SECTION 00 0101
PROJECT TITLE PAGE

SPECIFICATION
1010 Bush Avenue – BID SET

27 July 2012

INVEST SAINT PAUL INITIATIVE
NEIGHBORHOOD STABILIZATION PROGRAMS
AND REBUILDING PLAN 2009-2013

Dayton's Bluff, District Council #4

OWNER

The Housing and Redevelopment Authority of Saint Paul, Minnesota
25 West Fourth Street, Saint Paul, MN 55102, Suite 1100
Roxanne Young
(651) 266-6581
Roxanne.Young@ci.stpaul.mn.us

HRA Scope Writer

Paul Ormseth, LLC
423 Landmark Center, 75 West 5th Street, Saint Paul, MN 55102
Paul Ormseth
651.298.6789
paulormseth@gmail.com

HRA Construction Manager

Paul Ormseth, LLC
423 Landmark Center, 75 West 5th Street, Saint Paul, MN 55102
Becca Hine
651.253.2068
beccahine@gmail.com

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SECTION 00 4002

HRA BID INVITATION

PART 1 GENERAL

1.01 CONTACT TRANSLATION

A. In Hmong - Ceeb toom. Yog koj xav tau kev pab txhais cov xov no rau koj dawb, Amy Filice 651-266-6568;

B. In Spanish - Atención. Si desea recibir asistencia gratuita para traducer esta información, llame a Amy Filice 651-266-6568;

C. In Somali - Ogow. Haddii aad dooneyso in lagaa kaalmeeyo tarjamadda macluumaadkani oo lacag la' aan wac, Amy Filice 651-266-6568.

1.02 PROJECT SUMMARY

A. Project description: This is a Residential Renovation project located at 1247 Conway Street. This project is funded by Neighborhood Stabilization Program through the Housing and Redevelopment Authority of Saint Paul, Minnesota. This project is not required to conform to Federal and/or Little Davis Bacon requirements.

1.03 NOTICE TO PROSPECTIVE BIDDERS

A. These documents constitute an invitation to bid to General Contractors for the construction of the project described within this bid manual.

1.04 OWNERSHIP INFORMATION

A. The Owner, The Housing and Redevelopment Authority of Saint Paul, Minnesota, hereinafter, referred to as Owner.

B. Owner's Project Manager: Roxanne Young
Address: 25 West Fourth Street, Saint Paul, MN 55102, Suite 1100
Phone Number: (651) 266- 6581
Email: roxanne.young@ci.stpaul.mn.us

1.05 OWNER'S CONSULTANT(S)

Owner's Project Specification Consultant: Paul Ormseth, LLC

1. Specification Writer's Name: Paul Ormseth
2. Address: 423 Landmark Center, 75 West 5th Street, Saint Paul, MN 55102
3. Phone Number: 651.298.6789
   Email: paulormseth@gmail.com

A. Owner's Construction Manager Consultant: Paul Ormseth, LLC

1. Construction Manager's Name: Becca Hine
2. Address: 423 Landmark Center, 75 West 5th Street, Saint Paul, MN 55102
3. Phone: 651.253.2068
4. Email: beccahine@gmail.com

1.06 IMPORTANT BID DATES

A. Bids Issued: **July 27, 2012**

B. **Mandatory** Pre-Bid Site Tour: **August 2, 2012 at 12:30 PM**

C. **BID DUE DATE ON OR BEFORE: August 17, 2012 no later than 2:00 PM local time.**

D. Bid Delivery Location: The offices of The Housing and Redevelopment Authority of Saint Paul, Minnesota
Address: 25 West Fourth Street, Saint Paul, MN 55102, Suite 1100
Suite: 1100

E. Public Bid Opening and Location: August 17, 2012 at 2:15 PM at the Housing and Redevelopment Authority of Saint Paul, Minnesota
Address: 25 West Fourth Street, Saint Paul, MN 55102, Suite 1100

F. Executed Contract: Within 30 days of the bid award.

G. Construction Start Date (Approximate): ASAP after contract execution

H. Construction Completion Date: 150 days from the time of issued Notice to Proceed.

END OF BID INVITATION

SECTION 00 4003

HRA INSTRUCTIONS FOR BIDDERS

PART 1 GENERAL BID DIRECTIONS

1.01 Each Bidder shall fully inform him / herself and any subcontractors prior to bidding as to all existing conditions and limitations including compliance requirements under which the work is to be performed and shall include in the bid a sum to cover the cost of all items necessary to perform the work as set forth in the Bid Project Manual. The submission of a bid shall be construed as conclusive evidence that the Bidder has made such examination.

1.02 Bid Forms

A. The Bid Submission forms are available online at http://www.stpaul.gov/nsp.

B. Each bid must be submitted on the Bid Submission forms identified in the provided checklist. It is expected that the Contractor retain a copy of their entire submittal for their records. The copy of the bid submitted must be signed at every place that a signature is requested.

1.03 Corrections

A. Erasures or other changes in the bid must be dated and initialed over the signature of the bidder.

1.04 Bid Envelope

A. Place bid in envelope with the contractor name and address in the upper left-hand corner as the return address, and list the property address in the middle of the envelope as the addressee. Seal envelope.

1.05 Interpretations of Scope of Work

A. Every request for an interpretation shall be in writing, unless otherwise documented by the Specification Writer. Questions will be taken until 3 days before bids are due.

B. Interpretations will be in the form of an addenda which will be on file at the website, and in the offices of the Specification Writer at least three calendar days before bids are opened.

C. It shall be the bidder's responsibility to make inquiry as to addenda issued.

1. All such addenda shall become a part of the contract and all bidders shall be bound by such addenda.

1.06 Conflict with Documents

A. When a conflict arises between the Drawings or the Scope of Work, the Drawings shall govern.

1.07 Materials Approved:

A. Where items of equipment and material are specifically identified herein by a trade name, model or catalog number, only such specified items may be used in the base bid.

B. Contractors desiring approval of substitute products may submit data cut sheets and product information for approval during the bidding cycle.

C. Contractors will be notified only by addendum of additional approved products.

D. Material identifications made in work specifications are considered as minimal quality for acceptance in bidding and installation.

1.08 Allowances:

A. The Contractor shall include in the bid proposal the cash allowances listed.

B. Unless otherwise indicated, the lump sum amount shall be for the material / product.

C. Labor to install the material / product must be submitted separately.

1.09 Alternates:

A. The Contractor must submit bids for each alternate listed in the Alternates List.

B. If pricing is not listed for Alternates the bid may be disqualified.

1.10 Time for Receiving Bids:

A. Bids are to be delivered to the HRA's office.

B. Bids received prior to the time of opening will be securely kept.

C. Bids received by phone or fax will not be considered.

D. Modification of bids already submitted will be considered if received prior to the hour set for receiving the bids and written confirmation of such modification - with the signature of the bidder - is placed in the mail and postmarked and / or delivered to the HRA prior to the time set for bid opening.

1.11 Opening of Bids:

A. At the time and place fixed for the opening of bids, every bid received within the time fixed for receiving bids will be opened irrespective of any irregularities.

B. The opening of the bids will be an "open process" (open to the public).

1.12 Withdrawal of Bids:

A. Bids may be withdrawn in writing, by phone, or by fax prior to the time fixed for opening; provided that written confirmation of any phoned or faxed withdrawal is placed in the mail and postmarked and / or delivered prior to the time set for bid opening.

B. Negligence on the part of the bidder in preparing their bid confers no right of withdrawal or modification of his bid after such bid has been opened.

PART 2 BID ANALYSIS PROCESS

2.01 Contractor Selection Date: Earliest Practical Date

A. This project is funded by the Neighborhood Stabilization Program (NSP), a federal stimulus program created to rehabilitate vacant housing or construct new housing on vacant lots within targeted areas of the City of Saint Paul.

B. The Housing and Redevelopment Authority of Saint Paul, Minnesota reserves the right to check the qualifications of contractors for each project; previous experience working on projects with the Housing and Redevelopment Authority of Saint Paul, Minnesota, will not automatically deem a contractor qualified.

2.02 Minimum Contractor Qualifications

A. Please note the following minimum qualifications that apply to all bidders:

1. **Quality Workmanship and Qualifications**
   a. Three references from jobs with similar work (include on Contractor Qualification form)
   b. Two financial references (included on Contractor Qualification Form)
   c. At least 2 years of experience as a General Contractor (HRA will verify)
   d. Review of standing with Secretary of State, Federal Excluded Parties list, City of Saint Paul Debarment list, Department of Labor and Industry, Better Business Bureau (HRA will verify)
   e. Houses with historic features or located within a historic district may require demonstration of quality workmanship for historic renovation at the discretion of HRA staff.
2. **Financial Capacity**
   a. Demonstrated ability to pay two months of construction costs for each project awarded (these amounts are added together if more than one project is under construction). Financial capacity documentation must be in the name of the General Contractors organization or the principal of that organization.
      1) For a 120 day project, the contractor shall demonstrate the ability to pay 50% of bid amount.
      2) For a 90 day project, the contractor shall demonstrate the ability to pay 65% of the bid amount.

3) Demonstration of capacity can be in the form of:
   (a) Line of credit from banking or lending institution
   (b) Cash balances from banking or lending institution

3. **Ability to Perform**
   a. Up-to-date submittals to Affirmative Action, Section 3, and Vendor Outreach programs.
   b. Adherence to timelines confirmed from professional references.
   c. Use of certified subcontractors for environmental remediation including:
      1) Insulation: contractor must be on Xcel Energy approved contractor list
      2) Asbestos: contractor must be certified for asbestos removal by the State of Minnesota
      3) Lead: either general contractor or subcontractor must be certified for lead abatement by the State of Minnesota
      4) Radon: contractor must be on Minnesota Department of Health approved radon mitigation list.
4. **Bid Award Policy**
   a. Contractors that meet the criteria for qualification above, yet have not worked with The Housing and Redevelopment Authority of Saint Paul, Minnesota on a Neighborhood Stabilization Program project previously will initially be awarded one house, even if the contractor is low bidder for more than one house.
   b. Once the contractor demonstrates quality workmanship, financial capacity, and ability to perform timely completion, they may be awarded more than one house at the same time for subsequent bids on a case-by-case basis.
5. **Other Qualifications**
   a. Each property has its own unique characteristics and challenges. Variables include items relating to environmental conditions, historic nature of structures, etc.
   b. Depending on the specific property , there may be other qualifications needed by the bidder which will be specified by the HRA in its request for bids.

PART 3 POST AWARD REQUIRMENTS

3.01 CONSTRUCTION CONTRACT REQUIRMENTS

A. The bidder agrees that, if selected by the HRA, the bidder will enter into a contract with the HRA no later than 30 calendar days from bid award and will submit the following information to the HRA as a condition to entering into that contract; refer to Bid Rehab Manual for attachments:
   1. Certificates of Insurance as required by the Construction Contract and proof of Insurance and Bonding.
   2. Final Sworn Construction Statement Affidavit and Sworn Construction Statement that list contractors, material suppliers, and subcontractors, who will work under the contract and the cost of their work.
   3. Proof of a valid license as a Residential builder in the State of Minnesota and proof of valid licenses as required by the City of Saint Paul for work to be done.
   4. Bidders may be required to submit payment and performance bonds as a condition of the construction contract. Verify with Scope Writer prior to submitting bid.
   5. Proof of compliance with requirements attached for Affirmative Action, Vendor Outreach Program, and Section 3, including an Acknowledgement and Final Section 3 Action Plan.
   6. Construction Schedule must be submitted to the Insert Construction Managment Firm Name to enter into the Contract.

B. Attendance of a Pre-Construction Conference
   1. The selected Contractor and all Subcontractors will be required to attend a Pre-Construction Conference.
   2. Time, date, and place of the Pre-Construction Conference will be announced by the Insert Construction Managment Firm Name and/or HRA.

C. Computerized System for Compliance Tracking and Reporting:

1. The Contractor is required to use the B2Gnow/LCPtracker reporting system. Refer to attachment.

PART 3 WAGE REQUIREMENTS

4.01 The following are wage requirements associated with this Projects

A. Federal Davis-Bacon and/or Little Davis-Bacon Wages are not required for this project.

END OF SECTION

SECTION 00 4101

HRA BID SUBMISSION DOCUMENTS

SECTION 1 GENERAL

1.01 BID SUBMISSION DOCUMENTS, located at http://www.stpaul.gov/nsp

A. Bid Submittal Checklist

B. Bid Cover Sheet

C. Bid Proposal and Non-Collusive Affidavit

D. Preliminary Section-3 Action Plan

E. Contractor Application / Statement of Qualifications

F. Itemized Cost Breakdown and Scope of Work Bid (Section 004102)

END OF SECTION

SECTION 00 4102
LINE ITEM BID SHEET

PART 1 MANUAL BID SHEET - LINE ITEM BREAKDOWN OF WORK

DIVISION 01 - GENERAL REQUIREMENTS	
01 0010 – HRA General Requirements	$_____
DIVISION 02 - EXISTING CONDITIONS	
02 4100 - Demolition	$_____
02 8200 - Asbestos Remediation	$_____
02 8313 – Lead Hazard Control Activities	$_____
DIVISION 03 - CONCRETE	
03 3000 - Cast in Place Concrete	$_____
DIVISION 04 - MASONRY	
04 0100 - Maintenance of Masonry	$_____
04 2223 - Concrete Unit Masonry	$_____
04 2300 - Glass Unit Masonry	$_____
DIVISION 05 - METALS	
05 7300 – Decorative Metal Railings	$_____
DIVISION 06 - WOOD, PLASTICS AND COMPOSITES	
06 1000 - Rough Carpentry	$_____
06 2000 - Finish Carpentry	$_____
DIVISION 07 - THERMAL AND MOISTURE PROTECTION	
07 2126 - Blown Insulation	$_____
07 2500 - Weather Barriers	$_____
07 2700 – Air Barrier System	$_____
07 3113 - Asphalt Shingles	$_____
07 4620 - Fiber Substrate Siding	$_____
07 6200 - Sheet Metal Flashing and Trim	$_____
07 7123 - Manufactured Gutters and Downspouts	$_____
DIVISION 08 - OPENINGS	
08 1429 - Wood Doors	$_____
08 1613 – Fiberglass Doors	$_____
08 3323 - Overhead Garage Door	$_____
08 5200 - Wood Windows	$_____
DIVISION 09 - FINISHES	
09 0120 - Repair of Plaster and Gypsum Board	$_____
09 0160 - Hardwood Flooring Restoration	$_____
09 2116 - Gypsum Board Assemblies	$_____
09 3000 - Tiling	$_____
09 9000 - Painting and Coating	$_____

DIVISION 10 - SPECIALTIES

10 5623 - Closet Storage Shelving	$_____

DIVISION 11 - EQUIPMENT

11 3100 - Residential Appliances	$_____

DIVISION 12 - FURNISHINGS

12 1110 - Mail Box and House Numbers	$_____
12 1211 - Bathroom Furnishings	$_____
12 3530 – Residential Casework	$_____

DIVISION 22 - PLUMBING

22 3000 - Plumbing Equipment	$_____
22 4000 - Plumbing Fixturesand Piping	$_____

DIVISION 23 - HEATING, VENTILATING AND AIR CONDITIONING

23 0000- Residential Ventilation	$_____
23 5214 - Gas-Fired Ultra Efficient Boiler	$_____
23 6210 - Multi Zone Ductless Mini Split A/C	$_____

DIVISION 26 - ELECTRICAL

26 1001 - Power, Wiring and Devices	$_____
26 5101 - Lighting	$_____

DIVISION 28 - ELECTRONIC SAFETY AND SECURITY

28 1600 - Intrusion Detection	$_____

DIVISION 31 - EARTHWORK

31 2200 - Grading	$_____

DIVISION 32 - EXTERIOR IMPROVMENTS

32 1313 - Concrete Paving	$_____
32 3223 - Segmental Retaining Walls	$_____
32 3253 - Stone Retaining Walls	$_____
` 32 9223 - Sodding	$_____
32 9300 - Planting	$_____

END OF SECTION

SECTION 01 0010

HRA GENERAL REQUIREMENTS

PART 1 GENERAL

1.01 CONTRACTOR'S RESPONSIBLITY

A. All labor, material, supplies, tools, or other costs or items needed for complete construction of the project, including permits, temporary facilities, safety, security and utilities during construction, are the responsibility of the Contractor.

B. The General Contractor and each Subcontractor shall inspect the existing conditions that affect its work before starting. Commencing work signifies acceptance of the previous work. All measurements and dimensions indicated in the Drawings and Specifications are to be verified prior to bid submittal and construction.

C. The General Contractor shall be responsible for the coordination of all subcontractors working on, or furnishing material for use on this project. In addition, the General Contractor shall be responsible for the coordination of all work performed under separate contracts.

1.02 CONTRACTOR'S USE OF PREMISES

A. During the construction period the General Contractor and its Subcontractors shall have full use of the premises for construction operations, including use of the site. All use of the site shall be under control and supervision of the General Contractor.

B. General Contractor and its Subcontractors will be limited to construction work between the hours of 7:00 am and 6:00 pm on weekdays and 8:00 am to 4:00 pm on Saturday. Work at any other times will be allowed only with the Owner's and Project Manager's consent.

1.03 MATERIALS & MATERIAL STORAGE

A. The General Contractor shall provide all materials, hardware, and fixtures required to accomplish the Scope of Work, unless otherwise indicated.

B. The General Contractor shall use materials specified throughout unless approved in writing by Owner and Project Manager before ordering and installing.

C. The General Contractor is responsible for verification of all measurements. Materials transported to the job site and stored are the General Contractor's responsibility until installed and accepted by the Owner and Project Manager.

D. The General Contractor shall deliver, store, and handle products according to the manufacturer's recommendations, using means and methods that will prevent damage, deterioration, and loss, including theft.

E. Damaged or stolen materials and equipment must be replaced as part of the work at no additional cost to the Owner. Damaged property that is removed shall belong to the General Contractor, unless otherwise stated in writing.

PART 2 PERFORMANCE REQUIREMENTS

2.01 ENERGY CONSERVATION, see Section 01 8113 SUSTAINABLE DESIGN REQUIREMENTS

PART 3 PRICE AND PAYMENT PROCEDURES

3.01 SCHEDULE OF VALUES

A. Form to be used: Sworn Construction Statement.

3.02 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: Submit at intervals stipulated in the Agreement.

B. Execute certification/pay application by signature of authorized officer.

C. Submit two copies of each Application for Payment to Construction Manager.

PART 4 CONTRACT MODIFICATION PROCEDURES

4.01 HRA WINTER WORK POLICY

A. The Housing and Redevelopment Authority of the City of St. Paul (HRA) recognizes that there are weather related exterior items that cannot be completed in winter conditions ("Weather Conditional Work"), including but not limited to:
   1. Exterior painting
   2. Sod
   3. Foundation plantings
   4. Rain garden installation
   5. Concrete sidewalks, steps, landings, curbs, garage slabs, and asphalt driveways

B. The HRA defines winter conditions as "temperatures consistently below a high of 50 degrees Fahrenheit". Winter conditions are typically in effect from November 15th through April 15th each year, although there is potential for an earlier or later start and end date depending on weather.

C. In the case of NSP homes where a notice to proceed is issued between October and February, the time parameter of winter conditions could mean that the entire timeline for construction completion (typically 90-120 days) is within winter conditions.

D. It is the responsibility of the contractor to communicate, to the Owner, the exterior line items in the scope of work that are Weather Conditional Work as a component of the timeline submission required prior to issuance of a notice to proceed.

E. Contractors are also responsible for ensuring that all Weather Conditional Work is completed within the manufacturer's or industry standards recommended temperature range.

F. The Contractor is responsible for prioritizing Weather Related Work when winter conditions are not present, in order to complete the house within the construction timeline whenever possible.

G. The HRA's objective is to ensure that remodeling work on NSP projects is substantially complete within the timeline for construction completion (90-120 days) so that the project can be issued a certificate of occupancy and sold to a new homeowner; the contractor is responsible for ensuring that temporary, structurally sound solutions are implemented when Weather Related Work will effect the ability to secure a Certificate of Occupancy.

H. In the event that winter conditions are present throughout the 120 day construction contract period, the HRA will escrow 1 and 1/2 times the cost for Weather Conditional Work (150%), to be completed within 30 days of the end of winter conditions.

4.02 SUBSTITUTIONS

A. Changes in products, materials, equipment, and methods of construction required by the Contract Documents proposed by the General Contractor after award of the Contract are considered to be requests for substitutions.

B. Submit requests according to procedures required for change-order proposals.

C. Substitution requests shall include a complete list of changes or modifications needed in the Scope of Work in order to accommodate the proposed substitution.

D. Provide samples and product data, including drawings and descriptions of products as well as fabrication and installation procedures, where applicable or where requested by the Owner or Project Manager.

E. Indicate the substitution's effect on the Contractor's Construction Schedule, if any. Indicate cost information, including a proposal of the net change, if any, in the Contract Sum. Acceptance will be in the form of a written Change Order signed by the Owner and Project Manager.

PART 5 COMPLIANCE INFORMATION AND REQUIRMENTS

5.01 See HRA NSP website for compliance requirements.

A. http://www.stpaul.gov/nsp

B. Review the document labeled: *Section II - Compliance Information and Requirements.*

1. It contains additional information on:
    a. Insurance
    b. B2Gnow/LCP Tracker, Contract Compliance Monitoring System
    c. Vendor Outreach Program
    d. Affirmative Action
    e. Sustainable Green Policy
    f. Section 3
    g. Two Bid Policy
    h. Limited English Policy
    i. Xcel Energy Participating Contractors' List
    j. Radon Mitigation Contractors' List

5.02 SECURITY PROCEDURES

A. General Contractor is responsible for maintaining security of the site, including:
    1. locking buildings at the end of each work day;
    2. boarding window or door openings;
    3. installing security fencing;
    4. providing temporary barricades, bracing or railings;
    5. and any other work or facilities necessary to maintain a safe and secure site, including compliance with all health, safety, building, and other codes and laws.

B. Any tools or materials or other property stored on the site prior to installation are the responsibility of the General Contractor and its Subcontractors are responsible for insuring their own such property against loss by theft or other cause.

5.03 JOB CONDITIONS

A. The General Contractor shall notify the Owner and Project Manager of repair not covered in the Scope of Work that is necessary for satisfactory completion of the Project.

B. Defects that become evident as work progresses shall be reported not concealed.

C. Ensure safe passage of all employees during the course of demolition or other persons as necessary by erecting barriers, bracing, or other temporary supports as required.

5.04 SAFETY AND CLEAN UP

A. The General Contractor must keep the site clean at all times during construction.

B. In no event can debris be stored outside overnight unless it is inside a dumpster.

C. All floors are to be picked up and kept broom clean at the end of the work day.

D. No combustible debris shall be thrown, stored, or burned on the property, adjacent parcels, sidewalks, streets, or alleys.

E. Debris created from work at the property must be disposed of immediately.

F. Any debris caused by the General Contractor or its Subcontractor shall be removed from the work area in the General Contractor’s containers and disposed of off site by the General Contractor.

PART 6 SPECIAL PROCEDURES

6.01 ASBESTOS ABATEMENT, see Asbestos Remediation Section 02 8200

6.02 VOLATILE ORGANIC COMPOUND CONTENT RESTRICTIONS, see Section 01 6116

6.03 LEAD BASED PAINT, see Lead Hazard Control Activities Section 02 8313

6.04 WASTE MANAGEMENT, see section 01 7419

PART 7 SUBMITTALS

7.01 GENERAL

A. Coordinate preparation and processing of submittals with performance of construction activities.

B. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.

C. Prior to submitting any samples and product data, contractor shall review and approve data for compliance with project requirements. Contractor shall stamp data and shop drawings as approved by its entity before submitting to Construction Manager for review.

D. Submit product data for review in triplicate (one each to be retained by Construction Manager and Owner, and one returned after review to Contractor)

C. Provide the following submittals required for performance of the Work, including the following:

1. Administrative Submittals.
2. Construction Schedule
3. Samples/Product Data.

7.02 ADMINISTRATIVE SUBMITTALS

A. Provide as required in the Contract Documents. Such submittals include, but are not limited to, the following:

1. Sworn Construction Statement
2. Required permits.
3. Applications for Payment.
4. Insurance certificates.
5. List of subcontractors.
6. Proof of qualifications for Asbestos and Lead remediation

7.03 CONSTRUCTION SCHEDULE

A. A construction schedule must be submitted to the Owner and Project Manager with the bid, unless requested otherwise in writing. Construction shall be completed within 120 days of notice to proceed.

7.04 SAMPLES, PRODUCT DATA AND SHOP DRAWINGS:

A. Submit Samples as specified to be physically identical with the material or product proposed.

B. Samples include partial sections of manufactures or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture, and pattern.

C. Provide product samples, product data and/or shop drawings for the following where included in the scope of work and for any other requirements mentioned in the specifications or drawings:

1. Paint colors
2. Stucco sample
3. Windows
4. Doors and hardware
5. Kitchen cabinets product data and shop drawings
6. Plumbing fixtures
7. Lighting fixtures
8. Stair railings
9. Tile
10. Interior trim samples
11. Exterior trim and siding samples (garage)
12. Window order
13. Sketch site plan showing areas of yard to be disturbed by equipment and location of materials storage.

END OF SECTION

SECTION 01 2000
PAYMENT PROCEDURES

PART 1 GENERAL

1.01 PAYMENT DOCUMENTS

A. All documents required to create a complete Payment Application can be downloaded from https://sites.google.com/site/nspconstructiondocs/

B. Payment Application form to be used: Application and Certificate for Payment provided by the HRA.
   1. Columns A, B, C should not change during the course of construction and should directly relate to the Sworn Construction Statement provided at the start of construction. As draws progress, columns D, E and F change to reflect work completed.

C. Additional Documents to be submitted with each pay application:
   1. Monthly Employment Utilization (MEU) Form
   2. Identification of Prime and Subcontractor Form
      a. An updated Sub ID sheet must be attached to help HR/EEO staff track subcontractor utilization.
   3. B2Gnow
      a. Ensure each subcontractor is logging into the B2Gnow system and logging payments received.

1.02 APPLICATIONS FOR PROGRESS PAYMENTS

A. Payment Period: Submit at intervals stipulated in the Agreement. The Owner will process the payment within 30 days.

B. Applications for payment must be signed by an authorized officer of the general construction firm

C. Use data from approved Sworn Construction Statement. Provide dollar value in each column for each line item for portion of work performed.

D. Submit one signed copy of the Application for Payment, complete with all required attachments, to the Construction Manager.

1.03 MODIFICATION PROCEDURES

A. For minor changes not involving an adjustment to the Contract Price or Contract Time, Construction Manager will issue instructions directly to Contractor.

B. Execution of Change Orders: Construction Manager will issue Change Orders for signatures of parties as provided in the Conditions of the Contract.

C. After execution of Change Order, promptly revise Application for Payment forms to record each authorized Change Order as a separate line item and adjust the Contract Price.
   1. Change orders shall be listed as lump sumps on the bottom of the pay application and refered to on the cover sheet.
   2. Include each line item of the change order as a separate line item in the pay application and the amount of the contractor adjustments.

1.04 APPLICATION FOR FINAL PAYMENT

A. Prepare Application for Final Payment as specified for progress payments, identifying total adjusted Contract Price, previous payments, and sum remaining due.

B. Additional documents:
   1. Final lien waivers from all subcontractors/material providers
   2. Monthly Employment Utilization (MEU) Form
   3. Project Employment Utilization (PEU) for City Funded Projects
   4. Lead Clearance
   5. NEC Certificate of Completion

6. Waste Management Plan Report
7. Permit Sign-offs/Certificate of Code Compliance
8. Winter Work/Weather Related Work Escrow
9. Certificate of Substantial/Final Completion

C. See Section 01 7700 - Closeout Procedures and Submittals, for additional information.

END OF SECTION

SECTION 01 2300
ALTERNATES

PART 1 GENERAL

1.01 ACCEPTANCE OF ALTERNATES

A. Alternates quoted on Bid Forms will be reviewed and accepted or rejected at Owner's option. Accepted alternates will be identified in the Owner-Contractor Agreement.

B. Coordinate related work and modify surrounding work to integrate the Work of each alternate, include price in alternate.

C. For alternates that are "in lieu of" base bid items, calculate alternate price as follows:

1. Determine cost of work for items listed in alternate.
2. Subtract relevant base bid line items from that cost of work.
3. State as an "add" or "deduct" alternate. It will be an "add alternate" if the alternate items price is greater than the base bid items. It will be a deduct alternate if the alternate items price is less than the base bid items.

1.02 SCHEDULE OF ALTERNATES

A. Alternate #1:

1. Provide forced air heating and cooling system <u>in lieu of</u> gas-fired boiler and multi zone mini-split air conditioning units.
2. Design of HVAC system by contractor and shall meet requirements of relevant specification sections and all applicable codes.
3. Design of duct runs including related wall and ceiling openings, chases and soffits to be by contractor.
4. See Forced Air Furnace and Ducts, Section 23 5400 and Forced Air A/C Section 23 6213.
5. Include all work related to alternate, including but not limited to rough carpentry, finish carpentry, drywall, plaster patching, and wood flooring patching.

END OF SECTION

SECTION 01 6000
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 SUBMITTALS

A. Product Data Submittals: Submit manufacturer's standard published data. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.

PART 2 PRODUCTS

2.01 EXISTING PRODUCTS

A. Unforeseen historic items encountered remain the property of the Owner; notify Owner promptly upon discovery; protect, remove, handle, and store as directed by Owner.

2.02 NEW PRODUCTS

A. Provide new products unless specifically required or permitted by the Contract Documents.

2.03 PRODUCT OPTIONS

A. Products Specified by Reference Standards or by Description Only: Use any product meeting those standards or description.

PART 3 EXECUTION

3.01 SUBSTITUTION PROCEDURES

A. Instructions to Bidders specify time restrictions for submitting requests for substitutions during the bidding period. Comply with requirements specified in this section.

B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.

C. A request for substitution constitutes a representation that the submitter:
   1. Has investigated proposed product and determined that it meets or exceeds the quality level of the specified product.
   2. Will provide the same warranty for the substitution as for the specified product.
   3. Will coordinate installation and make changes to other Work that may be required for the Work to be complete with no additional cost to Owner.
   4. Waives claims for additional costs or time extension that may subsequently become apparent.

D. Substitution Submittal Procedure:
   1. Submit two copies of request for substitution for consideration. Limit each request to one proposed substitution.
   2. Submit shop drawings, product data, and certified test results attesting to the proposed product equivalence. Burden of proof is on proposer.
   3. The Construction Manager will notify Contractor in writing of decision to accept or reject request.

END OF SECTION

SECTION 01 6116
VOLATILE ORGANIC COMPOUND (VOC) CONTENT RESTRICTIONS

PART 1 GENERAL

1.01 SUMMARY

A. Implement the following procedures in an effort to improve indoor air quality during homeowner's occupancy.

B. Construction Indoor Air Quality (IAQ) Management
   1. Provide low-emitting products

1.02 DEFINITIONS

A. VOC-Restricted Products: All products of each of the following categories when installed or applied on-site in the building interior:
   1. Adhesives, sealants, and sealer coatings.
   2. Carpet.
   3. Carpet cushion.
   4. Resilient floor coverings.
   5. Wood flooring.
   6. Paints and coatings.
   7. Insulation.
   8. Gypsum board.
   9. Acoustical ceilings and panels.
   10. Cabinet work.
   11. Wall coverings.
   12. Composite wood and agrifiber products used either alone or as part of another product.
   13. Other products when specifically stated in the specifications.

B. Interior of Building: Anywhere inside the exterior weather barrier.

C. Adhesives: All gunnable, trowelable, liquid-applied, and aerosol adhesives, whether specified or not; including flooring adhesives, resilient base adhesives, and pipe jointing adhesives.

D. Sealants: All gunnable, trowelable, and liquid-applied joint sealants and sealant primers, whether specified or not; including firestopping sealants and duct joint sealers.

PART 2 PRODUCTS

2.01 MATERIALS

A. All VOC-Restricted Products: Provide products having VOC content of types and volume not greater than those specified in State of California Department of Health Services Standard Practice for the Testing of Volatile Organic Emissions From Various Sources Using Small-Scale Environmental Chambers.
   1. Evidence of Compliance: Acceptable types of evidence are:
      a. Current GREENGUARD Children & Schools certification; www.greenguard.org.
      b. Current Carpet and Rug Institute Green Label Plus certification; www.carpet-rug.org.
      c. Current SCS Floorscore certification; www.scscertified.com.
      d. Current SCS Indoor Advantage Gold certification; www.scscertified.com.
      e. Product listing in the CHPS Low-Emitting Materials Product List at www.chps.net/manual/lem_table.htm.
      f. Current certification by any other agencies acceptable to CHPS.
      g. Report of laboratory testing performed in accordance with CHPS requirements for getting a product listed in the Low-Emitting Materials Product List; report must include laboratory's statement that the product meets the specified criteria.

B. Adhesives and Joint Sealants: Provide only products having volatile organic compound (VOC) content not greater than required by South Coast Air Quality Management District Rule No.1168.
   1. Evidence of Compliance: Acceptable types of evidence are:
      a. Report of laboratory testing performed in accordance with requirements.
      b. Published product data showing compliance with requirements.
      c. Certification by manufacturer that product complies with requirements.

C. Aerosol Adhesives: Provide only products having volatile organic compound (VOC) content not greater than required by GreenSeal GS-36.
   1. Evidence of Compliance: Acceptable types of evidence are:
      a. Current GreenSeal Certification.

D. Paints and Coatings applied within building waterproof envelope:
   1. Comply with VOC Content limits (as noted in Criterion 6.1) of Green Seal Standard GS-11 "Paints," First Edition; Standard GC-03 "Anti Corrosive Paints," and MPI GPS-2-8, as follows (in grams/Liter):
      a. Flat: 50
      b. Non-flat: 50
      c. Anti-Corrosive and Anti Rust: 250
      d. Floor Coatings: 100

E. Carpet and Adhesive: Provide products having VOC content not greater than that required for CRI Green Label Plus certification.
   1. Evidence of Compliance: Acceptable types of evidence are:
      a. Current Green Label Plus Certification.
      b. Report of laboratory testing performed in accordance with requirements.

F. Carpet, Carpet Cushion, and Adhesive: Provide products having VOC content as specified in Section 09 6800.

G. Carpet Cushion: Provide products having VOC content not greater than that required for CRI Green Label Plus certification.
   1. Evidence of Compliance: Acceptable types of evidence are:
      a. Current Green Label Plus Certification.
      b. Report of laboratory testing performed in accordance with requirements.

H. Composite Wood and Agrifiber Products and Adhesives Used for Laminating Them: Provide products having no added urea-formaldehyde resins.
   1. Evidence of Compliance: Acceptable types of evidence are:
      a. Current SCS "No Added Urea Formaldehyde" certification; www.scscertified.com.
      b. Published product data showing compliance with requirements.
      c. Certification by manufacturer that product complies with requirements.

I. Cabinet Materials: Low VOC
   1. Provide wood cabinets with self closing hinges and adjustable shelves from the Schrock Select (available at Menards), Mid-Continent Cabinetry (available at All Inc), or MINNCOR (available at MINNCOR) design lines or approved equal.
   2. Cabinets are to have plywood sides and bases. Drawer boxes shall be plywood with dovetail joinery.
   3. Cabinets to be constructed with maple; full overlay doors and flat or 5 piece. Alternative styles may be approved by the HRA.

J. Other Product Categories: Comply with limitations specified elsewhere.

END OF SECTION

SECTION 01 7000
EXECUTION REQUIREMENTS

PART 1 GENERAL

1.01 PROJECT CONDITIONS

A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.

B. Ventilate enclosed areas to assist cure of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.

C. Dust Control: Execute work by methods to minimize raising dust from construction operations. Provide positive means to prevent air-borne dust from dispersing into atmosphere and over adjacent property.

D. Erosion and Sediment Control: Plan and execute work by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.

E. Pest and Rodent Control: Provide methods, means, and facilities to prevent pests and insects from damaging the work.

F. Pollution Control: Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations. Comply with federal, state, and local regulations.

PART 2 PRODUCTS

2.01 PATCHING MATERIALS

A. New Materials: As specified in product sections; match existing products and work for patching and extending work.

B. Type and Quality of Existing Products: Determine by inspecting and testing products where necessary, referring to existing work as a standard.

PART 3 EXECUTION

3.01 LAYING OUT THE WORK

A. Verify locations of survey control points prior to starting work.

B. Promptly notify Construction Manager of any discrepancies discovered.

C. Establish elevations, lines and levels. Locate and lay out by instrumentation and similar appropriate means:

3.02 GENERAL INSTALLATION REQUIREMENTS

A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and so as to avoid waste due to necessity for replacement.

B. Make vertical elements plumb and horizontal elements level, unless otherwise indicated.

C. Install equipment and fittings plumb and level, neatly aligned with adjacent vertical and horizontal lines, unless otherwise indicated.

D. Make consistent texture on surfaces, with seamless transitions, unless otherwise indicated.

E. Make neat transitions between different surfaces, maintaining texture and appearance.

3.03 CUTTING AND PATCHING

A. Whenever possible, execute the work by methods that avoid cutting or patching.

B. Perform whatever cutting and patching is necessary to:
   1. Complete the work.
   2. Fit products together to integrate with other work.
   3. Provide openings for penetration of mechanical, electrical, and other services.

4. Match work that has been cut to adjacent work.
5. Repair areas adjacent to cuts to required condition.
6. Repair new work damaged by subsequent work.
7. Remove samples of installed work for testing when requested.
8. Remove and replace defective and non-conforming work.

C. Execute work by methods that avoid damage to other work and that will provide appropriate surfaces to receive patching and finishing. In existing work, minimize damage and restore to original condition.

D. Patching:
   1. Finish patched surfaces to match finish that existed prior to patching. On continuous surfaces, refinish to nearest intersection or natural break. For an assembly, refinish entire unit.

3.04 PROGRESS CLEANING

A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.

3.05 PROTECTION OF INSTALLED WORK

A. Protect installed work from damage by construction operations.

B. Provide special protection where specified in individual specification sections.

C. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

3.06 FINAL CLEANING

A. Use cleaning materials that are non-hazardous.

B. Clean interior and exterior glass, surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.

C. Remove all labels that are not permanent. Do not paint or otherwise cover fire test labels or nameplates on mechanical and electrical equipment.

D. Clean equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.

END OF SECTION

SECTION 01 7419

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.01 WASTE MANAGEMENT REQUIREMENTS

A. Owner requires that this project generate the least amount of trash and waste possible.

B. Employ processes that ensure the generation of as little waste as possible due to error, poor planning, breakage, mishandling, contamination, or other factors.

C. HRA Policy for this project is dependent on diversion of 50 percent, by weight, of potential landfill trash/waste by recycling and/or salvage.

D. The following recycling incentive programs are mandatory for this project; Contractor is responsible for implementation:

1.02 SUBMITTALS

A. ACTION SUBMITALS
   1. CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT(CWM) PLAN
      a. Analysis of estimated job-site waste to be generated, including types and quantities of compostable, recyclable, and salvageable materials.
      b. Description of means and methods to achieve 50 percent diversion requirement for compostable, recyclable, and salvageable materials, including those that may be donated to charitable organizations.
      c. Identification of the carpet product's composition as polymer, nylon or polypropylene
      d. Identification of recycling contractors and haulers proposed for use in the project and locations accepting construction waste materials or entities providing related services.

B. FINAL WASTE MANAGEMENT REPORT: General Contractor is responsible to submit at completion of construction and prior to contract close-out, in electronic format.
   1. All information required in Waste Management Progress Reports
   2. Legible copies of on-site logs, manifests, weight tickets, and receipts.
   3. Final calculations, including total amount (by weight or volume) of diverted construction and demolition waste, and the total amount (by weight or volume) of landfilled waste.

PART 3 EXECUTION

3.01 WASTE MANAGEMENT PLAN IMPLEMENTATION

A. Manager: Designate an on-site person or persons responsible for instructing workers and overseeing and documenting results of the Waste Management Plan.

B. Communication: Distribute copies of the Waste Management Plan to job site foreman, each subcontractor and Construction Manager.

C. Facilities: Provide specific facilities for separation and storage of materials for recycling, salvage, reuse, return, and trash disposal, for use by all contractors and installers.

D. Hazardous Wastes: Separate, store, and dispose of hazardous wastes according to applicable regulations.

E. Recycling: Separate, store, protect, and handle at the site identified recyclable waste products in order to prevent contamination of materials and to maximize recyclability of identified materials. Arrange for timely pickups from the site or deliveries to recycling facility in order to prevent contamination of recyclable materials.

F. Reuse of Materials On-Site: Set aside, sort, and protect separated products in preparation for reuse.

G. Salvage: Set aside, sort, and protect products to be salvaged for reuse off-site.

3.02 UNACCEPTABLE METHODS OF WASTE DISPOSAL

A. Burning or incinerating on or off project site

B. Burying on project site, other than fill.

C. Dumping or burying on other property, public or private, other than official landfill.

D. Illegal dumping or burying.

END OF SECTION

SECTION 01 7700

CLOSEOUT PROCEDURES AND SUBMITTALS

PART 1 GENERAL

1.01 SUBMITTALS

A. All documents required to create a complete Final Payment Application can be downloaded from https://sites.google.com/site/nspconstructiondocs/

B. Notify Construction Manager when work is considered ready for Substantial Completion.
   1. Make sure the work is mostly complete and cleaned for inspection.

C. Substantial Completion Submittals:
   1. Project Record Documents: Submit documents listed below to Construction Manager:
      a. Final Pay Application
      b. Monthly Employment Utilization (MEU) Form
      c. Project Employment Utilization (PEU) for City Funded Projects
      d. Lead-based Paint Hazard Clearance Testing
      e. Energy Modeling/NEC Compliance Report
      f. Final Waste Management Report, see Section 01 7419 CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL
      g. Permit Closeout/Code Compliance
      h. Winter Work/Weather Related Work Escrow
      i. Final Lien Waivers
      j. Material Allowance Reconciliation Change Order (if necessary).

D. Notify Construction Manager when work is considered finally completed. All Punch List items shall be completed and approved by Construction Manager and HRA Project Manager.

E. Final Completion Submittals:
   1. Project Record Documents: Submit documents listed below to Construction Manager:
      a. Building Maintenance Manual and Warranty documents for following:
         1) Appliance and building systems
            (a) HVAC equipment
            (b) Lighting equipment
            (c) Kitchen and Laundry Appliance Manuals
         2) Water-using equipment and controls installed:
            (a) Hot water delivery system(s)
            (b) Clothes washer
      b. Signed Certificate of Substantial Completion
      c. Punch List Items Completed

PART 3 EXECUTION

2.01 LEAD-BASED PAINT HAZARD CLEARANCE TESTING

A. Refer to Section 02 8313 Lead Hazard Control Activities, Quality Assurance for clearance testing requirements.

2.02 ENERGY MODELING

A. See Section SECTION 01 8113 Sustainable Design Requirements for energy conservation testing requirements.

2.03 OPERATION AND MAINTENANCE MANUALS

A. Prepare instructions and data by personnel experienced in maintenance and operation of described products.

B. Prepare data in the form of an instructional manual.

END OF SECTION

SECTION 01 8113
SUSTAINABLE DESIGN REQUIREMENTS

PART 1 GENERAL

1.01 ENERGY CONSERVATION

A. This property is participating in Xcel Energy's Home Performance with Energy Star program.

1. All insulation and HVAC work shall be performed by Xcel Energy's approved contractor list.
2. General Contractors that are on the Home Performance list may choose Subcontractors that are not on the list, but those General Contractors will be responsible for all work completed.
3. General Contractors will be responsible for submitting documentation required of the Home Performance with Energy Star program

B. The "Residential Energy Specification" provided by the Neighborhood Energy Connection (NEC) (attached in appendix) is a part of the Scope of Work for this property. Contractor shall be responsible for achieving energy improvements outlined by the energy specification and shall coordinate relevant work with the NEC as follows:

1. Refer to energy model that shows the building's projected energy performance, attached in appendix
2. Coordinate with NEC which shall conduct a mid-construction pre-drywall thermal enclosure inspection
3. Coordinate with NEC which shall verify the final performance of the building with performance testing

C. Energy Efficient Lighting

1. The Owner/Project Manager shall select specific locations of fixtures and switches in each area.
2. All lighting fixtures will be purchased new, unless otherwise indicated.
3. No plastic lighting fixtures are acceptable.
4. No fluorescent tub light fixtures are acceptable in living spaces.
5. Provide Energy Star certified CFL or LED light bulbs for all fixtures.
6. All light fixtures are to have color corrected bulbs.
7. Light bulbs that are viewable within fixtures will be a globe or candelabra style CFL.
8. Provide and install lighting fixtures and switches.
9. Review fixtures with Owner prior to installation.
10. All electrical outlets and cover plates are to be replaced throughout the building.

D. Energy Efficient Appliances

1. All appliances must be purchased new and be Energy Star certified or high efficiency models when Energy Star certification is not possible.

PART 3 EXECUTION

3.01 CONSTRUCTION WASTE MANAGEMENT

A. Comply with Construction Waste Management and Disposal Plan. Section 01 7419

3.02 CONSTRUCTION INDOOR-AIR-QUALITY MANAGEMENT

A. Change all air filters regularly during construction with filters specified for the specific furnace. Replace all air filters immediately prior to Substantial Completion with the specified permanent filters.

END OF SECTION

SECTION 02 4100

DEMOLITION

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. For complete locations refer to drawings.

B. At 2 story exterior remove per drawings: roofing materials and deck; roof projections at gable ends, aluminum siding, house wrap, and wood siding; exterior soffits, gutters and downspouts; exterior doors, storm doors, and storm windows; mailbox and house numbers; wood deck, railing and stairs; masonry piers; window and door trim, chimney, miscellaneous conduits and obsolete attachments to house.

C. At 1 story addition exterior remove per drawings: roof, framing, walls, windows, doors, foundation walls and steps; wood porch and stairs.

D. At basement remove per drawings: windows, wood columns, plumbing and heating equipment and fixtures, exterior door, chimney.

E. At interior rooms remove per drawings: kitchen cabinets, fixtures and finishes; doors and windows; interior wall paneling; bathroom fixtures, wall and floor coverings, existing framing and finishes to allow for new work; chimney;

F. At attic remove per drawings: bathroom, wall partitions, ceiling, floor and wall coverings; chimney

G. At site remove per drawings: concrete walkways and stoops, bituminous driveway, retaining wall at alley, see landscape plans. Existing retaining wall at sidewalk to be reconstructed, reuse existing materials.

1.01 QUALITY ASSURANCE

A. Demolition Firm Qualifications: Company specializing in the type of work required.

PART 3 EXECUTION

3.01 GENERAL PROCEDURES AND PROJECT CONDITIONS

A. Comply with applicable codes and regulations for demolition operations and safety of adjacent structures and the public.

1. Obtain required permits.
2. Take precautions to prevent catastrophic or uncontrolled collapse of structures to be removed; do not allow worker or public access within range of potential collapse of unstable structures.
3. Protect hardwood floors for possible refinishing later.
4. Provide, erect, and maintain temporary barriers and security devices.

B. If hazardous materials are discovered during removal operations, stop work and notify Construction Manager and Owner; hazardous materials include regulated asbestos containing materials, lead, PCB's, and mercury.

C. Perform demolition in a manner that maximizes salvage and recycling of materials. Inform Project Manager of potential strategies to reuse construction material. Only move forward with reusing of construction materials with Project Manager's consent.

3.02 EXISTING UTILITIES

A. Coordinate work with utility companies; notify before starting work and comply with their requirements

B. Protect existing utilities to remain from damage.

3.03 SELECTIVE DEMOLITION FOR ALTERATIONS

A. For asbestos abatement see Section 02 8200

B. For lead abatement see Section 02 8313

C. Remove existing work as indicated on the drawings and as required to accomplish new work. Refer to drawings for detailed itemization and location of demolition work. Protect existing work to remain.

3.04 DEBRIS AND WASTE REMOVAL

A. Remove all demolition debris and dispose of legally off site.

B. See Section 01 7419 Construction Waste Management And Disposal

END OF SECTION

SECTION 02 8200

ASBESTOS REMEDIATION

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Review the Asbestos report, included in this Manual, for locations.

B. Asbestos has been identified at the following location: basement stair walls, white texture over plaster

1.01 DESCRIPTION OF WORK AND CONTRACTOR RESPONSIBILITIES

A. Provide all labor, equipment, material supervision and subcontracting for the removal and disposal of all Asbestos-Containing Material (ACM) as specified in the attached Asbestos Test.

B. Per Minnesota statute, Contractor shall provide a (5) day notification to the Minnesota Department of Health prior to beginning asbestos abatement activities, IF the abatement scope meets certain project criteria. See the MDH website for additional information:

http://www.health.state.mn.us/divs/eh/asbestos/prof/notification.html

C. When work areas include both friable and nonfriable types of ACM, Contractor shall prepare work area using procedures for friable asbestos removal.

1.02 SUBMITTALS

A. Proof that the Contractor is qualified to perform Asbestos Remediation in the State of Minnesota.

B. Test Reports: Indicate Complete Remediation of Project.

END OF SECTION

SECTION 02 8313

LEAD HAZARD CONTROL ACTIVITIES

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Review Lead report, included in this Manual, for locations.

B. See hazardous materials survey for building components identified as containing lead. Contractor is responsible for abating all components identified in report.

C. Exterior

1. White painted aluminum siding. See Demolition Section 02 4100 and
2. Gray painted wood siding (not exposed during testing). See Demolition Section 02 4100
3. Brown painted wood trim, soffit, fascia, see Demolition Section 02 4100
4. White painted wood window components throughout exterior. See Painting and Coatings Section 09 9000 and Wood Windows Section 08 5200
5. Brown painted door trim at the front entrance. See Demolition Section 02 4100
6. Brown painted ½ walls on the front porch. See Demolition Section 02 4100
7. Brown painted wood floor on the front porch. See Demolition Section 02 4100
8. Brown painted wood door on the front porch. See Demolition Section 02 4100
9. Brown painted window and door trim throughout exterior. See Demolition Section 02 4100

D. Main Floor

1. Brown painted/stained wood windows in the family room. See Demolition Section 02 4100 and Wood Windows Section 08 5200
2. Brown painted/stained wood windows in the living room room. See Demolition Section 02 4100 and Wood Windows Section 08 5200
3. White painted wood window in the kitchen pantry room. See Demolition Section 02 4100

E. Second Floor

1. Brown painted/stained wood windows in the 2nd floor northwest bedroom. See Demolition Section 02 4100 and Wood Windows Section 08 5200
2. Brown painted/stained wood windows in the 2nd floor northeast bedroom. See Demolition Section 02 4100 Wood Windows Section 08 5200
3. White painted wood windows in the 2nd floor bathroom. See Demolition Section 02 4100 and Glass Unit Masonry Section 04 2223
4. Brown painted/stained wood windows in the 2nd floor southwest bedroom. See Demolition Section 02 4100 and Wood Windows Section 08 5200
5. Brown painted/stained wood windows in the 2nd floor southeast bedroom. See Demolition Section 02 4100 and Wood Windows Section 08 5200

F. Attic

1. Brown painted stair stringer (base) in the stairwell leading to 3rd floor. See Demolition Section 02 4100.

1.02 GENERAL INFORMATION

A. Projects funded in whole or in part with federal funds must comply with the "Regulation on Lead-Based Paint Hazards in Federally Owned Housing and Housing Receiving Federal Assistance." As a component of Title X, Sections 1012 and 1013, rehabilitation projects receiving more than $25,000 of federal funds must abate all lead.

B. Properties built after 1/1/78 and properties needing emergency rehab assistance are exempt from Lead-Based Paint Regulations.

1.03 PRICE AND PAYMENT PROCEDURES

A. Provide a price for the appropriate methods of abatement required by this scope of work.

1.04 SUBMITTALS

A. Project Plan: The General Contractor must prepare a written project plan and communicate it to the Construction Manager, Project Manager, and MN Department of Health. Plan shall include:

1. Start-up date and how long the project is expected to last.
2. Areas to be abated and precautions to take.
3. A warning to pay attention to the caution signs that are posted by the General Contractor around the project site.
4. Location of areas that may be restricted.

B. Test Reports: Indicate Lead Based Paint Clearance.

1. Submitted at final draw

1.05 QUALITY ASSURANCE

A. Licensed Lead Abatement Supervisor: Only General or Subcontractors who are State licensed to conduct lead hazard reduction work are allowed to bid on projects involving lead hazard reduction work. See Minnesota Statutes 144.9501-144.9512 and Minnesota Rules 4761.2000-4761.2700 for applicable safety precautions, disposal regulations, and other compliance regulations that apply to abatement activities.

B. Per Minnesota statute, Contractor shall provide a (5) day notification to the Minnesota Department of Health prior to beginning lead abatement activities. During lead abatement, a MN Licensed Lead Abatement Supervisor shall be on site and workers conducting lead abatement shall be MN Licensed Lead Abatement Workers.

C. See the MDH website for additional information:

http://www.health.state.mn.us/divs/eh/lead/prof/notification.html

D. Lead-Based Paint Hazard Clearance Testing

1. Where lead-based paint hazard control or reduction work has been performed by the General Contractor, the General Contractor will contact a certified third party risk assessor from Ramsey County Department of Public Health or other certified testing agency for clearance testing.
2. The Clearance Technician will conduct a visual assessment of completed work, take dust samples, have dust samples analyzed, and prepare a Clearance Report.
3. If sample results fail, Minnesota rules 4761.2670 subpart 2 and subpart 3 must be repeated. If test results of samples fail to meet clearance standards, surfaces must be retreated or recleaned at no additional cost to the Owner until clearance standard is met.
4. When the Clearance Report indicates that clearance standards have been met, and all other requirements of this section have been met, the Construction Manager and Owner will approve the final pay application.
5. Lead clearance testing is to be paid for by Contractor and included in the contract price.

PART 3 EXECUTION

2.01 ABATEMENT

A. When the Risk Assessment process determines that a project contains a lead-based paint hazard, the General Contractor shall comply with the abatement measures defined by:

1. HUD in 24 CFR Part 35 Subpart A through R 35.1325 http://portal.hud.gov/hudportal/HUD?src=/program_offices/healthy_homes/enforcement/lshr

2. EPA in 40 CFR 745.227(e). http://www.gpo.gov/fdsys/pkg/CFR-2011-title40-vol31/pdf/CFR-2011-title40-vol31-sec745-227.pdf

3. Minnesota Statutes 144.9501-144.9512 and Minnesota Rules 4761.2000-4761.2700 http://www.health.state.mn.us/divs/eh/lead/rule.html

B. DEFINITIONS:

1. Component Replacement: The removal of building components that contain lead-based paint. It is most appropriate for items such as doors, windows, trim, and cabinets.
2. Paint Removal: The separation of paint from the substrate using safe heat, chemical, or abrasive methods. It may be done on- or off-site. Abrasive methods can create a great deal of dust, are the most hazardous, and require the greatest care and most thorough clean-up.
3. Enclosure: The installation of a barrier (such as gypsum board or paneling) that is mechanically attached to the building component, with all edges and seams sealed to prevent escape of lead-based paint dust. It is most appropriate for large surfaces, such as walls, ceilings, floors, and exteriors.
4. Encapsulation: The application of a liquid or adhesive material that covers the component and forms a barrier that makes the lead-based paint surface inaccessible by relying upon adhesion. It may be appropriate for many kinds of smooth surfaces but it cannot be used effectively on friction surfaces, surfaces in poor condition, or surfaces that may become wet. It also must be compatible with existing paint.
5. Soil Removal: The removal of at least the top six inches of topsoil is adequate for most projects. In areas with heavy contamination, up to two feet may have to be removed, and must be disposed of using proper waste management techniques that comply with local requirements. The maximum lead concentration in replacement soil shall not exceed 200 ug/g. Sod or seeding of new soil should occur.
6. Soil Cultivation: The mixing of low lead soil with high lead soil is an appropriate method if the average lead concentration of the soil to be abated is below 1,500 ug/g. Thorough mixing is required, and pilot testing of various techniques may be needed to ensure that thorough mixing does occur.
7. Paving: The covering of highly contaminated soil with high quality concrete or asphalt. Paving is common in high traffic areas but not appropriate in play areas. The need for uncontaminated replacement soil is eliminated as is waste disposal costs. Paving often turns out to be the most economical recourse, despite its aesthetic disadvantages.

SECTION 03 3000

CAST-IN-PLACE CONCRETE

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Garage slab with thickened edge, 4" slab thickness, top of slab to be min. 6" above adjacent grade, comply with IRC requirements

B. Front porch pier footings

C. Rear entry stoop with frost footing

D. Basement, column footings, water meter pit, and floor patch at chimney

1.02 QUALITY ASSURANCE

A. Perform work of this section in accordance with ACI 301 and ACI 318.

PART 2 PRODUCTS

2.01 FORMWORK

A. Formwork Design and Construction: Comply with guidelines of ACI 347 to provide formwork that will produce concrete complying with tolerances of ACI 117.

B. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.

1. Form Ties: Cone snap type that will leave no metal within 1-1/2 inches (38 mm) of concrete surface.

2.02 REINFORCEMENT

A. Reinforcing Steel: ASTM A615/A615M Grade 40 (280).

2.03 CONCRETE MATERIALS

A. Cement: ASTM C150, Type I - Normal Portland type.

2.04 CONCRETE MIX DESIGN

A. Normal Weight Concrete:

1. Compressive Strength, when tested in accordance with ASTM C39/C39M at 28 days: 3,000 psi (20.7 MPa).

PART 3 EXECUTION

3.01 PREPARATION

A. Formwork: Comply with requirements of ACI 301. Design and fabricate forms to support all applied loads until concrete is cured, and for easy removal without damage to concrete.

B. Where new concrete is to be bonded to previously placed concrete, prepare existing surface by cleaning with steel brush and applying bonding agent in accordance with manufacturer's instructions.

3.02 INSTALLING REINFORCEMENT AND OTHER EMBEDDED ITEMS

A. Comply with requirements of ACI 301. Clean reinforcement of loose rust and mill scale, and accurately position, support, and secure in place to achieve not less than minimum concrete coverage required for protection.

3.03 PLACING CONCRETE

A. Place concrete in accordance with ACI 304R.

3.04 FLOOR FLATNESS AND LEVELNESS TOLERANCES

A. Maximum Variation of Surface Flatness:

1. Exposed Concrete Floors: 1/4 inch (6 mm) in 10 ft (3 m).

B. Correct the slab surface if tolerances are less than specified.

C. Correct defects by grinding or by removal and replacement of the defective work. Areas requiring corrective work will be identified. Re-measure corrected areas by the same process.

3.05 CONCRETE FINISHING

A. Repair surface defects, including tie holes, immediately after removing formwork.

B. Concrete Slabs: Wood float finish to requirements of ACI 302.1R

3.06 CURING AND PROTECTION

A. Comply with requirements of ACI 308R. Immediately after placement, protect concrete from premature drying, excessively hot or cold temperatures, and mechanical injury.

END OF SECTION

SECTION 04 0100

MAINTENANCE OF MASONRY

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Existing limestone house foundation walls, above grade exterior surfaces, to 6" below grade.

B. Existing limestone house foundation walls interior, all masonry visible and accessible in basement.

1.02 FIELD CONDITIONS

A. Cold and Hot Weather Requirements: Comply with requirements of ACI 530/530.1/ERTA or applicable building code, whichever is more stringent.

PART 3 EXECUTION

2.01 REBUILDING

A. Cut out damaged and deteriorated masonry with care in a manner to prevent damage to any adjacent remaining materials.

2.02 REPOINTING

A. Cut out loose or disintegrated mortar in joints to minimum 1/2 inch (6 mm) depth or until sound mortar is reached.

B. Pre-moisten joint and apply mortar. Pack tightly in maximum 1/4 inch (6 mm) layers. Form a smooth, compact concave joint to match existing.

2.03 CLEANING NEW MASONRY

A. Verify mortar is fully set and cured.

B. Clean surfaces and remove large particles with wood scrapers, brass or nylon wire brushes.

END OF SECTION

SECTION 04 2200
CONCRETE UNIT MASONRY

PART 1 GENERAL

1.02 LOCATIONS

A. CMU infill wall at existing basement exterior door opening

B. CMU foundation at new porch piers

1.02 SECTION INCLUDES

A. Concrete block

B. Mortar and grout

C. Reinforcement and anchorage

1.03 REFERENCES

A. IBC Chapter 21 and ACI 530-05, MSJC Building Code Requirements and Specification for Masonry Structures

B. ASTM C90 - Hollow Load Bearing Concrete Masonry Units

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: The concrete masonry manufacturer shall have a minimum of five (5) years experience manufacturing CMU at their current facility.

B. Single-Source Responsibility: Obtain concrete masonry units from one source and by a single manufacturer.

PART 2 PRODUCTS

2.01 CONCRETE BLOCK

A. Hollow concrete masonry units shall be normal weight units per ASTM C90 requirements Fm = 2000 psi.

2.02 MORTAR AND GROUT

A. Mortar shall be Type "M" per ASTM C270. Minimum 28 day compressive strength = 2500 psi.

B. Coarse grout per ASTM C476. Minimum 28 day compressive strength = 3000 psi.

C. Masonry cement shall not be used in mortar or grout.

2.03 JOINT REINFORCEMENT

A. Reinforcing Bars: Deformed steel, ASTM A-615, Grade 60

PART 3 EXECUTION

3.01 PREPARATION

A. Verify that field conditions are acceptable and ready to receive masonry.

B. Provide temporary bracing during installation of masonry work. Maintain in place until building structure provides permanent bracing.

3.02 COURSING

A. Establish lines, levels and coursing indicated.

B. Maintain masonry courses to uniform dimension. Form vertical and horizontal joints of uniform thickness.

C. Concrete Masonry Units

1. Bond: running
2. Coursing: one unit and one mortar joint to equal 8 inches
3. Mortar joints: concave

3.03 PLACING AND BONDING

A. Lay hollow masonry units with face shell bedding on head and bed joints, except lay first course above footings and slabs in full bed of mortar.

B. Remove excess mortar and mortar smears as work progresses.

C. Interlock intersections and external corners.

D. Do not shift or tap masonry units after mortar has achieved initial set. Where adjustment must be made, remove mortar and replace.

E. Perform job site cutting of masonry units with proper tools to provide straight, clean, unchipped edges.

3.04 PROTECTION OF WORK

A. Prevent grout mortar or soil from staining the face of masonry to be left exposed or painted.

B. Protect newly laid masonry from exposure to precipitation, excessive drying, freezing, soiling, backfill and other harmful elements.

C. During erection, cover top of walls with waterproof sheeting at end of each workday. Cover partially completed structure when work is not in progress.

3.05 REINFORCEMENT AND ANCHORAGE

A. Install masonry reinforcement, horizontal and vertical, as indicated on the drawings.

B. Place and consolidate grout fill without displacing reinforcement.

C. At bearing locations, fill masonry cores with grout for a minimum 12 inches either side of opening.

D. Consolidate grout by rodding or vibrating.

3.06 CLEANING

A. Remove excess mortar and mortar droppings.

B. Clean soiled surfaces with cleaning solution. Do not use high-pressure spray for cleaning masonry. Use non-metallic tools in cleaning operations.

END OF SECTION

SECTION 04 2300

GLASS UNIT MASONRY

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Basement, infill windows, (4) openings

B. Bathroom, infill window

1.02 FIELD CONDITIONS

A. Cold and Hot Weather Requirements: Comply with requirements of ACI 530/530.1/ERTA or applicable building code, whichever is more stringent.

PART 2 PRODUCTS

2.01 GLASS UNITS

A. Hollow Glass Units: Permanently seal hollow unit by heat fusing joint; with joint key to assist mortar bond.

2.02 MORTAR MIXING

A. Thoroughly mix mortar ingredients in accordance with ASTM C270 in quantities needed for immediate use.

PART 3 EXECUTION

3.01 INSTALLATION

A. Erect glass units and accessories in accordance with manufacturer's instructions.

END OF SECTION

SECTION 05 7300

DECORATIVE METAL RAILINGS

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Site steps from sidewalk to grade at front yard.

B. Front steps to porch

C. Rear entry stoop

D. Rear steps to garage

PART 2 PRODUCTS

2.01 RAILING SYSTEMS

A. Railings - General: Factory- or shop-fabricated in design indicated, to suit specific project conditions, and for proper connection to building structure, and in largest practical sizes for delivery to site.

1. Design Criteria: Design and fabricate railings and anchorages to resist the following loads without failure, damage, or permanent set; loads do not need to be applied simultaneously.

a. Lateral Force: 75 lb (333 N) minimum, at any point, when tested in accordance with ASTM E935.

b. Distributed Load: 50 pounds per foot (0.73 kN per m) minimum, applied in any direction at the top of the handrail, when tested in accordance with ASTM E935.

c. Concentrated Loads on Intermediate Rails: 50 pounds per square ft (0.22 per sq m), minimum.

d. Concentrated Load: 200 pounds (888 N) minimum, applied in any direction at any point along the handrail system, when tested in accordance with ASTM E935.

2. Assembly: Join lengths, seal open ends, and conceal exposed mounting bolts and nuts using slip-on non-weld mechanical fittings, flanges, escutcheons, and wall brackets.

3. Joints: Tightly fitted and secured, machined smooth with hairline seams.

4. Field Connections: Provide sleeves to accommodate site assembly and installation.

5. Welded and Brazed Joints: Make exposed joints butt tight, flush, and hairline; use methods that avoid discoloration and damage of finish; grind smooth, polish, and restore to required finish.

a. Ease exposed edges to small uniform radius.

b. Welded Joints:

1) Carbon Steel: Perform welding in accordance with AWS D 1.1/D1.1M.

2) Stainless Steel: Perform welding in accordance with AWS D 1.6.

c. Brass/Bronze Brazed Joints:

1) Perform torch brazing in accordance with AWS C3.4/3.4M.

2) Perform induction brazing in accordance with AWS C3.5/3.5M.

3) Perform resistance brazing in accordance with AWS C3.9/3.9M

B. Steel round pipe railings and guardrails: 1-1/2" outside diameter pipe

1. Finishes: Prepare raw material by "Brush-Off Blast Cleaning". Apply rust inhibiting alkyd primer. Paint per Materials and Selection Sheet.

PART 3 EXECUTION

3.01 INSTALLATION

A. Comply with manufacturer's drawings and written instructions.

B. Install components plumb and level, accurately fitted, free from distortion or defects and with tight joints, except where necessary for expansion.

C. Anchor to concrete using concrete anchors

E. Anchor to wood structure

END OF SECTION

SECTION 06 1000

ROUGH CARPENTRY

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. For complete locations refer to drawings.

B. New exterior front porch framing, leaving roof structure in place, per drawings. Porch floor framing to be treated lumber

C. New garage framing, see site plan for location and see 1.02 and 2.05 below

D. Basement stairs, add new treads and risers at the bottom of the stair run, per drawings

E. Basement stairs, new wood supports

F. Kitchen remodeling, including modified window openings and doorway per drawings

G. Dining room, infill exterior wall at removal of rear addition.

H. Dining room, new flush beam and support columns in walls, per drawings

I. Bathroom remodeling, including modified doorway, per drawings

J. Bedroom #2, reframe closet area, per drawings

K. Hall, reframe closet area, per drawings

L. Hall, attic hatch, per drawings

M. Hall, new column in wall, per drawings

N. Attic, new column, per drawings

1.02 PRE-PURCHASED MATERIALS

A. Garage framing kit has been purchased by the HRA for this project. Delivery of all material to the job site is included in pre-purchase. Contractor is responsible for contacting specified vendor to arrange for and take delivery

B. Contractor is responsible for all measurements, verification of quantities, and for including additional needed materials in their bid. The HRA makes no representation that the pre-purchased materials are an accurate or exact amount of what is needed for project completion. Provide a bid price for labor and additional materials required to perform work to code. See 2.05 below.

PART 2 PRODUCTS

2.01 DIMENSION LUMBER FOR CONCEALED APPLICATIONS

A. Sizes: Nominal sizes as indicated on drawings, S4S.

B. Moisture Content: S-dry or MC19.

C. Stud Framing (2 by 2 through 2 by 6)
   1. Grade: No. 2

D. Joist, Rafter, and Small Beam Framing (2 by 6 through 4 by 16)
   1. Grade: No. 2

E. Miscellaneous Framing, Blocking, Nailers, Grounds, and Furring:
   1. Lumber: S4S, No. 2 or Standard Grade.
   2. Boards: Standard or No. 3.

2.03 ACCESSORIES

A. Fasteners and Anchors:

1. Metal and Finish: Hot-dipped galvanized steel per ASTM A153/A153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.

B. Joist Hangers: Hot dipped galvanized steel, sized to suit framing conditions. Provide hangers manufactured by Simpson or equal.

1. For contact with preservative treated wood in exposed locations, provide minimum G185 (Z550) galvanizing per ASTM A653/A653M.

C. Building Paper: Water-resistant asphalt saturated building paper.

2.04 FACTORY WOOD TREATMENT

A. Treated Lumber and Plywood: Comply with requirements of AWPA U1 - Use Category System for wood treatments determined by use categories, expected service conditions, and specific applications.

1. Preservative-Treated Wood: Provide lumber and plywood marked or stamped by an ALSC-accredited testing agency, certifying level and type of treatment in accordance with AWPA standards.

2.05 GARAGE FRAMING KIT

A. New garage to be constructed from pre purchased garage framing kit supplied by Menards, including framing lumber, wood trusses, sheathing, service door and small window.

1. Design #74105 22'x22' two-car garage with 16'x7' garage door opening.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

A. Select material sizes to minimize waste.

3.02 FRAMING INSTALLATION

A. Set structural members level, plumb, and true to line. Discard pieces with defects that would lower required strength or result in unacceptable appearance of exposed members.

B. Install structural members full length without splices unless otherwise specifically detailed.

C. Comply with member sizes, spacing, and configurations indicated, and fastener size and spacing indicated, but not less than required by applicable codes and AFPA Wood Frame Construction Manual.

D. Install horizontal spanning members with crown edge up and not less than 1-1/2 inches (38 mm) of bearing at each end.

END OF SECTION

SECTION 06 2000

FINISH CARPENTRY

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. For complete locations refer to drawings.

B. Exterior front porch, column casings and base trim; skirt trim at floor system; composite decking at floor per drawings

C. New composite trim, fascias and soffits throughout exterior, typical trim called out on front elevation drawing.

D. Composite trim, fascias and soffits at new garage.

E. Kitchen, case new window and doors to match existing; new base trim throughout.

F. Dining, case new window to match existing.

G. Dining, patch trim at infill wall and reinstall base trim at new column location

H. Bedroom #2, case new doors to match existing.

I. Second floor hallway, recase relocated bathroom door both sides and patch base trim at hall side.

J. Repair wood trim and base throughout second floor.

K. Patch interior trim at all areas altered by new work

1.02 RELATED SECTIONS

A. Section 07 4620 Fiber Substrate Siding, for siding and trim at house and garage

B. Section 09 9000 Painting and Coating

PART 2 PRODUCTS

2.01 FINISH CARPENTRY ITEMS

A. Quality Grade: Unless otherwise indicated provide products of quality specified by AWI//AWMAC/WI Architectural Woodwork Standards for Premium Grade.

2.02 LUMBER MATERIALS

A. Composite trim at garage exterior: Smartside exterior trim, or equal. Install reversible trim with smooth side out (not wood grain).

B. Composite trim at house exterior: Smartside exterior trim, or equal. Install reversible trim with smooth side out (not wood grain).

C. New interior trim at new windows and new doors, match existing interior trim dimensions, profiles, species and finish.

D. New interior base at kitchen and infill areas, match existing dimensions, profiles, species and finish.

E. Porch decking: Trex 1 x 5-1/2 Grooved Brasilia Cayenne composite decking, or equal

PART 3 EXECUTION

3.01 CARPENTRY STANDARDS

A. Set and secure materials and components in place, plumb and level.

B. Use finish nails of sufficient length to penetrate framing 1".

C. Mitre all lap joints, and break all lap joints over framing.

D. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch (1 mm). Do not

use additional overlay trim to conceal larger gaps.

3.02 COMPOSITE TRIM

A. Composite lumber products: install according to manufacturer's instructions. Install reversible trim with smooth side out.

3.03 COMPOSITE DECKING

A. Install in accordance with manufacturer's installation instructions.

B. Install utilizing concealed fastener system. Submit product data.

END OF SECTION

SECTION 07 2126

BLOWN INSULATION

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. For complete locations refer to NEC energy specification

B. Attic

C. Exterior walls

D. Roof and floor at bay window

1.02 NEC ENERGY SPECIFICATION

A. Comply with NEC energy specification.

PART 2 PRODUCTS

2.01 MATERIALS

A. Loose Fill Insulation: ASTM C739, cellulose fiber type, nodulated for pour and bulk for pneumatic placement.

1. R-Value: Attic R-50

PART 3 EXECUTION

3.01 INSTALLATION

A. Install insulation and ventilation baffle in accordance with ASTM C1015 and manufacturer's instructions.

B. Place insulation pneumatically to completely fill stud, joist, and rafter spaces.

C. Pour insulation to completely fill stud, joist, and rafter spaces to a density of 3.5 lbs per cubic foot per cavity.

D. Completely fill intended spaces. Leave no gaps or voids.

END OF SECTION

SECTION 07 2500
WEATHER BARRIERS

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Entire house exterior under new siding, including dormer gable end wall,

B. New garage exterior

PART 2 PRODUCTS

2.01 WEATHER BARRIER ASSEMBLIES

A. Weather Barrier Membrane: Spunbonded polyolefin, non-woven, non-perforated, weather barrier
   1. Manufacturer: DuPont Tyvek HomeWrap or like product to be approved by Owner.

B. Seam Tape: DuPont Tyvek or like product

C. Flashing: DuPont Tyvek or like product

D. Fasteners: DuPont Tyvek or like product

PART 3 EXECUTION

3.01 INSTALLATION

A. Install weather barrier over exterior face of exterior wall substrate in accordance with manufacturer's recommendations.

B. Attach weather barrier to studs through exterior sheathing. Secure using weather barrier manufacturers recommended fasteners, spaced 12-18 inches vertically on center along stud line, and 24 inches on center, maximum horizontally.

END OF SECTION

SECTION 07 2700

AIR BARRIER SYSTEM

PART 1 GENERAL **$_____**

1.01 Comply with NEC ENERGY SPECIFICATIONS

PART 2 PRODUCTS

2.01 ADHESIVES AND SEALANTS

A. Comply with VOC requirements in Section 01 6116

PART 3 EXECUTION

3.01 INSTALLATION

A. Seal attic bypasses. Weatherstrip attic access hatch. Refer to NEC energy specification.

B. Mechanical work: Seal penetrations from unconditioned spaces with joint sealant and provide flashing. Seal flue openings with flashing and fire-rated joint sealant

C. Pest Management Measures

1. For openings in the building envelope less than 1/4 inch, including pipe and electrical penetrations, completely seal to avoid pest entry.
2. Install rodent-and corrosion proof screens for openings greater than 1/4 inch

END OF SECTION

SECTION 07 3113
ASPHALT SHINGLES

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Reroof entire house and porch roof, see 1.02 and 2.01 below

B. Roof entire new garage roof, see 1.02 and 2.01 below

1.02 PRE PURCHASED MATERIALS

A. Roofing material has been purchased by the HRA for this project. Delivery of all material to the job site is included in pre-purchase. Contractor is responsible for contacting specified vendor to arrange for and take delivery.

B. Contractor is responsible for all measurements, verification of quantities, and for including additional needed materials in their bid. The HRA makes no representation that the pre-purchased materials are an accurate or exact amount of what is needed for project completion. Provide a bid price for labor and additional materials required to perform work to code. See 2.01 below.

1.03 QUALITY ASSURANCE

A. Perform Work in accordance with the recommendations of NRCA Steep Roofing Manual.

PART 2 PRODUCTS

2.01 SHINGLES

A. Vendor: Lampert Roofing

B. Pre-purchased materials: See Yard Deliver Order

a. GAF Elk Timberline 30 year HD Shingles

b. Timetex Ice and Water Shield, 15 lb. felt.

2.02 ACCESSORIES

A. Nails: Standard round wire shingle type, of hot-dipped zinc coated steel, 12 gage, 0.105 inch (2.67 mm) shank diameter, 3/8 inch (9.5 mm) head diameter, of sufficient length to penetrate through roof sheathing or 3/4 inch (19 mm) into roof sheathing or decking.

PART 3 EXECUTION

3.01 INSTALLATION - SHINGLES

A. Install shingles in accordance with manufacturer's instructions.

END OF SECTION

SECTION 07 4620
FIBER SUBSTRATE SIDING

PART 1 GENERAL

1.01 LOCATIONS

A. House

B. New garage (pre purchased garage framing kit does not include siding and trim)

1.02 SECTION INCLUDES

A. Primed hardboard siding.

B. Sealing panel joints and penetrations.

C. Flashings within siding installation.

D. For matching soffit panels and trim, see Section 06 2000 Finish Carpentry

1.03 REFERENCES

A. ANSI/AHA A135.6 - Hardboard Siding.

1.04 SUBMITTALS

A. Manufacturer's data sheets on each product to be used, including:

1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Installation methods, including nailing patterns.
4. Applicable model code authority evaluation report (including but not limited to ICBO, SBCCI, BOCA, CCMC).

B. Siding manufacturer's requirements for products to be installed by others.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Store products off the ground, on a flat surface, and under a roof or separate waterproof covering.

1.06 WARRANTY

A. Manufacturer's Standard Warranty: 50 year transferable limited warranty with 5 year 100 percent repair and replacement warranty.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturer: LP SmartSide, which is located at: 414 Union St. Suite 2000 ; Nashville, TN 37219; Toll Free Tel: 888-820-0325; Email: request info (marketing.center@lpcorp.com); Web: www.lpcorp.com/smartside

B. Requests for substitutions will be considered in accordance with provisions of Section 01 6000.

2.02 MATERIALS

A. Lap Siding: Precision Series as manufactured by LP SmartSide

1. Style: Smooth surface; 6 inches wide; square edges.
2. Length: 16 feet

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions and drawing details.

1. Read warranty and comply with terms necessary to maintain warranty coverage.

2. Install in accordance with conditions stated in model code evaluation service report.
3. Properly space joints to allow for equilibration.

B. Allow products to adjust to ambient conditions before starting installation.

C. Do not install to green wood or crooked structural framing. Do not install over rain soaked or buckled materials. Do not install if excessive moisture is present in the interior, including that from curing concrete and plaster.

D. Over Wood and Wood-Composite Sheathing: Fasten siding through sheathing into studs.

E. Install sheet metal flashing above door and window casings and horizontal trim in field of siding.

F. Do not install siding less than 6 inches (150 mm) from ground nor closer than 1 inch (25 mm) to roofs, patios, porches, and other surfaces where water may collect.

G. Do not cut siding to fabricate trim; use trim components manufactured for the purpose.

H. After installation, seal joints except lap joints of lap siding. Seal around penetrations. Paint exposed cut edges

3.02 PROTECTION

A. Protect installed products until completion of project.

B. Touch-up, repair or replace damaged products after Substantial Completion.

END OF SECTION

SECTION 07 6200

SHEET METAL FLASHING AND TRIM

PART 1 GENERAL **$_____**

1.01 LOCATION

A. Roof joint with vertical walls

B. At front porch roof joint with house wall, install flashing to extend beneath existing window sills. Disassemble and reinstall window frame in order to flash continuously from roof surface to inside edge of window rough-opening.

C. Roof drip edge, perimeter of porch, house, and garage

1.02 QUALITY ASSURANCE

A. Perform work in accordance with SMACNA Architectural Sheet Metal Manual requirements and standard details, except as otherwise indicated.

PART 2 PRODUCTS

2.01 SHEET MATERIALS

A. Aluminum: ASTM B209 (ASTM B209M); 0.032 inch (0.8 mm) thick; anodized finish of color as selected.

1. Clear Anodized Finish: AAMA 611 AA-M12C22A41 Class I clear anodic coating not less than 0.7 mils (0.018 mm) thick.

PART 3 EXECUTION

3.01 INSTALLATION

A. Secure flashings in place using concealed fasteners. Use exposed fasteners only where permitted.

B. Seal metal joints watertight.

END OF SECTION

SECTION 07 7123
MANUFACTURED GUTTERS AND DOWNSPOUTS

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Main roof, install new gutters, east and west

B. Front porch, install new gutters at perimeter

C. Locate downspouts and tie to drainage system according to Landscape Plan

1.02 DESIGN REQUIREMENTS

A. Conform to applicable code for size and method of rain water discharge.

PART 2 PRODUCTS

2.01 MATERIALS

A. Pre-Finished Aluminum Sheet: ASTM B209 (ASTM B209M); 0.032 inch (0.8 mm) thick.
   1. Finish: Plain, shop pre-coated with modified silicone coating.
   2. Color: To match the exterior trim.

2.02 COMPONENTS

A. Gutters: K style profile, seamless, one-piece aluminum gutter and guard

B. Gutter Guard: seamless, one-piece aluminum gutter and guard

C. Downspouts: SMACNA Rectangular profile.
   1. Size: 3X5

D. Anchors and Supports: Profiled to suit gutters and downspouts.
   1. Gutter Supports: Brackets.
   2. Downspout Supports: Straps.

E. Fasteners: Galvanized steel , with soft neoprene washers.

2.03 ACCESSORIES

A. Splash Blocks: Precast concrete type, size and profiles indicated; minimum 3000 psi (21 MPa) at 28 days, with minimum 5 percent air entrainment.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install gutters, downspouts, and accessories in accordance with manufacturer's instructions.

B. Where feasible, a minimum of 6' offset extension shall be installed at the ends of all downspouts to divert water away from foundation.

C. Downspouts shall divert the entire water load in the direction of the rain garden according to the Landscape Plan.

3.02 LOCATION

A. Install new gutters at all existing gutter locations, and as noted on drawings

B. Locate downspouts according to Landscape Plan

C. Install splash blocks at all downspouts

END OF SECTION

SECTION 08 1429

WOOD DOORS

PART 1 GENERAL

1.01 LOCATIONS

A. Laundry closet, see drawings and door schedule

B. Bedroom #2 closet, see drawings and door schedule

1.02 SECTION INCLUDES

A. Wood doors, stile and rail design.

B. Frames for pre-hung doors.

C. Hardware for interior doors.

PART 2 PRODUCTS

2.01 INTERIOR WOOD DOORS

A. Quality Level: Premium Grade, in accordance with AWI/AWMAC/WI Architectural Woodwork Standards.

B. Wood products that Emit Low or No Formaldehyde

C. Wood products that Emit Low or No VOC

D. Interior Doors: 1-3/8" thick unless otherwise indicated

1. Wood surface: Paint-grade maple or birch, primed.
2. Door Type: Flush, solid core or hollow core per door schedule on drawings; at laundry, vented louver doors per door schedule on drawings

2.02 HARDWARE

A. All hardware to be Schlage builder's grade, standard nickel/brushed finished, ADA-compliant

B. See door schedule for hardware designation

C. Submit manufacturer's data and lever style options before ordering.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install doors in accordance with manufacturer's instructions and AWI/AWMAC Quality Standards requirements.

B. Trim door width by cutting equally on both jamb edges.

C. Trim door height by cutting bottom edges to a maximum of 3/4 inch (19 mm).

D. Machine cut for hardware.

E. Coordinate installation of doors with installation of frames and hardware.

3.02 TOLERANCES

A. Conform to specified quality standard for fit, clearance, and joinery tolerances.

END OF SECTION

SECTION 08 1613
FIBERGLASS DOORS

PART 1 GENERAL

1.01 LOCATIONS

A. Front entry door, see schedule on drawings

B. Side entry door, see schedule on drawings

1.02 SECTION INCLUDES

A. Fiberglass Entrance Doors

1.03 REFERENCES

A. American Architectural Manufacturer Association (AAMA)

1. AAMA 1304; Voluntary Specification for Forced Entry Resistance of Side-Hinged Door Systems.

B. ASTM International

1. ASTM E283; Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen
2. ASTM E330; Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Pressure Difference
3. ASTM E331; Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Uniform Static Air Pressure Difference
4. ASTM E547; Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors, and Curtain Walls by Cyclic Static Air Pressure Difference

1.04 SUBMITTALS

A. Refer to Section, see Section 01 0010 General Requirements, Part 7]

B. Product Data: Submit door manufacturer current product literature, including installation instruction.

1.05 WARRANTY

A. Manufacturer standard warranty indicating that doors will be free from material and workmanship defects from the date of substantial completion for the time periods indicated below:

1. Door System: 25 Years.

PART 2 - PRODUCTS

2.01 MANUFACTURER

A. JELD-WEN Fiberglass Doors; 3305 Lakeport Blvd.; Klamath Falls, OR 97601, USA; Phone 877.535.3462, fax 541.882.3455; website www.jeld-wen.com.

B. Basis of Design: Doors are based on the JELD-WEN’s Smooth Pro Fiberglass.

1. Smooth-Pro, Design SP-100

2.02 MATERIALS

A. Stiles and Rails: Engineered wood (laminated veneer lumber), composite capped.

2.03 FIBERGLASS ENTRANCE DOORS

A. Thickness: 1-3/4 inch

B. Door Style: Solid

C. Door Shape: Squared Top

D. Finish: Paint surface in field, see selection sheet for color

E. Hardware (Group A - Entry)

1. Schlage builder's grade, standard nickel/brushed finished, ADA-compliant

2. Latch-set with lever handle.
3. Entry lockset with deadbolt.
4. ADA-compliant aluminum threshold

2.04 PREHUNG HARDWOOD SYSTEMS

A. Profile: Single Door
B. Jamb: Solid pine wood.
C. Width: Custom as required for existing opening
D. Casing: Brickmold
E. Hinges: Solid brass concealed-bearing.
1. Size: 4 by 4 square.
2. Finish:
3. Sills: ADA Aluminum

2.05 FABRICATION

A. Skins are adhered to engineered wood frames with core materials and bonding agents that permanently lock skin to frame.

2.06 DELIVERY, STORAGE AND HANDLING

A. Deliver doors, materials and components in manufacturer's original, unopened, undamaged containers with identification labels intact.
B. Store doors as recommended by manufacturer.

PART 3 - EXECUTION

3.01 GENERAL

A. Install doors in accordance with manufacturer's installation guidelines and recommendations.

3.02 EXAMINATION

A. Inspect door prior to installation.
B. Inspect rough opening for compliance with door manufacturer recommendations. Verify rough opening conditions are within recommended tolerances.

3.03 INSTALLATION

A. Install jamb assembly.
1. Caulk sill along outside edge and ½ inch in from edge of subfloor.
2. Set door unit into center of opening and tack in place.
3. Shim hinge then latch side jambs straight. Inspect jamb for square, level and plumb.
4. Shim and fasten top of unit where sidelight joins door jamb.
5. Fasten hinge side jamb to studs.
6. Verify door opens freely and weatherstrip meets door evenly.
7. Verify door sweep contacts threshold evenly.
8. Fasten latch side jamb to studs.
B. Caulk outside perimeter of door unit between brickmold and wall face, along front side of threshold, and between jamb sides and threshold.

3.04 PROTECTION

A. Protect installed doors from damage.

END OF SECTION

SECTION 08 3323

RESIDENTIAL OVERHEAD DOORS

PART 1 GENERAL

1.01 LOCATION

A. New garage (per purchased framing kit does not include overhead door)

1.02 REFERENCES

B. ANSI/DASMA 108 Standard Method for Testing Sectional Garage Doors and Rolling Doors: Determination of Structural Performance Under Uniform Static Air Pressure Difference

C. UL: Underwriters Laboratories, Inc.

1.03 DESIGN / PERFORMANCE REQUIREMENTS

A. Single-Source Responsibility: Provide doors, tracks, motors, and accessories from one manufacturer for each type of door. Provide secondary components from source acceptable to manufacturer of primary components.

1.04 SUBMITTALS

A. Product Data: Manufacturer's data sheets on each product to be used, including:

1. Preparation instructions and recommendations.
2. Storage and handling requirements and recommendations.
3. Installation methods.

B. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturer's full range of available colors and patterns.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum five years documented experience.

B. Installer Qualifications: Authorized representative of the manufacturer with minimum five years documented experience.

C. Products Requiring Electrical Connection: Listed and classified by Underwriters Laboratories, Inc. acceptable to authority having jurisdiction as suitable for purpose specified.

1.06 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened labeled packaging until ready for installation.

B. Protect materials from exposure to moisture until ready for installation.

C. Store materials in a dry, ventilated weathertight location.

D. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.07 WARRANTY

A. Warranty: 15 years

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturer: Overhead Door Corp or equal, requests for substitutions will be considered in accordance with provisions of Section 01 6000.

2.02 RESIDENTIAL METAL OVERHEAD DOORS

A. Non-Insulated Steel Sectional Overhead Doors: Traditional Steel Collection 170 Series Non-Insulated Steel Doors by Overhead Door Corporation.

1. Door Assembly: High tensile strength steel construction.
2. Size: 16' x 7'.
3. Panel Thickness: 2 inches nominal.
4. Exterior Steel: Residential grade high strength hot-dipped galvanized steel 26 gauge
5. Window Design: no windows
6. Finish/Color: Two coat baked-on polyester. Color: match House Color No. 2 (trim), submit color options to Construction Manager
7. Hardware: Standard garage door hardware.
8. Bottom fixture - DASMA 103 tamper resistant fasteners.
9. Weatherstripping: Extruded PVC bulb-type strip at bottom.
10. Track: Provide track as recommended by manufacturer to suit loading required and clearances available.
11. Nylon rollers.
12. Electric Opener

PART 3 EXECUTION

3.01 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.02 INSTALLATION

A. Install overhead doors, track and openers in accordance with approved shop drawings and the manufacturer's printed instructions.

B. Coordinate installation with adjacent work to ensure proper clearances and allow for maintenance.

C. Anchor assembly to wall construction and building framing without distortion or stress.

D. Securely brace door tracks suspended from structure. Secure tracks to structural members only.

E. Fit and align door assembly including hardware.

3.03 CLEANING AND ADJUSTING

A. Adjust door assembly to smooth operation and in full contact with weatherstripping.

B. Clean doors, frames and glass.

C. Remove temporary labels and visible markings.

3.04 PROTECTION

A. Do not permit construction traffic through overhead door openings after adjustment and cleaning.

B. Protect installed products until completion of project.

C. Touch-up, damaged coatings and finishes and repair minor damage before Substantial Completion.

END OF SECTION

SECTION 08 5200

WOOD WINDOWS

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. See drawings and window schedule on Sheet 7

B. New double-hung wood windows at kitchen and attic

C. New "frame within frame" insert wood windows at existing windows on first and second floors (except not first floor windows facing street which are to remain).

D. New "frame within frame" replacement egress casement windows in each second floor bedroom.

1.02 REFERENCES

E. American Society for Testing and Materials (ASTM):

1. E 283: Standard Test Method for Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors.
2. E 330: Standard Test Method for Structural Performance of Exterior Windows, Curtains Walls, and Doors by Uniform Static Air Pressure Difference.
3. E 547: Standard Test Method for Water Penetration of Exterior Windows, Curtain Walls, and Doors by Cyclic Static Air Pressure Differential.
4. E 774: Specification for Sealed Insulated Glass Units.
5. C 1036: Standard Specification for Flat Glass.

F. WDMA I.S.4: Industry Standard for Water Repellent Preservative Treatment for Millwork.

G. Window and Door Manufacturers Association (WMDA): 101 / I.S.2 WDMA Hallmark Certification Program.

H. Sealed Insulating Glass Manufactures Association / Insulating Glass Certification Council (SIGMA / IGCC).

I. National Fenestration Rating Council (NFRC): 101: Procedure for Determining Fenestration Product Thermal Properties.

1.03 SYSTEM DESCRIPTION

A. Design and Performance Requirements:

1. Window units shall be designed to comply with ANSI / AAMA / NWWDA 101 / I.S.2-97 and 101 / I.S. 2/ NAFS-02:
2. Air leakage shall not exceed the following when tested at 1.57 psf according to ASTM E 283: .30 cfm per square foot of frame.
3. No water penetration shall occur when units are tested at the following pressure according to ASTM E 547: (H-LC40 - 6.0) (H-LC30 - 4.5) (TR-LC40 – 6.0) (F-LC40 – 6.0) psf.
4. Assembly shall withstand the following positive or negative uniform static air pressure difference without damage when tested according to ASTM E 330: (H-LC40 – 60) (H-LC30 – 45) (TR-LC40 – 60) (F-LC40 – 60) psf.

1.04 SUBMITTALS

A. Product Data: Submit catalog data under provisions of Section 01 33 23.

B. Window order sheet prepared by lumber yard prior to placing order

1.05 DELIVERY AND STORAGE

A. Deliver in original packaging and protect from weather.

B. Store window units in an upright position in a clean and dry storage area above ground and protect

from weather under provisions of Section 01 66 00.

1.06 WARRANTY

A. Windows shall be warranted to be free from defects in manufacturing, materials, and workmanship for a period of ten (10) years from purchase date.

B. Insulating glass shall be warranted against visible obstruction through the glass caused by a failure of the insulating glass air seal for a period of twenty (20) years from the date of original purchase.

PART 2 PRODUCTS

2.01 MANUFACTURED UNITS

A. Wood Ultimate Double Hung as manufactured by Marvin Windows and Doors, Warroad, Minnesota, or equal

B. Wood Ultimate Replacement Casement operating exterior swing window, as manufactured by Marvin Windows and Doors, Warroad, Minnesota.

C. Wood Ultimate Insert Double Hung as manufactured by Marvin Windows and Doors, Warroad, Minnesota.

2.02 GLAZING

A. Select quality complying with ASTM C 1036. Insulating glass SIGMA / IGCC certified to performance level CBA when tested in accordance with ASTM E 774.

B. Glass Type: Clear, Low-E with Argon

C. Glazing Seal: Silicone bedding.

2.03 FINISH

A. Interior / Exterior: Latex prime coat

2.04 HARDWARE

A. Factory supplied window operating hardware, color: bronze

2.05 WEATHER STRIP

A. Continuous leaf weather strip at head jamb parting stop; dual durometer bulb weather strip at check rail; foam bulb type dual durometer weather strip on vertical sash edge; dual durometer bulb weather strip at bottom rail. Color: Beige.

2.06 JAMB EXTENSION

A. Order 4 9/16" jambs, field jamb extensions to match existing wall and finish thicknesses, clear pine lumber

2.07 INSECT SCREENS

A. Factory installed full screen, charcoal fiberglass mesh, brown frame

B. Store screens in original packaging and install at end of project.

2.080 SIMULATED DIVIDED LITES

A. At replacement casement windows for egress in the bedrooms, Marvin factory option for SDL wide muntin simulating check rail, at casement egress windows, "double-hung look" (option also includes taller bottom rail at sash).

PART 3 EXECUTION

3.01 INSTALLATION

A. Comply with manufacturer's installation instructions.

B. Install sealant and related backing materials at perimeter of unit or assembly in accordance with NEC energy specification. Do not use expansive foam sealant.

C. Install accessory items as required.

D. Use finish nails to apply wood trim and mouldings.

3.02 CLEANING

A. Remove visible labels and adhesive residue according to manufacture's instructions.

B. Leave windows and glass in a clean condition.

3.03 PROTECTING INSTALLED CONSTRUCTION

A. Protect windows from damage by chemicals, solvents, paint, or other construction operations that may cause damage.

END OF SECTION

SECTION 09 0120
REPAIR OF PLASTER AND GYPSUM BOARD SURFACES

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Throughout; as needed following improvements at all new work

1.02 SUMMARY

A. This section covers surface repairs of plaster and gypsum board surfaces. Existing house finishes are veneer plaster over gypsum board.

B. Finish surface type should match existing surfaces

C. All repair work to be even and seamless and match adjacent surfaces.

PART 2 PRODUCTS

2.01 ACCESSORIES

A. Galvanized metal lath

B. Joint Compound

C. Plaster

D. Plastic Tarps

PART 3 EXECUTION

3.01 REPAIR

A. Walls and Ceilings: Repair interior surface(s) so that finish surface is even and properly prepared for finish application.

1. Protect adjacent finished surfaces by covering with plastic or tarps.
2. Install galvanized metal lath over area of back up as required. May also secure with screws and insert piece of gypsum board in areas to be patched.
3. Before applying scratch coats, dampen areas to reduce absorption from joint compound/plaster.
4. Apply finish coat and bring to thickness flush with surrounding surface.
5. The interior temperature must be no less than a minimum 60 degrees during this work.

END OF SECTION

SECTION 09 0160

HARDWOOD FLOORING RESTORATION

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Patch existing floors after all carpeting is removed. Install new flooring to match existing dimensions and species when required. Weave into existing flooring.

B. Sand floors throughout and refinish, except kitchen and bathroom

1.02 RELATED SECTIONS

A. See Section 01 6116 Volatile Organic Compound Content Restrictions

PART 3 EXECUTION

3.01 RESTORATION

A. Use Low VOC, Water Based cleaner

B. Buff with a high speed industrial buffer and cotton pads

END OF SECTION

SECTION 09 2116

GYPSUM BOARD INSTALLATION

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. New gypsum board finish at repaired exterior walls, kitchen walls, bedroom #2 closet

B. New gypsum board finish at all bathroom walls and ceiling (except at wall tile, see Section 09 3000 Tiling)

C. For work at all rooms, see Section 09 0120 Repair of Plaster and Gypsum Board Surfaces

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

A. Provide completed assemblies complying with ASTM C840 and GA-216.

2.02 BOARD MATERIALS

A. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C1396/C1396M; sizes to minimize joints in place; ends square cut.

1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
2. Thickness:
   a. Vertical Surfaces: 1/2 inch
   b. Ceilings: 5/8 inch

2.03 ACCESSORIES

A. Joint Materials: ASTM C475 and as recommended by gypsum board manufacturer for project conditions.

1. Tape: 2 inch (50 mm) wide, creased paper tape for joints and corners, except as otherwise indicated.
2. Ready-mixed vinyl-based joint compound.
3. Powder-type vinyl-based joint compound.
4. Chemical hardening type compound.

PART 3 EXECUTION

3.01 BOARD INSTALLATION

A. Comply with ASTM C840, GA-216, and manufacturer's instructions. Install to minimize butt end joints, especially in highly visible locations.

B. Single-Layer Non-Rated: Install gypsum board in most economical direction, with ends and edges occurring over firm bearing.

3.02 JOINT TREATMENT

A. Finish gypsum board in accordance with levels defined in ASTM C840, as follows:

1. Level 4: Walls and ceilings to receive paint finish or wall coverings

SECTION 09 3000

TILING

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Kitchen floor, see color and materials selection sheet

B. Bathroom tub surround, per drawings, see bathroom interior elevations. Cementitious backer board at tub surround.

C. Bathroom floor

1.01 FIELD CONDITIONS

A. Do not install adhesives in an unventilated environment.

B. Maintain ambient and substrate temperature of 50 degrees F (10 degrees C) during installation of mortar materials.

PART 2 PRODUCTS

2.01 TILE

A. Glazed Ceramic at walls: Dal Tile semi-gloss white 4 1/4" x 4 1/4"

B. Ceramic tile at floors: Florim USA, Istone Gray, 6” x 6”

2.03 GROUT MATERIALS

A. Standard Grout: Any type specified in ANSI A118.6 or A118.7.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

A. Install tile in accordance with applicable requirements of ANSI A108.1 through A108.13, manufacturer's instructions, and The Tile Council of North America Handbook recommendations.

SECTION 09 9000

PAINTING AND COATING

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Exterior house and porch, including all trim elements

B. Garage

C. Basement stair walls

D. First floor walls and ceilings throughout

E. Main stair walls and ceiling throughout

F. Second floor walls and ceilings throughout

G. Window sash interiors throughout

H. See color and materials selection sheet

1.02 DELIVERY, STORAGE AND HANDLING

A. Deliver products to site in sealed and labeled containers; inspect to verify acceptability.

B. Paint Materials: Store at minimum ambient temperature of 45 degrees F (7 degrees C) and a maximum of 90 degrees F (32 degrees C), in ventilated area, and as required by manufacturer's instructions.

1.03 FIELD CONDITIONS

A. Do not apply materials when surface and ambient temperatures are outside the temperature ranges required by the paint product manufacturer.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Paints and Coatings: Sherwin Williams Low VOC or any manufacturer listed in MPI Approved Products List (at www.paintinfo.com) approved by Project Manger.

B. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.

C. See material and color selections

D. Stains: Minwax Low VOC or any other manufacturer approved by Project Manager

2.02 VOC REQUIREMENTS

A. See requirements in Section 01 6116 Volatile Organic Compound (VOC) Content Restrictions

2.03 PAINT SYSTEMS

B. Primer coat at bare wood surfaces and new drywall surfaces, primer manufacturer to be same as paint manufacturer.

C. Provide Premium Grade systems (2 top coats) as defined in MPI Architectural Painting Specification Manual, except as otherwise indicated.

D. Where a specified paint system does not have a Premium Grade, provide Custom Grade system.

E. Where sheen is not specified or more then one sheen is specified, sheen will be selected later by Construction Manager from the manufacturer's full line.

F. Refer to Materials and Colors Selection Sheet for color and sheen

G. Provide smooth texture throughout.

PART 3 EXECUTION

3.01 SCOPE -- SURFACES TO BE FINISHED

A. At locations indicated, paint all exposed surfaces except where indicated not to be painted or to remain natural; the term "exposed" includes areas visible through permanent and built-in fixtures when they are in place.

B. Paint the surfaces as follows:

1. If a surface, material, or item is not specifically mentioned, paint in the same manner as similar surfaces, materials, or items, regardless of whether colors are indicated or not.
2. Paint surfaces behind movable equipment and furnishings the same as similar exposed surfaces.
3. Paint surfaces to be concealed behind permanently installed fixtures, equipment, and furnishings, using primer only, prior to installation of the permanent item.
4. Paint back sides of access panels and removable and hinged covers to match exposed surfaces.
5. Paint surfaces impacted by new work, paint entire wall when patching work performed.

C. Do not paint or finish the following items:

1. Items fully factory-finished unless specifically noted; factory-primed items are not considered factory-finished.
2. Items indicated to receive other finish.
3. Items indicated to remain naturally finished.
4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.

3.02 APPLICATION

A. Apply products in accordance with manufacturer's instructions and as specified or recommended by MPI Manual, using the preparation, products, sheens, textures, and colors as indicated.

B. Do not apply finishes over dirt, rust, scale, grease, moisture, scuffed surfaces, or other conditions detrimental to formation of a durable coating film; do not apply finishes to surfaces that are not dry.

C. Use applicators and methods best suited for substrate and type of material being applied and according to manufacturer's instructions.

D. Minimum Coating Thickness: Apply paint materials no thinner than manufacturer's recommended spreading rate; provide total dry film thickness of entire system as recommended by manufacturer.

E. Apply finish to completely cover surfaces with uniform appearance without brush marks, runs, sags, laps, ropiness, holidays, spotting, cloudiness, or other surface imperfections.

END OF SECTION

SECTION 10 5623

CLOSET STORAGE SHELVING

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Provide closet rods and shelving at these locations

1. New laundry closet
2. Bedroom closets, (4) locations

1.02 SECTION INCLUDES

A. Wall mounted wire closet shelving.

B. Accessories.

PART 2 PRODUCTS

2.01 SHELVING APPLICATIONS

A. Shelf Depth: 12 inches, unless otherwise indicated.

B. Wall-to-wall shelf with integral hanger rod.

2.02 MATERIALS

A. Wire Shelving: Factory-assembled coated wire mesh shelf assemblies for wall-mounting, with all components and connections required to produce a rigid structure that is free of buckling and warping.

1. Construction: Cold-drawn steel wire with average tensile strength of 100,000 psi (690 MPa) resistance welded into uniform mesh units, square, rigid, flat, and free of dents or other distortions, with wires trimmed smooth.
2. Coating: PVC or epoxy, applied after fabrication, covering all surfaces.
3. PVC Coating: 9 to 11 mils thick.
4. Epoxy Coating: Non-toxic epoxy-polyester powder coating baked-on finish, 3 to 5 mils thick.
5. Standard Mesh Shelves: Cross deck wires spaced at 1 inch (25.4 mm).
6. Close-Mesh Shelves: Cross deck wires spaced at 1/2 inch (12.7 mm).
7. Shelf and Rod Units: Integral hanging rod at front edge of shelf.
8. Free-Sliding Hanging Rod: Integral hanging rod that permits uninterrupted sliding of
9. hangers the full width of the shelf.

B. Mounting Hardware: Provide manufacturer's standard mounting hardware; include support braces, wall brackets, back clips, end clips, poles, and other accessories as required for complete and secure installation; factory finished to match shelving.

C. Fasteners: As recommended by manufacturer for mounting substrates.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions, with shelf surfaces level.

B. Cap exposed ends of cut wires.

C. Install back clips, end clips at side walls, and support braces at open ends. Install intermediate support braces as recommended by manufacturer.

END OF SECTION

SECTION 11 3100

RESIDENTIAL APPLIANCES

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Install all kitchen and laundry appliances listed in 1.02 below.

1.02 PREPURCHASED MATERIALS

A. Appliances have been pre-purchased by the HRA for this project. Delivery of all material to the job site is included in pre-purchase. Contractor is responsible for contacting specified vendor to arrange for and take delivery.

B. Contractor is responsible for all measurements, verification of quantities, and for including additional needed materials in their bid. The HRA makes no representation that the pre-purchased materials are an accurate or exact amount of what is needed for project completion. Provide a bid price for labor and additional materials required to perform work to code. See 2.01 below.

1.03 SUBMITTALS

A. Product Data: Manufacturer's data indicating dimensions, capacity, and operating features of each piece of residential equipment specified.

1.04 QUALITY ASSURANCE

A. Electric Appliances: Listed and labeled by UL and complying with NEMA standards.

B. Gas Appliances: Bearing design certification seal of AGA.

PART 2 PRODUCTS

2.01 RESIDENTIAL APPLIANCES

A. Vendor: All, Inc. Appliances

B. Pre Purchased Products:

a. Refrigerator: FFHT2126LS/K Energy Star Rated 21 cu ft top mounted refrigerator, stainless steel, with icemaker
b. Range: FFGF3053LS Frigidaire 30" Free-standing Gas Range, Self Clean, Clock
c. Microwave/Hood: FFMV162LS Over the Range Micro/Hood, to be vented to exterior
d. Dishwasher: FGHD2433KF Energy Star 24" Built-in Dishwasher, including dishwasher cord.
e. Washer: FAFW3801LW Energy Star Residential Front Load Washer
f. Dryer: FAQG7001LW Residential Gas Dryer, vent to exterior, air seal

PART 3 EXECUTION

3.01 INSTALLATION

A. All appliances shall be uncrated, cleaned, installed and readied for use.

B. Installation shall include all cord attachments, wiring, plumbing, and natural gas supply piping necessary for appliance operation.

C. Install in accordance with manufacturer's instructions.

D. Anchor built-in equipment in place.

END OF SECTION

SECTION 12 1110
HRA MAIL BOX AND HOUSE NUMBERS

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. One set of house numbers and mailbox at front entrance, location as directed by Construction Manager

B. One set of house numbers at garage, above door facing alley

PART 2 PRODUCTS

2.01 Mailbox

A. Gibraltar Mailboxes, Designer Lockable Wall Mount Mailbox or similar, submit for approval by Construction Manager.

2.02 Address Numbers

A. 2 sets of (3), black, flush mount, metal

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions.

END OF SECTION

SECTION 12 1111

BATHROOM FURNISHINGS

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Provide all new bathroom accessories at bathroom, including 2 towel bars, toilet paper holder and shower curtain rod

PART 2 PRODUCTS

2.01 TOWEL BARS

A. Install a metal bath set comprised of two 24" towel bars and toilet paper holder

B. Manufacturer: Sage Series Toilet Accessories

1. Towel Bar: Model # DN6818
2. Toilet Paper Holder: Model # DN6808

C. Bronze to match faucet and light fixtures

2.02 SURFACE MOUNTED MIRROR

A. Unframed mirrors: 1/4" thick glass conforming to Fed. Spec. DD-G-451D, select quality, silvered, electrocopper plated and coated with an organic protective coating. Provide polished eased edges and brushed stainless steel (Type 302) mirror clips similar to KV277 at the bottom and KV278 at the top; size as indicated on the Drawings.

2.04 SHOWER CURTAIN ROD

A. Install a shower curtain rod using wall anchors.

B. Manufacturer: Moen, Adjustable Shower Rod. Model # DN2160

C. Bronze to match faucet and light fixtures

PART 3 EXECUTION

3.01 INSTALLATION

A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

END OF SECTION

SECTION 12 3530

RESIDENTIAL CASEWORK

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. All new kitchen cabinets and countertops per drawings

C. New bathroom vanity and countertop, per drawings

D. See color and materials selection sheet

1.02 SUBMITTALS

A. Shop Drawings: Indicate casework locations, large scale plans, elevations, clearances required, rough-in and anchor placement dimensions and tolerances, and color sample.

1.03 QUALITY ASSURANCE

A. Products: Complying with KCMA A161.1 and KCMA Certified.

PART 2 PRODUCTS

2.01 MANUFACTURER

A. The HRA has approved Shrock Select, Medallion or Mid-Continent

2.02 COMPONENTS

A. Cabinets per 1.01 above, per drawings and selection sheet

B. Cabinet Construction: Plywood sides and bases.

C. Door and Drawer Fronts: Solid wood.

D. Drawer Box Construction: Plywood with dovetail joinery

E. Kitchen and bath countertop: plastic laminate over particle board, separate laminate back splash, per drawings and selection sheet

2.03 HARDWARE

A. Hardware: see Materials and Selection Sheet

2.04 FABRICATION

A. Shop assembles casework for delivery to site in units easily handled and to permit passage through building openings.

B. Fabricate corners and joints without gaps or inaccessible spaces or areas where dirt or moisture could accumulate.

2.05 FINISHES

A. Exposed To View Surfaces: Stain, seal, and varnish - see Materials and Selection Sheet

PART 3 EXECUTION

3.01 INSTALLATION

A. Install casework, components and accessories in accordance with manufacturer's instructions.

B. Set casework items plumb and square, securely anchored to building structure.

END OF SECTION

SECTION 22 3000
PLUMBING EQUIPMENT

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Remove existing water heater in basement and replace with new side-vented water heater.
B. Provide new vent opening through the existing basement wall and patch around opening as required to seal wall
C. Coordinate water utility replacement of existing water meter, raise 12” above floor

1.02 REQUIREMENTS

A. Neighborhood Energy Connection Residential Energy Specification Option 2, Item #304.

1.03 SUBMITTALS

A. Manufacturer's product data

PART 2 PRODUCTS

2.01 RESIDENTIAL WATER HEATER

A. New 40 gallon water heater complying with NEC energy specification, Option 2, Item #304.

PART 3 EXECUTION

3.01 WATER HEATER INSTALLATION

A. Install equipment in accordance with manufacturer's instructions, as required by code, and complying with conditions of certification, if any. Provide all required piping, equipment and accessories.
C. Hot water heater shall be installed by a contractor whose principal occupation is the sale and installation of plumbing, heating, and/or air conditioning equipment and shall be installed in compliance with all applicable codes.
D. Provide new gas piping from shut-off valve to fixture.
E. Provide water piping with backflow prevention.
F. Provide side vent with power vent.
G. Provide electrical outlet.
H. Discharge tube shall be directed to the drain.
I. Recycle the existing HWH.

END OF SECTION

SECTION 22 4000

PLUMBING FIXTURES AND PIPING

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. At kitchen, provide and install:
   1. New sink and faucet
   2. Gas stove

B. At laundry area in kitchen, provide and install:
   1. Washing machine outlet box
   2. Gas Dryer

C. At bathroom, provide and install:
   1. Toilet
   2. Lav
   3. Lav faucet
   4. Tub
   5. Tub and shower control and tub spout
   6. Wall shower head

D. At basement, provide and install new utility sink

E. At basement, provide and install new hose bib, insulate

F. At kitchen and bath, install new heat piping (see Section 23 5214)

G. See color and materials selection sheet

PART 2 PRODUCTS

2.01 PRODUCTS

A. Refer to selection sheet for fixture selections

PART 3 EXECUTION

3.01 INSTALLATION

A. Install new fixtures with trap, easily removable for servicing and cleaning.

B. Install new PVC or ABS waste and vent piping

C. Install flexible PEX piping with a minimum number of couplings to new fixtures. Install mechanical connectors and shut off valves for each fixture.

D. Six pipe to 1990 CABO minimums per table 2406.5

E. Include clothes washer hook up.

F. Furnish and install all water piping and shut-off valves necessary to complete work.

G. Seal around plumbing penetrations in all exterior surfaces, surfaces that border on unconditioned spaces, between floors, and throughout the exterior of the building.

H. Clean out basement floor drain at end of construction period and verify operation and function. Install new drain cover.

END OF SECTION

SECTION 23 0000

RESIDENTIAL VENTILATION

PART 1 GENERAL **$_____**

1.01 A. Refer to NEC energy specification

PART 2 PRODUCTS

2.01 BATHROOM VENT FAN/LIGHT FIXTURE:

A. All vent fans shall be energy star rated ceiling mounted fan/light fixtures rated for a minimum 100 watt exterior ducted vent fan capable of a minimum of 80 CFM

B. Product: NuTone QTREN080FLT or like product to be approved by the Project Manger

C. Switch: Light and fan shall use same switch with a time delay for fan such as the EFI/Light Time Delay Switch Part # 5100.505 or equipped with a humidistat sensor.

D. Ducting: Install 4" metal duct and vent to the exterior ideally through a gable end using a 4" hooded vent with damper.

1. All duct seams shall be sealed with duct mastic. Insulate duct work with vinyl or foil faced R-6 minimum duct insulation.
2. Repair any damage to the ceiling installation or air seal fan/light assembly to the ceiling with low VOC caulk.

2.02

2.03 DUCT ASSEMBLIES

A. Low Pressure Supply (Heating Systems): 1/2 inch w.g. (125 Pa) pressure class, galvanized steel.

B. Low Pressure Supply (System with Cooling Coils): 1/2 inch w.g. (125 Pa) pressure class, galvanized steel.

C. General Exhaust: 1/2 inch w.g. (125 Pa) pressure class, galvanized steel.

D. Kitchen Cooking Hood Exhaust: 1/2 inch w.g. (125 Pa) pressure class, galvanized steel.

2.04 DUCTWORK FABRICATION

A. Fabricate and support in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, and as indicated.

B. Provide duct material, gages, reinforcing, and sealing for operating pressures indicated.

C. Increase duct sizes gradually, not exceeding 15 degrees divergence wherever possible; maximum 30 degrees divergence upstream of equipment and 45 degrees convergence downstream.

D. Fabricate continuously welded round and oval duct fittings in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible.

2.05 KITCHEN HOOD EXHAUST DUCTWORK

A. Fabricate in accordance with SMACNA HVAC Duct Construction Standards - Metal and Flexible, SMACNA Kitchen Ventilation Systems and Food Service Equipment Fabrication & Installation Guidelines and NFPA 96.

END OF SECTION

SECTION 23 5223

GAS-FIRED BOILER

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Replace existing boiler. New boiler location indicated on plans.

B. Power-vented, side vented.

C. One zone. New thermostat.

D. Reconfigure existing radiators where indicated on plans.

E. All new supply and return piping.

F. See Alternate #1, section 01 2300

1.02 REQUIREMENTS

A. Neighborhood Energy Connection Residential Energy Specification Option 2, Items #200. See Section 23 3000 for Option 2, Item #304.

B. Contractor shall design heating system to comply with applicable codes based on calculated heating loads.

PART 2 PRODUCTS

2.01 BOILER

A. Acceptable boiler manufacturer: Weil-McLain or approved by Project Manager

PART 3 EXECUTION

3.01 INSTALLATION

A. Install according to manufacturers installation instructions.

B. Provide connection of natural gas service in accordance with requirements of NFPA 54 and applicable codes.

C. Provide all new piping to radiators.

D. Provide water, gas, and flue piping

E. Commission and test system, including all existing house radiators.

END OF SECTION

SECTION 23 5400

FORCED AIR FURNACE AND DUCTS

PART 1 GENERAL **$_____**

1.01 LOCATIONS (Alternate #1 ONLY) **Alternate #1**

A. Basement, provide Forced Air Furnace in lieu of boiler.

B. Design of HVAC system by contractor and shall meet requirements of relevant specification sections and all applicable codes.

C. Remove existing radiators and install hardwood plugs at holes in floor.

D. Provide new vent opening through the existing basement wall and patch around opening as required to seal wall

E. Design of duct runs including related wall and ceiling openings, chases and soffits to be by contractor.

F. See Alternates Section 01 2300 and Forced Air A/C Section 23 6213.

G. Include all work related to alternate, including but not limited to rough carpentry, finish carpentry, drywall, plaster patching, and wood flooring patching.

1.02 REQUIREMENTS

For alternates that are "in lieu of" base bid items, calculate alternate price as follows:

1. Determine cost of work for items listed in alternate.
2. Subtract relevant base bid line items from that cost of work.
3. State as an "add" or "deduct" alternate. It will be an "add alternate" if the alternate items price is greater than the base bid items. It will be a deduct alternate if the alternate items price is less than the base bid items.

1.03 SUBMITTALS

A. Product Data: Provide rated capacities, weights, accessories, electrical nameplate data, and wiring diagrams.

B. Product data indicating Heating, Cooling equipment and Ducts are in compliance with Air Conditioning Contractors of America (ACCA) Manuals, Parts J, S, and D. Alternate Compliance paths are as Follows:
   1. ASHRAE Handbooks

PART 2 PRODUCTS

2.01 GAS FIRED FURNACES

A. Install a new ENERGY STAR rated, gas-fired, forced air furnace with a minimum AFUE rating of 96% and ECM Motor with 2" rise above floor. Connect to existing duct work and gas line. New furnace to be vented with PVC piping per manufacturer's specifications.

New furnace will have minimum limited warranties of 20 years on heat exchangers; 5 years on parts. Include auto set back thermostat controls, vent pipe & new shut-off valve. Rework cold air return if necessary to ensure easy access, good fit & easy replacement of air filter. An exterior return air filter box shall be installed on one side, both sides or bottom of new furnace. Seal all exposed duct joints with duct mastic. Remove all existing cloth duct tape prior to installing mastic.

B. Units: Self-contained, packaged, factory assembled, pre-wired unit consisting of cabinet, supply fan, heating element, controls, air filter, humidifier, and accessories; wired for single power connection with control transformer.
   1. Safety certified by CSA in accordance with ANSI Z 21.47.
   2. Venting System: Direct.
   3. Combustion: Sealed
   4. Air Flow Configuration: Upflow.
   5. Heating: Natural gas fired.

C. Performance:
   1. HVAC contractor will be responsible to determine heat load using Manual J.

D. Cabinet: Steel with baked enamel finish, easily removed and secured access doors with safety interlock switches, glass fiber insulation with reflective liner.

E. Primary Heat Exchanger:
   1. Material: Hot-rolled steel
   2. Shape: Tubular type.

F. Secondary Heat Exchanger:
   1. Material: Aluminized steel.
   2. Coating: Polypropylene.

G. Gas Burner:
   1. Atmospheric type with adjustable combustion air supply,
   2. Gas valve, two stage provides 100 percent safety gas shut-off; 24 volt combining pressure regulation, safety pilot, manual set (On-Off), pilot filtration, automatic electric valve.
   3. Electronic pilot ignition, with electric spark igniter.

H. Supply Fan: Centrifugal type rubber mounted with direct drive with adjustable variable pitch motor pulley.

I. Motor: Refer to Section 22 0513; 1750 rpm two-speed, permanently lubricated, hinge mounted.

J. Air Filters: 1 inch (25 mm) thick glass fiber, disposable type arranged for easy replacement.

K. Ducts: Install new ducting per contractor designed system

L. Registers: Install new registers at all locations, dark bronze.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with NFPA 90A.

B. Install gas fired furnaces in accordance with NFPA 54.

C. Provide vent connections in accordance with NFPA 211.

D. The Contractor shall have all HVAC ducting cleaned by a professional duct cleaning company after all interior repairs are completed.

END OF SECTION

SECTION 23 6210

MULTI ZONE DUCTLESS MINI SPLIT A/C

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Zones:
   1. First floor
   2. Second floor

B. See Alternate #1, section 01 2300

1.02 REQUIREMENTS

A. Neighborhood Energy Connection Residential Energy Specification Item 204, 200, and 304.

B. Contractor shall design heating system to comply with applicable codes based on calculated heating loads.

1.03 QUALITY ASSURANCE

A. The units shall be tested by a Nationally Recognized Testing Laboratory and bear the ELT Label

1.04 WARRANTY

A. Provide five year manufacturer warranty for All Parts.

PART 2 PRODUCTS

2.01 APPLICATIONS

A. Multi Zoned Ductless Mini Split A/C:
   1. Cooling system only with wireless remote controller for each zone.

2.02 QUAD ZONED SYSTEM

A. Basis of Design Manufacturer: Mitsubishi Mr. Slim.

B. Other Acceptable Manufacturers:
   1. SANYO
   2. LG
   3. Other manufacture that meets the specifications and approved by the HRA Project Manager.

C. Description: The system shall consist of multiple slim silhouette, compact, wall mounted indoor fan coil section with wireless remote controller and slim silhouette horizontal discharge outdoor unit with constant speed compressor.

D. Design Criteria:
   1. Provide a complete system that meets the cooling load of the subject house.
   2. Performance Ratings: Seasonal Energy Efficiency Rating of 16+

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. All wiring shall be in accordance with the National Electrical Code (N.E.C.).

END OF SECTION

SECTION 23 6213

FORCED AIR A/C

PART 1 GENERAL **$_____**

1.01 LOCATIONS (Alternate #1 ONLY) **Alternate #1**

A. Provide new air-conditioning equipment for forced air system in lieu of ductless mini split air conditioning.

B. Design of HVAC system by contractor and shall meet requirements of relevant specification sections and all applicable codes.

E. Design of duct runs including related wall and ceiling openings, chases and soffits to be by contractor.

F. See Alternates Section 01 2300 and Forced Air Furnace and Ducts Section 23 5400.

G. Include all work related to alternate, including but not limited to rough carpentry, finish carpentry, drywall, plaster patching, and wood flooring patching.

1.02 REQUIREMENTS

For alternates that are "in lieu of" base bid items, calculate alternate price as follows:

1. Determine cost of work for items listed in alternate.
2. Subtract relevant base bid line items from that cost of work.
3. State as an "add" or "deduct" alternate. It will be an "add alternate" if the alternate items price is greater than the base bid items. It will be a deduct alternate if the alternate items price is less than the base bid items.

1.03 SUBMITTALS

A. Product Data: Provide rated capacities, weights specialties and accessories, electrical nameplate data, and wiring diagrams. Include equipment served by condensing units in submittal, or submit at same time, to ensure capacities are complementary.

B. Design Data: Indicate pipe and equipment sizing.

PART 2 PRODUCTS

2.01 MANUFACTURED UNITS

A. Install 16 SEER, 13 EER split system central air conditioning unit, following local building code. Using OEM performance information and industry-approved procedures, confirm that the selected equipment satisfies/meets the load requirements at the system design conditions.

B. Units: Self-contained, packaged, factory assembled and pre-wired units suitable for outdoor use consisting of cabinet, compressors, condensing coil and fans, integral sub-cooling coil, controls, liquid receiver, wind deflector, and screens.

2.02 CASING

A. House components in welded steel frame with galvanized steel panels with weather resistant, baked enamel finish.

2.03 CONDENSER COILS

A. Coils: Aluminum fins mechanically bonded to seamless copper tubing. Provide sub-cooling circuits. Air test under water to 425 psig (2900 kPa), and vacuum dehydrate. Seal with holding charge of nitrogen.

2.04 FANS AND MOTORS

A. Weatherproof motors suitable for outdoor use, single phase permanent split capacitor or 3 phase, with permanent lubricated ball bearings and built in current and thermal overload protection.

PART 3 EXECUTION

3.01 INSTALLATION

A. Provide piping for refrigeration system as required.

B. Provide connection to refrigeration piping system and evaporators. Refer to Section 23 2300. Comply with ASHRAE Std 15.

C. Provide concrete pad for mounting outside condenser unit.

END OF SECTION

SECTION 26 0001

POWER, WIRING AND DEVICES

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Entire house shall comply with St. Paul Bulletin 80-1

B. Remove all obsolete low voltage wiring and devices throughout house

C. At remodeled kitchen, provide all new concealed wiring, receptacles and switches.

D. At remodeled bathroom, provide all new concealed wiring, receptacle and switches.

E. Replace all existing smoke and CO detectors and provide hard wired smoke and CO detectors to meet code. Comply with Item D, #8, subpart b, see 1.02 below.

F. Provide all new receptacle and switch devices and cover plates throughout the house.

G. Provide electrical service and wiring for new boiler, mini-split air-conditioning system, exhaust fans and kitchen and laundry appliances.

H. Provide (2) all new weatherproof outlets, near front door and at rear of house

I. Provide underground power supply to new garage, for lighting and garage door opener.

J. Provide all new exhaust fan in bathroom per NEC energy specification

1.02 SUMMARY OF BULLETIN 80-1 (Property Maintenance Code)

A. All hazardous, improper and/or illegal wiring shall be removed or required to comply with the present Electrical Code. This will include other buildings on the property such as garages, sheds, etc.

B. Minimum size for all new services for single residential occupancies shall be 100 ampere, 240 Volt.

C. No additions or extensions will be allowed on an existing ampere services.

D. The Following are minimum requirements for new service installation:

1. **Electrical outlets required:** Every habitable room 120 square feet or less in area, of a dwelling or dwelling unit of a multiple dwelling shall contain at least two separate and remote duplex outlets. Additional outlets shall be required for each additional 80 square feet or fraction thereof. Most new outlets must be Arc-Fault Circuit Interrupters (AFCI) protected according to Section 210.12 of the 2008 National Electrical Code.
2. **In Kitchens:** Three separate and remote duplex outlets shall be required. At least one of the required duplex outlets shall be supplied by a separate twenty ampere circuit. Any receptacle installed above the counter top shall be of the Ground Fault Circuit Interrupter (GFCI) type, replace outlets that do not meet GFCI requirements.
3. **Every public hall, water closet compartment, bathroom, laundry room and furnace room must contain at least one electric light fixture.** In addition to the light fixture, every bathroom and laundry room must have at least one duplex outlet. The required duplex outlet in each laundry room must be on a separate twenty ampere circuit. The required duplex outlet in each bathroom must be of the (GFCI) type. Any existing outlets in any bathroom must be converted to a GFCI-protected outlet or removed. The required GFCI outlet in the bathroom must be immediately adjacent to the sink. If a bathroom is added or gutted as part of the update, a 20 ampere circuit will be required per NEC 210.11(C)(3).
4. **Every common hall and inside stairway** in every residential structure or dwelling unit shall be adequately lit with an illumination of at least five lumens per square foot in the darkest portion of the normally traveled stairs and passageways.
5. **All exterior exits and entryways** are required to be illuminated a minimum of one footcandle at grade level for security.

6. **Exterior lighting** at garages is required to be adequate so as to not endanger health or safety. An average of one footcandle at the pavement is required. Exterior lighting must be in conformance with other city codes.
7. **Basement:** One lighting outlet is required for each 200 square feet of floor space. At least one of the required basement lighting outlets shall be switched form the head of the stairs.
8. **Smoke Detectors:**
   a. All single-family dwelling shall have a hard-wired (120 volt electrical, not battery) battery-backup smoke detector installed near (not in) the bedrooms. If there are legal bedrooms on more than one level, the detector shall be installed on the level that has the greater number of bedrooms. If there are an equal number of bedrooms on more than one level, the detector shall be installed on the upper level near the bedrooms.
   b. If the project includes building construction that requires a Building Permit, additional hard wired interconnected and/or battery-type smoke detectors are required per the Building Code.
9. **Metallic Light Fixtures (Luminaries):** If within five feet horizontally or eight feet vertically of grounded surfaces (metallic piping, concrete floor, etc.) must be grounded.
10. **Residential Closet Lights:** All closet lights must either be a florescent fixture (luminaries) or an enclosed incandescent fixture of the types required by the present Electrical Code. Fixtures must not be directly over the storage area in a closet; they must either be moved or eliminated and blanked off.
11. **Service conduits run in outside walls:** If a 100-ampere service is changed from fuses to circuit breakers, the meter is already outside, and the existing conduit is run in the outside wall, the conduit may be re-used. If the service is an upgrade (increase in amperage), conduit in the wall may not be re-used.

1.02 SECTION INCLUDES:

A. Electrical work to meet requirements of Bulletin 80-1 reproduced above.

B. Overhead Garage Door Opener: see Section 08 3323

C. Certify Electrical Distribution: Electrician shall inspect all exposed wiring, motors, fixtures and devices for malfunction, shorts and hosing code compliance. Non-functioning and dangerous equipment and wiring shall be replaced

D. Install new electrical to garage

E. Provide switching for three exterior outdoor lights

F. New electrical wiring, outlets, lighting and switching at kitchen to meet current electrical code.

PART 2 PRODUCTS

2.01 APPLICATIONS

A. Conduit and Cable: Provide materials that meet code requirements.

C. Devices and Cover plates: Provide all White devices. Provide heavy duty residential grade devices.

D. Smoke/CO Detectors: Hard wired w/ battery-back up type units

E. Doorbell system: Repair existing or provide a new system containing a low voltage transformer, power connection, buzzer and front door button.

F. Equipment Wiring: Provide the correct power supply on separate circuit, with over current protection including all connecters for the water heater, boiler, microwave, refrigerator, dishwasher

G. Bathroom Vent Fan/Light Fixture: comply with NEC specification
   1. Switch: Light and fan shall use same switch with a time delay for fan such as the EFI/Light Time Delay Switch Part # 5100.505 or equipped with a humidistat sensor.

2. Ducting: Install 4" metal duct and vent to the exterior, verify location with project manager, using a 4" hooded vent with damper.
    a. All duct seams shall be sealed with duct mastic. Insulate duct work with vinyl or foil faced R-6 minimum duct insulation.
    b. Repair any damage to the ceiling installation or air seal fan/light assembly to the ceiling with low VOC caulk.

H. GFCI Receptacles: Verify required locations throughout.

2.02 MATERIALS

A. All materials shall be UL approved and/or National Electrical Code rated.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Building Codes: The extent of electrical work indicated in the Scope of Work is stated generally to indicate end result of work. The Contractor is responsible for making a thorough inspection of the site to determine the full extent of work required to achieve the end results. All electrical work must meet current building code requirements and must pass City of Saint Paul field inspection. Any work that does not meet codes or pass inspection must be corrected to the satisfaction of the city inspector at no additional cost to the Owner.

C. Remove and dispose of all abandoned wiring and devices. Modify existing wiring and devices as indicated.

D. All new wiring, when passing through living areas, shall be concealed.

E. All receptacles and switches to be white, replace beige and other

F. All new outlet covers and switch plates to be white

G. All drilling, cutting and fastening shall be neat and true, and shall not critically damage framing members.

H. All patching shall match the surrounding surface.

END OF SECTION

SECTION 26 5101
LIGHTING

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Provide exterior light fixtures at each entry, per drawings

B. Install interior light fixtures at all existing fixture locations, reuse existing fixtures.

C. Provide new light fixtures at kitchen and bathroom, per drawings

D. Reuse existing bronze flush mount fixtures in entry, living, hall, bedrooms, and kitchen (relocate attic fixtures at kitchen)

E. At garage, new interior ceiling light and new exterior security light

F. See color and materials selection sheet

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions.

C. Wire mold and surface mount boxes for receptacles.

D. Install luminaires plumb and square and aligned with building lines and with adjacent luminaires.

END OF SECTION

SECTION 28 1600
INTRUSION DETECTION

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Provide and install a security system, to include a minimum of hardwired control panel with cellular transmitter (no phone line required), 3 hardwired keypads, three (3) Door sensors, motion detector, low temperature monitoring and siren.

B. Include a monthly monitoring service at a rate not to exceed $50/month.

C. Contracts for monitoring must be month to month, not an extended period.

D. Monitoring shall begin upon completion of construction and be paid by Owner.

1.02 QUALITY ASSURANCE

A. Conform to requirements of NFPA 70.

B. Products: Furnish products listed and classified by Underwriters Laboratories Inc. as suitable for purpose specified and indicated.

PART 2 PRODUCTS

2.01 ALARM CONTROL PANEL

A. Control Panel: Modular construction with surface wall-mounted enclosure.

B. Power supply: Adequate to serve control panel modules, remote detectors, and alarm signaling devices. Include battery-operated emergency power supply with capacity for operating system in standby mode for 24 hours.

2.02 INITIATING DEVICES

A. Magnetic Switches:

B. Motion Detectors:

2.03 SIGNAL DEVICES

A. Alarm Bells: NFPA 72, electric single stroke, 8 inch (200 mm) bell with operating mechanism behind dome. Sound Rating: 81 dB at 10 feet (3 M).

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Use 18 AWG minimum size conductors for detection and signal circuit conductors. Install wiring in cable.

C. As soon as System is installed contact HRA Project Manager Roxanne Young at Roxanne.Young@ci.stpaul.mn.us to inform her to apply for a security permit.

3.02 CLOSEOUT ACTIVITIES

A. Demonstrate normal and abnormal modes of operation, and required responses to each.

END OF SECTION

SECTION 31 2200
GRADING

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. For complete locations, see drawings

B. North, south, west and east sides of house, regrade to 1/4" per foot slope away from foundation for 5'-0", see landscape plans

C. Fill, compact and grade existing exterior basement stair, after all concrete has been removed. Fill with clean soil and cover with 8" black dirt. Compact fill in 9" lifts and assure that filled area will not settle over time. Match adjacent slope, see landscape plans

D. Excavate and regrade around new garage and prepare for new walkways, concrete apron, and new sod, see landscape plans. Prepare for retaining wall.

E. At areas to be filled, provide new black dirt, grade to match adjacent grades (to receive new sod).

PART 3 EXECUTION

2.01 ROUGH GRADING

A. When excavating through roots, perform work by hand and cut roots with sharp axe.

2.02 FINISH GRADING

A. Build up ground slope at foundation wall using clean fill.

B. New fill shall have an approximate slope of ¼" per foot and extend away from the foundation wall approximately five feet.

C. Remove roots, weeds, rocks, and foreign material while spreading.

D. Vigorously tamp or roll new fill to achieve settled depth.

E. Fine grade topsoil to eliminate uneven areas and low spots. Maintain profiles and contour of sub grade.

END OF SECTION

SECTION 32 1313
CONCRETE PAVING

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Garage apron, see landscape plan

B. Walks, see landscape plan

PART 2 PRODUCTS

2.01 PAVING ASSEMBLIES

A. Concrete Sidewalks: 3,000 psi (20.7 MPa) 28 day concrete, 4 inches (100 mm) thick

2.02 FORM MATERIALS

A. Wood form material, profiled to suit conditions.

PART 3 EXECUTION

3.01 FORMING

A. Place and secure forms to correct location, dimension, profile, and gradient.

3.02 COLD AND HOT WEATHER CONCRETING

A. Follow recommendations of ACI 305R when concreting during hot weather.

B. Follow recommendations of ACI 306R when concreting during cold weather.

3.03 FINISHING

A. Sidewalk Paving: Light broom, texture perpendicular to direction of travel with troweled and radiused edge: 1/4 inch (6 mm) radius.

END OF SECTION

SECTION 32 3223

SEGMENTAL RETAINING WALLS

PART 1 GENERAL **$_____**

1.1 LOCATION

A. Rear yard, retaining walls to be constructed in rear yard, see drawings. Walls to retain earth at adjacent properties.

1.02 SECTION INCLUDES

A. Segmental retaining walls made of modular concrete units without soil reinforcement.

B. Stone retaining wall at front yard to be reconstructed with existing materials, see 32 3253 Stone Retaining Walls

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Segmental Concrete Units:
   1. Anchor Wall Systems, Inc: www.anchorwall.com.
   2. Keystone Retaining Wall Systems, Inc: www.keystonewalls.com.

2.02 RETAINING WALLS

A. Contractor is responsible for design of retaining walls.

B. Design Standard: Design retaining walls to be capable of withstanding the effects of gravity loads due to soil pressures resulting from grades indicated, determined in accordance with NCMA TR 127 Design Manual for Segmental Retaining Walls; perform all stability analyses specified in this standard.
   1. In addition, comply with applicable local, state, and federal codes and regulations.
   2. This design method considers potential failure modes categorized by external, internal, local, compound, and global stability.
   3. Provide engineering services as required for analysis for all modes of stability.
   4. Use of design software for calculations when permitted.
   5. Submit complete shop drawings showing all features of the design.

C. Shear Resistance: Design the wall not to exceed the capacity of materials and soils to resist shear:

D. Soil Reinforcement:
   1. Test reinforcement to be used in accordance with ASTM D6706 using soil taken from project site.

E. Drainage: Design to prevent water accumulation in retained soil; use drainage fill and drainage pipe as required; provide outlets at 50 foot (15 m) intervals along length of wall, minimum.

2.03 MATERIALS

A. Retaining Wall Units: Machine-formed concrete blocks of shapes and sizes suitable for the retaining wall configuration required and complying with ASTM C1372 and the following:
   1. Face Color: Natural cement gray .
   2. Texture: Split face, on all exposed surfaces.

B. Cap Units: Portland cement concrete machine-formed solid blocks, matching segmental concrete units, complying with ASTM C1372, with abutting edges saw cut or formed to provide tight fitting, flush end-to-end joints.
   1. Depth: To fully cover wall units.

C. Shear Connectors: Connection method to withstand design stresses and prevent movement of segmental units, and to hold soil reinforcement in proper design position during grid pre-tensioning and backfilling.

D. Drainage Filter: Geosynthetic textile.

E. Aggregate for Leveling Pad: Compacted sand, gravel, or crushed rock complying with one of the following:
   1. Meeting requirements of ASTM D1241, Gradation C.
   2. Do not use pea gravel.

F. Concrete for Leveling Pad: Unreinforced concrete with compressive strength of 3,000 psi (20 MPa)

G. Drainage Fill: Clean, freely draining aggregate placed within, between, or immediately behind segmental units; do not use pea gravel; use one of the following:
   1. Aggregate as approved by Construction Manager.
   2. Aggregate meeting requirements of ASTM D448, Size No. 57.
   3. Crushed stone or coarse gravel, 3/8 to (3/4 mm); no more than 5 percent passing No. 200 sieve.
   4. Crushed stone or coarse gravel, meeting requirements of ASTM D422.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer instructions, and applicable codes and regulations.

B. Segmental Concrete Units:
   1. Place first course of units on leveling pad; check alignment and level. Check for full contact with base and for stability.
   2. Do not leave gaps between units.
   3. Place succeeding courses. Check for proper alignment and batter.

C. Soil Reinforcement: Install each layer on fully compacted fill.

D. Drainage Fill: Place drainage fill in, between, and behind units.

E. Backfill: Place, spread, and compact backfill from behind drainage fill to undisturbed soil.

F. Cap Units: Install and top two courses of units with masonry adhesive.

END OF SECTION

SECTION 32 3253

STONE RETAINING WALLS

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Rebuild existing natural stone retaining wall at front yard property line.

1.02 QUALITY ASSURANCE

A. Tradespersons performing work shall be skilled and experienced in dry stack masonry using natural stone products.

PART 3 EXECUTION

1.01 PREPARATION

A. Wall to be rebuilt continues along sidewalk to the east on neighboring property. The contractor shall inform the neighboring property owner about wall restoration one week prior to commencing wall work.

1.02 WALL RESTORATION

A. Disassemble existing retaining wall
   1. Carefully remove and stockpile granite top course.
   2. Carefully remove and stockpile limestone blocks below granite top course.
   3. Existing concrete stairs to remain. Protect stairs from damage during wall restoration.

B. Excavate and prepare new base course for wall reinstallation
   1. Excavate soil behind existing wall to allow for reinstallation of wall. Excavate a trench 24" wide and 8" deep below level of sidewalk the entire length of wall.Stockpile soil and haul away excess.
   2. Install 6-8" deep base course of crushed rock or gravel
   3. Compact base course with plate compactor

C. Prepare stone materials for reuse.
   1. Carefully remove existing mortar from stone blocks

D. Lay two courses of limestone blocks without mortar the entire length of the wall. Backfill wall with soil to top of limestone courses. Compact backfill by hand tamping. Reinstall granite block as a top course, without mortar.

END OF SECTION

SECTION 32 9223
SODDING

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. New sod at areas of yard indicated on the landscape plan

B. New sod at all existing bare spots, including existing sand pit in rear yard

C. Resod all areas impacted by construction activities or grading

D. Treat existing lawn once at end of project to fertilize grass and eliminate weeds

PART 2 PRODUCTS

2.01 MATERIALS

A. Sod: TPI, Certified Turf grass Sod quality; cultivated grass sod; type indicated in plant schedule on Drawings; with strong fibrous root system, free of stones, burned or bare spots; containing no more than 5 weeds per 1000 sq ft (100 sq m). Minimum age of 18 months, with root development that will support its own weight, without tearing, when suspended vertically by holding the upper two corners.

PART 3 EXECUTION

3.01 LAYING SOD

A. Moisten prepared surface immediately prior to laying sod.

B. Lay sod immediately after delivery to site to prevent deterioration.

C. Lay sod smooth and tight with no open joints visible, and no overlapping; stagger end joints 12 inches (300 mm) minimum. Do not stretch or overlap sod pieces.

D. Water sodded areas immediately after installation. Saturate sod to 4 inches (100 mm) of soil.

3.02 MAINTENANCE

A. General Contractor is responsible for the maintenance of sod until project closeout.

END OF SECTION

SECTION 32 9300

PLANTS

PART 1 GENERAL **$_____**

1.01 LOCATIONS

A. Quantities, types and locations indicated on the landscape plan

PART 2 PRODUCTS

2.01 PLANTS

A. Plants: Species, size and quantity identified in Landscape Plan, grown in climatic conditions similar to those in locality of the work.

2.02 MULCH MATERIALS

A. Mulching Material: Hardwood species wood shavings, free of growth or germination inhibiting ingredients.

PART 3 EXECUTION

3.01 RAINGARDEN INSTALLATION

A. Remove 18 inches of soil leaving compacted 1 to 3 side slopes rising to finished grade.

B. Deeply till and break apart basin floor

C. Add 2 inches of leaf compost and till into soil.

D. Finish rain garden by hand grading a flat, level basin and 3 to 1 side slope, as indicated on Landscape Plan.

E. Add 3 inches of shredded hard wood mulch, as with slopes

F. Install edging as indicated on Landscape Plan.

G. Ensure that downspout runoff enters the rain garden.

3.02 PLANTING

A. Set plants vertical according to the Landscape Plan.

B. Saturate soil with water when the pit or bed is half full of topsoil and again when full.

3.03 MAINTENANCE

A. Provide maintenance through project close-out. Owner will pay for water.

END OF SECTION

Color and Materials Selection Sheet
1010 Bush

7/27/12

	Location	Description	Manufacturer / Model	Finish / sheen	Color	Notes
Lighting	Front Entry Porch	Wall Mount	Patriot Lighting - Van Buren Outdoor		Black	at Menards
	Rear Entry	Wall Mount	Patriot Lighting - Van Buren Outdoor		Black	
	Garage	Security	DualBrite 300 Watt Model SL-5318-WH-D		Black	motion
	Basement	Ceiling	Porcelain			
	Kitchen Sink	Mini Pendant	Patriot Lighting - Model pd7582obb		Bronze	
	Kitchen Ceiling	Flush Mount	Reuse existing from attic		Bronze	
	Kitchen/Laundry Ceiling	Flush Mount	Reuse existing from attic		Bronze	
	Living Ceiling	Flush Mount	Reuse exisitng		Bronze	
	Dining Ceiling	Flush Mount	Patriot Lighting - Model ch7580bb		Bronze	
	Front Entry	Flush Mount	Reuse exisitng		Bronze	
	Bath Ceiling	Flush Mount	twin pack		Bronze	
	Bath Vanity	3 light Vanity	Valhalla by Royce Model RV2247		Bronze	
	Bedroom 1	Flush Mount	Reuse exisitng			
	Bedroom 2	Flush Mount	Reuse exisitng			
	Bedroom 3	Flush Mount	Reuse exisitng			
	Bedroom 4	Flush Mount	Reuse exisitng			
	Hall at second level	Flush Mount	Reuse exisitng			
	Outlet and Switchplate Covers				white	
Plumbing Fixtures	Basement	Laundry Utility Sink	Single bowl, 24"		white	fiberglass
	Basement	Laundry Faucet	Moen, Bronze Model: 7825		stainless	low flow
	Kitchen	Kitchen Sink	Elkay ADA LRAD2922553		stainless	provide waste pipe heat protectors
	Kitchen	Kitchen Faucet	Moen 7825		chrome	low flow
	Bath	Lav	see vanity top below			provide waste pipe heat protectors
	Bath	Lav faucet	Moen CA84002BRB		bronze	
	Bath	Tub	American Standard 5‘		white	
	Bath	Shower system and tub spout	Moen 82008BRB		bronze	
	Bath	Toilet	American Standard “Cadet Flowise”		white	
Casework	Kitchen Cabinets	Full overlay 5-piece door, flat drawer	Schock, Medallion or Midcontinent		Cranberry Black	Maple cabinet, see drawings
	Door Hardware		Hickory Hardware Model P310z-OBH		Bronze	Doors
	Drawer Hardware		Hickory Hardware Model P310z-OBH		Bronze	Drawers
	Kitchen Counter Tops		Wilson Art 1755-1		Canyon Black	
	Bath Vanity		Pace/MODEL: SNA-3621		Sienna Birch	see drawings
	Vanity Hardware		Hickory Hardware Model P310z-OBH		Bronze	Doors & Drawers
	Vanity Top		Imperial Marble RCxx22SPW		White	Solid recessed oval bowl

Color and Materials Selection Sheet
1010 Bush

7/27/12

Interior Coatings	Ceilings Throughout	Ceiling Paint	Sherwin Williams Low VOC	Flat	Ceiling White	
	Window Sashes Throughout	Interior	Sherwin Williams Low VOC	satin	SW7513 Sanderling	
	Walls Entry	Wall Paint	Sherwin Williams Low VOC	egg shell	Rice Grain SW6155	
	Walls Living	Wall Paint	Sherwin Williams Low VOC	egg shell	Bittersweet Stem SW7536	
	Walls Dining	Wall Paint	Sherwin Williams Low VOC	eggshell	Bittersweet Stem SW7536	
	Trim Kitchen and Bath	Trim Paint	Sherwin Williams Low VOC	satin	TBD	
	Walls Kitchen	Wall Paint	Sherwin Williams Low VOC	satin	Silver Mist SW7621	
	Walls Bathroom	Wall Paint	Sherwin Williams Low VOC	satin	Rice Grain SW6155	
	Walls Hall and Stair	Wall paint	Sherwin Williams Low VOC	egg shell	Rice Grain SW6155	
	Walls Bedroom 1	Wall Paint	Sherwin Williams Low VOC	egg shell	Rice Grain SW6155	
	Walls Bedroom 2	Wall Paint	Sherwin Williams Low VOC	egg shell	Bittersweet Stem SW7536	
	Walls Bedroom 3	Wall Paint	Sherwin Williams Low VOC	egg shell	Rice Grain SW6155	
	Walls Bedroom 4	Wall Paint	Sherwin Williams Low VOC	egg shell	Silver Mist SW7621	
	Walls Closet Interiors	Wall paint	Sherwin Williams Low VOC	egg shell	Rice Grain SW6155	
	Walls Basement Stair	Wall paint	Sherwin Williams Low VOC	egg shell	Rice Grain SW6155	
	Stair treads & risers Basement	Trim Paint	Sherwin Williams Low VOC	satin	Gray	
Flooring	Kitchen	Tile	Florim, USA/ Istone		Gray	12x12
	Bathroom	Tile	Florim, USA/ Istone		Gray	6x6
Exterior Finishes	Garage to match house					
	Siding	Color 1 (Body)	Sherwin Williams Low VOC	eggshell	SW 7594 Carriage Door	
	Siding	Color 2 (Gable Ends)	Sherwin Williams Low VOC	eggshell	SW7513 Sanderling	Front, Rear and Dormer
	Door and Window Trim	Color 2 (trim)	Sherwin Williams Low VOC	satin	SW7532 Urban Putty	
	Soffits and fascia	Color 2 (trim)	Sherwin Williams Low VOC	satin	SW7532 Urban Putty	
	Band trim, frieze, crown, barge	Color 2 (trim)	Sherwin Williams Low VOC	satin	SW7532 Urban Putty	
	Porch columns and trim	Color 2 (trim)	Sherwin Williams Low VOC	satin	SW7532 Urban Putty	
	Window Sashes	Metal Clad	Marvin Clad		Cashmere	
	Porch Lattice	Accent Color 3	Sherwin Williams Low VOC	satin	SW7513 Sanderling	
	Roof	Shingles	GAF Elk Timberline 30 yr HD		Weatherwood	
	New porch floors and stoops	Composite Decking	Trex		Brasilia Cayenne	
	Gutters/Downspouts	Prefinished Aluminum	Edco, or equal		Match Trim Color #2	at United Products