

CITY OF DULUTH FIRE STATION #10 INTERIOR REMODELING
1102 COMMONWEALTH AVENUE – DULUTH, MN

ADDENDUM NO. 1

The following Addendum shall be appended to and become part of the Plans and Specifications for City of Duluth Fire Station #10 Interior Remodeling.

This Addendum supersedes and supplants all previous reference to similar items.

Architecture Advantage, LLP
1411 London Road
Duluth, Minnesota 55805

Addendum Item:

Architectural:

General Items:

1. The living quarters and apparatus bay will not be occupied during construction.
2. The presence of hazardous materials on the site is unknown.
3. Existing wall thickness may vary from new walls. Any reused doors and frames to be cut down as required to fit in any new walls.

Changes to the Specification

4. **INVITATION TO BID**

Sealed bids will be received by the City Purchasing Agent in and for the Corporation of the City of Duluth, Minnesota at our office Suite 100 City Hall, Duluth, Minnesota 55802, (218) 730-5340 at 2:00 p.m., local time on ***Thursday, October 23, 2008***, for the City of Duluth Fire Station #10 Interior Remodeling located at 1102 Commonwealth Avenue, Duluth, Minnesota. Immediately thereafter, bids will be taken to Room 106A City Hall where they will be publicly opened and read aloud.

5. **BID PROPOSAL FORM**

- A. See attached revised Bid Proposal Form to replace that previously issued.

6. **SECTION 064023 INTERIOR ARCHITECTURAL WOODWORK**

- A. Modify Item 2.3J as indicated below:

J. Fabric Tackboards:

1. Backing: 3/16 inch thick cork mounted to 1/2 inch thick soundboard.
2. Fabric: ***Knoll***
 - a. Collection: ***Symbolic Details W693***
 - b. Color: ***Whispering Willow 6***
 - c. Installation: Up the roll.
 - d. Size: As indicated on drawings.

7. **SECTION 085313** **VINYL WINDOWS**
A. Item 1.2A to read: Integral Finish and Color: Uniform, solid, homogeneous *sandstone* interior and exterior.
B. Clarification: All units to be replacement units with integral brick mould from factory.
C. All grilles indicated on construction documents to be 5/8" Contour.
D. Delete Item 2.6C in it's entirety.
8. **SECTION 220000** **MECHANICAL**
A. Attached Mechanical Design Build Outline Specification and Performance Specification to be added to construction documents.
9. **SECTION 230000** **ELECTRICAL**
A. Attached Electrical Design Build Outline Specification and Performance Specification to be added to construction documents

Changes to the Drawings

10. **SHEET A1.1** **SECOND LEVEL FLOOR PLAN - INTERIOR ELEVATIONS**
A. Add frosted window film to interior of windows in rooms 207 and 208. Window film to be Vista or approved equal.
B. 12/A1.1 – See attached R-5 dated 10.08.08 baseboard details to be added into construction documents.
11. **SHEET A2.1** **SECOND LEVEL DEMO PLAN - SCHEDULES**
1/A2.1 – Second Level Demo Plan:
A. 1/A2.1 – Add general notes to plan "All existing chairrail, and picture rail in all spaces except Stair A, Hose Tower and Stair B to be removed."

Room Finish Schedule:

- A. Add general note to Room Finish Schedule. "All wall material existing and to remain except for any new walls. Refer to floor plan for new wall locations. Walls to be painted in areas noted on the schedule."
B. Add general note to Room Finish Schedule. "All ceiling material noted existing unless patching is required. Ceilings to be painted in areas noted on the schedule."
C. Stair A – Delete carpet on top landing.
D. Stair B – All walls existing and to be painted. Ceiling existing and to be painted.
E. See attached R-4 dated 10.07.08 to be added into construction documents.

Door Schedule:

- A. Existing wall thickness may vary from new walls. Any reused doors and frames to be cut down as required to fit in any new walls

12. **SHEET A3.1** **EXTERIOR ELEVATIONS**
A. See attached R-1 dated 10.07.08 for 2/A3.1 South Elevation revisions.
B. See attached R-2 dated 10.07.08 for 1/A3.1 North Elevation revisions.
C. See attached R-6 dated 10.09.08 for addition of window details.
13. **SHEET A3.2** **EXTERIOR ELEVATIONS**
A. See attached R-3 dated 10.07.08 for 1/A3.2 East Elevation revisions.
14. **SHEET ME-1** **MECHANICAL ELECTRICAL PLAN**
A. Sheet ME-1 to be added to construction documents.

Architecture Advantage

Sign-in Sheet

Project Title & No. Fire Station #10 - Interior Remodeling - 1102 Commonwealth Avenue

Date: 10.02.08

Print Name: <u>Stacey Harter</u> Phone: <u>724.5568</u> Fax: <u>724.5589</u> E-Mail: <u>stacey@architectureadvantage.com</u>	Address: <u>Architecture Advantage, LLP</u> <u>1411 London Road</u> <u>Duluth, MN 55805</u>
Print Name: <u>Steven Hansen</u> Phone: <u>722.0589</u> Fax: <u>722.9836</u> E-Mail: _____	Address: <u>Erling Hansen Contractor</u> _____ _____
Print Name: <u>Nick Minardi</u> Phone: <u>591.6339</u> Fax: <u>715.394.7776</u> E-Mail: _____	Address: <u>RJS Construction Group</u> _____ _____
Print Name: <u>Brian Swanson</u> Phone: <u>715.394.0122</u> Fax: <u>715.394.7773</u> E-Mail: <u>bswanson@rjs5300.com</u>	Address: <u>RJS Construction Group</u> <u>5300 Stinson</u> <u>Superior, WI 54880</u>
Print Name: <u>Travis Johnson</u> Phone: <u>628.0222</u> Fax: <u>628.0205</u> E-Mail: <u>tjohnson@johnsonwilson.com</u>	Address: <u>Johnson Wilson Constructors</u> <u>4431 West Michigan Street</u> <u>Duluth, MN 55807</u>
Print Name: <u>Kevin Amendola</u> Phone: <u>727.5000</u> Fax: <u>727.0908</u> E-Mail: <u>amendolabuilders@cpinternet.com</u>	Address: <u>Amendola Construction</u> <u>405 East Superior Street</u> <u>Duluth, MN 55811</u>
Print Name: _____ Phone: _____ Fax: _____ E-Mail: _____	Address: _____ _____ _____
Print Name: _____ Phone: _____ Fax: _____ E-Mail: _____	Address: _____ _____ _____

CITY OF DULUTH



REQUEST FOR BID
Date:
Project #: OT-0807-B
Bid #08-0552

RETURN BY BID OPENING TIME TO:

PURCHASING DIVISION
100 City Hall
Duluth, Minnesota 55802

Fire Station #10 Interior Remodeling
1102 Commonwealth Avenue – Duluth, MN

PHONE: (218)730-5340
FAX: (218)730-5921

BID OPENING AT: 2:00 PM ON THURSDAY, OCTOBER 23, 2008

NOTE: All bids must be written, signed and transmitted in a sealed envelope, plainly marked with the Subject Matter and Opening Date. The City of Duluth reserves the right to split award where there is substantial savings to the City, waive informalities and to reject any and all bids. Bidder shall state in proposal if Bid price is based on acceptance of total order. Sales Tax is not to be included in the unit price. Bidder shall state freight charges if, the proposal F.O.B. is shipping point, freight not allowed. Low Bid will not be the only consideration for award of Bid. All pages shall be signed or initialed by authorized bidder's representative as indicated at the bottom of the page(s) of the request for bid forms.

RETURN BID IN DUPLICATE WITH DUPLICATE DESCRIPTIVE
LITERATURE TO THE CITY PURCHASING OFFICE

BID DEPOSIT REQUIREMENTS: 5% of Bid Amount
Deposit shall mean cash, cashier's check, or corporate surety bond payable to or in favor of City of Duluth.

PERFORMANCE and PAYMENT BONDS: Shall be required of the successful bidder. Bonds shall BOTH be in the full amount of the Contract amount.

INSURANCE CERTIFICATE: Shall be required per specified requirements per the attached requirements.

Designated F.O.B. Point:
City Architect
Jobsite(s)

Tax: Federal Excise Exemption
Account Number: 41-74-0056 K

FREIGHT CHARGES \$ _____

NAME _____
ADDR1 _____
ADDR2 _____
ADDR3 _____

TOTAL BASE BID \$ _____
TO INCLUDE ANY ADDITIONAL PAGES

PAYMENT TERMS: _____

BY: _____
(Print) Title

F.O.B. POINT: _____

DELIVERY DATE: _____

(SIGNATURE) _____ Tele # _____
The City of Duluth is an Equal Opportunity Employer.

CITY OF DULUTH
 Date:
 Project #: OT-0807-B
 Bid #:08-0552

Fire Station #10 Interior Remodeling
1102 Commonwealth Avenue – Duluth, MN

The undersigned, having familiarized himself/themselves/itself with the existing conditions on the project affecting the cost of the work, and with the Contract Documents which include the Invitation to Bid, the Contract Agreement Form, the Non-Collusion Affidavit, any/all Addenda, General Conditions (parts I & II), the Special Conditions, Technical Specifications, Drawings (as listed in the schedule of drawings), EEO Affirmative Action Policy Statement & Compliance Certificate, and Form of Surety Bond or Bond as prepared by the office of Architecture Advantage, LLP and on file in the office of the City Architect and City Purchasing Agent, and hereby proposes to furnish all supervision, technical personnel, labor, materials, machinery, tools, appurtenances, equipment & services, including utilities and transportation services required to complete the Fire Station #11 Roof Replacement and Interior Repair, specification by Architecture Advantage, LLP.

Item Number	Qty	U/OM	Description	Unit Price	Total Price
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{See Additional Page(s)}

BASE BIDS:

001	1	L.S.	BASE BID PACKAGE 'A': <i>Interior Remodeling</i> Bidder agrees to perform work as describe in the Specification and/or shown on the plans for a Sum of:	\$ _____	\$ _____
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(In words - See Additional Page(s) as required)

002	1	L.S.	BASE BID PACKAGE 'B': <i>Window Replacement</i> Bidder agrees to perform work as describe in the Specification and/or shown on the plans for a Sum of:	\$ _____	\$ _____
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(In words - See Additional Page(s) as required)

003	1	L.S.	BASE BID PACKAGE 'C': <i>Masonry Cleaning</i> Bidder agrees to perform work as describe in the Specification and/or shown on the plans for a Sum of:	\$ _____	\$ _____
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(In words - See Additional Page(s) as required)

004	1	L.S.	ALTERNATE NO. 1: <i>New Electrical Service</i> Bidder agrees to perform work as describe in the Specification and/or shown on the plans for a Sum of:	\$ _____	\$ _____
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(In words - See Additional Page(s) as required)

Initial: _____

CITY OF DULUTH
Date:
Project #: OT-0807-B
Bid #08-0552

COMPLETION TIME:

The undersigned hereby affirms & agrees, if awarded a contract, to begin work immediately upon receipt of Notice to Proceed and to substantially complete the work within the time schedule indicated in the Special Conditions, ____ Calender Days.

Security in the sum of \$ _____ in the form of _____ is submitted herewith in accordance with the Instructions to Bidders, payable without condition to the City of Duluth which is agreed shall be retained as liquidated damages for the delay and extra expense caused the Owner if the undersigned fails to execute the contract and furnish bonds required by the contract documents.

Signed: _____ for

_____ a partnership (or)

_____ a corporation incorporated under the laws of the State of

President: _____ Vice President: _____

Secretary: _____ Treasurer: _____

Address(es): _____

_____, being duly sworn, deposes and says that there are no other persons comprising above company or firm than the above names, and that there are no persons or corporations interested in the forgoing proposals, either as principal or subcontractor, other than the above names; also that the proposals are made without any connection with any person or persons acting in any official capacity whatever for the City of Duluth is directly or indirectly interested therein, or any portion of the profit thereof.

Subscribed and Sworn to before me this _____ day of _____ A.D., _____,

_____ Notary Public.

Stamp/Seal

Initial: _____

CITY OF DULUTH
Date:
Project #: OT-0808-B
Bid #08-0553

ADDENDUM RECEIPT ACKNOWLEDGMENTS:

Addendum #: _____ Dated: _____ (initial)
Addendum #: _____ Dated: _____ (initial)
Addendum #: _____ Dated: _____ (initial)

Please Note! Please disregard the note on page 1 regarding sales tax for this bid. All applicable sales and/or use tax are to be included in the bid pricing. All bids are to be bid F.O.B. jobsite, the blank on page 1 for freight shall be left blank.

City Project Contact: Terry Groshong, City Architect - (218)730-5730 PHONE & (218)730-5920 FAX

Initial: _____

PURCHASE ORDER TERMS AND CONDITIONS

1. **ACCEPTANCE.** ACCEPTANCE OF THIS ORDER BY SELLER IS EXPRESSLY LIMITED TO THE TERMS AND CONDITIONS CONTAINED IN THIS ORDER. ANY TERM OR CONDITION STATED BY THE SELLER IN ANY PRIOR PROPOSAL, ON SELLER'S ACKNOWLEDGMENT FORM, OR IN OTHERWISE ACKNOWLEDGING OR ACCEPTING THIS ORDER IS DEEMED BY BUYER TO BE A MATERIAL ALTERATION OF THIS ORDER AND IS HEREBY OBJECTED TO BY BUYER. ANY SUCH TERM OR CONDITION SHALL BE TOTALLY INAPPLICABLE TO THIS ORDER UNLESS SPECIFICALLY AGREED TO IN A WRITING SIGNED BY AN AUTHORIZED REPRESENTATIVE OF BUYER. ACCEPTANCE OF THE GOODS OR SERVICES COVERED BY THIS ORDER WILL NOT CONSTITUTE ACCEPTANCE BY BUYER OF SELLER'S TERMS AND CONDITIONS. ANY OF THE FOLLOWING ACTS BY SELLER SHALL CONSTITUTE ACCEPTANCE OF THIS ORDER AND ALL OF ITS TERMS AND CONDITIONS SIGNING AND RETURNING A COPY OF THIS ORDER: DELIVERY OF ANY OF THE GOODS ORDERED; INFORMING THE BUYER IN ANY MANNER OF COMMENCEMENT OF PERFORMANCE; OR RETURNING SELLER'S OWN FORM OF ACKNOWLEDGMENT.
2. **PRICE.** If price (either fixed price or hourly rate[s] in case of a time and material order) and/or delivery is not specified by Buyer on the face of this order, Seller shall immediately submit its best price, delivery date and/or schedule which shall be subject to Buyer's approval and acceptance. Seller warrants that the prices and other terms for the articles sold to Buyer under this order are not less favorable than those extended to all other customers for the same or like articles in equal or less quantities. In the event Seller reduces its price for such articles during the term of this order, Seller agrees to reduce the prices hereof accordingly. If this order is on a time and material basis, the following shall apply: price shall be (a) material at Seller's cost, less scrap, without any charge for handling or otherwise, plus (b) time at agreed hourly rate(s). If both engineering work and manufacturing work are involved, separate hourly rates shall be specified for each thereof. No overtime shall be employed in the performance of this order without Buyer's prior consent and unless separate overtime hourly rate(s) have been specified and agreed upon. No substantial portion of the order shall be subcontracted by Seller without Buyer's written consent. Seller shall maintain adequate accounting records in accordance with generally accepted accounting practice to substantiate all costs, which records shall be open to examination by Buyer at all reasonable times.
3. **PACKING AND SHIPPING.** If Goods are to be delivered under this order, the cost and fee negotiated for this order are deemed to include all packaging and/or storage cost. All Goods shall be packaged, marked, and otherwise prepared in accordance with good commercial practices to obtain lowest shipping rates. On containers, Seller shall mark handling and loading instructions, shipping information, order number, item and account number, shipment date, and names and addresses of Seller and Buyer. An itemized packing list shall accompany each shipment. Over shipments shall be returned to Seller at Seller's risk and expense. Early shipments may, at option of Buyer, be returned to Seller at Seller's risk and expense or may be retained by Buyer and Buyer shall not be liable for payment until the time originally scheduled hereon.
4. **F.O.B. AND RISK OF LOSS.** Unless otherwise specified on the face of this order, the F.O.B. point shall be Buyer's location designated on the face of this order. If transportation is F.O.B. Seller's location, Seller shall bear all risk of loss or damage to the Goods until delivery of the Goods to the carrier. If transportation is F.O.B. Buyer's location, Seller shall bear all risk of loss or damage to the Goods until delivery of the Goods to Buyer's location.
5. **INVOICING.** All invoices shall be rendered in duplicate unless otherwise specified and shall be rendered within 24 hours after each shipment. Taxes, freight and similar charges shall be shown separately. Each invoice shall be accompanied by bill of lading or express receipt. Payments shall be subject to adjustment for errors, shortages, rejections and other causes. Discount period, if any, shall commence on the date invoice is received or goods are received, whichever is later. Buyer secures blanket coverage on all inbound freight. Invoice charges for additional insurance will not be honored unless otherwise specified.
6. **INSPECTION.** All material and workmanship shall be subject to inspection and test by Buyer, both at plant of Seller and of Buyer. Payment shall be subject to final inspection at Buyer's plant. Buyer shall have the right to reject all goods not conforming to specifications or containing defective material or workmanship. Rejected goods shall be returned at Seller's expense and risk, including transportation both ways, promptly after notification of rejection. Buyer may elect to retain defective goods and to remedy defects and deduct cost of remedying same from amount due Seller. Seller warrants that goods shall be produced under a quality control system that provides at a minimum for the prevention and ready detection of discrepancies and for timely and positive corrective action. Seller warrants that he has or is able to obtain the best facilities necessary to meet the technical and regulatory requirements specified. Seller warrants that quality control records are maintained on file for a minimum of one year from date of shipment or as otherwise specified by contract. Buyer reserves the right, upon 72 hours notice, to audit the Seller's facilities and inspection records in connection with this order.
7. **WARRANTY.** In addition and without prejudice to all other warranties expressed or implied by law, Seller warrants that all material or goods covered by this order shall conform to drawings, specifications and other defects. All warranties, both expressed and implied, also constitute conditions and shall survive inspection, acceptance and payment and shall inure to the benefits of Buyer and its customers. Without limitation of any rights by reason of any breach of warranty or otherwise, material or goods which are not as warranted may at any time be returned to Seller at Seller's expense for credit, correction or replacement as Buyer may direct.
8. **COMPLIANCE WITH LAWS.** Seller shall comply with all federal, state, and local laws, ordinances, rules and regulations in the manufacture and sale of the Goods and performance of the Services, including but not limited to the Occupational Safety and Health Act, the Truth in Negotiation Act, the Resources Conservation and Recovery Act and all applicable requirements of the Fair Labor Standards Act. Seller will defend and hold Buyer harmless from any loss, damages, or costs arising from or caused in any way by any actual or alleged violation of any federal, state, or local law, condition, rule, or regulation, or failure by the Seller to (i) have any chemical substances sold hereunder included in the list of approved chemical substances published by the Environmental Protection Agency pursuant to the Toxic Substances Control Act or (ii) provide a completed Material Safety Data Sheet (OSHA Form 20 equivalent) for any chemical substances sold hereunder as required by any federal, state or local law, ordinance, rule or regulation.
9. **CHANGES.** Buyer may, at any time by written order, make changes in drawings, designs, specifications, method of shipment or packing, time or place of delivery, require additional work, or direct the omission of work covered by this order. If any such change causes an increase or decrease in the price under this order, or in the time required for performance, an equitable adjustment shall be made and this order shall be modified in writing accordingly. Any claim for adjustment under this provision must be asserted within 10 days from date this change is ordered and the amount of such claim must be stated in writing within 30 days thereafter.
10. **BUYER'S PROPERTY, MATERIALS, AND EQUIPMENT.** If Buyer furnishes Seller material or "equipment" ("Equipment" is defined as special dies, molds, jigs, tools, gages, test equipment, masks, etc), or pays for such material or "equipment", title thereto shall remain or vest in Buyer, and Seller shall identify, maintain and preserve such material and "equipment" and shall dispose of it (including scrap) in accordance with Buyer's direction. Such material and "equipment", and whenever practical such individual item thereof shall be plainly marked or otherwise adequately identified by Seller as "property of the City of Duluth" and shall be safely stored separate and apart from Seller's property. Seller shall not substitute any property for Buyer's property. Unless otherwise authorized in writing by Buyer, Seller shall use such material or "equipment" only in the performance of purchase orders for Buyer. Seller shall be responsible for any loss, damage, or destruction to such material or "equipment" but Seller shall not include any insurance costs therefore in the cost charged under this order. Also, the "equipment" required to produce the supplies under this order is for the exclusive use of the City of Duluth and is subject to recall upon written notice.
11. **ASSIGNMENT.** Seller shall not assign this order or any rights under this order without the prior written consent of Buyer, and no purported assignment by Seller shall be binding on Buyer without such written consent.
12. **NOTICE OF LABOR DISPUTES.** Whenever an actual or potential labor dispute delays, or threatens to delay, the timely performance of this order. Seller shall immediately notify Buyer in writing of all relevant information with respect to such dispute.
13. **TERMINATION.** (a) Termination Without Cause. Buyer shall have the right, without cause, at any time to terminate all or any part of the undelivered portion of this order by written notice. If Seller has and desires to assert any claim on account of any such termination, Seller shall submit its termination claims to Buyer, in form and with evidence satisfactory to Buyer, promptly, but no later than 90 days after the effective date of the termination. If Seller fails to submit a termination claim within that time, Buyer shall have no liability to Seller on account of the termination. If Seller's termination claim is not acceptable to Buyer and cannot be settled by negotiation, the claim shall be submitted to arbitration. (b) Termination With Cause. If Seller fails to make any delivery in accordance with the agreed delivery date or schedule or terms or conditions applicable to this order. Buyer shall have the right (in addition to any other right or remedy at law or under this agreement) by written notice to terminate all or any part of the undelivered portion of this order without any liability to Seller on account thereof, in the articles elsewhere on such terms and in such manner as Buyer may deem appropriate and Seller shall be liable to Buyer for all excess costs occasioned Buyer thereby.
14. **PATENTS AND COPYRIGHTS.** Seller shall defend, at its own expense, any suit or claim that may be instituted against Buyer or any customer of Buyer for alleged infringement of patents or copyrights relating to the maintenance, sale, or use of the Goods, except for any such infringement resulting from Seller's compliance with detailed designs provided by Buyer, and Seller shall indemnify Buyer and its customers for all costs and damages arising out of such alleged infringement. Buyer shall have the right, at no additional charge, to use and/or reproduce the Seller's applicable literature, such as operating and maintenance manuals, technical publications, prints, drawings, training manuals, and other similar supporting documentation and sales literature. Seller shall advise Buyer of any updated information relative to the foregoing literature and documentation with timely notification in writing.
15. **PUBLIC LIABILITY INSURANCE.** Seller shall hold Buyer and its customer harmless from all injuries, damages and claims arising from performance of work or services covered by this order. Seller shall maintain such insurance as will protect the Seller, the Buyer and his customer from claims under Worker's Compensation Acts and from all other claims for damages, personal injury, or death to employees of the Seller, the Buyer or his Customer, or any other persons which may arise from performance of work or services covered by this order whether performed by the Seller or any Subcontractor or any one directly or indirectly employed by either of them. Certificates of such insurance shall be filed with the Buyer and shall be subject to Buyer's approval for adequacy of protection.

**City of Duluth Fire Hall #10
Gary New Duluth
Duluth, Minnesota**

**Mechanical and Electrical Design Build
Outline Specification and
Performance Specification**

Prepared by:

**Gausman & Moore Associates, Inc.
501 South Lake Avenue, Suite 310
Duluth, MN 55802
Phone: (218) 722-2555
Fax: (218) 722-9306**

Contacts:

Mechanical: Blayne Parkos

Email: bparkos@gausman.com
(651) 604-3105

Electrical: Scott Haedtke

Email: shaedtke@gausman.com
(218) 302-6565

Gausman & Moore Project No.: 79879

October 8, 2008

DIVISIONS 22 AND 23

220500 – COMMON WORK RESULTS FOR MECHANICAL

A. Purpose

1. The purpose of this Design Build Outline Specification is to define the scope of work; to serve as a vehicle for Owner/Contractor review; and to allow architectural/engineering coordination of specific mechanical devices and equipment, and required systems distribution and space allocation.

B. Scope of Work

1. Provide all labor, materials, equipment and services necessary for the installation and completion of the Mechanical Work.
2. This contractor is solely responsible for the associated requirements with the conditions outlined within all divisions.
3. Submittals, provide as follows:
 - A) Provide 50% and 99% AutoCAD generated drawings for review and approval by Owner. Plans shall be developed at a minimum scale of 1/8" scale and include but are not necessarily limited to:
 - 1) Overall mechanical floor plans
 - B) Provide 100% complete Owner approved plans stamped "FOR CONSTRUCTION", certified by a registered mechanical engineer in the State of Minnesota.
 - C) Provide submittal package for Owner review, approval, and coordination purposes for mechanical equipment.
 - D) Provide at substantial completion, O&M Manuals including one complete set of approved mechanical equipment shop drawings, manufacture warranties, 11" x 17" as-constructed documents, and electronic version in PDF format. O&M Manuals shall be 3-hole punched in binder with label on outside of binder spine, and index for each major component with appropriate tab.
4. Do the work in a workmanlike manner by persons experienced and skilled in the trade.

C. General conditions

1. The general conditions, special conditions, supplementary conditions, building owner mechanical specifications, and "general conditions of the contract," current edition, established in Standard Form by the American Institute of Architects shall apply to all work on this project except as modified below. This contractor shall be familiar with these provisions and adhere to these requirements. This contractor shall coordinate mechanical work with other trades, building owner, and tenant prior to installation.

D. Related documents

1. This contractor shall refer to the architectural, mechanical/electrical plans and specifications. Such plans and specifications are a part of the contract documents. Contractors shall visit the site and familiarize themselves with all conditions surrounding the work.

E. Plans and specifications

1. Throughout the course of the work, the building owner may request minor changes and adjustments to the plans and specifications. The contractor shall make such adjustments without additional cost to the tenant, where such adjustments are necessary for the proper installation and operation of the systems, and within the intent of the contract documents.
2. It is the intent of the plans and specifications to form a guide for a complete installation. Everything necessary for the completion and successful operation of the work, whether or not definitely specified or indicated on the drawings shall be provided as if so specified or indicated without additional cost to the tenant. The mechanical contractor shall verify all dimensions prior to installation.
3. Notwithstanding any other provisions of the contract documents, the contractor bears ultimate responsibility for compliance of the installation with the requirements of the building owner and of the local authority having jurisdiction.

F. Modifications

1. If any errors, discrepancies or omissions appear in the drawings, specifications or other contract documents, the contractor shall notify the architect in writing of such error or omission. In the event of the contractor failing to give such notice before construction and/or fabrication of the work, he will be held responsible for the results of any such errors, discrepancies or omissions and the associated cost of rectifying.

G. Code compliance

1. This contractor shall comply with the requirements of all state and local codes regulating this work. However, this shall not be construed as relieving the contractor from complying with any requirements of the drawings and specifications that may be in excess of any governing codes.

H. Permits, fees, licenses

1. This contractor shall pay all fees and related charges for permits, licenses, etc., required for installation of the mechanical system.

I. Warranty

1. All construction work shall be performed in a first-class workmanlike manner and shall be in good and usable condition at the date of completion. This contractor shall require any persons performing any such work to guarantee the same to be free from any and all defects in workmanship and materials for one (1) year from the date of completion thereof. This contractor shall also require any such persons to be responsible for the replacement or repair without any additional cost to any and all work done or furnished by or through such persons which shall become defective within one (1) year after substantial completion of work. The correction of such work shall include without additional cost all expenses and damages in connection with such removal, replacement or repair of any part of the work which may be damaged or disturbed thereby. All warranties or guarantees as to materials or workmanship with respect to building owner's work shall be written so that such warranties or guarantees shall be to ensure the benefit of both landlord and tenant as their respective interests appear and can be directly enforced by either.

J. Field quality control

1. Upon completion of installation of mechanical equipment, start-up and operate equipment to demonstrate capability and compliance with requirements.
2. Remove malfunctioning units, replace with new units and retest.

220510 – BASIC MATERIALS AND METHODS

A. Mechanical related work

1. Materials and equipment designed to be new shall be free of defects.
2. Design and install piping and ductwork to present a neat orderly appearance. Route parallel with building walls and construction.
3. Provide vibration isolation and flexible connections on all moving equipment.
4. Roof openings, if required, shall be performed by the building owner's designated roofing company at this contractor's expense.
5. Provide all cutting and patching necessary for installation of new systems and equipment.

B. Equipment order

1. The contractor shall order all equipment required within ten days upon receipt of contract in order to ensure timely receipt of material. Substitutions after this date due to lack of placement of order will not be approved.

C. Hangers, supports, and sleeves

1. Support piping adequately from slabs or other structural members at intervals in compliance with industry standards. Coordinate support of piping on roof with landlord requirements where applicable.
2. All horizontal piping penetrating walls shall be fitted with sleeves made of standard steel pipe 1 inch larger than the pipe and insulation diameter. Sleeves shall be cut flush with the wall on both sides. Seal the sleeve voids with nonshrinking sealant. All penetrations through fire rated walls shall be sealed in compliance with UL.
3. Provide escutcheon plates on all exposed pipe penetrations through walls.

D. Equipment identification

1. Identify piping, ductwork and equipment in compliance with the building owner's criteria and in compliance with industry standards.

E. Cleaning and testing

1. Clean, disinfect, and test all plumbing and piping systems as required by the building owner and governing codes.

220700 – INSULATION

A. Mechanical insulation

1. Insulation shall be Owens-Corning, Manville Corporation, Certain-Teed, Knauf or equal. All insulating materials shall have fire and smoke hazard ratings as tested by procedure ASTM E-84, NFPA 255 and UL 723 not exceeding flame spread 25 and smoke developed 50. Insulation accessories such as adhesives, mastics, cement, tapes and glass cloth shall have the same component rating as listed above.
2. Insulate condensate drain piping with a minimum 1/2 inch thick closed cell flexible rubber pipe insulation.
3. Insulate refrigerant suction piping with a minimum 1 inch thick closed cell flexible rubber pipe insulation.

B. Pipe insulation shall be as follows:

Insulation Thickness - Fiberglass or Flexible Unicellular
(Based on Thermal Resistivity of 4.0 to 4.6 H-FT²-°F/BTU-Inch)

Pipe Size	2" & less	2-1/2 to 4"	5" and 6"	8" & larger
Domestic Cold Water (**)	1/2"	1/2"	1"	1"
Domestic Hot Water 150° to 180°	1"	1-1/2"	1-1/2"	1-1/2"
Refrig. Suction (**)	1"	1"	1-1/2"	1-1/2"

** May be fiberglass or equal "R" value of flexible unicellular.

221100 – PLUMBING

A. Refrigeration piping systems

1. Refrigeration piping shall be type ACR hard drawn copper tubing and wrought copper solder joint fittings joined using brazed joints. Provide suction and liquid pipe sizes as required by the air cooled condensing unit manufacturer based on the actual condensing unit location and the developed piping lengths. Pitch as required by the manufacturer and industry practice.
2. Provide all solenoid and shut off valves and accessories required by the air cooled condensing unit manufacturer to provide a complete and operable refrigeration piping system.

B. Condensate drain piping systems

1. Condensate drain piping within the building shall be Type 'L' hard drawn copper with wrought copper solder fittings.
2. Condensate drain piping outside the building shall be schedule 40 polyvinyl chloride plastic pipe (PVC) within limits of state building code with PVC plastic, socket type, solvent cement joint fittings.

C. Fixtures and related piping

1. Remove and install new plumbing fixtures as indicated on plan. No substitutions will be permitted without authorization from the architect.
2. Disconnect existing supply, waste, and vent piping to facilitate fixture replacement. Provide new stop valves and braided flexible metal hot and cold water lines at new plumbing fixture locations indicated on drawings.

D. Soil, Waste, and Vent Piping Systems

1. Underground and aboveground sanitary sewers, and all storm sewers shall be "No Hub" pipe and fittings.
2. Floor drains to be Josam, Zurn, or equivalent.

E. Domestic Cold and Hot Water Piping Systems

1. Piping for hot and cold water systems to be type L copper.
2. Water fittings and trim for fixtures to be Chicago Faucet Co., T&S, Zurn and Sloan, chromeplated.
3. Wall mounted and drop-in lavatories, as well as urinals and water closets, shall be Vitreous china fixtures as manufactured by Kohler or American Standard.
4. Stainless steel sinks to be Elkay drop-in type.
5. Domestic water heaters to be natural gas type as manufactured by A.O. Smith or equivalent. Provide circulation pump for building hot water circulating system.

F. Natural Gas System

1. Natural gas piping to be Schedule 40 black steel with malleable iron fittings in exposed areas, welded piping in concealed locations.
2. Exterior above grade piping to be galvanized.
3. Gas to be extended to equipment rooms for connection to water heater.

22340 – FUEL-FIRED DOMESTIC WATER HEATERS

A. This section includes the following fuel-fired water heaters:

1. Commercial, power burner, storage, gas water heaters.
2. Commercial, high-efficiency, gas water heaters.

B. Submittals

1. Product Data: For each type and size of water heater indicated. Include rated capacities, operating characteristics, furnished specialties, and accessories.
2. Shop Drawings: Diagram power, signal, and control wiring.
3. Product Certificates: For each type of commercial water heater, signed by product manufacturer.
4. Source quality control test reports.
5. Field quality control test reports.

6. Operation and Maintenance Data: For water heaters to include in emergency, operation, and maintenance manuals.
7. Warranty: Special warranty specified in this Section.

C. Quality Assurance

1. Source Limitations: Obtain same type of water heaters through one source from a single manufacturer.
2. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
3. ASME Compliance:
 - A) Where ASME code construction is indicated, fabricate and label commercial water heater storage tanks to comply with ASME Boiler and Pressure Vessel Code: Section VIII, Division 01.
 - B) Where ASME code construction is indicated, fabricate and label commercial, finned tube water heaters to comply with ASME Boiler and Pressure Vessel Code: Section IV.
4. Comply with NSF 61, "Drinking Water System Components - Health Effects; Sections 1 through 9" for all components that will be in contact with potable water.

D. Coordination

1. Coordinate size and location of any required concrete bases.

E. Warranty

1. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of fuel-fired water heaters that fail in materials or workmanship within specified warranty period.
 - A) Failures include, but are not limited to, the following:
 - 1) Structural failures including storage tank and supports.
 - 2) Faulty operation of controls.
 - 3) Deterioration of metals, metal finishes, and other materials beyond normal use.
 - B) Warranty Period(s): From date of Substantial Completion:
 - 1) Commercial, Gas Water Heaters:
 - A. Storage Tank: Five years.
 - B. Control and Other Components: Three years.

F. Manufacturers

1. The following requirements apply to product selection:
 - A) Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.
2. Commercial, High-Efficiency, Gas Water Heaters: Comply with ANSI Z21.10.3/CSA 4.3
 - A) Manufacturers:
 - 1) AERCO International.
 - 2) Bradford White Corporation.
 - 3) Lochinvar Corporation.
 - 4) Patterson-Kelley.
 - 5) Rheem Water Heater Div.; Rheem Manufacturing Company.
 - 6) Ruud Water Heater Div.; Rheem Manufacturing Company.
 - 7) Smith, A. O. Water Products Company.
 - 8) State Industries, Inc.
 - 9) Weben-Jarco, Inc.
 - B) Description: Manufacturer's proprietary design to provide at least 88 percent combustion efficiency at optimum operating conditions. Following features and attributes may be modified or omitted if water heater otherwise complies with requirements for performance.
 - C) Storage Tank Construction: ASME code steel with 150 psig working pressure rating.
 - 1) Tappings: Factory fabricated of materials compatible with tank. Attach tappings to tank before testing.
 - A. NPS 2 and Smaller: Threaded ends according to ASME B1.20.1.
 - B. NPS 2-1/2 and Larger: Flanged ends according to ASME B16.5 for steel and stainless steel flanges, and according to ASME B16.24 for copper and copper alloy flanges.
 - C. Lining: Glass complying with NSF 61 barrier materials for potable-water tank linings, including extending lining into and through tank fittings and outlets.
 - D) Factory Installed, Storage Tank Appurtenances:
 - 1) Anode Rod: Replaceable magnesium.
 - 2) Dip Tube: Provide unless cold water inlet is near bottom of tank.
 - 3) Drain Valve: Corrosion resistant metal complying with ASSE 1005.

- 4) Insulation: Comply with ASHRAE/IESNA 90.1. Surround entire storage tank except connections and controls.
- 5) Jacket: Steel with enameled finish.
- 6) Combination Temperature and Pressure Relief Valves: ANSI Z21.22/CSA 4.4. Include one or more relief valves with total relieving capacity at least as great as heat input, and include pressure setting less than water heater working pressure rating. Select one relief valve with sensing element that extends into storage tank.
- E) Burner or Heat Exchanger: Comply with UL 795 or approved testing agency requirements for high-efficiency water heaters and for natural gas fuel.
- F) Temperature Control: Adjustable thermostat.
- G) Safety Controls: Automatic, high temperature limit and low water cutoff devices or systems.

G. Water Heater Accessories

- 1. Gas Shutoff Valves: ANSI Z21.15/CGA 9.1, manually operated. Furnish for installation in piping.
- 2. Gas Pressure Regulators: ANSI Z21.18, appliance type. Include pressure rating, capacity, and pressure differential required between gas supply and water heater.
- 3. Gas Automatic Valves: ANSI Z21.21, appliance, electrically operated, on-off automatic valve.
- 4. Combination Temperature and Pressure Relief Valves: Include relieving capacity at least as great as heat input, and include pressure setting less than water heater working pressure rating. Select each relief valve with sensing element that extends into storage tank.
 - A) Gas Water Heaters: ANSI Z21.22/CSA 4.4.
- 5. Water Heater Mounting Brackets: Water heater manufacturer's factory fabricated steel bracket for wall mounting and capable of supporting water heater and water.
- 6. Drain Pans: Corrosion resistant metal with raised edge. Provide dimensions not less than base of water heater and include drain outlet not less than NPS 3/4.
- 7. Piping Type Heat Traps: Field fabricated piping arrangement according to ASHRAE/IESNA 90.1 or ASHRAE 90.2.

H. Source Quality Control

1. Test and inspect water heater storage tanks, specified to be ASME code construction, according to ASME Boiler and Pressure Vessel Code.
2. Prepare test reports.

I. Water Heater Installation

1. Install commercial water heaters on concrete bases.
 - A) Exception: Omit concrete bases for commercial water heaters if installation on stand, bracket, suspended platform, or direct on floor is indicated.
2. Install water heaters level and plumb, according to layout drawings, original design, and referenced standards. Maintain manufacturer's recommended clearances. Arrange units so controls and devices needing service are accessible.
3. Install gas water heaters according to NFPA 54.
4. Install gas shutoff valves on gas supplies to gas water heaters without shutoff valves.
5. Install gas pressure regulators on gas supplies to gas water heaters without gas pressure regulators if gas pressure regulators are required to reduce gas pressure at burner.
6. Install automatic gas valves on gas supplies to gas water heaters, if required for operation of safety control.
7. Install combination temperature and pressure relief valves in top portion of storage tanks. Use relief valves with sensing elements that extend into tanks. Extend commercial water heater, relief valve outlet, with drain piping same as domestic water piping in continuous downward pitch, and discharge by positive air gap onto closest floor drain.
8. Install water heater drain piping as indirect waste to spill by positive air gap into open drains or over floor drains. Install hose end drain valves at low points in water piping for water heaters that do not have tank drains.
9. Install thermometer on outlet piping of water heaters.
10. Install piping type heat traps on inlet and outlet piping of water heater storage tanks without integral or fitting type heat traps.
11. Fill water heaters with water.
12. Hot water circulating pumps to be Bell and Gossett inline type.

J. Connections

1. Install piping adjacent to water heaters to allow service and maintenance. Arrange piping for easy removal of water heaters.
2. Ground equipment according to Division 26 Section "Grounding and Bonding for Electrical Systems."
3. Connect wiring per NEC requirements.

K. Field Quality Control

1. Perform the following field tests and inspections and prepare test reports:
 - A) Leak Test: After installation, test for leaks. Repair leaks and retest until no leaks exist.
 - B) Operational Test: After electrical circuitry has been energized, confirm proper operation.
 - C) Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
2. Remove and replace water heaters that do not pass tests and inspections and retest as specified above.

L. Demonstration

1. Engage a factory authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain commercial water heaters.

233416 – EXHAUST FANS

- A. Provide combination heater and exhaust fans for toilet exhaust, and other building miscellaneous area exhaust. Terminate above roof with gooseneck.

238126 – HEATING, VENTILATING AND AIR CONDITIONING

A. Mini-Split Style Multi-Zone Room Air Conditioners

1. Provide two (2) two-zone mini-split system with two evaporators wall mounted with single ground mounted air cooled condensing unit. Size unit based on calculated cooling loads performed by contractor.
2. Provide self contained, factory assembled, prewired, and prepiped; consisting of cabinet, fan, filters, and controls; for wall mounting in four locations (Living Room 203, Exercise 206, Bedrooms 210 and 211). Cabinet shall be galvanized steel with baked enamel finish, insulated with 1/2 inch thick duct liner.
3. Evaporator fan shall be forward curved, centrifugal, and directly driven by two speed motor.

4. Compressor shall be hermetic, with resilient suspension system, oil strainer, and internal motor overload protection.
 - A) Refrigeration circuit: low pressure switch, manual reset high pressure switch, thermal expansion valve with external equalizer, sight glass with moisture indicator, service shutoff valves, charging valves, and charge of refrigerant.
 - B) Refrigerant: R-22.
 5. Evaporator coil shall be direct expansion cooling coil of seamless copper tubes expanded into aluminum fins. Mount coil assembly over stainless steel drain pan.
 6. Air cooled condenser shall be integral copper tube aluminum fin coil with propeller fan, direct driven.
 - A) Split system shall have suction and liquid line compatible fittings and refrigerant piping for field interconnection.
 7. Filter shall be 1 inch thick, disposable, glass fiber media.
 8. Air distribution plenum/grille shall be factory supplied supply/return grille with integral 20% efficient filter.
 9. Condensate pump shall be provided with minimum capacity of 30 gph at 20 ft. head. Pump shall be complete with integral float switch, pump, motor assembly, and reservoir.
 10. Control system shall be unit mounted panel with main fan contactor, compressor contactor, compressor start capacitor, control transformer with circuit breaker, solid state temperature and humidity control modules (one per room), humidity contactor, time delay relay, and high temperature thermostat. Provide solid state, wall mounted control panel with start stop switch, adjustable humidity set point, and adjustable temperature set point.
- B. Acceptable Manufacturers:
1. Mitsubishi
 2. Sanyo
- C. Submittals and Warranty
1. Submit for architect approval selected unit including manufacturers product data, warrant information, and supporting load calculation data.
 2. Provide owner training and startup.

**END OF MECHANICAL DESIGN BUILD
OUTLINE SPECIFICATION**

DIVISIONS 26, 27, AND 28

260500 – COMMON WORK RESULTS FOR ELECTRICAL

A. Purpose

1. The purpose of this Design Build Outline Specification is to define the scope of work; to serve as a vehicle for Owner/Contractor review; and to allow architectural/engineering coordination of specific electrical devices and equipment, and required systems distribution and space allocation.

B. Scope of Work

1. Provide all labor, materials, equipment and services necessary for the installation and completion of the Electrical Work. Refer to Electrical Performance Specification attachment.
2. This contractor is solely responsible for the associated requirements with the conditions outlined within all divisions.
3. Submittals, provide as follows:
 - a. Provide 50% and 99% AutoCAD generated drawings for review and approval by Owner. Plans shall be developed at a minimum scale of 1/8" scale and include but are not necessarily limited to:
 - i. Overall electrical floor plans.
 - ii. Lighting, device and equipment, layout, circuiting (new and existing), panel schedules, and riser diagram complete with sizes.
 - b. Provide 100% complete Owner approved plans stamped "FOR CONSTRUCTION", certified by a registered electrical engineer in the State of Minnesota.
 - c. Provide submittal package for Owner review, approval, and coordination purposes for lighting fixtures, devices, power distribution gear, and all low voltage material.
 - d. Provide at substantial completion, O&M Manuals including one complete set of approved electrical equipment shop drawings, manufacture warranties, 11" x 17" as-constructed documents, and electronic version in PDF format. O&M Manuals shall be 3-hole punched in binder with label on outside of binder spine, and index for each major component with appropriate tab.
4. Do the work in a workmanlike manner by persons experienced and skilled in the trade.

C. Current Characteristics

1. Electrical service will be obtained from new services as outlined in the Performance Specification. It is the contractor's responsibility to verify existing conditions prior to bid.

D. Codes, Permits and Fees

1. All work shall be done in accordance with the 2008 National Electrical Code, the Minnesota State Building Code, and local codes.
2. The Contractor shall pay for required permits and fees.
3. The contractor shall provide all coordination with Minnesota Power to facilitate installation of new electrical service. Refer to Performance Specification for specific requirements. Owner is responsible for any direct utility costs.

260519 – LOW VOLTAGE POWER CONDUCTORS AND CABLES

- A. Conductors for branch circuits shall be copper. Insulation for #8 and smaller shall be type THHN and type THW for larger. Minimum size wire for branch circuits #12. The use of aluminum conductors will be permitted for new underground service entrance work.
- B. Outlet boxes shall be of size and type suitable for their use according to code. They shall be of steel in fire-rated walls, plastic or fiberglass where PVC or non-metallic is used and cast alloy where exposed to the weather.
- C. Outlet boxes in fire rated walls shall be steel and offset horizontally 24". Outlets shown back-to-back shall be offset 6" minimum.
- D. Outlet boxes installed in exterior walls shall be of type listed for use in walls/ceilings with vapor barrier.

260526 – GROUNDING AND BONDING

- A. This Section includes grounding of electrical systems and equipment. Grounding requirements specified in this Section may be supplemented by special requirements of systems described in other Sections.
- B. Install insulated equipment grounding conductor with circuit conductors for the following items, in addition to those required by NEC:
 1. Branch circuits.
 2. Lighting circuits.
 3. Receptacle circuits.
 4. Single-phase motor and appliance branch circuits.
 5. Flexible raceway runs.
 6. Armored and metal-clad cable runs.
- C. Ground service entrance per NEC.

260533 – RACEWAYS

- A. Wiring shall be in conduit or metal surface raceway as required by NEC. Provide all components required to provide a complete and operational system. Refer to attached Electrical Performance Specification.

262416 – PANELBOARDS

- A. Provide surface mounted cabinets with hinged door in door, or flush mounted with hinged doors where applicable (finished spaces).
- B. Circuit breakers shall be thermal-magnetic, quick make, quick break. Coordinate AIC ratings with utility company. Multipole breakers shall have a common trip.
- C. AIC ratings shall match existing equipment.
- D. Acceptable Manufacturers:
 - 1. Cutler Hammer/Westinghouse
 - 2. General Electric
 - 3. Square D
 - 4. Siemens

262726 – WIRING DEVICES

- A. Devices shall be specification grade. All exterior receptacles and receptacles located near sinks shall be GFCI type. All devices shall be white with matching nylon coverplates.

262813 – FUSES

- A. Fuses shall be time delay type Class RK-5 of correct rating to protect the wiring to which they are connected or motor they serve.
- B. Acceptable Manufacturers:
 - 1. Bussman
 - 2. Littelfuse

262816 – ENCLOSED SWITCHES AND CIRCUIT BREAKERS

- A. Safety switches shall be heavy duty, horsepower rated. Motor disconnect switches may be non-fused.
- B. Acceptable Manufacturers:
 - 1. Cutler Hamer/Westinghouse
 - 2. General Electric
 - 3. Square D
 - 4. Siemens

265100 – INTERIOR LIGHTING

- A. Provide lighting fixtures for all outlets and fixtures unless noted otherwise and as scheduled/indicated on plans. Provide energy saving lamps for all fixtures. Fixtures shall have a UL label.
- B. Recessed incandescent fixtures shall have thermal protection and U.L. Rated for applicable installation environment.

C. Lamps

1. Incandescent lamps shall be rated 130 volt.

270010 – DATA, COMMUNICATIONS AND SECURITY SYSTEMS

- A. Furnish, install and test all cabling, outlets, terminal blocks and all other equipment necessary for a complete Category 5e horizontal cabling system and CATV as specified and indicated on drawings for cable television, voice and data (internet).

283100 – FIRE ALARM SYSTEM

- A. Existing to remain.
- B. This contractor with guidance and direction from the Owner shall provide all labor and material to facilitate the relocation and upgrade of security/alarm system. Refer to attached Performance Specification.

END OF ELECTRICAL DESIGN BUILD
OUTLINE SPECIFICATION

Electrical Performance Specification

General

- This specification is intended to provide a general outline of the Owner's requirements for the electrical design on this project.
- Bidders shall submit written design proposals, which detail, in general, the bidder's proposed electrical design. Bidders shall list service size, panel quantities/sizes, lighting types and quantities, receptacles quantities, etc. so that the Owner may intelligently compare proposals.
- Include all permit fees for temporary and permanent services.
- Provide temporary lighting and power. Coordinate with general contractor for specific requirements.
- Provide a one-year warranty for the electrical system. Warranty shall begin upon final acceptance by the Owner.
- Verify standard mounting heights with the architect prior to rough-in. All elevations shall conform to the ADA.
- Provide all fire-stopping required for electrical penetrations.
- Replace damaged surface metal raceway as required. Secure/fasten existing surface metal raceway as required.

Wiring Methods

- Wiring methods shall be in compliance with NEC and manufacturer installation requirements.
- For all spaces utilize Type MC Cable or Romex (Type NM/NMC) for branch circuitry for protected/concealed applications. Where approved by Architect, utilize surface metal raceway (Wiremold or approved equivalent) in existing spaces where concealed installation is not practical.
- In exposed and unfinished areas, utilize EMT conduit.
- 4" square boxes with the appropriate mud/tile rings for MC and EMT branch circuitry.
- Provide specification grade wiring devices in all areas.
- Cover plates in finished spaces shall be ivory nylon.
- Cover plates in unfinished areas shall be of the raised steel type.

Switchgear / Service

- Provide new 200A, 120/240v, single phase main fused service rated disconnect switch, and associated 225A, 120/240v, single phase panelboard. Disconnect and remove existing 100A, 20 space panelboard and fuse box upon completion of above specified work.
- Coordinate replacement and installation of new meter and meter socket with Minnesota Power.
- Provide as an add alternate new dedicated 200A, 120/240v, single phase underground service entrance from pole mounted transformer.
- Complete service replacement in a manner to maintain electric service to facility without disruption. Coordinate all service and branch circuit cutovers with Owner 48 hours in advance.

Generator

- Generator and associated equipment are existing to remain. Disconnect and reconnect normal power feeds to facilitate service replacement specified above.

Equipment Connections

- Provide power wiring for all plumbing, heating, cooling, and ventilating equipment. The mechanical system uses a mini-split style unit. Verify with mechanical contractor. Provide power to interior and exterior mini-split units and exhaust fans. Coordinate with mechanical contractor.
- Provide all disconnects for equipment as required per NEC.
- Provide motor starters for all pumps, fans, etc. except for packaged equipment, which is furnished with such.
- Provide power to the Owners microwaves, dishwashers, disposals, range, etc. in the kitchen area.
- Provide power to each of the Owners exercise equipment.

Interior Lighting

- Replace existing switches and coverplates not affected by demolition with new, reconnect.
- Replace existing and provide new light fixtures per ME1.1.
- Provide standard toggle switches in all individual rooms for local lighting control.
- Recessed incandescent, wet location listed light fixture shall be used in shower. See light fixture schedule on sheet ME1.1.
- Provide IC and/or fire rated fixtures where required by code. Coordinate with General Contractor.
- Provide contactor (size as required) in NEMA1 cabinet for alarm lighting. Route **ALL** lighting circuit and switched receptacle circuit switch legs through contactor to turn on in alarm condition. Provide control power from Owners security/alarm equipment to contactor coil as required for complete and operational system.

General Branch Circuitry Provisions

- Replace existing receptacles and coverplate not affected by demolition with new, reconnect.
- Provide duplex receptacles as indicated on sheet ME1.1. Coordinate with the Architect for final locations based on furniture layout. Coordinate with existing receptacle locations.
- Provide GFI receptacles and associated small appliance branch circuits for Kitchen 201 as required by NEC.
- Provide dedicated circuits for each as follows: Refrigerator, microwave, dishwasher, and disposal.
- Replace existing range outlet and coverplate with new, reefed as required.
- Provide GFI receptacle in Bath 207 and 208.
- Provide exterior weatherproof GFI receptacles adjacent to all service doors and at every exterior patio or deck.
- Provide Arc Fault type circuit breakers as required per latest edition of NEC.
- Provide dedicated circuit for Owner exercise equipment.
- Provide dedicated circuit for up-right freezer.
- Provide receptacle and dedicated circuit for existing air compressor located in basement. Type to match cord and plug.

System Provisions

- Provide raceways, as required, for the voice/data/video system.
- Provide power to all phone and switches as required for the voice/data/video system.

Miscellaneous

- Refer to plans for various requirements shown that are not necessarily outlined in this section.

Voice/Data/Video Performance Specification

Voice/Data/Video Cabling

- Multiport faceplates shall be used for device locations as required. Use Category 5e jacks for voice and data terminations, one color for voice and a different color for data. F-connector modules color to match faceplate.
- Provide cable/phone locations in Living Room 202, Office 203, Bedrooms 210 and 211, as indicated on sheet ME1.1.
- Provide cable TV location in Living Room 202 as indicated on sheet ME1.1.
- All F-connectors shall be radial crimp style.
- Labeling of cables shall be done at each end, patch panel, and termination blocks

Miscellaneous

- Low voltage contractor is responsible to hire the electrical contractor to furnish and install. Conduit, boxes, mud rings, and required branch circuit wiring associated with control power.
- Relocate existing alarm system cabinet and associated devices. Coordinate relocation with Telephone Company.

END OF ELECTRICAL DESIGN BUILD
PERFORMANCE SPECIFICATION

ELECTRICAL LEGEND:

-  CEILING MOUNTED FIXTURE
-  TRACK MOUNTED FIXTURE
-  DUPLEX RECEPTACLE
-  QUAD RECEPTACLE
-  6FCI RECEPTACLE
-  TV RECEPTACLE
-  PHONE/DATA PORT

PLUMBING FIXTURE SCHEDULE:

- F-1: ELITE BY ELKAY DOUBLE BOWL SINK MODEL E5E250
- F-2: LASGO BATHWARE ACRYLIC SHOWER BASE, MODEL# 4834APAN

KOHLER PURIST-PIROT SHOWER DOOR K-T0201B, FROSTED GLASS, BRUSHED NICKEL FINISH

KOHLER SYMBOL SHOWER FAUCET TRIM K-T1B481-4 POLISHED CHROME FINISH K-304-KP RITE TEMP VALVE
- F-3: KOHLER HIGHLINE COMFORT HEIGHT COMBINATION ELONGATED TOILET K-3421 COLOR: WHITE K-4630 ELONGATED OPEN FRONT TOILET SEAT K-7631 ANGLE SUPPLY W/ STOP
- F-4: KOHLER PINOIR WALL MOUNT LAVATORY K-2039-4 COLOR: WHITE

KOHLER CORALAIS LAVATORY FAUCET K-15582-P POLISHED CHROME FINISH

LIGHT FIXTURE SCHEDULE:

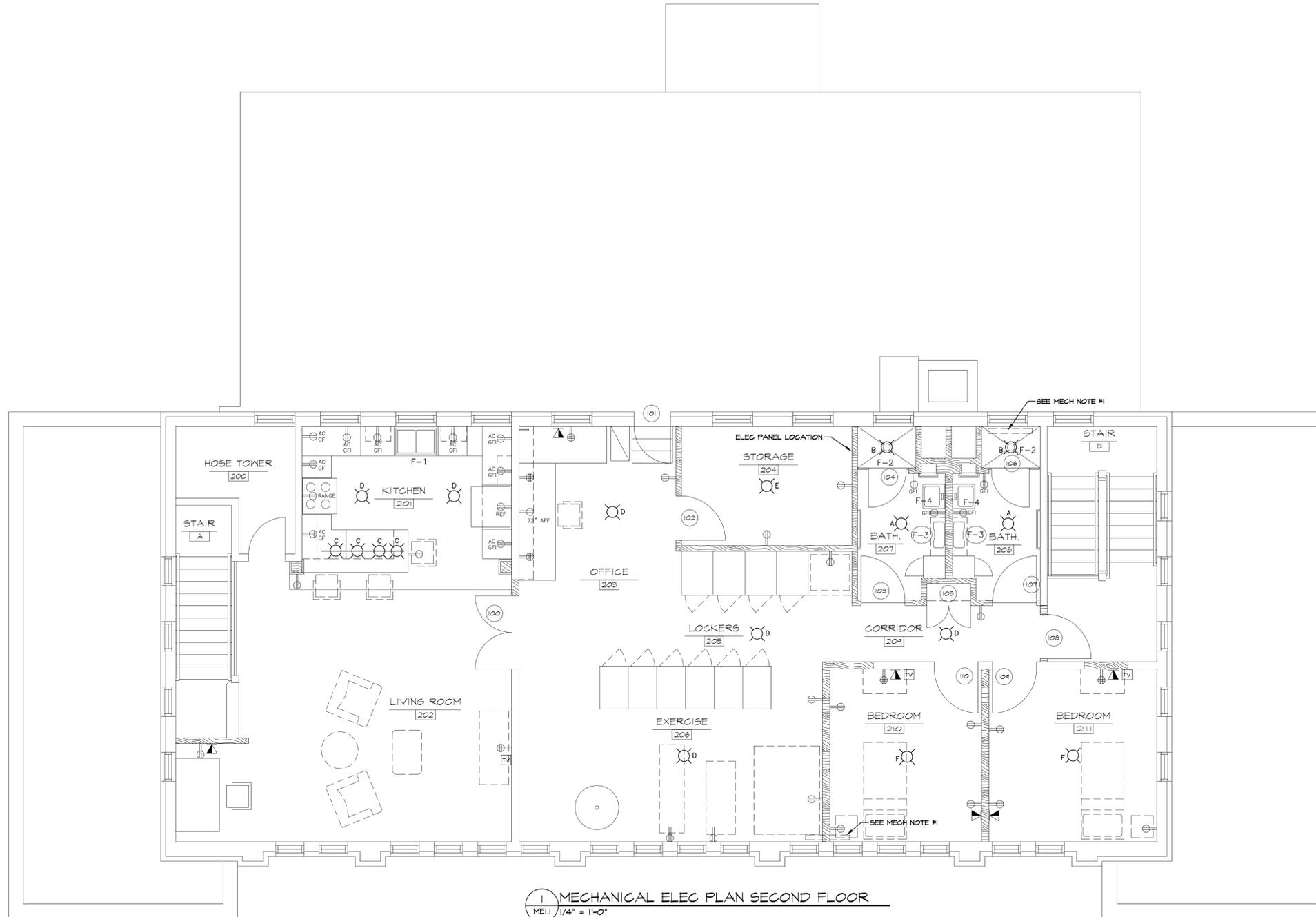
- A: NUTONE MODEL T65HFU VENTILATION FAN W/ LIGHT & HEATER
- B: PROGRESS LIGHTING 6" DROP OPAL W/ REFLECTOR RECESSED FIXTURE P8001-1G 40Wx11
- C: SEAGULL LIGHTING NEWPORT 61283-814 MINI-PENDANT
- D: SEAGULL LIGHTING NEWPORT T1283-814 CLOSE TO CEILING
- E: SEAGULL LIGHTING 5328-814 CLOSE TO CEILING
- F: SEAGULL LIGHTING 1835-814 CEILING FAN WITH WALNUT MOOD FINISH (1633-810) AND LIGHT KIT (1648-814)

GENERAL NOTES:

- REPAIR/REPLACE DAMAGED WIRE MOLD THAT IS COMING AWAY/DETACHING FROM SURFACE.
- REMOVE EXISTING LIGHT FIXTURES IN AREAS SHOWN WITH NEW FIXTURES.
- MECHANICAL/ELECTRICAL WORK TO BE DESIGN/BUILD. DOCUMENTS SHOWN INDICATE DESIGN INTENT ONLY.
- ALL RECEPTACLES SHOWN TO BE IN ADDITION TO THOSE ALREADY WITHIN SPACES.
- VERIFY EXISTING CONDITIONS ON SITE PRIOR TO COMMENCEMENT OF WORK.
- INTENT OF THIS DRAWING IS TO PROVIDE GENERAL SCOPE OF WORK. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS AND FINAL LAYOUTS OF NEW PRIOR TO BIDS.

MECHANICAL NOTES:

1. REMOVE EXISTING STEAM RADIATOR AND CAP EXISTING STEAM SUPPLY AND CONDENSATE RETURN PIPING BELOW THE FLOOR IN THE WALL AS NOT TO OBSTRUCT INSTALLATION OF NEW FINISHES. CONTRACTOR TO VERIFY ALL EXISTING CONDITIONS.
2. EXISTING DOOR BELL CHIME IS CURRENTLY LOCATED ON A WALL TO BE REMOVED. CONTRACTOR TO RELOCATE CHIME. VERIFY NEW LOCATION WITH OWNER.



I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and I am a duly Licensed Professional Architect under the laws of the State of Minnesota.
 Melissa M. Griffin
 State of Minnesota License # 44524
 Date: 09.22.08 License # 44524

SHEET TITLE:
MECHANICAL ELECTRICAL PLAN

City of Duluth Fire Station #10
 - 1106 Commonwealth Avenue
 Duluth, MN
 PROJECT NO: 0806
 DRAWN BY:
 CHECKED BY:

RELEASE DATE: 10.10.08

REVISIONS:

SET NO.

SHEET NO.
ME-1
 OF



architecture
A D V A N T A G E
a l l i m i t e d l i a b i l i t y p a r t n e r s h i p

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City of Duluth Fire Station #10
- 1106 Commonwealth Avenue Duluth, MN-

PROJECT NO: 0806
DRAWN BY:
CHECKED BY:

RELEASE DATE:
10.07.07

REVISIONS:

SHEET NO.
R-1

BID PACKAGE "B" WINDOW REPLACEMENT



1 PARTIAL NORTH ELEVATION
 AS.1 1/4" = 1'-0"

BID PACKAGE "B" WINDOW REPLACEMENT

architecture
 A D V A N T A G E
 a l l i m i t e d p a r t n e r s h i p

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City of Duluth Fire Station #10

- 1106 Commonwealth Avenue Duluth, MN-

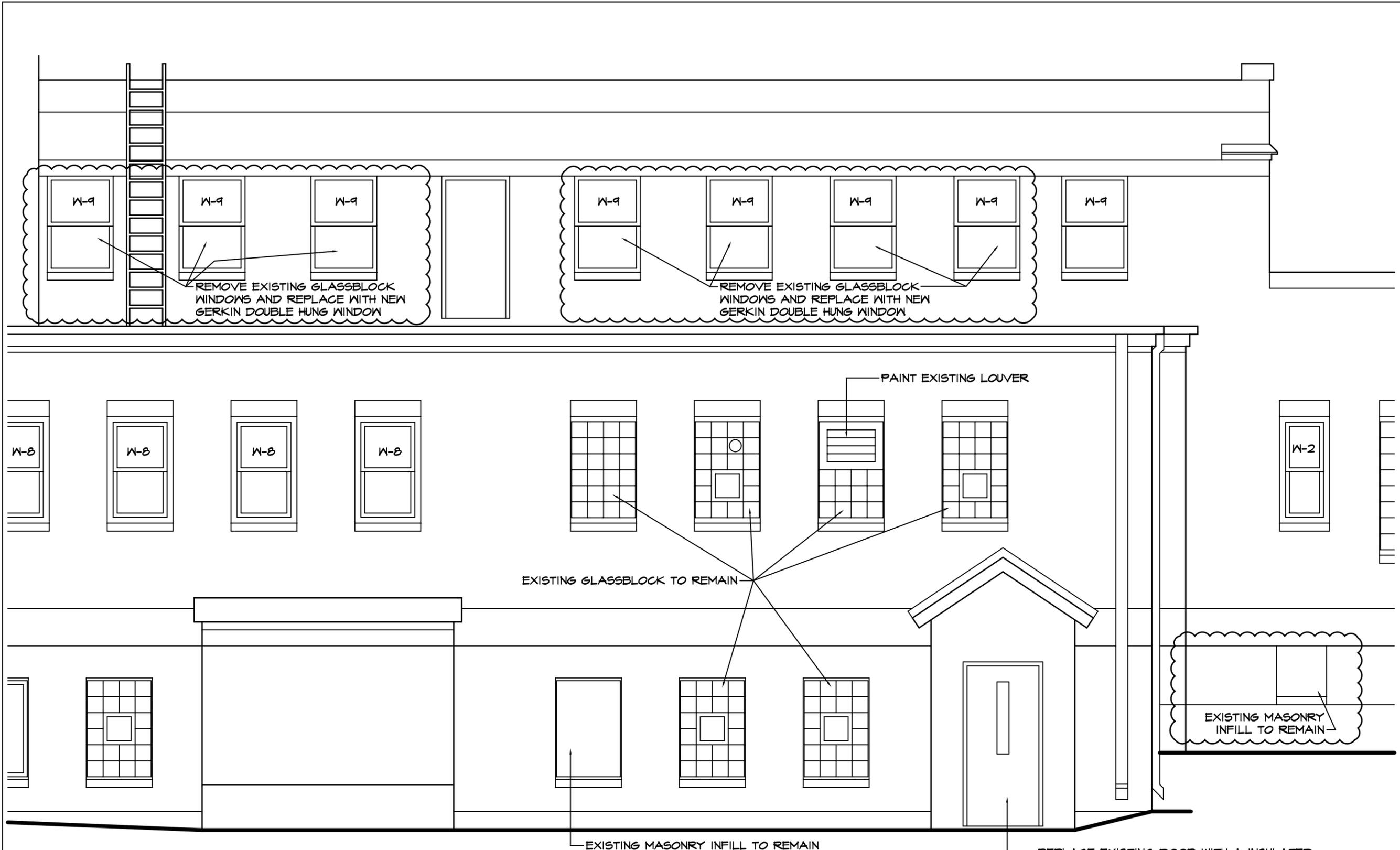
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 DRAWN BY:
 CHECKED BY:

RELEASE DATE:
 10.07.07

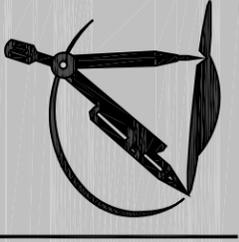
REVISIONS:

SHEET NO.

R-2



1 PARTIAL EAST ELEVATION
 A3.2 1/4" = 1'-0"



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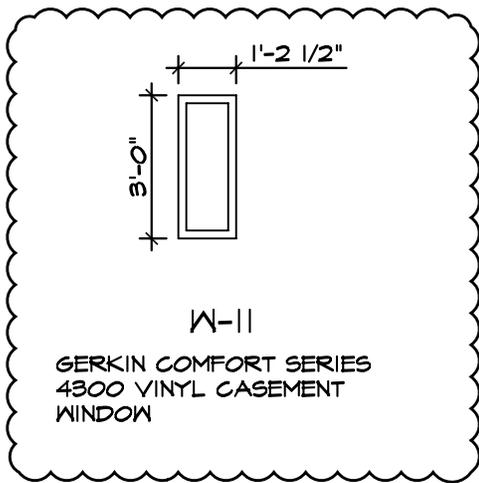
RELEASE DATE: 10.07.07

REVISIONS:

SHEET NO.

R-3

BID PACKAGE "B" WINDOW REPLACEMENT



3 WINDOW TYPES
A3.2 1/4" = 1'-0"

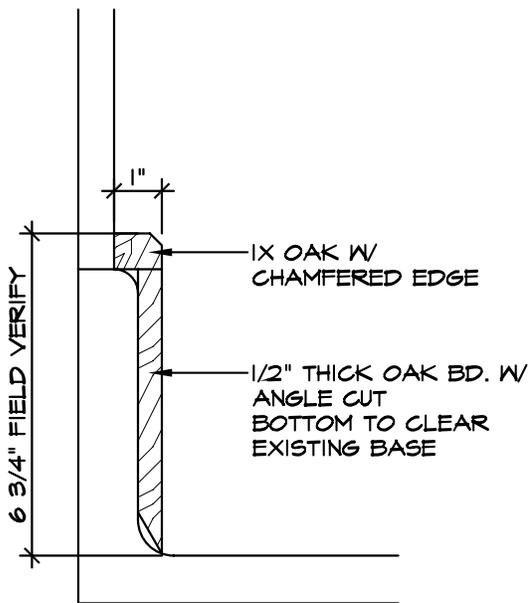
BID PACKAGE "B" WINDOW REPLACEMENT

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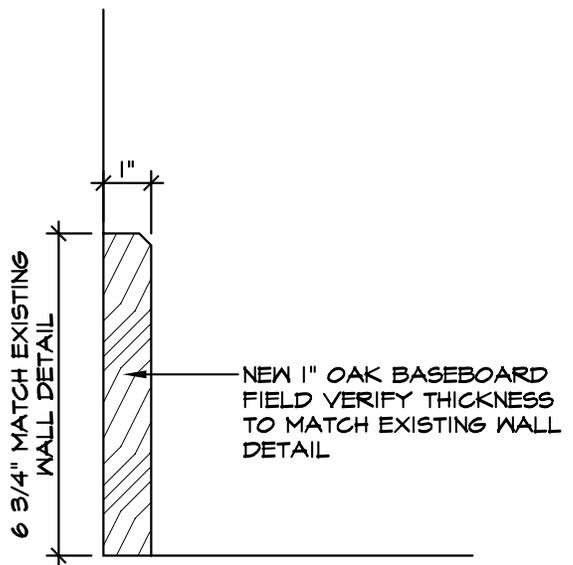
SHEET NO.
R-4

PROJECT NO: 0806 DRAWN BY: CHECKED BY:

RELEASE DATE: 10.07.08 REVISIONS:



NEW BASEBOARD AT EXISTING WALLS



NEW BASEBOARD AT NEW WALLS

12 DETAIL AT NEW BASEBOARD
 A1.1 3" = 1'-0"

BID PACKAGE "A" INTERIOR REMODELING

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SHEET NO.

R-5

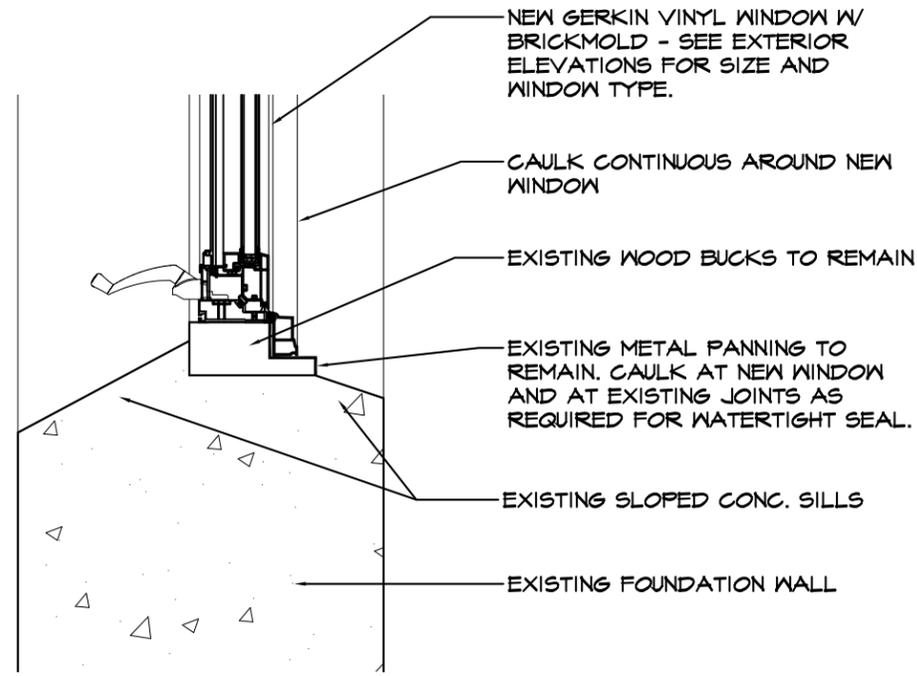
PROJECT NO:
0806

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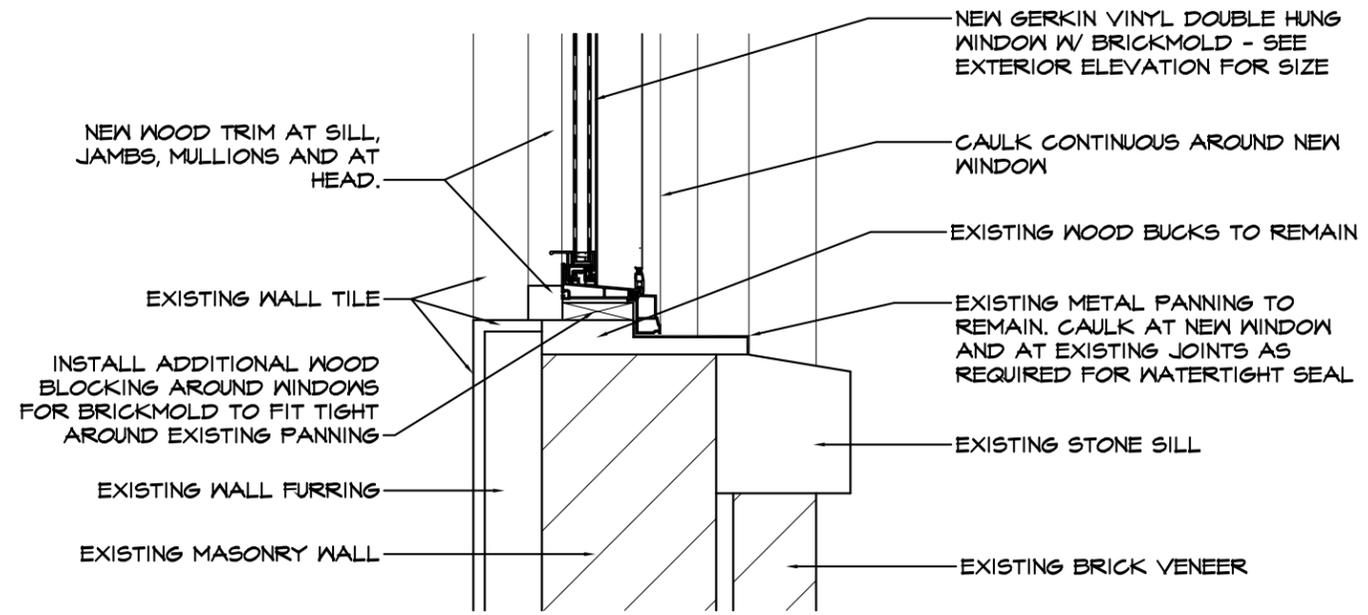
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RELEASE DATE:
10.08.08

REVISIONS:

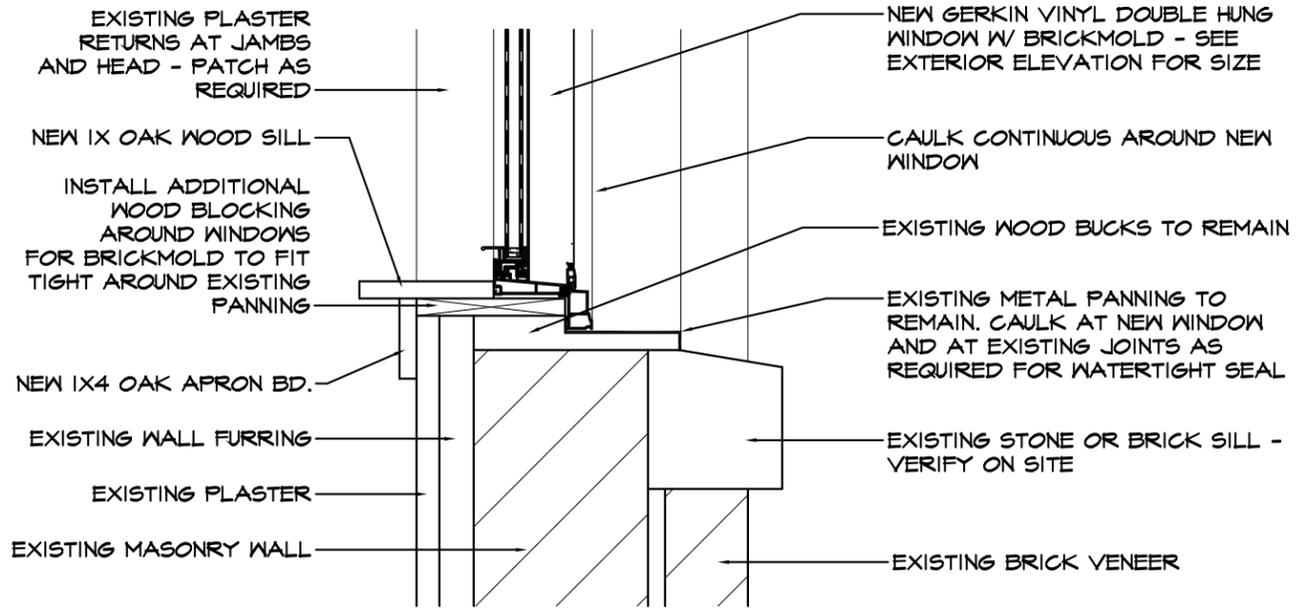


4 DETAIL AT BASEMENT LEVEL WINDOW
 A3.1 1 1/2" = 1'-0"



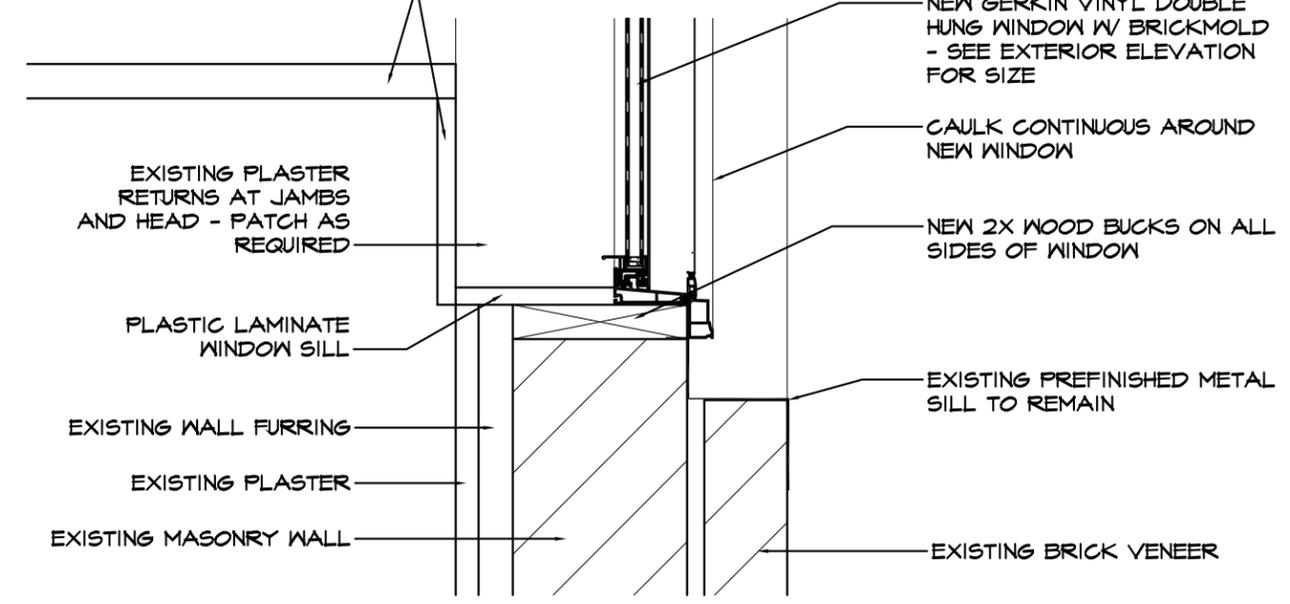
5 DETAIL AT MAIN LEVEL GARAGE WINDOWS
 A3.1 1 1/2" = 1'-0"

GENERAL NOTE: NEW WOOD SILL AND APRON BOARD ARE TO BE INCLUDED IN BID PACKAGE "A"



6 DETAIL AT UPPER LEVEL WINDOWS
 A3.1 1 1/2" = 1'-0"

GENERAL NOTE: NEW PLASTIC LAMINATE WINDOW SILLS AND RETURNS ARE TO BE INCLUDED IN BID PACKAGE "A"



7 DETAIL AT UPPER LEVEL KITCHEN WINDOWS
 A3.1 1 1/2" = 1'-0"

BID PACKAGE "B" WINDOW REPLACEMENT

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 CHECKED BY:

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REVISIONS:

SHEET NO. **R-6**