00	$53.07
	06/01/2016	$33.08	$10.41	$10.08	$0.00	$53.57
	08/01/2016	$33.08	$10.91	$10.08	$0.00	$54.07
	12/01/2016	$33.08	$10.91	$10.89	$0.00	$54.88
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) *PILE DRIVER LOCAL 56 (ZONE 1)*	08/01/2014	$41.60	$9.80	$18.17	$0.00	$69.57
	08/01/2015	$43.10	$9.80	$18.17	$0.00	$71.07
PILE DRIVER *PILE DRIVER LOCAL 56 (ZONE 1)*	08/01/2014	$41.60	$9.80	$18.17	$0.00	$69.57
	08/01/2015	$43.10	$9.80	$18.17	$0.00	$71.07

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PILE DRIVER - Local 56 Zone 1*

Effective Date - 08/01/2014

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$20.80	$9.80	$18.17	$0.00	$48.77
2	60	$24.96	$9.80	$18.17	$0.00	$52.93
3	70	$29.12	$9.80	$18.17	$0.00	$57.09
4	75	$31.20	$9.80	$18.17	$0.00	$59.17
5	80	$33.28	$9.80	$18.17	$0.00	$61.25
6	80	$33.28	$9.80	$18.17	$0.00	$61.25
7	90	$37.44	$9.80	$18.17	$0.00	$65.41
8	90	$37.44	$9.80	$18.17	$0.00	$65.41

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$21.55	$9.80	$18.17	$0.00	$49.52
2	60	$25.86	$9.80	$18.17	$0.00	$53.83
3	70	$30.17	$9.80	$18.17	$0.00	$58.14
4	75	$32.33	$9.80	$18.17	$0.00	$60.30
5	80	$34.48	$9.80	$18.17	$0.00	$62.45
6	80	$34.48	$9.80	$18.17	$0.00	$62.45
7	90	$38.79	$9.80	$18.17	$0.00	$66.76
8	90	$38.79	$9.80	$18.17	$0.00	$66.76

Notes:

Apprentice to Journeyworker Ratio:1:3

PIPEFITTER & STEAMFITTER *PIPEFITTERS LOCAL 537*	03/01/2015	$48.69	$9.70	$16.89	$0.00	$75.28
	09/01/2015	$49.69	$9.70	$16.89	$0.00	$76.28
	03/01/2016	$50.69	$9.70	$16.89	$0.00	$77.28
	09/01/2016	$51.69	$9.70	$16.89	$0.00	$78.28
	03/01/2017	$52.69	$9.70	$16.89	$0.00	$79.28

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PIPEFITTER - Local 537*

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$19.48	$9.70	$7.50	$0.00	$36.68
2	45	$21.91	$9.70	$16.89	$0.00	$48.50
3	60	$29.21	$9.70	$16.89	$0.00	$55.80
4	70	$34.08	$9.70	$16.89	$0.00	$60.67
5	80	$38.95	$9.70	$16.89	$0.00	$65.54

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$19.88	$9.70	$7.50	$0.00	$37.08
2	45	$22.36	$9.70	$16.89	$0.00	$48.95
3	60	$29.81	$9.70	$16.89	$0.00	$56.40
4	70	$34.78	$9.70	$16.89	$0.00	$61.37
5	80	$39.75	$9.70	$16.89	$0.00	$66.34

Notes:

** 1:3; 3:15; 1:10 thereafter / Steps are 1 yr.
Refrig/AC Mechanic **1:1;1:2;2:4;3:6;4:8;5:10;6:12;7:14;8:17;9:20;10:23(Max)

Apprentice to Journeyworker Ratio:**

PIPELAYER *LABORERS - ZONE 1*	12/01/2014	$34.85	$7.30	$12.95	$0.00	$55.10
	06/01/2015	$35.60	$7.30	$12.95	$0.00	$55.85
	12/01/2015	$36.35	$7.30	$12.95	$0.00	$56.60
	06/01/2016	$37.10	$7.30	$12.95	$0.00	$57.35
	12/01/2016	$38.10	$7.30	$12.95	$0.00	$58.35
For apprentice rates see "Apprentice- LABORER"						
PLUMBERS & GASFITTERS *PLUMBERS & GASFITTERS LOCAL 12*	03/01/2015	$50.21	$10.32	$14.89	$0.00	$75.42
	09/01/2015	$51.21	$10.32	$14.89	$0.00	$76.42
	03/01/2016	$52.36	$10.32	$14.89	$0.00	$77.57
	09/01/2016	$53.41	$10.32	$14.89	$0.00	$78.62
	03/01/2017	$54.41	$10.32	$14.89	$0.00	$79.62

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *PLUMBER/GASFITTER - Local 12*

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	$17.57	$10.32	$5.54	$0.00	$33.43
2	40	$20.08	$10.32	$6.27	$0.00	$36.67
3	55	$27.62	$10.32	$8.42	$0.00	$46.36
4	65	$32.64	$10.32	$9.87	$0.00	$52.83
5	75	$37.66	$10.32	$11.30	$0.00	$59.28

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	$17.92	$10.32	$5.54	$0.00	$33.78
2	40	$20.48	$10.32	$6.27	$0.00	$37.07
3	55	$28.17	$10.32	$8.42	$0.00	$46.91
4	65	$33.29	$10.32	$9.87	$0.00	$53.48
5	75	$38.41	$10.32	$11.30	$0.00	$60.03

Notes:

** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr
Step4 with lic$56.05 Step5 with lic$62.48

Apprentice to Journeyworker Ratio:**

PNEUMATIC CONTROLS (TEMP.) *PIPEFITTERS LOCAL 537*	03/01/2015	$48.69	$9.70	$16.89	$0.00	$75.28
	09/01/2015	$49.69	$9.70	$16.89	$0.00	$76.28
	03/01/2016	$50.69	$9.70	$16.89	$0.00	$77.28
	09/01/2016	$51.69	$9.70	$16.89	$0.00	$78.28
	03/01/2017	$52.69	$9.70	$16.89	$0.00	$79.28
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
PNEUMATIC DRILL/TOOL OPERATOR *LABORERS - ZONE 1*	12/01/2014	$34.85	$7.30	$12.95	$0.00	$55.10
	06/01/2015	$35.60	$7.30	$12.95	$0.00	$55.85
	12/01/2015	$36.35	$7.30	$12.95	$0.00	$56.60
	06/01/2016	$37.10	$7.30	$12.95	$0.00	$57.35
	12/01/2016	$38.10	$7.30	$12.95	$0.00	$58.35
For apprentice rates see "Apprentice- LABORER"						
POWDERMAN & BLASTER *LABORERS - ZONE 1*	12/01/2014	$35.60	$7.30	$12.95	$0.00	$55.85
	06/01/2015	$36.35	$7.30	$12.95	$0.00	$56.60
	12/01/2015	$37.10	$7.30	$12.95	$0.00	$57.35
	06/01/2016	$37.85	$7.30	$12.95	$0.00	$58.10
	12/01/2016	$38.85	$7.30	$12.95	$0.00	$59.10
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
POWER SHOVEL/DERRICK/TRENCHING MACHINE *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$42.39	$10.00	$14.30	$0.00	$66.69
	06/01/2015	$43.14	$10.00	$14.30	$0.00	$67.44
	12/01/2015	$44.39	$10.00	$14.30	$0.00	$68.69
	06/01/2016	$45.14	$10.00	$14.30	$0.00	$69.44
	12/01/2016	$46.39	$10.00	$14.30	$0.00	$70.69
	06/01/2017	$47.39	$10.00	$14.30	$0.00	$71.69
	12/01/2017	$48.39	$10.00	$14.30	$0.00	$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$42.39	$10.00	$14.30	$0.00	$66.69
	06/01/2015	$43.14	$10.00	$14.30	$0.00	$67.44
	12/01/2015	$44.39	$10.00	$14.30	$0.00	$68.69
	06/01/2016	$45.14	$10.00	$14.30	$0.00	$69.44
	12/01/2016	$46.39	$10.00	$14.30	$0.00	$70.69
	06/01/2017	$47.39	$10.00	$14.30	$0.00	$71.69
	12/01/2017	$48.39	$10.00	$14.30	$0.00	$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$29.40	$10.00	$14.30	$0.00	$53.70
	06/01/2015	$29.92	$10.00	$14.30	$0.00	$54.22
	12/01/2015	$30.79	$10.00	$14.30	$0.00	$55.09
	06/01/2016	$31.31	$10.00	$14.30	$0.00	$55.61
	12/01/2016	$32.18	$10.00	$14.30	$0.00	$56.48
	06/01/2017	$32.87	$10.00	$14.30	$0.00	$57.17
	12/01/2017	$33.56	$10.00	$14.30	$0.00	$57.86
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY MIX CONCRETE DRIVERS after 4/30/10 (Drivers Hired After 4/30/2010) *TEAMSTERS LOCAL 25c*	07/01/2014	$27.73	$7.73	$8.65	$0.00	$44.11
	05/01/2015	$27.88	$7.73	$8.92	$0.00	$44.53
	07/01/2015	$27.88	$7.98	$8.92	$0.00	$44.78
	05/01/2016	$28.03	$7.98	$9.31	$0.00	$45.32
	07/01/2016	$28.03	$8.23	$9.31	$0.00	$45.57
	05/01/2017	$28.18	$8.23	$9.72	$0.00	$46.13
	07/01/2017	$28.18	$8.48	$9.72	$0.00	$46.38
READY-MIX CONCRETE DRIVER *TEAMSTERS LOCAL 25c*	07/01/2014	$29.03	$7.73	$8.65	$0.00	$45.41
	05/01/2015	$29.18	$7.73	$8.92	$0.00	$45.83
	07/01/2015	$29.18	$7.98	$8.92	$0.00	$46.08
	05/01/2016	$29.33	$7.98	$9.31	$0.00	$46.62
	07/01/2016	$29.33	$8.23	$9.31	$0.00	$46.87
	05/01/2017	$29.48	$8.23	$9.72	$0.00	$47.43
	07/01/2017	$29.48	$8.48	$9.72	$0.00	$47.68
RECLAIMERS *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$41.99	$10.00	$14.30	$0.00	$66.29
	06/01/2015	$42.73	$10.00	$14.30	$0.00	$67.03
	12/01/2015	$43.97	$10.00	$14.30	$0.00	$68.27
	06/01/2016	$44.72	$10.00	$14.30	$0.00	$69.02
	12/01/2016	$45.95	$10.00	$14.30	$0.00	$70.25
	06/01/2017	$46.94	$10.00	$14.30	$0.00	$71.24
	12/01/2017	$47.93	$10.00	$14.30	$0.00	$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
RESIDENTIAL WOOD FRAME (All Other Work) *CARPENTERS -ZONE 2 (Residential Wood)*	04/01/2011	$24.24	$8.67	$15.51	$0.00	$48.42
RESIDENTIAL WOOD FRAME CARPENTER ** ** The Residential Wood Frame Carpenter classification applies only to the construction of new, wood frame residences that do not exceed four stories including the basement.*CARPENTERS -ZONE 2 (Residential Wood)*	05/01/2011	$24.24	$6.34	$6.23	$0.00	$36.81

As of 9/1/09 Carpentry work on wood-frame residential WEATHERIZATION projects shall be paid the RESIDENTIAL WOOD FRAME CARPENTER rate.

Apprentice - *CARPENTER (Residential Wood Frame) - Zone 2*

Effective Date - 05/01/2011

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$14.54	$6.34	$0.00	$0.00	$20.88
2	60	$14.54	$6.34	$6.23	$0.00	$27.11
3	65	$15.76	$6.34	$6.23	$0.00	$28.33
4	70	$16.97	$6.34	$6.23	$0.00	$29.54
5	75	$18.18	$6.34	$6.23	$0.00	$30.75
6	80	$19.39	$6.34	$6.23	$0.00	$31.96
7	85	$20.60	$6.34	$6.23	$0.00	$33.17
8	90	$21.82	$6.34	$6.23	$0.00	$34.39

Notes:

Apprentice to Journeyworker Ratio:1:5

RIDE-ON MOTORIZED BUGGY OPERATOR *LABORERS - ZONE 1*	12/01/2014	$34.85	$7.30	$12.95	$0.00	$55.10
	06/01/2015	$35.60	$7.30	$12.95	$0.00	$55.85
	12/01/2015	$36.35	$7.30	$12.95	$0.00	$56.60
	06/01/2016	$37.10	$7.30	$12.95	$0.00	$57.35
	12/01/2016	$38.10	$7.30	$12.95	$0.00	$58.35
For apprentice rates see "Apprentice- LABORER"						
ROLLER/SPREADER/MULCHING MACHINE *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$41.99	$10.00	$14.30	$0.00	$66.29
	06/01/2015	$42.73	$10.00	$14.30	$0.00	$67.03
	12/01/2015	$43.97	$10.00	$14.30	$0.00	$68.27
	06/01/2016	$44.72	$10.00	$14.30	$0.00	$69.02
	12/01/2016	$45.95	$10.00	$14.30	$0.00	$70.25
	06/01/2017	$46.94	$10.00	$14.30	$0.00	$71.24
	12/01/2017	$47.93	$10.00	$14.30	$0.00	$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
ROOFER (Inc.Roofer Waterproofng &Roofer Damproofg) *ROOFERS LOCAL 33*	02/01/2015	$40.11	$10.50	$11.60	$0.00	$62.21
	08/01/2015	$41.01	$10.50	$11.60	$0.00	$63.11
	02/01/2016	$41.91	$10.50	$11.60	$0.00	$64.01

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *ROOFER - Local 33*

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$20.06	$10.50	$3.38	$0.00	$33.94
2	60	$24.07	$10.50	$11.60	$0.00	$46.17
3	65	$26.07	$10.50	$11.60	$0.00	$48.17
4	75	$30.08	$10.50	$11.60	$0.00	$52.18
5	85	$34.09	$10.50	$11.60	$0.00	$56.19

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$20.51	$10.50	$3.38	$0.00	$34.39
2	60	$24.61	$10.50	$11.60	$0.00	$46.71
3	65	$26.66	$10.50	$11.60	$0.00	$48.76
4	75	$30.76	$10.50	$11.60	$0.00	$52.86
5	85	$34.86	$10.50	$11.60	$0.00	$56.96

Notes: ** 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1
Step 1 is 2000 hrs.; Steps 2-5 are 1000 hrs.

Apprentice to Journeyworker Ratio:**

ROOFER SLATE / TILE / PRECAST CONCRETE *ROOFERS LOCAL 33*	02/01/2015	$40.36	$10.50	$11.60	$0.00	$62.46
	08/01/2015	$41.26	$10.50	$11.60	$0.00	$63.36
	02/01/2016	$42.16	$10.50	$11.60	$0.00	$64.26
For apprentice rates see "Apprentice- ROOFER"						
SHEETMETAL WORKER *SHEETMETAL WORKERS LOCAL 17 - A*	02/01/2015	$43.28	$10.20	$20.54	$2.22	$76.24
	08/01/2015	$44.28	$10.20	$20.54	$2.22	$77.24
	02/01/2016	$45.28	$10.20	$20.54	$2.22	$78.24
	08/01/2016	$46.43	$10.20	$20.54	$2.22	$79.39
	02/01/2017	$47.53	$10.20	$20.54	$2.22	$80.49
	08/01/2017	$48.63	$10.20	$20.54	$2.22	$81.59
	02/01/2018	$49.78	$10.20	$20.54	$2.22	$82.74

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *SHEET METAL WORKER - Local 17-A*

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$17.31	$10.20	$4.58	$0.00	$32.09
2	40	$17.31	$10.20	$4.58	$0.00	$32.09
3	45	$19.48	$10.20	$9.09	$1.16	$39.93
4	45	$19.48	$10.20	$9.09	$1.16	$39.93
5	50	$21.64	$10.20	$9.91	$1.25	$43.00
6	50	$21.64	$10.20	$10.16	$1.26	$43.26
7	60	$25.97	$10.20	$11.55	$1.43	$49.15
8	65	$28.13	$10.20	$12.38	$1.52	$52.23
9	75	$32.46	$10.20	$14.02	$1.70	$58.38
10	85	$36.79	$10.20	$15.16	$1.86	$64.01

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$17.71	$10.20	$4.58	$0.00	$32.49
2	40	$17.71	$10.20	$4.58	$0.00	$32.49
3	45	$19.93	$10.20	$9.09	$1.18	$40.40
4	45	$19.93	$10.20	$9.09	$1.18	$40.40
5	50	$22.14	$10.20	$9.91	$1.27	$43.52
6	50	$22.14	$10.20	$10.16	$1.28	$43.78
7	60	$26.57	$10.20	$11.55	$1.45	$49.77
8	65	$28.78	$10.20	$12.38	$1.54	$52.90
9	75	$33.21	$10.20	$14.02	$1.72	$59.15
10	85	$37.64	$10.20	$15.16	$1.89	$64.89

Notes:

Steps are 6 mos.

Apprentice to Journeyworker Ratio:1:4

SIGN ERECTOR *PAINTERS LOCAL 35 - ZONE 1*	06/01/2013	$25.81	$7.07	$7.05	$0.00	$39.93

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *SIGN ERECTOR - Local 35 Zone 1*

Effective Date - 06/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$12.91	$7.07	$0.00	$0.00	$19.98
2	55	$14.20	$7.07	$2.45	$0.00	$23.72
3	60	$15.49	$7.07	$2.45	$0.00	$25.01
4	65	$16.78	$7.07	$2.45	$0.00	$26.30
5	70	$18.07	$7.07	$7.05	$0.00	$32.19
6	75	$19.36	$7.07	$7.05	$0.00	$33.48
7	80	$20.65	$7.07	$7.05	$0.00	$34.77
8	85	$21.94	$7.07	$7.05	$0.00	$36.06
9	90	$23.23	$7.07	$7.05	$0.00	$37.35

Notes:

Steps are 4 mos.

Apprentice to Journeyworker Ratio:1:1

SPECIALIZED EARTH MOVING EQUIP < 35 TONS *TEAMSTERS JOINT COUNCIL NO. 10 ZONE A*	12/01/2014	$32.69	$9.91	$9.33	$0.00	$51.93
	06/01/2015	$33.04	$9.91	$9.33	$0.00	$52.28
	08/01/2015	$33.04	$10.41	$9.33	$0.00	$52.78
	12/01/2015	$33.04	$10.41	$10.08	$0.00	$53.53
	06/01/2016	$33.54	$10.41	$10.08	$0.00	$54.03
	08/01/2016	$33.54	$10.91	$10.08	$0.00	$54.53
	12/01/2016	$33.54	$10.91	$10.89	$0.00	$55.34
SPECIALIZED EARTH MOVING EQUIP > 35 TONS *TEAMSTERS JOINT COUNCIL NO. 10 ZONE A*	12/01/2014	$32.98	$9.91	$9.33	$0.00	$52.22
	06/01/2015	$33.33	$9.91	$9.33	$0.00	$52.57
	08/01/2015	$33.33	$10.41	$9.33	$0.00	$53.07
	12/01/2015	$33.33	$10.41	$10.08	$0.00	$53.82
	06/01/2016	$33.83	$10.41	$10.08	$0.00	$54.32
	08/01/2016	$33.83	$10.91	$10.08	$0.00	$54.82
	12/01/2016	$33.83	$10.91	$10.89	$0.00	$55.63
SPRINKLER FITTER *SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1*	03/01/2015	$54.43	$8.42	$14.90	$0.00	$77.75
	10/01/2015	$55.58	$8.42	$14.90	$0.00	$78.90
	01/01/2016	$55.58	$8.67	$15.05	$0.00	$79.30
	03/01/2016	$56.58	$8.67	$15.05	$0.00	$80.30
	10/01/2016	$57.73	$8.67	$15.05	$0.00	$81.45
	03/01/2017	$58.73	$8.67	$15.05	$0.00	$82.45

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *SPRINKLER FITTER - Local 550 (Section A) Zone 1*

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	$19.05	$8.42	$8.40	$0.00	$35.87
2	40	$21.77	$8.42	$8.40	$0.00	$38.59
3	45	$24.49	$8.42	$8.40	$0.00	$41.31
4	50	$27.22	$8.42	$8.40	$0.00	$44.04
5	55	$29.94	$8.42	$8.40	$0.00	$46.76
6	60	$32.66	$8.42	$8.40	$0.00	$49.48
7	65	$35.38	$8.42	$8.40	$0.00	$52.20
8	70	$38.10	$8.42	$8.40	$0.00	$54.92
9	75	$40.82	$8.42	$8.40	$0.00	$57.64
10	80	$43.54	$8.42	$8.40	$0.00	$60.36

Effective Date - 10/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	$19.45	$8.42	$8.40	$0.00	$36.27
2	40	$22.23	$8.42	$8.40	$0.00	$39.05
3	45	$25.01	$8.42	$8.40	$0.00	$41.83
4	50	$27.79	$8.42	$8.40	$0.00	$44.61
5	55	$30.57	$8.42	$8.40	$0.00	$47.39
6	60	$33.35	$8.42	$8.40	$0.00	$50.17
7	65	$36.13	$8.42	$8.40	$0.00	$52.95
8	70	$38.91	$8.42	$8.40	$0.00	$55.73
9	75	$41.69	$8.42	$8.40	$0.00	$58.51
10	80	$44.46	$8.42	$8.40	$0.00	$61.28

Notes: Apprentice entered prior 9/30/10:
40/45/50/55/60/65/70/75/80/85
Steps are 850 hours

Apprentice to Journeyworker Ratio:1:3

STEAM BOILER OPERATOR *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$41.99	$10.00	$14.30	$0.00	$66.29
	06/01/2015	$42.73	$10.00	$14.30	$0.00	$67.03
	12/01/2015	$43.97	$10.00	$14.30	$0.00	$68.27
	06/01/2016	$44.72	$10.00	$14.30	$0.00	$69.02
	12/01/2016	$45.95	$10.00	$14.30	$0.00	$70.25
	06/01/2017	$46.94	$10.00	$14.30	$0.00	$71.24
	12/01/2017	$47.93	$10.00	$14.30	$0.00	$72.23

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$41.99	$10.00	$14.30	$0.00	$66.29
	06/01/2015	$42.73	$10.00	$14.30	$0.00	$67.03
	12/01/2015	$43.97	$10.00	$14.30	$0.00	$68.27
	06/01/2016	$44.72	$10.00	$14.30	$0.00	$69.02
	12/01/2016	$45.95	$10.00	$14.30	$0.00	$70.25
	06/01/2017	$46.94	$10.00	$14.30	$0.00	$71.24
	12/01/2017	$47.93	$10.00	$14.30	$0.00	$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TELECOMMUNICATION TECHNICIAN *ELECTRICIANS LOCAL 103*	03/01/2015	$33.88	$13.00	$13.70	$0.00	$60.58
	09/01/2015	$34.60	$13.00	$13.72	$0.00	$61.32
	03/01/2016	$35.31	$13.00	$13.74	$0.00	$62.05

Apprentice - *TELECOMMUNICATION TECHNICIAN - Local 103*

Effective Date - 03/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$13.55	$13.00	$0.41	$0.00	$26.96
2	40	$13.55	$13.00	$0.41	$0.00	$26.96
3	45	$15.25	$13.00	$10.87	$0.00	$39.12
4	45	$15.25	$13.00	$10.87	$0.00	$39.12
5	50	$16.94	$13.00	$11.11	$0.00	$41.05
6	55	$18.63	$13.00	$11.38	$0.00	$43.01
7	60	$20.33	$13.00	$11.64	$0.00	$44.97
8	65	$22.02	$13.00	$11.89	$0.00	$46.91
9	70	$23.72	$13.00	$12.15	$0.00	$48.87
10	75	$25.41	$13.00	$12.41	$0.00	$50.82

Effective Date - 09/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	$13.84	$13.00	$0.42	$0.00	$27.26
2	40	$13.84	$13.00	$0.42	$0.00	$27.26
3	45	$15.57	$13.00	$10.88	$0.00	$39.45
4	45	$15.57	$13.00	$10.88	$0.00	$39.45
5	50	$17.30	$13.00	$11.14	$0.00	$41.44
6	55	$19.03	$13.00	$11.39	$0.00	$43.42
7	60	$20.76	$13.00	$11.65	$0.00	$45.41
8	65	$22.49	$13.00	$11.90	$0.00	$47.39
9	70	$24.22	$13.00	$12.17	$0.00	$49.39
10	75	$25.95	$13.00	$12.43	$0.00	$51.38

Notes:

Apprentice to Journeyworker Ratio:1:1

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TERRAZZO FINISHERS *BRICKLAYERS LOCAL 3 - MARBLE & TILE*	02/01/2015	$47.90	$10.18	$18.50	$0.00	$76.58
	08/01/2015	$48.80	$10.18	$18.57	$0.00	$77.55
	02/01/2016	$49.37	$10.18	$18.57	$0.00	$78.12
	08/01/2016	$50.27	$10.18	$18.65	$0.00	$79.10
	02/01/2017	$50.84	$10.18	$18.65	$0.00	$79.67

Apprentice - *TERRAZZO FINISHER - Local 3 Marble & Tile*

Effective Date - 02/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$23.95	$10.18	$18.50	$0.00	$52.63
2	60	$28.74	$10.18	$18.50	$0.00	$57.42
3	70	$33.53	$10.18	$18.50	$0.00	$62.21
4	80	$38.32	$10.18	$18.50	$0.00	$67.00
5	90	$43.11	$10.18	$18.50	$0.00	$71.79

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	$24.40	$10.18	$18.57	$0.00	$53.15
2	60	$29.28	$10.18	$18.57	$0.00	$58.03
3	70	$34.16	$10.18	$18.57	$0.00	$62.91
4	80	$39.04	$10.18	$18.57	$0.00	$67.79
5	90	$43.92	$10.18	$18.57	$0.00	$72.67

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER *LABORERS - FOUNDATION AND MARINE*	12/01/2014	$35.95	$7.30	$13.15	$0.00	$56.40
	06/01/2015	$36.70	$7.30	$13.15	$0.00	$57.15
	12/01/2015	$37.45	$7.30	$13.15	$0.00	$57.90
	06/01/2016	$38.20	$7.30	$13.15	$0.00	$58.65
	12/01/2016	$39.20	$7.30	$13.15	$0.00	$59.65
For apprentice rates see "Apprentice- LABORER"						
TEST BORING DRILLER HELPER *LABORERS - FOUNDATION AND MARINE*	12/01/2014	$34.67	$7.30	$13.15	$0.00	$55.12
	06/01/2015	$35.42	$7.30	$13.15	$0.00	$55.87
	12/01/2015	$36.17	$7.30	$13.15	$0.00	$56.62
	06/01/2016	$36.92	$7.30	$13.15	$0.00	$57.37
	12/01/2016	$37.92	$7.30	$13.15	$0.00	$58.37
For apprentice rates see "Apprentice- LABORER"						
TEST BORING LABORER *LABORERS - FOUNDATION AND MARINE*	12/01/2014	$34.55	$7.30	$13.15	$0.00	$55.00
	06/01/2015	$35.30	$7.30	$13.15	$0.00	$55.75
	12/01/2015	$36.05	$7.30	$13.15	$0.00	$56.50
	06/01/2016	$36.80	$7.30	$13.15	$0.00	$57.25
	12/01/2016	$37.80	$7.30	$13.15	$0.00	$58.25
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TRACTORS/PORTABLE STEAM GENERATORS *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$41.99	$10.00	$14.30	$0.00	$66.29
	06/01/2015	$42.73	$10.00	$14.30	$0.00	$67.03
	12/01/2015	$43.97	$10.00	$14.30	$0.00	$68.27
	06/01/2016	$44.72	$10.00	$14.30	$0.00	$69.02
	12/01/2016	$45.95	$10.00	$14.30	$0.00	$70.25
	06/01/2017	$46.94	$10.00	$14.30	$0.00	$71.24
	12/01/2017	$47.93	$10.00	$14.30	$0.00	$72.23
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT *TEAMSTERS JOINT COUNCIL NO. 10 ZONE A*	12/01/2014	$33.27	$9.91	$9.33	$0.00	$52.51
	06/01/2015	$33.62	$9.91	$9.33	$0.00	$52.86
	08/01/2015	$33.62	$10.41	$9.33	$0.00	$53.36
	12/01/2015	$33.62	$10.41	$10.08	$0.00	$54.11
	06/01/2016	$34.12	$10.41	$10.08	$0.00	$54.61
	08/01/2016	$34.12	$10.91	$10.08	$0.00	$55.11
	12/01/2016	$34.12	$10.91	$10.89	$0.00	$55.92
TUNNEL WORK - COMPRESSED AIR *LABORERS (COMPRESSED AIR)*	12/01/2014	$46.83	$7.30	$13.55	$0.00	$67.68
	06/01/2015	$47.58	$7.30	$13.55	$0.00	$68.43
	12/01/2015	$48.33	$7.30	$13.55	$0.00	$69.18
	06/01/2016	$49.08	$7.30	$13.55	$0.00	$69.93
	12/01/2016	$50.08	$7.30	$13.55	$0.00	$70.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) *LABORERS (COMPRESSED AIR)*	12/01/2014	$48.83	$7.30	$13.55	$0.00	$69.68
	06/01/2015	$49.58	$7.30	$13.55	$0.00	$70.43
	12/01/2015	$50.33	$7.30	$13.55	$0.00	$71.18
	06/01/2016	$51.08	$7.30	$13.55	$0.00	$71.93
	12/01/2016	$52.08	$7.30	$13.55	$0.00	$72.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR *LABORERS (FREE AIR TUNNEL)*	12/01/2014	$38.90	$7.30	$13.55	$0.00	$59.75
	06/01/2015	$39.65	$7.30	$13.55	$0.00	$60.50
	12/01/2015	$40.40	$7.30	$13.55	$0.00	$61.25
	06/01/2016	$41.15	$7.30	$13.55	$0.00	$62.00
	12/01/2016	$42.15	$7.30	$13.55	$0.00	$63.00
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) *LABORERS (FREE AIR TUNNEL)*	12/01/2014	$40.90	$7.30	$13.55	$0.00	$61.75
	06/01/2015	$41.65	$7.30	$13.55	$0.00	$62.50
	12/01/2015	$42.40	$7.30	$13.55	$0.00	$63.25
	06/01/2016	$43.15	$7.30	$13.55	$0.00	$64.00
	12/01/2016	$44.15	$7.30	$13.55	$0.00	$65.00
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL *TEAMSTERS JOINT COUNCIL NO. 10 ZONE A*	12/01/2014	$32.69	$9.91	$9.33	$0.00	$51.93
	06/01/2015	$33.04	$9.91	$9.33	$0.00	$52.28
	08/01/2015	$33.04	$10.41	$9.33	$0.00	$52.78
	12/01/2015	$33.04	$10.41	$10.08	$0.00	$53.53
	06/01/2016	$33.54	$10.41	$10.08	$0.00	$54.03
	08/01/2016	$33.54	$10.91	$10.08	$0.00	$54.53
	12/01/2016	$33.54	$10.91	$10.89	$0.00	$55.34

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
WAGON DRILL OPERATOR *LABORERS - ZONE 1*	12/01/2014	$34.85	$7.30	$12.95	$0.00	$55.10
	06/01/2015	$35.60	$7.30	$12.95	$0.00	$55.85
	12/01/2015	$36.35	$7.30	$12.95	$0.00	$56.60
	06/01/2016	$37.10	$7.30	$12.95	$0.00	$57.35
	12/01/2016	$38.10	$7.30	$12.95	$0.00	$58.35
For apprentice rates see "Apprentice- LABORER"						
WASTE WATER PUMP OPERATOR *OPERATING ENGINEERS LOCAL 4*	12/01/2014	$42.39	$10.00	$14.30	$0.00	$66.69
	06/01/2015	$43.14	$10.00	$14.30	$0.00	$67.44
	12/01/2015	$44.39	$10.00	$14.30	$0.00	$68.69
	06/01/2016	$45.14	$10.00	$14.30	$0.00	$69.44
	12/01/2016	$46.39	$10.00	$14.30	$0.00	$70.69
	06/01/2017	$47.39	$10.00	$14.30	$0.00	$71.69
	12/01/2017	$48.39	$10.00	$14.30	$0.00	$72.69
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER *PLUMBERS & GASFITTERS LOCAL 12*	03/01/2015	$50.21	$10.32	$14.89	$0.00	$75.42
	09/01/2015	$51.21	$10.32	$14.89	$0.00	$76.42
	03/01/2016	$52.36	$10.32	$14.89	$0.00	$77.57
	09/01/2016	$53.41	$10.32	$14.89	$0.00	$78.62
	03/01/2017	$54.41	$10.32	$14.89	$0.00	$79.62
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						
Outside Electrical - East						
CABLE TECHNICIAN (Power Zone) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	09/01/2013	$25.66	$8.70	$4.48	$0.00	$38.84
For apprentice rates see "Apprentice- LINEMAN"						
CABLEMAN (Underground Ducts & Cables) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	09/01/2013	$36.55	$8.70	$6.58	$0.00	$51.83
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN CDL *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	09/01/2013	$29.94	$8.70	$6.05	$0.00	$44.69
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	09/01/2013	$23.52	$8.70	$5.24	$0.00	$37.46
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class A CDL) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	09/01/2013	$36.35	$8.70	$9.43	$0.00	$54.48
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class B CDL) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	09/01/2013	$32.08	$8.70	$6.59	$0.00	$47.37
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	09/01/2013	$23.52	$8.70	$3.72	$0.00	$35.94
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN -Inexperienced (<2000 Hrs.) *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	09/01/2013	$19.25	$8.70	$2.85	$0.00	$30.80
For apprentice rates see "Apprentice- LINEMAN"						
JOURNEYMAN LINEMAN *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	09/01/2013	$42.77	$8.70	$11.78	$0.00	$63.25

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate

Apprentice - *LINEMAN (Outside Electrical) - East Local 104*

Effective Date - 09/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	$25.66	$8.70	$4.24	$0.00	$38.60
2	65	$27.80	$8.70	$4.71	$0.00	$41.21
3	70	$29.94	$8.70	$5.43	$0.00	$44.07
4	75	$32.08	$8.70	$6.16	$0.00	$46.94
5	80	$34.22	$8.70	$6.88	$0.00	$49.80
6	85	$36.35	$8.70	$7.62	$0.00	$52.67
7	90	$38.49	$8.70	$8.83	$0.00	$56.02

Notes:

Apprentice to Journeyworker Ratio:1:2

TELEDATA CABLE SPLICER *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	07/16/2012	$26.33	$4.18	$2.79	$0.00	$33.30
TELEDATA LINEMAN/EQUIPMENT OPERATOR *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	07/16/2012	$24.78	$4.18	$2.74	$0.00	$31.70
TELEDATA WIREMAN/INSTALLER/TECHNICIAN *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	07/16/2012	$24.78	$4.18	$2.74	$0.00	$31.70
TREE TRIMMER *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	01/29/2012	$17.18	$3.37	$0.00	$0.00	$20.55

This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is not on the ground. This classification does not apply to wholesale tree removal.

TREE TRIMMER GROUNDMAN *OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104*	01/29/2012	$15.15	$3.37	$0.00	$0.00	$18.52

This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is on the ground. This classification does not apply to wholesale tree removal.

Additional Apprentice Information:

Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the pre-determined hourly wage rate established by the Commissioner under the provisions of the M.G.L. c. 149, ss. 26-27D. Apprentice ratios are established by the Division of Apprenticeship Training pursuant to M.G.L. c. 23, ss. 11E-11L.

All apprentices must be registered with the Division of Apprenticeship Training in accordance with M.G.L. c. 23, ss. 11E-11L.

All steps are six months (1000 hours.)
Ratios are expressed in allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified.

** Multiple ratios are listed in the comment field.
*** APP to JM; 1:1, 2:2, 2:3, 3:4, 4:4, 4:5, 4:6, 5:7, 6:7, 6:8, 6:9, 7:10, 8:10, 8:11, 8:12, 9:13, 10:13, 10:14, etc.
**** APP to JM; 1:1, 1:2, 2:3, 2:4, 3:5, 4:6, 4:7, 5:8, 6:9, 6:10, 7:11, 8:12, 8:13, 9:14, 10:15, 10:16, etc.

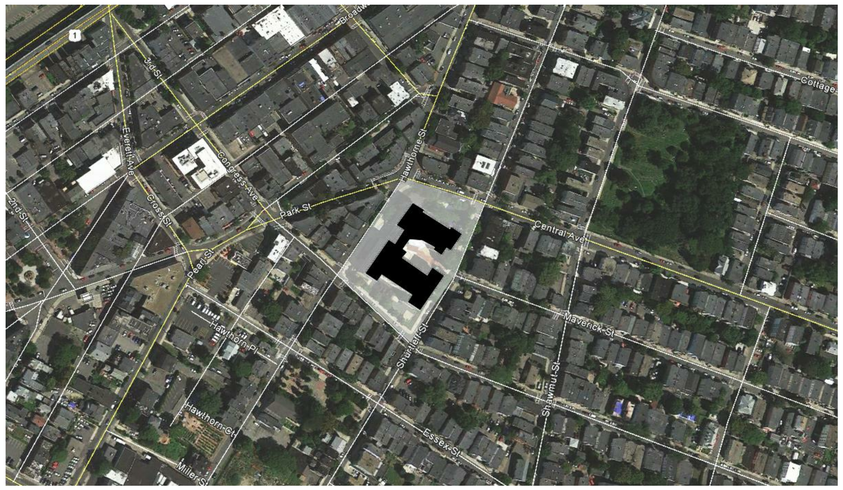
John Silber Early Learning Center

99 Hawthorne Street
Chealsea, MA 02150

For the Renovation of the

LOBBY AND SECURITY DESK

MARCH 15, 2015
CONSTRUCTION DOCUMENTS



ABBREVIATIONS

A

A/C	AIR CONDITION
AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
ALUM	ALUMINUM

B

BOS	BOTTOM OF STEEL

C

C	CELSIUS
CG	CORNER GUARD
CJ	CONSTRUCTION JOINT; CONTROL JOINT
CL	CENTERLINE
CLO	CLOSET
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CORR	CORRIDOR
CUH	CABINET UNIT HEATER

D

D	DEEP
DEMO	DEMOLITION
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DR	DOOR

E

EJ	EXPANSION JOINT
EL	ELEVATION
EOS	EDGE OF SLAB
EQ	EQUAL
ERD	EXISTING ROOF DRAIN
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING
EXP	EXPOSED
EXT	EXTERIOR

F

F	FAHRENHEIT
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FEC	FIRE EXTINGUISHER CABINET
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FHC	FIRE HOSE CABINET
FIN	FINISH
FO	FNISHED OPENING
FOC	FACE OF CONCRETE
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FOW	FACE OF WALL

G

GL	GLASS
GWB	GYPSUM (WALL) BOARD

H

H	HIGH
HB	HOSE BIBB
HM	HOLLOW METAL
HR	HOUR
HT	HEIGHT

I, J, K, L (NOT USED)

M

MACH RM	MACHINE ROOM
MAX	MAXIMUM
MIN	MINIMUM
MIN	MINUTE
MO	MASONRY OPENING

N

NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NOM	NOMINAL
NTS	NOT TO SCALE

O

OC	ON CENTER
OD	OUTSIDE DIAMETER; OUTSIDE DIMENSION
OPH	OPPOSITE HAND
ORIG	ORIGINAL

P

PLAS	PLASTER
PVC	POLYVINYL CHLORIDE

Q (NOT USED)

R

R	RADIUS; RISER
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REST	RESTROOM
RM	ROOM
RO	ROUGH OPENING
RTU	ROOF TOP UNIT

S

SD	SMOKE DETECTOR
SECT	SECTION
SIM	SIMILAR
SST	STAINLESS STEEL

T

T	TREAD
TEMP	TEMPORARY
TOC	TOP OF CONCRETE
TOM	TOP OF MASONRY
TOP	TOP OF PARAPET
TOS	TOP OF SLAB; TOP OF STEEL
TOW	TOP OF WALL
TYP	TYPICAL

U

UL	UNDERWRITERS' LABORATORIES
UON	UNLESS OTHERWISE NOTED

V

VEST	VESTIBULE
VIF	VERIFY IN FIELD

W

W	WIDE
WD	WOOD
WH	WALL HYDRANT
WP	WORKING POINT

X,Y,Z (NOT USED)

THE PRECEDING LIST OF ABBREVIATIONS IS PRESENTED AS A GENERAL GUIDE AND DOES NOT NECESSARILY SHOW ALL ABBREVIATIONS USED. OTHER GENERALLY ACCEPTED ABBREVIATIONS MAY BE FOUND AMONG THE DRAWINGS - REFER TO NCS FOR DEFINITIONS. ALL ABBREVIATIONS SHOWN ABOVE MAY NOT BE USED WITHIN THIS DRAWING SET.

SYMBOLS

	NORTH ARROW PLAN NORTH BOLD, TRUE NORTH LITE
0' 4' 8' 16'	GRAPHIC SCALE 1/8"=1'-0"
2 View Name / A101 SCALE: 1/8" = 1'-0"	DRAWING TITLE
EL. 18'-0"	SPOT ELEVATION TAG
22.1 22.2 A.1 B.2	GRID LINE GRID LINE BUBBLE & NUMBER
	FIRE RESISTIVE RATED LINE 1 HOUR
	FIRE RESISTIVE RATED LINE 2 HOUR
	EXISTING WALL TO REMAIN
	WALL TO BE DEMOLISHED
	NEW WALL
2' - 6"	DIMENSION LINES
1 A2222	DETAIL SECTION TAG
1 A2222 2 1 A2222 4 3	INTERIOR ELEVATION TAG
2222A	DOOR REFERENCE TAG
ROOM NAME 2222	ROOM OR AREA NAME & NUMBER TAG
XX X# XX XB A	WALL AND PARTITION TYPE INDICATOR TAG
1 A2222	DETAIL REFERENCE TAG DETAIL REFERENCE BUBBLE
22	KEYNOTE INDICATOR TAG
124	FURNITURE, FIXTURE & EQUIPMENT TAG
FLOOR EL. 18' - 0"	VERTICAL ELEVATION
LABEL	LEADER LINES
℄	CENTER LINE SYMBOL
	BREAK LINE
22	REVISION DELTA REFERENCE TAG
	REVISION CLOUD

CODE SUMMARY

1. PROJECT DESCRIPTION: AS PART OF SECURITY UPGRADES, A NEW SECURITY DESK WILL BE PROVIDED. THIS DESK WILL BE ACCESSED FROM THE EXISTING ADMINISTRATIVE SPACE THROUGH AN OPENING IN THE WALL AS INDICATED ON PLAN. A NEW CONFERENCE ROOM WILL BE BUILT OUT IN THE EXISTING MAIN LOBBY OF THE SCHOOL. A NEW DOOR BETWEEN PRINCIPAL'S OFFICE AND THE CONFERENCE ROOM WILL BE PROVIDED.
2. APPLICABLE CODES: MASSACHUSETTS STATE BUILDING CODE - 8TH EDITION 780 CMR AND 521 CMR (ACCESS BOARD)
3. AREA OF WORK PROPOSED: APPROXIMATELY 900 SQUARE FEET
4. OCCUPANCY GROUP(S): BUSINESS USE INCIDENTAL TO EDUCATIONAL USE
5. PROPOSED OCCUPANCY: NEW CONFERENCE ROOM AND NEW SECURITY DESK
6. OCCUPANCY LOAD / PERSON: 100 GROSS SQUARE FEET PER PERSON
7. NUMBER OF EXITS: 2
8. TRAVEL DISTANCE TO NEAREST EXIT: LESS THAN 50 FEET

DRAWING LIST

SHEET #:	DRAWING TITLE:
ARCHITECTURE	
A-001	DRAWING LIST, ABBREVIATIONS AND SYMBOLS
A-002	SPECIFICATIONS
AD-100	DEMOLITION PLANS
A-100	OVERALL FLOOR PLAN
A-200	REFLECTED CEILING PLAN
A-300	ENLARGED PLANS
A-400	INTERIOR ELEVATIONS, SCHEDULES, AND DETAILS
A-401	INTERIOR ELEVATIONS
A-402	SECURITY DESK DETAILS
MECHANICAL	
M-001	MECHANICAL SYMBOLS AND SPECIFICATIONS
MD-101	MECHANICAL DEMOLITION PLAN
M-101	HVAC FLOOR PLAN - FIRST FLOOR
M-901	MECHANICAL SCHEDULES AND DETAILS
ELECTRICAL	
E-001	ELECTRICAL SYMBOLS, ABBREVIATIONS & SCHEDULES
E-002	ELECTRICAL SPECIFICATIONS
ED-201	ELECTRICAL DEMOLITION PLANS - PARTIAL LEVEL 1
E-201	ELECTRICAL NEW PLANS - PARTIAL LEVEL 1
E-801	ELECTRICAL DETAILS & SCHEDULES
FIRE-SAFETY	
FS-101	FIRE ALARM PLANS - PARTIAL LEVEL 1

JACOBS
One Broadway
Cambridge, Massachusetts
02142

P 617.491.6450
F 617.491.7104
W www.jacobs.com

Seals:

General Notes:

THESE DRAWINGS HAVE BEEN COMPILED FROM EXISTING DRAWINGS PROVIDED BY THE OWNER. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING AND CONFIRMING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION

Project Client:

CHELSEA PUBLIC SCHOOLS
500 Broadway, Chelsea, MA 02150

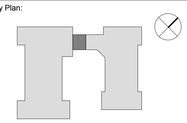
P 617-466-4477
W www.chelseaschools.com

Project Name

CHELSEA ELC LOBBY AND SECURITY DESK RENOVATION

Number	Description	Date

Key Plan:



CONSTRUCTION DOCUMENTS

MARCH 15, 2015

Project No.: R7W71632

Copyright: 2015 Jacobs

Drawing Sheet Title:

DRAWING LIST, ABBREVIATIONS AND SYMBOLS

Drawing Sheet Number:

A-001

DIVISION 1 - GENERAL CONDITIONS

SUMMARY OF WORKS
THIS SECTION USES THE TERM “ARCHITECT/ ENGINEER.” CHANGE THIS TERM TO MATCH THAT USED TO IDENTIFY THE DESIGN PROFESSIONAL AS DEFINED ELSEWHERE IN CONTRACT.

PART 1 - GENERAL

1. GENERAL REQUIREMENTS FOR THIS PROJECT SHALL BE THE LATEST EDITION OF AIA DOCUMENT A-102, "THE GENERAL CONDITIONS OF THE CONTRACT FOR CONSTRUCTION."

2. ALL WORK SHALL BE DONE IN COMPLETE ACCORDANCE WITH ALL STATE AND LOCAL CODES AND ORDINANCES.

3. SHOP DRAWING SHALL BE PROVIDED FOR ALL MATERIALS WHERE SPECIFIED HEREIN AND SHALL BE SUBMITTED FOR APPROVAL BY THE ARCHITECT BEFORE FABRICATION CAN BEGIN. FOUR (4) COPIES OF ALL SHOP DRAWINGS SHALL BE PROVIDED FOR REVIEW.

4. ALL MATERIALS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH ALL MANUFACTURES RECOMMENDATIONS.

5. DEMOLITION: REMOVE ALL EXISTING TRIMS, FIXTURES FLOORING, SUSPENDED ACOUSTICAL TILE CEILING AS REQUIRED FOR NEW WORK. MAINTAIN, PROTECT AND SALVAGE ANY AND ALL ITEMS AS DIRECTED BY ARCHITECT AND OR OWNER.

6. PATCH AND MATCH:

A. WHEN PARTITIONS, CEILINGS, FLOOR FINISHES, MASONRY WALLS, ELECTRIC, AND OR PERIMETER RADIATOR SYSTEMS ARE REMOVED. THE FINISHED WALL SHALL BE PATCHED.

B. PATCH WALL, FLOOR OR CEILING SYSTEMS SHALL BE MADE FROM THE MATERIALS AND SHALL BE PATCHED SO THAT ALL SURFACES ARE TRUE, PLUMB AND FLAT. AFTER PATCHES ARE FINISHED OVER THEY SHALL NOT BE DETERABLE.

7. PROJECT INFORMATION
A. IDENTIFY NAME AND LOCATION OF PROJECT AND NAME OF OWNER AND ARCHITECT.
1. PROJECT IDENTIFICATION: PROJECT CONSISTS OF ADDING NEW SECURITY DESK AND CONFERENCE ROOM AT CHELSEA EARLY LEARNING CENTER
2. PROJECT LOCATION: CHELSEA HIGH SCHOOL, 99 HAWTHORNE STREET., CHELSEA MASSACHUSETTS, 02150.
3. OWNER: CHELSEA PUBLIC SCHOOLS, 500 BROADWAY, CHELSEA, MA 02150.

B. ENGINEER IDENTIFICATION: THE CONTRACT DOCUMENTS, DATED _____ 2015, WERE PREPARED FOR THE PROJECT BY JACOBS PROJECT MANAGEMENT COMPANY, 343 CONGRESS STREET, BOSTON, MASSACHUSETTS, 02210.

C. CONSTRUCTION MANAGER: CONSTRUCTION MANAGER FOR THIS PROJECT AND SHALL BE PROJECT'S CONSTRUCTOR. IN DIVISIONS 1 THROUGH 26 SPECIFICATIONS, THE TERMS “CONSTRUCTION MANAGER” AND “CONTRACTOR” ARE SYNONYMOUS.
D. PROJECT COORDINATOR: MR. PETER KAMBOUR, DIRECTOR OF FACILITIES MANAGEMENT, CHELSEA PUBLIC SCHOOLS, OR HIS APPOINTEE FOR THE PROJECT COORDINATOR.

8. WORK COVERED BY CONTRACT DOCUMENTS
A. IN GENERAL, THE WORK SHALL CONSIST OF BUT NOT BE LIMITED TO:

9. WORK SEQUENCE AND SCHEDULE
A. THE CONSTRUCTION SCHEDULE SHALL BE BASED ON THE WORK BEING COMPLETED BY AUGUST 30, 2015, OR OTHER DATE AS AGREED TO BY THE DIRECTOR OF FACILITIES MANAGEMENT FOR THE CHELSEA SCHOOL DEPARTMENT.
B. CONTRACTOR SHALL SUBMIT A SCHEDULE FOR EACH PHASE OF THE WORK INDICATING SCHEDULED COMPLETION OF WORK AND IDENTIFYING THESE INTERMEDIATE MILESTONES:
a. START OF PROJECT CONSTRUCTION.
b. DELIVERY OF SUBMITTALS.
c. DELIVERY OF MAJOR EQUIPMENT.
d. COMPLETION OF NEW INSTALLATIONS.
e. TESTING AND COMMISSIONING.
f. PROJECT COMPLETION/CLOSEOUT.
C. THE CONSTRUCTION SCHEDULE SHALL REFLECT THESE MILESTONE DATES:
a. CONSTRUCTION SITE STAGING.
b. EQUIPMENT DELIVERY SCHEDULE.
c. START OF DEMOLITION AND CONSTRUCTION ACTIVITY.
d. COMPLETION OF NEW INSTALLATION.
e. COMPLETION OF COOLING SYSTEM WORK.
f. PROJECT COMPLETION/CLOSEOUT.

10. USE OF PREMISES/PERMITS/FEES
A. GENERAL: CONTRACTOR WILL HAVE LIMITED USE OF PREMISES FOR CONSTRUCTION OPERATIONS DURING CONSTRUCTION PERIOD.
B. SPECIFIC AREAS FOR STAGING AND STORAGE OF CONSTRUCTION MATERIALS WILL BE IDENTIFIED BY THE PROJECT COORDINATOR. STORAGE OF MATERIALS SHALL BE IN CONTRACTOR FURNISHED LOCKED CONTAINERS. NO ADDITIONAL CHARGES WILL BE ACCEPTED FOR LOST OR STOLEN MATERIAL AND TOOLS.
C. CONTRACTOR IS ADVISED THAT SCHOOL IS IN SESSION AND WORK WILL BE ACCOMPLISHED DURING NORMAL SCHOOL ACTIVITIES. NO DISRUPTION, INTERRUPTION, OR ANY OTHER CONTRACTOR ACTIVITY, INCLUDING LIFTING AND RIGGING OPERATIONS, WILL ADVERSELY AFFECT SCHOOL OPERATIONS. CONTRACTOR SHALL PROVIDE SECURITY FOR HIS TOOLS, CONSUMABLES, AND TO THE VARIOUS WORK AREAS DURING THE PERIOD OF CONSTRUCTION.
D. CONTRACTOR IS ADVISED THAT THE SCHOOL IS LOCATED IN A RESIDENTIAL/COMMERCIAL SECTION OF THE CITY AND VEHICULAR ACCESS MAY AT TIMES BECOME CONGESTED AND/OR DIFFICULT. THE MOVEMENT OF THE CRANE USED TO ACCESS THE ROOF LEVELS, MAY REQUIRE MOVEMENT IN OFF-PEAK HOURS AND THE USE OF PREMIUM LABOR. SCHEDULED COMPLETION OF THE VARIOUS PHASES OF THE WORK MAY ALSO REQUIRE PREMIUM TIME. CONTRACTOR SHALL SCHEDULE THIS WORK ACCORDINGLY.
E. CONTRACTOR IS ALSO ADVISED THE INSTALLATION OF BOILERS AND RELATED COMPONENTS PRESENTS SOME CHALLENGES FOR ACCESS AT THE HIGH SCHOOL. ALL DAMAGES AND REPAIRS TO EXISTING FACILITIES, INCLUDING BALL FIELDS OR OTHER FIELDS, AS A RESULT OF LIFTING, RIGGING AND RELATED CONSTRUCTION ACTIVITIES, SHALL BE REPAIRED TO THE OWNERS SATISFACTION, AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
F. CONTRACTOR SHALL OBTAIN ALL PERMITS AND PAY ALL FEES TO FACILITATE MOVEMENT OF CRANE AND SUBSEQUENT LIFTING ACTIVITIES, INCLUDING, BUT NOT LIMITED TO, CITY OF CHELSEA POLICE DEPARTMENT TRAFFIC DETAILS.

11. SPECIFICATION FORMATS AND CONVENTIONS
A. SPECIFICATION FORMAT: THE SPECIFICATIONS ARE ORGANIZED INTO DIVISIONS AND SECTIONS USING THE 26-DIVISION FORMAT AND CSI/CSC'S “MASTERFORMAT” NUMBERING SYSTEM.
B. SPECIFICATION CONTENT: THE SPECIFICATIONS USE CERTAIN CONVENTIONS FOR THE STYLE OF LANGUAGE AND THE INTENDED MEANING OF CERTAIN TERMS, WORDS, AND PHRASES WHEN USED IN PARTICULAR SITUATIONS. THESE CONVENTIONS ARE AS FOLLOWS:
C. ABBREVIATED LANGUAGE: LANGUAGE USED IN THE SPECIFICATIONS AND OTHER CONTRACT DOCUMENTS IS ABBREVIATED. WORDS AND MEANINGS SHALL BE INTERPRETED AS APPROPRIATE. WORDS IMPLIED, BUT NOT STATED, SHALL BE INFERRED AS THE SENSE REQUIRES.
SINGULAR WORDS SHALL BE INTERPRETED AS PLURAL AND PLURAL WORDS SHALL BE INTERPRETED AS SINGULAR WHERE APPLICABLE AS THE CONTEXT OF THE CONTRACT DOCUMENTS INDICATES.
D. IMPERATIVE MOOD AND STREAMLINED LANGUAGE ARE GENERALLY USED IN THE SPECIFICATIONS. REQUIREMENTS EXPRESSED IN THE IMPERATIVE MOOD ARE TO BE PERFORMED BY CONTRACTOR. OCCASIONALLY, THE INDICATIVE OR SUBJUNCTIVE MOOD MAY BE USED IN THE SECTION TEXT FOR CLARITY TO DESCRIBE RESPONSIBILITIES THAT MUST BE FULFILLED INDIRECTLY BY CONTRACTOR OR BY OTHERS WHEN SO NOTED.
a. THE WORDS “SHALL,” “SHALL BE,” OR “SHALL COMPLY WITH,” DEPENDING ON THE CONTEXT, ARE IMPLIED WHERE A COLON (:) IS USED WITHIN A SENTENCE OR PHRASE.

12. SUBMITTALS
A. FIVE (5) COPIES OF EACH SUBMITTAL, AS REQUIRED BY THESE SPECIFICATIONS, SHALL BE DELIVERED FOR REVIEW BY THE ENGINEER. ALL SUBMITTALS SHALL CONFORM TO THE FORMAT AS SPECIFIED HEREIN.
B. SUBMITTALS SHALL BE IN A BOUND FORMAT, WITH A TITLE PAGE INDICATING THE PROJECT IDENTIFICATION, SUBMITTAL TITLE AND SPECIFICATION REFERENCE.
C. SUBMITTALS SHALL BE MADE TO EXPEDITE MATERIAL AND EQUIPMENT DELIVERY. NO CLAIM FOR DELAY WILL BE ENTERTAINED DUE TO DRAWING SUBMITTAL REVIEW.
D. PAYMENT WILL BE MADE ON A MONTHLY BASIS PREDICATED ON ENGINEERS AND OWNERS REPRESENTATIVE REVIEW OF THE WORK AND TIMELY RECEIPT OF SHOP DRAWINGS. DELAYS IN RECEIPT OF SHOP DRAWINGS WILL BE CAUSE FOR DELAYS IN PAYMENT FOR WORK COMPLETED. CONTRACTOR IS ADVISED THAT HIS WORK WILL BE ACCOMPLISHED “AT RISK” WITHOUT ENGINEER APPROVED SHOP DRAWINGS.

END OF SECTION 011000

DIVISION 2. SITE WORK: (UNLESS OTHERWISE NOTED)

1. A PERMIT WILL BE REQUIRED FROM THE CITY FOR THIS WORK. THE COST FOR THE PERMIT WILL BE PAID FOR BY GENERAL CONTRACTOR.

2. FIRE PROTECTION WORK SHALL BE PERFORMED BY LICENSED CONTRACTOR AND ANY SHOP DRAWINGS REQUIRED FOR THIS SCOPE OF WORK SHALL BE PROVIDED BY THE GENERAL CONTRACTOR.

3. IN THE AREAS WHERE THE EXISTING WALLS REQUIRE WATERPROOFING AND INSULATION REMOVE EXISTING CONDITION TO INSTALL WATERPROOFING AND INSULATION THEN RESTORE TO CONDITION EQUAL TO ORIGINAL CONDITION.TAKE EXTREME CARE TO PROTECT EXISTING BUILDING FABRIC.

4. TEMPORALLY RELOCATE ANY EQUIPMENT AND OR FURNITURE THAT INTERFERE WITH THE SCOPE OF WORK DEFINED IN THIS BID PACAKGE. TEMPORARILY RELOCATE OR PROTECT THE EXISTING CONDITION INCLUDING BUT NOT LIMITED TO DUCTS, LIGHT FIXTURES, CEILING TILES, DEVICES, WALLS, FLOORS, TRIMS, FURNITURE, EQUIPMENT, STAFF, CONDUITS, PIPES, BASEBOARDS, SWITCHES, ANUNCIATORS, OUTLETS, SPRINKLERS FROM DAMAGE.

5. STRUCTURAL ENGINEER SHALL BE PRESENT DURING THE PROCESS OF DEMOLISHING ANY AND ALL EXISTING WALLS IN THE BUILDING.

DIVISION 4. MASONRY: (UNLESS OTHERWISE NOTED)

1. EXISTING BRICK SHALL BE REMOVED TO INSTALL ONE DOOR AND TO CONSTRUCT ONE CASED OPENING TO THE CONFERENCE ROOM FROM THE PRINCIPAL'S OFFICE. LINTELS WILL BE INSTALLED TO SUPPORT THE BRICK WALL ABOVE THE OPENINGS.

MATERIALS:
1. PORTLAND CEMENT FOR MORTAR SHALL BE TYPE 1 AND SHALL COMPLY WITH ASTM C-150. MASONRY CEMENT SHALL COMPLY WITH ASTM 91, TYPE II. LIME SHALL COMPLY WITH ASTM C-207, TYPE S.

2. SAND FOR MORTAR SHALL COMPLY WITH ASTM C-144.

3. WATER FOR MORTAR SHALL BE POTABLE WATER.

4. MORTAR SHALL BE MIXED BY VOLUME 1: ½: 4½ TO 4½, PORTLAND CEMENT: LIME: SAND, ALL BY COLUMNS. MORTAR SHALL BE MACHINE MIXED A MINIMUM OF THREE MINUTES.

DIVISION 5. MISCELLANEOUS METALS: (UNLESS OTHERWISE NOTED)

MATERIALS:
1. STRUCTURAL STEEL WORK SHALL CONFORM TO "THE SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" FOR THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION. STEEL SHALL BE A-36.

LINTELS:
1. STEEL LINTELS SHALL BE SIZED AND SPECIFIED ON THE DRAWINGS AND FURNISHED THE OPENING WIDTH PLUS 8" FOR BEARING (4" EACH END). SEE ARCHITECTURAL DRAWINGS FOR BRICK DEMOLITION AND STEEL LINTEL INSTALLATION(S).

CASEWORK ANGLES:
1. FURNISH AND INSTALL L3X3X1/4" TO SUPPORT COUNTERTOP PARTITION WHERE SHOWN ON THE DRAWINGS.

DIVISION 6. CARPENTRY: (UNLESS OTHERWISE NOTED)

GENERAL:
1. STUDDING SHALL BE STEEL SECTIONS SIZED AND SPACED AS SPECIFIED. BLOCKING MAY BE ANY SOUND, STRAIGHT, SOFTWOOD SPECIES WITHOUT LOOSE KNOTS, CHECKS, SPLITS OR OTHER IMPERFECTIONS.

2. ALL PLYWOOD SHALL BE SOFTWOOD PLYWOOD OF DOMESTIC MANUFACTURE, AND SHALL BE INSPECTED BY THE AMERICAN PLYWOOD ASSOCIATION, AND HAVE DFPA MARK.

3. PROVIDE BLOCKING FOR THE CASEWORK ATTACHMENT TO NEW AND OR EXISTING WALL(S), ETC. REVIEW DRAWINGS FOR OTHER ADDITIONAL BLOCKING REQUIREMENTS.

CASEWORK: FOR SECURITY DESK FABRICATION.

8. SHELVING MADE FROM PLYWOOD 3/4 INCH (19 MM) THICK OR MORE WITH PLASTIC LAMINATE AS EXPOSED / FINISHED SURFACE WHERE INDICATED ON DRAWING. PROVIDE STAINLESS STEEL ANGLE SUPPORT AT WALLS WHERE INDICATED ON DRAWINGS.

9. MISCELLANEOUS MATERIALS: FURRING BLOCKING, SHIMS, AND HANDING STRIPS: SOFTWOOD OR HARDWOOD LUMBER, FIRE-RETARDANT TREATED, KILN DRIED TO LESS THAN 15 PERCENT MOISTURE CONTENT.

DIVISION 7. THERMAL AND MOISTURE PROTECTION: (UNLESS OTHERWISE NOTED)
WATERPROOFING AND INSULATION:

UPON UNCOVERING OF ORIGINAL EXISTING EXTERIOR WALL(S), GENERAL CONTRACTOR SHALL CONTACT ENGINEER FOR SOLUTIONS TO WATERPROOFING IF REQUIRED.

DIVISION 8. DOORS AND WINDOWS: (UNLESS OTHERWISE NOTED)

WOOD DOORS:

1. SOLID CORE FLUSH WOOD DOORS: SHALL BE FLUSH TYPE, SOLID CORE FLUSH WOOD DOORS: SHALL BE FLUSH TYPE, 1¾" THICK, AS INDICATED, OF 5-PLY CONSTRUCTION WITH FACE VENEERS BONDED TO BOTH FACES. CORES SHALL BE LOW DENSITY WOOD BLOCKS BONDED TOGETHER WITH WATER-RESISTANT ADHESIVE UNDER HEAT AND PRESSURE. CROSS BANDS SHALL BE THOROUGHLY KILN-DRIED HARDWOOD, 1⁄16" THICK, EXTENDING FULL WIDTH OF DOOR.

A. VENEERS FOR DOORS SHALL BE ROTARY CUT WHITE BIRCH PREMIUM GRADE, FOR FINISH AS CALLED FOR ON THE DRAWINGS.

B. DOORS SHALL MEET OR EXCEED COMMERCIAL STANDARD CS 171

2. ALL NEW DOOR FRAMES SHALL WOOD, SPECIES AND STAIN TO MATCH DOOR VENEER.

3. FURNISH AND INSTALL DOOR HARDWARE PER BUILDING STANDARDS. ALL DOOR HARDWARE SHALL BE COMMERCIAL GRADE MATCHING THE EXISTING STYLE, FINISH AND GRADE. ALL DOOR LOCKS SHALL BE BEST READY.

4. DOORS SHALL BE FURNISHED WITH THE FOLLOWING HARDWARE:

	SET A (OFFICE)	
1.5 PR	BUTTS 4½ × 4½ NRP	US26D
1 EA.	CYLINDRICAL LOCK F81-2 OFFICE FUNCTION	US26D
3 EA.	SILENCERS	GREY
1 EA.	FLOOR STOP	US26D

ALUMINUM FRAMED WINDOWS:

1. PROVIDE INTERIOR GRADE STOREFRONT WINDOWS CAPABLE OF COMPLYING WITH PERFORMANCE REQUIREMENTS INDICATED, BASED ON TESTING MANUFACTURER'S WINDOWS THAT ARE REPRESENTATIVE OF THOSE EXISTING IN LOBBYS SPACE.

2. PROVIDE MANUFACTURER'S STANDARD FORM IN WHICH MANUFACTURER AGREES TO REPAIR OR REPLACE STOREFRONT THAT FAIL IN MATERIALS OR WORKMANSHIP WITHIN SPECIFIED WARRANTY PERIOD.

3. MATERIALS:

A. ALUMINUM EXTRUSIONS, BAKED ENAMEL FINISH: MANUFACTURER'S STANDARD BAKED ENAMEL COMPLYING WITH AAMA 2603 OR AAMA 620.

C. INTERIOR COLOR TO MATCH EXISTING CONDITION

8. GLASS: TEMPERED, CLEAR. PROVIDE SAMPLE FOR APPROVAL.

DIVISION 9. FINISHES: (UNLESS OTHERWISE NOTED) REFER TO MATERIAL SCHEDULE ON A400 FOR MATERIALS NOT LISTED HEREIN.

PAINTING:
1. ALL MATERIALS USED SHALL BE BEST GRADE PRODUCTS OF THEIR RESPECTIVE KINDS. CORRESPONDING PRODUCTS OF THE BELOW-LISTED MANUFACTURERS MAY BE SUBSTITUTED. COATING OF ONE MANUFACTURER SHALL BE USED THROUGHOUT THE WORK EXCEPT AS OTHERWISE SPECIFIED.

A. BENJAMIN MOORE
B. DUPONT
C. CALIFORNIA

2. THE PAINT CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR THE PROPER PERFORMANCE OF ALL MATERIALS USED.

3. OTHER PAINTING MATERIALS REQUIRED, BUT NOT SPECIFICALLY DESCRIBED, SUCH AS LINSEED OIL, SHELLAC, TURPENTINE, THINNER, ETC., SHALL BE OF THE HIGHEST QUALITY AND SHALL HAVE IDENTIFYING LABELS ON CONTAINERS.

4. THE PAINT CONTRACTOR SHALL PREPARE SURFACES IN STRICT ACCORDANCE WITH MANUFACTURER'S PRINTED INSTRUCTION APPLICABLE TO EACH OF THE MATERIALS AND PROJECT CONDITIONS.

5. THE ARCHITECT AND THE OWNER SHALL SELECT ALL PAINT COLORS WHICH WILL BE FROM THE COLOR STANDARDS CURRENTLY USED AT CHELSEA CITY HALL.

6. FINISHED WORK SHALL BE UNIFORM APPROVED COLOR, WITH EDGES OF PAINT ADJOINING OTHER MATERIALS OR COLORS SHARP AND CLEAN WITHOUT OVERLAPPING.

7. PAINT ALL DOOR FRAMES AND EXPOSED EXTERIOR METALS ONE COAT OVER NEW PRIMER.

METAL STUDS AND GYPSUM DRYWALL:

1. METAL STUDS SHALL BE 3⅝", 4" OR 6" THICK AS REQUIRED TO MATCH EXISTING WALL THICKNESS AND 25, 20 OR 18 GAUGE IF SO NOTED NOTED ON THE DRAWINGS IN ONE PIECE WITHOUT SPLICES. STUDS AND SHALL BE AS MANUFACTURED BY NATIONAL GYPSUM, U.S. GYPSUM CO. OR APPROVED EQUAL. STUDY THE DRAWINGS CAREFULLY FOR EXACT LIMITS OF DIFFERENT SIZE AND GAUGE OF METAL STUDS.

2. GYPSUM BOARD SHALL BE SHEETROCK AS SUPPLIED BY THE U.S. GYPSUM CO., OR APPROVED EQUAL. ALL BOARDS SHALL HAVE TAPERED EDGES. TAPE, FULLER MATERIALS, AND ALL WORKMANSHIP SHALL BE IN ACCORDANCE WITH U.S.GYPSUM COMPANY. PERF-A-TAPE SYSTEM AND USING U.S. GYPSUM CO. MATERIALS. GYPSUM BOARD SHALL BE TAPED IN ALL AREAS, BUT FINISHED ONLY WHERE CALLED FOR.

3. ALL MATERIALS SPECIFIED ABOVE SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

4. SCREWS FROM GYPSUM BOARD TO METAL FRAMING SHALL BE PHILLIPS HEAD U.S. GYPSUM CO. TYPE S-12 BUGLE HEAD SCREWS 1" LONG.

5. SCREWS FROM STUDS TO TRACK, ETC. SHALL BE FASTENERS DESIGNED FOR THE -PARTICULAR APPLICATION. GYPSUM BOARD SHALL BE INSTALLED ON METAL STUDS WITH SCREWS 12" O.C. TO ALL STUDS EXCEPT 8" O.C. AROUND THE PERIMETER OF THE SHEETS INCLUDING INTO TRACKS TOP AND BOTTOM. SCREWS SHALL BE LOCATED ⅜" FROM EDGE OF SHEET AND SHALL BE PULLED UP TO PROVIDE UNIFORM DIMPLE 1⁄32" DEEP. INSTALL CORNER BEAD ON ALL OUTSTANDING CORNERS AND CASING BEADS AT ALL DISCONTINUOUS EDGES.

6. USE DOUBLE STUDS ON EACH SIDE OF DOORS OR OTHER OPENINGS AND 3 STUDS AT CORNERS. ALL STUDS SHALL BE FASTENED TO TRACKS OR BRACES WITH AT LEAST TWO ⅜" SCREWS EXCEPT WHERE SUSPENDED IN WHICH CASE USE FOUR SCREWS PER STUD. USE ¾" STIFFENING CHANNELS TO BRIDGE STUDDING MIDHEIGHT IF PARTITION IS OVER 9'6" HIGH.

7. FURNISH AND INSTALL FIBERGLASS INSULATION WHERE 3" SOUND ATTENUATION IS SHOWN ON THE DRAWINGS.

CEILING TILE:

1. THE CONTRACTOR SHALL PROVIDE NEW TILE TO MATCH EXISTING BUILDING AS PART OF HIS SCOPE.

2. CEILING TILE AND GRID SHALL BE INSTALLED IN ACCORDANCE WITH THE TILE MANUFACTURES RECOMMENDATIONS.

FLOOR CARPET:
1. THE CONTRACTOR SHALL INSTALL NEW CARPET FLOORING AND CARPET BASE IN THE CONFERENCE ROOM ONLY TYPICAL.

2. CARPET FLOORING SHALL BE INSTALLED TO MATCH EXISTING AND IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS.

JACOBS

One Broadway
Cambridge, Massachusetts
02142

P 617.491.6450
F 617.491.7104
W www.jacobs.com

Seals:

General Notes:

THESE DRAWINGS HAVE BEEN COMPILED FROM EXISTING DRAWINGS PROVIDED BY THE OWNER. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING AND CONFIRMING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION

Project Client:

CHELSEA PUBLIC SCHOOLS

500 Broadway, Chelsea, MA 02150

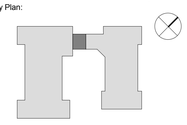
P 617-466-4477
W www.chelseaschools.com

Project Name

CHELSEA ELC LOBBY AND SECURITY DESK RENOVATION

Number	Description	Date

Key Plan:



CONSTRUCTION DOCUMENTS

MARCH 15, 2015

Project No.: R7W71632

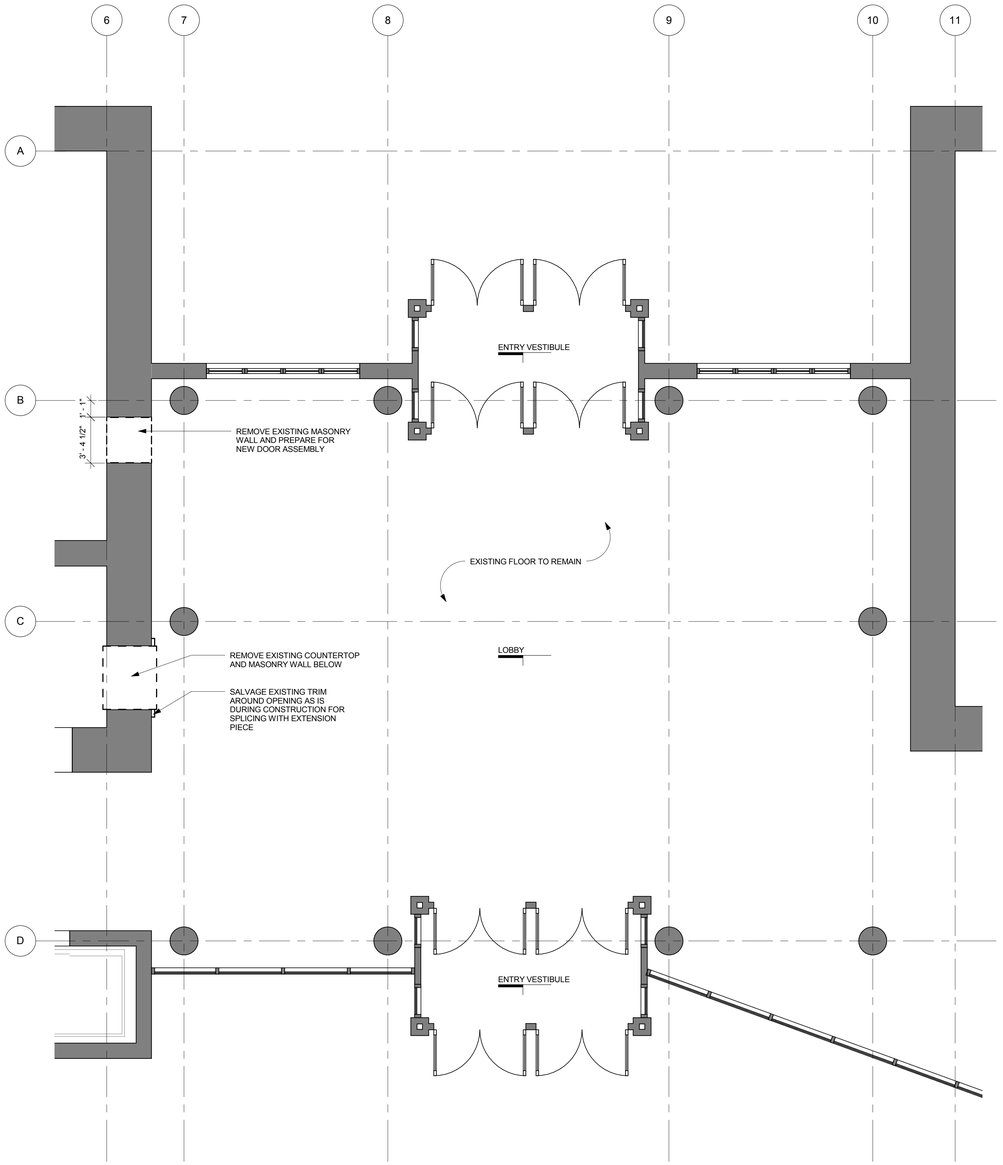
Copyright: 2015 Jacobs

Drawing Sheet Title:

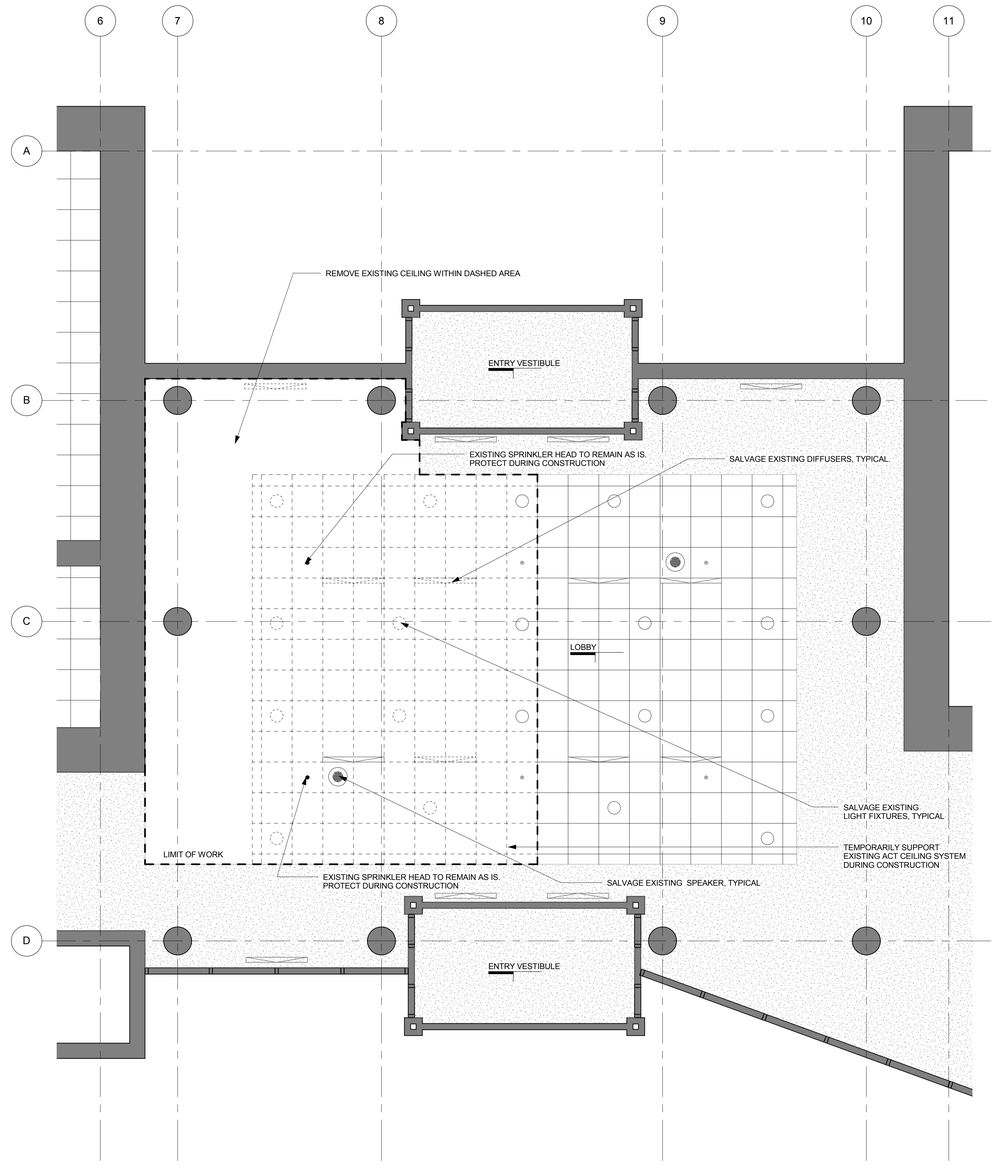
SPECIFICATIONS

Drawing Sheet Number:

A-002



1 OVERALL DEMOLITION PLAN
AD-100 SCALE: 1/4" = 1'-0"



2 CEILING DEMOLITION PLAN
AD-100 SCALE: 1/4" = 1'-0"

DEMOLITION NOTES:

1. IN ADDITION TO ILLUSTRATED PARTITIONS, REMOVE ALL EXISTING MILLWORK, PLASTIC LAMINATE CABINETRY, FLOOR FINISHES THROUGHOUT, WALL BASE and WALLCOVERING (AT PARTITIONS SHOWN TO REMAIN), CEILING FINISHES, AND LIGHTING.
2. DURING ENTIRE PERIOD OF DEMOLITION AND CONSTRUCTION, MAINTAIN IN OPERATING CONDITION ALL EXISTING EXITS, EXIT LIGHTING, FIRE PROTECTIVE DEVICES AND ALARMS AS PER CODE.
3. COORDINATE WITH ENGINEERING DRAWINGS AND BASE BUILDING REPRESENTATIVE.
4. WHERE ELECTRICAL RECEPTACLES, COMMUNICATION RECEPTACLES, CARD ACCESS READERS, LIGHT FIXTURES, THERMOSTATS OR SIMILAR DEVICES EXIST IN A WALL OR CEILING TO BE REMOVED, REMOVE ASSOCIATED EXISTING WIRE BACK TO ITS SOURCE.
5. PROTECT BASE BUILDING HVAC SYSTEM FROM DUST DURING ALL PHASES.
6. PROTECT EXISTING PARTITION, FLOOR, ELEVATOR, AND CEILING FINISHES BEYOND CONTRACT AREA FROM DAMAGE DURING ALL PHASES.
7. PROTECT EXISTING SMOKE DETECTORS, EMERGENCY STROBES, EMERGENCY FIRE PULLS, AND ALL OTHER CONTROL, MONITORING OR NOTIFICATION DEVICES DURING ALL PHASES. COORDINATE WITH ENGINEERING DOCUMENTATION AND BASE BUILDING REPRESENTATIVE FOR ADDITIONAL INFORMATION AND RESTRICTIONS.
8. EXISTING SPRINKLER SYSTEM TO REMAIN FOR MODIFICATION AT FINAL PLAN. PROTECT DURING ALL PHASES. COORDINATE WITH ENGINEERING DOCUMENTATION AND BASE BUILDING REPRESENTATIVE FOR SPRINKLER RESTRICTIONS.
9. PROTECT FROM DAMAGE ALL DOORS AND ASSOCIATED HARDWARE SHOWN TO REMAIN FOR REUSE.
10. WHERE ELECTRICAL RECEPTACLES, COMMUNICATION RECEPTACLES, CARD ACCESS READERS, LIGHT FIXTURES, THERMOSTATS OR SIMILAR DEVICES ARE TO BE REMOVED IN PARTITIONS TO REMAIN, REMOVE ASSOCIATED EXISTING WIRE BACK
11. TO ITS SOURCE AND PATCH SMOOTH EXISTING PARTITION TO ELIMINATE EVIDENCE OF FORMER LOCATION.
12. PARTITIONS INDICATED FOR DEMOLITION AS SHOWN TO COORDINATE WITH FINAL SPACE PLAN. PHASING OF FINAL PARTITION DEMOLITION TO BE DETERMINED BY CONTRACTOR TO ACCOMMODATE BUILDING USER SAFETY AND SECURITY. COORDINATE WITH TENANT REPRESENTATIVE.
13. FOR ADDITIONAL REQUIREMENTS AND RESTRICTIONS. VERIFY THAT CONSTRUCTION INDICATED FOR REMOVAL IS NOT LOAD BEARING.
14. WHERE DEMOLITION EXPOSES FLOOR SLAB OPENINGS, PATCH HOLE WITH METAL DECKING TO MATCH EXISTING FROM BELOW AND LIGHT WEIGHT CONCRETE FROM ABOVE TO PROVIDE A SMOOTH SURFACE FOR INSTALLATION OF NEW FLOOR FINISHES.
15. PROVIDE ADDITIONAL FIRE-STOPPING AS REQUIRED TO MAINTAIN TWO-HOUR FIRE RATING.
16. AT AREAS OF FLOOR FINISH REMOVAL, ADDITIONALLY PREPARE SLAB SMOOTH AND FLUSH TO ACCOMMODATE INSTALLATION OF NEW SCHEDULED FINISH FLOOR MATERIALS. PREPARATION TO INCLUDE SELECTIVE FLOOR GRINDING, BEAD BLASTING, AND FLASH PATCHING AS REQUIRED TO YIELD A SMOOTH AND LEVEL SUB SURFACE.
17. DO NOT CUT OR REMOVE STRUCTURAL STEEL, STRUCTURAL CONCRETE, OR LOAD BEARING UNIT MASONRY WITHOUT WRITTEN APPROVAL OF BASE BUILDING REPRESENTATIVE.

DEMOLITION LEGEND:

- EXISTING (SHOWN DASHED) TO BE REMOVED
- EXISTING TO REMAIN
- EXISTING LINEAR DIFFUSER
- EXISTING RECESSED LIGHT FIXTURE
- EXISTING SPEAKER
- EXISTING SPRINKLER

JACOBS
One Broadway
Cambridge, Massachusetts
02142

P 617.491.6450
F 617.491.7104
W www.jacobs.com

Seals:

General Notes:

THESE DRAWINGS HAVE BEEN COMPILED FROM EXISTING DRAWINGS PROVIDED BY THE OWNER. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING AND CONFIRMING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION

Project Client:

CHELSEA PUBLIC SCHOOLS
500 Broadway, Chelsea, MA 02150

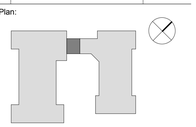
P 617-466-4477
W www.chelseaschools.com

Project Name

CHELSEA ELC LOBBY AND SECURITY DESK RENOVATION

Number	Description	Date

Key Plan:



CONSTRUCTION DOCUMENTS

MARCH 15, 2015

Project No.: R7W71632

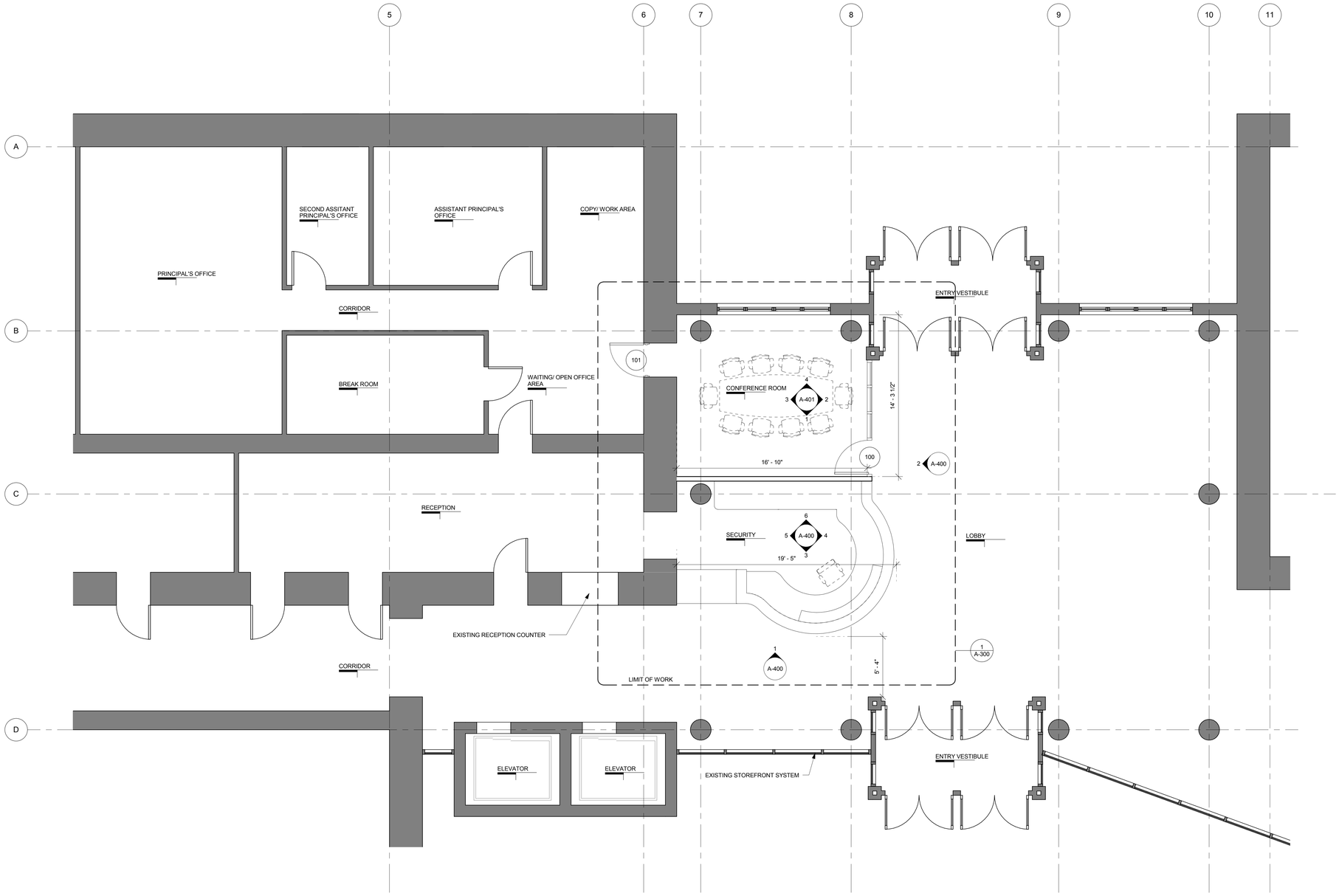
Copyright: 2015 Jacobs

Drawing Sheet Title:

DEMOLITION PLANS

Drawing Sheet Number:

AD-100



1 OVERALL FLOOR PLAN
A-100 SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. ALL EXISTING CONDITION TO REMAIN AS IS UNLESS OTHERWISE NOTED.
2. COORDINATE WITH ENGINEERING REQUIREMENTS FOR THIS AREA PRIOR TO CONSTRUCTION.
3. COORDINATE WITH FACILITIES MANAGEMENT FOR SCHEDULED TIME OF CONSTRUCTION DURING NORMAL BUSINESS HOURS.
4. IN ADDITION TO SCHEDULED PARTITION, PROVIDE 3/4" FIRE-RESISTANT PLYWOOD SECURED TO WALL TO ACCOMMODATE TELE/DATA EQUIPMENT. COORDINATE EXTENTS WITH TELE/DATA PROVIDER.
5. PROVIDE ADDITIONAL CONCEALED FRAMING AND BLOCKING FOR SUPPORT OF NEW SCREEN WITH BRACKET. PROVIDE FRAMING FOR EXACT PLACEMENT OF RECEPTACLES.
6. AUGMENT SCHEDULED PARTITION TYPE TO YIELD DEEPER CAVIT TO AS NEEDED TO ACCOMMODATE PLUMBING OR FIRE EXTINGUISHER CABINET. OMIT 2 1/2" METAL STUD AND PROVIDE 3-5/8" METAL STUD.
7. NEW 3" HIGH ACCESS FLOOR IN THESE AREAS TO BE MAAB COMPLIANT.
8. VERIFY EXTENT AND TYPE OF EXIT AND EMERGENCY LIGHTING REQUIREMENTS AS REQUIRED BY APPLICABLE CODES.
9. PROVIDE LATERAL BRACING AS REQUIRED.
10. EMERGENCY LIGHTING SHALL BE WIRED TO THE BUILDING EMERGENCY WIRING SYSTEM AND KEPT INDEPENDENT OF ALL OTHER WIRING SYSTEMS.

PLAN LEGEND:

- - - - LIMIT OF WORK

EXISTING TO REMAIN AS IS UNLESS OTHERWISE NOTED

JACOBS

One Broadway
Cambridge, Massachusetts
02142

P 617.491.6450
F 617.491.7104
W www.jacobs.com

Seals:

General Notes:

THESE DRAWINGS HAVE BEEN COMPILED FROM EXISTING DRAWINGS PROVIDED BY THE OWNER. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING AND CONFIRMING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION

Project Client:

CHELSEA PUBLIC SCHOOLS
500 Broadway, Chelsea, MA 02150

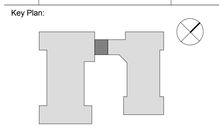
P 617-466-4477
W www.chelseaschools.com

Project Name

CHELSEA ELC LOBBY AND SECURITY DESK RENOVATION

Number	Description	Date

Key Plan:



CONSTRUCTION DOCUMENTS

MARCH 15, 2015

Project No.: R7W71632

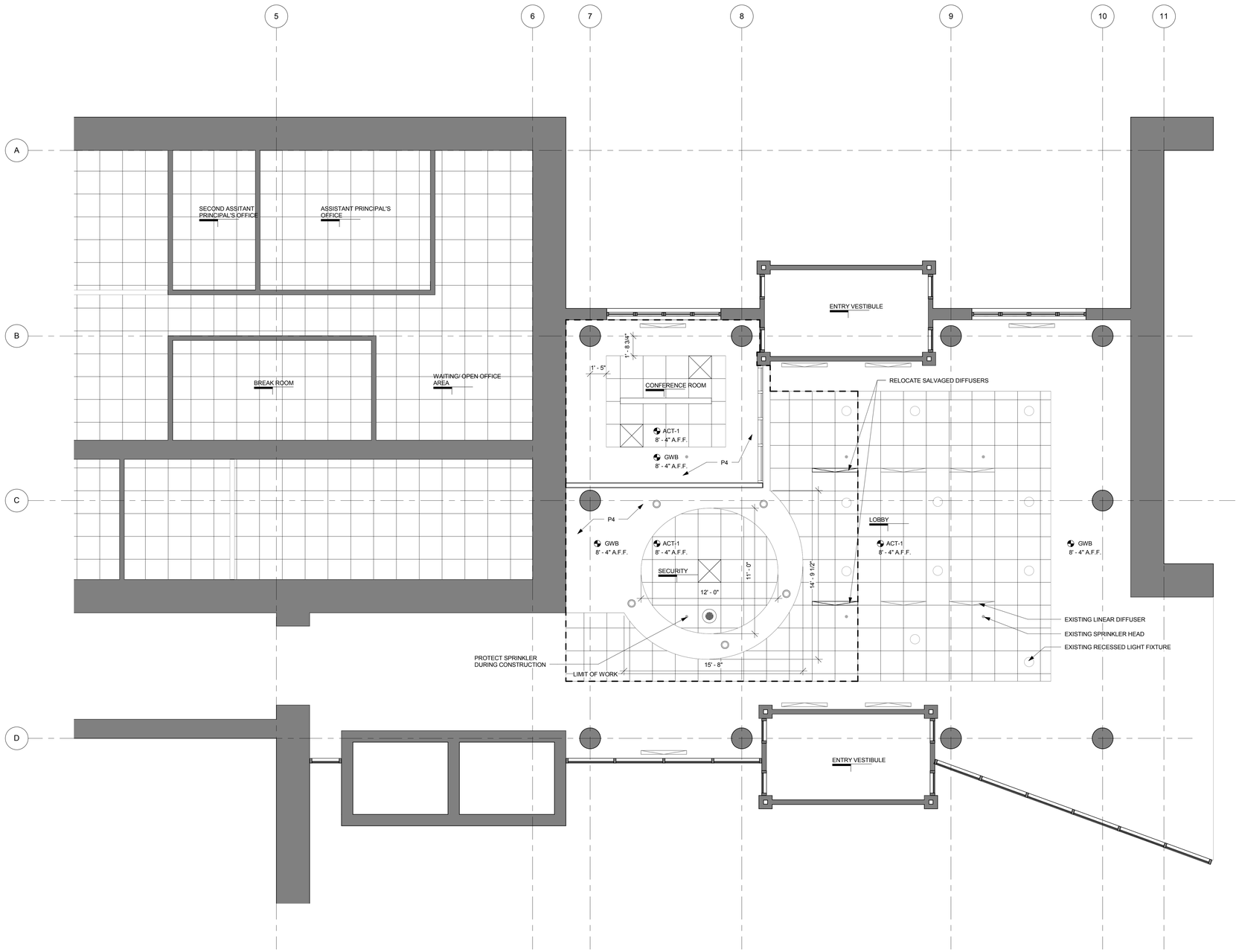
Copyright: 2015 Jacobs

Drawing Sheet Title:

OVERALL FLOOR PLAN

Drawing Sheet Number:

A-100



1 REFLECTED CEILING PLAN
A-200 SCALE: 1/4" = 1'-0"

REFLECTED CEILING PLAN NOTES

1. NOTE: NOT ALL NOTES MAY BE USED AT THIS SHEET. EXISTING LIGHTING AT THIS ROOM TO REMAIN. REPAIR OR REPLACE NON-FUNCTIONING FIXTURES AND CLEAN AND RELAMP ALL FIXTURES FOR REUSE.
2. REMOVE CEILING SYSTEM, GWB SOFFITS, LIGHT FIXTURES AND ASSOCIATED FRAMING COMPLILLUMINATED EXIT LIGHTING FIXTURES SHALL BE WIRED TO THE BUILDING'S EMERGENCY WIRING SYSTEM AND KEPT INDEPENDENT OF ALL OTHER WIRING SYSTEMS.
3. NO ACCESS PANELS TO OCCUR AT ANY GWB CEILINGS.
4. MOUNT ALL LIGHT SWITCHES AT 44" ABOVE FINISH FLOOR TO CENTER LINE OF SWITCH. LOCATE 6" FROM HANDSET SIDE OF DOOR FRAME.
5. WHEN MORE THAN ONE LIGHT SWITCH OR CONTROL SWITCH OCCURS IN ONE LOCATION, GANG SWITCHES TOGETHER AND PROVIDE A COMMON SWITCH PLATE COVER.
6. PROVIDE ADDITIONAL BLOCKING AND/OR ANCHORING ABOVE CEILINGS AS REQUIRED FOR SUPPORT CLIGHT FIXTURES.
7. UNLESS OTHERWISE INDICATED, ALL THERMOSTATS SHALL BE MOUNTED ADJACENT TO LIGHT SWITCHES AT 44" OC AFF.
8. COORDINATE INSTALLATION WITH MECHANICAL SYSTEMS PROVIDER.
9. COORDINATE LIGHTING REQUIREMENTS OF FIXTURES MOUNTED WITHIN ARCHITECTURAL WOODWORK FOR LOCATION, POWER REQUIREMENTS AND ATTACHMENTS.
10. ALL CEILING FIXTURES TO BE CENTERED ON LAY-IN PANELS IN SUSPENDED CEILING AREAS AS SHOWN, UNLESS NOTED OTHERWISE.
11. ALL NEW CEILINGS TO BE [X'-X"] AFF UNLESS NOTED OTHERWISE.
12. ALL CEILING GRIDS TO BE CENTERED IN SPACES WITH EQUAL TILES AT OPPOSITE SIDES AS SHOWN UNLESS NOTED OTHERWISE.
13. ALL DIMENSIONS ARE TO CENTERLINE OF FIXTURE, UNLESS NOTED OTHERWISE.
14. VERIFY ALL CEILING HEIGHTS AND CEILING PLENUM CLEARANCES TO ASSURE FINISHED CEILING HEIGHTS CALLED OUT ON DOCUMENTS. ANY DISCREPANCIES SHALL BE BROUGHT TO INTERIOR ARCHITECT'S ATTENTION IMMEDIATELY, PRIOR TO COMMENCEMENT OFWORK.
15. ANY CONFLICTS OR DISCREPANCIES AMONG FIXTURES, FIRE AND SMOKE DETECTION DEVICES, HVAC OR OTHER CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF JACOBS INTERIOR ARCHITECTS FOR CLARIFICATION.
16. FIRE AND SMOKE DETECTION DEVICES AND STROBE LIGHT LOCATIONS TO BE COORDINATED BY CONTRACTORS AND SUBMITTED TO JACOBS INTERIOR ARCHITECTS FOR FINAL ALIGNMENT APPROVAL.
17. SUBMIT LIGHTING FIXTURE CUT SHEETS TO JACOBS INTERIOR ARCHITECTS FOR APPROVAL PRIOR TO PURCHASING. ALL SWITCH AND FACE PLATE COLORS TO BE WHITE, UNLESS NOTED OTHERWISE, SUBMIT SAMPLE DEVICES TO JACOBS INTERIOR ARCHITECTS FOR FINAL COLOR SELECTION.
18. ALL SUPPLY AND RETURN GRILLES AND DIFFUSERS AT GWB CEILINGS TO BE LINEAR DIFFUSERS TO ALIGN WITH ADJACENT LIGHT FIXTURES OR CEILING FEATURES. PROVIDE DUMMY GRILLES AS REQUIRED TO YIELD CONTINUOUS APPEARANCE. FINISH INSIDE OF ACTIVE AND DUMMY GRILLES AND ANY DUCTWORK OR FRAMING IN VIEW FROM BELOW MATTE BLACK. FINAL LOCATIONS AND LENGTHS TO BE REVIEWED WITH JACOBS INTERIOR ARCHITECTS PRIOR TO FRAMING.
19. CEILINGS IN ALL AREAS UNDER CONTRACT TO BE INSTALLED IN STRICT ACCORDANCE WITH MANUFACTURERS' SPECIFICATIONS, LOCAL BUILDING CODES AND ALL OTHER APPLICABLE CODES.

CEILING LEGEND

- EXISTING RECESSED LED DOWN LIGHT
- NEW RECESSED LED DOWN LIGHT, 10" ROUND
- NEW LINEAR PENDANT LIGHT, 8' LONG
- EXISTING LINEAR DIFFUSER
- NEW SUPPLY DIFFUSER
- EXISTING SPEAKER
- EXISTING SPRINKLERS

CEILING MATERIAL LEGEND

	ACT-1	24"x24" PANELS
	GWB	GYPSUM WALL BOARD

JACOBS
One Broadway
Cambridge, Massachusetts
02142

P 617.491.6450
F 617.491.7104
W www.jacobs.com

Seals:

General Notes:

THESE DRAWINGS HAVE BEEN COMPILED FROM EXISTING DRAWINGS PROVIDED BY THE OWNER. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING AND CONFIRMING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION

Project Client:

CHELSEA PUBLIC SCHOOLS
500 Broadway, Chelsea, MA 02150

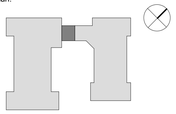
P 617-466-4477
W www.chelseaschools.com

Project Name

CHELSEA ELC LOBBY AND SECURITY DESK RENOVATION

Number	Description	Date

Key Plan:



CONSTRUCTION DOCUMENTS

MARCH 15, 2015

Project No.: R7W71632

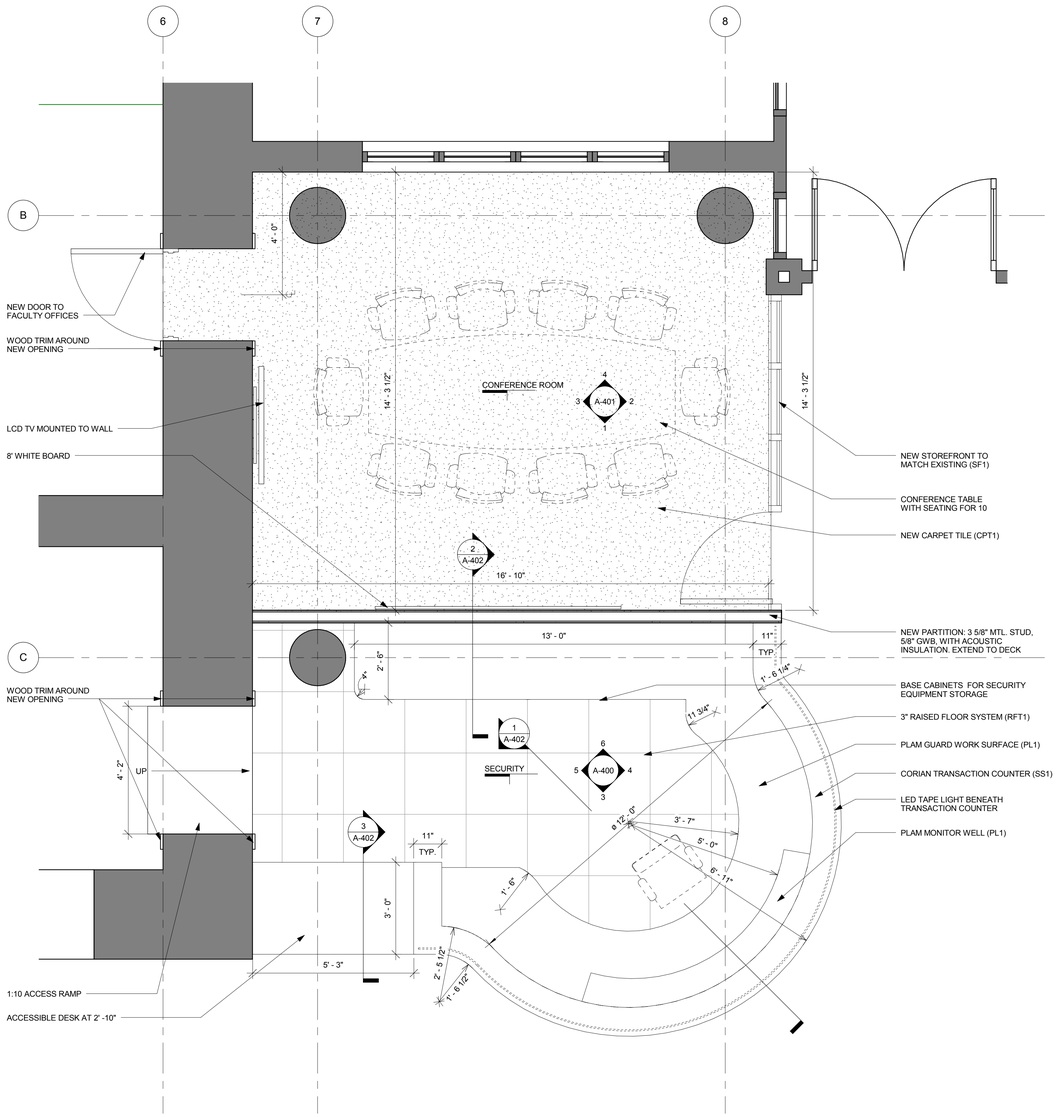
Copyright: 2015 Jacobs

Drawing Sheet Title:

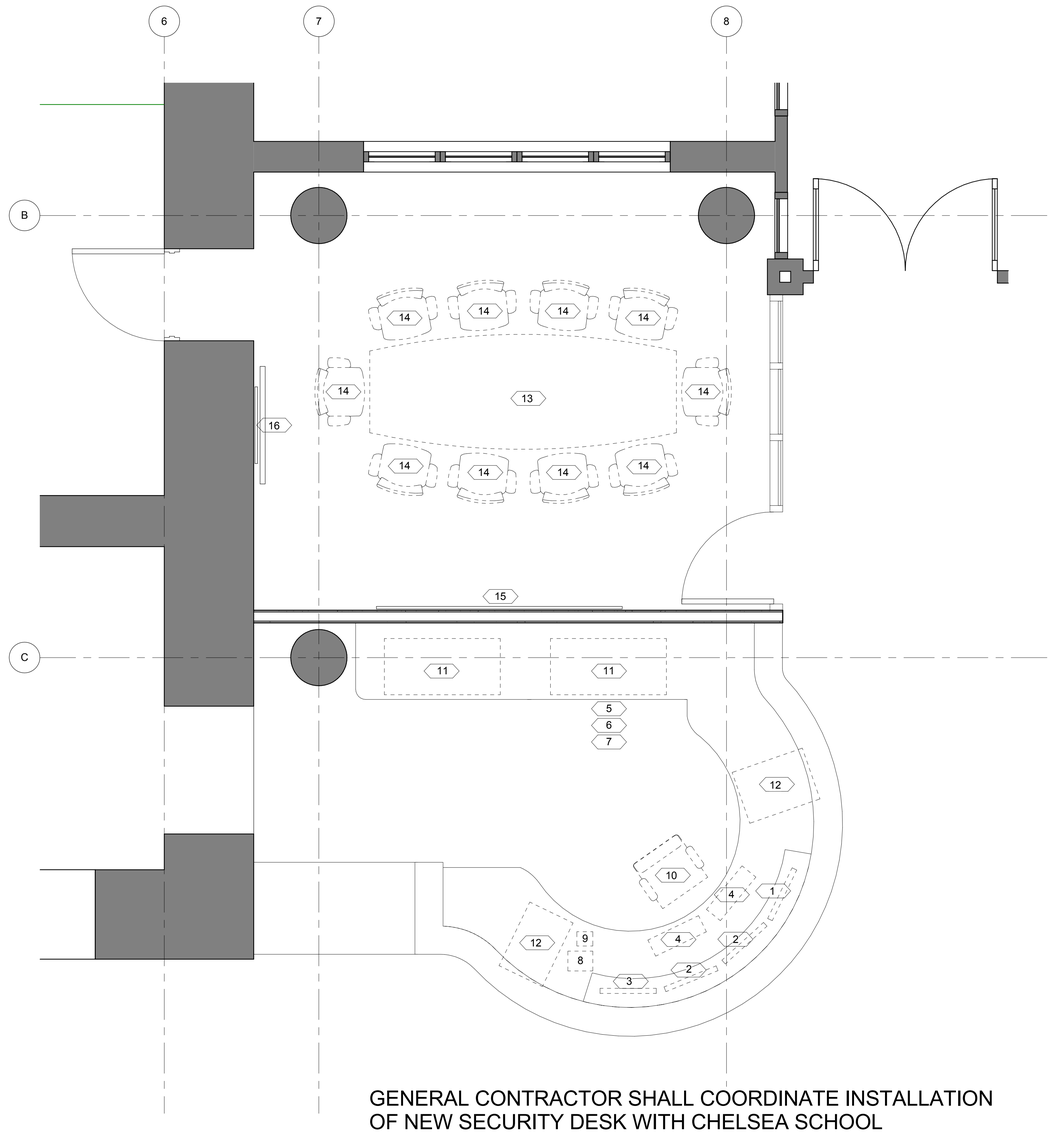
REFLECTED CEILING PLAN

Drawing Sheet Number:

A-200



1 ENLARGED CONSTRUCTION PLAN
A-300 SCALE: 1/2" = 1'-0"



GENERAL CONTRACTOR SHALL COORDINATE INSTALLATION OF NEW SECURITY DESK WITH CHELSEA SCHOOL DEPARTMENT INFORMATION TECHNOLOGY DEPARTMENT

2 ENLARGED EQUIPMENT AND FURNITURE PLAN
A-300 SCALE: 1/2" = 1'-0"

GENERAL NOTES:

1. ALL EXISTING CONDITION TO REMAIN AS IS UNLESS OTHERWISE NOTED.
2. COORDINATE WITH ENGINEERING REQUIREMENTS FOR THIS AREA PRIOR TO CONSTRUCTION.
3. COORDINATE WITH FACILITIES MANAGEMENT FOR SCHEDULED TIME OF CONSTRUCTION DURING NORMAL BUSINESS HOURS.
4. IN ADDITION TO SCHEDULED PARTITION, PROVIDE 3/4" FIRE-RESISTANT PLYWOOD SECURED TO WALL TO ACCOMMODATE TELE/DATA EQUIPMENT. COORDINATE EXTENTS WITH TELE/DATA PROVIDER.
5. PROVIDE ADDITIONAL CONCEALED FRAMING AND BLOCKING FOR SUPPORT OF NEW SCREEN WITH BRACKET. PROVIDE FRAMING FOR EXACT PLACEMENT OF RECEPTACLES.
6. AUGMENT SCHEDULED PARTITION TYPE TO YIELD DEEPER CAVIT TO AS NEEDED TO ACCOMMODATE PLUMBING OR FIRE EXTINGUISHER CABINET. OMIT 2 1/2" METAL STUD AND PROVIDE 3-5/8" METAL STUD.
7. NEW 3" HIGH ACCESS FLOOR IN THESE AREAS TO BE MAAB COMPLIANT.
8. VERIFY EXTENT AND TYPE OF EXIT AND EMERGENCY LIGHTING REQUIREMENTS AS REQUIRED BY APPLICABLE CODES.
9. PROVIDE LATERAL BRACING AS REQUIRED.
10. EMERGENCY LIGHTING SHALL BE WIRED TO THE BUILDING EMERGENCY WIRING SYSTEM AND KEPT INDEPENDENT OF ALL OTHER WIRING SYSTEMS.

PLAN LEGEND:

- - - - LIMIT OF WORK

EXISTING TO REMAIN AS IS UNLESS OTHERWISE NOTED

EQUIPMENT/FURNITURE SCHEDULE:

ITEM NUMBER	DESCRIPTION	CONDITION	QUANTITY	MANUFACTURER	MODEL NUMBER	DIMENSIONS	LOCATION
1	COMPUTER MONITOR	EXISTING	1	MANUFACTURER	MODEL #	DIMS	SECURITY DESK MONITOR WELL
2	COMPUTER MONITOR	EXISTING	2	MANUFACTURER	MODEL #	15"x13"	SECURITY DESK MONITOR WELL
3	COMPUTER MONITOR	EXISTING	1	APPLE	MODEL #	16 1/2"x14 1/2"	SECURITY DESK MONITOR WELL
4	KEYBOARD	EXISTING	2	MANUFACTURER	MODEL #	6"x17"	SECURITY DESK
5	DVR	EXISTING	1	MANUFACTURER	MODEL #	5"x20"	EQUIPMENT CABINET
6	SERVER LINUP	EXISTING	1	MANUFACTURER	MODEL #	DIMS	EQUIPMENT CABINET
7	AAC	EXISTING	1	MANUFACTURER	MODEL #	DIMS	EQUIPMENT CABINET
8	DESK PHONE	EXISTING	1	MANUFACTURER	MODEL #	10 1/2"x9"x7"	SECURITY DESK
9	INTERCOM	EXISTING	1	MANUFACTURER	MODEL #	7"x9"	SECURITY DESK
10	SECURITY CHAIR	NEW	1	SITONIT - FOCUS STOOL	5622, 5623	34" SH	SECURITY DESK
11	STORAGE CABINETS	NEW	2	BY OWNER			SECURITY DESK
12	FILING PEDESTALS	NEW	2	BY OWNER			SECURITY DESK
13	CONFERENCE TABLE	NEW	1	BY OWNER			CONFERENCE ROOM
14	CONFERENCE CHAIR	NEW	10	BY OWNER			CONFERENCE ROOM
15	WHITE BOARD	NEW	1	BY OWNER			CONFERENCE ROOM
16	LCD TV	NEW	1	BY OWNER			CONFERENCE ROOM

JACOBS
One Broadway
Cambridge, Massachusetts
02142

P 617.491.6450
F 617.491.7104
W www.jacobs.com

Seals:

General Notes:

THESE DRAWINGS HAVE BEEN COMPILED FROM EXISTING DRAWINGS PROVIDED BY THE OWNER. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING AND CONFIRMING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION

Project Client:

CHELSEA PUBLIC SCHOOLS
500 Broadway, Chelsea, MA 02150

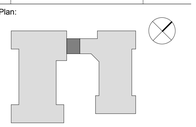
P 617-466-4477
W www.chelseaschools.com

Project Name

CHELSEA ELC LOBBY AND SECURITY DESK RENOVATION

Number	Description	Date

Key Plan:



CONSTRUCTION DOCUMENTS

MARCH 15, 2015

Project No.: R7W71632

Copyright: 2015 Jacobs

Drawing Sheet Title:

ENLARGED PLANS

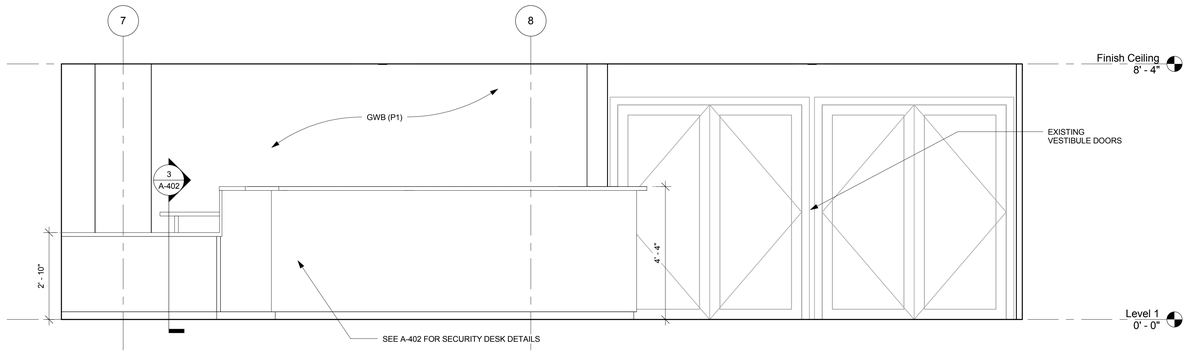
Drawing Sheet Number:

A-300

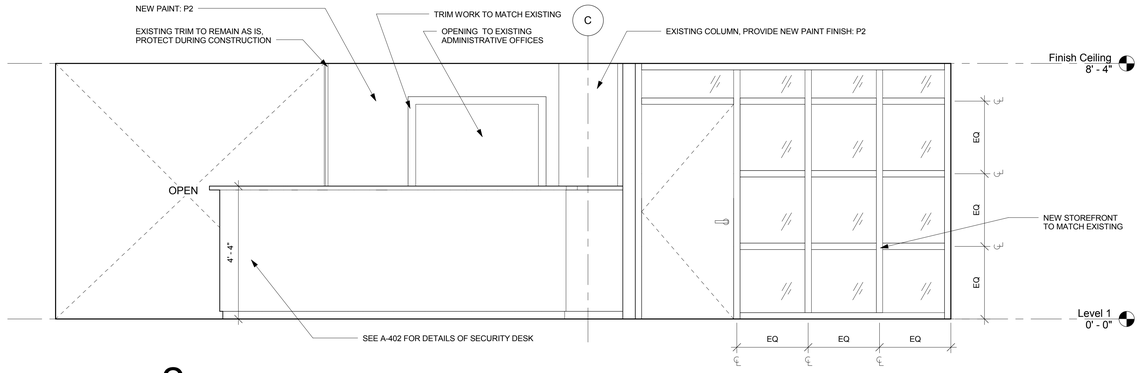
DOOR SCHEDULE							
DOOR NUMBER	PANEL				FRAME		COMMENTS
	NOMINAL SIZE						
	WIDTH	HEIGHT	MATERIAL	FINISH	MATERIAL	FINISH	
100	3' - 0"	7' - 0"	WD1	CLR	AL	PTD	SEE SPECIFICATION ON A002 FOR HARDWARE SCHEDULE
101	3' - 0"	7' - 0"	WD1	CLR	HM	PTD	SEE SPECIFICATION ON A002 FOR HARDWARE SCHEDULE

ROOM FINISH SCHEDULE							
ROOM NAME	AREA	WALL FINISH	FLOOR FINISH	BASE FINISH	CEILING FINISH	CEILING HEIGHT	COMMENTS
CONFERENCE ROOM	238 SF	PNT-1	CPT-1	WD	GWB / ACT-1	8' - 4"	
SECURITY	200 SF	PNT-2	RFT-2	WD	GWB / ACT-1	8' - 4"	

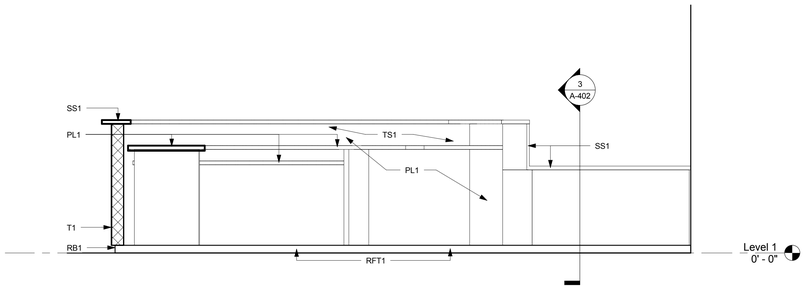
FINISH LEGEND			
CODE:	DESCRIPTION:	MODEL/ COLOR:	LOCATION/NOTES:
T1	TILE	CROSSVILLE EBB & FLOW 1/2"X1/2" MOSAIC TILE COLOR: EF04 SAND AND SURF	12"X12" MESH PANELS, AT FRONT FACE OF DESK
SS1	SOLID SURFACE	CORIAN TERRA COLLECTION COLOR: WHISPER	1/2" THICK AT TRANSACTION COUNTER AND ADA COUNTER OPTION 1
RB1	RUBBER BASE	JOHNSONITE 1/8" TRADITIONAL WALL BASE 6" HIGH COLOR: 195 ASH WG	RUBBER BASE FOR DESK AND ADJACENT WALLS
WB1	WOOD BASE	TO MATCH EXISTING	NEW WOOD BASE AT NEW CONFERENCE ROOM TO MATCH EXISTING
PL1	PLASTIC LAMINATE	PIONITE SUEDE COLOR: SG254 ASH GRAY	PLASTIC LAMINATE FOR DESK INTERIOR AND COUNTER
P1	PAINT	BENJAMIN MOORE COLOR PREVIEW COLOR: WINTER LAKE 2129-50 FINISH: EGGSHELL	PAINT FOR BACK WALL AT SECURITY DESK AND ACCENT WALL AT NEW CONFERENCE ROOM
P2	PAINT	BENJAMIN MOORE COLOR PREVIEW COLOR: MT. RAINIER GRAY 2129-60 FINISH: EGGSHELL	PAINT FOR ADJACENT WALL AT SECURITY DESK
P3	PAINT	BENJAMIN MOORE COLOR PREVIEW COLOR: MAYONNAISE OC-85 FINISH: EGGSHELL	PAINT FOR NEW CONFERENCE ROOM WALLS
P4	PAINT	TO MATCH EXISTING	PAINT FOR NEW SOFFIT OVER SECURITY DESK TO MATCH EXISTING
WD1	WOOD VENEER	TO MATCH EXISTING	AT NEW CONFERENCE ROOM DOORS
TS1	TACKABLE SURFACE	FORBO BULLETIN BOARD COLOR: 2182	AT BACK OF SECURITY DESK, VERTICAL SURFACE
SF1	STORE FRONT SYSTEM	ANODIZED ALUMINUM AND GLASS SYSTEM TO MATCH EXISTING	AT FRONT WALL AND ENTRY TO NEW CONFERENCE ROOM
CPT1	CARPET TILE	PATCRAFT THOUGHT MODULAR. COLOR: DREAM 00540	CONFERENCE ROOM FLOOR
RFT1	RAISED FLOOR SYSTEM	HAWORTH TEC CRETE 1250	SECURITY DESK FLOOR



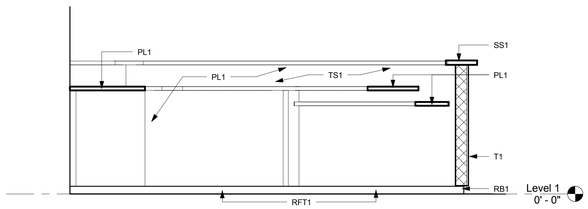
1 LOBBY WEST ELEVATION
A-400 SCALE: 1/2" = 1'-0"



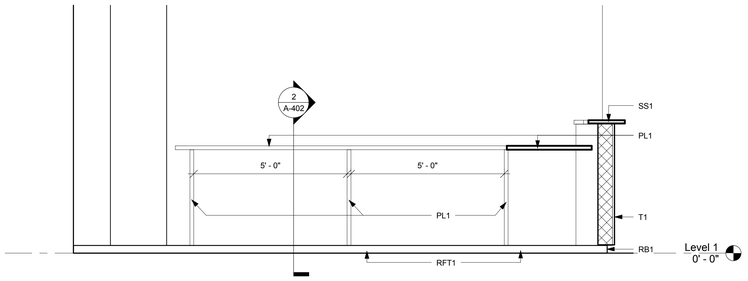
2 LOBBY SOUTH ELEVATION
A-400 SCALE: 1/2" = 1'-0"



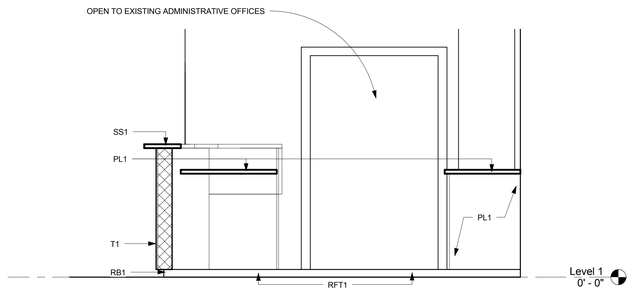
3 SECURITY DESK - EAST ELEVATION
A-400 SCALE: 1/2" = 1'-0"



4 SECURITY DESK - NORTH ELEVATION
A-400 SCALE: 1/2" = 1'-0"



6 SECURITY DESK - WEST ELEVATION
A-400 SCALE: 1/2" = 1'-0"



5 SECURITY DESK - SOUTH ELEVATION
A-400 SCALE: 1/2" = 1'-0"

JACOBS
One Broadway
Cambridge, Massachusetts
02142

P 617.491.6450
F 617.491.7104
W www.jacobs.com

Seals:

General Notes:

THESE DRAWINGS HAVE BEEN COMPILED FROM EXISTING DRAWINGS PROVIDED BY THE OWNER. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING AND CONFIRMING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION

Project Client:

CHELSEA PUBLIC SCHOOLS
500 Broadway, Chelsea, MA 02150

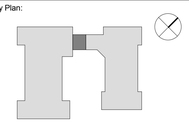
P 617-466-4477
W www.chelseaschools.com

Project Name

CHELSEA ELC LOBBY AND SECURITY DESK RENOVATION

Number	Description	Date

Key Plan:



CONSTRUCTION DOCUMENTS

MARCH 15, 2015

Project No.: R7W71632

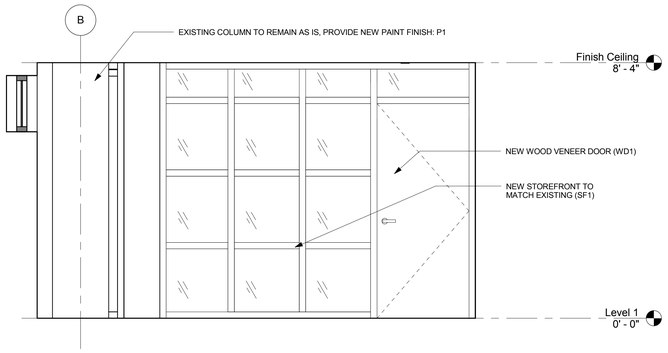
Copyright: 2015 Jacobs

Drawing Sheet Title:

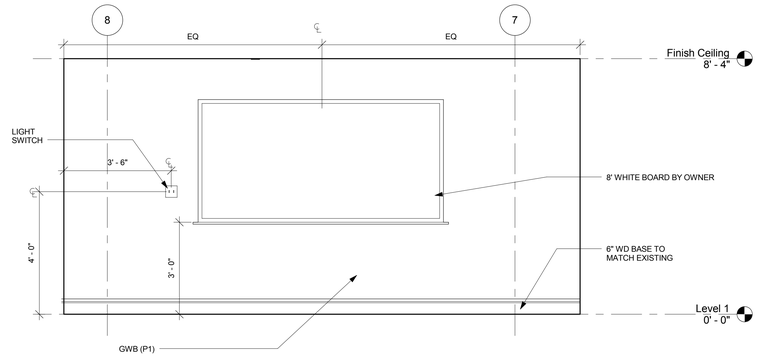
INTERIOR ELEVATIONS, SCHEDULES, AND DETAILS

Drawing Sheet Number:

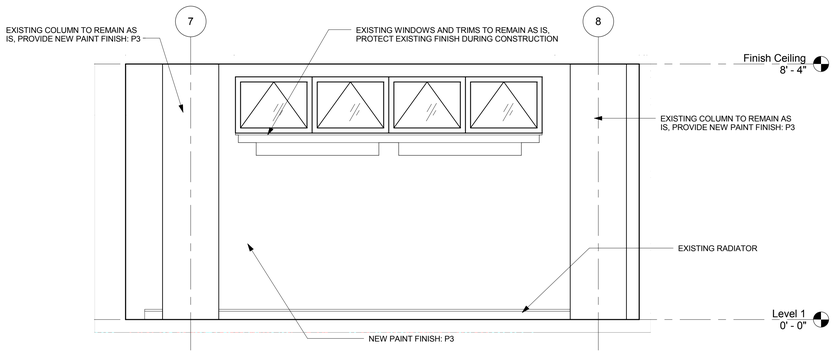
A-400



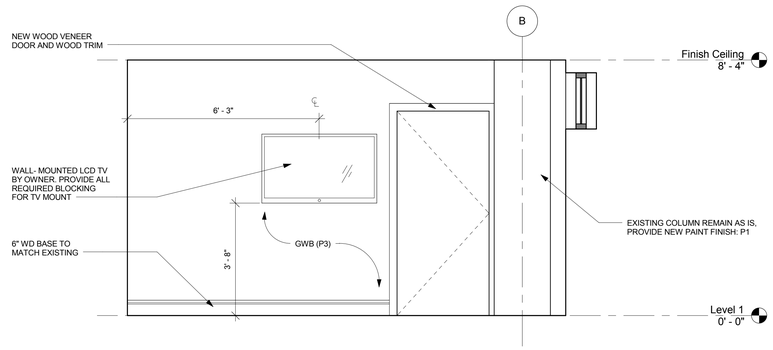
2 CONFERENCE ROOM NORTH ELEVATION
A-401 SCALE: 1/2" = 1'-0"



1 CONFERENCE ROOM EAST ELEVATION
A-401 SCALE: 1/2" = 1'-0"



4 CONFERENCE ROOM WEST ELEVATION
A-401 SCALE: 1/2" = 1'-0"



3 CONFERENCE ROOM SOUTH ELEVATION
A-401 SCALE: 1/2" = 1'-0"

JACOBS
One Broadway
Cambridge, Massachusetts
02142

P 617.491.6450
F 617.491.7104
W www.jacobs.com

Seals:

General Notes:

THESE DRAWINGS HAVE BEEN COMPILED FROM EXISTING DRAWINGS PROVIDED BY THE OWNER. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING AND CONFIRMING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION

Project Client:

CHELSEA PUBLIC SCHOOLS
500 Broadway, Chelsea, MA 02150

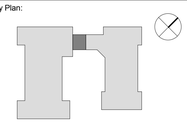
P 617-466-4477
W www.chelseaschools.com

Project Name

CHELSEA ELC LOBBY AND SECURITY DESK RENOVATION

Number	Description	Date

Key Plan:



CONSTRUCTION DOCUMENTS

MARCH 15, 2015

Project No.: R7W71632

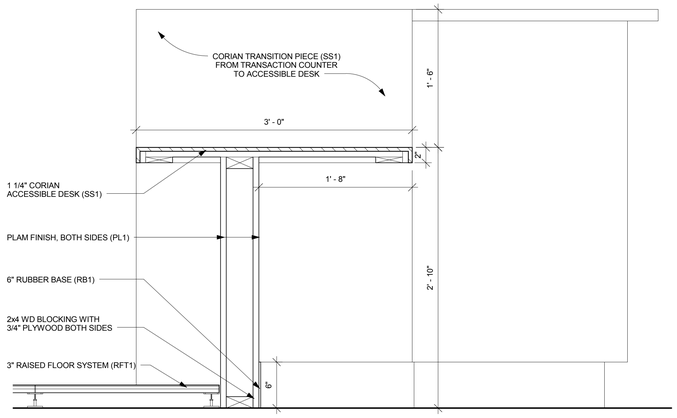
Copyright: 2015 Jacobs

Drawing Sheet Title:

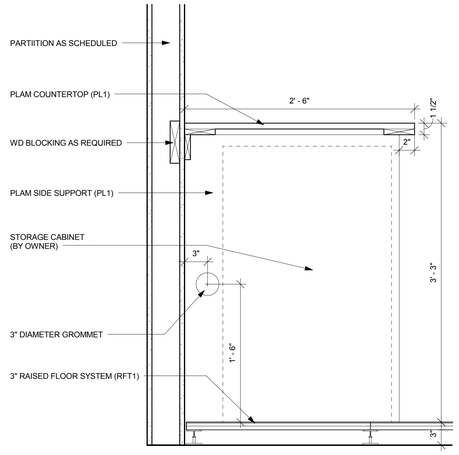
INTERIOR ELEVATIONS

Drawing Sheet Number:

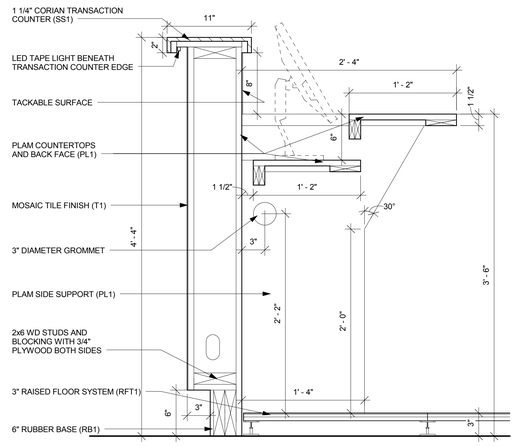
A-401



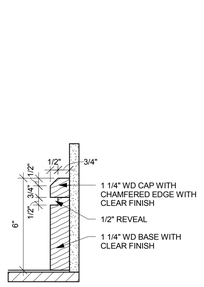
3 SECTION AT ACCESSIBLE DESK
A-402 SCALE: 1 1/2" = 1'-0"



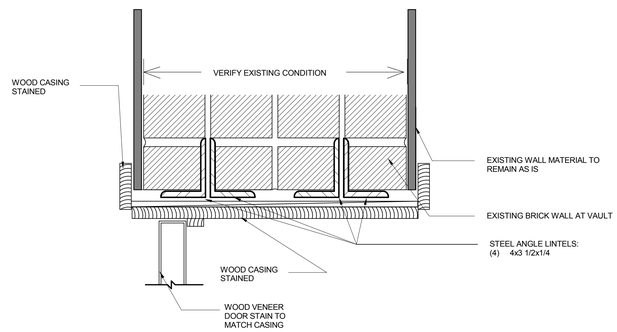
2 SECTION AT BASE STORAGE
A-402 SCALE: 1 1/2" = 1'-0"



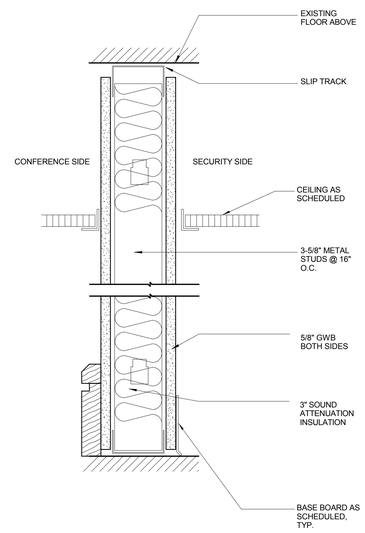
1 SECTION AT SECURITY DESK
A-402 SCALE: 1 1/2" = 1'-0"



6 WOOD BASE DETAIL (WB1)
A-402 SCALE: 3" = 1'-0"



5 LINTEL AT NEW OPENING FROM PRINCIPAL'S OFFICE DETAIL
A-402 SCALE: 3" = 1'-0"



4 NEW PARTITION DETAIL
A-402 SCALE: 3" = 1'-0"

JACOBS
One Broadway
Cambridge, Massachusetts
02142

P 617.491.6450
F 617.491.7104
W www.jacobs.com

Seals:

General Notes:

THESE DRAWINGS HAVE BEEN COMPILED FROM EXISTING DRAWINGS PROVIDED BY THE OWNER. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING AND CONFIRMING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION

Project Client:

CHELSEA PUBLIC SCHOOLS
500 Broadway, Chelsea, MA 02150

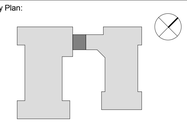
P 617-466-4477
W www.chelseaschools.com

Project Name

CHELSEA ELC LOBBY
AND SECURITY DESK
RENOVATION

Number	Description	Date

Key Plan:



CONSTRUCTION
DOCUMENTS

MARCH 15, 2015

Project No.: R7W71632

Copyright: 2015 Jacobs

Drawing Sheet Title:

SECURITY DESK DETAILS

Drawing Sheet Number:

A-402

MECHANICAL SPECIFICATIONS

PROVIDE EQUIPMENT INDICATED ON THE DRAWINGS AND AS REQUIRED FOR A COMPLETE FUNCTIONING SYSTEM.

1. DEFINITIONS:
   a. FURNISH MEANS TO SUPPLY AND DELIVER TO PROJECT SITE, READY FOR INSTALLATION. INSTALL MEANS TO PLACE IN POSITION AND MAKE CONNECTIONS FOR SERVICE OR USE. PROVIDE MEANS TO FURNISH AND INSTALL, COMPLETE AND READY FOR INTENDED USE.

2. WARRANTY:
   a. PROVIDE LABOR AND MATERIALS TO REPAIR OR REPLACE DEFECTIVE PARTS AND MATERIALS AS REQUIRED FOR ONE YEAR AFTER SUBSTANTIAL COMPLETION OR OWNER ACCEPTANCE OF THE COMPLETED PROJECT. PROVIDE A SEPARATE LINE ITEM DEDUCT AMOUNT ON THE PROPOSAL FORM TO DELETE WARRANTY SERVICE, AT THE OWNER'S OPTION.

3. COORDINATION:
   a. COORDINATE WITH THE WORK OF OTHER TRADES, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER, AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE.

4. SHEETMETAL DUCTWORK:
   a. PROVIDE SHEET METAL DUCTWORK FABRICATED AND INSTALLED IN ACCORDANCE WITH LATEST EDITION OF ASHRAE AND SMACNA STANDARDS, 1" W.G. PRESSURE CLASS, SEAL CLASS "A". SHEETMETAL SHALL BE GALVANIZED SHEET STEEL OF LOCK FORMING QUALITY, WITH G90 ZINC COATING. SHEET STEEL SHALL COMPLY WITH ASTM A653 STANDARD SPECIFICATION FOR STEEL SHEETMETAL, ZINC COATED (GALVANIZED) OR ZINC-IRON ALLOY-COATED (GALVANIZED) BY THE HOT DIP PROCESS, AND A924 STANDARD SPECIFICATION FOR GENERAL REQUIREMENTS FOR SHEET, METALLIC-COATED BY THE HOT DIP PROCESS. ALL ANGLE IRON USED FOR SUPPORT SHALL BE GALVANIZED.
   b. CONNECTIONS TO WALLS OR FLOOR SHALL BE AIR TIGHT WITH ANGLE IRON AND CAULKING. SEAL ALL DUCT SEAMS, TRANSVERSE AND LONGITUDINAL, AIR TIGHT.
   c. ALL DUCT SIZES SHOWN ARE NET INSIDE CLEAR DIMENSIONS.
   d. ALL DUCTWORK SHALL BE FIELD MEASURED PRIOR TO FABRICATION OR INSTALLATION. DUCT SIZES MAY BE ALTERED TO ACCOMMODATE CONSTRUCTION AS LONG AS THE CROSS SECTIONAL AREA OF THE DUCT IS MAINTAINED.
   e. DUCTWORK SHALL BE INSTALLED TO ENSURE THE SYSTEM IS VIBRATION FREE AND ALL JOINTS ARE SEALED PROPERLY.
   f. ALL DUCTS WIDER THAN 18" SHALL BE CROSS BROKEN. PROVIDE ANGLE STIFFENERS AS REQUIRED TO AVOID VIBRATION.
   g. LENGTH OF SECTIONS: UP TO 24" WIDE, NOT MORE THAN 8'-0"; WIDER THAN 24", NOT MORE THAN 4'-0".
   h. RADIUSED BENDS SHALL BE USED WHEREVER POSSIBLE. ONLY PROVIDE MITERED ELBOWS WHERE BENDS WILL NOT FIT AND ON TRANSFER DUCTS. TURNING VANES SHALL BE PROVIDED IN ALL 90° MITERED ELBOWS.
   i. PROVIDE VOLUME DAMPERS AT EVERY MAIN BRANCH TAKEOFF TO GRILLES AND DIFFUSERS AS INDICATED AND IN SUCH OTHER LOCATIONS WHERE REQUIRED TO PROPERLY BALANCE THE SYSTEM.
   j. PROVIDE ALL FIRE DAMPERS AT ALL FIRE PENETRATIONS AS SHOWN AND/OR AS REQUIRED BY THE NATIONAL BOARD OF FIRE UNDERWRITERS, STATE, CITY AND LOCAL ORDINANCE.
   k. TRAPEZE DUCT HANGERS: PROVIDE MINIMUM 1" x 2" x 1" x 18 GAUGE CHANNELS WITH MINIMUM 1" x18" GAUGE STRAPS TO STRUCTURAL SUPPORT.

5. ROUND SHEETMETAL DUCT:
   a. PROVIDE SPIRAL SEAM (ALL SIZES) OR SNAP LOCK (ONLY LOW PRESSURE DUCTWORK SIZES UP TO 10") GALVANIZED STEEL COMPLYING WITH SMACNA STANDARDS. SPIRAL SEAM DUCTWORK SHALL HAVE SMACNA SEAM TYPE RL-1.

6. FLEXIBLE DUCT:
   a. PROVIDE FACTORY ASSEMBLED CLASS 1 AIR DUCT (UL 181) WITH 1-1/2" THICK 1 PCF FIBERGLASS INSULATION AND REINFORCED OUTER PROTECTIVE COVER / VAPOR BARRIER. FLEXIBLE DUCT SHALL MEET NFPA 90A WITH FLAME SPREAD UNDER 25, SMOKE DEVELOPED UNDER 50, AND SHALL BE RATED FOR MINIMUM 6" W.G. PRESSURE AND 0 TO 250°F TEMPERATURE. PROVIDE SCREW-OPERATED METAL ADJUSTABLE CLAMPING DEVICES. USE TWIST-LOCK TAP COLLARS AT CONNECTIONS INTO SHEETMETAL DUCTWORK. MAXIMUM EXTENDED LENGTH OF FLEXIBLE DUCT SHALL NOT EXCEED 5 FEET.

7. DUCT SEALANT:
   a. PROVIDE POLYMERIC RUBBER TYPE SEALANT FOR USE ON BOTH INTERIOR LOCATED DUCTWORK AND DUCTWORK EXPOSED ON OUTDOOR CONDITIONS. SEALER SHALL HAVE HIGH BONDING STRENGTH FOR SURE, FIRST TIME SEALING OF JOINTS IN LOW, MEDIUM, AND HIGH PRESSURE DUCT SYSTEMS. SEALER SHALL BE HIGH IN SOLID CONTENT. PROVIDE A TWO PART TAPE SEALING SYSTEM. CONSISTING OF WOVEN FIBER TAPE SEALING SYSTEM, CONSISTING OF WOVEN FIBER TAPE IMPREGNATED WITH A GYPSUM MINERAL COMPOUND, AND A MODIFIED ACRYLIC / SILICONE ACTIVATOR THAT REACTS EXOTHERMICALLY WITH THE TAPE. TWO PART TAPE SEALING SYSTEM MUST BE RATED FOR BOTH INDOOR AND OUTDOOR APPLICATION. TAPE SHALL NOT CONTAIN ASBESTOS.

8. DUCT INSULATION (ALL SUPPLY, RETURN AND MAKEUP AIR DUCT):
   a. PROVIDE MINIMUM 2-1/2" THICK BLANKET TYPE FIBERGLASS INSULATION COMPLYING WITH ASTM C-553, TYPE II, WITH FACTORY APPLIED KRAFT BONDED TO ALUMINUM FOIL, REINFORCED WITH FIBERGLASS VAPOR BARRIER / JACKET. JACKET SHALL CONFORM TO ASTM C-1136, TYPE II. INSTALLED R VALUE SHALL MEET THOSE REQUIRED IN THE INTERNATIONAL ENERGY CONSERVATION CODE.
   b. INSULATION SHALL HAVE A FLAME SPREAD RATING OF 25 OF LESS AND A SMOKE DEVELOPED RATING OF 50 OR LESS WHEN TESTED IN ACCORDANCE WITH ASTM E84.
   c. INSULATION SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
   d. ALL JOINTS SHALL BE SEALED WITH CHILDERS CP-82 ADHESIVE AND TAPED OVER.
   e. INSULATION SHALL BE ADHERED TO DUCTWORK WITH 4" WIDE BRUSH STRIPS ON 12" CENTERS USING CHILDERS CP-82 FIRE RESISTANT ADHESIVE.
   f. EXHAUST AIR DUCTWORK SHALL NOT BE INSULATED.

9. ROUND VOLUME DAMPERS:
   a. PROVIDE MINIMUM 20 GAUGE GALVANIZED STEEL FRAME AND BLADES, MINIMUM 3/8" SQUARE STEEL AXLE, MOLDED SYNTHETIC BEARINGS, WITH LOCKING POSITION REGULATOR. REGULATOR SHALL BE POSITIONED WITH SHEETMETAL BRACKET BEYOND DUCT COVERING. WHERE POSITIONING REGULATOR IS NOT ACCESSIBLE, PROVIDE COUPLING AND EXTENSION ROD WITH REGULATOR FOR CEILING OR WALL INSULATION, AS REQUIRED.

MECHANICAL SPECIFICATIONS (CONT.)

10. RECTANGULAR VOLUME DAMPERS:
    a. PROVIDE MINIMUM 16 GAUGE GALVANIZED STEEL CHANNEL FRAME, 16 GAUGE GALVANIZED STEEL OPPOSED BLADES, MINIMUM 1/2" HEXAGONAL AXLE, BOLDED SYNTHETIC BEARINGS, WITH 3/8" SQUARE PLATED STEEL CONTROL SHAFT. LINKAGES SHALL BE CONCEALED IN THE FRAME. OPERATING SHAFT SHALL EXTEND BEYOND FRAME AND DUCT TO A LOCKING QUADRANT WITH ADJUSTABLE LEVER. MAXIMUM BLADE WIDTH SHALL NOT EXCEED 6".

11. DUCT TURNING VANES:
    a. PROVIDE FABRICATED TURNING VANES AND VANE RUNNERS. CONSTRUCTED IN ACCORDANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARD". PROVIDE TURNING VANES CONSTRUCTED OF CURVED BLADES, SUPPORTED WITH BARS PERPENDICULAR TO BLADES, AND SET INTO SIDE STRIPS SUITABLE FOR MOUNTING IN DUCTWORK.
    b. FOLLOW SMACNA GUIDELINES FOR SPACING SUPPORT, AND CONSTRUCTION. ALL BLADES SHALL BE DOUBLE THICKNESS AIRFOIL TYPE.

12. FLEXIBLE DUCT CONNECTORS:
    a. PROVIDE U.L. LABELED 30 OUNCE NEOPRENE COATED FIBERGLASS FABRIC DUCT CONNECTORS AT DUCT CONNECTIONS TO ALL VIBRATING EQUIPMENT.

13. DUCT ACCESS DOORS:
    a. PROVIDE HINGED ACCESS DOORS IN DUCTWORK WHERE REQUIRED FOR ACCESS TO EQUIPMENT.
    b. PROVIDE INSULATED ACCESS DOORS FOR INSULATED DUCTWORK.
    c. CONSTRUCT OF SAME OR THICKER GAUGE SHEETMETAL AS DUCT IN WHICH IT IS INSTALLED.
    d. PROVIDE FLUSH FRAMES FOR UNINSULATED DUCTS, AND EXTENDED FRAMES FOR EXTERNALLY INSULATED DUCTS. PROVIDE CONTINUOUS HINGE ON ONE SIDE. WITH ONE HANDLE-TYPE LATCH FOR ACCESS DOORS 12" HIGH AND SMALLER, AND TWO HANDLE-TYPE LATCHES FOR LARGER ACCESS DOORS.

14. CONDENSER WATER PIPING:
    a. CONDENSER PIPING AND FITTINGS SHALL BE STEEL PIPE, OF CLASS AND PRESSURE RATING EQUAL TO THE BASE BUILDING SYSTEM.
    b. INSTALL PIPES FREE OF SAGS AND BENDS, TO PERMIT VALVE SERVING AND TO ALLOW APPLICATION OF INSULATION.

15. PIPE INSULATION:
    a. INSULATE CONDENSER WATER PIPES WITH PRE-FORMED CELLULAR GLASS PIPE INSULATION.
    b. INSULATION SHALL HAVE FACTORY APPLIED ALL SERVICE JACKET, SEALED WITH JOINT SEALANT AND TAPED WITH ASJ TAPE.

16. TESTING AND BALANCING:
    a. TEST AND ADJUST ALL MECHANICAL SYSTEMS AND EQUIPMENT TO ASSURE PROPER BALANCE AND OPERATION. PERFORM TESTS IN ACCORDANCE WITH THE MOST CURRENT NEBB OR AABC, AND ASHRAE STANDARDS. ELIMINATE OBJECTIONABLE NOISE AND VIBRATION AND ASSURE PROPER FUNCTION OF CONTROLS.
    b. BALANCING CONTRACTOR SHALL BE AN INDEPENDENT CERTIFIED TEST AND BALANCE CONTRACTOR WITH NEBB OR AABC CERTIFICATION.
    c. SUBMIT COMPLETED AND CERTIFIED TEST AND BALANCE REPORT TO OWNER'S REPRESENTATIVE. BALANCE ALL SYSTEMS TO WITH 5% OF AIR FLOWS INDICATED ON THE DRAWINGS AND REPORT ALL DISCREPANCIES TO HVAC INSTALLER FOR CORRECTION.
    d. MARK FINAL BALANCE POSITIONS ON DAMPERS WITH PERMANENT MARKER.
    e. THE BALANCING CONTRACTOR SHALL PROVIDE ALL NECESSARY INSTRUMENTS AND ACCESSORIES TO PERFORM ALL REQUIRED TESTS. ALL TEST HOLES SHALL BE PATCHED IN AN APPROVED MANOR.
    f. CONTRACTOR SHALL MAINTAIN AN ACCURATE RECORD OF ALL DEVIATIONS FROM THE DRAWINGS. UPON PROJECT COMPLETION, THE CONTRACTOR SHALL PROVIDE RECORD DRAWINGS AND A CD CONTAINING THE DIGITAL COPIES IN THE LATEST RELEASE OF AUTOCAD AND PDF FORMAT. THESE SHALL BE SUBMITTED WITHIN THE O&M MANUALS.

17. PROJECT CLOSEOUT:
    a. THE O & M MANUAL SHALL BE IN ACCORDANCE WITH INDUSTRY ACCEPTED STANDARDS AND SHALL INCLUDE, AT A MINIMUM, THE FOLLOWING:
       1. SUBMITTAL DATA STATING EQUIPMENT SIZE AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE.
       2. OPERATION AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE, EXCEPT EQUIPMENT NOT FURNISHED AS PART OF THE PROJECT. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED.
       3. NAMES AND ADDRESSES OF AT LEAST ONE SERVICE AGENCY.
       4. HVAC CONTROLS SYSTEM MAINTENANCE AND CALIBRATION INFORMATION, INCLUDING WIRING DIAGRAMS, SCHEMATICS AND CONTROL SEQUENCE DESCRIPTIONS. DESIRED OR FIELD DETERMINED SET POINTS SHALL BE PERMANENTLY RECORDED ON CONTROL DRAWINGS AT CONTROL DEVICES, OR, FOR DIGITAL CONTROL SYSTEMS, IN PROGRAMMING COMMENTS.
       5. A COMPLETE NARRATIVE OF HOW EACH SYSTEM IS INTENDED TO OPERATE INCLUDING:
          - A DETAILED EXPLANATION OF THE ORIGINAL DESIGN INTENT.
          - THE BASIS OF DESIGN (HOW THE DESIGN WAS SELECTED TO MEET THE DESIGN INTENT).
          - A DETAILED EXPLANATION OF HOW NEW EQUIPMENT IS TO INTERFACE WITH EXISTING EQUIPMENT OR SYSTEMS (WHERE APPLICABLE).
          - SUGGESTED SET POINTS.
    b. NOTE: SEQUENCE OF OPERATION IS NOT ACCEPTABLE AS A NARRATIVE FOR THIS REQUIREMENT.
    c. A COPY OF THE AIR BALANCE REPORT SHALL BE PROVIDED TO THE BUILDING INSPECTOR TO SHOW COMPLIANCE WITH IMC 403.7 AT OR BEFORE FINAL MECHANICAL INSPECTION.
    d. PROVIDE A COMPLETED SPECIAL INSPECTION CERTIFICATE FOR 3rd PARTY GREASE DUCT WRAP INSPECTION TO THE BUILDING INSPECTOR.

GENERAL NOTES

1. CONTRACTORS AND SUB-CONTRACTORS SHALL CAREFULLY REVIEW THE CONSTRUCTION DOCUMENTS. INFORMATION REGARDING THE COMPLETE WORK IS DISPERSED THROUGHOUT THE DOCUMENT SET AND CANNOT BE ACCURATELY DETERMINED WITHOUT REFERENCE TO THE COMPLETE DOCUMENT SET.
2. COORDINATE WITH THE WORK OF OTHERS SECTIONS, EQUIPMENT FURNISHED BY OTHERS, REQUIREMENTS OF THE OWNER AND WITH THE CONSTRAINTS OF THE EXISTING CONDITIONS OF THE PROJECT SITE. PROVIDE DUCTS RISES AND DROPS AS REQUIRED FOR FIELD INSTALLATION AND TRADE COORDINATION. NOTIFY ARCHITECT OF ANY DISCREPANCIES BEFORE STARTING WORK.
3. DRAWINGS FOR HVAC WORK ARE DIAGRAMMATIC, SHOWING THE GENERAL LOCATION, TYPE, LAYOUT, AND EQUIPMENT REQUIRED. THE DRAWINGS SHALL NOT BE SCALED FOR EXACT MEASUREMENTS, REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS. REFER TO MANUFACTURER'S STANDARD INSTALLATION DRAWINGS FOR EQUIPMENT CONNECTIONS AND INSTALLATION REQUIREMENTS. PROVIDE DUCTWORK, CONNECTIONS, ACCESSORIES, OFFSETS, AND MATERIALS NECESSARY FOR A COMPLETE SYSTEMS.
4. ALL WORK SHALL COMPLY WITH STATE AND LOCAL CODE REQUIREMENTS AS APPROVED AND AMENDED BY THE GOVERNING CITY. PURCHASE ALL PERMITS ASSOCIATED WITH THE WORK. OBTAIN ALL INSPECTIONS REQUIRED BY CODE.
5. COORDINATE DIFFUSERS PLACEMENT IN ALL GYP BOARD CEILINGS WITH ARCHITECTURAL DRAWINGS PRIOR TO INSTALLATION. CENTER DIFFUSERS WITH OTHER CEILING PENETRATIONS, MOST NOTABLY THE LIGHTING SYSTEM.

MECHANICAL GENERAL NOTES

1. ALL MECHANICAL EQUIPMENT AND INSTALLATIONS SHALL CONFORM WITH THE REQUIREMENTS OF THE 2009 INTERNATIONAL MECHANICAL CODE, THE 2009 INTERNATIONAL BUILDING CODE, THE 2009INTERNATIONAL ENERGY CONSERVATION CODE, 2009 INTERNATIONAL FIRE CODE AND ALL APPLICABLE LOCAL CODES AND ORDINANCES.
2. PRIOR TO PURCHASING ANY MATERIALS OR STARTING ANY WORK, CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS, DUCTWORK SIZES AND LOCATIONS, EQUIPMENT, ETC. SHOWN ON THE DRAWINGS OR AFFECTING THIS WORK AND SHALL REPORT ANY DEVIATIONS TO THE ARCHITECT.
3. SHOP DRAWINGS SHALL BE SUBMITTED TO AND APPROVED BY THE ARCHITECT PRIOR TO ORDERING, PURCHASING OR FABRICATING ANY MECHANICAL EQUIPMENT. SHOP DRAWINGS SHALL INCLUDE: ALL EQUIPMENT SCHEDULED OR SPECIFIED ON THE DRAWINGS; DUCTWORK DRAWN TO 1/4" SCALE OR THE SCALE SHOWN ON THE DRAWINGS (1/8" SCALE MINIMUM); AND CONTROL WIRING SCHEMATICS APPROVED BY THE AIR CONDITIONING EQUIPMENT MANUFACTURER.
4. CONTRACTOR SHALL COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF ALL MECHANICAL EQUIPMENT WITH ELECTRICAL DRAWINGS PRIOR TO ORDERING EQUIPMENT OR SUBMITTING SHOP DRAWINGS, AND SHALL FURNISH EQUIPMENT WIRED FOR THE VOLTAGES SHOWN THEREIN.
5. ALL MECHANICAL EQUIPMENT REQUIRING ELECTRICAL POWER SHALL BE INSTALLED WITH DISCONNECT SWITCHES AT EACH PIECE OF EQUIPMENT. COORDINATE SWITCH TYPE WITH EQUIPMENT CHARACTERISTICS AND ELECTRICAL DRAWINGS.
6. UNLESS NOTED OTHERWISE, STARTERS, SMOKE DETECTORS, TRANSFORMERS AND DISCONNECTS FOR ALL MECHANICAL SYSTEMS SHALL BE FURNISHED AND INSTALLED BY THE MECHANICAL CONTRACTOR.
7. ALL MECHANICAL EQUIPMENT SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
8. ALL DUCTWORK SHALL BE SUPPORTED BY THE BUILDING STRUCTURE AND SHALL NOT REST ON CEILING TILES OR CEILING STRUCTURE. DUCT SUPPORTS AND ATTACHMENT TO STRUCTURE SHALL BE PER SMACNA STANDARDS AND MUST ONLY ATTACH TO THE TOP CHORD OF THE JOISTS OR BEAM.
9. ANY EXISTING WALL, FLOOR, OR CEILING SURFACE THAT IS DISTURBED DURING THE COURSE OF THE HVAC WORK SHALL BE REPAIRED TO MATCH NEW AND/OR EXISTING CONDITIONS.
10. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL MECHANICAL EQUIPMENT, DUCTWORK, ETC. TO FIT WITHIN THE SPACE ALLOWED BY THE ARCHITECTURAL AND STRUCTURAL CONDITIONS. CUTTING OR OTHERWISE ALTERING ANY STRUCTURAL MEMBERS SHALL NOT BE PERMITTED WITHOUT WRITTEN PERMISSION FROM THE ARCHITECT.
11. MOUNT THERMOSTATS 60" AFF UNLESS NOTED OTHERWISE.
12. LOCATIONS OF GRILLES, REGISTERS, & DIFFUSERS SHOWN ON THE DRAWINGS ARE APPROXIMATE. COORDINATE EXACT LOCATIONS WITH LIGHTS, CEILING GRID, ETC.

SYMBOL	DESCRIPTION
	EXISTING WORK OR EQUIPMENT TO BE REMOVED
	EXISTING DUCT TO BE REMOVED
	SUPPLY AIR DUCT SECTION
	RETURN AND OUTSIDE AIR DUCT SECTION
	EXHAUST DUCT SECTION
	DUCT DIRECTION OF AIR FLOW
12x10	DUCT SIZE, FIRST FIGURE IS SIDE SHOWN
	DUCT WITH INTERNAL LINER
	CONNECT NEW WORK TO EXISTING
W	FLEXIBLE CONNECTION
	FLEXIBLE DUCT
12x8 12x6	TRANSITION
	CEILING RETURN
	CEILING EXHAUST
	WALL SUPPLY REGISTER
	WALL RETURN REGISTER
	VOLUME DAMPER
S	TEMPERATURE SENSOR
CO2	CARBON DIOXIDE SENSOR
	FIRE DAMPER (PROVIDE ACCESS DOOR IN DUCT AT EACH LOCATION)
	ACCESS DOOR
M	MOTORIZED DAMPER
U 4"	DOOR UNDERCUT
	4-WAY CEILING SUPPLY DIFFUSER
	3-WAY CEILING SUPPLY DIFFUSER
	2-WAY CEILING SUPPLY DIFFUSER
	1-WAY CEILING SUPPLY DIFFUSER
	POINT OF DEMOLITION

MECHANICAL SYMBOLS AND SPECIFICATIONS
NOT TO SCALE

JACOBS
One Broadway
Cambridge, Massachusetts
02142

P 617.491.6450
F 617.491.7104
W www.jacobs.com

Seals:

General Notes:

THESE DRAWINGS HAVE BEEN COMPILED FROM EXISTING DRAWINGS PROVIDED BY THE OWNER. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING AND CONFIRMING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION

Project Client:

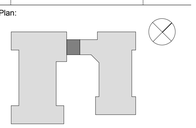
CHELSEA PUBLIC SCHOOLS
500 Broadway, Chelsea, MA 02150

P 617-466-4477
W www.chelseaschools.com

CHELSEA ELC LOBBY AND SECURITY DESK RENOVATION

Number	Description	Date

Key Plan:



CONSTRUCTION DOCUMENTS

MARCH 15, 2015

Project No.: R7W71632

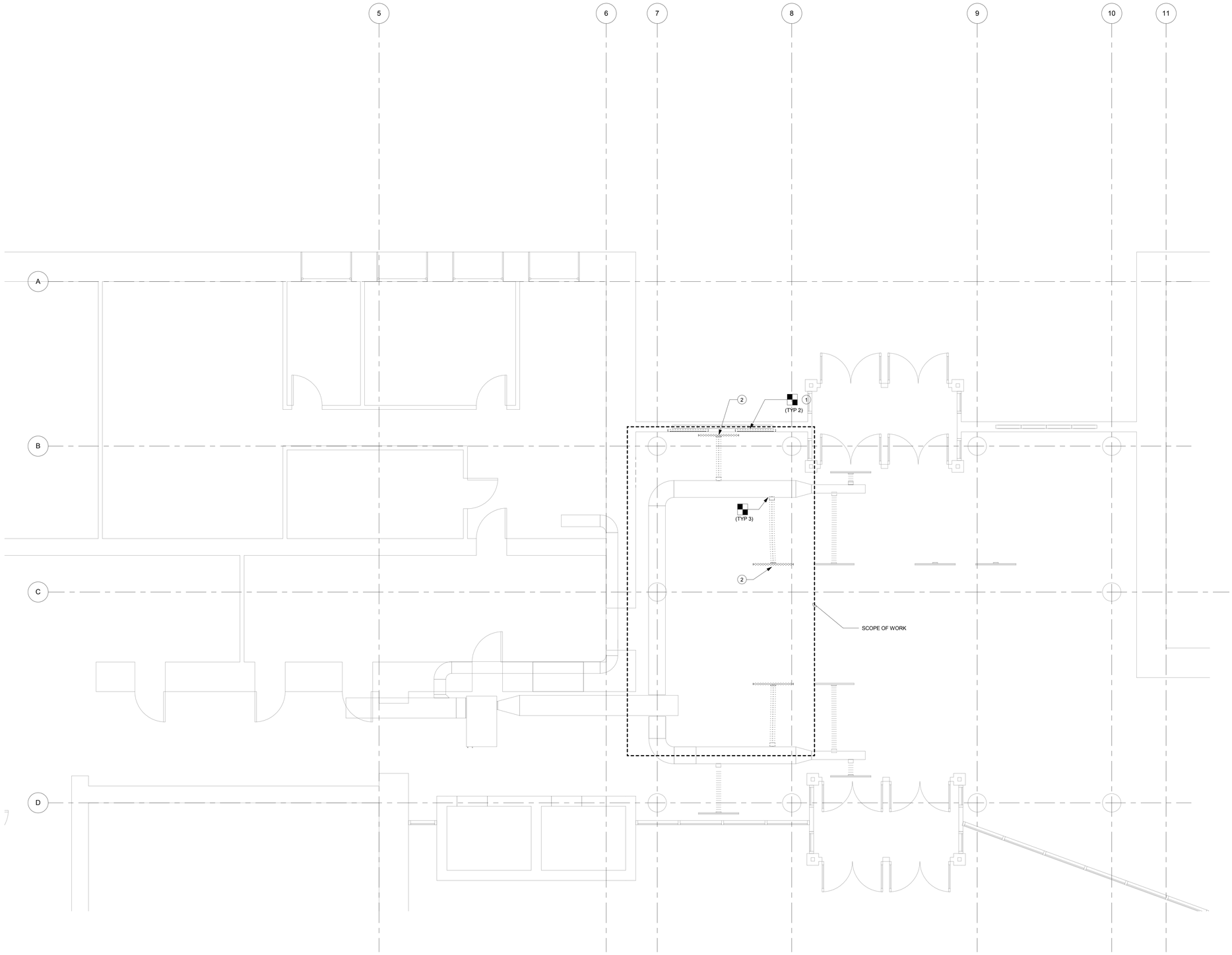
Copyright: 2014 Jacobs

Drawing Sheet Title:

MECHANICAL SYMBOLS AND SPECIFICATIONS

Drawing Sheet Number:

M-001



1 Level 1_HVAC _DEMO
MD-101 SCALE: 1/4" = 1'-0"

NOTES:

1. UNLESS OTHERWISE NOTED, ALL EXISTING MECHANICAL SYSTEMS OUTSIDE SCOPE OF WORK ARE TO REMAIN.

MECHANICAL DEMOLITION KEY NOTES:

1. REMOVE EXISTING ELECTRIC BASEBOARD AND ELECTRIC WALL HEATER.
2. REMOVE EXISTING SLOT DIFFUSERS AND CAP DUCTS.

JACOBS

One Broadway
Cambridge, Massachusetts
02142

P 617.491.6450
F 617.491.7104
W www.jacobs.com

Seals:

General Notes:

THESE DRAWINGS HAVE BEEN COMPILED FROM EXISTING DRAWINGS PROVIDED BY THE OWNER. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING AND CONFIRMING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION

Project Client:

CHELSEA PUBLIC SCHOOLS

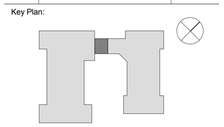
500 Broadway, Chelsea, MA 02150

P 617-466-4477
W www.chelseaschools.com

CHELSEA ELC LOBBY AND SECURITY DESK RENOVATION

Number	Description	Date

Key Plan:



CONSTRUCTION DOCUMENTS

MARCH 15, 2015

Project No.: R7W71632

Copyright: 2014 Jacobs

Drawing Sheet Title:

MECHANICAL DEMOLITION PLANS

Drawing Sheet Number:

MD-101

1 Level 1_HVAC _Sheet
M-101 SCALE: 1/4" = 1'-0"

NOTES:

1. RELOCATE ALL EXCISTING DIFUSSERS TO MATCH NEW CEILING GRID.

MECHANICAL KEY NOTES:

1 REBALANCE REMAINING DIFUSSERS (5) ON BRANCH TO 170 CFM.

JACOBS

One Broadway
Cambridge, Massachusetts
02142

P 617.491.6450
F 617.491.7104
W www.jacobs.com

Seals:

General Notes:

THESE DRAWINGS HAVE BEEN COMPILED FROM EXISTING DRAWINGS PROVIDED BY THE OWNER. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING AND CONFIRMING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION

Project Client:

CHELSEA PUBLIC SCHOOLS

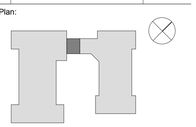
500 Broadway, Chelsea, MA 02150

P 617-466-4477
W www.chelseaschools.com

CHELSEA ELC LOBBY AND SECURITY DESK RENOVATION

Number	Description	Date

Key Plan:



CONSTRUCTION DOCUMENTS

MARCH 15, 2015

Project No.: R7W71632

Copyright: 2014 Jacobs

Drawing Sheet Title:

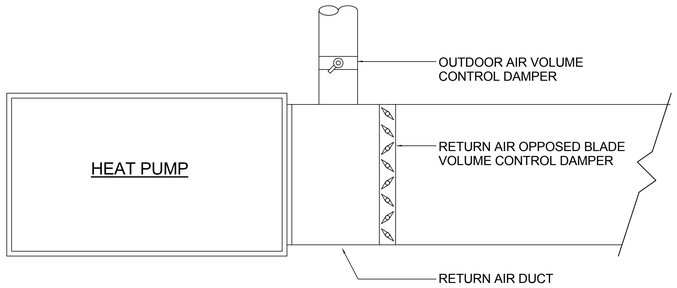
HVAC FLOOR PLAN - FIRST FLOOR

Drawing Sheet Number:

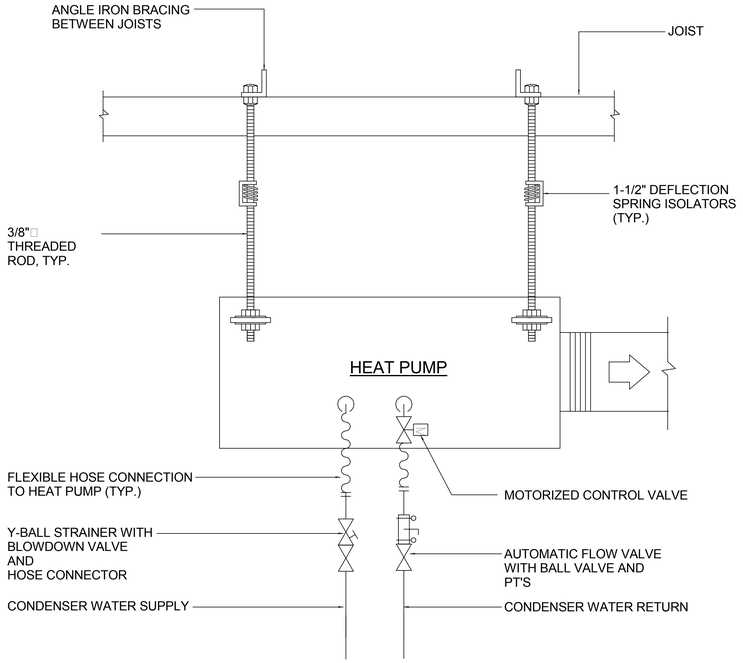
M-101

HEAT PUMP																															
			BASIS OF DESIGN		SUPPLY AIR FAN DATA				COOLING CAPACITY							HEATING CAPACITY			CONDENSER WATER							POWER						
										ENTERING AIR TEMP (°F)		LEAVING AIR TEMP (°F)							COOLING		HEATING										
wt	TAG	SERVICE	MANUFACTURER	MODEL	CFM	OA	ESP IN WC	HORSE POWER	REFRIDGERANT	DB	WB	DB	WB	TOTAL COOLING CAPACITY	SENSIBLE COOLING CAPACITY	ENTERING AIR TEMP (°F)	LEAVING AIR TEMP (°F)	TOTAL HEATING CAPACITY	EWT (°F)	LWT (°F)	EWT (°F)	LWT (°F)	GPM	COOLING E.E.R	HEATING C.O.P	PHASE	VOLTAGE	FLA	MCA	MOCP	OP WT LBS	NOTES
HEAT PUMP	HPU-1	CONFERENCE ROOM	DAIKIN APPLIED	WCCH5012	370 CFM	85 CFM	0.20 in-wg	0.125	R-410A	80 °F	67 °F	58 °F	56 °F	13011.0 Btu/h	9306.0 Btu/h	70 °F	108 °F	16183.0 Btu/h	85 °F	96 °F	70 °F	62 °F	3 GPM	12.79	4.24	1	115 V	2 A	18 A	30 A	115.00 lb	

AIR TERMINAL SCHEDULE									
SYMBOL	LOCATION	STYLE	MATERIAL	NECK SIZE (IN)	AIR TERMINAL FACE SIZE (LXW)	SUPPLY AIR FLOW (CFM)	MOUNTING	LAY IN PANEL	BASIS OF DESIGN
RA-1	CONFERENCE ROOM	EGGCRATE	STEEL	12" X 12"	12" X 12"		GYP. CEILING		TITUS- 50F
SA-1	CONFERENCE ROOM	4A 4-WAY BLOW	STEEL	8 Ø	9" X 9"	185 CFM	T-BAR CEILING	X	TITUS- TDV
SA-2	SECURITY DESK	4A 4-WAY BLOW	STEEL	8 Ø	9" X 9"	170 CFM	T-BAR CEILING	X	TITUS- TDV



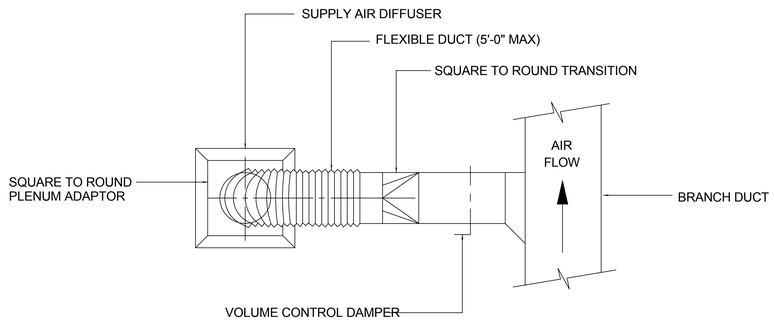
1 HEAT PUMP MIXING BOX DETAIL
M-901 NOT TO SCALE



NOTES:

FLEXIBLE HOSE MATERIAL SHALL BE PLENUM RATED

2 HEAT PUMP UNIT DETAIL
M-901 NOT TO SCALE



NOTES:

1. ALL DUCT BRANCHES TO DIFFUSERS SHALL BE INSTALLED WITH VOLUME CONTROL DAMPERS IN EXPOSED DUCTS OR DUCTS ABOVE SUSPENDED CEILINGS ONLY.
2. ATTACH FLEXIBLE DUCT WITH WORM GEAR CLAMPS TO SHEETMETAL DUCT AND COLLAR. MAINTAIN CONTINUOUS VAPOR BARRIER ON SUPPLY OUTLET. SEE SPECIFICATIONS.
3. MAXIMUM OFFSET IN HORIZONTAL & VERTICAL PLANE TO BE 6" FOR FLEXIBLE DUCT CONNECTION TO DIFFUSER BOOT COLLAR.

3 CEILING DIFFUSER CONNECTION
M-901 NOT TO SCALE

JACOBS
One Broadway
Cambridge, Massachusetts
02142

P 617.491.6450
F 617.491.7104
W www.jacobs.com

Seals:

General Notes:

THESE DRAWINGS HAVE BEEN COMPILED FROM EXISTING DRAWINGS PROVIDED BY THE OWNER. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING AND CONFIRMING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION

Project Client:

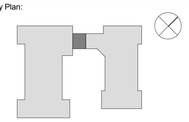
CHELSEA PUBLIC SCHOOLS
500 Broadway, Chelsea, MA 02150

P 617-466-4477
W www.chelseaschools.com

CHELSEA ELC LOBBY AND SECURITY DESK RENOVATION

Number	Description	Date

Key Plan:



CONSTRUCTION DOCUMENTS

MARCH 15, 2015

Project No.: R7W71632

Copyright: 2014 Jacobs

Drawing Sheet Title:

MECHANICAL SCHEDULES AND DETAILS

Drawing Sheet Number:

M-901

LIGHTING SYMBOLS	
F1 / 7 / RP5	TYPICAL LUMINAIRE DESIGNATIONS (F1) INDICATES LUMINAIRE TYPE. REFER TO LUMINAIRE SCHEDULE FOR DESCRIPTION. (RP5) INDICATES PANEL DESIGNATION, (7) INDICATES CIRCUIT BREAKER NUMBER. PROVIDE 20A/1P AND 2#12 FOR EACH CIRCUIT NUMBER & 1#12G, IN 3/4 " CONDUIT, UNLESS OTHERWISE INDICATED. SEE GENERAL NOTE 1.
	FLUORESCENT LUMINAIRE
	CEILING OR WALL MOUNTED LUMINAIRE
	INDUSTRIAL TYPE FLUORESCENT LUMINAIRE
	PENDANT MOUNTED LUMINAIRE
	LUMINAIRE POWERED BY EMERGENCY SOURCE (TYPICAL)
	LUMINAIRE, POLE MOUNTED
	INDUSTRIAL TYPE FLUORESCENT LUMINAIRE POWERED BY EMERGENCY SOURCE
	WALL MOUNTED EXIT SIGN, SHADED AREAS INDICATE NUMBER OF FACES, DIRECTION ARROWS AS INDICATED
	CEILING MTD. EXIT SIGN, SHADED AREAS INDICATE NUMBER OF FACES, DIRECTION ARROWS AS INDICATED
	EMERGENCY BATTERY UNIT LUMINAIRE
	CONTROL COIL
	PHOTO CELL

SWITCH SYMBOLS	
S	SINGLE POLE SWITCH, 20A, 120-277VAC
S_3	THREE-WAY SWITCH, 20A, 120-277VAC
S_4	FOUR-WAY SWITCH 20A, 120-277VAC
S_M	MANUAL MOTOR STARTER SWITCH
S_{MOL}	MANUAL MOTOR STARTER WITH THERMAL OVERLOADS
S_D	DIMMER CONTROL
S_P	SINGLE POLE SWITCH WITH PILOT LIGHT
S_K	SINGLE POLE SWITCH (KEY-OPERATED)
S_a	SINGLE POLE SWITCH (LETTER INDICATES SWITCH CONTROL OF A SPECIFIC CIRCUIT)
S_T	SINGLE POLE SWITCH WITH TIMER
S_{3P}	THREE-POSITION SWITCH, CENTER-OFF, MOMENTARY CONTACT
S_L	THREE POSITION MOMENTARY CONTACT, CENTER OFF LOW VOLTAGE SWITCH (USED TO OVERRIDE MOTOR OPERATED CIRCUIT BREAKERS)
S_{OS}	OCCUPANCY SENSOR WALL SWITCH, WATT STOPPER (INFRARED) WI-200 OR APPROVED EQUAL
OS	OCCUPANCY SENSOR MOUNTED IN CEILING, WATT STOPPER (DUAL TECHNOLOGY) DT-300 OR APPROVED EQUAL
OS_A	OCCUPANCY SENSOR MOUNTED IN CEILING, WATT STOPPER (ULTRASONIC) WT-2200 OR APPROVED EQUAL
OS_B	OCCUPANCY SENSOR MOUNTED IN CEILING, WATT STOPPER (ULTRASONIC) WT-2250 OR APPROVED EQUAL
OS_C	OCCUPANCY SENSOR MOUNTED IN CEILING, WATT STOPPER (INFRARED) CI-205-1 OR APPROVED EQUAL

OCCUPANCY SENSOR NOTES:

1. PLACE ULTRASONIC SENSORS 6'-0" AWAY FROM SUPPLY AND RETURN VENTS.

DEMOLITION SYMBOLS	
EX	EXISTING TO REMAIN
RE	REMOVE EXISTING
ER	EXISTING TO BE RELOCATED
R	NEW LOCATION OF RELOCATED ITEM
EX	EXISTING ITEMS TO REMAIN INSIDE THIS AREA, UNLESS OTHERWISE INDICATED
RE	REMOVE EXISTING ITEMS INSIDE THIS AREA, UNLESS OTHERWISE INDICATED
ER	EXISTING ITEMS TO BE RELOCATED INSIDE THIS AREA, UNLESS OTHERWISE INDICATED
R	RELOCATION OF EXISTING ITEMS INSIDE THIS AREA, UNLESS OTHERWISE INDICATED

RECEPTACLE SYMBOLS	
7 / RP-5	TYPICAL RECEPTACLE CIRCUIT DESIGNATION (RP-5) INDICATES PANEL DESIGNATION, (7) INDICATES CIRCUIT BREAKER NUMBER. PROVIDE 20A/1P AND 2#12 FOR EACH CIRCUIT NUMBER & 1#12G, IN 3/4 " CONDUIT, UNLESS OTHERWISE NOTED OR SCHEDULED, SEE GENERAL NOTE 1. "E" - INDICATES EMERGENCY LIFE SAFETY CIRCUIT
	DUPLEX RECEPTACLE, 125V, 20A, 2P, 3W NEMA 5-20R
GFI	DUPLEX RECEPTACLE, 125V, 20A, 2P, 3W, NEMA 5-20R, (GROUND FAULT CIRCUIT INTERRUPTER)
	SINGLE RECEPTACLE, 125V, 20A, 2P, 3W NEMA 5-20R
	CLOCK HANGER SINGLE RECEPTACLE, 125V, 20A, 2P, 3W NEMA 5-20R
	DOUBLE DUPLEX RECEPTACLE, 125V, 20A, 2P, 3W NEMA 5-20R
IG	ISOLATED GROUND DUPLEX RECEPTACLE, 125V, 20A, 2P, 3W
A	SINGLE RECEPTACLE, 125V, 30A, 2P, 3W NEMA 5-30R
B	SINGLE RECEPTACLE, 250V, 20A, 2P, 3W NEMA 6-20R
C	SINGLE RECEPTACLE, 250V, 30A, 2P, 3W NEMA 6-30R
D	SINGLE RECEPTACLE, 125/250V, 20A, 3P, 4W NEMA 14-20R
E	SINGLE RECEPTACLE, 125/250V, 30A, 3P, 4W NEMA 14-30R
F	SINGLE RECEPTACLE, 125/250V, 50A, 3P, 4W NEMA 14-50R
G	SINGLE RECEPTACLE, 250V, 20A, 3P, 4W NEMA 15-20R
H	SINGLE RECEPTACLE, 250V, 30A, 3P, 4W NEMA 15-30R
	BENCH TOP PEDESTAL OUTLET, SINGLE FACE, RECEPTACLE TYPE AS INDICATED
	BENCH TOP PEDESTAL OUTLET, DOUBLE FACE, RECEPTACLE TYPE AS INDICATED
	RAISED FLOOR POWER OUTLET MOUNTED IN RAISED FLOOR. TYPE AS INDICATED.
	RAISED FLOOR COMBINATION OUTLET WITH TELE/DATA/POWER MOUNTED IN RAISED FLOOR. TYPE AS INDICATED
	CONCRETE FLOOR BOX WITH POWER OUTLET. TYPE AS INDICATED.
	CONCRETE COMBINATION FLOOR BOX WITH TELE/DATA/POWER OUTLETS. TYPE AS INDICATED.

RECEPTACLE NOTES:

1. "L" NEXT TO RECEPTACLE INDICATES LOCKING TYPE (E.G. H NEMA L6-30R) CL

ELECTRICAL SYMBOLS	
	HARD-WIRED CONNECTION
JB / JB	CEILING MOUNTED/WALL MOUNTED JUNCTION BOX
	PANELBOARD
	DISTRIBUTION/POWER PANEL
	MOTOR CONNECTION
	DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	COMBINATION MAGNETIC MOTOR STARTER
CB	ENCLOSED CIRCUIT BREAKER
T1	TRANSFORMER
T30	CEILING MOUNTED TRANSFORMER
	GROUND BUS
VFD	VARIABLE FREQUENCY DRIVE
VFD BP	VARIABLE FREQUENCY DRIVE WITH BYPASS
TD F / TD F	FIRE RATED THRU-FLOOR FITTING FOR TEL/DATA/POWER TO DEMOUNTABLE PARTITION, WITH WHIP. WHIP FURNISHED BY OTHERS, AND INSTALLED BY DIV. 16. (F) INDICATES FLUSH MOUNTED.
TD / TD	WALL MOUNTED JUNCTION BOX FOR TEL/DATA/PWR TO DEMOUNTABLE PARTITION WITH WHIP. WHIP FURNISHED BY OTHERS, AND INSTALLED BY DIV. 16.
F / F	FIRE RATED THROUGH-FLOOR FITTING WITH DEVICE AS INDICATED. (F) INDICATES FLUSH MOUNTED.
	EQUIPMENT IDENTIFICATION TAGS
	MULTI-OUTLET RACEWAY WITH RECEPTACLE. TYPE AND CIRCUIT DESIGNATION AS INDICATED
	WIRE/CONDUIT EXPOSED
	WIRE/CONDUIT CONCEALED
2W20 / (20/2) / RP5-7,9	HOME RUN INDICATION WITH PANEL DESIGNATION (RP5), CIRCUIT No.(7)&(9), OVERCURRENT PROTECTION "AMPS AND POLES" (20/2) AND WIRE/CONDUIT DESIGNATION (2W20). SEE WIRE AND CONDUIT SIZE SCHEDULE. PROVIDE 20A/1P AND 2 #12 FOR EACH HOMERUN ARROW & 1 #12G IN 3/4 " CONDUIT, UNLESS OTHERWISE INDICATED. SEE GENERAL NOTE 1.

ABBREVIATIONS

A,AMP	AMPERE(S)
AC	ALTERNATING CURRENT
AF	AMPERE FRAME (CIRCUIT BREAKER)
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AFU	AMPERE FUSE
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
AS	AMMETER SWITCH
AM	AMMETER
AT	AMPERE TRIP (CIRCUIT BREAKER)
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
A/V	AUDIO VISUAL
AWG	AMERICAN WIRE GAUGE
BAS	BUILDING AUTOMATION SYSTEM
BKR	BREAKER
BLDG	BUILDING
BP	BYPASS
BSC	BIOLOGICAL SAFETY CABINET
C	CONDUCTOR
C/ CDT	CONDUIT
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CLG	CEILING
CO	CONDUIT ONLY
COAX	COAXIAL CABLE
COL	COLUMN
COMM	COMMUNICATIONS
CP	CONTROL PANEL
CPT	CONTROL POWER TRANSFORMER
CPU	CENTRAL PROCESSING UNIT
CR	CARD READER
CRT	CATHODE RAY TUBE MONITOR
CS	CONTROL SWITCH
CU	COPPER
CUH	CABINET UNIT HEATER
CT	CURRENT TRANSFORMER
D	DEPTH
DC	DIRECT CURRENT
DDC	DIRECT DIGITAL CONTROL
DEMO	DEMOLITION
DIA	DIAMETER
DN	DOWN
DISC	DISCONNECT
DIST	DISTRIBUTION
DWG	DRAWING
E	ELECTRIC / EMERGENCY
EC	ELECTRICAL CONTRACTOR, EMPTY CONDUIT
EF	EXHAUST FAN
EL	ELEVATION
ELECT,ELEC	ELECTRICAL
ELEV	ELEVATOR
EMT	ELECTRICAL METALLIC TUBING
EO	ELECTRICALLY OPERATED
EOL	END OF LINE DEVICE
EPO	EMERGENCY POWER OFF
EQ	EQUAL
EQUIP	EQUIPMENT
ER	EXISTING TO BE RELOCATED
EWC	ELECTRIC WATER COOLER
EX	EXISTING TO REMAIN
F	FLUSH
FA	FIRE ALARM
FCC	FIRE COMMAND CENTER
FCU	FAN COIL UNIT
FDDI	FIBER DISTRIBUTED DATA INTERFACE
FDR	FEEDER
FH	FUME HOOD
FIP	FIELD INTERFACE PANEL
FIXT	FIXTURE
FLA	FULL LOAD AMPERES
FLR,FL	FLOOR
FLUOR	FLUORESCENT
FO	FIBER OPTIC
FPB	FAN POWERED BOX
FU	FUSE
FUT	FUTURE
FVR	FULL VOLTAGE REVERSIBLE
FVNR	FULL VOLTAGE NON REVERSIBLE
G	GROUND (CONDUCTOR)
GA	GAUGE
GEN	GENERATOR
GF	GROUND FAULT
GFI	GROUND FAULT CIRCUIT INTERRUPTER
GND,GRD	GROUND
GPS	GENERATOR PARALLELING SWITCHGEAR
GRC	GALVANIZED RIGID STEEL CONDUIT
HH	HAND HOLE
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTOMATIC SWITCH
HP	HORSEPOWER
HT	HEIGHT
HWP	HOT WATER PUMP
HV	HIGH VOLTAGE
HZ	HERTZ
I/INST	INSTANTANEOUS
ICM	INTERCOM MASTER
ICR	INTERCOM REMOTE
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
INSTR	INSTRUMENT/INSTRUMENTATION
JB,JBOX	JUNCTION BOX
K	KEY LOCK (KEY INTERLOCK SCHEME)
KA	KILOAMPERES
KCM	THOUSAND CIRCULAR MILS
KEF	KITCHEN EXHAUST FAN
KW	KILOWATTS
KWH	KILOWATT HOUR
KV	KILOVOLTS
KVA	KILO VOLT-AMPERES
KVAR	KVA REACTIVE
L	LOCKING TYPE/LOAD
LA	LIGHTNING SURGE ARRESTER
LAB	LABORATORY
LAN	LOCAL AREA NETWORK
LT	LONG TIME
LTG	LIGHTING
LP	LIGHTING PANEL

ABBREVIATIONS

M	METER
mm	MILLIMETER
mm2	MILLIMETERS SQUARED
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCCB	MOLDED CASE CIRCUIT BREAKER
MDF	MAIN DISTRIBUTION FRAME
MECH	MECHANICAL
MFR	MANUFACTURER
MH	MANHOLE
MI	MINERAL-INSULATED
MIN	MINIMUM
MIC	MEDIA INTERFACE CONNECTOR
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MPS	MANUAL PULL STATION
MOL	MOTOR OVER LOAD
MTD	MOUNTED
MTG	MOUNTING
MTS	MANUAL TRANSFER SWITCH
MV	MEDIUM VOLTAGE
N	NEUTRAL/NORMAL
NEC	NATIONAL ELECTRICAL CODE
NC	NORMALLY-CLOSED
NIC	NOT IN CONTRACT
NO	NORMALLY-OPEN / NUMBER
NORM	NORMAL
NTS	NOT TO SCALE
NWP	NETWORK PROTECTOR
OCB	OIL CIRCUIT BREAKER
OL	OVERLOAD(S)
OC	ON-CENTER
OS	OCCUPANCY SENSOR
P	POLE
PA	PUBLIC ADDRESS SYSTEM
PB	PUSHBUTTON/PULLBOX
PBX	PRIVATE BRANCH EXCHANGE
PC	PHOTOCELL
PDU	POWER DISTRIBUTION UNIT
PF	POWER FACTOR
PFCC	POWER FACTOR CORRECTION CAPACITORS
PH,Ø	PHASE
PNL	PANEL
PP	POWER PANEL
PR	PAIR
PRI	PRIMARY
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYLCHLORIDE
PWR	POWER
QTY	QUANTITY
RE	REMOVE EXISTING
REC,RECPT	RECEPTACLE
REPO	REMOTE E.P.O.
REQ,REQD	REQUIRED
RF	RETURN FAN
RIM	READER INTERFACE MODULE
RM	ROOM
RO	REVERSE-OSMOSIS
RP	RECEPTACLE PANEL
RVAT	REDUCED VOLTAGE AUTOTRANSFORMER
RTU	REMOTE TERMINAL UNIT
RUPS	ROTARY UPS
SCA	SHORT CIRCUIT AMPERES
SD	SMOKE DETECTOR
SEC	SECONDARY
SF	SUPPLY FAN
SF6	SULFERHEXAFLORIDE
SPD	SURGE PROTECTIVE DEVICE
SPEC	SPECIFICATION
SPKR	SPEAKER
SS	STAINLESS STEEL/SOLID STATE
ST	SHUNT TRIP/SHORT TIME
STD	STANDARD
STP	SHIELDED TWISTED PAIR
STS	STATIC TRANSFER SWITCH
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYM	SYMMETRICAL
SYS	SYSTEM
T	TRANSFORMER
TB	TERMINAL BLOCK
TELECOM	TELECOMMUNICATIONS
TDR	TIME DOMAIN REFLECTOMETER
TEF	TOILET EXHAUST FAN
TEL,TELE	TELEPHONE
TR	TELEPHONE ROOM
TV	TELEVISION
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UC	UNDER-COUNTER
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORY
UNO	UNLESS NOTED OTHERWISE
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTP	UNSHIELDED TWISTED PAIR
V	VOLT(S)
VA	VOLT-AMPERES
VAV	VARIABLE AIR VOLUME BOX
VFD	VARIABLE FREQUENCY DRIVE
VM	VOLTMETER
VS	VOLTMETER SWITCH
W/	WITH
W	WIRE/WATT/ WIDTH
WCR	WITHSTAND CURRENT RATING
WM	WATTMETER
WP	WEATHERPROOF
WT	WATERTIGHT
XFMR	TRANSFORMER
XP	EXPLOSION-PROOF
ZI	ZONE INTERLOCKING
Δ Y	DELTA-WYE
2S2W	TWO SPEED TWO WINDING
2SR2W	TWO SPEED REVERSING TWO WINDING

COMMUNICATION AND MISCELANEOUS SYMBOLS	
2(4)(6)	DATA OUTLET BOX WITH (TWO) (FOUR) (SIX) JACKS DOUBLE GAND BOX WITH SINGLE GANG REDUCER AND 1"C TO ACCESSIBLE CEILING AREA
2(4)(6)	COMBINATION VOICE/DATA OUTLET WITH (TWO) (FOUR) (SIX) JACKS DOUBLE GANG BOX WITH SINGLE GANG REDUCER AND 1"C TO ACCESSIBLE CEILING AREA
W	SINGLE GANG BOX WITH WALL PHONE PLATE AND 3/4 "C TO ACCESSIBLE CEILING AREA.
	MULTI-OUTLET RACEWAY WITH DATA/TELE OUTLETS AS INDICATED
	RAISED FLOOR TELE/DATA OUTLET MOUNTED IN RAISED FLOOR. TYPE AS INDICATED.
	CONCRETE FLOOR BOX WITH TELE/DATA OUTLET. TYPE AS INDICATED.
T	THERMOSTAT
S	SECURITY KEY PAD

GENERAL NOTES:

1. ALL WIRING AND EQUIPMENT SHALL BE UL. LISTED & LABELED, NEW AND INSTALLED IN CONFORMANCE WITH THE MASSACHUSETIS STATE BUILDING, ELECTRICAL CODES AND NFPA 72.
2. PATCHING AND MAINTAINING FIRE RATINGS ARE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
3. ELECTRICAL CONTRACTOR TO CORE DRILL FOR CONDUITS ENTERING AND LEAVING THE FACILITY. ALL PENETRATIONS SHALL BE FIRE SEALED WITH HILTI FIRE SEAL OR OWNER APPROVED SEAL TO MAINTAIN THE FACILITY EXISTING FIRE RATING. NOTIFY THE OWNER OF PROPOSED CORE DRILL LOCATIONS PRIOR TO DRILLING.
4. UNLESS OTHERWISE INDICATED, ALL WIRING SHALL BE IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS. CONDUIT SHALL BE 3/4" MINIMUM.
5. THE DRAWINGS ARE SCHEMATIC AND ARE NOT INTENDED TO SHOW ALL EXISTING INTERIOR WALLS OR EVERY PROPOSED OFFSET OR FITIING. THE DRAWINGS ARE NOT INTENDED TO SERVE AS SHOP DRAWINGS.
6. ELECTRICAL CONTRACTOR SHALL COORDINATE LOCATION OF LUMINAIRES WITH OTHER TRADES.
7. ELECTRICAL CONTRACTOR SHALL PICK UP ALL LOOSE MATERIALS AND TRASH EVERY NIGHT.
8. ELECTRICAL CONTRACTOR TO FURNISH A COPY OF THE ELECTRICAL PERMIT APPLICATION AND COMPLETED PERMIT TO THE OWNER.
9. ELECTRICAL CONTRACTOR SHALL IMMEDIATELY CHECK ALL DRAWINGS FURNISHED UPON THEIR RECEIPT AND SHALL PROMPTLY NOTIFY THE AUTHORITY OF ANY DISCREPANCIES.
10. ELECTRICAL CONTRACTOR SHALL FIELD VERIFY ALL MEASUREMENTS BEFORE LAYING OUT THE WORK AND SHALL BE RESPONSIBLE FOR ANY ERRORS WHICH MIGHT HAVE BEEN AVOIDED THEREBY.
11. PROVIDE EACH 120V, 20A BRANCH CIRCUIT FROM LIGHTING AND APPLIANCE PANELBOARDS WITH A SEPARATE NEUTRAL FOR EACH PHASE CONDUCTOR. NO SHARED NEUTRALS ARE PERMITTED UNLESS OTHERWISE INDICATED. BRANCH CIRCUIT HOME RUN WIRING MAY BE COMBINED UP TO MAXIMUM OF (9) CURRENT CARRYING CONDUCTORS IN A CONDUIT SIZED PER NFPA 70. NEUTRALS SHALL BE INCLUDED AS CURRENT CARRYING CONDUCTORS.
12. PROVIDE NO 12 AWG PHASE, NEUTRAL AND GROUND CONDUCTOR FOR 120VOLT, 20 AMERE BRANCH CIRCUITS NOT EXCEEDING 100 FEET. PROVIDE 10 AWG PHASE, NEUTRAL, AND GROUND CONDUCTORS FOR 120 VOLT, 20 AMPERE BRANCH CIRCUITS EXCEEDING 100 FEET AND FOR 277 VOLT, 20 AMPERE CIRCUITS EXCEEDING 200 FEET
13. PANEL LOAD AMPS INDICATE PROJECT LOADS ONLY. ELECTRICAL CONTRACTOR TO METER ASSOCIATED EXISTING PANEL POWER DEMAND OVER A 15 MINUTE PERIOD FOR 30 CONTINUOUS DAYS DURING OCCUPIED BUILDING OPERATION THAT ADDED LOAD DOES NOT EXCEED 80% OF MAIN/FEEDER CIRCUIT BREAKER RATING PRIOR CONNECTING TO NEW LOAD.
14. FIXTURE DESIGNATED AS EMERGENCY LIFE SAFETY SHALL BE CONNECTED TO THE EXISTING EMERGENCY LIFE SAFETY CIRCUIT.
15. VERIFY EXACT MOUNTING CONDITIONS AND PROVIDE APPROPRITATE ACCESSORIES AND HARDWARE TO ACCOMMODATE REQUIREMENTS.
16. PROVIDE INFILL CEILING SYSTEM TO MATCH EXISTING IN AREAS WHERE EXISTING LUMINAIRES ARE REMOVED AND NOT REPLACED WITH NEW LUMINAIRES.
17. CIRCUIT BREAKER TO BE REUSED SHALL BE TEST PER NETA STANDARD INCLUDING CURRENT INJECTION TEST AND REINSTALLED.

DEMOLITION NOTES:

1. REFER TO SPECIFICATIONS FOR ADDITIONAL DEMOLITION REQUIREMENTS.
2. GENERAL DEMOLITION WORK SHALL BE DONE BY THE ELECTRICAL CONTRACTOR UNLESS OTHERWISE INDICATED. COORDINATE ALL WORK CONCERNING EXISTING EQUIPMENT AND SERVICES REMAINING IN THE BUILDING. DE-ENERGIZE CIRCUITS AND RECONNECT CIRCUITS TO REMAIN THAT ARE DISRUPTED DURING DEMOLITION.
3. VISIT SITE AND FIELD VERIFY THE NUMBER OF DEVICES WITHIN THE CONSTRUCTION PHASE AREA PRIOR TO THE BID AND REMOVAL. THE DRAWINGS DO NOT LIMIT THE AMOUNT OF DEMOLITION WORK REQUIRED.ELECTRICAL CONTRACTOR MUST PERFORM THE DEMOLITION WORK AS INDICATED ON THE DEMOLITION DRAWINGS AND AS REQUIRED FOR THE NEW WORK.
4. MAINTAIN AND RESTORE, IF INTERRUPTED BY REMOVALS OR IN PATH OF NEW CONSTRUCTION, ALL CIRCUITS, CONDUITS AND FEEDERS PASSING THROUGH AND SERVING UNDISTURBED AREAS (SHOWN OR NOT SHOWN). VERIFY CIRCUITS, DEVICES, AND EQUIPMENT SCHEDULED FOR REMOVAL TO ASSURE THAT THEIR REMOVAL WILL NOT ADVERSELY AFFECT ADJACENT AREAS NOT BEING RENOVATED.
5. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE INTEGRITY AND CONDITION OF THE EXISTING BRANCH CIRCUIT WIRING WHICH IS TO BE RE-USED FOR NEW EQUIPMENT. WIRING FOUND TO BE NON-FUNCTIONAL SHALL BE REPLACED.
6. WHERE EXISTING EQUIPMENT IS TO BE RELOCATED, THE EXISTING WIRING SHALL BE EXTENDED TO THE NEW LOCATION OR REMOVED BACK TO PANELBOARD AND NEW WIRING INSTALLED AS INDICATED.
5. COORDINATE WORK CONCERNING EXISTING EQUIPMENT AND SERVICES IN THE BUILDING. COORDINATE REQUIRED POWER INTERUPTIONS AND PERFORM AT TIME CONVENIENT TO THE OWNER. INCLUDE COSTS FOR REQUIRED PREMIUM TIME.
7. WIRING INDICATED TO BE RE-USED OR SERVING EQUIPMENT TO BE REPLACED AND RELOCATED SHALL BE REMOVED TO THE NEXT JUNCTION BOX UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL NOT ABANDON BRANCH CIRCUIT WIRING IN EXISTING WALLS AND CEILINGS. CONDUIT UNDERGROUND OR IN CONCRETE SLABS SHALL BE MADE FLUSH AND SEALED WATERTIGHT AND GASTIGHT USING O.Z. GEDNEY OR EQUAL FITTINGS.
8. DISCONNECT, MAKE SAFE AND REMOVE ALL TEMPORARY AND ABANDONED WIRE WITHIN THE SPACE.
9. INVENTORY ELECTRICAL ITEMS THAT ARE REMOVED AND PROVIDE A LIST TO THE OWNER FOR THEIR SELECTION OF ITEMS TO BE RETAINED. ALL ITEMS REJECTED BY THE OWNER SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.
10. ELECTRICAL CONTRACTOR SHALL COORDINATE THE SEQUENCE OF POWER INTERRUPTIONS TO THE ELECTRICAL SYSTEM WITH THE OWNER. DO NOT INTERRUPT EXISTING SERVICES WITHOUT APPROVAL. CARRY A PRICE FOR INTERRUPTIONS TO OCCUR DURING NON PEAK HOURS SUCH AS WEEKEND OR A TIME THAT WILL HAVE MINIMAL IMPACT TO THE BUILDING OPERATION.

COPPER WIRE AND CONDUIT SCHEDULE

(3) WIRE		(4) WIRE		(2) AND (5) WIRE	
SYMBOL	(3) WIRE & GROUND, CONDUIT	SYMBOL	(4) WIRE & GROUND, CONDUIT	SYMBOL	(2) AND (5) WIRE & GROUND, CONDUIT
3W20	3 #12 & 1 #12G, 3/4"C.	4W20	4 #12 & 1 #12G, 3/4"C.	2W20	2 #12 & 1 #12G, 3/4"C.
3W30	3 #10 & 1 #10G, 3/4"C.	4W30	4 #10 & 1 #10G, 3/4"C.	2W30	2 #10 & 1 #10G, 3/4"C.
3W35	3 #8 & 1 #10G, 3/4"C.	4W35	4 #8 & 1 #10G, 3/4"C.	2W35	2 #8 & 1 #10G, 3/4"C.
3W40	3 #8 & 1 #10G, 3/4"C.	4W40	4 #8 & 1 #10G, 3/4"C.	2W40	2 #8 & 1 #10G, 3/4"C.
3W45	3 #6 & 1 #10G, 3/4"C.	4W45	4 #6 & 1 #10G, 1"C.	2W45	2 #6 & 1 #10G, 3/4"C
3W50	3 #6 & 1 #10G, 3/4"C.	4W50	4 #6 & 1 #10G, 1"C.	2W50	2 #6 & 1 #10G, 3/4"C.

MOUNTING HEIGHTS:

UNLESS OTHERWISE INDICATED, OUTLET BOXES IN WALLS SHALL BE LOCATED WITH CENTERLINE AT THE FOLLOWING ELEVATIONS ABOVE THE FINISHED FLOOR LINE. VERIFY ALL HEIGHTS PRIOR TO ACTUAL LAYOUT OF WORK WITH THE GENERAL CONSTRUCTION CONTRACTOR.

1. SWITCH OUTLETS	4 FEET
2. BRACKET OUTLETS (STAIRS)	7 FEET
3. BRACKET OUTLETS (OTHER)	6 FEET-6 INCHES
4. RECEPTACLE OUTLETS (U.O.N.)	1 FOOT-6 INCHES
5. RECEPTACLE OUTLETS, MECHANICAL ROOMS	3 FEET 5.
6. RECEPTACLE OUTLETS MOUNTED, ABOVE CASEWORK/CABINETS	4 INCHES ABOVE BACKSPLASH
7. CLOCK OUTLETS	12 INCHES BELOW CEILING
8. MOTOR STARTERS AND SAFETY SWITCHES	4 FEET-6 INCHES
9. PANELBOARDS (TOP)	6 FEET-6 INCHES

MOUNTING HEIGHT NOTES:

1. THE ABOVE MOUNTING HEIGHTS SHALL BE ADHERED TO UNLESS OTHERWISE NOTED ON PLANS OR SPECIFICATIONS.
2. COORDINATE EXACT LOCATION WITH ARCHITECTURAL PLANS.

JACOBS

One Broadway
Cambridge, Massachusetts
02142

P 617.491.6450
F 617.491.7104
W www.jacobs.com

Seals:

General Notes:

THESE DRAWINGS HAVE BEEN COMPILED FROM EXISTING DRAWINGS PROVIDED BY THE OWNER. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING AND CONFIRMING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION

Project Client:

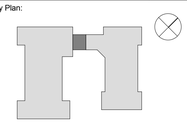
CHELSEA PUBLIC SCHOOLS
500 Broadway, Chelsea, MA 02150

P 617-466-4477
W www.chelseaschools.com

CHELSEA ELC LOBBY AND SECURITY DESK RENOVATION

Number	Description	Date

Key Plan:



CONSTRUCTION DOCUMENTS

MARCH 15, 2015

Project No.: R7W71632
Copyright: 2014 Jacobs

Drawing Sheet Title:

ELECTRICAL SYMBOLS, ABBREVIATIONS & SCHEDULES

Drawing Sheet Number:

E-001

ELECTRICAL SPECIFICATIONS

DIVISION 26 - ELECTRICAL

SECTION 260010 - ELECTRICAL GENERAL REQUIREMENTS

A. PROVIDE WORK AS INDICATED ON CONTRACT DOCUMENTS. PROVIDE COMPLETE AND WORKING ELECTRICAL EQUIPMENT, SYSTEMS AND COMPONENTS INCLUDING SUPPORTING SERVICES OF GENERAL, MECHANICAL AND SPECIALTY TRADES.

B. UNLESS DIMENSIONED, WORK INDICATED ON DRAWINGS IS DIAGRAMMATIC ONLY TO INDICATE GENERAL ARRANGEMENT.

C. PROVIDE ACCESSORIES AND APPURTENANCES REQUIRED FOR COMPLETE OPERATING SYSTEMS. INSTALLATION SHALL BE IN ACCORDANCE WITH NECA 1-STANDARD PRACTICES FOR GOOD WORKMANSHIP IN ELECTRICAL CONTRACTING.

D. GENERAL REQUIREMENTS IN DIVISION 1 APPLIES TO OR AFFECTS ELECTRICAL WORK. REFER TO DIVISION 23 FOR MECHANICAL ITEMS WHICH IMPACT ELECTRICAL: DIVISION 26 WORK.

E. ALL WORK SHALL COMFORM TO THE NATIONAL ELECTRICAL CODE AND ALL APPLICABLE CODES, REGULATIONS AND STANDARDS. COORDINATE WORK WITH ALL OTHER TRADES AND THE DESIGN PROFESSIONAL. ANY DISCREPANCIES BETWEEN THE FIELD CONDITIONS AND/OR BETWEEN DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE BEFORE PROCEEDING WITH THE WORK.

SECTION 260505 - DEMOLITION, RELOCATION AND ALTERATION

A. PROVIDE REMOVAL, RELOCATION, REROUTING AND RECONNECTION OF EXISTING ELECTRICAL SYSTEMS, AS REQUIRED, TO ACCOMPLISH ALTERATION, RESTORATION AND NEW WORK. PROVIDE ALL TEMPORARY EQUIPMENT AND WORK TO KEEP ALL EXISTING SYSTEMS IN OPERATION. COORDINATE WORK WITH OWNER. MINIMIZE INTERRUPTIONS OF SERVICES AND COORDINATE INTERRUPTIONS WITH OWNER.

B. VERIFY BY INTERNATIONAL ELECTRICAL TESTING ASSOCIATION (NETA) STANDARDS THAT ALL EQUIPMENT INDICATED OR PROPOSED FOR REUSE IS IN WORKING ORDER. OWNER'S REPRESENTATIVE WILL REVIEW TEST RESULTS AND ACCEPT OR REJECT REUSE OF EQUIPMENT.

C. DELIVER MATERIAL AND EQUIPMENT INDICATED FOR SALVAGE TO LOCATION DIRECTED BY THE OWNER'S REPRESENTATIVE. ALL OTHER DEMOLITION MATERIAL SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE PROMPTLY REMOVED FROM THE SITE.

D. CAP AND SEAL ELECTRICAL OPENINGS THAT ARE NOT USED.

E. EXISTING CONDITIONS WERE OBTAINED FROM AVAILABLE DRAWINGS AND ARE NOT GUARANTEED TO BE COMPLETE OR CORRECT. SURVEY AND VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING BID AND STARTING WORK.

SECTION 260553 - IDENTIFICATION

A. IDENTIFY EACH STARTER,PANELBOARD, SAFETY SWITCH, CONTROL PANEL WITH A NAMEPLATE. EQUIPMENT NAMEPLATE SHALL BE ENGRAVED LAMINATED BLACK-ON-WHITE PHENOLIC WITH 3/16 INCH HIGH LETTERS AND SCREWED TO EQUIPMENT.

B. NAMEPLATES SHALL BE TWO LINE AND INDICATE EQUIPMENT BEING SERVED AS WELL AS POWER SOURCE. FOR EXAMPLE:

1.AHU-2B-10 VFD
2.FROM PANEL MDP-27-102.

SECTION 260300 - SUBMITTALS

A. PROVIDE SHOP DRAWINGS AND SUBMITTALS FOR THE REQUIRED EQUIPMENT. SUBMITTALS SHALL INCLUDE DRAWINGS, PERFORMANCE DATA AND CATALOG CUTS TO DEMONSTRATE CONFORMANCE WITH REQUIREMENTS.

1. PANELBOARDS AND/OR CIRCUIT BREAKERS
2. CONDUIT, JUNCTION BOX, PULL BOX, WIRES, AND CABLE
3. OUTLET, POKE THROUGH, WIRING DEVICES
4. LIGHTING FIXTURES, DIMMER SWITCH
5. FIRE ALARM WIRING DIAGRAMS, DEVICES

B. EACH SHOP DRAWING SHALL BE SUBMITTED SEPARATELY UNDER THE APPLICABLE SPECIFICATION SECTION NUMBER.

SECTION 260011 - CONNECTIONS TO EQUIPMENT AND MOTORS

A. PROVIDE CONDUIT AND WIRING, AND MAKE FINAL CONNECTIONS TO EQUIPMENT FURNISHED UNDER OTHER DIVISIONS OF SPECIFICATIONS, WORK OF OTHER SECTIONS OR BY OWNER.

B. PROVIDE MAXIMUM 3 FOOT LONG LIQUID-TIGHT FLEXIBLE METAL CONDUIT CONNECTION FROM JUNCTION BOX TO MOTOR-MOUNTED TERMINAL BOX. PROVIDE GROUNDING CONDUCTOR AND ALL LUGS AND CONNECTORS.

SECTION 260535 - LOCATION AND HEIGHTS OF OUTLETS

A. COORDINATE FINAL OUTLET LOCATIONS WITH EXISTING FIELD CONDITIONS AND SHEET E-001. DO NOT SCALE ELECTRICAL DRAWINGS. HEIGHTS OF OUTLETS SHALL BE APPROVED BY DESIGN PROFESSIONAL AND SHALL MEET ADA AND MAAB REQUIREMENTS.

SECTION 260010 - ELECTRICAL MATERIALS

A. ALL ELECTRICAL MATERIALS AND EQUIPMENT SHALL BEAR THE LABEL OF UNDERWRITERS LABORATORIES, INC. (UL) OR OTHER NATIONALLY RECOGNIZED TESTING LABORATORY. ALL ELECTRICAL EQUIPMENT AND APPARATUS FOR ANY ONE (1) SYSTEM SHALL BE THE PRODUCT OF ONE (1) MANUFACTURER.

SECTION 260533 - CONDUIT

A. CONCEAL CONDUIT AND CABLE FROM VIEW, UNLESS OTHERWISE INDICATED. MECHANICAL AND ELECTRICAL/TELECOMMUNICATION ROOMS MAY BE PROVIDED WITH EXPOSED CONDUIT.

B. PROVIDE CONDUIT RACEWAY SYSTEM, INCLUDING CONDUITS, FITTINGS, COUPLINGS, CONNECTORS, SUPPORTS BUSHINGS AND APPURTENANCES. MINIMUM CONDUIT SIZE SHALL BE 3/4 INCHES IN DIAMETER.

C. ALL FEEDER CONDUCTORS SHALL BE RUN IN ELECTRICAL METALLIC TUBING (EMT) WITH COMPRESSION FITTINGS.

D. PANEL FEEDERS AND 480 VOLT MOTOR CIRCUITS SHALL BE RUN IN HEAVY-WALL RIGID ALUMINUM OR HOT-DIPPED, GALVANIZED, HEAVY-WALL RIGID STEEL CONDUIT. ALL CONDUCTORS FOR CIRCUITS 120 VOLTS AND ABOVE IN MECHANICAL AREAS SHALL BE RUN IN HEAVY-WALL RIGID ALUMINUM OR HOT-DIPPED, GALVANIZED, HEAVY-WALL RIGID STEEL CONDUIT.

E. PROVIDE ELECTRICAL METALLIC TUBING (EMT) FOR BRANCH CIRCUITS, FIRE ALARM, SECURITY, AV, WIRING ABOVE HUNG CEILINGS AND IN NON-MASONRY PARTITIONS WHICH ARE NOT CLASSIFIED AS DAMP OR WET. PROVIDE COMPRESSION-TYPE FITTINGS AND INSULATED COPPER GROUND WIRE IN BRANCH CIRCUITS.

F. FLEXIBLE METAL CONDUIT, HEAVY ZINC-COATED, SHALL BE USED FOR FINAL CONNECTIONS TO MOTORS, VIBRATING EQUIPMENT AND LIGHT FIXTURES. LIQUID-TIGHT FLEXIBLE METAL CONDUIT SHALL BE USED FOR FINAL CONNECTIONS TO MOTORS.

G. PROVIDE EXPANSION COUPLINGS ACROSS ALL BUILDING EXPANSION JOINTS. A MAXIMUM OF (3) 90 DEGREE BENDS SHALL BE PERMITTED BETWEEN PULL BOXES.

H. THE USE OF MC (METALIC-CLAD) CABLE GREEN INSULATED GROUNDING CONDUCTOR SHALL BE PERMITTED FOR BRANCH CIRCUITS.

I. ALL FIRE ALARM WIRING SHALL BE RUN IN EMT.

J. CONDUITS SHALL BE AS MANUFACTURED BY ALLIED, REPUBLIC, TRIANGLE OR WHEATLAND. METAL CONDUIT FITTINGS SHALL BE AS MANUFACTURED BY CROUSE-HINDS, APPLETON, KILLARK, THOMAS AND BETTS, O.Z. GEDNEY OR STEEL CITY. METAL CONDUIT EXPANSION FITTINGS SHALL BE TYPE EX OR TX AS MANUFACTURED BY O.Z. GEDNEY.

K. RUN ALL CONDUITS AND MC CABLES CONCEALED AND MINIMUM 6 INCHES CLEAR OF SOURCES OF HEAT AND 12 INCHES BETWEEN POWER CONDUITS AND COMMUNICATIONS CABLES. SUPPORT CONDUITS FROM STRUCTURE, NOT FROM CEILING SUPPORT WIRES. PROVIDE UL LISTED FIRE-RATED SMOKE AND WATER SEALANTS AT PENETRATIONS, OPENINGS AND SLEEVES IN FIRE-RATED AND ELECTRICAL/ COMMUNICATION ROOM WALLS AND FLOORS.

L. PROVIDE PULL WIRES IN ALL EMPTY CONDUIT/RACEWAY INSTALLED FOR SECURITY, TELEPHONE, DATA, AV, OR OTHER SYSTEMS.

M. CONDUIT INSTALLATION SHALL BE IN ACCORDANCE WITH NECA 101- STANDARD FOR INSTALLING STEEL CONDUITS.

SECTION 260513 - WIRES AND CABLES

A. PROVIDE COMPLETE SYSTEM OF WIRES AND CABLES, INCLUDING TERMINALS, SPLICES, CONNECTORS, COLOR CODING, LUGS, TAPS AND APPURTENANCES.

B. WIRES AND CABLES TO BE MINIMUM NO. 12 AWG COPPER WITH 600-VOLT THHN/THWN INSULATION. WIRES 10 AWG AND SMALLER SHALL BE SOLID AND WIRES LARGER THAN NO. 10 AWG SHALL BE STRANDED. PROVIDE COLOR CODING FOR EACH WIRE OF POWER SYSTEM. FEEDERS, POWER AND LIGHTING CIRCUIT CONDUCTORS, FOR SERVICE OF 600 VOLTS AND LESS, SHALL BE COPPER, 600 VOLTS TYPE THWN/THHN-2 INSULATED ON WIRES UP TO AND INCLUDING NO. 8 AWG. SIZES. NO. 6 AND LARGER SHALL BE TYPE THW, XHHW OR RHW INSULATION. ALUMINUM WIRE IS NOT ACCEPTABLE. APPROVED MANUFACTURERS ARE ESSEX, AMERICAN INSULATED WIRE CORPORATION, CERRO OR SOUTHWIRE.

C. ALL BRANCH CIRCUITS SHALL BE PROVIDED WITH AN INSULATED GROUND WIRE. SHARED NEUTRALS ARE NOT PERMITTED. PROVIDE A NEUTRAL WIRE FOR EACH PHASE CONDUCTOR.

D. USE BUCHANAN "B" CAP, IDEAL WING-NUT, THOMAS AND BETTS OR 3M SCOTCHLOK BRAND CONNECTORS FOR WIRES NO. 10 AWG AND SMALLER.

E. USE SOLDERLESS COMPRESSION-TYPE LUGS FOR WIRES LARGER THAN NO. 10 AWG. LUGS SHALL BE BURNDY TYPE QA-B QUICKLUG OR EQUAL. FEEDER TAPS SHALL BE BURNDY QPX VERSITAP OR EQUAL.

F. MC CABLE SHALL BE COPPER, 600 VOLT, THHN/ THWN WITH GALVANIZED STEEL ARMOR WITH A SEPARATE INSULATED GREEN GROUND CONDUCTOR. COLOR-CODE EACH CONDUCTOR. APPROVED MANUFACTURERS ARE KAF-TECH OR AFC. MC CABLE CONNECTORS SHALL BE AFC-50, -75, O.Z. GEDNEY AMC OR T&B 3110.

G. MC CABLE IS NOT ACCEPTABLE FOR USE IN:

1.MASONRY PARTITIONS
2.AREAS CLASSIFIED BY NFPA 70 AS DAMP OR WET
3.POWER PANEL FEEDER CIRCUITS
4.EXPOSED INSTALLATIONS WITHIN 10 FEET ABOVE FINISHED FLOOR.
5.ABOVE DRYWALL OR IN ACCESSIBLE CEILINGS

H. MC CABLE INSTALLATION:

1. DO NOT BUNDLE MORE THAN TWENTY (20) TOTAL CURRENT-CARRYING CONDUCTORS IN MULTIPLE MC CABLE RUNS ON ONE (1) MC CABLE HANGER. NEUTRALS ARE COUNTED AS CURRENT-CARRYING CONDUCTORS.
2. INSTALL MC CABLE PARALLEL OR PERPENDICULAR TO WALLS. DIAGONAL RUNS ARE NOT ACCEPTABLE.
3. MAINTAIN MINIMUM CLEARANCE OF 6 INCHES FROM TELECOMMUNICATIONS CONDUITS, HOT WATER AND OTHER HIGH TEMPERATURE PIPES, AND MINIMUM CLEARANCE OF 12 INCHES FROM UNSHIELDED TWISTED-PAIR TELECOMMUNICATION CABLES.
4. MC CABLE LAYOUT AND SUPPORT ARE SUBJECT TO APPROVAL OF DESIGN PROFESSIONAL. SUPPORT MC CABLE WITH "BRIDAL RINGS", INDIVIDUAL SPRING STEEL SUPPORT CLIPS, STEEL TRAPEZE HANGERS, THREADED RODS OR DEDICATED NO. 8 AWG DROP WIRES. FASTEN MC CABLE SUPPORTS TO CONCRETE SLABS, BEAMS, JOISTS OR OTHER STRUCTURAL MEMBERS OF THE BUILDING. DO NOT SUPPORT MC CABLE ON HUNG CEILINGS OR ON CEILING SUPPORT WIRES. DO NOT SUPPORT MC CABLE BY MEANS OF CABLE TIES.
5. MC CABLE SUPPORT: MAXIMUM SPACING BETWEEN SUPPORTS IS 6 FEET AND WITHIN 1 FOOT OF EVERY BOX, PANELBOARD, FITTING OR CABLE TERMINATION.
6. PROVIDE UL LISTED, FIRE-RATED PENETRATION ASSEMBLY WHERE MC CABLE PASSES THROUGH FIRE-RATED WALLS, ELECTRICAL ROOM AND TELECOMMUNICATION ROOM WALLS; FLOOR OR CEILING

SECTION 260534 - JUNCTION AND PULL BOXES

A. PROVIDE JUNCTION AND PULL BOXES OF SIZED PER CODE, INCLUDING COVERS, TRIM, SUPPORTS, IDENTIFICATION TAGS AND APPURTENANCES, AND CONSTRUCTED OF CODE-GAUGE GALVANIZED STEEL. BOXES MOUNTED IN CONCRETE FLOORS SHALL BE CONCRETE-TIGHT, ADJUSTABLE AND UL LISTED FOR SCRUB WATER EXCLUSION AND WITH TRIM TO MATCH FLOORCR CONCRETE FINISH.

B. PROVIDE A MAXIMUM OF (3) 90 DEGREE CONDUIT BENDS OR 100 FEET OF RUN LENGTH BETWEEN PULL POINTS FOR POWER CONDUITS AND (2) 90 DEGREE BENDS OR 100 FEET OF RUN LENGTH FOR COMMUNICATIONS, FA/SECURITY, AV, AND INSTRUMENTATION CONDUITS. LOCATE PULL BOXES IN STRAIGHT SECTIONS OF CONDUIT RUN AND DO NOT USE IN LIEU OF CONDUIT ELBOWS. PULL BOXES SHALL BE ACCESSIBLE.

SECTION 260535 - OUTLET BOXES

A. PROVIDE ONE PIECE, PRESSED GALVANIZED STEEL 2-1/8TH INCH DEEP OUTLET BOXES WITH KNOCKOUTS. CONCEALED OUTLET BOXES SHALL BE FLUSHED TO FINISHED SURFACE. EXPOSED OUTLET BOXES (EXCEPT IN MECHANICAL/ELECTRICAL/TELECOM ROOMS) SHALL BE CAST IRON WITH GASKETED COVER AND FITTINGS. OUTLETS ON OPPOSITE SIDE OF WALLS OR PARTITIONS SHALL BE STAGGERED. PROVIDED COVER TO SUIT USE.

SECTION 262726 - WIRING DEVICES, OUTLETS AND PLATES

A. PROVIDE WIRING DEVICES, OUTLETS AND PLATES, INCLUDING RECEPTACLES, SWITCHES, PILOT LIGHTS, WIRING, BUSHED OPENINGS AND APPURTENANCES.

B. ALL DEVICES SHALL BE INDUSTRIAL EXTRA HEAVY-DUTY, SPECIFICATION GRADE, MOLDED NYLON, 20 AMPERE WITH SCREW-TYPE BACK WIRED TERMINALS OR EXTRA HEAVY-DUTY PLUG-TAIL/SNAP-CONNECT DEVICES WITH 6 INCH RIGHT ANGLE PRE-STRIPPED #12 SOLID PIGTAIL AS MANUFACTURED BY ARROW-HART, BRYANT, HUBBELL, PASS & SEYMOUR (P&S) OR LEVITON. PROVIDE 5% SPARE PIGTAIL DEVICES IF USED. DEVICES IN WET OR DAMP LOCATIONS SHALL BE UL 498 WEATHER RESISTANT TYPE. REMOVAL OF DEVICE FROM BOX SHALL NOT INTERRUPT BRANCH CIRCUIT GROUND CONDUCTOR CONTINUITY.

C. IDENTIFY ALL RECEPTACLES AND LIGHT SWITCHES BY MEANS OF A WATERPROOF, PRINTED NON-GLARE VINYL LABELING TAPE INDICATING PANEL AND CIRCUIT DESIGNATION. TAPE SHALL BE CLEAR OR TRANSLUCENT WITH BLACK TEXT.

D. COVER PLATES SHALL MATCH EXISTING COLOR AS MANUFACTURED BY ARROW-HART OR EQUAL BY BRYANT, HUBBELL, PASS & SEYMOUR (P&S) OR LEVITON.

E. ALL RECEPTACLES AND SWITCHES SHALL MATCH EXISTING COLOR, UNLESS OTHERWISE INDICATED.

SECTION 262415 - CIRCUIT BREAKERS

A. PANELBOARD CIRCUIT BREAKERS SHALL BE FULLY RATED FOR AVAILABLE SHORT-CIRCUIT CURRENT.

B. ALL CIRCUIT BREAKERS SHALL BE FACTORY FURNISHED WITH AN ATTACHMENT TO ENABLE PADLOCKING OF BREAKER IN THE "OFF" POSITION.

C. PROVIDE PERMANENT NAMEPLATES AND DIRECTORIES FOR ALL PANELBOARDS. REVISE DIRECTORIES ON ALL EXISTING PANELS WHERE ADDITIONS OR REVISIONS ARE MADE.

D. CIRCUIT BREAKERS INSTALLED IN EXISTING PANELBOARDS SHALL MATCH EXISTING MANUFACTURER, TYPE AND AIC RATING.

E. ENCLOSED CIRCUIT BREAKER ENCLOSURES SHALL BE UL LISTED, NEMA 1 AND SHALL BE PADLOCKABLE IN THE OFF POSITION. ENCLOSED CIRCUIT BREAKERS SHALL MEET THE AMPERES SYMMETRICAL INTERRUPTING CAPACITY INDICATED. ALL CIRCUIT BREAKERS SHALL BE FULLY RATED.

SECTION 262816 - SAFETY SWITCHES AND FUSES

A. PROVIDE SAFETY SWITCHES, FUSES (INCLUDE SPARE FUSES), ENCLOSURES, WIRING, NAMEPLATE, AND APPURTENANCES. DO NOT MOUNT SWITCHES ON MECHANICAL EQUIPMENT.

B. SAFETY SWITCHES SHALL BE OF THE EXTERNALLY-OPERATED HEAVY-DUTY, FUSED OR UNFUSED (AS SHOWN ON DRAWINGS) TYPE AS MANUFACTURED BY SQUARE D, GENERAL ELECTRIC, CUTLER-HAMMER OR SIEMENS. SWITCHES SHALL HAVE "LOCK-OUT" CAPABILITY AND SHALL HAVE SUITABLE ENCLOSURE. FUSIBLE SWITCHES SHALL HAVE [CLASS J] FUSE CLIPS. PROVIDE CLASS J BUSSMAN LOW-PEAK FUSES OR APPROVED EQUAL.

SECTION 260526 - GROUNDING

A. PROVIDE GROUNDING FOR TRANSFORMERS, SWITCHES, PANELBOARDS, MOTORS, CABLE TRAY, ELECTRICAL EQUIPMENT, FLOOR SYSTEMS AND FOR ALL NONCURRENT-CARRYING PORTIONS OF THE ELECTRICAL SYSTEM. CONDUCTORS SHALL BE COPPER.

SECTION 262726 - POKE-THROUGH AND FLOOR BOX SYSTEM

A. PROVIDE UL LISTED POKE-THRU-THE-FLOOR AND FLOOR BOX ASSEMBLY FOR POWER AND COMMUNICATIONS CABLES WITH MINIMUM 2 HOUR FIRE RESISTANCE.

B. PROVIDE UL 514A LISTING FOR SCRUB WATER EXCLUSION. PROVIDE BLACK COVER PLATE.

C. PROVIDE SINGLE OR DUAL SERVICE FLUSH ASSEMBLY WITH POWER COMMUNICATIONS PORTS, AS SPECIFIED ON DRAWINGS, WIREMOLD OR HUBBELL OR APPROVED EQUAL.

D. PROVIDE CORE DRILLED HOLES THROUGH FLOORS A MINIMUM OF 24 INCHES APART AND LIMITED TO NO MORE THAN ONE PER 65 SQUARE FEET OF FLOOR AREA IN EACH STRUCTURAL BAY. AVOID EXISTING FLOOR STEEL AND RACEWAY SYSTEMS AND DUCTWORK OR OTHER OBSTRUCTIONS IN CEILING BELOW.

E. COORDINATE POKE THROUGH AND FLOOR BOX LOCATIONS WITH ARCHITECT AND FURNITURE SYSTEM.

F. PROVIDE SERVICE FITTINGS/OUTLETS FOR POWER AND COMMUNICATIONS AS INDICATED.

SECTION 265100 - LIGHTING SYSTEMS

A. PROVIDE COMPLETE OPERATIONAL ILLUMINATION SYSTEMS, WITH LUMINAIRES AS SPECIFIED IN LUMINAIRE SCHEDULE. ALL LUMINAIRES SHALL BE UL LISTED.

B. PROVIDE FLUORESCENT LAMP TYPES AS PER LUMINAIRE SCHEDULE; MINIMUM COLOR RENDERING INDEX OF 86, REDUCED MERCURY TYPE, MANUFACTURED BY GENERAL ELECTRIC OR OSRAM/SYLVANIA. PROVIDE 10 PERCENT SPARE LAMPS. INCANDESCENT LAMPS, TYPES, SIZES AND VOLTAGE AS SPECIFIED, SHALL HAVE A MINIMUM RATED LIFE OF 2,000 HOURS (UNLESS OTHERWISE INDICATED). THE MINIMUM RATED LIFE OF LOW-VOLTAGE LAMPS SHALL BE 4,000 HOURS (UNLESS OTHERWISE INDICATED).

C. BALLASTS SHALL BE ELECTRONIC, UNIVERSAL VOLTAGE (120 TO 277), UL LISTED. ETL CERTIFIED, CLASS "P", HIGH POWER FACTOR (>98), WITH CLASS "A" SOUND RATING OR BETTER, HAVE <20 PERCENT TOTAL HARMONIC DISTORTION, A BALLAST FACTOR GREATER THAN OR EQUAL TO 0.88 AND LAMP CURRENT CREST FACTOR OF 1.7 OR LESS, AS MANUFACTURED BY OSRAM/SYLVANIA, ADVANCE, PHILIPS, UNIVERSAL/MAGNETEK OR GENERAL ELECTRIC. PROVIDE 10 PERCENT SPARE BALLASTS. PROVIDE PROGRAMMED START BALLASTS FOR T5 AND T8 LAMPS.

D. COORDINATE FINAL APPROVED CEILING SYSTEM WITH LUMINAIRE'S MOUNTING/TRIM OPTIONS FOR CEILING COMPATIBILITY. PROVIDE INDIVIDUAL SUPPORT FOR EACH LAY-IN FIXTURE RECESSED IN SUSPENDED CEILINGS INDEPENDENT OF THE CEILING GRID WITH TWO NO. 12 GAUGE TAUT WIRE HANGERS DIRECTLY FROM THE FIXTURE TO THE BUILDING STRUCTURE ABOVE. ALSO PROVIDE UL-LISTED RETAINER CLIPS TO FASTEN FIXTURE TO CEILING GRID WHERE AVAILABLE.

E. INSTALL LUMINAIRES AT MOUNTING HEIGHTS INDICATED OR AS APPROVED IN WRITING BY DESIGN PROFESSIONAL. INSTALL LUMINAIRES PLUMB AND TRUE, AT UNIFORM HEIGHT AS INDICATED. INSTALL FIXTURES IN ACCORDANCE WITH NECA/ESNA 500 - RECOMMENDED PRACTICE FOR INSTALLING INDOOR COMMERCIAL LISTING SYSTEMS. VERIFY MOUNTING HEIGHT OF PENDANT-MOUNTED LUMINAIRES WITH OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION. INSTALL ROWS OF RECESSED, SURFACE OR PENDANT-MOUNTED LUMINAIRES IN STRAIGHT LINES, UNLESS OTHERWISE INDICATED.

F. PERFORM FINAL FOCUSING OF ADJUSTABLE LUMINAIRES IN PRESENCE OF OWNER'S REPRESENTATIVE, INCLUDING DURING TIMES OUTSIDE REGULAR WORKING HOURS. FURNISH LADDERS, SCAFFOLDING AND RIGGING, AS REQUIRED, FOR FOCUSING AND ADJUSTMENT OF LUMINAIRES.

G. PRIOR TO OCCUPANCY, CLEAN REFLECTORS, CONES, APERTURE PLATES, LENSES, DIFFUSERS, LOUVERS, LAMPS AND DECORATIVE ELEMENTS IN ACCORDANCE WITH MANUFACTURER'S WRITTEN RECOMMENDATIONS. VERIFY THAT LUMINAIRES ARE CLEAN AND FREE FROM DEFECTS IN OPERATION AND APPEARANCE AT COMPLETION OF INSTALLATION AND AT DATE OF FINAL INSPECTION.

SECTION 267400 - POWER/COMMUNICATIONS RACEWAY SYSTEM

A. PROVIDE CONDUIT, SURFACE RACEWAYS, WIREWAYS, CABLE TRAYS, SLEEVES AND PLYWOOD BACKBOARDS FOR POWER AND COMMUNICATIONS DISTRIBUTION WITHIN THE BUILDING AS INDICATED. PROVIDE WALL AND FLOOR OUTLETS WITH COVER PLATES AND BUSHED OPENINGS AS INDICATED. PROVIDE CONDUIT OF THE SAME TYPE AS REQUIRED FOR BRANCH CIRCUIT WIRING IN EACH AREA.

B. INSTALL DATA/COMMUNICATIONS SYSTEM IN ACCORDANCE WITH NECA/BICSI 568 - STANDARD FOR INSTALLING COMMERCIAL BUILDING TELECOMMUNICATIONS CABLING.

C. PROVIDE SLEEVES WITH BUSHINGS THROUGH FLOORS AND WALLS AS INDICATED. FIREPROOF USED AND UNUSED SLEEVES.

D. PROVIDE FLOOR AND WALL OUTLETS COMPLETE WITH BOX AND BLANK STAINLESS STEEL COVER PLATE OR STAINLESS STEEL COVER PLATE WITH BUSHED OPENINGS AS INDICATED. PROVIDE [1] INCH EMPTY CONDUIT FROM EACH OUTLET TO THE CORRIDOR ABOVE THE HUNG CEILING OR AS OTHERWISE DIRECTED BY THE OWNER'S REPRESENTATIVE. CONDUIT ENDS SHALL BE BUSHED AND A PULL CORD SHALL BE PROVIDED.

E. PROVIDE EMPTY CONDUITS WITH A NO. 18 GAUGE STAINLESS STEEL PULLING WIRE OR 225 POUND TENSILE STRENGTH NYLON PULL CORD FOR TELEPHONE AND COMPUTER SYSTEM LINES AS INDICATED. CAP OFF UNUSED CONDUITS.

F. MAINTAIN A CONDUIT CLEARANCE OF AT LEAST 6 INCHES FROM HOT WATER, STEAM AND OTHER HIGH-TEMPERATURE LINES. MAINTAIN A CLEARANCE OF AT LEAST 6 INCHES BETWEEN POWER CONDUITS AND TELECOMMUNICATION CONDUITS AND AT LEAST 12 INCHES BETWEEN POWER CONDUITS AND UNSHIELDED TWISTED PAIR TELECOMMUNICATIONS CABLES.

SECTION 260923 - OCCUPANCY SENSOR LIGHTING CONTROL SYSTEM

A. PROVIDE DEVICE FOR CONTROLLING LIGHTING AT LOCATION INDICATED IN DRAWINGS. DEVICE SHALL MATCH EXISTING IN CONTROL TYPE AND PLATE COLOR. PROVIDE DEVICE WITH UNDERWRITERS LABORATORIES, INC. (UL) LISTINGS.

B. INSTALL DEVICE IN ACCORDANCE WITH MANUFACTURER'S WRITTEN INSTRUCTIONS AND NFPA 70. PROVIDE SERVICES OF MANUFACTURER'S REPRESENTATIVE TO CHECK INSTALLATION AND TEST OPERATION OF LIGHTING CONTROL DEVICE. CONDUCT A SYSTEM POINT-BY-POINT WALK-THROUGH. EXPLAIN OPERATION OF CONTROL TO OWNER AND WALK-THROUGH THEIR OPERATION.

C. MOTION SENSORS FOR USE IN MEDIUM-SIZED ROOMS AND CONFERENCE ROOMS SHALL BE SEMI-FLUSH, CEILING-MOUNTED, WIDE-RANGE, DUAL-TECHNOLOGY (DT) USING INFRARED AND ULTRASONIC/NOISE DETECTION SENSING WITH A MINIMUM 450 SQUARE FEET OF COVERAGE (APPROXIMATELY 12 FEET RADIUS AT 9 FEET MOUNTING HEIGHT, 360 DEGREE COVERAGE) FOR WORKING-AT-DESK TOP TYPE MOTION. PROVIDE SENSOR WITH SPDT LOW VOLTAGE ISOLATED CONTACT FOR INTERFACE WITH BMS AND ADJUSTABLE INTEGRAL PHOTO SENSOR FOR DAYLIGHT HARVESTING CONTROL. PROVIDE ASSOCIATED CIRCUIT CONTROLLER TO INTERFACE WITH OCCUPANCY SENSOR.

D. FOR ALL ENCLOSED OFFICES/CONFERENCE ROOMS, AND FOR OTHER ROOMS AS INDICATED WITH CEILING MOUNTED OCCUPANCY SENSORS, PROVIDE MANUAL LINE OR LOW VOLTAGE WALL SWITCH WIRED IN SERIES WITH CIRCUIT CONTROLLER.

E. SENSORS SHALL HAVE ADJUSTABLE TIME DELAY TO 30 MINUTES. PROVIDE A SHORTENED TIME DELAY FEATURE FOR TESTING. SENSORS WITH PHOTO SENSOR SHALL HAVE ADJUSTABLE LIGHT LEVEL SET POINT FROM MINIMUM 10 TO 100 FOOT-CANDLES.

F. IN THE EVENT OF SENSOR FAILURE, A BYPASS MANUAL "OVERRIDE ON" SHALL BE PROVIDED ON EACH SENSOR. WHEN BYPASS IS UTILIZED, LIGHTING SHALL REMAIN ON CONSTANTLY OR CONTROL SHALL DIVERT TO A WALL SWITCH UNTIL SENSOR IS REPLACED. THIS CONTROL SHALL BE RECESSED TO PREVENT TAMPERING.

JACOBS

One Broadway
Cambridge, Massachusetts
02142

P 617.491.6450
F 617.491.7104
W www.jacobs.com

Seals:

General Notes:

THESE DRAWINGS HAVE BEEN COMPILED FROM EXISTING DRAWINGS PROVIDED BY THE OWNER. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING AND CONFIRMING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION

Project Client:

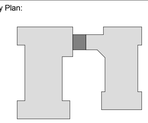
CHELSEA PUBLIC SCHOOLS
500 Broadway, Chelsea, MA 02150

P 617-466-4477
W www.chelseaschools.com

CHELSEA ELC LOBBY AND SECURITY DESK RENOVATION

Number	Description	Date

Key Plan:



CONSTRUCTION DOCUMENTS

MARCH 15, 2015

Project No.: R7W71632

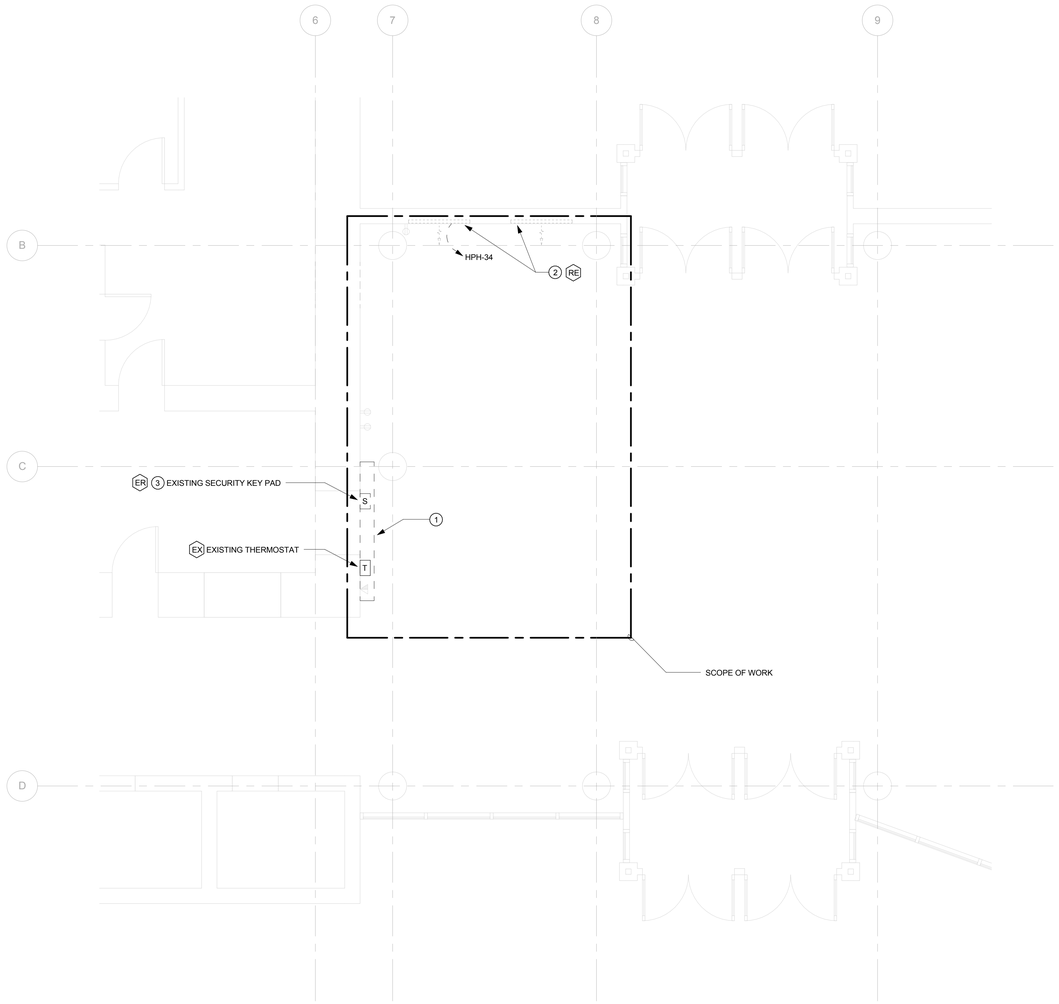
Copyright: 2014 Jacobs

Drawing Sheet Title:

ELECTRICAL SPECIFICATIONS

Drawing Sheet Number:

E-002



1 ELECTRICAL DEMOLITION FLOOR PLAN - PARTIAL LEVEL 1

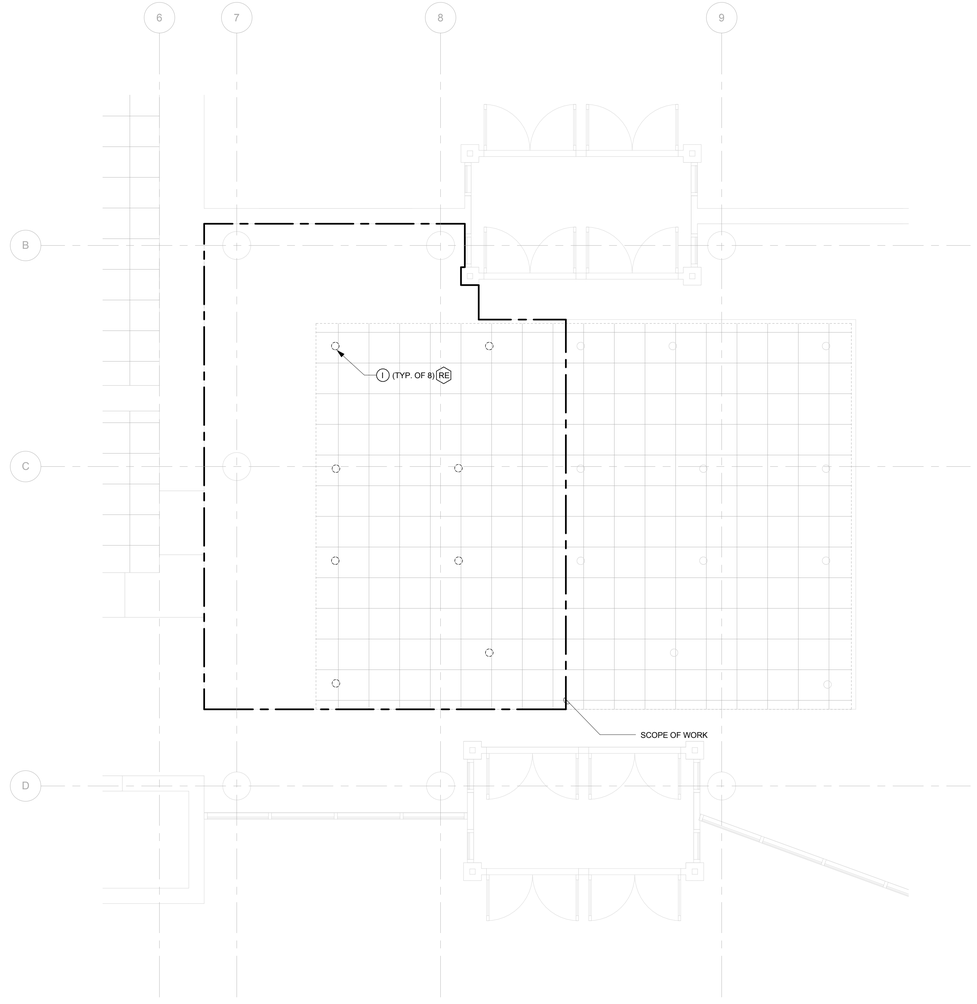
ED-201 SCALE: 1/4" = 1'-0"

NOTES:

1. UNLESS OTHERWISE NOTED, ALL EXISTING POWER, DATA, LIGHTING AND ASSOCIATED CIRCUITS SHOWN IN SOLID GRAY TO REMAIN.

DEMOLITION POWER KEY NOTES:

1. DISCONNECT AND REMOVE DATA SURFACE RACEWAY. DATA AND SECURITY CABLES SHALL BE MAINTAINED. REFER TO E-201 FOR NEW WORK REQUIREMENTS.
2. DISCONNECT AND REMOVE FEEDER SERVING DEMOLISHED ELECTRIC BASEBOARD IN ITS ENTIRETY. EXISTING "HPH-34" CIRCUIT BREAKER SERVING DEMOLISHED ELECTRIC BASEBOARD SHALL BE MADE SPARE. REFER TO MECHANICAL DRAWING MD-101 FOR OTHER REQUIREMENTS.
3. EXISTING SECURITY DEVICE SHALL BE RELOCATED. REFER TO NEW WORK FOR NEW LOCATION.

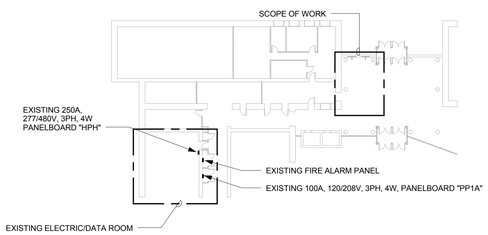


2 ELECTRICAL DEMOLITION REFLECTED CEILING PLAN - PARTIAL LEVEL 1

ED-201 SCALE: 1/4" = 1'-0"

DEMOLITION LIGHTING KEY NOTES:

1. REMOVE EXISTING LIGHT FIXTURES. LIGHTING BRANCH CIRCUIT SHALL BE PULLED BACK TO THE NEXT LIVE JUNCTION BOX. REFER TO E-201 FOR NEW WORK REQUIREMENTS.



3 DEMOLITION KEY PLAN

ED-201 SCALE: 1" = 30'-0"

JACOBS

One Broadway
Cambridge, Massachusetts
02142

P 617.491.6450
F 617.491.7104
W www.jacobs.com

Seals:

General Notes:

THESE DRAWINGS HAVE BEEN COMPILED FROM EXISTING DRAWINGS PROVIDED BY THE OWNER. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING AND CONFIRMING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION

Project Client:

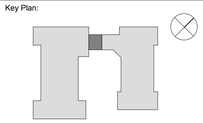
CHELSEA PUBLIC SCHOOLS
500 Broadway, Chelsea, MA 02150

P 617-466-4477
W www.chelseaschools.com

CHELSEA ELC LOBBY AND SECURITY DESK RENOVATION

Number	Description	Date

Key Plan:



CONSTRUCTION DOCUMENTS

MARCH 15, 2015

Project No.: R7W71632

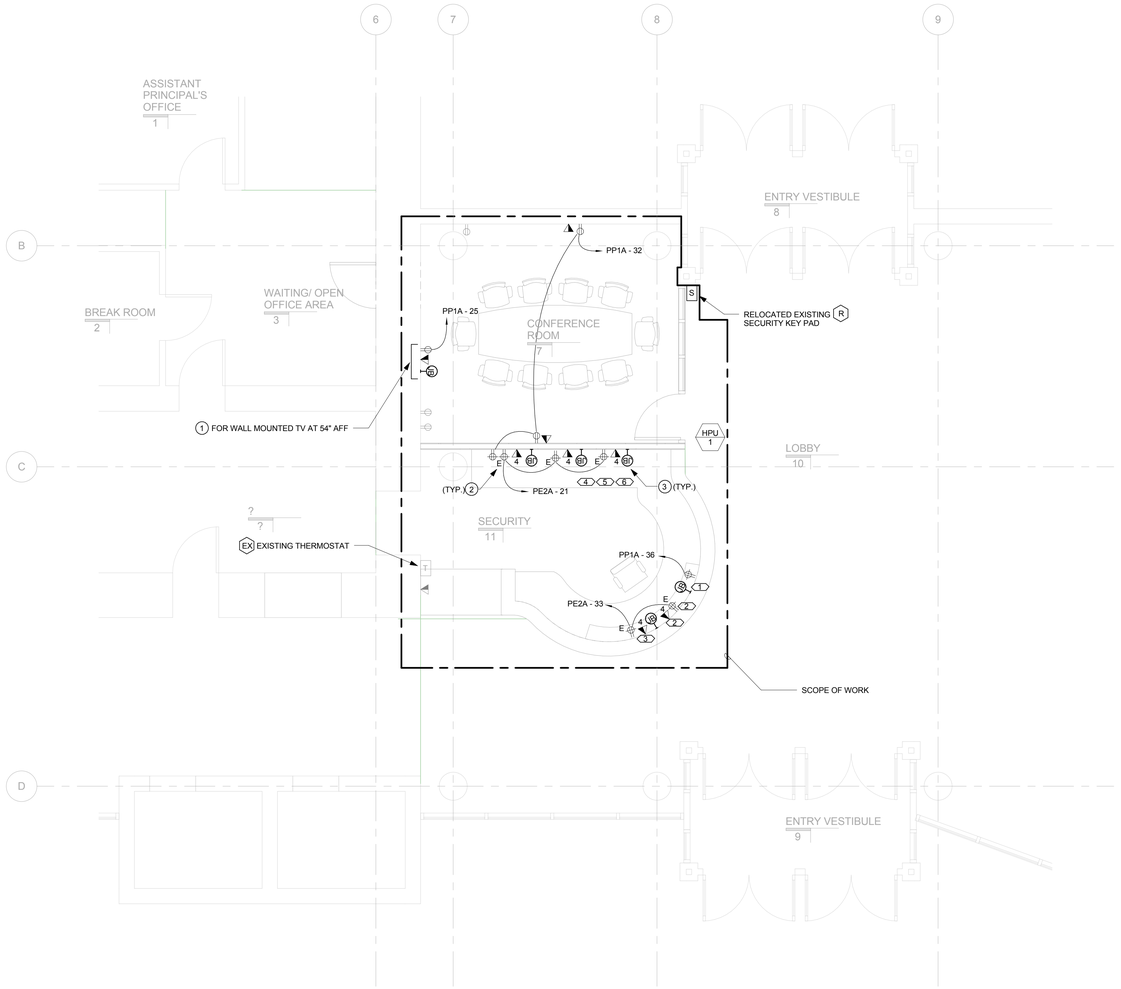
Copyright: 2014 Jacobs

Drawing Sheet Title:

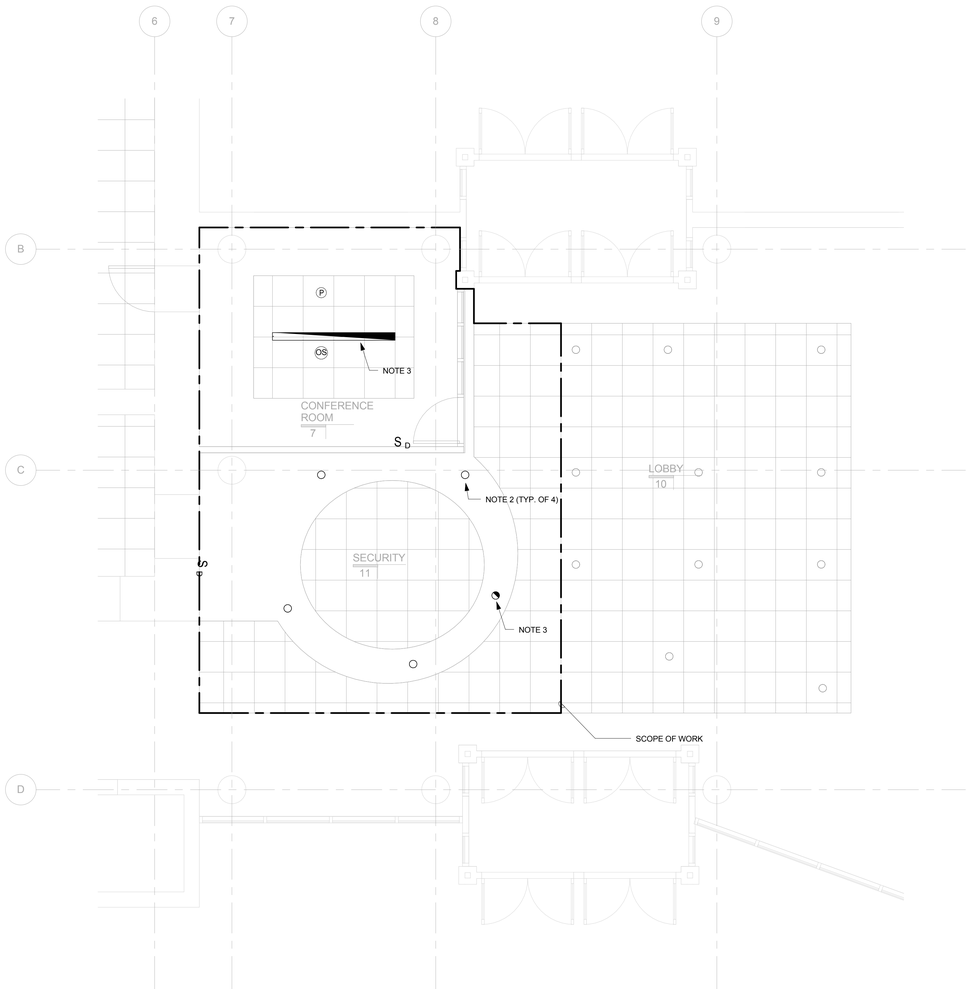
ELECTRICAL DEMOLITION PLANS - PARTIAL LEVEL 1

Drawing Sheet Number:

ED-201



1 NEW FLOOR PLAN - PARTIAL LEVEL 1
E-201 SCALE: 1/4" = 1'-0"



2 ELECTRICAL NEW REFLECTED CEILING PLAN - PARTIAL LEVEL 1
E-201 SCALE: 1/4" = 1'-0"

NOTES:

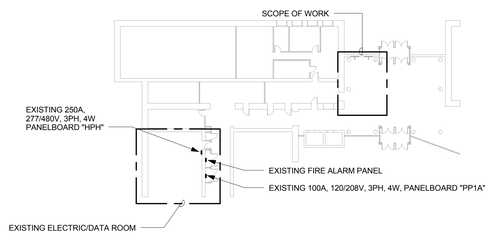
1. UNLESS OTHERWISE NOTED, ALL EXISTING POWER, DATA, LIGHTING AND ASSOCIATED CIRCUITS SHOWN IN SOLID GRAY TO REMAIN.

POWER KEY NOTES:

1. PROVIDE (1) 4"X4" WALL MOUNTED JUNCTION BOX WITH 1"C TO ABOVE CEILING, (1) DUPLEX CLOCK RECEPTACLE AND (1) COMMUNICATION OUTLET WITH 1"C TO ABOVE CEILING FOR MONITOR AND AV CONNECTION AT LOCATION SHOWN ON PLAN. COORDINATE EXACT MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS.
2. DEVICES DESIGNATED AS (E) SHALL BE CONNECTED TO THE EXISTING EMERGENCY LIFE SAFETY PANELBOARD "PE2A" CIRCUIT LOCATED AT THE SECOND FLOOR ROOM M210. SITE COORDINATION FOR EXACT PANEL SOURCE LOCATION. EMERGENCY RECEPTACLE COVER PLATE SHALL HAVE A DISTINTIVE COLOR (RED) FROM NORMAL RECEPTACLE TO BE READILY IDENTIFIABLE.
3. PROVIDE (1) 4"X4" WALL MOUNTED JUNCTION BOX WITH 1"C TO ABOVE CEILING FOR MONITOR AND AV CONNECTION AT LOCATION SHOWN ON PLAN. COORDINATE EXACT MOUNTING HEIGHT WITH ARCHITECTURAL DRAWINGS.

LIGHTING NOTES:

1. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LUMINAIRE LOCATIONS AND OTHER REQUIREMENTS.
2. UNLESS OTHERWISE NOTED, LIGHTING FIXTURES IN SECURITY DESK ROOM 11 SHALL BE TIED TO EXISTING CIRCUIT "HPH-1" SERVING EXISTING LIGHT FIXTURES IN LOBBY ROOM 10.
3. EMERGENCY LUMINAIRES WITH SWITCH CONTROL SHALL BE POWERED WITH AN ADDITIONAL UNSWITCHED CONDUCTOR AND TIED TO EXISTING EMERGENCY CIRCUIT "HE2A-3".
4. UNLESS OTHERWISE NOTED, PROVIDE "VACANCY" TYPE SENSOR IN CONFERENCE ROOM. THE VACANCY TYPE SENSOR SHALL BE INSTALLED TO AUTOMATICALLY TURN OFF LIGHTS WITHIN 30 MINUTES OF ALL OCCUPANTS LEAVING THE SPACE AND SHALL BE MANUAL ON.
5. IN ADDITION TO OCCUPANCY SENSOR CONTROL, LUMINAIRE IN CONERENCE ROOM SHALL BE CONNECTED TO CONTROLLED PHOTO CELL FOR DAYLIGHT HARVESTING.



3 KEY PLAN
E-201 NOT TO SCALE

JACOBS
One Broadway
Cambridge, Massachusetts
02142

P 617.491.6450
F 617.491.7104
W www.jacobs.com

Seals:

General Notes:

THESE DRAWINGS HAVE BEEN COMPILED FROM EXISTING DRAWINGS PROVIDED BY THE OWNER. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING AND CONFIRMING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION

Project Client:

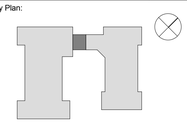
CHELSEA PUBLIC SCHOOLS
500 Broadway, Chelsea, MA 02150

P 617-466-4477
W www.chelseaschools.com

CHELSEA ELC LOBBY AND SECURITY DESK RENOVATION

Number	Description	Date

Key Plan:



CONSTRUCTION DOCUMENTS

MARCH 15, 2015

Project No.: R7W71632

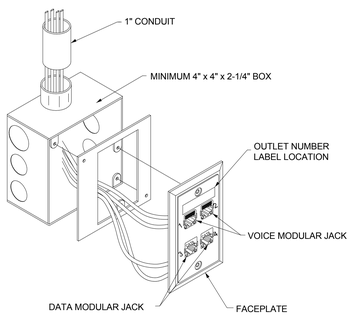
Copyright: 2014 Jacobs

Drawing Sheet Title:

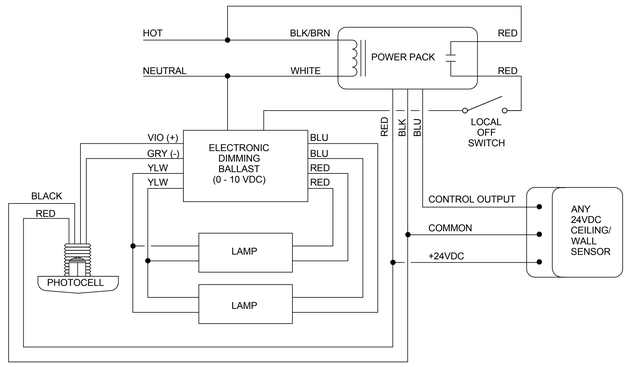
ELECTRICAL NEW PLANS - PARTIAL LEVEL 1

Drawing Sheet Number:

E-201



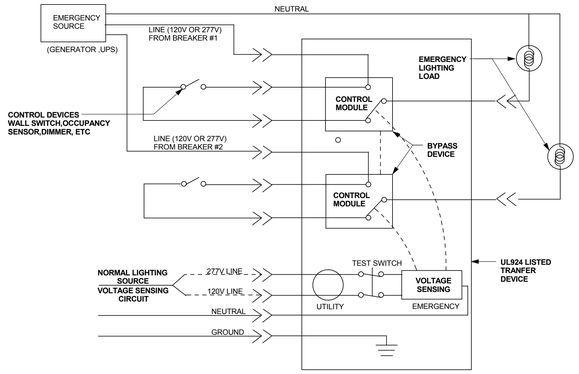
1 4 PORTS TEL/DATA OUTLET MOUNTING BOX DETAIL
E-801 NOT TO SCALE



NOTES:

1. LOCAL OFF SWITCH TURN OFF LIGHTS COMPLETELY.
2. OCCUPANCY SENSOR SWITCHES LIGHTS ON/OFF.
3. WHEN OCCUPIED, THE PHOTOCELL DIMS THE LIGHTS AS DAYLIGHT INCREASES.
4. BASIS OF DESIGN IS WATT STOPPER LS-301 DIMMING PHOTOSENSOR AND 8 SERIES POWER PACK.

2 TYPICAL LIGHTING CONTROL WIRING DIAGRAM - OCCUPANCY SENSOR, PHOTOCELL AND LOCAL OFF SWITCH
E-801 NOT TO SCALE



NOTES:

1. SWITCHES EMERGENCY LIGHTING FULL-ON ON LOSS OF SENSING CIRCUIT VOLTAGE.
2. PROVIDE CHLORIDE LIGHTSTAR OR BODINE #GTD20A OR EQUAL.

3 NORMALLY OFF OR LOCAL SWITCHEDDIMMED OFF EMERGENCY LIGHTING TRANSFER DEVICE DETAIL
E-801 NOT TO SCALE

MECHANICAL EQUIPMENT SCHEDULE

TAG	EQUIPMENT	LOCATION	QUANTITY	ELECTRICAL CHARACTERISTICS								FEEDER INFORMATION	CONNECTION TYPE									NOTES	SPECIAL REQUIREMENTS
				FLA	HP	KW	VOLTAGE	PHASE	SOURCE PANEL	CIRCUIT	OCPD		DIRECT CONN	MOL SW	DISC. SW	FUSED DISC. SW	COMB MTR STR.	VFD	FLEX CONN	WP	DUPLEX		
HPU	HEAT PUMP	CONFERENCE ROOM	1		1/8		120	1	PP1A	37	20	2W20		X					X			1	
NOTES																							
1	EC TO MAKE CONNECTION TO MOTOR OR UNIT																						
2	EC TO INSTALL MOTOR STARTER OR VFD FURNISHED BY OTHERS																						
3	EC TO MAKE CONNECTION TO CONTROLS AND POWER OF AUXILIARY EQUIPMENT																						
4	EC TO MAKE CONNECTION TO CONTROL PANEL AS REQUIRED PER MECHANICAL DRAWINGS																						
5	FIELD CONTROL WIRING BY OTHERS																						

EQUIPMENT SCHEDULE

Tag	Description	Qty.	New / Existing	Manufacturer	Model Number	Location	Electrical Characteristic and Connection								Notes
							Voltage	HZ	Phase	CB Amps	CB Poles	DEVICE GFI	DEVICE Plug	Mounting Height	
1	COMPUTER MONITOR	1	EXISTING	-	-	SECURITY DESK MONITOR WELL	120	60	1	20	1		X		
2	COMPUTER MONITOR	2	EXISTING	-	-	SECURITY DESK MONITOR WELL	120	60	1	20	1		X		
3	COMPUTER MONITOR	1	EXISTING	APPLE	-	SECURITY DESK MONITOR WELL	120	60	1	20	1		X		
4	DVR	1	EXISTING	-	-	EQUIPMENT CABINET	120	60	1	20	1		X		
5	SERVER LINUP	1	EXISTING	-	-	EQUIPMENT CABINET	120	60	1	20	1		X		
6	AAC	1	EXISTING	-	-	EQUIPMENT CABINET	120	60	1	20	1		X		

NOTES:

1. REFER TO DRAWING E-201 FOR EQUIPMENT PART PLAN.

JACOBS
One Broadway
Cambridge, Massachusetts
02142

P 617.491.6450
F 617.491.7104
W www.jacobs.com

Seals:

General Notes:

THESE DRAWINGS HAVE BEEN COMPILED FROM EXISTING DRAWINGS PROVIDED BY THE OWNER. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING AND CONFIRMING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION

Project Client:

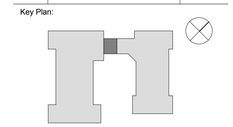
CHELSEA PUBLIC SCHOOLS
500 Broadway, Chelsea, MA 02150

P 617-466-4477
W www.chelseaschools.com

CHELSEA ELC LOBBY AND SECURITY DESK RENOVATION

Number	Description	Date

Key Plan:



CONSTRUCTION DOCUMENTS

MARCH 15, 2015

Project No.: R7W71632

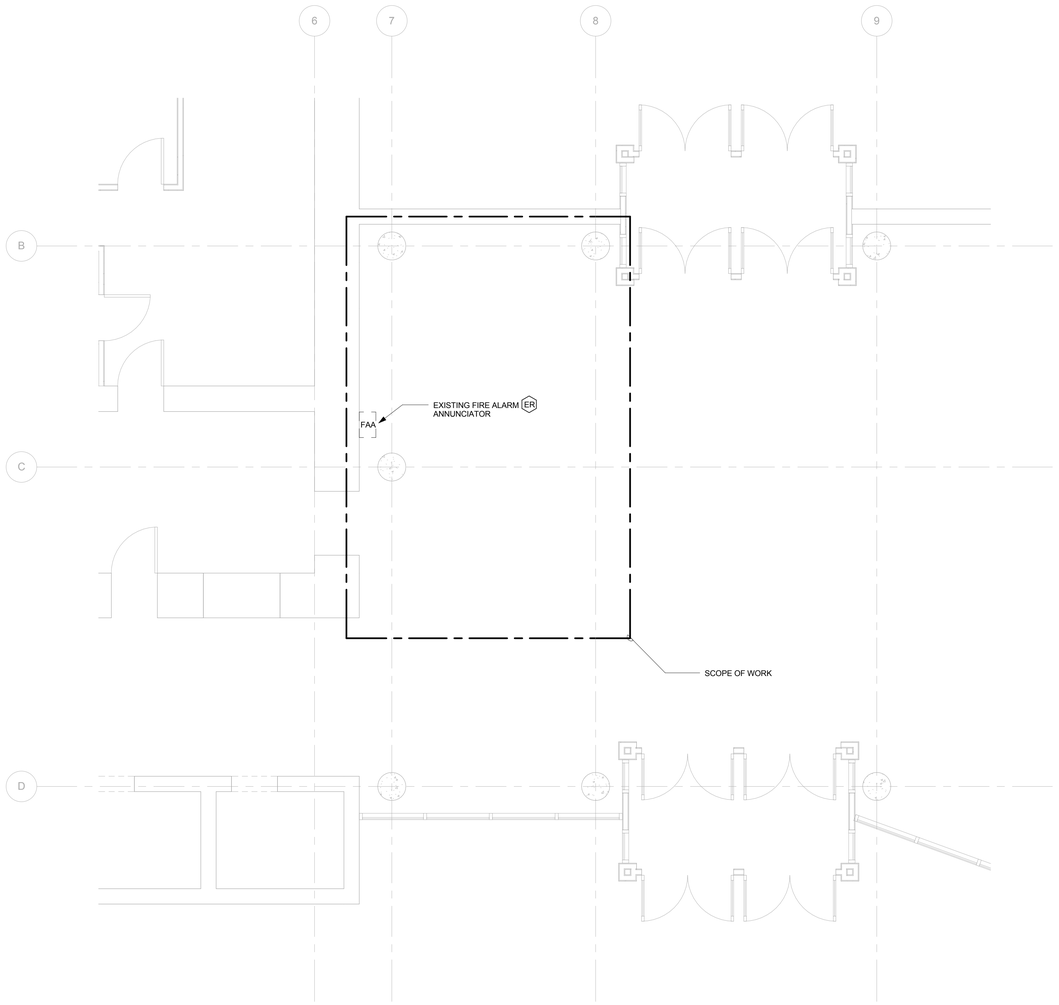
Copyright: 2014 Jacobs

Drawing Sheet Title:

ELECTRICAL DETAILS AND SCHEDULE

Drawing Sheet Number:

E-801

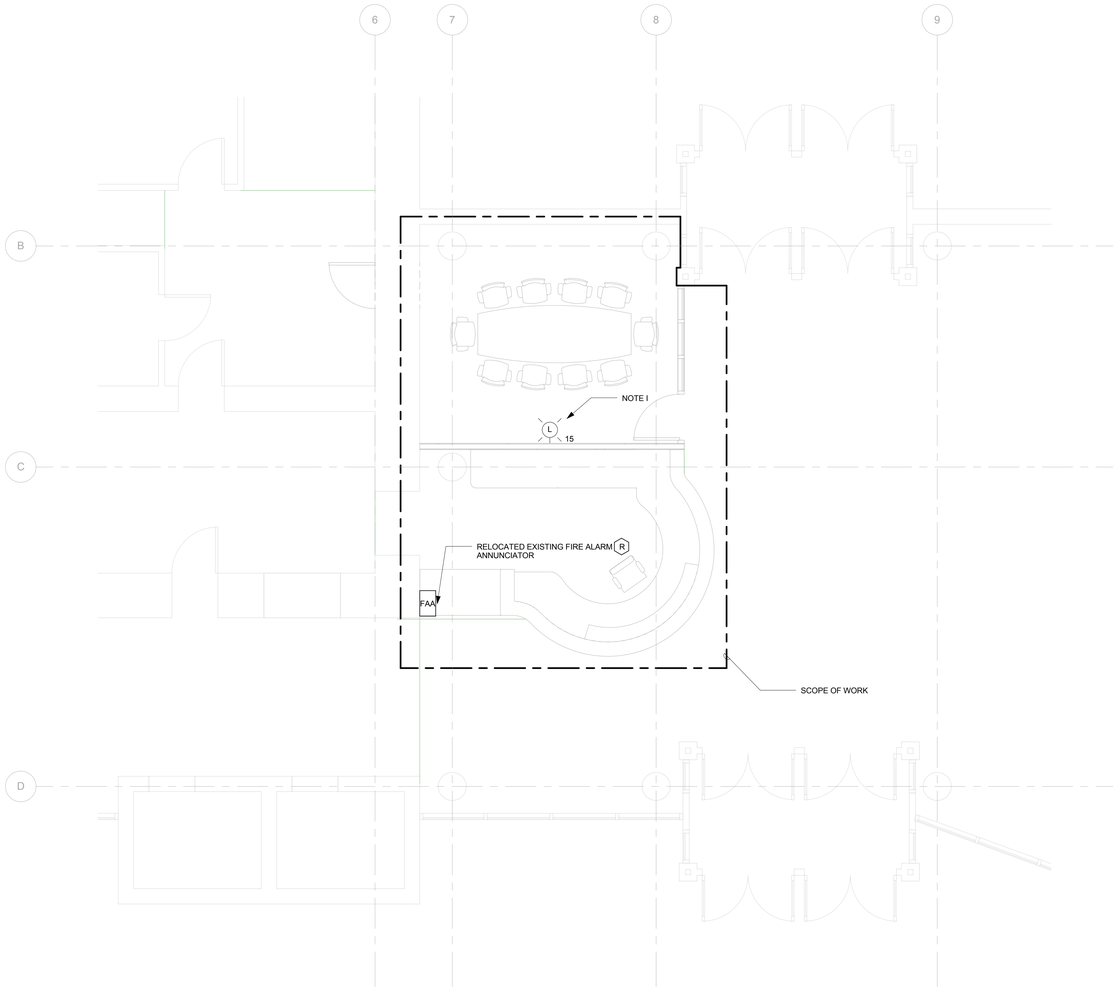


1 FIRE ALARM DEMOLITION PLAN - PARTIAL LEVEL 1

FS-101 SCALE: 1/4" = 1'-0"

DEMOLITION KEY NOTES:

1. EXISTING FIRE ALARM ANNUNCIATOR SHALL BE RELOCATED. REFER TO NEW WORK FOR NEW LOCATION.

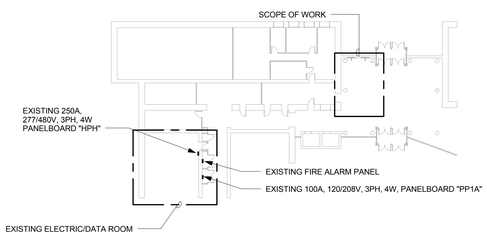


2 NEW FIRE ALARM PLAN - PARTIAL LEVEL 1

FS-101 SCALE: 1/4" = 1'-0"

NEW WORK KEY NOTES:

I. PROVIDE FIRE ALARM STROBE ONLY WITH CANDELA RATING AS SHOWN. NEW FIRE ALARM DEVICE SHALL BE COMPATIBLE WITH EXISTING FIRE ALARM SYSTEM. COORDINATE DEVICE TESTING AND PROGRAMMING WITH FIRE ALARM SERVICE COMPANY ON RECORD.



3 FIRE ALARM KEY PLAN

FS-101 SCALE: 1" = 30'-0"

DEMOLITION SYMBOLS	
EX	EXISTING TO REMAIN
RE	REMOVE EXISTING
ER	EXISTING TO BE RELOCATED
R	NEW LOCATION OF RELOCATED ITEM
EX	EXISTING ITEMS TO REMAIN INSIDE THIS AREA, UNLESS OTHERWISE INDICATED
RE	REMOVE EXISTING ITEMS INSIDE THIS AREA, UNLESS OTHERWISE INDICATED
ER	EXISTING ITEMS TO BE RELOCATED INSIDE THIS AREA, UNLESS OTHERWISE INDICATED
R	RELOCATION OF EXISTING ITEMS INSIDE THIS AREA, UNLESS OTHERWISE INDICATED

FIRE ALARM SYMBOLS	
L Y	- WALL MOUNTED VISUAL INDICTOR ONLY Y - TEXT FIELD FOR CANDELLA RATING.
FAA	- FIRE ALARM ANNUNCIATOR

NOTE:

1. FIRE ALARM HORNS AND STROBES MOUNT OUTLET BOX SUCH THAT THE ENTIRE STROBE LENS IS NOT LESS THAN 80 INCHES ABOVE FINISHED FLOOR OR 6 INCHES BELOW CEILING, WHICHEVER IS LOWER

FIRE ALARM SPECIFICATIONS:

SECTION 267250 - FIRE ALARM SYSTEM

A. PROVIDE A COMPLETE FIRE ALARM SYSTEM EXTENSION IN ACCORDANCE WITH NFPA 72 AND ALL OTHER APPLICABLE FEDERAL, STATE AND LOCAL CODES AND STANDARDS. SUBMIT COMPLETE POINT-TO-POINT WIRING DIAGRAMS AS PART OF THE FIRE ALARM SYSTEM SHOP DRAWINGS.

B. FIRE ALARM SYSTEM SHALL BE MANUFACTURED BY NOTIFIER COMPANY. CONNECT TO EXISTING BUILDING FIRE ALARM SYSTEM. EXISTING DEVICES MAY BE REUSED IF THEY ARE OPERATIONAL. COORDINATE WITH FIRE ALARM SYSTEM MANUFACTURER.

C. PROVIDE FINAL TESTING OF FIRE ALARM SYSTEM IN THE PRESENCE OF OWNER'S REPRESENTATIVE. GUARANTEE COMPLETE FIRE ALARM SYSTEM EXTENSION FOR A PERIOD OF ONE YEAR FOLLOWING FINAL ACCEPTANCE BY OWNER.

JACOBS

One Broadway
Cambridge, Massachusetts
02142

P 617.491.6450
F 617.491.7104
W www.jacobs.com

Seals:

General Notes:

THESE DRAWINGS HAVE BEEN COMPILED FROM EXISTING DRAWINGS PROVIDED BY THE OWNER. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING AND CONFIRMING ALL EXISTING CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION

Project Client:

CHELSEA PUBLIC SCHOOLS

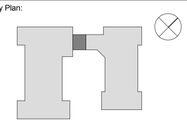
500 Broadway, Chelsea, MA 02150

P 617-466-4477
W www.chelseaschools.com

CHELSEA ELC LOBBY AND SECURITY DESK RENOVATION

Number	Description	Date

Key Plan:



CONSTRUCTION DOCUMENTS

MARCH 15, 2015

Project No.: R7W71632

Copyright: 2014 Jacobs

Drawing Sheet Title:

DEMOLITION AND NEW FIRE ALARM PLANS - PARTIAL LEVEL 1

Drawing Sheet Number:

FS-101