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Invitation for Sealed Bids

Solicitation Name	Renovations at Montgomery Village
Solicitation Number	C19011
Due Date	December 20, 2018
Due Time	2:00 p.m. EST
Deliver Responses to	Knoxville's Community Development Corporation Procurement Division 901 N. Broadway Knoxville, TN 37917 The Procurement Building is behind the main office building. 
Electronic Copies	Electronic copies are available on KCDC's webpage.
Responses may be emailed to KCDC	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Printed responses required	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Solicitation Meeting	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Solicitation Meeting is Mandatory	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No However attendance is highly recommended.
Solicitation Meeting Date	December 4, 2018
Solicitation Meeting Time	10:00 a.m.
Solicitation Meeting Location	In KCDC's Board Room at 901 N Broadway in Knoxville.
Site Tour	KCDC will be available to lead tours of the property at 11:30 a.m. One other tour date is available: December 11 at 2:00 p.m.
Questions About This Solicitation	Submit questions to purchasinginfo@kcdc.org by 4:00 p.m. on 12-14-18. KCDC will not accept questions via telephone.
Award Results	KCDC posts a summary of the proposals received and the award decision to its web page: http://www.kcdc.org/procurement/
Open Records/Public Access to Documents	All document provided to KCDC are subject to the Tennessee Open Meetings Act (TCA 8-44-101) and open records requirements.
Plans/Blueprints	Blueprints/plans are available from ACS Printing, 201 Center Park Drive Suite 1120, Knoxville, TN 37922. Call 309-4287 or craig@acsprint.com

Check KCDC's webpage for addenda and changes before submitting your response



General Information

1. **Background and Intent**

- a. Knoxville's Community Development Corporation (KCDC) is the public housing and redevelopment agency for the City of Knoxville and for Knox County in Tennessee. KCDC's affordable housing property portfolio includes 20 sites with approximately 3,525 dwelling units. Several of the properties include Low Income Housing Tax Credits units and KCDC is both the General Partner and the management company for those sites. Those properties include Eastport LP, Five Points 1, LP; Lonsdale Homes, LP; Northridge Crossing, LP and The Vista at Summit Hill, LP. KCDC also oversees approximately 3,958 Section 8 Vouchers, 82 Moderate Rehabilitation units and 20 Redevelopment areas.
- b. KCDC, on the behalf of The Montgomery Village Corporation, is seeking bids for renovations at the Montgomery Village apartment complex as detailed herein. The scope of work shall include the total scope of work identified in the bid documents. This Scope of Work includes, but is not limited to, the sealing and re-striping of all asphalt parking lots, connection lanes, and existing basketball court located adjacent to the Community Building. The scope includes the replacement of the fittings and transition pieces that are part of the existing water main distribution between the utility meter box and the buildings. The replacement of interior water risers for each of the apartment units and associated demolition and re-construction work are also included in the scope of work. Additional finish and door hardware replacement will be included in the scope of work. See associated bid documents for the full scope of work. Each apartment will be vacated while the Work is being performed.
- c. KCDC will have at least 45 unoccupied units at Montgomery Village. Other vacancies may arise and when they do, KCDC will inform the successful supplier.
- d. The scope of work described in the contract documents will be carried out in unoccupied apartment units. KCDC staff will coordinate the relocation of residents to provide the successful supplier empty apartments as the project progresses. KCDC staff will work with the successful provider to coordinate the quantity and locations of unoccupied apartments to maintain productive progress throughout the contract term. The awarded supplier will work with KCDC to complete work in the unoccupied apartment units as provided and help schedule the vacation of other units as needed throughout the duration of the project.

The awarded supplier shall note that the apartment units being worked on will be unoccupied. Any utility disruption to any building is to be scheduled with KCDC and minimized as much as possible.

2. **Bonds**

Bid, payment and performance bonds are required if the bid exceeds \$100,000 in value. Bonding requirements include:

- a. A bid bond from each supplier equivalent to five percent (5%) of the bid price. Such bid bond must accompany the bid. Bid bonds will not be returned until a contract is signed.
- b. Performance and payment bonds for 100% of the contract price.

- c. All bonding companies must be listed in the Federal Register, Department of the Treasury Fiscal Service, Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies; Notice. Companies licensed to do business in the State of Tennessee must issue all required bonds.
3. **Changes after Award**
It is possible that after award KCDC will need to revise the service needs or requirements specified in this document. KCDC reserves the right to make such changes after consultation with the supplier. Should additional costs arise, the supplier must document increased costs. KCDC reserves the right to accept or reject and negotiate these charges.
4. **Codes and Ordinances**
All work covered is to be done in full accord with national, state and local codes and ordinances and orders that are in effect at the time the work is performed.
5. **Contact Policy**
The supplier may not contact anyone at KCDC, other than the KCDC's Procurement Division, about matters pertaining to this solicitation, from the issuance of this solicitation until its award. Information obtained from an unauthorized officer, agent or employee of KCDC will not affect the risks or obligations assumed by the supplier or relieve the supplier from fulfilling any of the conditions of the project. Such contact can disqualify the supplier from participation in the solicitation process.
6. **Contract Approval**
The resulting contract is subject to KCDC's Board approval.
7. **Contract Documents**
KCDC has posted a prototype of its standard contract and rider that will be used to its webpage. Please review these documents before submitting a bid.
8. **Damage**
The supplier is responsible for all damage to buildings, equipment, grounds, premises and all other types of potential damage resulting from the provision of the services requested herein.
9. **Employees**
Supplier will:
- a. Allow only personnel thoroughly trained and skilled to work on the job.
 - b. Have sufficient personnel to complete the work in a timely manner.
 - c. Enforce strict discipline and good order among his/her employees.
 - d. Provide at least one employee on every job assignment with the ability to speak, read, write and understand English so KCDC's staff can communicate effectively with them.
 - e. Employ the quantity and quality of supervision necessary for both effective and efficient management at all times.

- f. Ensure that employees have proper identification displayed while on the job site. Employees must wear a company uniform or have photo identification badges at all times.
- g. Employees parking vehicles (whether corporately or privately owned) must ensure that company identification is on the vehicles. This may be by placards on the vehicle's side, laminated paper with the company name placed on the dashboard or other means.

10. **Entrance to Sites**

Supplier employees are not to be on KCDC premises unless they are working on a KCDC project. Acquaintances, family members, assistants, or any person not working on KCDC's behalf will not accompany employees on KCDC sites.

11. **Equipment**

Supplier shall provide all necessary equipment, materials, supplies, et cetera needed for the work. Include the cost for such equipment, materials and supplies in the price quoted.

12. **Evaluation**

KCDC will evaluate this as a formal sealed bid and the award to the "lowest and best." KCDC alone determines (using NIGP's definition and other relevant sources as appropriate) the supplier's "responsive" and "responsible" status prior to award.

Responsible means a business with the financial and technical capacity to perform the requirements of the solicitation and subsequent contract.

A responsive bid is one that fully conforms in all material respects to the solicitation document and all its requirements, including all form and substance. KCDC reserves the right to request additional information to assist in the evaluation process; this includes references and business capacity information.

13. **General Instructions**

KCDC does not insert "General Instructions to Suppliers" in solicitation documents. These instructions are at www.kcdc.org. Click on "Procurement" and the link to the instructions. The supplier's submittal means acceptance of the terms and conditions set forth in KCDC's "General Instructions to Suppliers."

14. **Indemnity and Hold-Harmless**

State of Tennessee laws and requirements for local governments (which KCDC is), do not allow KCDC to indemnify suppliers. Nor do the State's laws allow KCDC to limit supplier responsibility.

15. **Insurance**

The contractor shall maintain, at contractor's sole expense, on a primary and non-contributory basis, at all times during the life of the contract the following minimum insurance coverages, limits, and endorsements described herein. All insurance must be underwritten by insurers with an A.M. Best rating of A-:VI or better. Upon award, the contractor shall provide Certificate(s) of Insurance to KCDC evidencing said insurance coverages.

The contractor agrees the insurance requirements herein as well as KCDC's review or acknowledgement, is not intended to and shall not in any manner limit or qualify the liabilities and obligations assumed by the contractor under this contract. KCDC's failure to require a certificate of insurance, acceptance of a non-conforming certificate, or allowing the contractor to commence work shall not operate as a waiver of these minimum insurance requirements or the liabilities and obligations assumed by the contractor under this contract.

- a. **Commercial General Liability Insurance:** occurrence version commercial general liability insurance with a limit of not less than \$2,000,000 each occurrence for bodily injury, personal injury, property damage, and products and completed operations. If such insurance contains a general aggregate limit, it shall apply separately to the work/location in this contract or be no less than \$3,000,000.

Such insurance shall contain or be endorsed to contain a provision that includes KCDC, its officials, officers, employees, and volunteers as additional insureds with respect to the contractor's ongoing and completed operations, providing coverage at least as broad as CG 20 10 07 04 and 20 37 07 04 endorsements. The coverage shall contain no special limitations on the scope of its protection afforded to the above-listed insureds.

The Additional Insured shall read "Knoxville's Community Development Corporation (KCDC)".

If necessary, umbrella/excess liability insurance can be used in conjunction with the general liability insurance to meet these requirements.

Unless the umbrella/excess liability insurance provides coverage on a pure/true follow-form basis, or KCDC is automatically defined as an additional insured, the contractor shall add by endorsement, KCDC, its officials, officers, employees, and volunteers as an additional insured for both ongoing and completed operations, providing coverage at least as broad as CG 20 10 07 04 and 20 37 07 04 endorsements.

- b. **Automobile Liability Insurance:** including vehicles owned, hired, and non-owned, with a combined single limit of not less than \$1,000,000 each occurrence. Such insurance shall include coverage for loading and unloading hazards. Such insurance shall contain or be endorsed to contain a provision that includes KCDC as additional insureds
- c. **Workers' Compensation Insurance and Employers Liability Insurance:** with statutory limits as required by the State of Tennessee or other applicable laws and Employers Liability .
- e. **Pollution Liability Insurance:** Bidder shall maintain pollution liability coverage, ISO CG 0039, or equivalent. If the coverage is written on a claims-made form:
 - 1. The "Retro Date" must be shown and must be before the date of the contract or the beginning of contract work.
 - 2. Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of the contract work and acceptance by KCDC.

3. If coverage is cancelled or non-renewed and not replaced with another claims-made policy form with a "Retro Date" prior to the contract effective date, bidder must purchase "extended reporting" coverage for a minimum of five (5) years after completion of contract work.

f. *Other Insurance Requirements:* Contractor shall:

1. Upon award, furnish KCDC with original Certificates of Insurance and amendatory endorsements effecting coverage required by this section. Certificates of Insurance shall provide a minimum 30-day endeavor to notify KCDC of cancellation when available by contractor's insurance.

If the contractor receives a non-renewal or cancellation notice from an insurance carrier affording the required coverage, or receives notice that coverage no longer complies with the insurance requirements herein, contractor shall notify KCDC by email or fax within five (5) business days and provide a copy of the non-renewal for cancellation notice or written specifics as to which coverage is no longer in compliance.

2. Provide certified copies of endorsements and policies if requested by KCDC in lieu of or in addition to Certificates of Insurance.
3. Replace certificates, policies, and endorsements for any such insurance expiring prior to completion of services.
4. Maintain such insurance from the time services commence until services are completed. Failure to maintain or renew coverage or to provide evidence of renewal may be treated by KCDC as a material breach of contract.
5. Require all subcontractors to maintain during the term of the resulting contract commercial general liability insurance, automobile liability insurance, and workers' compensation/employers liability insurance (unless subcontractor's employees are covered by contractor's insurance) in the same manner and limits as specified for the contractor, including requirements for additional insured endorsements and waivers of subrogation. Contractor shall furnish subcontractor(s)' Certificates of Insurance to KCDC without expense prior to subcontractor(s) commencing work.
6. Any deductibles and/or self-insured retentions greater than \$50,000 must be disclosed to and approved by KCDC prior to the commencement of services. Use of large deductibles and/or self-insured retentions will require proof of financial ability as determined by KCDC.
7. Provide a waiver of subrogation for each required policy herein. When required by the insurer, or should a policy condition not permit contractor to enter into a pre-loss agreement to waive subrogation without an endorsement, the policy should be endorsed with a Waiver of Transfer of Rights of Recovery Against Others, or its equivalent. This waiver of subrogation requirement shall not apply to any policy which includes a condition specifically prohibiting such an endorsement, or voids coverage should contractor enter into such an agreement on a pre-loss basis.
8. All policies must be written on an occurrence basis.

- g. Right to Revise or Reject: KCDC reserves the right, but not the obligation, to review or revise any insurance requirement, not limited to limits, coverages and endorsements based on insurance market conditions affecting the availability or affordability of coverage; or changes in the scope of work / specifications affecting the applicability of coverage.
- h. No Representation of Coverage Adequacy: The coverages, limits or endorsements required herein protect the primary interests of KCDC, and the contractor agrees in no way should these coverages, limits or endorsements required be relied upon when assessing the extent or determining appropriate types and limits of coverage to protect the contractor against any loss exposures, whether as a result of the project or otherwise.
- i. Once KCDC sends the successful supplier the notification of intent to award, the supplier is required to provide a Certificate(s) of Insurance evidencing coverage as required above within the timeline detailed noted below. Failure to comply within the set timeframe may constitute unresponsiveness and KCDC reserves the right, at its sole discretion, to reconsider the award.
KCDC has determined the following timeline applies to this solicitation:

General Services:	7 calendar days	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Construction Services	15 calendar days	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

16. **Invoicing**

- a. KCDC will process pay applications once per month on or about the 15th.
- b. KCDC normally pays by electronic transfer (ACH) only. KCDC does not issue checks. Suppliers will need to set up their access to KCDC’s Supplier Portal to track actual payments made.
- c. KCDC’s purchases of goods are exempt from Tennessee sales and use tax pursuant to Tennessee Code Annotated 67-6-329(a) (4) and KCDC is generally exempt from the Federal Excise tax. Suppliers are subject to Tennessee sales and use tax on all materials and supplies used in the performance of a contract, whether such materials and supplies are purchased by the supplier, produced by the supplier, or provided to the supplier by KCDC, pursuant to Tennessee Code Annotated 67-6-209. The supplier will pay all taxes incurred in the performance of an awarded contract.

Upon the placement of a purchase order or the award of a contract, KCDC will provide a State of Tennessee Sales Tax Exemption form to the supplier. KCDC will not pay taxes on invoices.

17. **Licensure**

- a. Suppliers must possess and maintain proper licensure from the State of Tennessee and all other authorities having jurisdiction throughout the term of this award.
- b. In addition to any City or County licenses that may be required, all suppliers must be licensed as required by the State of Tennessee’s “Contractor’s Licensing Act of 1994.” Any subsequent rulings by the State Licensing Board automatically revise these specifications-irrespective of the timing of the notice from the State and irrespective of the status of this solicitation. The Executive Director of the State Contractor Licensing Board says one of these licenses is required:

- BC
- BC-B

18. **Liquidated Damages**

Liquidated damages of \$50.00 per calendar day for each day beyond the scheduled completion date apply and are included in the award. However, KCDC will consider explanatory information if it provides a valid reason for delays in schedule.

19. **Materials and Workmanship**

All materials and equipment furnished shall be new and of high quality. Work shall be accurate, skilled and subject to approval of KCDC. All materials and equipment provided shall conform to regulations of enforcement bodies having jurisdiction. Supplier shall furnish material samples for approval if desired by KCDC.

20. **Measurements and Drawings**

Complete responsibility for the final determination of dimensions lies with the supplier. The supplier shall verify all dimensions with the actual on-site conditions. Where the supplier's work is to join another trade, the supplier's shop drawings shall show actual dimensions and the method of joining the work of those trades.

21. **Permits**

The supplier shall obtain and pay for or cause its subcontractors to obtain and pay for all permits required to complete required work. In addition, supplier shall arrange, schedule and pay for or cause its subcontractors to arrange, schedule and pay for all required final inspections by state, local, or independent certified inspecting authorities necessary for issuance of all required KCDC utilization permits for the work.

22. **Questions**

Direct questions to purchasinginfo@KCDC.org with "Renovations at Montgomery Village" in the subject line, by 4:00 p.m. on 12-14-18.

23. **Renovation, Repair and Painting Rule**

Suppliers performing renovation, repair and painting projects that disturb lead-based paint in homes, childcare facilities and schools built before 1978 must be certified and must follow specific work practices to prevent lead contamination.

When work is occurring at a site, the supplier must submit proof of the applicable certification before commencing work. The supplier will keep such certification current throughout the life of the award.

To the best of KCDC's knowledge RRP applies to this work: Yes No

Additional information is at:

1. HUD's website:
http://portal.hud.gov/hudportal/HUD?src=/program_offices/healthy_homes/training/rrp/rrp

2. State of Tennessee's website:

<http://www.state.tn.us/environment/swm/leadpaint/>

24. **Representations**

By submitting a response, the supplier represents and warrants:

- a. That the supplier is financially solvent and that it is experienced in and competent to perform the type of work, and/or to furnish the personnel, plans, materials, supplies, or equipment to be performed or furnished by it; and
- b. That the supplier is familiar with all federal, state, municipal and county laws, ordinances and regulations, which may in any way affect the work of those employed therein, including but not limited to any special acts relating to the work or to the project of which it is a part; and
- c. That the supplier carefully examined the plans, specifications and the worksite and that from its own investigations, has satisfied itself as to the nature and location of the work, the character, quality, quantity of surface and subsurface materials likely to be encountered, and character of equipment and other facilities needed for the performance of the work, the general and local conditions and all other materials which may in any way affect the work or its performance.

25. **Responsibilities**

At no expense to KCDC, the supplier will:

- a. Provide quality control for all services provided.
- b. Provide competent supervision.
- c. Provide competent workers.
- d. Take precautions necessary to protect persons or property against injury and/or damage and be responsible for any such damage or injury that occurs because of their fault or negligence.
- e. Perform work without unnecessary interference with the activities of KCDC, residents, or suppliers.

26. **Safety**

- a. The supplier is responsible for providing and placing barricades, tarps, plastic, flag tape and other safety/traffic control equipment to protect the public, surrounding areas, equipment and vehicles.
- b. The safety of staff and the public is of prime concern to KCDC and all costs associated are the responsibility of the supplier.
- c. The supplier shall ensure that its employees exercise all necessary caution and discretion to avoid injury to persons or damage to property.

- d. The supplier will protect all buildings, appurtenances and furnishings from damage. The supplier shall, at his expenses, repair such damages (or replace the items) by approved methods to restore the damaged areas to their original condition.
- e. Supplier shall use caution signs as required by OSHA Regulation 1910.144 and 1910.145 at no cost to KCDC. Caution signs shall be on-site at commencement of contract.
- f. Supplier shall comply with all other OSHA and TOSHA safety standards that apply.

27. Safety Data Sheets (SDS)

Supplier will leave Safety Data Sheets (SDS) when installing covered items. Supplier must be certain the manufacturer properly labels (including the appropriate hazardous material symbols) all products.

28. Section 3 of the HUD Act of 1968

Section 3 is a provision of the Housing and Urban Development Act of 1968 which requires that programs of direct financial assistance administered by the U.S. Department of Housing and Urban Development (HUD) provide, to the greatest extent feasible, opportunities for job training and employment to lower income residents in connection with projects in their neighborhoods. Further, to the greatest extent feasible, contracts in connection with these projects are to be awarded to local businesses. Section 3 is a tool for fostering local economic development, neighborhood economic improvement and individual self-sufficiency.

- a. Recipients and suppliers must make a good faith effort to utilize Section 3 area residents as trainees and employees in connection with the project. Targeted recruitment and the selection of Section 3 area residents for available positions are two examples of good faith efforts to meet this requirement.
- b. Recipients and suppliers must make a good faith effort to award contracts to Section 3 business concerns for work in connection with the project. An example of a good faith effort to meet this requirement is the implementation of an affirmative action plan, which includes targets for the number and dollar value for awarding contracts to Section 3 business concerns.
- c. Recipients and suppliers must keep records and submit reports to HUD documenting the good faith efforts taken and the results of these actions. Examples of such documentation include letters to community organizations, employment development and business development centers, copies of solicitations for bids or proposals; and copies of affirmative action plans.
- d. How can businesses find Section 3 residents to work for them? This can be accomplished by recruiting in the neighborhood and public housing developments to tell about available training and job opportunities. Distributing flyers, posting signs, placing ads, and contacting resident organizations and local community development and employment agencies to find potential workers are a few effective ways of getting jobs and people together.
- e. All contracts awarded are subject to Section 3 requirements. Supplier shall seek to fill any and all positions that are needed and unfilled with residents of KCDC communities. For additional information, please go to <http://www.hud.gov/offices/fheo/section3/Section3.pdf>. The successful supplier will supply KCDC with job announcements for any position that must be filled as a result of the award of KCDC work.

Additionally the successful supplier will supply the same job announcement to the Knoxville-Knox County Committee Action Committee's Workforce Connections group. These can be faxed to 544-5269.

- f. A Section 3 resident is one who lives within a public housing authority's site. It is also people who live in an area with a HUD assisted program and whose income is below HUD's low income requirements.
- g. A Section 3 business is one that:
 - 1. Is at least 51% owned by a Section 3 resident; or
 - 2. Employs Section 3 residents for at least 30% of its employee base; or
 - 3. Makes a commitment to sub contract at least 25% of the project's dollars to a Section 3 business.
- h. Upon award, the successful supplier will supply two documents to KCDC:
 - 1. A Section 3 Business determination (forms supplied by KCDC) provided one is not already on file.
 - 2. A Section 3 Business plan for this work.

29. **Security**

The successful supplier is responsible for providing (if necessary) any and all security to equipment, materials, personnel, tools and the site that are required for this job. KCDC is not responsible for damage or losses to equipment, materials, personnel, tools or the site.

30. **Site Examination**

- a. Suppliers are required to visit the site and become fully acquainted and familiar with conditions, as they exist and the required operations. The supplier shall make such investigations as necessary so that they may fully understand the scope of the work and related facilities and possible complexities when executing the work.
- b. The failure or omission of the supplier to receive or examine the solicitation document or any part of the specifications, or to visit the site(s) and acquaint themselves as to the nature and location of the work, the general and local conditions and all matters which may in any way affect performance shall not relieve the supplier of any obligation to perform as specified herein.

Supplier understands the intent and purpose hereof and its obligations hereunder and that it shall not make any claim for or have any right to damages resulting from any misunderstanding or misinterpretation of the resulting agreement, or because of any lack of information.

- c. By submitting a response to this solicitation, each supplier is certifying that they have inspected the site and have read the solicitation and all appendices and addenda. The failure or omission of any supplier to receive or examine any form, instrument, or document shall in no way relieve the supplier from any obligation in respect to its bid.

31. **Smoking Policy**

KCDC has a Smoke Free policy that applies to your company, your employees and all subcontractors. Specifically, the policy (which is HUD required) mandates:

- No smoking on KCDC property
- No e-vape or similar usage on KCDC property
- The Smoke Free policy applies in personal or corporate vehicles on KCDC's property

HUD definitions include:

- ✓ "Smoking" means inhaling, exhaling, burning or carrying any lighted or heated cigar, cigarette or pipe, or any other lighted or heated tobacco or plant product intended for inhalation, including hookahs and marijuana, whether natural or synthetic, in any manner or in any form.
- ✓ "Smoking" also includes the use of an electronic smoking device which creates an aerosol or vapor, in any manner or in any form.
- ✓ "Electronic Smoking Device" means any product containing or delivering nicotine or any other substance intended for human consumption that can be used by a person in any manner for the purpose of inhaling vapor or aerosol from the product.

The term includes any such device, whether manufactured, distributed, marketed or sold as an e-cigarette, e-cigar, e-pipe, e-hookah or vape pen or under any other product name or descriptor.

- ✓ Property means all buildings, parking lots, streets, structures and **land** owned by KCDC.

Should supplier staff be observed violating these requirements, KCDC's Procurement Division will notify the corporate level contact about the problem. Should there be recurrences; KCDC may ask the supplier to not send the employee to KCDC property. Repeated offenses may result in forfeiture of your awarded "contract."

32. **Storage**

Most KCDC sites have limited storage space for suppliers to access. Suppliers are responsible for the storage of materials and their security. If possible, KCDC will allow suppliers to use space but the safety and security of the items stored is solely the responsibility of the supplier.

33. **Storm Water and Street Ordinances**

The City of Knoxville's Storm Water and Street Ordinances apply to this solicitation. The successful supplier will comply with all aspects of the City's ordinances. Compliance includes but is not limited to:

- a. Retaining all sediments on the project site using structural drainage controls. Drainage control costs are incidental to the work.
- b. Not discharging any construction or demolition related materials, wastes, spills, or residues from the project site to streets, drainage facilities, or adjacent properties by wind or runoff.

- c. Containing non-storm water runoff from equipment and vehicle washing and any other activity at the project site.
- d. Additional information about NPDES, BMPs and the Land Development Manual at <http://www.cityofknoxville.org/engineering/stormwater/npdes.asp>.
- e. The successful supplier is responsible for all work, remediation, repair and monetary penalties or fines arising out of a Notice of Violation of the City of Knoxville's Storm Water and Street Ordinances. The supplier will be charged costs KCDC incurs to install structural drainage controls or remedy a Notice of Violation. KCDC shall also charge a \$50 fee per violation for related administrative costs.
- f. KCDC will prepare, submit and pay the permitting fees. Upon award, the successful bidder will be required to sign onto the permit and be responsible for implementing and maintaining all erosion control measures as required on the SWPPP.

34. **Subcontractors**

Subcontractors must:

- a. Be approved by KCDC prior to beginning work.
- b. Carry the insurance coverages as outlined herein.
- c. Comply with the Davis Bacon requirements and submit certified payrolls.
- d. Not be on HUD's Debarment List.
- e. Not be changed without KCDC's permission.

35. **Time for Completion**

Supplier will complete the project by November 26, 2019.

36. **Wage Compliance (Davis Bacon Requirements)**

- a. Federal Davis Bacon Wage Requirements apply to this work. The successful supplier will:
 - Submit certified payrolls showing compliance with the Davis Bacon requirements herein. Failure to do so will be sufficient cause for withholding payment and/or termination of the contract.
 - Must pay its employees at least weekly pursuant to the Davis Bacon determination listed herein.
 - Will display all pages of Wage Posters, in a "prominent spot" at the job site. These are available from the Procurement Division.
 - Will allow KCDC to conduct on-site Davis Bacon interviews of the supplier's employees. KCDC will use HUD forms and record the information.
 - Classify employees by the applicable Davis Bacon classification.

Classifications are determined by the work performed and the tools used-not by job titles.

b. General Decision Information for the non-parking lot work:

General Decision Number	TN180023
Date	01-05-2018
State	Tennessee
Construction Types	Residential
Counties	Anderson and Knox Counties in Tennessee
Residential	Residential Construction Projects (consisting of single-family homes and apartments up to and including 4 stories.
Modification Number	0

Classifications and rates:

Classifications and Rates	Rate	Fringe 1
Bricklayer	\$12.72	\$0.00
Carpenter Including Cabinet Installation	\$13.89	\$0.00
Cement Mason/Concrete Finisher	\$16.00	\$0.00
Electrician	\$18.52	\$2.32
Laborer: Common or General	\$8.00	\$0.00
Laborer: Landscape	\$12.33	\$0.30
Operator: Backhoe	\$13.17	\$0.00
Plumber	\$17.50	\$0.00
Roofer: Including Shake and Shingle	\$10.25	\$0.00
Welders: Receive rate prescribed for craft performing operation to which welding is incidental.		

c. Suppliers may not “use a classification” because there is not one listed that exactly identifies the work performed. Unlisted Classifications needed for work not included within the scope of the classifications listed above may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)). To request an additional classification:

1. Write a brief letter to KCDC (upon award) stating the title needed and the proposed pay rate. Indicate that the employees agree with the rate and are in agreement with the rate. The rate must bear a reasonable resemblance to other rates on the classification.
2. If the additional classification is for a subcontractor, the subcontractor writes a similar letter to the General Supplier who then sends a cover letter to KCDC officially requesting the classification.
3. KCDC will review the request and forward it to HUD and officially request it or KCDC will suggest that the supplier revise the request.
4. HUD will review the request and approve it (or decline it) and send it to the Department of Labor for final approval.

5. The Department of Labor will either approve the request or recommend a different minimum rate.
 6. HUD will notify KCDC of the decision.
 7. Should either HUD or the Department of Labor require a higher minimum rate, KCDC will notify the supplier. The higher minimum rate, if any, must be paid for work completed (back wages) and for all future work under this project.
- d. These requirements apply to all subcontractors that are used by the successful supplier.
 - e. Davis Bacon rates are locked in at the bid opening provided that a contract is awarded within 90 days. If a contract is not awarded within 90 days after the bid opening and if a new decision is released, it will apply.

Modifications released 10 days or less before a bid opening are not applicable as there is not time to incorporate the changes in the bid. In all cases however, KCDC is required to adhere to Davis Bacon standards as the Department of Labor determines - irrespective of any announcements KCDC may have made.

37. **Weather**

KCDC provides allowances for excessive inclement weather since this solicitation calls for liquidated damages, provided the supplier exceeds the guaranteed number of days for completion.

a. **Extensions of Contract Time**

If the basis exists for an extension of time in accordance with this solicitation, then an extension of time based on weather may be granted only for the number of weather delay days in excess of the number of weather days listed as the Standard Baseline for that month.

b. **Standard Baseline for Average Climatic Range**

The Standard Baseline is the normal and anticipated number of calendar days for each month during which adverse weather will prevent activity. Suspension of activity for the number of days each month as listed in the Standard Baseline is to be included in the work and not eligible for an extension of the contract time. The baseline is:

Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
7.4	7.5	8.1	7.3	7.9	7.1	7.8	6.0	4.8	5.2	7.2	7.9

c. **Adverse Weather and Weather Delay Days**

1. Adverse weather is the occurrence of one or more of the following conditions which prevents only exterior activity or access to the site within a twenty-four-hour period:
 - a. Precipitation (rain, snow or ice) in excess of one-tenth inch (0.10") liquid measure.
 - b. Temperatures which do not rise above 32 degrees Fahrenheit by 10:00 a.m.

- c. Standing snow in excess of one inch (1.00”).
- 2. Adverse weather may include, if appropriate, “dry-out” or “mud” days when all of the following are met:
 - a. For rain above the Standard Baseline.
 - b. Only if there is a hindrance to site access or site work, such as excavation, backfill and footings.
 - c. At a rate no greater than one make-up day for each day or consecutive days or rain beyond the Standard Baseline that total 1.0 inch or more, liquid measure, unless specifically recommended otherwise by the owner.
- 3. A weather delay day occurs only if adverse weather prevents work on the project for 50 percent or more of the supplier’s scheduled workday, including a weekend day or holiday if the supplier has scheduled construction activity that day.

d. Documentation and Submittals

- 1. Submit Daily Jobsite Work Log showing which and to what extent activities were affected by weather on a monthly basis.
- 2. Submit actual weather data to support a claim for the time extension obtained from nearest NOAA weather station or other independently verified source approved by the owner at the beginning of the project.
- 3. Maintain a rain gauge, thermometer and clock at the jobsite. Keep daily records of precipitation, temperature and the time of each occurrence throughout the project.
- 4. Use the Standard Baseline data provided in this section when documenting actual delays due to weather in excess of the average.
- 5. Organize claim documentation on calendar month periods and submit in accordance with the procedures for claims established by the owner.

e. Approval by Owner

- 1. If the extension of the contract time is appropriate, it will occur in accordance with the provisions of this solicitation.
- 2. Owner shall not incur extra costs for any extra time increase to the contract.

38. Work Hours

KCDC staff is present Monday through Friday from 7:30 a.m. until 4:00 p.m. Work on Saturdays, Sundays or holidays requires KCDC’s approval.

**RENOVATION SERVICES
at
MONTGOMERY VILLAGE**

DIA PROJECT No. 18110
KCDC Contract No.: C19011

Architect of Record:

Design Innovation Architects
402 Gay Street, Suite 201
Knoxville, Tn 37902
(865) 637-8540



Civil Engineer:

Civil and Environmental Consultants
2704 Cherokee Farm Way, Suite 101
Knoxville, TN 37920
(865) 977-9997



Mechanical and Plumbing Engineer:

IC Thomasson Associates Inc
1114 Clinch Avenue, #200
Knoxville, TN 37916
(865) 525-3488



09029 Renovation Services at Montgomery Village

Electrical Engineer:

IC Thomasson Associates Inc
1114 Clinch Avenue, #200
Knoxville, TN 37916
(865) 525-3488



**SECTION 01 21 00
ALLOWANCES**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Cash allowances.
- B. Payment and modification procedures relating to allowances.

1.02 CASH ALLOWANCES

- A. Costs Included in Cash Allowances: Cost of product to Contractor or subcontractor, less applicable trade discounts, less cost of delivery to site, less applicable taxes. – unless otherwise noted.
- B. Costs Not Included in Cash Allowances: Product delivery to site and handling at the site, including unloading, uncrating, and storage; protection of products from elements and from damage; and labor for installation and finishing – unless otherwise noted.

1.03 ALLOWANCES SCHEDULE

The value of each allowance shall be included in the base bid amount but listed separately on the bid form.

- A. Allowance #1: Provide an allowance for milling and surface restoration of 10,180 square feet of parking lot and driveway as indicated in the plans. Allowance includes milling to a depth of 2 inches the existing surface course, leveling with Base Grade B (as needed), 2 inches of surface course Grade D, compaction, cleanup and re-striping to match existing. Provide unit pricing as noted in Section 01-22-00 and on the Bid Form for modifying the allowance either up or down depending on the final quantity of surface restoration needed.
- B. Allowance #2: Provide an allowance for the sealing of 203,400 square feet of existing asphalt as indicated in the plans. Allowance includes preparation of existing surface, sealing of cracks (as-needed), two coats of sealant, cleanup and re-striping to match existing. Provide unit pricing as noted in Section 01-22-00 and on the Bid Form for modifying the allowance either up or down depending on the final quantity of pavement sealing needed.
- C. Allowance #3: Provide an allowance for 170 linear feet of pavement repair as indicated in the plans. Allowance includes excavation of any temporary pavement repair, excavation of base stone (as-needed), additional compacted stone base (as-needed), material (Base Grade B or B-M, and Surface Course Grade D), compaction, cleanup and striping (as-needed). Payment for this item will be made based on the length of trenches, to the limits of excavation, as specified in the construction documents. Provide unit pricing as noted in Section 01-22-00 and on the Bid Form for modifying the allowance either up or down depending on the final quantity of pavement repair needed. Reference detail “Asphalt Pavement Section Trench Repair”, Sheet C-800 for asphalt pavement repair.

D. Allowance #4: Provide an allowance for 1,675 linear feet of Portland Cement concrete pad and sidewalk removal and replacement as indicated in the plans. Allowance includes excavation and disposal of existing cement, excavation of base stone (as-needed), additional compacted base stone (as-needed), replacement of material to duplicate type of material type and specification, depth, width and length. Payment for this item will be based upon the length of trenches, to the limits of excavation, as specified in the construction documents. Provide unit pricing as noted in Section 01-22-00 and on the Bid Form for modifying the allowance either up or down depending on the final quantity of Portland Cement removal and replacement needed. Reference detail “Typical Concrete Sidewalk”, Sheet C-800 for concrete sidewalk repair.

E. Allowance #5: Provide an allowance for the location, removal and replacement of waterline appurtenances as listed below. Payment for removal and replacement of appurtenances is quantified per each individual installation. Pricing shall be for all labor, materials including crushed stone bedding, backfill (as-needed), thrust blocking (as-needed) and necessary equipment required for replacement and mechanical connection to the existing water distribution system. Any incidental removal and reconnection of mechanical systems shall be included in this price. Contractor shall be responsible for coordinating and compensating the work of the Licensed Plumber. The Contractor will furnish all water line materials required.

Provide pricing for removal and replacement of each of the following appurtenance quantities:

<u>Description</u>	<u>Quantity</u>
6a – Remove and Replace Tee, 4-inch:	100
6b – Remove and Replace Tee, 2-inch and smaller:	270
6c – Remove and Replace Reducer, 4x2-inch:	110
6d – Remove and Replace Reducer, 2 x 1-inch:	245
6e – Remove and Replace Bend (all angles), 4-inch:	15
6f – Remove and Replace Bend (all angles), 2-inch and smaller:	190
6g – Remove and Replace Valve Coupling, 4-inch:	22
6h – Remove and Replace Valve Coupling, 2-inch and smaller:	43

Provide unit pricing as noted in Section 01-22-00 and on the Bid Form for modifying the allowance either up or down depending on the final quantity of waterline appurtenance removal and replacement needed.

F. Allowance #6: Provide an allowance to locate, pothole and record depth of waterline in 36 locations as indicated in the plans. Allowance includes locating, excavating, recording and submitting to the Owner cover depth and backfill of excavation. Payment of this item will be per each successful depth measurement obtained at or near the indicated location on the plans. Damage to any surface or sub-surface entities as a result to these activities will be repaired at no additional cost. Provide unit pricing as noted in Section 01-22-00 and on the Bid Form for modifying the allowance either up or down depending on the final quantity depth recordings required.

- G. Allowance #7: Provide an allowance for 5,000 lineal feet of excavation and lowering of waterline to meet a minimum depth requirement of 36-inches of cover from the crown of pipe. Allowance includes excavation, undercutting, crushed stone bedding and backfill of excavation. Any additional pipe appurtenances including, but not limited to, bends or connections incidental to the lowering of existing pipe shall be included in this price. As pipe is exposed, incremental measurements shall be made, and excavation of pipe shall be suspended once minimum pipe cover depths are met. This work shall be performed only as directed by the Owner. Provide unit pricing as noted in Section 01-22-00 and on the Bid Form for modifying the allowance either up or down depending on the final quantity of excavation and lowering of waterline needed.
- H. Allowance #8: Provide allowance for implementation of erosion prevention measures as detailed in the construction documents. This allowance is a lump sum pay item and includes the cost of all labor and materials required for temporary and permanent stabilization of disturbed areas.
- I. Allowance #9: Provide an allowance to remove and clean 140 HVAC registers/grilles in a mold and mildewcide solution and to reinstall the cleaned grilles. Provide unit pricing as noted in Section 01-22-00 and on the Bid Form for modifying the allowance either up or down depending on the final quantity of HVAC grilles requiring cleaning.
- J. Allowance #10: Provide an allowance to remove and replace the silicone sealant used in 100 tub and shower surround assemblies. Adjacent exposed and recessed surfaces shall be properly cleaned and rinsed with a mold & mildewcide solution prior to installing the new sealant. Provide unit pricing as noted in Section 01-22-00 and on the Bid Form for modifying the allowance on a per unit basis.
- K. Allowance #11: Provide an allowance to remove and replace the silicone sealant used in 100 tub and shower surround assemblies. Include the removal of FRP bathtub/shower surrounds and replacement with new FRP surrounds. Adjacent exposed and recessed surfaces shall be properly cleaned and rinsed with a mold & mildewcide solution prior to installing the new sealant. Provide unit pricing as noted in Section 01-22-00 and on the Bid Form for modifying the allowance on a per unit basis.
- L. Allowance #12: Provide an allowance to provide and install 5 new oak veneer, hollow-core interior doors with a new primed and painted finish. Existing hardware shall be re-used. Provide unit price as noted in Section 01-22-00 and on the Bid Form for modifying the allowance either up or down depending on the final quantity of damaged doors needing replacement.
- M. Allowance #13: Provide an allowance to remove, and properly dispose of 6,000 square feet of mold contaminated gypsum wall board. Following removal, the supporting studs and cavity shall be properly and completely cleaned and rinsed with a mold and mildewcide solution. The removed gypsum wall board shall be replaced with new 5/8" gypsum wall board of the same type being replaced and finished, primed and painted to match the adjacent wall finish. This allowance is in addition to any gypsum board replacement necessary as part of the interior plumbing riser replacement or other scope of work required in identified in the Construction Drawings. Provide unit pricing as noted in Section 01-22-00 and on the Bid Form for modifying the allowance on a per unit basis.

- N. Allowance #14: Provide an allowance to remove 1,100 linear feet of wood base trim and replace it with new wood trim to match adjacent existing wood trim. Following removal of the existing wood base, the underlying surfaces shall be properly and completely cleaned with a mold and mildewcide solution. Provide unit pricing as noted in Section 01-22-00 and on the Bid Form for modifying the allowance on a per unit basis.
- O. Allowance #15: Provide an allowance to remove and properly dispose of one lower kitchen sink base cabinet. The allowance shall include the proper cleaning and rinsing of the surfaces surrounding the cabinet with a mold and mildewcide solution. Install new sink base cabinet of the same size following proper cleaning. Allowance shall include all costs associated with removing and reinstalling the existing sink, faucets and making the necessary connections. Provide unit pricing as noted in Section 01-22-00 and on the Bid Form for modifying the allowance on a per unit basis.
- P. Allowance #16: Provide an allowance to remove and properly dispose of two upper cabinets. The allowance shall include the proper cleaning and rinsing of the surfaces surrounding the cabinet with a mold and mildewcide solution. Install new upper cabinet of same size following proper cleaning. Provide unit pricing as noted in Section 01-22-00 and on the Bid Form for modifying the allowance on a per unit basis.
- Q. Allowance #17: Provide an allowance to properly remove and dispose of the soffits of two 160 square foot exterior entry canopies. The exposed cavity and surfaces shall be cleaned using a mold & mildewcide solution. Leaks in the EPDM roof system above shall be located and repaired. and a new primed and painted cement board soffit installed. Provide unit pricing as noted in Section 01-22-00 and on the Bid Form for modifying the allowance on a per unit basis.
- R. Allowance #18: Provide an allowance to properly remove, replace and relocate existing high lighting in the interior stairwells of each of the units located in "B, C, or D" buildings. This allowance accounts for the relocation of a total of 54 light fixtures. Abandoned j-box shall receive new cover plate. See electrical drawings for full scope of work. Provide unit pricing as noted in Section 01-22-00 and on the Bid Form for modifying the allowance on a per unit basis.
- S. Allowance #19: Provide an allowance to replace damaged or molded drywall from the first finished floor level to 4'-0" above the first finished floor level at the location of the water main replacement work for fifty percent (50%) of each unit type. This price is included in the grand total above.
- T. Allowance #20: Provide an allowance to properly and completely clean the interior surfaces of the existing ductwork of 135 dwelling units with a mold and mildewcide solution. For the purpose of pricing, bidders should assume that each dwelling unit has 60 linear feet of ductwork, approximately 6"h x 12"w in cross section

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

**END OF SECTION
SECTION 01 22 00**

UNIT PRICES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. List of unit prices, for use in preparing Bids.
- B. Measurement and payment criteria applicable to Work performed under a unit price payment method.

1.02 COSTS INCLUDED

- A. Unit Prices included on the Bid Form shall include full compensation for all required labor, products, tools, equipment, plant, transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit.

1.03 MEASUREMENT OF QUANTITIES

- A. Assist by providing necessary equipment, workers, and survey personnel as required, and as requested by the Owner's Representative.

1.04 PAYMENT

- A. Payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities of Work that is incorporated in or made necessary by the Work and accepted by the Owner's Representative, multiplied by the unit price.

1.05 DEFECT ASSESSMENT

- A. Replace Work, or portions of the Work, not conforming to specified requirements.

1.06 SCHEDULE OF UNIT PRICES

A. Unit Price #1: Provide a unit price per square foot for milling and surface restoration of parking lot and driveways. Unit price includes milling to a depth of 2 inches the existing surface course, leveling with Base Grade B (as-needed), 2 inches of surface course Grade D, compaction, cleanup and re-striping to match existing. The submitted unit price shall be used to either increase or decrease the amount associated with Allowance #1 as described in Section 01-21-00 Allowances and as listed on the bid form.

B. Unit Price #2: Provide a unit price per square foot for the sealing of existing asphalt pavement. Unit price includes preparation of existing surface, sealing of cracks (as-needed), two coats of sealant, cleanup and re-striping to match existing. The submitted unit price shall be used to either increase or decrease the amount associated with Allowance #2 as described in Section 01-21-00 Allowances and as listed on the bid form.

C. Unit Price #3: Provide unit price per linear foot of pavement repair. Unit price includes excavation of any temporary pavement repair, excavation of base stone (as-needed), additional compacted stone base (as-needed), material (Base Grade B or B-M, and Surface Course Grade D), compaction, cleanup and striping (as-needed). Payment for this item will be made based on the length of trenches, to the limits of excavation, as specified in the construction documents. The submitted unit price shall be used to either increase or decrease the amount associated with Allowance #3 as described in Section 01-21-00 Allowances and as listed on the bid form.

Reference detail "Asphalt Pavement Section Trench Repair", Sheet C-800 for asphalt pavement repair.

D. Unit Price #4: Provide a unit price per linear foot for the removal and replacement of Portland Cement concrete pad and sidewalk. Unit price includes excavation and disposal of existing cement, excavation of base stone (as-needed), additional compacted base stone (as-needed), replacement of material to duplicate type of material type and specification, depth, width and length. Payment for this item will be based upon the length of trenches, to the limits of excavation, as specified in the construction documents. The submitted unit price shall be used to either increase or decrease the amount associated with Allowance #4 as described in Section 01-21-00 Allowances and as listed on the bid form. Reference detail "Typical Concrete Sidewalk", Sheet C-800 for concrete sidewalk repair.

E. Unit Price #5: Provide a unit price per each for the location, removal and replacement of waterline appurtenances. Pricing shall be for all labor, materials including crushed stone bedding, backfill (as-needed), thrust blocking (as-needed) and necessary equipment required for replacement and any mechanical connections to the existing water distribution system. Any incidental removal and reconnection of mechanical systems shall be included in this price. Contractor shall be responsible for coordinating and compensating the work of the Licensed Plumber. The Contractor will furnish all water line materials required.

Provide unit pricing for removal and replacement of each of the following appurtenances:

6a – Remove and Replace Tee, 4-inch

6b – Remove and Replace Tee, 2-inch and smaller

6c – Remove and Replace Reducer, 4x2-inch

6d – Remove and Replace Reducer, 2 x 1-inch

6e – Remove and Replace Bend (all angles), 4-inch

6f – Remove and Replace Bend (all angles), 2-inch and smaller

6g – Remove and Replace Valve Coupling, 4-inch

6h – Remove and Replace Valve Coupling, 2-inch and smaller

The submitted unit price shall be used to either increase or decrease the amounts associated with Allowance #5 as described in Section 01-21-00 Allowances and as listed on the bid form.

F. Unit Price #6: Provide a unit price per each to locate, pothole and record depth of waterline as directed by the Owner. Unit price includes locating, excavating, recording and submitting to the Owner cover depth and backfill of excavation. Payment of this item will be per each successful depth measurement obtained. Damage to any surface or sub-surface entities as a result to these activities will be repaired at no additional cost. The submitted unit price shall be used to either increase or decrease the amounts associated with Allowance #6 as described in Section 01-21-00 Allowances and as listed on the bid form.

G. Unit Price #7: Provide a unit price per linear foot for excavating and lowering of waterline to meet minimum depth requirements of 36-inches of cover from the crown of pipe. Unit price includes excavation, undercutting, crushed stone bedding and backfill of excavation. Any additional pipe appurtenances including, but not limited to, bends or connections incidental to the lowering of pipe shall be included in this price.

As pipe is exposed, incremental measurements shall be made and excavation of pipe shall be suspended once minimum pipe cover depths are met.

This work shall be performed only directed by the Owner. The submitted unit price shall be used to either increase or decrease the amounts associated with Allowance #7 as described in Section 01-21-00 Allowances and as listed on the bid form.

H. Unit Price #8: Provide a unit price per linear foot the replacement of HDPE water lines. Unit price shall include full compensation for the furnishing and installing of pipe including pipe bedding, excavation (as-needed), backfill and all other work necessary for and incidental to completion of the work. Pipe installed shall be compliant with NSF 61 and designated for potable water.

Provide unit pricing for replacement of each of the following HDPE pipe diameters:

8a – Replace Water Line, 4-inch

8b – Replace Water Line, 2-inch

8c – Replace Water Line, 1-inch

I. Unit Price #9: Remove one existing pre-finished metal wall mounted HVAC grille (approximately 14" x 6" in size) and thoroughly clean the register in a mold and mildewcide solution. Dry grille, and properly reinstall and connect to existing ductwork. The submitted unit price shall be used to either increase or decrease the amount associated with Allowance #9 as described in Section 01-21-00 Allowances and as listed on the bid form.

J. Unit Price #10: Remove existing sealant at one bathtub and FRP surround assembly, clean surrounding surfaces with mold and mildewcide solution and install new mildew resistant sealant. The submitted unit price shall be used to either increase or decrease the amount associated with Allowance #10 as described in Section 01-21-00 Allowances and as listed on the bid form.

K. Unit Price #11: Remove existing sealant and FRP surround at one bathtub and clean surrounding surfaces with mold and mildewcide solution and install new FRP surround and seal all joints with new mildew resistant sealant. The submitted unit price shall be used to either increase or decrease the amount associated with Allowance #11 as described in Section 01-21-00 Allowances and as listed on the bid form.

L. Unit Price #12: Remove and properly dispose of existing interior door and replace with new oak veneer hollow core flush wood door. Door shall be primed and painted to match remaining existing interior doors. The submitted unit price shall be used to either increase or decrease the amount associated with Allowance #12 as described in Section 01-21-00 Allowances and as listed on the bid form.

M. Unit Price #13: Provide a cost per square foot unit price for the replacement of damaged gypsum board, in thickness to match existing. The unit price shall include cleaning and rinsing the remaining framing and cavity surfaces with a mold and mildewcide solution. The unit price shall also include any associated demo and finishing required for repair as well as a coat of primer and one finish coat of paint (final paint coat included in base bid). The submitted unit price shall be used to either increase or decrease Allowance #13 (as described in *Section 01 21 00 Allowances*) based on measured field conditions agreed to by the Owner, Contractor, and Designer during construction.

N. Unit Price #14: Provide a per linear foot unit price to install new wood base where existing base has been removed as part of the mold abatement.

The unit price shall include priming and painting the new wood base with one finish coat of paint. The final coat of paint shall be included in the Base Bid amount.

The submitted unit price shall be used to either increase or decrease the amount associated with Allowance #14 as described in Section 01-21-00 Allowances and as listed on the bid form.

O. Unit Price #15: Provide a per piece unit price to provide and install one (1) kitchen Residential Casework sink base cabinet. New base cabinet shall match existing transparent wood finish of adjacent cabinets. The submitted unit price shall be used to either increase or decrease the amount associated with Allowance #15 as described in Section 01-21-00 Allowances and as listed on the bid form.

P. Unit Price #16: Provide a per piece unit price to provide and install one Residential Casework wall mounted upper cabinet. New base cabinet shall match existing transparent wood finish of adjacent cabinets. The submitted unit price shall be used to either increase or decrease the amount associated with Allowance #16 as described in Section 01-21-00 Allowances and as listed on the bid form.

Q. Unit Price #17: Provide a per piece unit to properly remove and dispose of the soffits of three exterior entry canopies. Each soffit to be replaced is approximately 160 square feet in size. The exposed cavity and surfaces shall be cleaned using a mold & mildewcide solution. Leaks in the EPDM roof system above shall be located, repaired and a new primed and painted cement board soffit installed. The submitted unit price shall be used to either increase or decrease the amount associated with Allowance #17 as described in Section 01-21-00 Allowances and as listed on the bid form.

R. Unit Price #18: Provide a per unit price to properly remove and relocate the high lighting fixture located above the interior stairs of the dwelling units in all of the B, C, and D buildings. The unit price shall include installing a new cover plate at the existing j-box and surface routing the wiring to the light's new location approximately 16 feet away. Surface mounted wiring shall be enclosed in wire-mold. See electrical drawings and specifications fixture type and associated work. This unit price only relates to the relocation of the fixture, replacement of the existing fixture shall remain as part of the Base Bid. The submitted unit price shall be used to either increase or decrease the amount associated with Allowance #18 as described in Section 01-21-00 Allowances and as listed on the bid form.

S. Unit Price #19: Provide a unit price to replace damaged or molded drywall from the first finished floor level to 4'-0" above the first finished floor level at the location of the water main replacement work for unit type. These unit prices will be used as a deduct or addition concerning Allowance #19.

- Unit Type 1 - \$_____ per unit.
- Unit Type 2 - \$_____ per unit.
- Unit Type 3 - \$_____ per unit.
- Unit Type 4 - \$_____ per unit.
- Unit Type 5 - \$_____ per unit.
- Unit Type 6 - \$_____ per unit.

T. Unit Price #20: Provide a unit-price to properly and completely clean the interior surfaces of ductwork on a per-dwelling unit basis. For the purpose of pricing, bidders should assume that each dwelling unit has 60 linear feet of ductwork with an average cross section of 6”h x 12”w.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 23 00

Alternates

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. List of Alternates, for use in preparing Bids.

1.02 COSTS INCLUDED

- A. Alternates included on the Bid Form shall include full compensation for all required labor, products, tools, equipment, plant, transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit.

1.06 SCHEDULE OF ALTERNATES

A. Alternate #1: Deductive Alternate for the Deletion of the scope of work associated with the re-roofing of the Maintenance Garage. The deduct amount shall also include, but not be limited to, any incidental work and costs associated with the installation of the new asphalt shingle roof system such as: limited demolition work and replacement of gutters and miscellaneous flashings and costs associated with the installation of the new floor base as well as any associated general conditions, overhead and profit fees.

B. Alternate #2: Deductive Alternate for the deletion of the scope of work associated with installing new floor finishes in the Ministry Building. The deduct amount shall also include, but not be limited to, any incidental work such as removal and replacement of base trim and costs associated with the installation of the new floor base as well as any associated general conditions, overhead and profit fees.

C. Alternate #3: Deductive Alternate for the deletion of the scope of work associated with installing new floor finishes in the Community Building. The deduct amount shall also include, but not be limited to, any incidental work such as removal and replacement of base trim and costs associated with the installation of the new floor base as well as any associated general conditions, overhead and profit fees.

D. Alternate #4: Deductive Alternate for the deletion of the scope of work associated with installing new ceiling finishes in the Community Building. The deduct amount shall also include, but not be limited to, any incidental work such as removal and replacement of base trim and costs associated with the installation of the new Acoustical Ceiling Tile system as well as any associated general conditions, overhead and profit fees.

E. Alternate #5: Deductive Alternate for the deletion of the scope of work associated with relocating new light fixtures at the interior stairwells of the dwelling units located in the "B, C, and D" buildings. If this alternate is accepted, the Base Bid will include replacement of the fixture, but with the replacement being installed at the existing j-box location.

F. Alternate #6: Deductive Alternate to install new VCT in lieu of the specified VCT flooring. See specification *Section 09 65 00 – Resilient Flooring*. Installation of the new primed and painted quarter-round trim at the flooring to existing base transition shall remain as part of the base bid.

PART 2 PRODUCTS - NOT USED
PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 30 00
ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Preconstruction meeting.
- B. Progress meetings.
- C. Construction progress schedule.
- D. Submittals for review, information, and project closeout.
- E. Number of copies of submittals.
- F. Submittal procedures.

1.02 RELATED REQUIREMENTS

- A. Section 01 10 00 - Summary: Stages of the Work, occupancy.
- B. Section 01 32 16 - Construction Progress Schedule: Form, content, and administration of schedules.
- C. Section 01 70 00 - Execution and Closeout Requirements: Additional coordination requirements.
- D. Section 01 78 00 - Closeout Submittals: Project record documents.

1.03 PROJECT COORDINATION

- A. Owner's Representative: Partners Development.
- B. Cooperate with the Owner's Representative in allocation of mobilization areas of site; for field offices and sheds, for access, traffic, and parking facilities.
- C. During construction, coordinate use of site and facilities through the Owner's Representative.
- D. Comply with Owner's Representative's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.
- E. Comply with instructions of the Owner's Representative for use of temporary utilities and construction facilities.
- F. Coordinate field engineering and layout work under instructions of the Owner's Representative.
- G. Make the following types of submittals to Architect through the Owner's Representative:
 - 1. Requests for interpretation.
 - 2. Requests for substitution.
 - 3. Shop drawings, product data, and samples.
 - 4. Test and inspection reports.
 - 5. Manufacturer's instructions and field reports.
 - 6. Applications for payment and change order requests.
 - 7. Progress schedules.
 - 8. Coordination drawings.
 - 9. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

- A. Owner's Representative will schedule a meeting after Notice of Award.
- B. Attendance Required:
 - 1. Owner.
 - 2. Architect.
 - 3. Contractor.
 - 4. Owner's Representative.
 - 5. Major Subcontractors
- C. Agenda:
 - 1. Execution of Owner-Contractor Agreement.
 - 2. Submission of executed bonds and insurance certificates.
 - 3. Distribution of Contract Documents.
 - 4. Submission of list of Subcontractors not noted on the Bid Form, list of Products, schedule of values, and progress schedule.
 - 5. Designation of personnel representing the parties to Contract, Project Manager and Architect.
 - 6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, as-built documents, and Contract closeout procedures.
 - 7. Scheduling.
- D. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.02 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at maximum monthly intervals.
- B. Make arrangements for meetings, prepare agenda with copies for participants, preside at meetings.
- C. Attendance Required: Job superintendent, major Subcontractors and suppliers, Owner, Architect, as appropriate to agenda topics for each meeting.
- D. Agenda:
 - 1. Review minutes of previous meetings.
 - 2. Review of Work progress.
 - 3. Field observations, problems, and decisions.
 - 4. Identification of problems that impede, or will impede, planned progress.
 - 5. Review of submittals schedule and status of submittals.
 - 6. Maintenance of progress schedule.
 - 7. Corrective measures to regain projected schedules.
 - 8. Planned progress during succeeding work period.
 - 9. Maintenance of quality and work standards.
 - 10. Effect of proposed changes on progress schedule and coordination.

11. Review of project Record Documents, Drawings and Specifications.
 12. Other business relating to Work.
- E. Record minutes and distribute copies within two days after meeting to participants, with two copies to Architect, Owner, participants, and those affected by decisions made.

3.03 CONSTRUCTION PROGRESS SCHEDULE

- A. If preliminary schedule requires revision after review, submit revised schedule within 10 days.
- B. Within 20 days after review of preliminary schedule, submit draft of proposed complete schedule for review.
 1. Include written certification that major contractors have reviewed and accepted proposed schedule.
- C. Within 10 days after joint review, submit complete schedule.
- D. Submit updated schedule with each Application for Payment.

3.04 PROGRESS PHOTOGRAPHS

- A. Submit photographs with each application for payment, taken not more than 3 days prior to submission of application for payment.
- B. Photography Type: Digital; electronic files.
- C. Provide photographs of site and construction throughout progress of Work produced by an experienced photographer, acceptable to Architect.
- D. In addition to periodic, recurring views, take photographs of each of the following events:
 1. Excavations in progress.
 2. Structural framing in progress and upon completion.
- E. Views:
 1. Provide non-aerial photographs from four cardinal views at each specified time, until Date of Substantial Completion.
 2. Consult with Architect for instructions on views required.
 3. Provide factual presentation.
 4. Provide correct exposure and focus, high resolution and sharpness, maximum depth of field, and minimum distortion.
- F. Digital Photographs: 24-bit color, minimum resolution of 1024 by 768, in JPG format; provide files unaltered by photo editing software.
 1. Delivery Medium: Via email.
 2. File Naming: Include project identification, date and time of view, and view identification.

3.05 SUBMITTALS FOR REVIEW

- A. When the following are specified in individual sections, submit them for review:
 1. Product data.
 2. Shop drawings.
 3. Samples for selection.
 4. Samples for verification.

- B. Submit to Architect for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
- C. Samples will be reviewed only for aesthetic, color, or finish selection.
- D. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 78 00 - CLOSEOUT SUBMITTALS.

3.06 SUBMITTALS FOR PROJECT CLOSEOUT

- A. When the following are specified in individual sections, submit them at project closeout:
 - 1. Project record documents.
 - 2. Operation and maintenance data.
 - 3. Warranties.
 - 4. Bonds.
 - 5. Project Record Documents.
 - 6. Other types as indicated.
- B. Submit for Owner's benefit during and after project completion. Project closeout submittals should be submitted to the Owner's Representative after the completion of Phase I of the Project. Each phase will have its own substantial completion date and closeout process.

3.07 NUMBER OF COPIES OF SUBMITTALS

- A. Documents for Review:
 - 1. Small Size Sheets, Not Larger Than 8-1/2 x 11 inches: Submit the number of copies that Contractor requires, plus two copies that will be retained by Architect.
 - 2. Larger Sheets, Not Larger Than 36 x 48 inches: Submit the number of opaque reproductions that Contractor requires, plus two copies that will be retained by Architect. Alternately, for large sheets, the contractor may submit 3 large format copies to the architect and the architect will scan the final reviewed document with the applicable comments and stamps and return an un-editable digital file to the contractor.
- B. Documents for Project Closeout: Make one reproduction of submittal originally reviewed. Submit one extra of submittals for information.
- C. Samples: Submit the number specified in individual specification sections; one of which will be retained by Architect.
 - 1. After review, produce duplicates.
 - 2. Retained samples will not be returned to Contractor unless specifically so stated.

3.08 SUBMITTAL PROCEDURES

- A. Transmit each submittal with AIA Form G810 or other approved format.
- B. Sequentially number the transmittal form. Revised submittals shall be numbered with original number and a sequential alphabetic suffix.
- C. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.

- D. Apply Contractor's stamp signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents prior to delivery for review by the Architect.
- E. Deliver submittals to Owner's Representative at business address.
- F. Schedule submittals to expedite the Project, and coordinate submission of related items with the Architect.
- G. For each submittal for review, allow 15 days excluding delivery time to and from the Contractor.
- H. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.
- I. Provide space for Contractor and Architect review stamps.
- J. When revised for resubmission, identify all changes made since previous submission.
- K. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.
- L. Submittals not requested will not be recognized or processed.
- M. Store one copy of reviewed submittals at the project site for the entire duration of the project.

END OF SECTION

SECTION 01 32 16
CONSTRUCTION PROGRESS SCHEDULE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Preliminary schedule.
- B. Construction progress schedule, bar chart type.

1.02 RELATED SECTIONS

- A. Section 01 10 00 - Summary: Work sequence.

1.03 SUBMITTALS

- A. Within 10 days after date of Agreement, submit preliminary schedule defining planned operations for the proposed duration of Phase 1 with a general outline for the remainder of Work.
- B. If preliminary schedule requires revision after review, submit revised schedule within 10 days.
- C. Submit updated schedule with each Application for Payment.

1.04 SCHEDULE FORMAT

- A. Sheet Size: 11 X 17.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRELIMINARY SCHEDULE

- A. Prepare preliminary schedule in the form of a horizontal bar chart.

3.02 CONTENT

- A. Show complete sequence of construction by activity, with dates for beginning and completion of each element of construction.
- B. Identify each item by specification section number.
- C. Show accumulated percentage of completion of each item, and total percentage of Work completed, as of the first day of each month.
- D. Provide legend for symbols and abbreviations used.
- E. Indicate individual submittals and their associated Architect/Owner's Representative review period.

3.03 BAR CHARTS

- A. Include a separate bar for each major portion of Work or operation.
- B. Identify the first work day of each week.

3.04 DISTRIBUTION OF SCHEDULE

- A. Distribute copies of updated schedules to Contractor's project site file, to Subcontractors, suppliers, Architect, Owner, and other concerned parties.
- B. Instruct recipients to promptly report, in writing, problems anticipated by projections shown in schedules.

END OF SECTION

SECTION 07 21 00
THERMAL INSULATION

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Blown in fiberglass insulation at attic spaces.

1.02 REFERENCE STANDARDS

- A. ASTM C518 - Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus; 2015.
- B. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2015a.
- C. ASTM E136 - Standard Test Method for Behavior of Materials in a Vertical Tube Furnace At 750 Degrees C; 2016.

1.04 SUBMITTALS

- A. See Section 01-30-00 - Administrative Requirements
- B. Product Data: Provide data on product characteristics, performance criteria, and product limitations.
- C. Manufacturer's Certificate: Certify that products meet or exceed specified requirements.
- D. Manufacturer's Installation Instructions: Include information on special environmental conditions required for installation and installation techniques.

1.05 FIELD CONDITIONS

- A. Do not install insulation adhesives when temperature or weather conditions are detrimental to successful installation.

PART 2 PRODUCTS

2.01 APPLICATIONS

- A. Insulation above ceilings and between attic deck and ceiling framing: Blown in fiberglass batt insulation.

2.03 BATT INSULATION MATERIALS

- A. Where batt insulation is indicated, either glass fiber or mineral fiber batt insulation may be used, at Contractor's option.
- B. Glass Fiber Batt Insulation: Flexible preformed batt or blanket, complying with ASTM C665; friction fit.
 - 1. Combustibility: Non-combustible, when tested in accordance with ASTM E136, except for facing, if any.
 - 2. Formaldehyde Content: Zero.
 - 3. Thickness: Thicknesses necessary to provide R-38 additional insulation
 - 4. Manufacturers:
 - a. CertainTeed Corporation: www.certainteed.com.
 - b. Johns Manville: www.jm.com.
 - c. Owens Corning Corporation; AttiCat Expanding Fiberglass Blown-in Insulation System

2.04 ACCESSORIES

- A. Insulation Fasteners: Plastic or polystyrene baffles to ensure proper airflow at roof eaves.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate, adjacent materials, and insulation materials are dry and that substrates are ready to receive insulation.
- B. Commencement of work outlined in this section shall be deemed as acceptance of existing work and conditions.

3.02 BLOWN-IN FIBERGLASS INSTALLATION

- A. Install insulation baffles at each vented space between truss framing.
- B. Install insulation in accordance with manufacturer's instructions. Apply to thicknesses required to achieve the specified R-value.

3.03 PROTECTION

- A. Do not permit installed insulation to be damaged prior to its placement.
- B. Do not compact or disturb placed insulation.
- C. Any damage to the insulation shall be repaired prior to concealment. Insulation that cannot be repaired shall be replaced at no additional cost to the owner. Architect shall make the determination whether or not the damaged insulation requires replacement.

END OF SECTION

SECTION 01 40 00
QUALITY REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. References and standards.
- B. Mock-ups.
- C. Control of installation.
- D. Testing and inspection services.

1.02 REFERENCE STANDARDS

- A. ASTM C 1021 - Standard Practice for Laboratories Engaged in Testing of Building Sealants; 2008.
- B. ASTM C 1077 - Standard Practice for Laboratories Testing Concrete and Concrete Aggregates for Use in Construction and Criteria for Laboratory Evaluation; 2009.
- C. ASTM C 1093 - Standard Practice for Accreditation of Testing Agencies for Masonry; 2009.
- D. ASTM D 3740 - Standard Practice for Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction; 2008.
- E. ASTM E 329 - Standard Specification for Agencies Engaged Construction Inspection and/or Testing; 2009.
- F. ASTM E 543 - Standard Specification for Agencies Performing Nondestructive Testing; 2009.

1.03 SUBMITTALS

- A. Test Reports: After each test/inspection, promptly submit two copies of report to Owner's Representative and to Contractor.
 - 1. Include:
 - a. Date issued.
 - b. Project title and number.
 - c. Name of inspector.
 - d. Date and time of sampling or inspection.
 - e. Identification of product and specifications section.
 - f. Location in the Project.
 - g. Type of test/inspection.
 - h. Date of test/inspection.
 - i. Results of test/inspection.
 - j. Conformance with Contract Documents.
 - k. When requested by Owner's Representative, provide interpretation of results.

1.04 REFERENCES AND STANDARDS

- A. For products and workmanship specified by reference to a document or documents not included in the Project Manual, also referred to as reference standards, comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.

- B. Conform to reference standard of date of issue current on date of Contract Documents, except where a specific date is established by applicable code.
- C. Obtain copies of standards where required by product specification sections.
- D. Maintain copy at project site during submittals, planning, and progress of the specific work, until Substantial Completion.
- E. Should specified reference standards conflict with Contract Documents, request clarification from Owner's Representative before proceeding.
- F. Neither the contractual relationships, duties, or responsibilities of the parties in Contract nor those of Owner's Representative shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

1.05 TESTING AND INSPECTION AGENCIES

- A. Contractor shall employ and pay for services of an independent testing agency to perform specified testing.
- B. Employment of agency in no way relieves Contractor of obligation to perform Work in accordance with requirements of Contract Documents.
- C. Contractor Employed Agency:
 1. Testing agency: Comply with requirements of ASTM E 329, ASTM E 543, ASTM C 1021, ASTM C 1077, and ASTM C 1093.
 2. Inspection agency: Comply with requirements of ASTM D3740 and ASTM E329.
 3. Laboratory: Authorized to operate in State of Tennessee.
 4. Testing Equipment: Calibrated at reasonable intervals either by NIST or using an NIST established Measurement Assurance Program, under a laboratory measurement quality assurance program.

1.06 SCHEDULE OF REQUIRED MOCK-UPS

- A. Provide one mock-up of installation of each exterior door and heavy-duty screen door condition with all associated hardware and trim. The mock-up shall be completed and reviewed prior to ordering and installation of other exterior doors on site. The mock-ups shall include one example of: 1) a front entry with brick jambs 2) a rear entry with siding surround 3) a rear entry with brick jambs. Approved mock-ups shall remain in place and become part of the final construction.
- B. Provide a mock-up showing the installation of building wrap and associated flashing and trim at existing windows as detailed in the construction documents. Approved mock-ups shall remain in place and become part of the final construction.
- C. The first completed unit of each apartment type shall serve as a mock-up for all subsequent construction. Approved mock-ups shall remain in place and become part of the final construction.
- D. Additional mock-ups may be required by the Owner's Representative or requested in the following spec sections. All additional approved mock-ups shall remain in place and become part of the final construction.

1.06 REQUIRED TESTING

- A. All excavations for required footings shall be tested/probed by a geotechnical engineer with a hand-auger to confirm adequate bearing capacity of the underlying soil.
- B. A test cylinder of concrete shall be collected and subsequently tested each day that concrete is delivered to a sit.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality.
- B. Comply with manufacturers' instructions, including each step-in sequence.
- C. Should manufacturers' instructions conflict with Contract Documents, request clarification from Owner's Representative before proceeding.
- D. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- E. Have Work performed by persons qualified to produce required and specified quality.
- F. Verify that field measurements are as indicated on shop drawings or as instructed by the manufacturer.
- G. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, and disfigurement.

3.02 MOCK-UPS

- A. Tests will be performed under provisions identified in this section and identified in the respective product specification sections.
- B. Assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes.
- C. Accepted mock-ups shall be a comparison standard for the remaining Work.
- D. Where mock-up has been accepted by Owner's Representative and is specified in product specification sections to be removed, remove mock-up and clear area when directed to do so.

3.03 TESTING AND INSPECTION

- A. See individual specification sections for testing required.
- B. Testing Agency Duties:
 - 1. Provide qualified personnel at site. Cooperate with Owner's Representative and Contractor in performance of services.
 - 2. Perform specified sampling and testing of products in accordance with specified standards.
 - 3. Ascertain compliance of materials and mixes with requirements of Contract Documents.

4. Promptly notify Owner's Representative and Contractor of observed irregularities or non-conformance of Work or products.
 5. Perform additional tests and inspections required by Owner's Representative.
 6. Submit reports of all tests/inspections specified.
- C. Limits on Testing/Inspection Agency Authority:
1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 2. Agency may not approve or accept any portion of the Work.
 3. Agency may not assume any duties of Contractor.
 4. Agency has no authority to stop the Work.
- D. Contractor Responsibilities:
1. Deliver to agency at designated location, adequate samples of materials proposed to be used that require testing, along with proposed mix designs.
 2. Cooperate with laboratory personnel and provide access to the Work and to manufacturers' facilities.
 3. Provide incidental labor and facilities:
 - a. To provide access to Work to be tested/inspected.
 - b. To obtain and handle samples at the site or at source of Products to be tested/inspected.
 - c. To facilitate tests/inspections.
 - d. To provide storage and curing of test samples.
 4. Notify Owner's Representative and laboratory 24 hours prior to expected time for operations requiring testing/inspection services.
 5. Employ services of an independent qualified testing laboratory and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
 6. Arrange with Owner's agency and pay for additional samples, tests, and inspections required by Contractor beyond specified requirements.
- E. Re-testing required because of non-conformance to specified requirements shall be performed by the same agency on instructions by Owner's Representative.
- F. Re-testing required because of non-conformance to specified requirements shall be paid for by Contractor.

3.04 DEFECT ASSESSMENT

- A. Replace Work or portions of the Work not conforming to specified requirements.
- B. If, in the opinion of Owner's Representative, it is not practical to remove and replace the Work, Owner's Representative will direct an appropriate remedy or adjust payment.

END OF SECTION

SECTION 01 42 16
DEFINITIONS

PART 1 GENERAL

1.01 SUMMARY

- A. This section supplements the definitions contained in the General Conditions.
- B. Other definitions are included in individual specification sections.

1.02 DEFINITIONS

- A. Furnish: To supply, deliver, unload, and inspect for damage.
- B. Install: To unpack, assemble, erect, apply, place, finish, cure, protect, clean, start up, and make ready for use.
- C. Product: Material, machinery, components, equipment, fixtures, and systems forming the work result. Not materials or equipment used for preparation, fabrication, conveying, or erection and not incorporated into the work result. Products may be new, never before used, or re-used materials or equipment.
- D. Project Manual: The book-sized volume that includes the procurement requirements (if any), the contracting requirements, and the specifications.
- E. Provide: To furnish and install.
- F. Supply: Same as Furnish.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 09-51-00 - ACOUSTICAL CEILINGS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Suspended metal grid ceiling system.
- B. Acoustical units.

1.02 REFERENCE STANDARDS

- A. ASTM C635/C635M - Standard Specification for the Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2013a.
- B. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels; 2013.
- C. ASTM E580/E580M - Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions; 2014.
- D. ASTM E1264 - Standard Classification for Acoustical Ceiling Products; 2014.

1.03 SUBMITTALS

- A. See Section 01-30-00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate grid layout and related dimensioning.
- C. Product Data: Provide data on suspension system components.
- D. Samples: Submit two samples 6 by 6 inch (152.4 by 152.4 mm) in size illustrating material and finish of acoustical units.
- E. Samples: Submit two samples each, 6 inches (152.4 mm) long, of suspension system main runner.
- F. Manufacturer's Installation Instructions: Indicate special procedures.
- G. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. Extra Acoustical Units: Quantity equal to 5 percent of total installed. - of each type of tile installed.

1.04 QUALITY ASSURANCE

- A. Suspension System Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
- B. Acoustical Unit Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years documented experience.

1.05 FIELD CONDITIONS

- A. Maintain uniform temperature of minimum 60 degrees F (16 degrees C), and maximum humidity of 40 percent prior to, during, and after acoustical unit installation.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Acoustic Tiles/Panels: As indicated on the drawings
 - 1. Basis of Design: Armstrong World Industries, Inc; Dune 2x2 Bevelled Tegular at KCDC Office in Community Building; Dune Square Edge 2x2 tiles in Boys & Girls Club portion of Community Building.: www.armstrong.com.

2. Acoustic Ceiling Products, Inc: www.acpideas.com.
 3. CertainTeed Corporation: www.certainteed.com.
 4. USG: www.usg.com.
 5. Substitutions: See Section 01-60-00 - Product Requirements.
- B. Wood Veneer Acoustic Panels: as indicated on the drawings.
- C. Suspension Systems at Boys & Girls Club portion of Community Building 15/16" pre-finished white.
1. Same manufacturer as for acoustical units.
 2. Armstrong World Industries, Inc; ____: www.armstrong.com.
 3. Acoustic Ceiling Products, Inc.: www.acpideas.com.
 4. CertainTeed Corporation: www.certainteed.com.
 5. Substitutions: See Section 01-60-00 - Product Requirements.

2.02 ACOUSTICAL UNITS

- A. Acoustical Units - General: ASTM E1264, Class A.
1. Units for Installation in Fire-Rated Suspension System: Listed and classified for the fire-resistive assembly as part of suspension system.
- B. Acoustical Tile Types as indicated on the drawings.
- C. Acoustical Tile : Painted mineral fiber, ASTM E1264 Type III, with the following characteristics:
1. Size: 24 by 24 inches (610 by 610 mm).
 2. Thickness: 5/8 inches (15.9 mm).
 3. Composition: Water felted.
 4. Edge: Square at Boys and Girls Club portion of Community Building and Bevelled Tegular at KCDC offices portion of Community Building.
 5. Surface Color: White.
 6. Products:
 - a. KCDC Offices at Community Building: Armstrong Dune Bevelled Tegular.
 - b. Boys & Girls Club at Community Building: Armstrong Dune, Square edged.
 - c. Substitutions: See Section 01-60-00 - Product Requirements.

2.03 SUSPENSION SYSTEM(S)

- A. Suspension Systems - General: Complying with ASTM C635/C635M; die cut and interlocking components, with stabilizer bars, clips, splices, perimeter moldings, and hold down clips as required.
- B. Exposed Steel Suspension System Type ____: Formed steel, commercial quality cold rolled; heavy-duty.
1. Profile: Tee; 15/16 inch (24 mm) wide face.
 2. Finish: Pre-finished white powder coated finish.

2.04 ACCESSORIES

- A. Support Channels and Hangers: Galvanized steel; size and type to suit application, seismic requirements, and ceiling system flatness requirement specified.
- B. Perimeter Moldings: Same material and finish as grid.
1. At Exposed Grid: Provide L-shaped molding for mounting at same elevation as face of grid.
- C. Touch-up Paint: Type and color to match acoustical tile and grid units.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.
- B. Verify that layout of hangers will not interfere with other work.

3.02 INSTALLATION - SUSPENSION SYSTEM

- A. Install suspension system in accordance with ASTM C636/C636M, ASTM E580/E580M, and manufacturer's instructions and as supplemented in this section.
- B. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.
- C. Locate system on room axis according to reflected plan - match layout of demolished grid in Boys and Girls Club portion of Community Building. The grid in the KCDC Offices shall remain in place..
- D. Hang suspension system independent of walls, columns, ducts, pipes and conduit. Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
- E. Where ducts or other equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.
- F. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.
- G. Support fixture loads using supplementary hangers located within 6 inches (150 mm) of each corner, or support components independently.
- H. Do not eccentrically load system or induce rotation of runners.
- I. Perimeter Molding: Install at intersection of ceiling and vertical surfaces and at junctions with other interruptions.
 - 1. Use longest practical lengths.
 - 2. Overlap and rivet corners.
- J. Form expansion joints per manufacturer's recommendations and standard detailing. Form to accommodate plus or minus 1 inch (25 mm) movement. Maintain visual closure.

3.03 INSTALLATION - ACOUSTICAL UNITS

- A. Install acoustical units in accordance with manufacturer's instructions.
- B. Fit acoustical units in place, free from damaged edges or other defects detrimental to appearance and function.
- C. Fit border trim neatly against abutting surfaces.
- D. Install units after above-ceiling work is complete.
- E. Install acoustical units level, in uniform plane, and free from twist, warp, and dents.
- F. Cutting Acoustical Units:
 - 1. Cut to fit irregular grid and perimeter edge trim.
 - 2. Make field cut edges of same profile as factory edges.
 - 3. Double cut and field paint exposed reveal edges.
- G. Where round obstructions occur, provide preformed closures to match perimeter molding.
- H. Lay acoustical insulation for a distance of 48 inches (1200 mm) either side of acoustical partitions as indicated.

- I. Install hold-down clips on each panel to retain panels tight to grid system; comply with fire rating requirements.
- J. Install hold-down clips on panels within 20 ft (6 m) of an exterior door.

3.04 TOLERANCES

- A. Maximum Variation from Flat and Level Surface: 1/8 inch in 10 feet (3 mm in 3 m).
- B. Maximum Variation from Plumb of Grid Members Caused by Eccentric Loads: 2 degrees.

END OF SECTION

SECTION 01 50 00
TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Temporary utilities.
- B. Temporary telecommunications services.
- C. Temporary sanitary facilities.
- D. Security requirements.
- E. Vehicular access and parking.
- F. Project identification sign.
- G. Field offices.

1.02 TEMPORARY UTILITIES

- A. Owner will provide the following:
 - 1. Electrical power and metering, consisting of connection to existing facilities.
 - 2. Water supply, consisting of connection to existing facilities.
- B. Existing facilities may be used.
- C. Use trigger-operated nozzles for water hoses, to avoid waste of water.

1.03 TELECOMMUNICATIONS SERVICES

- A. Provide, maintain, and pay for telecommunications services to field office at time of project mobilization.
- B. Telecommunications services shall include:
 - 1. Windows-based personal computer dedicated to project telecommunications, with necessary software and laser printer.
 - 2. Telephone Land Lines: One line, minimum; one handset per line.
 - 3. Internet Connections: Minimum of one; DSL modem or faster.
 - 4. Email: ability for e-mail communications on site
 - 5. Facsimile Service: Minimum of one dedicated fax machine/printer, with dedicated phone line.
 - 6. Digital camera and ability to download and transmit pictures.

1.04 TEMPORARY SANITARY FACILITIES

- A. Provide and maintain required facilities and enclosures. Provide at time of project mobilization.
- B. Provide potable drinking water on site.
- C. Maintain daily in clean and sanitary condition.

1.05 EXTERIOR ENCLOSURES

- A. Provide temporary insulated weather tight closure of exterior openings to accommodate acceptable working conditions and protection for Products, to allow for temporary heating and maintenance of required ambient temperatures identified in individual specification sections, and to prevent entry of unauthorized persons. Provide access doors with self-closing hardware and locks.

1.06 SECURITY

- A. Provide security and facilities to protect Work, existing facilities, and Owner's operations from unauthorized entry, vandalism, or theft.
- B. Provide and install safety orange construction fencing around work limits during each phase of the construction.
- C. Do not block access to occupied portions of the Property or the Public Way.

1.07 VEHICULAR ACCESS AND PARKING

- A. Comply with regulations relating to use of streets and sidewalks, access to emergency facilities, and access for emergency vehicles.
- B. Coordinate access and haul routes with governing authorities and Owner.
- C. Provide and maintain access to fire hydrants, free of obstructions.
- D. Provide means of removing mud from vehicle wheels before entering streets.
- E. Designated existing on-site roads may be used for construction traffic.
- F. Provide temporary parking areas to accommodate construction personnel. When site space is not adequate, provide additional off-site parking.
- G. Existing parking areas identified by the Owner's Representative during each phase may be used for construction parking.

1.08 PROJECT IDENTIFICATION

- A. Provide 6 feet x 8 feet project identification sign in full color, with graphic design and information to follow. Sign construction shall be durable enough to resist the weather conditions and site elements for the duration of the Project. See bid drawings for sign layout.
- B. Erect on site at location to be determined by Owner's Representative.
- C. If sign is damaged or destroyed by construction or the elements during the duration of construction the sign shall be replaced at the direction of the Owner's Representative.
- D. No other signs are allowed without Owner permission except those required by law.

1.09 FIELD OFFICES

- A. Office: Weathertight, with lighting, electrical outlets, heating, cooling equipment, and equipped with sturdy furniture, drawing rack and drawing display table.
- B. Provide space for Project meetings, with table and chairs to accommodate 12 persons.
- C. Provide space for Project meetings, with table and chairs to accommodate 6 persons.

- D. Locate offices a minimum distance of 30 feet from existing and new structures and in a location that will not interfere with the work.

1.10 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Relocate utilities, equipment, facilities, materials as required upon completion of each phase of work.
- B. Remove temporary utilities, equipment, facilities, materials, prior to final Substantial Completion inspection.
- C. Remove underground installations to a minimum depth of 2 feet. Grade site as indicated. See Project Manual and Site Drawings for further clarification.
- D. Clean and repair damage caused by installation or use of temporary work.
- E. Restore existing facilities used during construction to original condition.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION - NOT USED

END OF SECTION

SECTION 01 60 00
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.
- B. Shop Drawing Submittals: Prepared specifically for this Project; indicate utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. Sample Submittals: Illustrate functional and aesthetic characteristics of the product, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
 - 1. For selection from standard finishes, submit samples of the full range of the manufacturer's standard colors, textures, and patterns.

1.02 DEFINITIONS

- A. Products: Items purchased for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation, shown or listed in manufacturer's published product literature, which is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable (Equal) Product: Product that is demonstrated and approved through submittal process, or where indicated as a product substitution, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.
- C. Basis-of-Design Product Specification: Where a specific manufacturer's product is named and accompanied by the words "basis of design," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of other named manufacturers.

- D. **Manufacturer's Warranty:** Preprinted written warranty published by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
- E. **Special Warranty:** Written warranty required by or incorporated into the Contract Documents, either to extend time limit provided by manufacturer's warranty or to provide more rights for Owner.

PART 2 PRODUCTS

2.01 NEW PRODUCTS

- A. Provide new products unless specifically required or permitted by the Contract Documents.
- B. Do not use iron, steel, or manufactured goods having any of the following characteristics:
 - 1. Made outside the United States or its territories.
 - 2. Made using or containing CFC's or HCFC's.
- C. Where all other criteria are met, Contractor shall give preference to products that:
 - 1. Are extracted, harvested, and/or manufactured closer to the location of the project.
 - 2. Have longer documented life span under normal use.
 - 3. Result in less construction waste.

2.02 PRODUCT OPTIONS

- A. **Products Specified by Reference Standards or by Description Only:** Use any product meeting those standards or description.
- B. **Products Specified by Naming One or More Manufacturers:** Use a product of one of the manufacturers named and meeting specifications, no options or substitutions allowed.
- C. **Products Specified by Naming One or More Manufacturers with a Provision for Substitutions:** Submit a request for substitution for any manufacturer not named.

PART 3 EXECUTION

3.01 SUBSTITUTION PROCEDURES

- A. Substitutions will not be considered if submitted fewer than 5 business days prior to the opening of the bids. Comply with requirements specified in this section.
- B. Document each request with complete data substantiating compliance of proposed substitution with Contract Documents.
 - 1. **Documentation:** Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified material or product cannot be provided.
 - b. Coordination information, including a list of changes or modifications needed to other parts of the Work and to construction performed by Owner and separate contractors, which will be necessary to accommodate proposed substitution.

- c. Detailed comparison of significant qualities of proposed substitution with those of the Work specified. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners.
 - g. Material test reports from a qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
 - h. Research/evaluation reports evidencing compliance with building code in effect for Project, from a model code organization acceptable to authorities having jurisdiction.
 - i. Detailed comparison of Contractor's Construction Schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time.
 - j. Cost information, including a proposal of change, if any, in the Contract Sum.
 - k. Contractor's certification that proposed substitution complies with requirements in the Contract Documents and is appropriate for applications indicated.
 - l. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
- C. A request for substitution constitutes a representation that the submitter certifies that they:
- 1. Have 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. Substitutions will not be considered when they are indicated or implied on shop drawing or product data submittals, without separate written request, or when acceptance will require revision to the Contract Documents.
- E. Substitution Submittal Procedure:

1. Submit three 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 Architect will notify Contractor in writing of decision to accept or reject request.

3.02 TRANSPORTATION AND HANDLING

- A. Coordinate schedule of product delivery to designated prepared areas in order to minimize site storage time and potential damage to stored materials.
- B. Transport and handle products in accordance with manufacturer's instructions.
- C. Transport materials in covered trucks to prevent contamination of product and littering of surrounding areas.
- D. Promptly inspect shipments to ensure that products comply with requirements, quantities are correct, and products are undamaged.
- E. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.
- F. Arrange for the return of packing materials, such as wood pallets, where economically feasible.

3.03 STORAGE AND PROTECTION

- A. Designate receiving/storage areas for incoming products so that they are delivered according to installation schedule and placed convenient to work area in order to minimize waste due to excessive materials handling and misapplication.
- B. Store and protect products in accordance with manufacturers' instructions.
- C. Store with seals and labels intact and legible.
- D. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- E. For exterior storage of fabricated products, place on sloped supports above ground.
- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- G. Prevent contact with material that may cause corrosion, discoloration, or staining.
- H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

END OF SECTION

SECTION 01 70 00
EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Examination, preparation, and general installation procedures.
- B. Cutting and patching.
- C. Cleaning and protection.
- D. Closeout procedures, except payment procedures.

1.02 RELATED REQUIREMENTS

- A. Section 01 10 00 - Summary: Limitations on working in existing building; continued occupancy; work sequence; identification of salvaged and relocated materials.
- B. Section 01 30 00 - Administrative Requirements: Submittals procedures.
- C. Section 02 41 00 - Demolition: Demolition of whole structures and parts thereof; site utility demolition.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

1.04 PROJECT CONDITIONS

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

1.05 COORDINATION

- A. See Section 01 10 00 for occupancy-related requirements.
- B. Coordinate scheduling, submittals, and work of the various sections of the Project Manual to ensure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- C. Notify affected utility companies and comply with their requirements.
- D. Verify that utility requirements and characteristics of new operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, such equipment.
- E. Coordinate space requirements, supports, and installation of mechanical and electrical work that are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.

- F. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within the construction. Coordinate locations of fixtures and outlets with finish elements.
- G. Coordinate completion and clean-up of work of separate sections.
- H. After Owner occupancy of premises, coordinate access to site for correction of defective work and work not in accordance with Contract Documents, to minimize disruption of Owner's activities.

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. Product Substitution: For any proposed change in materials, submit request for substitution described in Section 01 60 00.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that existing site conditions and substrate surfaces are acceptable for subsequent work. Start of work means acceptance of existing conditions.
- B. Verify that existing substrate is capable of structural support or attachment of new work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections.
- D. Take field measurements before confirming product orders or beginning fabrication, to minimize waste due to over-ordering or mis-fabrication.
- E. Verify that utility services are available, of the correct characteristics, and in the correct locations.
- F. Prior to Cutting: Examine existing conditions prior to commencing work, including elements subject to damage or movement during cutting and patching. After uncovering existing work, assess conditions affecting performance of work. Beginning of cutting or patching means acceptance of existing conditions.

3.02 PREPARATION

- A. Clean substrate surfaces prior to applying next material or substance.
- B. Seal cracks or openings of substrate prior to applying next material or substance.
- C. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying any new material or substance in contact or bond.

3.03 GENERAL INSTALLATION REQUIREMENTS

- A. Install products as specified in individual sections, in accordance with manufacturer's instructions and recommendations, and 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.

3.04 ALTERATIONS

- A. Maintain weatherproof exterior building enclosure except for interruptions required for replacement or modifications; take care to prevent water and humidity damage.
 - 1. Where openings in exterior enclosure exist, provide construction to make exterior enclosure weatherproof.
 - 2. Insulate existing ducts or pipes that are exposed to outdoor ambient temperatures by alterations work.
- B. Remove existing work as indicated and as required to accomplish new work.
 - 1. Remove items indicated on drawings.
 - 2. Relocate items indicated on drawings.
 - 3. Where new surface finishes are to be applied to existing work, perform removals, patch, and prepare existing surfaces as required to receive new finish; remove existing finish if necessary for successful application of new finish.
 - 4. Where new surface finishes are not specified or indicated, patch holes and damaged surfaces to match adjacent finished surfaces as closely as possible.
- C. Services (Including but not limited to HVAC, Plumbing, Electrical, and Telecommunications): Remove, relocate, and extend existing systems to accommodate new construction.
 - 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components; if necessary, modify installation to allow access or provide access panel.
 - 2. Where existing systems or equipment are not active, and Contract Documents require reactivation, put back into operational condition; repair supply, distribution, and equipment as required.
 - 3. Where existing active systems serve occupied facilities but are to be replaced with new services, maintain existing systems in service until new systems are complete and ready for service.
 - a. Disable existing systems only to make switchovers and connections; minimize duration of outages.
 - b. Provide temporary connections as required to maintain existing systems in service.
 - 4. Verify that abandoned services serve only abandoned facilities.
 - 5. Remove abandoned pipe, ducts, conduits, and equipment, including those above accessible ceilings; remove back to source of supply where possible, otherwise cap stub and tag with identification; patch holes left by removal using materials specified for new construction.
- D. Protect existing work to remain.
 - 1. Prevent movement of structure; provide shoring and bracing if necessary.
 - 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 - 3. Repair adjacent construction and finishes damaged during removal work.
- E. Adapt existing work to fit new work: Make as neat and smooth transition as possible.

- F. Patching: Where the existing surface is not indicated to be refinished, patch to match the surface finish that existed prior to cutting. Where the surface is indicated to be refinished, patch so that the substrate is ready for the new finish.
- G. Refinish existing surfaces as indicated:
 - 1. Where rooms or spaces are indicated to be refinished, refinish all visible existing surfaces to remain to the specified condition for each material, with a neat transition to adjacent finishes.
 - 2. If mechanical or electrical work is exposed accidentally during the work, re-cover and refinish to match.
- H. Clean existing systems and equipment.
- I. Do not begin new construction in alterations areas before demolition is complete.
- J. Comply with all other applicable requirements of this section.

3.05 CUTTING AND PATCHING

- A. Whenever possible, execute the work by methods that avoid cutting or patching.
- B. See Alterations article above for additional requirements.
- C. 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.
- D. 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.
- E. Cut rigid materials using masonry saw or core drill. Pneumatic tools not allowed without prior approval by Owner's Representative.
- F. Restore work with new products in accordance with requirements of Contract Documents.
- G. Fit work air tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- H. At penetrations of fire rated walls, partitions, ceiling, or floor construction, completely seal voids with fire rated material in accordance with Section 07 84 13, to full thickness of the penetrated element.
- I. 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.
 - 2. Match color, texture, and appearance.

3. Repair patched surfaces that are damaged, lifted, discolored, or showing other imperfections due to patching work. If defects are due to condition of substrate, repair substrate prior to repairing finish.

3.06 PROGRESS CLEANING

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in a clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing the space.
- C. Broom and vacuum clean interior areas prior to start of surface finishing and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and trash/rubbish from site periodically and dispose off-site; do not burn or bury.

3.07 PROTECTION OF INSTALLED WORK

- A. Protect installed work from damage by construction operations.
- B. Provide special protection where specified in individual specification sections.
- C. Provide temporary and removable protection for installed products. Control activity in immediate work area to prevent damage.
- D. Provide protective coverings at walls, projections, jambs, sills, and soffits of openings.
- E. Protect finished floors, stairs, and other surfaces from traffic, dirt, wear, damage, or movement of heavy objects, by protecting with durable sheet materials.
- F. Prohibit traffic or storage upon waterproofed or roofed surfaces. If traffic or activity is necessary, obtain recommendations for protection from waterproofing or roofing material manufacturer.
- G. Remove protective coverings when no longer needed; reuse or recycle plastic coverings if possible.

3.08 ADJUSTING

- A. Adjust operating products and equipment to ensure smooth and unhindered operation.

3.09 FINAL CLEANING

- A. Execute final cleaning.
- B. Use cleaning materials that are nonhazardous.
- C. 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.
- D. Clean new and existing equipment and fixtures to a sanitary condition with cleaning materials appropriate to the surface and material being cleaned.
- E. Clean filters of operating equipment.
- F. Clean debris from new roofs, gutters, downspouts, and drainage systems.
- G. Clean site; sweep paved areas, rake clean landscaped surfaces.

- H. Remove waste, surplus materials, trash/rubbish, and construction facilities from the site; dispose of in legal manner; do not burn or bury.

3.10 CLOSEOUT PROCEDURES (for each Phases of Work)

- A. Make submittals that are required by governing or other authorities.
 - 1. Complete Closeout submittals, maintenance manuals, and information for warranties are required upon completion of Phase I work. Each subsequent phase will require its own substantial completion and closeout process with warranty period.
- B. Notify Owner's Representative when work is considered ready for Substantial Completion.
- C. Submit written certification that Contract Documents have been reviewed, work has been inspected, and that work is complete in accordance with Contract Documents and ready for Owner's Representative review.
- D. Correct items of work listed in executed Certificates of Substantial Completion and comply with requirements for access to Owner-occupied areas.
- E. Notify Architect when work is considered finally complete.
- F. Complete items of work determined by Architect's final inspection.

END OF SECTION

**SECTION 01 78 00
CLOSEOUT SUBMITTALS**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Project Record Documents.
- B. Operation and Maintenance Data.
- C. Warranties and bonds.

1.02 RELATED REQUIREMENTS

- A. Section 01 30 00 - Administrative Requirements: Submittals procedures, shop drawings, product data, and samples.
- B. Individual Product Sections: Specific requirements for operation and maintenance data.
- C. Individual Product Sections: Warranties required for specific products or Work.

1.03 SUBMITTALS

- A. Project Record Documents: Submit documents to Architect within two weeks of substantial completion of each phase or with claim for final Application for Payment for each phase of work.
- B. Operation and Maintenance Data:
 - 1. For equipment, or component parts of equipment put into service during construction and operated by Owner, submit completed documents within ten days after acceptance.
 - 2. Submit one copy of completed documents 15 days prior to final inspection. This copy will be reviewed and returned after final inspection, with Architect comments. Revise content of all document sets as required prior to final submission.
 - 3. Submit two sets of revised final documents in final form within 10 days after final inspection.
- C. Warranties and Bonds:
 - 1. For equipment or component parts of equipment put into service during construction with Owner's permission, submit documents within 10 days after acceptance.
 - 2. Make other submittals within 10 days after Date of Substantial Completion, prior to final Application for Payment.
 - 3. For items of Work for which acceptance is delayed beyond Date of Substantial Completion, submit within 10 days after acceptance, listing the date of acceptance as the beginning of the warranty period.
- D. Project Record Documents

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings and Specifications
 - 2. Addenda.
 - 3. Change Orders and other modifications to the Contract.

- B. Ensure entries are complete and accurate, enabling future reference by Owner.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress.
- E. Record Drawings: Legibly mark each item to record actual construction including:
 1. Field changes of dimension and detail.
 2. Details not on original Contract drawings.

3.02 OPERATION AND MAINTENANCE DATA – (submit upon completion of phase I)

- A. For Each Product or System: List names, addresses and telephone numbers of Subcontractors and suppliers, including local source of supplies and replacement parts.
- B. Product Data: Mark each sheet to clearly identify specific products and component parts, and data applicable to installation. Delete inapplicable information.
- C. Drawings: Supplement product data to illustrate relations of component parts of equipment and systems, to show control and flow diagrams. Do not use Project Record Documents as maintenance drawings.
- D. Typed Text: As required to supplement product data. Provide logical sequence of instructions for each procedure, incorporating manufacturer's instructions.

3.03 OPERATION AND MAINTENANCE DATA FOR MATERIALS AND FINISHES - (submit upon completion of phase I)

- A. For Each Product, Applied Material, and Finish:
- B. Instructions for Care and Maintenance: Manufacturer's recommendations for cleaning agents and methods, precautions against detrimental cleaning agents and methods, and recommended schedule for cleaning and maintenance.

3.04 OPERATION AND MAINTENANCE DATA FOR EQUIPMENT AND SYSTEMS - (submit upon completion of phase I)

- A. For Each Item of Equipment and Each System:
 1. Description of unit or system, and component parts.
 2. Identify function, normal operating characteristics, and limiting conditions.
 3. Include performance curves, with engineering data and tests.
 4. Complete nomenclature and model number of replaceable parts.
- B. Operating Procedures: Include start-up, break-in, and routine normal operating instructions and sequences. Include regulation, control, stopping, shut-down, and emergency instructions. Include summer, winter, and any special operating instructions.
- C. Maintenance Requirements: Include routine procedures and guide for preventative maintenance and troubleshooting; disassembly, repair, and reassembly instructions; and alignment, adjusting, balancing, and checking instructions.
- D. Provide servicing and lubrication schedule, and list of lubricants required.
- E. Include manufacturer's printed operation and maintenance instructions.
- F. Include sequence of operation by controls manufacturer.

- G. Provide original manufacturer's parts list, illustrations, assembly drawings, and diagrams required for maintenance.
- H. Provide control diagrams by controls manufacturer as installed.
- I. Additional Requirements: As specified in individual product specification sections.

3.05 OPERATION AND MAINTENANCE MANUALS - (submit upon completion of phase I)

- 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.
- C. Binders: Commercial quality, 8-1/2 by 11-inch three D side ring binders with durable plastic covers; 2-inch maximum ring size. When multiple binders are used, correlate data into related consistent groupings.
- D. Arrange content by systems under section numbers and sequence of Table of Contents of this Project Manual.
- E. Contents: Prepare a Table of Contents for each volume, with each product or system description identified, in three parts as follows:
 - 1. Part 1: Directory, listing names, addresses, and telephone numbers of Architect, Contractor, Subcontractors, and major equipment suppliers.
 - 2. Part 2: Operation and maintenance instructions, arranged by system and subdivided by specification section. For each category, identify names, addresses, and telephone numbers of Subcontractors and suppliers. Identify the following:
 - a. Significant design criteria.
 - b. List of equipment.
 - c. Parts list for each component.
 - d. Operating instructions.
 - e. Maintenance instructions for equipment and systems.
 - f. Maintenance instructions for special finishes, including recommended cleaning methods and materials, and special precautions identifying detrimental agents.
 - 3. Part 3: Project documents and certificates, including the following:
 - a. Shop drawings and product data.
 - b. Certificates.
 - c. Photocopies of warranties and bonds.

3.06 WARRANTIES AND BONDS

- A. Obtain warranties and bonds, executed in duplicate by responsible Subcontractors, suppliers, and manufacturers, within 10 days after completion of the applicable item of work. Except for items put into use with Owner's permission, leave date of beginning of time of warranty until the Date of Substantial completion is determined. There shall be a substantial completion date for each of the completed phases.

- B. Verify that documents are in proper form, contain full information, and are notarized.
- C. Co-execute submittals when required.
- D. Retain warranties and bonds until time specified for submittal.

END OF SECTION

**SECTION 02 41 00
DEMOLITION**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Selective demolition of building elements for alterations purposes.
- B. Abandonment and removal of existing utilities and utility structures.

1.02 REFERENCE STANDARDS

- A. 29 CFR 1926 - U.S. Occupational Safety and Health Standards; current edition.
- B. NFPA 241 - Standard for Safeguarding Construction, Alteration, and Demolition Operations; 2004.

1.03 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: Company specializing in the type of work required.
 - 1. Minimum of 5 years of documented experience.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Material as Required for Demolition

PART 3 EXECUTION

3.01 SCOPE

- A. Remove portions of existing buildings as described in the construction documents. Complete demolition work in a logical work order to avoid unnecessary damage to adjacent materials and finishes.
- B. Remove other items indicated, for salvage and recycling.

3.02 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. Do not remove structural elements without permission of the Owner's Representative. Shore and brace as necessary for structural stability.
 - 3. Provide, erect, and maintain temporary barriers and security devices.
 - 4. Use physical barriers to prevent access to areas that could be hazardous to workers or the public.
 - 5. Conduct operations to minimize effects on and interference with adjacent structures and occupants.
 - 6. Do not close or obstruct roadways or sidewalks without permit.
 - 7. Conduct operations to minimize obstruction of public and private entrances and exits; do not obstruct required exits at any time; protect persons using entrances and exits from removal operations.
- B. Do not begin removal until receipt of notification to proceed from Owner.

- C. Selective demolition to remove asbestos material is scheduled to have been completed prior to beginning this scope of work. Do not begin general demolition until asbestos containing materials have been removed and testing has been accomplished to verify safety.
- D. Protect existing structures and other elements that are not to be removed.
 - 1. Provide bracing and shoring.
 - 2. Stop work immediately if structures appear to be in danger.
 - 3. Provide any necessary protection to shield remaining finishes from damage.

3.03 EXISTING UTILITIES

- A. Protect existing utilities to remain from damage.
- B. Do not disrupt public utilities without permit from authority having jurisdiction and without the approval of the Owner's Representative.
- C. Prepare building demolition areas by disconnecting and / or shutting off existing utilities. Cap or terminate where indicated on the Drawings.

3.04 SELECTIVE DEMOLITION FOR ALTERATIONS

- A. Remove existing work as indicated and as required to accomplish the work.
 - 1. Remove items indicated on drawings.
- B. Services (Including but not limited to Plumbing and Electrical): Remove existing systems and equipment as indicated.
 - 1. Maintain existing active systems that are to remain in operation; maintain access to equipment and operational components.
 - 2. Verify that abandoned services serve only abandoned facilities before removal.
 - 3. Remove abandoned pipe, conduits/wiring, and equipment; remove back to panel (electrical) or wall cavity (plumbing), otherwise cap stub and tag with identification.
- C. Protect existing work to remain.
 - 1. Prevent movement of structure; provide shoring and bracing if necessary.
 - 2. Perform cutting to accomplish removals neatly and as specified for cutting new work.
 - 3. Repair adjacent construction and finishes damaged during removal work.
 - 4. Patch as specified for patching new work.

3.05 DEBRIS AND WASTE REMOVAL

- A. Remove debris, junk, and trash from site daily.
- B. Remove from site all materials not to be reused on site; do not burn or bury.
- C. Maintain site in clean condition, ready for subsequent work.
- D. Clean up spillage and wind-blown debris from public and private lands.

END OF SECTION

SECTION 03 30 00
CAST-IN-PLACE CONCRETE

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Concrete formwork.
- B. Condensing Unit Pads
- C. Concrete reinforcement.
- D. Joint devices associated with concrete work.
- E. Miscellaneous concrete elements, including equipment pads, and thrust blocks.
- F. Concrete curing.

1.02 RELATED REQUIREMENTS

1.03 REFERENCE STANDARDS

- A. ACI 211.1 - Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete; American Concrete Institute International; 1991 (Reapproved 2002).
- B. ACI 302.1R - Guide for Concrete Floor and Slab Construction; American Concrete Institute International; 2004 (Errata 2007).
- C. ACI 304R - Guide for Measuring, Mixing, Transporting, and Placing Concrete; American Concrete Institute International; 2000.
- D. ACI 305R - Hot Weather Concreting; American Concrete Institute International; 1999.
- E. ACI 308R - Guide to Curing Concrete; American Concrete Institute International; 2001 (Reapproved 2008).
- F. ACI 318 - Building Code Requirements for Structural Concrete and Commentary; American Concrete Institute International; 2008.
- G. ASTM A 185/A 185M - Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete; 2007.
- H. ASTM A 615/A 615M - Standard Specification for Deformed and Plain Billet-Steel Bars for Concrete Reinforcement; 2007.
- I. ASTM C 33 - Standard Specification for Concrete Aggregates; 2007.
- J. ASTM C 39/C 39M - Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens; 2005.
- K. ASTM C 94/C 94M - Standard Specification for Ready-Mixed Concrete; 2007.
- L. ASTM C 143/C 143M - Standard Test Method for Slump of Hydraulic-Cement Concrete; 2008.
- M. ASTM C 171 - Standard Specification for Sheet Materials for Curing Concrete; 2007.
- N. ASTM C 309 - Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete; 2007.

- O. ASTM C 1059 - Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete; 1999 (Reapproved 2008).
- P. ASTM E 1745 - Standard Specification for Plastic Water Vapor Retarders Used in Contact with Soil or Granular Fill under Concrete Slabs; 2009.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.

1.05 QUALITY ASSURANCE

- A. Perform work of this section in accordance with ACI 301 and ACI 318.
- B. Follow recommendations of ACI 305R when concreting during hot weather.

PART 2 PRODUCTS

2.01 FORMWORK

- A. Form Materials: Contractor's choice of standard products with sufficient strength to withstand hydrostatic head without distortion in excess of permitted tolerances.
 - 1. Form Coating: Release agent that will not adversely affect concrete or interfere with application of coatings.

2.02 REINFORCEMENT

- A. Reinforcing Steel: ASTM A 615/A 615M Grade 60 (420).
 - 1. Finish: Unfinished, unless otherwise indicated.
- B. Steel Welded Wire Reinforcement: ASTM A 185/A 185M, plain type.
 - 1. Mesh Size and Wire Gage: As indicated on drawings.
- C. Reinforcement Accessories:
 - 1. Tie Wire: Annealed, minimum 16 gage.
 - 2. Chairs, Bolsters, Bar Supports, Spacers: Sized and shaped for adequate support of reinforcement during concrete placement.

2.03 CONCRETE MATERIALS

- A. Fine and Coarse Aggregates: ASTM C 33.

2.04 ACCESSORY MATERIALS

- A. Underslab Vapor Retarder: Multi-layer, fabric-, cord-, grid-, or aluminum-reinforced polyethylene or equivalent, complying with ASTM E 1745, Class A; stated by manufacturer as suitable for installation in contact with soil or granular fill under concrete slabs. Single ply polyethylene is prohibited.
 - 1. Accessory Products: Vapor retarder manufacturer's recommended tape, adhesive, mastic, prefabricated boots, etc., for sealing seams and penetrations in vapor retarder.
- B. Moisture-Retaining Cover: ASTM C 171; regular curing paper, white curing paper, clear polyethylene, or white polyethylene.
- C. Liquid Curing Compound: ASTM C 309, Type 1, clear or translucent.

2.05 BONDING AND JOINTING PRODUCTS

- A. Latex Bonding Agent: Non-dispersible acrylic latex, complying with ASTM C 1059 Type II.

2.06 CONCRETE MIX DESIGN

- A. Proportioning Normal Weight Concrete: Comply with ACI 211.1 recommendations.
- B. Normal Weight Concrete:
 - 1. Compressive Strength, when tested in accordance with ASTM C 39/C 39M at 28 days: 3,000 psi.
 - 2. Maximum Slump: 4 inches.

2.07 MIXING

- A. Transit Mixers: Comply with ASTM C 94/C 94M.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify lines, levels, and dimensions before proceeding with work of this section.

3.02 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. Verify that forms are clean before applying release agent.
- C. Coordinate placement of embedded items with erection of concrete formwork and placement of form accessories.
- D. 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.
 - 1. Use latex bonding agent only for non-load-bearing applications.
- E. Interior Slabs on Grade: Install vapor retarder under interior slabs on grade. Lap joints minimum 6 inches. Seal joints, seams and penetrations watertight with manufacturer's recommended products and follow manufacturer's written instructions. Repair damaged vapor retarder before covering.
 - 1. Vapor Retarder Over Granular Fill: Install compactible granular fill before placing vapor retarder as shown on the drawings. Do not use sand.

3.03 INSTALLING REINFORCEMENT

- 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.
- B. Install welded wire reinforcement in maximum possible lengths, and offset end laps in both directions. Splice laps with tie wire.

- C. Verify that anchors, seats, plates, reinforcement and other items to be cast into concrete are accurately placed, positioned securely, and will not interfere with concrete placement.

3.04 PLACING CONCRETE

- A. Place concrete in accordance with ACI 304R.
- B. Place concrete for floor slabs in accordance with ACI 302.1R.
- C. Repair underslab vapor retarder damaged during placement of concrete reinforcing. Repair with vapor retarder material; lap over damaged areas minimum 6 inches and seal watertight.
- D. Install joint devices in accordance with manufacturer's instructions.
- E. Place concrete continuously between predetermined expansion, control, and construction joints.
- F. Do not interrupt successive placement; do not permit cold joints to occur.
- G. Saw cut joints within 24 hours after placing. Use 3/16-inch-thick blade, cut into 1/4 depth of slab thickness.
- H. Screed slabs on grade level, maintaining surface flatness of maximum 1/4 inch in 10 ft.

3.05 CONCRETE FINISHING

- A. Repair surface defects, immediately after removing formwork.
- B. Exposed Form Finish: Rub down or chip off and smooth fins or other raised areas 1/4 inch or more in height. Provide finish as follows:

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.
- B. Maintain concrete with minimal moisture loss at relatively constant temperature for period necessary for hydration of cement and hardening of concrete.
 - 1. Normal concrete: Not less than 7 days.
- C. Surfaces Not in Contact with Forms:
 - 1. Slabs and Floors to Receive Adhesive-Applied Flooring: Curing compounds and other surface coatings are usually considered unacceptable by flooring and adhesive manufacturers. If such materials must be used, either obtain the approval of the flooring and adhesive manufacturers prior to use or remove the surface coating after curing to flooring manufacturer's satisfaction.
 - 2. Initial Curing: Start as soon as free water has disappeared and before surface is dry. Keep continuously moist for not less than three days by water-saturated sand or saturated burlap.
 - 3. Final Curing: Begin after initial curing but before surface is dry.
 - a. Moisture-Retaining Cover: Seal in place with waterproof tape or adhesive.
 - b. Curing Compound: Apply in two coats at right angles, using application rate recommended by manufacturer.

3.07 FIELD QUALITY CONTROL

- A. An independent testing agency will perform field quality control tests, as specified in Section 01 40 00.
- B. Provide free access to concrete operations at project site and cooperate with appointed firm.
- C. Tests of concrete and concrete materials may be performed at any time to ensure conformance with specified requirements.
- D. Perform one slump test for each set of test cylinders taken, following procedures of ASTM C 143/C 143M.

3.08 DEFECTIVE CONCRETE

- A. Defective Concrete: Concrete not conforming to required lines, details, dimensions, tolerances or specified requirements.
- B. Repair or replacement of defective concrete will be determined by the Architect. The cost of additional testing shall be borne by Contractor when defective concrete is identified.

3.09 SCHEDULE - CONCRETE TYPES AND FINISHES

- A. New Foundations: 3,000 psi, 28-day concrete.
- B. Interior Slab Repairs: 3,000 psi, 28-day concrete, steel troweled finish matching existing slab.
- C. New Exterior Slabs: 4,000 psi, air entrained, 28-day concrete, wood troweled, burlap rubbed for sandy slip resistant finish.

END OF SECTION

**SECTION 06 10 00
ROUGH CARPENTRY**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Structural dimension lumber framing.
- B. Sheathing.
- C. Preservative treated wood materials.
- D. Concealed wood blocking, nailers, and supports.

1.02 RELATED REQUIREMENTS

- A. Section 07 25 00 - Weather Barriers: Water-resistive barrier over sheathing.

1.03 REFERENCE STANDARDS

- A. AFPA (WFCM) - Wood Frame Construction Manual for One- and Two-Family Dwellings; American Forest and Paper Association; 2001.
- B. ASTM A 153/A 153M - Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware; 2005.
- C. AWPA U1 - Use Category System: User Specification for Treated Wood; American Wood-Protection Association; 2009.
- D. PS 1 - Structural Plywood; 2007.
- E. PS 20 - American Softwood Lumber Standard; National Institute of Standards and Technology (Department of Commerce); 2005.
- F. SPIB (GR) - Grading Rules; Southern Pine Inspection Bureau, Inc.; 2002.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. General: Cover wood products to protect against moisture. Support stacked products to prevent deformation and to allow air circulation.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

- A. Dimension Lumber: Comply with PS 20 and requirements of specified grading agencies.
 - 1. If no species is specified, provide any species graded by the agency specified; if no grading agency is specified, provide lumber graded by any grading agency meeting the specified requirements.
 - 2. Grading Agency: Any grading agency whose rules are approved by the Board of Review, American Lumber Standard Committee (www.alsc.org) and who provides grading service for the species and grade specified; provide lumber stamped with grade mark unless otherwise indicated.
 - 3. Lumber of other species or grades is acceptable provided structural and appearance characteristics are equivalent to or better than products specified.
- B. Lumber fabricated from old growth timber is not permitted.

2.02 DIMENSION LUMBER

- A. Grading Agency: Southern Pine Inspection Bureau, Inc. (SPIB).
- B. Sizes: Nominal sizes as indicated on drawings, S4S.
- C. Moisture Content: S-dry or MC19.
- D. Stud Framing (2 by 2 through 2 by 6):
 - 1. Species: Any allowed under referenced grading rules.
 - 2. 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 CONSTRUCTION PANELS

- A. Roof Sheathing: APA PRP-108/APA PRPR-108, Form B455, Rated Sheathing, Exterior Exposure Class, and as follows:
 - 1. Span Rating: 24/0.
 - 2. Thickness: 5/8-inch, nominal.
- B. Other Applications:
 - 1. Plywood Concealed from View but Located Within Exterior Enclosure: PS 1, C-C Plugged or better, Exterior grade.
 - 2. Other Locations: PS 1, C-D Plugged or better.

2.04 ACCESSORIES

- A. Fasteners and Anchors:
 - 1. Metal and Finish: Hot-dipped galvanized steel per ASTM A 153/A 153M for high humidity and preservative-treated wood locations, unfinished steel elsewhere.
- B. Die-Stamped Connectors: Hot dipped galvanized steel, sized to suit framing conditions. Provide connectors as noted on the Drawings.

2.05 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.
- B. Preservative Treatment:
 - 1. Preservative Pressure Treatment of Lumber Above Grade: AWPA U1, Use Category UC3B, Commodity Specification A using waterborne preservative to 0.25 lb/cu ft retention.
 - a. Kiln dry lumber after treatment to maximum moisture content of 19 percent.
 - b. Treat lumber in contact with masonry or concrete.

PART 3 EXECUTION

3.01 INSTALLATION - GENERAL

- A. Select material sizes to minimize waste.
- B. Reuse scrap to the greatest extent possible; clearly separate scrap for use on site as accessory components, including: shims, bracing, and blocking.
- C. Where treated wood is used on interior, provide temporary ventilation during and immediately after installation sufficient to remove indoor air contaminants.

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. Make provisions for temporary construction loads and provide temporary bracing sufficient to maintain structure in true alignment and safe condition until completion of erection and installation of permanent bracing.
- C. Install structural members full length without splices unless otherwise specifically detailed.
- D. 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.
- E. Install horizontal spanning members with crown edge up and not less than 1-1/2 inches of bearing at each end.
- F. Frame wall openings with two or more studs at each jamb; support headers on cripple studs.

3.03 BLOCKING, NAILERS, AND SUPPORTS

- A. Provide framing and blocking members as indicated or as required to support finishes, fixtures, specialty items, and trim.
- B. In framed assemblies that have concealed spaces, provide solid wood fireblocking as required by applicable local code, to close concealed draft openings between floors and between top story and roof/attic space; other material acceptable to code authorities may be used in lieu of solid wood blocking.
- C. In walls, provide blocking attached to studs as backing and support for wall-mounted items, unless item can be securely fastened to two or more studs or other method of support is explicitly indicated.
- D. Where ceiling-mounting is indicated, provide blocking and supplementary supports above ceiling, unless other method of support is explicitly indicated.
- E. Specifically, provide the following non-structural framing and blocking:
 - 1. Towel and bath accessories.
 - 2. Blocking to support carriers for wall mounted sinks.

3.04 ROOF-RELATED CARPENTRY

- A. Coordinate installation of roofing carpentry with deck construction, framing of roof openings, and roofing assembly installation.

3.05 INSTALLATION OF CONSTRUCTION PANELS

- A. Roof Sheathing: Secure panels with long dimension perpendicular to framing members, with ends staggered and over firm bearing.
 - 1. At long edges use sheathing clips where joints occur between roof framing members.
 - 2. Nail panels to framing; staples are not permitted.

3.06 TOLERANCES

- A. Framing Members: 1/4 inch from true position, maximum.
- B. Variation from Plane (Other than Floors): 1/4 inch in 10 feet maximum, and 1/4 inch in 30 feet maximum.

3.07 CLEANING

- A. Waste Disposal: Comply with the requirements of Section 01 74 19.
 - 1. Comply with applicable regulations.
 - 2. Do not burn scrap on project site.
 - 3. Do not burn scraps that have been pressure treated.
 - 4. Do not send materials treated with pentachlorophenol, CCA, or ACA to co-generation facilities or “waste-to-energy” facilities.
- B. Do not leave any wood, shavings, sawdust, etc. on the ground or buried in fill.
- C. Prevent sawdust and wood shavings from entering the storm drainage system.

END OF SECTION

**SECTION 06 20 00
FINISH CARPENTRY**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Finish carpentry items.
- B. Wood casings and moldings, replacement base and trim matching existing.

1.02 RELATED REQUIREMENTS

- A. Section 06 10 00 - Rough Carpentry: Support framing, grounds, and concealed blocking.
- B. Section 06 41 00 – Architectural Wood Casework.
- B. Section 09 90 00 - Painting and Coating: Painting and finishing of finish carpentry items.
- C. Section 12 35 30 - Residential Casework: Shop fabricated cabinet work.

1.03 REFERENCE STANDARDS

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the work with installation of associated and adjacent components.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Samples: Submit two samples of wood cabinet finish 6 inch long.

1.06 QUALITY ASSURANCE

- A. Fabricator Qualifications: Company specializing in fabricating the products specified in this section with minimum three years of documented experience.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Protect work from moisture damage.

PART 2 PRODUCTS

2.01 MATERIALS - GENERAL

- A. Unless otherwise indicated provide products of quality specified by Woodwork Institute Manual of Millwork for Premium grade.

2.02 WOOD-BASED COMPONENTS

- A. Wood fabricated from old growth timber is not permitted.

2.03 LUMBER MATERIALS

- A. Softwood Lumber: spruce, pine, or fir species, maximum moisture content of 6 percent; with vertical grain, suitable for painting.

2.04 FASTENERS

- A. Fasteners: Of size and type to suit application; prime finish in concealed locations and painted finish in exposed locations.

2.05 ACCESSORIES

- A. Primer: Alkyd primer sealer.
- B. Wood Filler: Solvent base, tinted to match surface finish color.

2.06 FABRICATION

- A. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify adequacy of backing and support framing.
- B. Verify mechanical, electrical, and building items affecting work of this section are placed and ready to receive this work.

3.02 INSTALLATION

- A. Set and secure materials and components in place, plumb and level.
- B. Carefully scribe work abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim to conceal larger gaps.

3.03 PREPARATION FOR SITE FINISHING

- A. Set exposed fasteners. Apply wood filler in exposed fastener indentations. Sand work smooth.
- B. Site Finishing: See Section 09 90 00.
- C. Before installation, prime paint surfaces of items or assemblies to be in contact with cementitious materials.

3.04 TOLERANCES

- A. Maximum Variation from True Position: 1/16 inch.
- B. Maximum Offset from True Alignment with Abutting Materials: 1/32 inch.

END OF SECTION

SECTION 06 41 00
ARCHITECTURAL WOOD CASEWORK

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Specially fabricated cabinet units for new bathroom vanities.
- B. Bathroom Vanity Countertops.
- C. Cabinet hardware.

1.02 REFERENCE STANDARDS

- A. AWI/AWMAC (QSI) - Architectural Woodwork Quality Standards Illustrated; Architectural Woodwork Institute and Architectural Woodwork Manufacturers Association of Canada; 2005, 8th Ed., Version 2.0.
- B. NEMA LD 3 - High-Pressure Decorative Laminates; National Electrical Manufacturers Association; 2005.
- C. NHLA G-101 - Rules for the Measurement & Inspection of Hardwood & Cypress; National Hardwood Lumber Association; 2007.

1.03 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Meeting: Convene a preinstallation meeting not less than one week before starting work of this section; require attendance by all affected installers.
- B. This specification is for laminated kitchen cabinets that meet the "Severe Use Specification" of the United States Housing and Urban Development Department.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate materials, component profiles and elevations, assembly methods, joint details, fastening methods, accessory listings, hardware location and schedule of finishes.
- C. Samples: Submit actual samples of architectural cabinet construction, minimum 12 inches square, illustrating proposed cabinet, countertop, drawer construction and shelf unit substrate and finish.
- D. Samples: Submit actual sample items of proposed pulls, hinges, shelf standards, and locksets, demonstrating hardware design, quality, and finish.

1.05 QUALITY ASSURANCE

- A. Perform work in accordance with AWI/AWMAC Architectural Woodwork Quality Standards Illustrated, Custom quality, unless other quality is indicated for specific items.
- B. Perform cabinet construction in accordance with AWI/AWMAC Architectural Woodwork Quality Standards Illustrated as follows:
 - 1. Kitchen Cabinets: Custom quality.

- C. Manufacturer Qualifications: Member in good standing of the Architectural Woodwork Institute (AWI) or the Architectural Woodwork Manufacturers Association of Canada (AWMAC) and familiar with the AWI/AWMAC QSI.
- D. Quality Certification: Provide inspection and quality certification of completed custom cabinets in accordance with AWI/AWMAC Quality Certification Program.

1.06 MOCK-UP

- A. Provide mock-up of typical base cabinet, wall cabinet, and countertop, including hardware, finishes, and plumbing accessories.
- B. Locate where directed.
- C. Mock-up may remain as part of the Work.
- D. Mock-up shall be approved by Owner or Owner's representative prior to ordering and installation of remaining cabinets.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Protect units from moisture damage.

1.08 FIELD CONDITIONS

- A. During and after installation of custom cabinets, maintain temperature and humidity conditions in building spaces at same levels planned for occupancy.

PART 2 PRODUCTS

2.01 WOOD-BASED COMPONENTS

- A. Wood fabricated from old growth timber is not permitted.

2.02 LUMBER MATERIALS

- A. Hardwood Lumber: NHLA; Graded in accordance with AWI/AWMAC Architectural Woodwork Quality Standards Illustrated, Grade II/Custom; average moisture content of 5-10 percent; species as recommended by manufacturer.

2.03 PANEL MATERIALS

- A. Plywood: All marine type plywood with voids filled
 1. Grade B-B or better
 2. Gaps in the inner plies are not permitted
 3. The outer surface shall be free of checks and voids per AWI 200-S-7
- B. All components shall be ¾-inch except the cabinet backs and drawer parts which shall be ½-inch.

2.05 COUNTERTOPS

- A. Countertops at new bathroom vanities shall be solid surface material with integrally formed sink bowl. These shall have a back splash that is at least four inches high. Contractor shall coordinate the number of holes required for plumbing fixtures as identified in the plumbing drawings and specifications.
- B. All edges are to be finished

- C. The basis of design for the countertop laminate is LivingStone with integral oval Vanity sink. Final color to be selected by Owner from Manufacturer's range of standard colors.

2.06 ACCESSORIES

- A. Adhesive: Type recommended by fabricator to suit application.
- B. Plastic Edge Banding: 1mm machine applied PVC edge banding
- C. Fasteners: Size and type to suit application.
- D. Bolts, Nuts, Washers, Lags, Pins, and Screws: Of size and type to suit application; galvanized or chrome-plated finish in concealed locations and stainless steel, or chrome-plated finish in exposed locations.
- E. Concealed Joint Fasteners: Threaded steel.

2.07 HARDWARE

- A. Adjustable Shelf Supports: Standard side-mounted system using recessed metal shelf standards or multiple holes for pin supports and coordinated self-rests, polished chrome finish, for nominal 1-inch spacing adjustments.
- B. Drawer and Door Pulls: "U" shaped wire pull, steel with chrome finish, 4-inch centers.
- C. Catches: Magnetic.
- D. Drawer Slides:
 - 1. Type: Single extension.
 - 2. Static Load Capacity: Minimum seventy-five-pound capacity
 - 3. Mounting: Bottom mount.
 - 4. Nylon Rollers
 - 5. Epoxy coated
- E. Hinges: European style concealed face-frame, self-closing type, steel with polished finish.
 - 1. 120 degree opening
 - 2. Adjustable
 - 3. Mechanically fastened to not be removable without tools

2.08 FABRICATION

- A. Cabinet Style: Flush overlay.
- B. Cabinet Doors and Drawer Fronts: Flush style.
- C. Drawer Construction Technique: Dowel Construction
- D. Assembly: Shop assemble cabinets for delivery to site in units easily handled and to permit passage through building openings.
- E. Edging: Fit shelves, doors, and exposed edges with specified edging. Do not use more than one piece for any single length.
- F. Fitting: When necessary to cut and fit on site provide materials with ample allowance for cutting. Provide matching trim for scribing and site cutting.

- G. Plastic Laminate: Apply plastic laminate finish in full uninterrupted sheets consistent with manufactured sizes. Fit corners and joints hairline; secure with concealed fasteners.

Locate counter butt joints minimum 2 feet from sink cut-outs.

1. Cap exposed plastic laminate finish edges with material of same finish and pattern.

- H. Provide cutouts for plumbing fixtures. Verify locations of cutouts from on-site dimensions. Prime paint cut edges.
- I. Case components are to be assembled in a case clamp, under pressure, using adhesive and fasteners to ensure a rigid and square assembly. Bench assembly is not acceptable. Hardwood dowels are to be a minimum of 8mm x 30mm, predrilled at a maximum of 3.78 inches on center. A minimum of two dowels are to be used at each joint (for example, top spreaders and front rails).
- J. Case backs are to be on-set with ½” rabbets milled into the sides. Apply melamine glue in the rabbets. Place backs squarely to provide final fit tolerances per AWI 400-B-T-1. Use #8 x 2-inch deep thread screws at a maximum of 5.5 inches on center into horizontal members. Use 1-1/8-inch-wide crown staples into rabbets.
- K. Drawer bottoms are to be on-set and square. Apply to the drawer sides with a minimum of 1-1/8” inch narrow crown staple, supplemented by screws through the runners which penetrate a minimum of 5/16 inch into the drawer side.
- L. Drawer sides are to be assembled using 8mm x 50mm steel dowel screw fasteners drilling per manufacturer’s design specifications. Drawer clamp assembly required. Drawer sub fronts are to be assembled to the drawer fronts with a minimum of two #8 x 1-1/8-inch-deep thread screws. Crash blocks must be provided at every drawer.
- M. Drawer runners are to be applied to the case sides with a minimum of 5mm Euro-style system screws
- O. Plastic laminate shall be applied to plywood substrate, using non-solvent-based nonflammable adhesives applied on automatic adhesive equipment for consistent and complete coverage. Plastic laminate shall be heat cured and pressed at 300 degrees Fahrenheit. Methods for using sprayable solvent-based adhesives are not acceptable for use on cabinet components.
- P. Edge bands shall be applied on automatic banding equipment under heat and pressure. Edge bands shall be machine trimmed. Peel/stick edge bands are acceptable at beveled door and drawer front edges only. Pre-glued and iron-on edges are not acceptable. Laminate self-edge is not acceptable.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify adequacy of backing and support framing.
- B. Verify location and sizes of utility rough-in associated with work of this section.

3.02 INSTALLATION

- A. Set and secure custom cabinets in place, assuring that they are rigid, plumb, and level.

- B. Use fixture attachments in concealed locations for wall mounted components.
- C. Use concealed joint fasteners to align and secure adjoining cabinet units.
- D. Carefully scribe casework abutting other components, with maximum gaps of 1/32 inch. Do not use additional overlay trim for this purpose.
- E. Countersink anchorage devices at exposed locations. Conceal with solid wood plugs of species to match surrounding wood; finish flush with surrounding surfaces.

3.03 ADJUSTING

- A. Adjust moving or operating parts to function smoothly and correctly.

3.04 CLEANING

- A. Clean casework, counters, shelves, hardware, fittings, and fixtures.

3.05 SPECIAL NOTES

- A. Drawer front and doors, on the base cabinets, shall be manufactured with top edges beveled at approximately twelve degrees. This provides a finger pull surface.
- B. Wall cabinet bottoms and tops shall be inset approximately ¾-inch to provide finger pull surfaces.
- C. Wall cabinet shall be constructed to be left or right handed
- D. Vendor shall provide plywood strip shipping feet
- E. Final color selection to be made by Owner from Manufacturer's range of standard colors.

END OF SECTION

SECTION 07 31 13
ASPHALT SHINGLES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Asphalt shingle roofing.
- B. Flexible sheet membranes for eave protection, underlayment, and valley protection.
- C. Associated metal flashings and accessories.
- D. Modifications to the existing shingle roofs for tie-in of new shingle roofs.

1.02 RELATED REQUIREMENTS

- A. Section 06 10 00 - Rough Carpentry: Roof sheathing.
- B. Section 07 62 00 - Sheet Metal Flashing and Trim: Edge and cap flashings.
- C. Section 07 71 23 - Manufactured Gutters and Downspouts.

1.03 REFERENCE STANDARDS

- A. ASTM D 226 - Standard Specification for Asphalt-Saturated Organic Felt Used in Roofing and Waterproofing; 2006.
- B. ASTM D 1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection; 2001.
- C. ASTM D 3462 - Standard Specification for Asphalt Shingles Made from Glass Felt and Surfaced with Mineral Granules; 2007.
- D. ASTM D 4586 - Standard Specification for Asphalt Roof Cement, Asbestos-Free; 2007.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data indicating material characteristics.
- C. Samples: Submit two samples of each shingle color indicating color range and finish texture/pattern; for color selection.
- D. Manufacturer's Instructions: Indicate installation criteria and procedures.
- E. Sample warranty form.
- F. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01 60 00 - Product Requirements, for additional provisions.
 - 2. Extra Shingles: 100 square feet of each type and color.

1.05 QUALITY ASSURANCE

- A. Perform Work in accordance with the recommendations of shingle manufacturer.
 - 1. Maintain one copy of document on site.

1.06 WARRANTY

- A. Provide manufacturer's standard product warranty, a 20-year minimum limited guarantee.

1.07 FIELD CONDITIONS

- A. Do not install shingles or eave protection membrane when surface temperatures are below 45 degrees F.

PART 2 PRODUCTS

2.01 SHINGLES

- A. Manufacturers:
 - 1. Tamko; Product 3 tab dimensional, fiberglass core, matching existing.
 - 2. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Asphalt Shingles: Asphalt-coated glass felt, mineral granule surfaced, complying with ASTM D 3462; Class A fire resistance.
 - 1. Warranted Wind Speed: 90 mph.
 - 2. Weight: match existing in pound/100 square feet.
 - 3. Self-sealing type.
 - 4. Style: Square.
 - 5. Basis of Design: existing shingles (existing roofs are less than 2 years old).
 - 6. Color: Rustic Cedar.

2.02 SHEET MATERIALS

- A. Eave Protection Membrane: Self-adhering polymer-modified asphalt sheet complying with ASTM D 1970; 40 mil total thickness; with strippable treated release paper and polyethylene sheet top surface.
 - 1. Manufacturers:
 - a. W.R. Grace; Product Ice and Water Shield.
 - b. Owens Corning; Product WeatherLock.
 - c. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Underlayment: Asphalt-saturated organic roofing felt, unperforated, complying with ASTM D 226, Type II ("No.30").
- C. Flexible Flashing: Self-adhering polymer-modified asphalt sheet complying with ASTM D 1970; 40 mil total thickness; with strippable treated release paper and polyethylene sheet top surface.
 - 1. Manufacturers:
 - a. W.R. Grace; Product Ice and Water Shield.
 - b. Owens Corning; Product WeatherLock.
 - c. Substitutions: See Section 01 60 00 - Product Requirements.

2.03 ACCESSORIES

- A. Nails: Standard round wire shingle type, of hot-dipped zinc coated steel, 12 gage, 0.105-inch shank diameter, 3/8-inch head diameter, of sufficient length to penetrate through roof sheathing or 3/4 inch into roof sheathing or decking.
- B. Plastic Cement: ASTM D 4586, asphalt roof cement.
- C. Ridge Vents: Plastic, extruded with vent openings that do not permit direct water or weather entry; flanged to receive shingles matching roof.

2.04 METAL FLASHINGS

- A. Metal Flashings: Provide sheet metal eave edge, gable edge, and other flashing necessary at penetrations and roof to wall interfaces.
 - 1. Form flashings to profiles required per SMACNA requirements and recommendations for the applicable conditions.
 - 2. Form sections square and accurate to profile, in maximum possible lengths, free from distortion or defects detrimental to appearance or performance.
 - 3. Hem exposed edges of flashings minimum 1/4 inch on underside.
- B. Sheet Metal: Prefinished aluminum, 0.016-inch-thick; paint coating, Color to be selected by Owner from Manufacturer's full range of standard colors.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions prior to beginning work.
- B. Verify that roof penetrations and plumbing stacks are in place and flashed to deck surface.
- C. Verify deck surfaces are dry, free of ridges, warps, or voids.

3.02 PREPARATION

- A. Where new roofs tie to existing shingle roofs remove existing shingles down to underlayment at the area of intersection and new valleys.
- B. After installation of new framing and roof deck, install flexible flashing valley protection.
- C. Broom clean deck surfaces before installing underlayment, valley protection, or eave protection.
- D. Install eave edge flashings tight with fascia boards. Weather lap joints 2 inches and seal with plastic cement. Secure flange with nails spaced 8 inches on center.

3.03 INSTALLATION - EAVE PROTECTION MEMBRANE

- A. Install eave protection membrane from eave edge to minimum 2 ft up-slope beyond interior face of exterior wall.
- B. Install eave protection membrane in accordance with manufacturer's instructions.

3.04 INSTALLATION - UNDERLAYMENT

- A. At Roof Slopes Greater Than 4:12: Install underlayment perpendicular to slope of roof, with ends and edges weather lapped minimum 6 inches. Stagger end laps of each consecutive layer. Nail in place. Weather lap minimum 4 inches over eave protection.
- B. Items projecting through or mounted on roof: Weather lap and seal watertight with plastic cement.

3.05 INSTALLATION - VALLEY PROTECTION

- A. Install one ply of flexible flashing, minimum 18 inches wide, centered over valleys.
- B. Install flexible flashing in accordance with manufacturer's instructions.
- C. Weather lap joints minimum 2 inches.

- D. Nail in place minimum 18 inches on center, 1 inch from edges.
- E. At Exposed Valleys: Install minimum 36 inches wide roll roofing with mineral surface side up over first layer of protection, centered. Apply a 4-inch-wide band of lap cement along each edge of first, press roll roofing into cement, and nail in place minimum 18 inches on center, 1 inch from edges.

3.06 INSTALLATION - METAL FLASHING AND ACCESSORIES

- A. Install flashings in accordance with NRCA requirements.
- B. Weather lap joints minimum 2 inches and seal weather tight with plastic cement.
- C. Secure in place with nails at 6 inches on center. Conceal fastenings.
- D. Items Projecting Through or Mounted on Roofing: Flash and seal weather tight with plastic cement.

3.07 INSTALLATION - SHINGLES

- A. Install shingles in accordance with manufacturer's instructions.
 - 1. Fasten individual shingles using 2 nails per shingle, or as required by code, whichever is greater.
 - 2. Fasten strip shingles using 4 nails per strip, or as required by code, whichever is greater.
- B. Place shingles in straight coursing pattern with 5-inch weather exposure to produce double thickness over full roof area. Provide double course of shingles at eaves.
- C. Project first course of shingles 3/4 inch beyond fascia boards.
- D. Extend shingles 1/2 inch beyond face of gable edge fascia boards.
- E. Extend shingles on one slope across valley and fasten. Trim shingles from other slope 2 inches from valley center line to achieve closed cut valley, concealing the valley protection.
- F. Extend shingles on both slopes across valley in a weave pattern and fasten. Extend shingles a minimum of 12 inches beyond valley center line to achieve woven valley, concealing the valley protection.
- G. Cap hips with individual shingles, maintaining 5-inch weather exposure. Place to avoid exposed nails.
- H. After installation, place one daub of plastic cement, one-inch diameter under each individual shingle tab exposed to weather, to prevent lifting.
- I. Coordinate installation of roof mounted components or work projecting through roof with weather tight placement of counterflashings.
- J. Complete installation to provide weather tight service.

3.08 PROTECTION

- A. Do not permit traffic over finished roof surface.

END OF SECTION

SECTION 07 71 23
MANUFACTURED GUTTERS AND DOWNSPOUTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Pre-finished aluminum gutters and existing PVC downspouts.
- B. Precast concrete splash pads.

1.02 REFERENCE STANDARDS

- A. AAMA 2604 - Voluntary Specification, Performance Requirements and Test Procedures for High Performance Organic Coatings on Aluminum Extrusions and Panels; 2005.
- B. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2007.
- C. ASTM B 209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate [Metric]; 2007.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Shop Drawings: Indicate locations, configurations, jointing methods, fastening methods, locations, and installation details.
- C. Samples: Submit two samples, 12-inch-long illustrating component design, finish, color, and configuration.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Stack material to prevent twisting, bending, or abrasion, and to provide ventilation. Slope to drain.
- B. Prevent contact with materials that could cause discoloration, staining, or damage.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Polyvinyl Chloride (PVC): Existing to be re-installed
- B. Pre-Finished Aluminum Sheet: ASTM B 209 (ASTM B 209M); 0.032 inch thick.
 - 1. Finish: Plain, shop pre-coated with modified silicone coating.
 - 2. Color: to be selected by Owner from Manufacturer's standard colors.
- C. Primer and Solvent for Polyvinyl Chloride (PVC): As recommended by manufacturer.

2.02 COMPONENTS

- A. Gutters: SMACNA detail "K", ogee profile
- B. Downspouts: Polyvinyl Chloride (PVC); existing
- C. Connectors: Furnish required compatible connector pieces
- D. Anchors and Supports: Profiled to suit gutters and downspouts.
 - 1. Anchoring Devices: In accordance with SMACNA requirements.

2. Gutter Supports: Brackets.
3. Downspout Supports: Brackets.

2.03 ACCESSORIES

- A. Splash Pads: Precast concrete type, size and profiles indicated; minimum 3000 psi at 28 days, with minimum 5 percent air entrainment.

2.04 FABRICATION

- A. Form gutters and downspouts of profiles and size indicated.
- B. Fabricate with required connection pieces.
- C. Form sections square, true, and accurate in size, in maximum possible lengths, free of distortion or defects detrimental to appearance or performance. Allow for expansion at joints.
- D. Hem exposed edges of metal.
- E. Fabricate gutter and downspout accessories; seal watertight.

2.05 FACTORY FINISHING

- A. Fluoropolymer Coating: High Performance Organic Finish, AAMA 2604; multiple coat, thermally cured fluoropolymer finish system; color as selected from manufacturer's standard colors.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify existing conditions before starting work.

3.02 PREPARATION

3.03 INSTALLATION

- A. Install gutters, downspouts, and accessories in accordance with manufacturer's instructions.
- B. Sheet Metal: Join lengths with formed seams sealed watertight. Flash and seal gutters to downspouts and accessories.
- C. PVC: Solvent-weld lengths and connection pieces to form watertight joints. Friction-fit gutters to downspouts and accessories.
- D. Slope gutters 1/8 inch per foot minimum.
- E. Set splash pans under downspouts.

END OF SECTION

**SECTION 07 84 13
FIRESTOPPING**

PART 1 GENERAL

1.01 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions and Division – 1 Specification Section, apply to work specified in this section.

1.02 DEFINITIONS

- A. Firestopping: Material or combination of materials used to retain integrity of fire-rated construction by maintaining an effective barrier against the spread of flame, smoke, water and hot gases through penetrations fire rated wall and floor assemblies.

1.03 GENERAL DESCRIPTION OF THE WORK OF THIS SECTION

Only test firestop systems shall be used in specific locations as follows:

- A. Penetrations for the passage of duct, cable, cable tray, conduit, piping, electrical busways and raceways through fire-rated vertical barriers (walls and partitions), horizontal barriers (floor/ceiling assemblies), and vertical service shaft walls and partitions.
- B. Openings between structurally separate section of wall or floors.
- C. Openings and penetrations in fire-rated partitions or walls containing fire doors.

1.04 RELATED WORK OF OTHER SECTIONS

- A. Coordinate work of this section with work of other sections as required to properly execute the work and as necessary to maintain satisfactory progress of the work of other sections.

1.05 REFERENCES

- A. Test Requirements: ASTM E-814, "Standard Method of Fire Tests of Through Penetration Fire Stops" (July 1983).
- B. Underwriters Laboratories (UL) of Northbrook, IL runs ASTM E-814 under their designation of UL 1479 and publishes the results in their "Fire Resistance Directory" that is updated annually with a mid-year supplement.

- 1. UL Fire Resistance Directory:
 - a. Through-Penetration Firestop devices (XHCR)
 - b. Fire Resistance Ratings (BXUV)
 - c. Through-Penetration Firestop Systems (XHEZ)

- d. Fill, Voids, or Cavity Material (XHHW)
- e. Forming Materials (XHKU)

- C. ASTM E-84, Standard Test Method from Surface Burning Characteristics of Building Materials.

- D. Building codes: 2006 IBC, IMC, IGC, IPC.

- E. NFPA 101 – Life Safety Code.

- F. NFPA 70 – National Electric Code.

1.06 QUALITY ASSURANCE

- A. A manufacturer's direct representative (not distributor or agent) to be on-site during initial installation of firestop systems to train appropriate contractor personnel in proper selection and installation procedures. This will be done per manufacturer's written recommendations published in their literature and drawing details.

- B. Firestop System installation must meet requirements of ASTM E-814 or UL 1479 tested assemblies that provide a fire rating equal to that of construction being penetrated.

- C. Proposed firestop materials and methods shall conform to applicable governing codes having local jurisdiction.

- D. Firestop Systems do not re-establish the structural integrity of load bearing partitions/assemblies or support live loads and traffic. Installer shall consult the structural engineer prior to penetrating any load bearing assembly.

- E. For those firestop applications that exist for which no UL tested system is available through any manufacturer, a manufacturer's engineering judgment derived from similar UL system designs or other test will be submitted to local authorities having jurisdiction for their review and approval prior to installation.

1.07 SUBMITTALS

- A. Submit Product Data: Manufacturer's specifications and technical data for each material including the composition and limitations, documentation of UL firestop systems to be used and manufacturer's installation instructions.

- B. Manufacturer's engineering judgment identification number and drawing details when no UL system is available for an application.

- C. Submit material safety data sheets provided with product delivered to jobsite.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials undamaged in manufacturer's clearly labeled, unopened containers identified with brand, type, and UL label where applicable.
- B. Coordinate delivery of materials with scheduled installation date to allow minimum storage time at jobsite.
- C. Store material under cover and protect from weather and damage in compliance with manufacturer's requirements.
- D. Comply with recommended procedures, precautions or remedies described in material safety data sheets as applicable.
- E. Do not use damaged or expired materials.

1.09 PROJECT CONDITIONS

- A. Do not use materials that contain flammable solvents.
- B. Schedule installation of firestopping after completion of penetrating item installation but prior to covering or concealing of openings.
- C. Verify existing conditions and substrates before starting work. Correct unsatisfactory conditions before proceeding.
- D. Weather Conditions: Do not proceed with installation of firestop materials when temperature exceeds the manufacturer's recommended limitations for installation printed on product label and product data sheet.
- E. During installation, provide masking and drop cloths to prevent firestopping materials from contaminating any adjacent surfaces.

PART 2 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Subject to compliance with through penetration firestop systems (XHEZ) listed in Volume II of the UL Fire Resistance Directory, provide products of the following manufacturers as identified below:
 - 1. Hilti Construction Chemicals, Inc. Tulsa, Oklahoma (918) 252-6901
 - 2. 3M Fire Protection Products, St. Paul, Minnesota (615) 736-0203

2.02 MATERIALS

- A. Use only firestop products that have been UL 1479 or ASTM E-814 tested to specific fire rated construction conditions conforming to construction assembly type, penetrating item type, annular space requirements, and fire-rating involved for each separate instance.
- B. for penetrations by non-combustible items including steel pipe, copper pipe, rigid steel conduit and electrical metallic tubing (EMT), the following material are acceptable:
 - 1. Hilti FS one High Performance Intumescent Firestop Sealant
 - 2. 3M Fire Barrier CP25
- C. For fire-rated construction joints and other gaps, the following material is acceptable:
 - 1. Hilti FS one High Performance Intumescent Firestop Sealant
- D. For penetrations by combustible items (penetrants consumed by high heat and flame) including insulated metal pipe, PVC jacketed, flexible cable or cable bundles and plastic pipe (closed piping systems), the following materials are acceptable:
 - 1. Hilti FS one Intumescent Firestop Sealant
 - 2. 3M Fire Barrier CP25
 - 3. 3M Fire Barrier FS-195 Wrap/Strip
 - 4. Hilti CP 642 Firestop Collar
- E. For large size/complex penetrations made to accommodate cable trays, multiple steel and copper pipes, electrical busways i.e. raceways, the following material is acceptable:
 - 1. Hilti FS One High Performance Intumescent Firestop Sealant.
 - 2. 3M fire Barrier CS-195 Composite Sheet
- F. Provide a firestop system for an "F" rating as determined by UL 1479 or ASTM E-814 which is equal to the time rating of construction being penetrated.

PART 3 EXECUTION

3.01 PREPARATION

- A. Verification of Conditions: Examine areas and conditions under which work is to be performed and identify conditions detrimental to proper or timely completion.
 - 1. Verify penetrations are properly sized and in suitable condition for application material.
 - 2. Surfaces to which firestop materials will be applied shall be free of dirt, grease, oil, rust, laitance, release agents, water repellents, and any other substances that may affect proper adhesion.
 - 3. Provide masking and temporary covering to prevent soiling of adjacent surfaces by firestopping materials.

4. Comply with manufacturer's recommendations for temperature and humidity conditions before, during and after installation of firestopping.
5. Do not proceed until unsatisfactory conditions have been corrected.

3.02 INSTALLATION

- A. Regulatory Requirements: Install firestop materials in accordance with published "Through-Penetration Firestop Systems" in UL's Fire Resistance Directory.
- B. Manufacturer's Instructions: Comply with manufacturer's instructions for installation of through-penetration materials.
 1. Seal all holes or voids made by penetrations to ensure an air and water-resistant seal.
 2. Consult with mechanical engineer, project manager prior to installation of UL firestop systems that might hamper the performance of fire dampers as it pertains to duct work.
 3. Protect materials from damage on surfaces subjected to traffic.

3.03 FIELD QUALITY CONTROL

- A. Examine sealed penetration areas to ensure proper installation before concealing or enclosing areas.
- B. Keep areas of work accessible until inspection by applicable code authorities.
- C. Perform under this section patching and repairing of firestopping caused by cutting or penetrating of existing firestop systems already installed by other trades.

3.04 ADJUSTING AND CLEANING

- A. Remove equipment, materials and debris, leaving area in undamaged, clean condition.
- B. Clean all surfaces adjacent to sealed holes and joints to be free of excess firestop materials and soiling as work progresses.

END OF SECTION

SECTION 07 90 05
JOINT SEALERS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Sealants and joint backing.

1.02 REFERENCE STANDARDS

- A. ASTM C 834 - Standard Specification for Latex Sealants; 2005.
- B. ASTM C 919 - Standard Practice for Use of Sealants in Acoustical Applications; 2008.
- C. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants; 2005.
- D. ASTM C 1193 - Standard Guide for Use of Joint Sealants; 2009.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data indicating sealant chemical characteristics.
- C. Samples: Submit two samples, 6 x 1/2 inch in size illustrating sealant colors for selection.

1.04 FIELD CONDITIONS

- A. Maintain temperature and humidity recommended by the sealant manufacturer during and after installation.

1.05 WARRANTY

- A. See Section 01 78 00 - Closeout Submittals, for additional warranty requirements.
- B. Correct defective work within a five-year period after Date of Substantial Completion.
- C. Warranty: Include coverage for installed sealants and accessories which fail to achieve airtight seal, exhibit loss of adhesion or cohesion, or do not cure.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Silicone Sealants:
 - 1. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Polyurethane Sealants:
 - 1. Substitutions: See Section 01 60 00 - Product Requirements.
- C. Acrylic Emulsion Latex Sealants:
 - 1. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 SEALANTS

- A. General Purpose Exterior Sealant: Polyurethane; ASTM C 920, Grade NS, Class 25, Uses M, G, and A; single component.
 - 1. Color: Match adjacent finished surfaces.
 - 2. Applications: Use for:

- a. Control, expansion, and soft joints in masonry.
 - b. Joints between concrete and other materials.
 - c. Joints between metal frames and other materials.
 - d. Joints between cement board siding and at perimeter of board siding.
 - e. Other exterior joints for which no other sealant is indicated.
- B. General Purpose Interior Sealant: Acrylic emulsion latex; ASTM C 834, Type OP, Grade NF single component, paintable.
 - C. Bathtub/Tile Sealant: White silicone; ASTM C 920, Uses I, M and A; single component, mildew resistant.
 - 1. Applications: Use for:
 - a. Joints between plumbing fixtures and floor and wall surfaces.
 - b. Joints between kitchen and bath countertops and wall surfaces.
 - D. Concrete Paving Joint Sealant: Polyurethane, self-leveling; ASTM C 920, Class 25, Uses T, I, M and A; single component.

2.03 ACCESSORIES

- A. Primer: Non-staining type, recommended by sealant manufacturer to suit application.
- B. Joint Cleaner: Non-corrosive and non-staining type, recommended by sealant manufacturer; compatible with joint forming materials.
- C. Joint Backing: Round foam rod compatible with sealant; ASTM D 1667, closed cell PVC; oversized 30 to 50 percent larger than joint width.
- D. Bond Breaker: Pressure sensitive tape recommended by sealant manufacturer to suit application.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that substrate surfaces are ready to receive work.
- B. Verify that joint backing and release tapes are compatible with sealant.

3.02 PREPARATION

- A. Remove loose materials and foreign matter that could impair adhesion of sealant.
- B. Clean and prime joints in accordance with manufacturer's instructions.
- C. Perform preparation in accordance with manufacturer's instructions and ASTM C 1193.
- D. Protect elements surrounding the work of this section from damage or disfigurement.

3.03 INSTALLATION

- A. Perform work in accordance with sealant manufacturer's requirements for preparation of surfaces and material installation instructions.
- B. Perform installation in accordance with ASTM C 1193.
- C. Perform acoustical sealant application work in accordance with ASTM C 919.

- D. Measure joint dimensions and size joint backers to achieve the following, unless otherwise indicated:
 - 1. Width/depth ratio of 2:1.
 - 2. Neck dimension no greater than 1/3 of the joint width.
 - 3. Surface bond area on each side not less than 75 percent of joint width.
- E. Install bond breaker where joint backing is not used.
- F. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
- G. Apply sealant within recommended application temperature ranges. Consult manufacturer when sealant cannot be applied within these temperature ranges.
- H. Tool joints concave.

3.04 CLEANING

- A. Clean adjacent soiled surfaces.

3.05 PROTECTION

- A. Protect sealants until cured.

END OF SECTION

**SECTION 08 71 00
DOOR HARDWARE**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Hardware for wood and hollow steel doors.

1.02 RELATED REQUIREMENTS

- A. Section 08 11 13 - Hollow Metal Doors and Frames.
- B. Section 08 14 16 - Flush Wood Doors.

1.03 REFERENCE STANDARDS

- A. ANSI/ICC A117.1 - American National Standard for Accessible and Usable Buildings and Facilities; International Code Council; 2003.
- B. DHI (LOCS) - Recommended Locations for Architectural Hardware for Standard Steel Doors and Frames; Door and Hardware Institute; 2004.
- C. DHI WDHS.3 - Recommended Locations for Architectural Hardware for Flush Wood Doors; Door and Hardware Institute; 1993; also, in WDHS-1/WDHS-5 Series, 1996.

1.04 ADMINISTRATIVE REQUIREMENTS

- A. Coordinate the manufacture, fabrication, and installation of products onto which door hardware will be installed.

1.05 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Samples: Prior to preparation of hardware schedule:
 - 1. Submit 1 sample of passage lockset, and deadbolt illustrating style, color, and finish.
 - 2. Samples will be returned to supplier for use in the project.
- D. Maintenance Data: Include data on operating hardware, lubrication requirements, and inspection procedures related to preventative maintenance.
- E. Keys: Deliver with identifying tags to Owner by security shipment direct from hardware supplier. – final keying to be coordinated with Owner.
- F. Warranty: Submit manufacturer's warranty and ensure that forms have been completed in Owner's name and registered with manufacturer.
- G. Maintenance Materials and Tools: Furnish the following for Owner's use in maintenance of project.
 - 1. See Section 01 60 00 - Product Requirements, for additional provisions.
 - 2. Tools: One set of all special wrenches or tools applicable to each different or special hardware component, whether supplied by the hardware component manufacturer or not.

1.06 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing the products specified in this section with minimum three years of documented experience.
- B. Hardware Supplier Qualifications: Company specializing in supplying commercial door hardware with 3 years of experience.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Package hardware items individually; label and identify each package with door opening code to match hardware schedule.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. The manufacturer and models of hardware listed below are the Basis of Design and intended to work within and support the Owners ongoing maintenance program for door hardware
- B. Exterior Passage lever: Stanley QCL 230 Passage Lever, lever handle design, ANSI/BHMA A156.2, Commercial Grade
 - 1. Best Access Systems, division of Stanley Security Solutions: www.bestaccess.com.
- C. Deadbolt Locksets: Stanley Single Deadbolt QDB 281, I-Core, ANSI/BHMA A156.2, Grade 2
 - 1. Best Access Systems, division of Stanley Security Solutions: www.bestlock.com.
- D. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 GENERAL REQUIREMENTS FOR DOOR HARDWARE PRODUCTS

- A. Provide products that comply with the following:
 - 1. Applicable provisions of federal, state, and local codes.
 - 2. ANSI/ICC A117.1, American National Standard for Accessible and Usable Buildings and Facilities.
 - 3. Applicable provisions of NFPA 101, Life Safety Code.
- B. Finishes: Identified in schedule on the Drawings.

2.04 KEYING

- A. Exterior Unit Door Locks: Keyed differently.
- B. Interior HVAC closet Locks: Keyed the same and coordinated with Owners maintenance keying.
- B. Supply keys in the following quantities:
 - 1. 2 keys for each lock.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that doors and frames are ready to receive work and dimensions are as indicated on shop drawings.

3.02 INSTALLATION

- A. Install hardware in accordance with manufacturer's instructions and applicable codes.

- B. Use templates provided by hardware item manufacturer.
- C. Mounting heights for hardware from finished floor to center line of hardware item:
 - 1. For steel doors and frames: Comply with DHI "Recommended Locations for Architectural Hardware for Steel Doors and Frames."
 - 2. For wood doors: Comply with DHI "Recommended Locations for Architectural Hardware for Wood Flush Doors."

3.03 ADJUSTING

- A. Adjust work under provisions of Section 01 70 00.
- B. Adjust hardware for smooth operation.

END OF SECTION

SECTION 09 21 16
GYPSUM BOARD ASSEMBLIES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Performance criteria for gypsum board assemblies.
- B. Metal stud wall framing as a Contractor's option to wood stud wall framing.
- C. Gypsum wallboard.
- D. Joint treatment and accessories.

1.02 RELATED REQUIREMENTS

- A. Section 06 10 00 - Rough Carpentry: Building framing and sheathing.

1.03 REFERENCE STANDARDS

- A. ASTM C 475/C 475M - Standard Specification for Joint Compound and Joint Tape for Finishing Gypsum Board; 2002 (Reapproved 2007).
- B. ASTM C 514 - Standard Specification for Nails for the Application of Gypsum Board; 2004.
- C. ASTM C 645 - Standard Specification for Nonstructural Steel Framing Members; 2007.
- D. ASTM C 754 - Standard Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products; 2007.
- E. ASTM C 840 - Standard Specification for Application and Finishing of Gypsum Board; 2007.
- F. ASTM C 954 - Standard Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs From 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness; 2007.
- G. ASTM C 1002 - Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs; 2007.
- H. ASTM C 1047 - Standard Specification for Accessories for Gypsum Wallboard and Gypsum Veneer Base; 2005.
- I. ASTM C 1396/C 1396M - Standard Specification for Gypsum Board; 2006a.
- J. ASTM D 3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber; 2000 (Reapproved 2005).
- K. ASTM E 90 - Standard Test Method for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements; 2004.
- L. ASTM E 413 - Classification for Rating Sound Insulation; 2004.
- M. GA-216 - Application and Finishing of Gypsum Board; Gypsum Association; 2007.

1.04 QUALITY ASSURANCE

- A. Installer Qualifications: Company specializing in performing gypsum board application and finishing, with minimum 5 years of documented experience.

PART 2 PRODUCTS

2.01 GYPSUM BOARD ASSEMBLIES

- A. Provide completed assemblies complying with ASTM C 840 and GA-216.
- B. Interior Partitions: Provide completed assemblies with the following characteristics:

2.02 METAL FRAMING MATERIALS

- A. Manufacturers - Metal Framing, Connectors, and Accessories:
 - 1. Dietrich Metal Framing: www.dietrichindustries.com.
 - 2. Marino\Ware: www.marinoware.com.
 - 3. Phillips Manufacturing Company: www.phillipsmfg.com.
 - 4. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Metal framing may be used at the Contractor's option in lieu of wood framing for walls.
- C. Non-Loadbearing Framing System Components: ASTM C 645; galvanized sheet steel, of size and properties necessary to comply with ASTM C 754 for the spacing indicated, with maximum deflection of wall framing of L/240 at 5 psf.
 - 1. Studs: "C" shaped with flat or formed webs with knurled faces.
 - 2. Runners: U shaped, sized to match studs.
- D. Partition Head to Structure Connections: Provide track fastened to structure with legs of sufficient length to accommodate deflection, for friction fit of studs cut short and fastened as indicated on drawings.

2.03 BOARD MATERIALS

- A. Manufacturers - Gypsum-Based Board:
 - 1. American Gypsum: www.americangypsum.com.
 - 2. National Gypsum Company: www.nationalgypsum.com.
 - 3. PABCO Gypsum: www.pabcogypsum.com.
 - 4. USG Corporation: www.usg.com.
- B. Gypsum Wallboard: Paper-faced gypsum panels as defined in ASTM C 1396/C 1396M; sizes to minimize joints in place; ends square cut.
 - 1. Application: Use for vertical surfaces and ceilings, unless otherwise indicated.
 - 2. Mold Resistance: Score of 10, when tested in accordance with ASTM D 3273.
 - a. Mold-resistant board is required where wallboard is replaced in kitchen or bath areas.
 - 3. Thickness:
 - a. Vertical Surfaces: 1/2 inch.
 - 4. Mold-Resistant Paper-Faced Products:

2.04 ACCESSORIES

- A. Finishing Accessories: ASTM C 1047, galvanized steel, rolled zinc, or rigid plastic, unless otherwise indicated.
 - 1. Types: As detailed or required for finished appearance.
- B. Joint Materials: ASTM C 475 and as recommended by gypsum board manufacturer for project conditions.

1. Tape: 2-inch-wide, creased paper tape for joints and corners.
 2. Ready-mixed vinyl-based joint compound.
- C. Screws for Attachment to Steel Members Less Than 0.03 inch In Thickness, to Wood Members, and to Gypsum Board: ASTM C 1002; self-piercing tapping type; cadmium-plated for exterior locations.
- D. Screws for Attachment to Steel Members From 0.033 to 0.112 inch in Thickness: ASTM C 954; steel drill screws for application of gypsum board to loadbearing steel studs.
- E. Nails for Attachment to Wood Members: ASTM C 514.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that project conditions are appropriate for work of this section to commence.

3.02 FRAMING INSTALLATION

- A. Metal Framing: Install in accordance with ASTM C 754 and manufacturer's instructions.
- B. Studs: Space studs as indicated.
1. Extend partition framing to structure in all locations.
 2. Partitions Terminating at Structure: Attach extended leg top runner to structure, maintain clearance between top of studs and structure, and brace both flanges of studs with continuous bridging.
- C. Openings: Reinforce openings as required for weight of doors or operable panels, using not less than double studs at jambs.

3.03 BOARD INSTALLATION

- A. Comply with ASTM C 840, 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.
- C. Installation on Wood Framing: For rated assemblies, comply with requirements of listing authority. For non-rated assemblies, install as follows:
1. Single-Layer Applications: Screw attachment.

3.04 INSTALLATION OF TRIM AND ACCESSORIES

- A. Corner Beads: Install at external corners, using longest practical lengths.

3.05 JOINT TREATMENT

- A. Paper Faced Gypsum Board: Use paper joint tape, bedded with ready-mixed vinyl-based joint compound and finished with ready-mixed vinyl-based joint compound.
- B. Finish gypsum board in accordance with levels defined in ASTM C 840, as follows:
1. Level 4: Walls and ceilings to receive paint finish or wall coverings, unless otherwise indicated.
 2. Level 2: In utility areas, behind cabinetry, and on backing board to receive tile finish.

3. Level 1: Fire rated wall areas above finished ceilings, whether or not accessible in the completed construction.
- C. Tape, fill, and sand exposed joints, edges, and corners to produce smooth surface ready to receive finishes.
 1. Feather coats of joint compound so that camber is maximum 1/32 inch.

3.06 TOLERANCES

- A. Maximum Variation of Finished Gypsum Board Surface from True Flatness: 1/8 inch in 10 feet in any direction.

END OF SECTION

**SECTION 09 65 00
RESILIENT FLOORING**

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Resilient tile flooring.
- B. Installation accessories.

1.02 RELATED REQUIREMENTS

- A. Section 03 30 00 - Cast-in-Place Concrete: Restrictions on curing compounds for concrete slabs and floors.

1.03 REFERENCE STANDARDS

- A. ASTM F 710 - Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring; 2008.
- B. ASTM F 1066 - Standard Specification for Vinyl Composition Floor Tile; 2004.

1.04 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: Provide data on specified products, describing physical and performance characteristics; including sizes, patterns and colors available; and installation instructions.
- C. Selection Samples: Submit manufacturer's complete set of color samples for Architect's initial selection.

1.05 FIELD CONDITIONS

- A. Store materials for not less than 48 hours prior to installation in area of installation at a temperature of 70 degrees F to achieve temperature stability. Thereafter, maintain conditions above 55 degrees F.

PART 2 PRODUCTS

2.01 TILE FLOORING

- A. Vinyl Composition Tile: Homogeneous, with color extending throughout thickness, and:
 - 1. Minimum Requirements: Comply with ASTM F 1066, of Class corresponding to type specified.
 - 2. Size: 12 x 12 inch.
 - 3. Thickness: 0.125 inch.
 - 4. Pattern and Color: To be selected by Owner from Manufacturer's standard range of finishes.
 - 5. Manufacturers:
 - a. Armstrong: Excelon; www.armstrongflooring.com
 - b. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 LUXURY VINYL PLANKING

- A. Luxury Vinyl Planking at Apartment Units:
 - 1. Minimum Requirements: Comply with ASTM F 1700, of Class III Type B Embossed Printed

Film Vinyl Tile.

2. Size: 6 x 48 inch.
 3. Thickness: 0.098 inch.
 4. Wear Layer: 12 mil
 4. Pattern and Color: To be selected by Owner from Manufacturer's full range of finishes.
 5. Manufacturers:
 - a. Patcraft: www.patcraft.com
 - b. Mohawk; www.mohawkflooring.com
 - c. Shaw; www.shawcontract.com
 - d. Substitutions: See Section 01 60 00 - Product Requirements.
- B. Luxury Vinyl Planking at KCDC Office Spaces in Community Building:
1. Minimum Requirements: Comply with ASTM F 1700, of Class III Type B Embossed Printed Film Vinyl Tile.
 2. Size: 6 x 48 inch.
 3. Thickness: 0.098 inch.
 4. Wear Layer: 20 mil
 4. Pattern and Color: To be selected by Owner from Manufacturer's full range of finishes.
 5. Manufacturers:
 - a. Patcraft: www.patcraft.com
 - b. Mohawk; www.mohawkflooring.com
 - c. Shaw; www.shawcontract.com
 - d. Substitutions: See Section 01 60 00 - Product Requirements.

2.03 RESILIENT BASE

- a. Rubber resilient base where indicated at the Community Building and Ministry Building:
 1. Minimum Requirements: Comply with ASTM F1861, Type TS rubber, vulcanized thermoset, top set
 2. Finish: Satin.
 3. Height: 4"
 4. Length: Roll
 5. Accessories: Pre-molded exterior and interior corners.
 6. Pattern and Color: To be selected by Owner from Manufacturer's range of standard colors.
 7. Manufacturers:
 - a. Burke Flooring: www.burkeflooring.com
 - b. Johnsonite, a Tarkett Company; www.johnsonite.com
 - c. Roppe Corp.; www.roppe.com
 - d. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 ACCESSORIES

- A. Subfloor Filler and Encapsulant: White self levelling premix latex; type recommended by adhesive material manufacturer. Henry 547 UniPro Universal Patch & Skimcoat or equal.
- B. Moldings, Transition and Edge Strips: Same material as flooring.
- C. Sealer and Wax: Types recommended by flooring manufacturer.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that surfaces are flat to tolerances acceptable to flooring manufacturer, free of cracks that might telegraph through flooring, clean, dry, and free of curing compounds, surface hardeners, and other chemicals that might interfere with bonding of flooring to substrate.
- B. Verify that concrete sub-floor surfaces are dry enough and ready for resilient flooring installation by testing for moisture emission rate and alkalinity in accordance with ASTM F 710; obtain instructions if test results are not within limits recommended by resilient flooring manufacturer and adhesive materials manufacturer.

3.02 PREPARATION

- A. Prepare sub-floor surfaces as recommended by flooring and adhesive manufacturers.
- B. Remove sub-floor ridges and bumps. Fill minor low spots, cracks, joints, holes, and other defects with sub-floor filler to achieve smooth, flat, hard surface.
- C. Prohibit traffic until filler is cured.

3.03 INSTALLATION

- A. Starting installation constitutes acceptance of sub-floor conditions.
- B. Install in accordance with manufacturer's instructions.
- C. Spread only enough adhesive to permit installation of materials before initial set.
- D. Fit joints tightly.
- E. Set flooring in place, press with heavy roller to attain full adhesion.
- F. Where type of floor finish, pattern, or color are different on opposite sides of door, terminate flooring under centerline of door.
- G. Install edge strips at unprotected or exposed edges, where flooring terminates, and where indicated.
 - 1. Resilient Strips: Attach to substrate using adhesive.
- H. Scribe flooring to walls, columns, cabinets, floor outlets, and other appurtenances to produce tight joints.
- I. At VCT flooring: Properly clean and wax installed VCT per VCT manufacturer's Recommendations after installation.

3.04 TILE FLOORING

- A. Mix tile from container to ensure shade variations are consistent when tile is placed, unless manufacturer's instructions say otherwise.
- B. Install tile to ashlar pattern. Allow minimum 1/2 full size tile width at room or area perimeter.

3.05 CLEANING

- A. Remove excess adhesive from floor, base, and wall surfaces without damage.
- B. Clean in accordance with manufacturer's instructions.

**END OF SECTION
SECTION 09 90 00**

PAINTING AND COATING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Field application of paints.
- C. Scope: Finish all interior buildings surfaces exposed to view, unless fully factory-finished and unless otherwise indicated, including the following:
- D. Do Not Paint or Finish the Following Items:
 - 1. Items fully factory-finished unless specifically so indicated; materials and products having factory-applied primers are not considered factory finished.
 - 2. Items indicated to receive other finishes.
 - 3. Items indicated to remain unfinished.
 - 4. Fire rating labels, equipment serial number and capacity labels, and operating parts of equipment.
 - 5. Floors, unless specifically so indicated.
 - 6. Glass.
 - 7. Concealed pipes, ducts, and conduits.

1.02 REFERENCE STANDARDS

- A. 40 CFR 59, Subpart D - National Volatile Organic Compound Emission Standards for Architectural Coatings; U.S. Environmental Protection Agency; current edition.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Provide all paint and coating products used in any individual system from the same manufacturer; no exceptions.
- B. Substitutions: See Section 01 60 00 - Product Requirements.

2.02 PAINTS AND COATINGS - GENERAL

- A. Paints and Coatings: Ready mixed, unless intended to be a field-catalyzed coating.
 - 1. Provide paints and coatings of a soft paste consistency, capable of being readily and uniformly dispersed to a homogeneous coating, with good flow and brushing properties, and capable of drying or curing free of streaks or sags.
 - 2. Supply each coating material in quantity required to complete entire project's work from a single production run.
 - 3. Do not reduce, thin, or dilute coatings or add materials to coatings unless such procedure is specifically described in manufacturer's product instructions.
- B. Primers: Where the manufacturer offers options on primers for a particular substrate, use primer categorized as "best" by the manufacturer.
- C. Volatile Organic Compound (VOC) Content:
 - 1. Provide coatings that comply with the most stringent requirements specified in the

following:

- a. 40 CFR 59, Subpart D--National Volatile Organic Compound Emission Standards for Architectural Coatings.
2. Determination of VOC Content: Testing and calculation in accordance with 40 CFR 59, Subpart D (EPA Method 24), exclusive of colorants added to a tint base and water added at project site; or other method acceptable to authorities having jurisdiction.

PART 3 EXECUTION

3.01 PREPARATION

- A. Clean surfaces thoroughly and correct defects prior to coating application. Particular attention should be paid to thoroughly cleaning existing louvered doors at the HVAC closet.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Remove or mask surface appurtenances, including electrical plates, hardware, light fixture trim, escutcheons, and fittings, prior to preparing surfaces or finishing.
- D. Seal surfaces that might cause bleed through or staining of topcoat.
- E. Remove mildew from impervious surfaces by scrubbing with solution of tetra-sodium phosphate and bleach. Rinse with clean water and allow surface to dry.

3.02 APPLICATION

- A. Apply products in accordance with manufacturer's instructions.
- B. Do not apply finishes to surfaces that are not dry. Allow applied coats to dry before next coat is applied.
- C. Apply each coat to uniform appearance.
- D. Vacuum clean surfaces of loose particles. Use tack cloth to remove dust and particles just prior to applying next coat.
- E. Reinstall electrical cover plates, hardware, light fixture trim, escutcheons, and fittings removed prior to finishing.
- F. Ceilings shall be painted flat white, all other interior surfaces to receive paint, shall receive the custom blended KCDC interior finish color in an eggshell sheen.

END OF SECTION

SECTION 11 31 00

RESIDENTIAL APPLIANCES

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Provide and Install appliances noted below.
- B. Existing appliances are to be removed and properly disposed of as part of this scope of work.

PART 2 PRODUCTS

- A. Replacement 30" Range/Ovens for standard Dwelling Units:
 - a. General Electric: RB525DH Hotpoint 30" Free-Standing Electric Range.
 - i. Model number after scheduled revision on 10/01/2018
 - 1. RBS160DM
- B. Replacement 30" Range/Ovens for Accessible Dwelling Units:
 - a. General Electric: JBS45D GE Series 30" Free-Standing Electric Range.
 - i. Model number after scheduled revision on 10/01/2018
 - 1. JBS460DM
- C. Replacement Refrigerators for standard Dwelling Units:
 - a. General Electric: HPE15BTH Hotpoint EnergyStar 14.6 Cubic Feet. Recessed Handle Top-Freezer Refrigerator.
- D. Replacement Refrigerators for Accessible Dwelling Units:
 - a. General Electric: GTE18ETH GE Appliances EnergyStar 18.2 Cubic Feet. Top-Freezer Refrigerator

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify unit size and utility rough-ins are present and correctly located prior to ordering appliances.

3.02 INSTALLATION

- A. Re-install in accordance with manufacturer's instructions.

3.03 ADJUSTING

- A. Adjust equipment to efficient operation. Position and level

3.04 CLEANING

- A. Clean equipment of dust, dirt, and construction debris.

END OF SECTION

SECTION 12 35 30

CUSTOM RESIDENTIAL CASEWORK

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Replacement Kitchen Cabinets
- B. Casework hardware.
- C. Interior residential casework includes wood furring, blocking, shims, and hanging strips unless concealed within other construction before woodwork installation.

1.02 REFERENCE STANDARDS

- A. BHMA A156.9 - American National Standard for Cabinet Hardware; Builders Hardware Manufacturers Association; 2003 (ANSI/BHMA A156.9).
- B. AWI/AWMAC (QSI) – Architectural Woodwork Quality Standards Illustrated; Architectural Woodwork Institute and Architectural Woodwork Manufacturers Association of Canada; 2005, 8th Ed., Version 2.0

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements, for submittal procedures.
- B. Product Data: For lumber products, cabinet hardware and accessories.
- C. Shop Drawings: Indicate casework locations, large scale dimensioned plans, elevations, clearances required, rough-in and anchor placement dimensions and tolerances. Provide component dimensions and construction details
- D. Samples:
 - 1. Lumber and panel products for transparent finish, for each species and cut. One door and face frame sample, and one example of drawer material and construction.
 - 2. Existing plastic laminate countertops to be salvaged and re-used

1.04 QUALITY ASSURANCE

- A. Products: Comply with AWI's "Architectural Woodwork Quality Standards"
- B. Manufacturer: Company specializing in manufacturing the type of products specified in this section, with minimum three years of documented experience.

1.05 MOCK-UP

- A. Provide full size mock-up of casework base unit.
- B. Locate where directed.
- C. Mock-up may remain as part of the Work.
- D. Mock-up shall be approved by the Owner, prior to ordering and installing the remainder of the casework

1.06 PROJECT CONDITIONS

- A. Environmental Limitations: Do not deliver or install woodwork until building is enclosed, wet

work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.

PART 2 PRODUCTS

2.01 QUALITY AND DESIGN

- A. Quality standards: AWI Custom Grade
- B. Construction Design: AWI Flush Overlay
- C. Hardwood doors as noted below are acceptable on the AWI grade casework.

2.02 COMPONENTS

- A. Cabinet Construction: ¾-inch plywood construction as required by AWI standards
 - 1. Wood Species and Cut for Transparent Finish: Oak
 - 2. Wood Products: Veneer-Faced Panel Products (Hardwood Plywood): HPVA HP-1
 - 3. Exterior Cabinet surfaces shall receive a plastic laminate finish to match door finish.
 - 4. Interior surfaces shall be white melamine.
 - 5. All exposed surfaces shall be finished.
- B. Kitchen Countertop: Post formed plastic laminate over ¾-inch exterior plywood core stock.
- C. Door and Drawer Fronts: Solid wood of Oak, Ash, Maple or other hardwoods. Raised panel style.
- D. Bolts, Nuts, Washers and Screws: Of size and type to suit application.
- E. Concealed Joint Fasteners: Threaded steel.

2.03 HARDWARE

- A. Hardware: Manufacturer's standard.
- B. Shelf Brackets: line bore shelf clip system
- C. Drawer and Door Pulls: Back Mounted, solid metal, Brass wire pulls, 4 inches wide, 5/16" in diameter.
- D. Catches: Magnetic, BHMA A156.9, BO314,
- E. Drawer Slides: Side Mounted, Full Extension Type Arms, steel and zinc-plated steel ball bearing construction, heavy duty, Grade 1HD-100 and 1HD-200
- F. Hinges: European type frameless concealed hinges, BHMA A156.9, BO1602,120-degree opening.
- G. Exposed Hardware Finishes: For exposed Hardware, provide finish that complies with BHMA A156.18 for BHMA finish number indicated.
 - 1. Satin Stainless Steel: BHMA 630

2.04 FABRICATION

- A. Shop assemble 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.

- C. Fabricate each unit to be rigid and not dependent on building structure for rigidity.
- D. Provide cutouts for plumbing fixtures, appliances, and fixtures and fittings. Prime paint contact surfaces of cut edges or coat with varnish. Sand edges of cutouts to remove splinters and burrs.
- E. When necessary to cut and fit on site, provide materials with ample allowance for cutting. Provide trim for scribing and site cutting.
- F. Interior woodwork grade: Custom
- G. Wood Cabinets for Transparent Finish:
 - 1. AWI Type of Cabinet Construction: Flush overlay.
 - 2. Grain Direction: Vertically for doors and fixed panels.
 - 3. Matching of Veneer Leaves: Book match
 - 4. Veneer Matching within Panel Face: Running Match
 - 5. Semi-exposed Surfaces other than Drawer Bodies: Same species and cut indicated for exposed surfaces.
 - 6. Drawer Sides and Backs: Solid-hardwood Lumber
 - 7. Drawer Bottoms: hardwood Plywood

2.05 MISCELLANEOUS MATERIALS

- A. Furring, Blocking, Shims, and Hanging Strips: Softwood or hardwood lumber, kiln-dried to less than 15 percent moisture content.
- B. Adhesives, General: Do not use adhesives that contain urea formaldehyde.

2.06 COUNTER TOPS

- A. Countertops shall be 3/4-inch exterior plywood core stock with high pressure laminate of 0.042 thickness with no less than 1 1/4" thick edge at the front and ends. These shall have a back splash that is at least four inches high.
- B. All ends are to be finished
- C. The basis of design for the countertop laminate is Wilsonart Number 4608-Caldera Beige. Final finish to be selected by Owner or Owner's Representative.

2.07 SHOP FINISHING

- A. Finish architectural woodwork at fabrication shop. Defer only final touch-up, cleaning and polishing until after installation.
- B. Back-priming: Apply one coat of sealer or primer, compatible with finish coats, to concealed surfaces of woodwork. Apply two coats to back of paneling.
- C. Transparent Finish: To match finish of adjacent existing cabinets.
 - 1. Grade: Custom
 - 2. AWI Finish System: Acrylic lacquer.

3. Sheen: Semigloss, 46-60 gloss units measured on 60-degree gloss meter per ASTM D 523.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify adequacy of support framing.

3.02 INSTALLATION

- A. Install casework, components and accessories in accordance with manufacturer's instructions.
- B. Set casework items plumb, square and straight to a tolerance of 1/8 inch in 96 inches, securely anchored to building structure. Shim as required with concealed shims.
- C. Before Installation, condition woodwork to average prevailing humidity conditions in installation areas. Examine shop-fabricated work for completion and complete work as required, including removal of packing and back-priming.
- D. Grade: Install woodwork to comply with requirements for the same grade specified in Part 2 for fabrication of type of woodwork involved.
- E. Scribe and cut woodwork to fit adjoining work, refinish cut surfaces, and repair damaged finish at cuts.
- F. Anchor woodwork to anchors or blocking built in or directly attached to substrates. Secure with countersunk, concealed fasteners and blind nailing as required for complete installation. Use fine finishing nails for exposed fastening, countersunk and filled flush with woodwork and matching final finish if transparent finish is indicated.
- G. Cabinets: Install without distortion so doors and drawers' fit openings properly and are accurately aligned. Adjust hardware to center doors and drawers in openings and to provide unencumbered operation.
 1. Fasten wall cabinets through back, near top and bottom, at ends and not more than 16 inches o.c. with No. 10 wafer-head screws sized for 1-inch penetration into wood framing, blocking or hanging strips.
- H. Countertops: Anchor securely by screwing through corner blocks of base cabinets or other supports into underside of countertop. Caulk space between backsplash and wall with sealant specified in Division 07 Section "Joint Sealers"

3.03 ADJUSTING

- A. Adjust doors, drawers, hardware, fixtures, and other moving or operating parts to function smoothly.

3.04 CLEANING

- A. Clean casework, countertops, shelves, and hardware.

3.05 PROTECTION

- A. Do not permit finished casework to be exposed to continued construction activity. Protect as required to avoid damage.

END OF SECTION

SECTION 22 01 00

PLUMBING GENERAL PROVISIONS

PART 1 GENERAL

1.01 WORK INCLUDED

- A. Provide all labor, materials, tools, and services for a complete installation of equipment and systems contained in contract documents.
- B. Principal features of work included are:
 - 1. Plumbing system.
 - 2. Demolition of existing equipment, and piping.

1.02 GENERAL

- A. The contract documents form a guide for a complete system. Provide all items necessary to provide a complete system but not specifically mentioned, such as hangers, transitions, offsets, drains and fittings.
- B. Layouts indicated on drawings are diagrammatical only.
- C. Should Contractor find during progress of work that in his judgment existing conditions make desirable a modification, report such item promptly to Designer for instructions. Do not make deviations from contract documents without review of Designer.
- D. Supervise all work with a competent mechanic specifically qualified in mechanical discipline.
- E. All products used for dispensing potable drinking water must be lead free and meet the requirements of NSF 61 and NSF 372 test standards via third party testing and certification.

1.03 PERMITS

- A. Secure and pay for permits, licenses, and inspections for work under this Division.

1.04 CODES

- A. Comply with all pertinent local, state, and national codes.

1.05 SUBMITTALS

- A. Submit for review complete brochures and shop drawings for materials and equipment proposed.
 - 1. Brochures: Submit complete descriptions, illustrations and specification data for materials and equipment proposed. Clearly indicate proposed items when other items are shown on same sheet.
 - 2. Submittals shall be submitted in line by line format. Each submittal shall be provided with a cover letter and supporting documentation indicating how the submittal meets each line of the referenced specification section. All discrepancies between the construction documents and the submitted product shall be clearly identified for engineer evaluation.
 - 3. If a product other than the basis of design is rejected by the engineer for any reason, the Contractor shall provide the basis of design product at no additional cost to the Owner.
 - 4. Shop Drawings:
 - a. Complete equipment and piping systems in equipment rooms.
 - b. Complete equipment and piping systems in entire building.

1.06 CONSTRUCTION RECORD DOCUMENTS

- A. Provide construction record documents. Keep at the project one set of drawings and daily record changes at the time they are made. Give drawings to Owner at project completion.

PART 2 PRODUCTS

2.01 MATERIALS AND EQUIPMENT

- A. Provide materials and equipment as specified.

PART 3 EXECUTION

3.01 COORDINATION

- A. Coordinate locations of equipment and piping to eliminate conflict with other divisions.
- B. Carefully examine contract documents to be thoroughly familiar with items which require plumbing and coordination.

3.02 CUTTING AND PATCHING

- A. Repair or replace routine damage caused by cutting in performance of contract.
- B. Correct unnecessary damage caused due to installation of plumbing work.
- C. Perform repairs with materials that match existing in accordance with the appropriate section of these specifications.

3.03 IDENTIFICATION

- A. Color code PEX piping.
 - 1. Domestic cold water – blue.
 - 2. Domestic hot water – red.

3.04 CLEANING

- A. Repair damaged factory finishes covering all bare places and scratches.
- B. Cleaning Domestic Water System: Flush domestic water system progressively by opening building outlets and permitting flow to continue from each until water runs clear. Sterilize system in accordance with requirements of State Department of Public Health by the following method or other method acceptable to local authorities:
 - 1. Introduce chlorine or a solution of calcium or sodium hypochlorite, filling lines slowly and applying sterilizing agent at a rate of 50 ppm of chlorine as determined by residual chlorine tests at ends of lines. Open and close all valves while the system is being chlorinated.
 - 2. After sterilizing agent has been applied and left standing for 24 hours, test for residual chlorine at ends of lines. If less than 25 ppm is indicated, repeat sterilizing process.
 - 3. After standing for 24 hours and tests show at least 25 ppm of residual chlorine, flush out system until all traces of chemical used are removed.

3.05 TESTING

- A. Test all installed equipment and systems and demonstrate proper operation. Correct and retest work found defective when tested.
- B. Thoroughly check piping system for leaks. Do not add any leak-stop compounds to the system. Make repairs to piping system with new materials. Peening, doping, or caulking of joints or holes is not acceptable.

- C. Test hot and cold domestic water piping systems upon completion of rough-in and before connection to fixtures at a water pressure of 125 psig for two hours without leaks.
- D. Test all plumbing fixtures for proper operation.

END OF SECTION

**SECTION 22 07 19
PLUMBING INSULATION**

PART 4 GENERAL

4.01 WORK INCLUDED

- A. Contractor shall provide all necessary labor, materials, tools, and equipment to perform work required on the drawings and specified herein.
- B. Certain equipment and/or systems to be factory insulated by manufacturer. Factory insulation materials to be as specified in applicable sections of the specifications.
- C. Thermal resistance "R" values used herein are expressed in units of "Hour, Degrees F., Sq. Ft./BTU per Inch of Thickness" on a flat surface at a mean temperature of 75 degrees F.
- D. Insulation only applies to portion of vertical PEX tubing run in exterior wall. Turn out insulated tubing 6" above ceiling and in cabinet toe space.

4.02 CERTIFICATION/QUALITY ASSURANCE

- A. Products shall meet applicable national, state, and local building codes and be U.L. (or other recognized testing lab) listed for intended service.
- B. All insulations, jackets, adhesives, coatings, sealers, and tapes shall have a flame spread rating of 25 or less and smoke development rating of 50 or less when tested in accordance with ASTM E-84, NFPA 225, U.L. 723, and further must meet the requirements of NFPA 90-A and applicable building, and plumbing, codes.
- C. All insulation materials shall be delivered and stored in manufacturers' containers and kept free from dirt, water, chemical, and mechanical damage.
- D. Insulation shall be applied in a workmanlike manner by experienced, qualified tradesmen.
- E. Insulation shall not be applied until all pressure testing has been completed, inspected, and released for insulation application.
- F. Surfaces shall be clean and dry.
- G. Insulation joints shall be butted firmly together and all jackets and tapes shall be smoothly and securely installed.

4.03 APPLICABLE CODES AND STANDARDS

- A. ASTM E-84.
- B. U.L. 723.
- C. State of TN Energy Code.

PART 5 PRODUCTS

5.01 MATERIALS FOR PIPE AND EQUIPMENT

- A. Materials for Pipe and Equipment: Provide factory pre-molded or shop or site mitered segment type insulation for pipe, pipe fittings, and valves. Fitting insulation to be of same thickness and material as adjoining pipe insulation. All insulation and related materials such as tape and mastic to meet applicable building code requirements for fire and smoke development.
 - 1. Fiberglass: Provide factory-formed, factory-jacketed fiberglass piping insulation. Product to be Manville "Micro-Lok 650" with "Type AP-T" jacketing or equivalent product manufactured by CertainTeed, Knauf, or Owens-Corning. Product to have continuous operational temperature limit of 850 degrees F and a minimum "R" value of 3.6 per inch (K=0.28) at 100 degrees F mean temperature. Jacket to be fiberglass reinforced Kraft paper with aluminum foil and pressure sensitive closure system. Vapor-barrier mastic for application to below ambient pipe insulation shall be fungus resistant per ASTM D 5590 with 0 growth rating; Water based; Permeance per ASTM E 96, Procedure B, 0.013 perm or less at 43-mil dry film thickness suitable for indoor and jacketed outdoor use. Products: Foster 30-80 AF. Color: White. A breather mastic for application to above ambient pipe insulation (fittings, tees, valves, etc.) shall be water-based Foster 46-50 mastic or Childers CP-10 / CP-11. Use fiberglass piping insulation for the following services:
 - a. Domestic hot water supply – 1" thick.
 - b. Domestic cold-water piping: 1/2" thick.

5.02 MATERIALS FOR FITTINGS, VALVES, AND SPECIAL COVERINGS

- A. Provide coverings and finishes for specific items hereinafter specified.
 - 1. Use pre-molded insulation fabricated by the manufacturer of insulation material or shop or site mitered segment type insulation for all pipe and fittings.
 - 2. PVC fitting covers over blanket fiberglass are NOT acceptable.

PART 6 EXECUTION

6.01 GENERAL

- A. Piping systems shall be tested and found free of all leaks prior to installation of insulation covering.
- B. All surfaces shall be clean and dry when covering is applied. Covering to be dry when installed and during application of any finish, unless such finish specifically requires a wetted surface for application.
- C. All adhesives, cements, and mastics shall be compatible with materials applied and shall not attack materials in either wet or dry state.
- D. Install insulation using professional insulators who have adequate experience and ability.

6.02 INSTALLATION OF PIPE COVERING

- A. Apply PVC insulated fitting covers and precut insulation inserts as follows:
 - 1. Installation for hot systems:

- a. Place the precut fiberglass insert around the fitting, positioning the points of the insert on the inside radius of the elbow.
 - b. Butt the ends of the fiberglass insert against the ends of the pipe covering. Tuck and fold the insulation so that it covers all bare surfaces. Keep the fiberglass fluffed up to the thickness of the adjacent pipe insulation to assure maximum thermal efficiency.
 - c. Insert two stainless steel serrated tacks approximately 1/4" from one of the lap edges of the fitting cover. Then snap the cover in place over the fiberglass insulation.
 - d. After the fitting cover is in position, push the tacks into the overlapping throat seam. Apply color-matched, pressure-sensitive tape to the butt joints.
2. Installation for cold systems:
- a. Position, tuck, and fold the fiberglass insulation insert as described above in steps (a) and (b) for hot systems.
 - b. Apply a vapor barrier mastic around the edges of the adjoining pipe insulation. Apply the mastic along the inside of the fitting cover throat overlap seam.
 - c. Place the fitting cover over the insulation, lapping the mastic-covered edge over the other side of the throat seam.
 - d. Apply color-matched, pressure-sensitive tape over the circumferential joints. The tape should extend over the adjacent pipe insulation and overlap itself by at least 2" on the downward side of the lap.

END OF SECTION

SECTION 22 11 17
PEX DOMESTIC WATER TUBING

PART 7 GENERAL

7.01 SUMMARY

- A. Section includes ASTM F876, ASTM F877 cross-linked polyethylene (PEX) tube and fittings for cold and hot water distribution systems 2" and smaller.

7.02 REFERENCES

- A. ASTM International:
 - 1. ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials.
 - 2. ASTM F877 Standard Specification for Cross-linked Polyethylene (PEX) Plastic Hot and Cold-Water Distribution Systems.
 - 3. ASTM F1807, ASTM F1920 or ASTM F2080 Specification for brass Insert Fittings for SDR9 Cross-linked Polyethylene (PEX) Tubing.
- B. National Sanitation Foundation (NSF):
 - 1. Standard 14 Plastics Piping System Components and Related Materials.
 - 2. Standard 61 Drinking Water System Components – Health Effects.
- C. International Code Council (ICC):
 - 1. International Plumbing Code.
- D. International Association of Plumbing Officials (IAPMO):
 - 1. Uniform Plumbing Code.
- E. Plastic Pipe Institute (PPI):
 - 1. Technical Report TR-3 Policies and Procedures for Developing Recommended Hydrostatic Design Stresses for Thermoplastic Pipe Materials.
 - 2. Technical Report TR-4 Recommended Hydrostatic Strengths and Design Stresses for Thermoplastic Piping and Fitting Compounds.
- F. Manufacturer's installation guide.

7.03 SUBMITTALS

- A. General:
 - 1. Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.
- B. Product Data:
 - 1. Submit manufacturer's product submittal data and installation instructions.
 - 2. Submit manufacturer's Professional Installation Limited Warranty.
- C. Shop Drawings:
 - 1. Provide installation drawings indicating tubing layout, manifold locations, plumbing fixtures supported and schedules with details required for installation of the system.
- D. Samples:
 - 1. Submit selection and verification samples of piping and fittings.
- E. Listing Certifications:

1. Submit manufacturer's third-party listings.

7.04 QUALITY ASSURANCE

- A. Installer Qualifications:
 1. Utilize an installer having demonstrated experience on projects of similar size and complexity and possesses the skills and knowledge to install a PEX potable water distribution system.
 2. Installer will utilize skilled workers holding a trade qualification license or equivalent or apprentices under the supervision of a licensed tradesperson.
 3. Manufacturer's representative shall visit the job site monthly when installation begins and confirm that the installation meets the manufacturer's installation requirements.

7.05 DELIVERY, STORAGE AND HANDLING

- A. General:
 1. Comply with Division 1 Product Requirement Section.
- B. Delivery:
 1. Deliver materials in manufacture's original, unopened, undamaged containers with identification labels intact until ready for installation.
- C. Storage and Protection:
 1. Store materials protected from exposure to harmful environmental conditions and at temperature and humidity conditions recommended by the manufacturer.
 2. Store PEX tubing indoors, in cartons or under cover to avoid dirt or foreign material from entering the tubing.
 3. Do not expose PEX tubing to direct sunlight.

7.06 WARRANTY

- A. Project Warranty:
 1. Refer to Conditions of the Contract for project warranty provisions.
- B. Manufacturer's Warranty:
 1. Shall cover the repair or replacement of properly installed tubing and fittings proven defective as well as incidental damages.
 2. Warranty period for PEX tubing and subsequent system shall be 25-year non-prorated warranty against failure due to defect in material or workmanship, beginning with the date of installation.
 3. It is the installer's responsibility to avoid mixing fittings manufactured by others as it will reduce the owner's warranty.

PART 8 PRODUCTS

8.01 MATERIALS

- A. Tubing:
 1. Cross-linked polyethylene (PEX).
 2. Pressure, temperature rating as shown.
 - a. 160 PSI at 73°F, 100 PSI at 180°F and 80 PSI at 200°F.
 - b. Tubing shall have a minimum of 6 months UV protection.

3. Manufactured in accordance with ASTM F876 and ASTM F877 and tested for compliance by an independent third-party agency.
 4. Must have PEX 5006 chlorine designation for hot water recirculation.
 5. Plenum tested in accordance with ASTM E84.
 6. Fittings must be brass in compliance with NSF-Annex "G" for no lead.
 7. Must have a 25-year non-prorated warranty.
- B. Fittings:
1. Fittings shall be provided by same manufacturer as tubing.
 2. Manufactured in accordance with ASTM F1807, ASTM F1920 or ASTM F2080.
- C. Tools:
1. Tools shall be supplied by the PEX tubing manufacturer or approved by the PEX tubing manufacturer for its intended use.

PART 9 EXECUTION

9.01 MANUFACTURER'S INSTRUCTIONS

- A. Comply with manufacture's product data, including product technical bulletins, technical memos, installation instructions and design drawings.

9.02 EXAMINATION

- A. Site Verification of Conditions:
1. Verify that site conditions are acceptable for the installation of the PEX potable water system.
 2. Do not proceed with installations of the PEX potable water system until unacceptable conditions are corrected.

9.03 INSTALLATION

- A. Install PEX tubing in accordance with tubing manufacturer's printed recommendations and as indicated in the manufacturers Installation Guide.
- B. Do not install PEX tubing within 6 inches of gas appliance vents or within 12 inches of any recessed light fixtures.
- C. Do not solder within 18 inches of PEX tubing in the same waterline. Make sweat connections prior to making PEX connections.
- D. Ensure no glues, solvents, sealants or chemicals come in contact with the tubing.
- E. Do not expose PEX tubing to direct sunlight.
- F. Use grommets or sleeves at the penetration for PEX tubing passing through studs.
- G. Use a PEX manufacturer recommended fire stop sealant.
- H. Protect PEX tubing with sleeves where abrasion may occur.
- I. Use nail plates where PEX tubing penetrates wall stud or joists and has the potential for being struck with a screw or nail.
- J. Follow manufacturer's recommendations to compensate for expansion and contraction of tubing.

- K. Minimum horizontal supports are to be installed not less than 32 inches between hangers in accordance with model plumbing codes and the PEX manufacturer Installation Guide.
- L. Pressurize PEX tubing in accordance with applicable codes or in the absence of applicable codes, test pressure shall be at least equal to normal system working pressure, but not less than 40 PSI water or air and not greater than 225 PSI water, 125 PSI air.
- M. Refer to other sections listed in Related Sections paragraph herein for related products installation.

9.04 FIELD QUALITY CONTROL

- A. Site Tests:
 - 1. To ensure system integrity, pressure test the system before covering tubing in concrete and after other trades have worked in the vicinity of the tubing.
 - 2. Repair and replace any product that has been damaged according to manufacturer's recommendation.

9.05 PROTECTION

- A. Protect installed work from damage due to subsequent construction activity on the site.

END OF SECTION

SECTION 22 42 13
COMMERCIAL PLUMBING FIXTURES

PART 10 GENERAL

10.01 MANUFACTURERS

- A. Provide plumbing fixtures and drains as listed on drawings and described herein. Fixture numbers are Kohler products. Equal fixtures by Delta, Zurn, American Standard, or Crane will be considered equivalents. Delta is preferred.
- B. Commercial or public faucets shall be Delta, Zurn, Chicago Faucets, Symmons, Kohler, American Standard, or Speakman.
- C. Fixture supplies, stops, and traps to be commercial grade McGuire, E.B.C., Zurn, or approval equal. Traps to be 17 gauge with wall flange. Supplies and stops to be heavy pattern with wheel handle unless noted otherwise.
- D. China or enamel fixtures to be white color, unless otherwise noted.
- E. All wall-mounted lavatories shall be capable of supporting a minimum vertical load of 250 pounds. Install wall-mounted lavatories with floor-anchored carriers which fit in standard stud walls.
- F. All products used for dispensing potable drinking water must be lead free and meet the requirements of NSF 61 and NSF 372 test standards via third party testing and certification.

PART 11 PRODUCTS

11.01 FIXTURES

P-1 Lavatory, Wall Hung, Barrier-Free:

- Kohler K-2005
- Symmons S-20 single lever faucet (Prefer Delta)
- Zurn Z8746 offset grid drain
- Zurn ZH8822-XL-LR supplies
- Zurn Z8700 p-trap
- Zurn Z8946-3 trap wrap kit
- Install lavatory 34" from rim to finished floor
- Zurn floor mounted lavatory carrier

P-2 Hand Held Shower Tub Valve

- T 300 V. Chrome, 1.5 gallons per minute

P-3 Lavatory, Wall Hung:

- Kohler K-2005
- Symmons S-20 single lever faucet (Prefer Delta)
- Zurn Z8743 grid drain
- Zurn ZH8822-XL-LR supplies
- Zurn Z8700 p-trap
- Zurn floor mounted lavatory carrier

P-4 Vanity with Lavatory by others

Symmons S-20 single lever faucet (Prefer Delta)

Zurn Z8743 grid drain

Zurn ZH8822-XL-LR supplies

Zurn Z8700 p-trap

Zurn wall carrier

PART 12 EXECUTION

12.01 REQUIREMENTS

- A. New and existing fixtures shall be cleaned. Where fixtures are in contact with walls, floors, or countertops, caulking shall be applied. Caulking shall be General Electric white silicon sanitary sealant.

END OF SECTION

SECTION 26 01 00
GENERAL PROVISIONS FOR ELECTRICAL SYSTEMS

PART 13 GENERAL

13.01 WORK INCLUDED

- A. Interior Lighting
- B. Conductors 600 Volt and Below
- C. Pull and Junction Boxes

13.02 RELATED WORK

- A. Field painting.

13.03 QUALITY ASSURANCE

- A. Comply with applicable local, state and federal codes.
- B. Comply with applicable requirements of recognized industry associations which promulgate standards for the various trades.
- C. Employ only qualified journeymen for this work. Employ a competent qualified electrician to supervise the work.

13.04 STANDARDS

- A. Perform work specified in Division 26 in accordance with standards listed below including amendments or revisions. When these specifications are more stringent, they take precedence. In case of conflict, obtain a decision from the Designer.
- B. National Fire Codes (NFPA) including, but not limited to following:
 - 1. NFPA-70 - National Electrical Code. 2011 Edition.
- C. Applicable Codes:
 - 1. International Energy Conservation Code. 2012 Edition.
 - 2. International Building Code. 2012 Edition
 - 3. International Existing Building Code. 2012 Edition.
 - 4. International Residential Code. 2012 Edition
- D. Should any work be construed as being contrary to or not conforming to aforementioned codes, such alleged conflict to be brought to attention of Engineer in writing ten (10) days prior to bid date for review so that such point in question may be resolved. All work to be installed in strict conformity with applicable codes without additional cost to Owner.
- E. Contractor to submit and/or file with proper authorities all necessary specifications and drawings as required by governing authorities.

13.05 SUBMITTALS

- A. Within fifteen (15) days after contract has been awarded, Contractor to submit to Designer for review a complete list of materials, equipment, and accessories proposed for use, listing the item and manufacturer's name only.

- B. Based upon aforementioned approved listing, Contractor to submit One (1) electronic PDF copy of COMPLETE BROCHURES AND SHOP DRAWINGS OF ALL MATERIALS, FIXTURES, AND EQUIPMENT that he proposes to use giving the names of manufacturers, trade name and specific catalog numbers.
- C. Brochures to be submitted in time to allow fifteen (15) days from date of receipt in Engineer's office before final approval or disapproval is required to meet construction schedule. Submittals to bear Contractor's stamp of approval evidencing he has examined and checked same and information contained therein is in accordance with contract requirements, and any deviations to be clearly marked. Approval of shop drawings not to be construed as permitting departure from the contractual documents.
- D. Above-mentioned brochures to be submitted and approved before any materials are ordered.
- E. In the event that within time stated above contractor fails to submit complete list of materials, equipment and accessories in proper form, the Designer reserves the right to select a full line of materials, fixtures, and equipment, which shall be binding upon Contractor for these materials, fixtures, and equipment as the case may be and which shall be used in his work.
- F. Brochures: Submit complete descriptions, illustrations, specification data, etc. of all materials, fittings, devices, fixtures, special systems, etc., including the following:
 - 1. Lighting, including lamps.
 - 2. Surface mounted raceway systems.
- G. Proposed items to be clearly indicated when other items are shown on same sheet. When proposing items other than those specified, brochures to contain both specified item sheets and proposed item sheets for ease of comparison. On request from Designer, samples shall be submitted and/or set up, as directed, for inspection and approval. Samples will be returned to Contractor.

13.06 OPERATING AND MAINTENANCE MANUALS

- A. Prior to final acceptance of the project, furnish to Owner complete bound sets of operation and maintenance manuals of instructions for operation and maintenance of all pieces of equipment and systems provided under this division of specifications.
- B. Manuals to also include all submittal data on all materials and equipment. Clearly indicate items provided on this project. A list giving name and address of nearest supply house carrying spare parts and name of Installation Contractor to be given to Owner.
- C. Verbally instruct Owner's representatives. Contractor to obtain letter signed by the owner's representative indicating that the in-service training has been completed.
- D. Three sets of the following data are required:
 - 1. Operating and maintenance instructions.
 - 2. Spare parts lists.
 - 3. Copies of approved submittal data.
- E. Arrange each set of data in an orderly way and bind each set in a separate 3-ring, hard-cover binder.

- F. As soon as data accumulates, prepare one of the sets and deliver to the Owner's Representative, continuously updating this set as additional data is obtained.
- G. At completion of work, submit two complete sets of data to the Owner's Representative for distribution to the proper parties.

13.07 DELIVERY AND STORAGE

- A. Insofar as possible, deliver items in manufacturers' original unopened packaging. Where this is not practical, cover items with protective materials, to keep them from being damaged. Use care in loading, transporting, unloading, and storage to keep items from being damaged.
- B. Store items in a clean dry place and protect from damage.
- C. All damaged painted surfaces of equipment to be touched up to match original paint.

13.08 RECORD DRAWINGS

- A. Keep a set of blueline prints at the job site exclusively for recording deviations from the drawings.
- B. Record locations and depths of buried and concealed conduits from fixed easily identifiable objects, such as building walls. Where conduits are concealed in walls, indicate distances off of building corners or other building features not likely to be disturbed by future alterations.
- C. Mark deviations in colored pencils so that work of various systems can be easily identified.
- D. When work is completed, record all deviations on clean sepia copies of drawings.
- E. Submit three sepia copies of completed "record drawings" to Owner's Representative for distribution.

PART 14 PRODUCTS

14.01 MATERIALS AND EQUIPMENT

- A. All materials and equipment used in carrying out these specifications to have UL listing, or listing by other recognized testing laboratory when such listings are available. Specifications and drawings indicate name, type, and catalog numbers of materials and equipment to be used as "standards" shall not be construed as limiting competition. Contractor may at his option, use materials and equipment when, in the judgment of the Designer, they are equivalent to that specified.

PART 15 EXECUTION

15.01 COORDINATION

- A. Intent:
 - 1. These sections of specifications and drawings form a complete set of documents for the electrical work of this project. Neither is complete without the other. Any item mentioned in one shall be as binding as though mentioned in both.
 - 2. The intent of these specifications and drawings is to form a guide for a complete electrical installation. Where an item is reasonably necessary for a complete system but not specifically mentioned, such as pull boxes, fittings, expansion fittings, support hangers, etc., provide same without additional cost to Owner.
 - 3. Electrical layouts indicated on drawings are diagrammatical only.

- B. Deviations:
 - 1. No deviations from specifications and drawings to be made without full knowledge and consent of Designer.
 - 2. Should Contractor find during progress of work that existing conditions make desirable a modification of the requirements of any particular item, report such item promptly to Designer for his decision and instructions.
- C. Visit site and be informed of conditions under which work must be performed. No subsequent allowance will be made because of error or failure to obtain necessary information to completely estimate and perform work involved.
- D. Designer to be mediating authority in all design related deviations and disputes arising on the project.
- E. Coordinate to assure that proper points of service transformer locations, voltage characteristics and capacity of service are in accordance with contract drawings.

PART 16

16.01 TESTS

- A. On completion of work, installation to be entirely free from grounds, short circuits, and open circuits. Perform a thorough operational test in presence of Owner or his representative.

16.02 INSPECTION FEES AND PERMITS

- A. Obtain and pay for all necessary permits and inspection fees required for electrical installation.

16.03 DEMOLITION

- A. Contractor shall visit the site before submitting a bid to acquaint himself with existing conditions.
- B. Work in existing buildings shall be scheduled well in advance with the Owner. Work shall be performed at such times and under such conditions as suit the convenience of the Owner. Plan the work to minimize disruption of formal operations.
- C. In renovated areas, remove wiring devices, fixtures, components, electrical equipment, conductors, boxes, and conduits not required to remain in service when this project is complete.
- D. Remove existing conduit and wire from areas to be remodeled, back to panelboard, cabinet or junction box.
- E. Where a circuit is interrupted by removal of a device or fixture from that circuit, the contractor shall install wire, conduit, etc., as required to restore service to the remaining devices and fixtures on that circuit.
- F. Lighting fixtures, wiring devices, panelboards, and conductors removed shall be offered to the Owner. If he chooses to retain these items or a part of these items, turn those chosen over to him. Items rejected by the Owner shall be removed from the project site by the contractor.

16.04 WARRANTY-GUARANTEE

- A. Designer reserves right to accept or reject any part of installation which does not successfully meet requirements as set out in these specifications.
- B. Contractor shall and hereby does guarantee all work installed under this division shall be free from defects in workmanship and materials for a period of one year from date of final acceptance, whichever is earliest. The above parties further agree that they will repair and replace any defective material or workmanship which becomes defective within the terms of this warranty-guarantee.

END OF SECTION

SECTION 26 05 19
CONDUCTORS - 600 VOLT AND BELOW

PART 17 GENERAL

17.01 WORK INCLUDED

- A. Provide a complete system of conductors for lighting, power, and controls throughout building.
- B. Refer to drawings for sizes of conductors.

PART 18 PRODUCTS

18.01 CONDUCTORS - POWER AND LIGHTING

- A. Provide 98% conductivity copper conductors with 600-volt insulation.
- B. Interior conductors shall be Type THHN-2/THWN-2 insulation.
- C. 600-volt insulation for conductors installed in underground raceways shall have XLP (cross-linked polyethylene) insulation, Type XHHW-2.
- D. Conductors shall be manufactured by Triangle, Phelps Dodge, Southwire, or approved substitute.
- E. Provide white or gray colored neutral conductors; provide black or color-coded phase conductors.
- F. Provide No. 14 AWG stranded type THHN fixture conductors, for conductors entering fixtures and in stems of pendant fixtures.

PART 19 EXECUTION

19.01 INSTALLATION

- A. Install pull boxes in circuits or feeders over 100' long.
- B. Make all splices or connections only at outlet, pull or junction boxes.
- C. Deliver all conductors to job site new and in original wrapping, package or reel.
- D. All conductors and connections shall test free of grounds, shorts, and opens.
- E. For 20-amp, 120-volt branch circuits, provide No. 10 wire in lieu of No. 12 wire for any branch circuit in excess of 90 linear feet to prevent excessive voltage drop. Where branch circuit exceeds 175 linear feet, use No. 8 wire.
- F. Use Ideal wing nuts, Scotchlok Type Y, R, G, or B, or approved equivalent connectors for fixture connections at outlet boxes.
- G. Leave a minimum of 8" slack wire in every outlet box whether it be in use or left for future use.
- H. Color code conductors as follows:

CONDUCTOR COLOR CODE	
	120/208/240 Volt
Phase A	Black
Phase B	Red
Phase C	Blue
Neutral	White
Ground	Green

- I. If the above conflicts with existing color coding, match existing.
- J. Use factory color coded conductors where commercially available. If not, use black wire and band with color tape.

END OF SECTION

SECTION 26 05 35
RACEWAYS SURFACE NON-METALLIC RACEWAYS

PART 20 GENERAL

20.01 WORK INCLUDED

- A. Provide surface non-metallic raceway systems with elbows, fittings and outlets.
- B. Surface non-metallic raceway systems to be mechanically and electrically continuous from outlet to outlet and from outlets to cabinets, pull or junction boxes.
- C. Use surface non-metallic raceway systems in areas where extension of circuits along existing walls is required.

PART 21 PRODUCTS

21.01 SURFACE NON-METALLIC RACEWAYS

- A. Provide surface metal raceway systems as manufactured by Wiremold, Post Glover/Halsey, or approved substitute. Catalog numbers used below are those of Wiremold Corporation and are to be considered as standards by which equivalents are to be evaluated.
- B. Provide 400BAC surface non-metallic raceway systems for areas as shown on drawings.
- C. Systems to be complete with elbows, fittings and outlets. Raceways shall be electrically continuous across all joints and fitting. Bonding jumpers shall be installed as required.

PART 22 EXECUTION

22.01 INSTALLATION

- A. Secure raceway to wall as described in manufacturer's installation instructions.
- B. Run surface raceways parallel and at right angles to building lines.

END OF SECTION

**SECTION 26 05 38
PULL AND JUNCTION BOXES**

PART 23 GENERAL

23.01 WORK INCLUDED

- A. Provide pull and junction boxes of appropriate size and depth or as indicated on the drawings and as specified hereinafter.

23.02 SUBMITTALS

- A. Submittals of products furnished under this section are not required.

PART 24 PRODUCTS

24.01 ACCEPTABLE MANUFACTURERS/MATERIALS

- A. Pull and junction boxes shall be by Hoffman or approved substitute.
- B. For interior work, provide galvanized sheet metal boxes of code thickness with lapped and welded joints, 3/4-inch flanges, screw covers, etc.

PART 25 EXECUTION

25.01 INSTALLATION

- A. Provide junction boxes as shown on drawings and otherwise where required, sized according to number of conductors in box or type of service to be provided. Minimum junction box size 4 inches square and 2-1/8 inches deep. Provide screw covers for junction boxes.
- B. Use minimum 16-gauge steel for pull boxes and provide with screw cover.
- C. Install boxes in conduit runs wherever necessary to avoid long runs or excessive bends. Do not exceed 100-foot runs, or three 90-degree bends, without pull boxes.
- D. Rigidly secure boxes to walls or ceilings. Use of conduit as a support is not acceptable.
- E. Install boxes in accessible locations. Size boxes in accordance with Articles No. 312 and No. 314 of the latest edition of the National Electrical Code.
- F. Install boxes so that the covers will always be accessible.
- G. Do not install pull or junction boxes for joint use of line voltage and signal or low voltage controls unless all conductors are insulated for the highest voltage being used in the same box. Emergency system and normal system circuits shall not be routed through a common pull or junction box.

END OF SECTION

Renovations at Montgomery Village C19011
Solicitation Document A General Information and Cost

General Information about the Supplier

Sign Your Name to the Right of the Arrow → By signing, you indicate you read and agree to "KCDC's General Instructions to Suppliers" on www.kcdc.org .	
Printed Name and Title →	
Company Name →	
Street Address →	
City/State/Zip →	
Contact Person (Please Print Clearly) →	
Telephone Number →	
Cell Number →	
Supplier's E-Mail Address (Please Print Clearly) →	

Addenda

Addenda are at www.kcdc.org. Click on "Procurement" and then on "Open Solicitations" to find addenda. Please check for addenda prior to submitting a proposal.

Acknowledge addenda have been issued by checking below as appropriate:

None <input type="checkbox"/>	Addendum 1 <input type="checkbox"/>	Addendum 2 <input type="checkbox"/>	Addendum 3 <input type="checkbox"/>	Addendum 4 <input type="checkbox"/>	Addendum 5 <input type="checkbox"/>
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Statistical Information (Check all the apply)

This business is at least 51% owned and operated by a woman	Yes <input type="checkbox"/> No <input type="checkbox"/>				
This business qualifies as a small business by the State of Tennessee (Gross receipts of \$10,000,000 or less and employing less than 100 full time persons)	Yes <input type="checkbox"/> No <input type="checkbox"/>				
This business qualifies as a Section 3 business by defined herein	Yes <input type="checkbox"/> No <input type="checkbox"/>				
This business is owned & operated by persons at least 51% of the following ethnic background:					
Asian/Pacific <input type="checkbox"/>	Black <input type="checkbox"/>	Hasidic Jew <input type="checkbox"/>	Hispanic <input type="checkbox"/>	Native Americans <input type="checkbox"/>	White <input type="checkbox"/>

Prompt Payment Discount

A prompt payment discount of _____% is offered for payment within ____ days of submission of an accurate and proper invoice.

MasterCard Acceptance

Mastercard is accepted for payment without additional fees. Yes <input type="checkbox"/> No <input type="checkbox"/>
Mastercard is accepted for payment with a fee of _____. Yes <input type="checkbox"/> No <input type="checkbox"/>

Renovations at Montgomery Village C19011
Solicitation Document A General Information and Cost

Cost Offered	
Total Project Cost in Numerals	\$
Total Project Cost in Words:	
Note: If the information entered above does not match, the cost written in numerals will be the official bid.	
Alternate Deducts	
Alternate 1 - Delete Re-roofing of the Maintenance Garage	-\$
Alternate 2 - Delete Installation of new Floor Finishes in Ministry Building	-\$
Alternate 3 - Delete Installation of new Floor Finishes in the Community Building	-\$
Alternate 4 - Delete Installation of new Ceiling Finishes in the Community Building	-\$
Alternate 5 - Delete replacement of new light fixtures at stairwells of dwelling units in "B, C, and D" type buildings	-\$
Allowances	
<u>Allowance 1</u> - Provide an allowance for milling and surface restoration of 10,180 square feet parking lot and driveway as indicated in the plans.	\$
<u>Allowance 2</u> - Provide an allowance for the sealing of 203,400 square feet of existing asphalt as indicated in the plans.	\$
<u>Allowance 3</u> - Provide an allowance for 170 linear feet of pavement repair as indicated in the plans.	\$
<u>Allowance 4</u> - Provide an allowance for 1,675 linear feet of Portland Cement concrete pad and sidewalk removal as indicated in the plans.	\$
<u>Allowance 5</u> - Provide an allowance for the location, removal and replacement of waterline appurtenances as indicated in the plans.	\$
<u>Allowance 6</u> - Provide an allowance to locate, pothole and record the depth of waterline in 36 locations as indicated in the plans.	\$
<u>Allowance 7</u> - Provide an allowance for 5,000 lineal feet of excavation and lowering of waterline to meet a minimum depth of 36-inches of cover from the crown of the pipe.	\$
<u>Allowance 8</u> - Provide an allowance for implementation of erosion prevention measures as detailed in the construction plans.	\$
<u>Allowance 9</u> - Provide an allowance to remove and clean 140 HVAC registers/grilles in a mold and mildewcide solution and to reinstall the cleaned grilles	\$
<u>Allowance 10</u> - Provide an allowance to remove and replace the silicone sealant used in 100 tub and shower surround assemblies.	\$
<u>Allowance 11</u> - Provide an allowance to remove and replace the silicone sealant used in 100 tub and shower surround assemblies include the removal and replacement the FRP bathtub/shower surrounds.	\$
<u>Allowance 12</u> - Provide an allowance to provide and install 5 new oak veneer, hollow-core interior doors with a new primed and painted finish.	\$

<u>Allowance 13</u> - Provide an allowance to remove, and properly dispose of 6,000 square feet of mold contaminated gypsum wall board.	\$
<u>Allowance 14</u> -Provide an allowance to remove 1,100 linear feet of wood base trim and replace it with new wood trim to match adjacent existing wood trim.	\$
<u>Allowance 15</u> - Provide an allowance to remove and properly dispose of one lower kitchen sink base cabinet.	\$
<u>Allowance 16</u> - Provide an allowance to remove and properly dispose of two upper cabinets.	\$
<u>Allowance 17</u> - Provide an allowance to properly remove and dispose of the soffits of two exterior entry canopies.	\$
<u>Allowance 18</u> - Provide an allowance to properly remove, replace and relocate existing high lighting in the interior stairwells of each of the units located in “B, C, or D” buildings.	\$
<u>Allowance 19</u> - Provide an allowance to replace damaged or molded drywall from the first finished floor level to 4'-0" above the first finished floor level at the location of the water main replacement work for fifty percent (50%) of each unit type.	\$
<u>Allowance #20</u> : Provide an allowance to properly and completely clean the interior surfaces of the existing ductwork of 135 dwelling units with a mold and mildewcide solution.	\$
Unit Prices	
<u>Unit Price #1</u> : Provide a unit price per square foot for milling and surface restoration of parking lot and driveways	\$
<u>Unit Price #2</u> : Provide a unit price per square foot for the sealing of existing asphalt pavement.	\$
<u>Unit Price #3</u> : Provide unit price per linear foot of pavement repair.	\$
<u>Unit Price #4</u> : Provide a unit price per linear foot for the removal and replacement of Portland Cement concrete pad and sidewalk.	\$
<u>Unit Price #5</u> : Provide a unit price per each for the location, removal and replacement of waterline appurtenances. Provide unit pricing for removal and replacement of each of the following appurtenances	\$
6a – Remove and Replace Tee, 4-inch	\$
6b – Remove and Replace Tee, 2-inch and smaller	\$
6c – Remove and Replace Reducer, 4x2-inch	\$
6d – Remove and Replace Reducer, 2 x 1-inch	\$
6e – Remove and Replace Bend (all angles), 4-inch	\$
6f – Remove and Replace Bend (all angles), 2-inch and smaller	\$
6g – Remove and Replace Valve Coupling, 4-inch	\$
6h – Remove and Replace Valve Coupling, 2-inch and smaller	\$
<u>Unit Price #6</u> : Provide a unit price per each to locate, pothole and record depth of waterline as directed by the Owner.	\$
<u>Unit Price #7</u> : Provide a unit price per linear foot for excavating and lowering of waterline to meet minimum depth requirements of 36-inches of cover from the crown of pipe.	\$
<u>Unit Price #8</u> : Provide a unit price per linear foot the replacement of HDPE water lines.	\$

8a –Replace Water Line, 4-inch	\$
8b – Replace Water Line, 2-inch	\$
8c – Replace Water Line, 1-inch	\$
<u>Unit Price #9:</u> Remove one existing pre-finished metal wall mounted HVAC grille (approximately 14" x 6" in size) and thoroughly clean the register in a mold and mildewcide solution.	\$
<u>Unit Price #10:</u> Remove existing sealant at one bathtub and FRP surround assembly, clean surrounding surfaces with mold and mildewcide solution and install new mildew resistant sealant.	\$
<u>Unit Price #11:</u> Remove existing sealant and FRP surround at one bathtub and clean surrounding surfaces with mold and mildewcide solution and install new FRP surround and seal all joints with new mildew resistant sealant.	\$
<u>Unit Price #12:</u> Remove and properly dispose of existing interior door and replace with new oak veneer hollow core flush wood door.	\$
<u>Unit Price #13:</u> Provide a cost per square foot unit price for the replacement of damaged gypsum board, in thickness to match existing.	\$
<u>Unit Price #14:</u> Provide a per linear foot unit price to install new wood base where existing base has been removed as part of the mold abatement.	\$
<u>Unit Price #15:</u> Provide a per piece unit price to provide and install one (1) kitchen Residential Casework sink base cabinet.	\$
<u>Unit Price #16:</u> Provide a per piece unit price to provide and install one Residential Casework wall mounted upper cabinet	\$
<u>Unit Price #17:</u> Provide a per piece unit to properly remove and dispose of the soffits of three exterior entry canopies. Each soffit to be replaced is approximately 160 square feet in size.	\$
<u>Unit Price #18:</u> Provide a per unit price to properly remove and relocate the high lighting fixture located above the interior stairs of the dwelling units in all of the B, C, and D buildings.	\$
<u>Unit Prices #19:</u> Provide unit prices to replace damaged or molded drywall from the first finished floor level to 4'-0" above the first finished floor level at the location of the water main replacement work for unit type. These unit prices will be used as a deduct or addition concerning Allowance 19.	\$
Unit Type 1	\$ per unit
Unit Type 2	\$ per unit
Unit Type 3	\$ per unit
Unit Type 4	\$ per unit
Unit Type 5	\$ per unit
Unit Type 6	\$ per unit
<u>Unit Prices #20:</u> Provide a unit-price to properly and completely clean the interior surfaces of ductwork on a per-dwelling unit basis.	\$ per unit

Supplier: _____

Conflict of Interest:

1. No commissioner or officer of KCDC or other person whose duty it is to vote for, let out, overlook or in any manner superintend any of the work for KCDC has a direct interest in the award or the supplier providing goods or services.
2. No employee, officer or agent of the grantee or sub-grantee will participate in selection, or in the award or administration of an award supported by Federal funds if a conflict of interest, real or apparent, would be involved. Such a conflict would arise when the employee, officer or agent, any member of his immediate family, his or her partner, or an organization, which employs, or is about to employ, any of the above, has a financial or other interest in the supplier selected for award.
3. The grantee's or sub-grantee's officers, employees or agents will neither solicit nor accept gratuities, favors or anything of monetary value from suppliers, potential suppliers, or parties to sub-agreements.
4. By submission of this form, the supplier is certifying that no conflicts of interest exist.

Drug Free Workplace Requirements:

5. Private employers with five or more employees desiring to contract for construction services attest that they have a drug free workplace program in effect in accordance with TCA 50-9-112.

Eligibility:

6. The supplier is eligible for employment on public contracts because no convictions or guilty pleas or pleas of nolo contendere to violations of the Sherman Anti-Trust Act, mail fraud or state criminal violations with an award from the State of Tennessee or any political subdivision thereof have occurred.

General:

7. Supplier fully understands the preparation and contents of the attached offer and of all pertinent circumstances respecting such offer.
8. Such offer is genuine and is not a sham offer.

Iran Divestment Act:

9. Concerning the Iran Divestment Act (TCA 12-12-101 et seq.), by submission of this bid/quote/quotes, each supplier and each person signing on behalf of any supplier certifies, and in the case of a joint bid/quote/quotes, each party thereto certifies as to its own organization, under penalty of perjury, that to the best of its knowledge and belief that each supplier is not on the list created pursuant to § 12-12-106.

Non-Collusion:

- 10. Neither the said supplier nor any of its officers, partners, owners, agents, representatives, employees or parties interest, including this affiant, has in any way colluded conspired, connived or agreed, directly or indirectly, with any other responder, supplier, or person to submit a collusive or sham offer in connection with the award or agreement for which the attached offer has been submitted or to refrain from making an offer in connection with such award or agreement, or collusion or communication or conference with any other supplier, or, to fix any overhead, profit, or cost element of the offer price or the offer price of any other supplier, or to secure through any collusion, conspiracy, connivance, or unlawful agreement any advantage against KCDC or any person interested in the proposed award or agreement.

- 11. The price or prices quoted in the attached offer are fair, proper and not tainted by any collusion, conspiracy, connivance, or unlawful agreement on the part of the supplier or any of its agents, representatives, owners, employees, or parties in interest, including this affiant.

Accuracy of Electronic Copies:

- 12. If the supplier provides electronic copies of the bid/proposal/quote to KCDC, the supplier certifies that the information provided on paper and in the electronic format is identical unless specifically noted otherwise.

No Contact/No Advocacy Affidavit

- 13. After this solicitation is issued, any contact initiated by any proposer with any KCDC representative concerning this proposal is strictly prohibited-except for communication with the Procurement Division. My signature signifies that no unauthorized contact occurred.

- 14. To ensure the integrity of the review and evaluation process, respondents to this solicitation nor any firm representing them, may not lobby or advocate to KCDC staff or Board members. My signature signifies that no unauthorized advocacy occurred.

The undersigned hereby acknowledges receipt of these affidavits and certifies that the submittal in response to this solicitation is in full compliance with the listed requirements.

Signed by _____	
Printed Name _____	
Title _____	
Subscribed and sworn to before me this date	
By (Notary Public) _____	
My Commission Expires on _____	
Notary Stamp	

**Representations, Certifications,
and Other Statements of Bidders**
Public and Indian Housing Programs

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1. Certificate of Independent Price Determination

(a) The bidder certifies that--

(1) The prices in this bid have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other bidder or competitor relating to (i) those prices, (ii) the intention to submit a bid, or (iii) the methods or factors used to calculate the prices offered;

(2) The prices in this bid have not been and will not be knowingly disclosed by the bidder, directly or indirectly, to any other bidder or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a competitive proposal solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the bidder to induce any other concern to submit or not to submit a bid for the purpose of restricting competition.

(b) Each signature on the bid is considered to be a certification by the signatory that the signatory--

(1) Is the person in the bidder's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above; or

(2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above.

[insert

full name of person(s) in the bidder's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the bidder's organization];

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above.

(c) If the bidder deletes or modifies subparagraph (a)2 above, the bidder must furnish with its bid a signed statement setting forth in detail the circumstances of the disclosure.

[Contracting Officer check if following paragraph is applicable]

(d) Non-collusive affidavit. (applicable to contracts for construction and equipment exceeding \$50,000) in Solicitation Document B attached

(1) Each bidder shall execute, in the form provided by the PHA/IHA, an affidavit to the effect that he/she has not colluded with any other person, firm or corporation in regard to any bid submitted in response to this solicitation. If the successful bidder did not submit the affidavit with his/her bid, he/she must submit it within three (3) working days of bid opening. Failure to submit the affidavit by that date may render the bid nonresponsive. No contract award will be made without a properly executed affidavit.

(2) A fully executed "Non-collusive Affidavit" [] is, [] is not included with the bid.

2. Contingent Fee Representation and Agreement

(a) Definitions. As used in this provision:

"Bona fide employee" means a person, employed by a bidder and subject to the bidder's supervision and control as to time, place, and manner of performance, who neither exerts, nor proposes to exert improper influence to solicit or obtain contracts nor holds out as being able to obtain any contract(s) through improper influence.

"Improper influence" means any influence that induces or tends to induce a PHA/IHA employee or officer to give consideration or to act regarding a PHA/IHA contract on any basis other than the merits of the matter.

(b) The bidder represents and certifies as part of its bid that, except for full-time bona fide employees working solely for the bidder, the bidder:

(1) [] has, [] has not employed or retained any person or company to solicit or obtain this contract; and

(2) [] has, [] has not paid or agreed to pay to any person or company employed or retained to solicit or obtain this contract any commission, percentage, brokerage, or other fee contingent upon or resulting from the award of this contract.

(c) If the answer to either (a)(1) or (a)(2) above is affirmative, the bidder shall make an immediate and full written disclosure to the PHA/IHA Contracting Officer.

(d) Any misrepresentation by the bidder shall give the PHA/IHA the right to (1) terminate the contract; (2) at its discretion, deduct from contract payments the amount of any commission, percentage, brokerage, or other contingent fee; or (3) take other remedy pursuant to the contract.

3. Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions (applicable to contracts exceeding \$100,000)

(a) The definitions and prohibitions contained in Section 1352 of title 31, United States Code, are hereby incorporated by reference in paragraph (b) of this certification.

(b) The bidder, by signing its bid, hereby certifies to the best of his or her knowledge and belief as of December 23, 1989 that:

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with the awarding of a contract resulting from this solicitation;

(2) If any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the bidder shall complete and submit, with its bid, OMB standard form LLL, "Disclosure of Lobbying Activities;" and

(3) He or she will include the language of this certification in all subcontracts at any tier and require that all recipients of subcontract awards in excess of \$100,000 shall certify and disclose accordingly.

(c) Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by section 1352, title 31, United States Code. Any person who makes an expenditure prohibited under this provision or who fails to file or amend the disclosure form to be filed or amended by this provision, shall be subject to a civil penalty of not less than \$10,000, and not more than \$100,000, for each such failure.

(d) Indian tribes (except those chartered by States) and Indian organizations as defined in section 4 of the Indian Self-Determination and Education Assistance Act (25 U.S.C. 450B) are exempt from the requirements of this provision.

4. Organizational Conflicts of Interest Certification

The bidder certifies that to the best of its knowledge and belief and except as otherwise disclosed, he or she does not have any organizational conflict of interest which is defined as a situation in which the nature of work to be performed under this proposed contract and the bidder's organizational, financial, contractual, or other interests may, without some restriction on future activities:

- (a) Result in an unfair competitive advantage to the bidder; or,
- (b) Impair the bidder's objectivity in performing the contract work.

In the absence of any actual or apparent conflict, I hereby certify that to the best of my knowledge and belief, no actual or apparent conflict of interest exists with regard to my possible performance of this procurement.

5. Bidder's Certification of Eligibility

(a) By the submission of this bid, the bidder certifies that to the best of its knowledge and belief, neither it, nor any person or firm which has an interest in the bidder's firm, nor any of the bidder's subcontractors, is ineligible to:

(1) Be awarded contracts by any agency of the United States Government, HUD, or the State in which this contract is to be performed; or,

(2) Participate in HUD programs pursuant to 24 CFR Part 24.

(b) The certification in paragraph (a) above is a material representation of fact upon which reliance was placed when making award. If it is later determined that the bidder knowingly rendered an erroneous certification, the contract may be terminated for default, and the bidder may be debarred or suspended from participation in HUD programs and other Federal contract programs.

6. Minimum Bid Acceptance Period

(a) "Acceptance period," as used in this provision, means the number of calendar days available to the PHA/IHA for awarding a contract from the date specified in this solicitation for receipt of bids.

(b) This provision supersedes any language pertaining to the acceptance period that may appear elsewhere in this solicitation.

(c) The PHA/IHA requires a minimum acceptance period of 90 calendar days.

(d) In the space provided immediately below, bidders may specify a longer acceptance period than the PHA's/IHA's minimum requirement. The bidder allows the following acceptance period: calendar days.

(e) A bid allowing less than the PHA's/IHA's minimum acceptance period will be rejected.

(f) The bidder agrees to execute all that it has undertaken to do, in compliance with its bid, if that bid is accepted in writing within (1) the acceptance period stated in paragraph (c) above or (2) any longer acceptance period stated in paragraph (d) above.

7. Small, Minority, Women-Owned Business Concern Representation

The bidder represents and certifies as part of its bid/ offer that it --

(a) is, is not a small business concern. "Small business concern," as used in this provision, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding, and qualified as a small business under the criteria and size standards in 13 CFR 121.

(b) is, is not a women-owned business enterprise. "Women-owned business enterprise," as used in this provision, means a business that is at least 51 percent owned by a woman or women who are U.S. citizens and who also control and operate the business.

(c) is, is not a minority business enterprise. "Minority business enterprise," as used in this provision, means a business which is at least 51 percent owned or controlled by one or more minority group members or, in the case of a publicly owned business, at least 51 percent of its voting stock is owned by one or more minority group members, and whose management and daily operations are controlled by one or more such individuals. For the purpose of this definition, minority group members are:

(Check the block applicable to you)

- | | |
|---|---|
| <input type="checkbox"/> Black Americans | <input type="checkbox"/> Asian Pacific Americans |
| <input type="checkbox"/> Hispanic Americans | <input type="checkbox"/> Asian Indian Americans |
| <input type="checkbox"/> Native Americans | <input type="checkbox"/> Hasidic Jewish Americans |

9. Certification of Eligibility Under the Davis-Bacon Act

Act (applicable to construction contracts exceeding \$2,000)

- (a) By the submission of this bid, the bidder certifies that neither it nor any person or firm who has an interest in the bidder's firm is a person or firm ineligible to be awarded contracts by the United States Government by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (b) No part of the contract resulting from this solicitation shall be subcontracted to any person or firm ineligible to be awarded contracts by the United States Government by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).
- (c) The penalty for making false statements is prescribed in the U. S. Criminal Code, 18 U.S.C. 1001.

10. Certification of Nonsegregated Facilities (applicable to contracts exceeding \$10,000)

- (a) The bidder's attention is called to the clause entitled **Equal Employment Opportunity** of the General Conditions of the Contract for Construction.
- (b) "Segregated facilities," as used in this provision, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin because of habit, local custom, or otherwise.
- (c) By the submission of this bid, the bidder certifies that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The bidder agrees that a breach of this certification is a violation of the Equal Employment Opportunity clause in the contract.
- (d) The bidder further agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) prior to entering into subcontracts which exceed \$10,000 and are not exempt from the requirements of the Equal Employment Opportunity clause, it will:
 - (1) Obtain identical certifications from the proposed subcontractors;
 - (2) Retain the certifications in its files; and
 - (3) Forward the following notice to the proposed subcontractors (except if the proposed subcontractors have submitted identical certifications for specific time periods):

Notice to Prospective Subcontractors of Requirement for Certifications of Nonsegregated Facilities

A Certification of Nonsegregated Facilities must be submitted before the award of a subcontract exceeding \$10,000 which is not exempt from the provisions of the Equal Employment Opportunity clause of the prime contract. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).

Note: The penalty for making false statements in bids is prescribed in 18 U.S.C. 1001.

11. Clean Air and Water Certification (applicable to contracts exceeding \$100,000)

The bidder certifies that:

(a) Any facility to be used in the performance of this contract [] is, [] is not listed on the Environmental Protection Agency List of Violating Facilities:

(b) The bidder will immediately notify the PHA/IHA Contracting Officer, before award, of the receipt of any communication from the Administrator, or a designee, of the Environmental Protection Agency, indicating that any facility that the bidder proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities; and,

(c) The bidder will include a certification substantially the same as this certification, including this paragraph (c), in every nonexempt subcontract.

12. Bidder's Signature

The bidder hereby certifies that the information contained in these certifications and representations is accurate, complete, and current.

(Signature and Date) _____

(Typed or Printed Name) _____

(Title) _____

(Company Name) _____

(Company Address) _____

Renovations at Montgomery Village C19011
Solicitation Document D Good Faith Compliance Affidavit

The supplier **must** demonstrate a good faith effort to utilize Minority Owned Businesses (MOB) and Woman Owned Businesses (WOB). To assist in this effort, KCDC posts the web links of organizations, which can provide suppliers with a list of minority and women owned businesses on its web site. These lists can be useful to the supplier in preparing a response to this solicitation. **Send this form with your bid.**

Place a checkmark in either Section One or Section Two of this form. Provide the information in Section One if you check that box.

Section One The following companies were asked for pricing for the attached bid. Provided the listed companies meet bid document requirements and their pricing is competitive, it is our intent to use the companies listed. Attached hereto or to be provided to KCDC within five calendar days of solicitation opening is our Form of Commitment/Statement of Effort (**failure to submit the Form of Commitment/Statement of Effort may be cause to reject the bid.**)

Company Name	Person	Product/Service	MOB	WOB

Section Two MOB/WOB's were not contacted because sub-contractors will not be needed to complete the contract and all work will be completed by the supplier. Other MOB/WOB's not shown above, will be considered during the duration of the contract in the event the supplier decides additional subcontractors or supplier will be used (to complete all or part of the contract).

Signed by	
Print Name and Title	
Subscribed and Sworn to before me on this date	
By	
Notary Public (stamp/signature)	
My Commission Expires on	

Renovations at Montgomery Village C19011
Solicitation Document E Form of Commitment: Minority Owned Business/Woman Owned Business

This form may be supplied with the bid (preferred) or within 5 days after the due date.

Place a checkmark in either Section One or Section Two of this form.

Section One Does not apply - MOB/WOB subcontractors will not be used. (Stop Here)

Section Two MOB/WOB Subcontractors will be used. (Complete this page)

I, _____ do certify the supplier has or will enter into a formal agreement with the MOB/WOB enterprise for work listed in this schedule.

Supplier Name	M O B	W O B	Contact Person	Type of Supplies to be Provided	Type of Work to be Performed	Dollar Value of Supplies or Service

COMPLETE THE FOLLOWING BOXES IF BOX ABOVE WAS NOT COMPLETED

The following companies were listed on the Good Faith Compliance Affidavit submitted with my bid.

Company Name	Person	Product/Service	MOB	WOB

Explain why each of the above companies could not be used to provide the needed products or services.

Company Name	Reason

Above information submitted by _____

Printed/Typed Name and Title: _____

Solicitation Document F Envelope Coversheet



State Law requires certain supplier license information be on the front of your envelope. You are responsible for providing the correct information on the front of your envelope but KCDC provides this form as a guide to help you. Failure to supply such required information as invalidates your bid. Attach this completed page to the front of your bid envelope. **Do not put it inside the envelope.**

Bid Due Date/Time	12- 20-18 at 2:00 p.m.		
Supplier's Name	→		
State of Tennessee Supplier's License Holder Name			
State of Tennessee Supplier's License Number			
Pertinent State of Tennessee Supplier's License Classification			
State of Tennessee Supplier's License Expiration Date			
Subcontractors to be used on this project (If subcontract work is not required, write "none required")			
Electrical Subcontractor Name on the State of Tennessee's Supplier's License		State of Tennessee Supplier License Number	
State of Tennessee Supplier License Classification(s)		Expiration Date of State Supplier's	
HVAC Subcontractor Name on the State of Tennessee's Supplier's License		State of Tennessee Supplier License Number	
State of Tennessee Supplier License Classification(s)		Expiration Date of State Supplier's	
Masonry Subcontractor Name on the State of Tennessee's Supplier's License		State of Tennessee Supplier License Number	
State of Tennessee Supplier License Classification(s)		Expiration Date of State Supplier's	
Plumbing Subcontractor Name on the State of Tennessee's Supplier's License		State of Tennessee Supplier License Number	
State of Tennessee Supplier License Classification(s)		Expiration Date of State Supplier's	

Advisements:

1. KCDC will not consider notes changing the bid written on the bid envelope. Such notes must be inside the envelope.
2. For the listed subcontractor types above, you may only list one firm.